



Updated January 16, 2019 Approved March 13, 2019

APPENDIX B Wastewater Projects





WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines,

211001 CIP#

| Innovation | Project Status Active | Pipe Galle | ery |
|------------------------|--|--|---|
| 🗆 Water MP Right Sizi | CIP Type Project | | |
| Reliability/Redund | ancy | | X |
| | g Project New To CIP | | |
| Project Engineer/Man | ager Nicolas Nicolas | Budget | Wastewater |
| Man | ager Philip Kora | Class Lvl 1 | Wastewater |
| Managing | Dept WW Constr Eng | Class Lvl 2 | WRRF |
| Date Original Business | Case Prepared 6/23/2005 | Class Lvl 3 | Primary Treatment |
| Year Proje | ct Added to CIP 1999 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance | Rehabilitation for meeting NPDES Permit and NE | C requirements | |
| F f | The work to be completed under this project wi pipe gallery; providing new lights and emergen from rectangular clarifiers 3-12, circular clarifiers collect drainage and discharge to clarifier, and Electrical/Mechanical Building. | cy lights, etc This work als 16 and 16, installation of l | o includes rehabilitation of 12 drain lines arge manhole with sump pumps to |
| Challenges | N/A - Active | | |
| Lookup Driver | N/A - Active | | |
| Explanation | N/A - Active | | |



WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines,

| Phase Constructior Iitle PC-757 Rehal | | of Primary Clar | ifiers Rectan | aular | | ntract Drain Lir | - | | | | Active Building a | nd Pipe | Gallery |
|--|------------|----------------------------|---------------|----------|-----------|----------------------------|-----|--------------|----------|---------|----------------------|----------|---------|
| Phase Budget Wa | | , | | <u> </u> | | | | Cost Alloc | | | 0 | | |
| Phase Status Ac | ctive | | | | | | | Funding S | ource Fe | edera | l Loan Pro | ograms | |
| Start Date | | 7/18/ | 2016 | | | | | | Fund In | nprov | ement & | Extensio | n Fun |
| End Date | | 5/18/ | 2020 | | | | Us | eful Life >2 | 20Yrs? Y | ∋s | | | |
| Cost | Estimation | Information | | | | Tot. Fe | der | al Loan Ar | nount | | | | |
| | 1 | Cost Est. C Cost Est. D | | | Project N | lanage | - | ram/Allow | vance To | ısk Inf | ormation | | |
| Contract | | Cost Est. Se | ource | (| CIP Num | ber | | | | | | | |
| P. Kora/N. Nicolo | as | Cost Est. P | repared By | 0 | Descripti | on | | | | | | | |
| Cost Type | | Fiscal Year | Expense |) | Fringe I | Benefit | Nor | Personne | | Со | mment | | |
| Construction | F | Y19 | \$18 | ,579 | | | | | | | | | _ |
| Construction | | Y20 | • | ,895 | | | | | | | | | |
| Construction | F | Y21 | \$2 | ,996 | | | | | | | | | |
| Task | | Start Date | End Date | Du | ration | | | | | | | | |
| Scope Developme | ent | | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | | |
| Project Execution | | 7/18/2016 | 11/17/2019 | | 1217 | | | | | | | | |
| Project Closeout | | 11/18/2019 | 5/18/2020 | | 182 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY25+ | | Total | | |
| | 18,57 | 79 7,895 | 2,996 | | 0 | | 0 | 0 | | 0 | 29,470 | | |

| GLW Great Lakes Water Aut | A | | WRRF | Rehabilite | | VA FY 2020 of Primary | | | ectangula | ar Tanks, | 2 Drain Lines, | 11001 (| |
|------------------------------|---------------------------|----------|--------------|------------|--------------------------|--------------------------|------|-------------|-------------|-------------|-------------------|---------|--|
| Phase not applic | able | | | | | Contract | NA | \ | Sta | tus Closec | l Out | | |
| Title Prior Year A | ctual Ex | pense | S | | | | | | | | | | |
| FY 2018 Transfers | Out of (| CWIP \$ | 1,702K | | | | | | | | | | |
| Phase Budget V | Vastewo | ater | | | | | | Cost Allo | cation CTA | | | | |
| Phase Status (| Closed C | Dut | | | | | | Funding S | ource | | | | |
| Start Date | | | | | | | | j | Fund | | | | |
| | | | | | | | | | | | | | |
| End Date | | | | | | | Us | eful Life > | 20Yrs? | | | | |
| Cos | st Estimo | ition In | formation | | Tot. Federal Loan Amount | | | | | | | | |
| | 1 | | Cost Est. C | ass | | | Prog | ram/Allov | wance Task | Information | l | | |
| | | | Cost Est. Do | ate | Р | roject Manag | er | | | | | | |
| | | | Cost Est. So | | c | CIP Number | | | | | | | |
| | | | | | | escription | | | | | | | |
| | | | Cost Est. Pr | eparea By | | escription | | | | | | | |
| Cost Typ | е | Fis | cal Year | Expens | е | Fringe Benefit | Non | Personne | (| Comment | | | |
| Construction | | FY18 | 3- | \$12 | 2,726 | | | | FY18 | | | | |
| Engineering Servi | ces | FY18 | 3- | | \$217 | | | | FY18 | | | | |
| Unknown | | FY18 | 3- | | \$14 | | | | FY16 | | | | |
| Unknown | | FY18 | 3- | \$ | ,702,1 | | | | Reconclie v | vith LTD | | | |
| Unknown | known FY18- | | | |),229 | | | | FY17 | | | | |
| GLWA Salaries Cl | WA Salaries CIP2020 FY18- | | | | \$150 | 60 | | | FY18 | | | | |
| Prior Yr Actuals | F | Y19 | FY20 | FY21 | FY2 | 22 FY23 | | FY24 | FY25+ | Total | | | |
| 25,09 | 98 | | | | | | | | | 25,098 | - | | |



211001 CIP#

WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines,

| Phase | GLWA Em | nploy | ees Projec | t manager | ment | | Contract | NA | | Status | Active | | |
|----------------|------------|--------|-------------|-------------|------------|----------|-------------------------|-------------|--------------|------------|------------|--------|--|
| Title (| GLWA Salc | aries | | | | | | | | | | | |
| Phas | e Budget | Wast | tewater | | | | | Cost | Allocation | CTA | | | |
| Pha | ise Status | Activ | /e | | | | | Fundi | ing Source | Federal L | oan Progra | ms | |
| S | itart Date | | | | | | Fund Improvement & Exte | | | | | | |
| | End Date | | | | | | Useful Life >20Yrs? No | | | | | | |
| | Co | ost Es | timation Ir | nformation | | | Tot. F | ederal Loc | an Amount | | | \$0 | |
| | | | 3 | Cost Est. C | lass | | | Program/ | Allowance | Task Infor | mation | | |
| | 9 | /17/2 | 2018 | Cost Est. D | ate | Pro | ject Manag | ger | | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | | |
| P. Ko | ora | | | Cost Est. P | repared By | , Des | scription | | | | | | |
| | | | | | | | | | | | | | |
| | Cost Typ | | | scal Year | Expei | | inge Benef | | nne | Com | ment | | |
| | Salaries C | | | | | \$100 | 40 | | 5 | | | | |
| | Salaries C | | | | | \$60 | 24 | | 3 | | | | |
| GLWA | Salaries C | CIP202 | 20 FY2 | 1 | | \$40 | 10 | 6 | 2 | | | | |
| Prior | Yr Actual | ls | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ T | otal | | |
| | | | 145 | 87 | 5 | 8 | 0 | 0 | 0 | 0 | 290 | | |
| | | | | Р | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | | |
| | Pr | ojeo | ct Total I | Expenses | By FY C | ompare | d to Prio | r CIPs (A | ll figures | are in \$ | 1,000's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | 10,848 | 12,097 | 20,990 | 7,968 | | | | C | 0 0 | 51,903 | |
| 2019 | | 0 | 10,243 | 12,983 | 16,107 | 8,671 | 6,033 | | | | 0 | 54,037 | |
| 2020 | | 0 | 0 | 25,098 | 18,724 | 7,982 | 3,054 | 0 | 0 | 0 | 0 | 54,858 | |



GLWA FY 2020-2024 CIP WRRF PS No. 2 Pumping Improvements - Phase 1

| Innovation Water MP Right Sizin Reliability/Redundation NEWTP Repurposing | | Pump Statio | n 2 |
|--|--|------------------------------|--|
| Project Engineer/Man | ager Vinod Sharma | Budget | Wastewater |
| Mano | ager Philip Kora | Class Lvl 1 | Wastewater |
| Managing I | Dept WW Constr Eng | Class Lvl 2 | WRRF |
| Date Original Business | Case Prepared 4/30/2003 | Class Lvl 3 | Primary Treatment |
| Year Projec | ct Added to CIP 2003 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance | Correct drifting issues of pumps and meet long | term wet weather capaci | ity needs |
| - | his project involves evaluating and recommer Pump Station No. 2 for Pumps Nos. 11 and 14. | nding alternatives for provi | ding more reliable pumping capacity at |
| Challenges N | I/A - Active | | |
| Lookup Driver | V/A - Active | | |
| Explanation N | I/A - Active | | |



WRRF PS No. 2 Pumping Improvements - Phase 1

211002 CIP#

| Phase Study and De Title CS-1444 Pump | 0 | | | ents | Co | ontract (| CS-1444 | | Statu | s Active | | |
|--|------------------|---------------|------------|-------|-----------------|------------|----------------|----------|---------|------------|---------|--|
| Phase Budget Wa | stewate | ſ | | | | | Cost Allo | cation (| CTA | | | |
| Phase Status Act | ive | | | | | | Funding S | ource | Bond F | roceeds | | |
| Start Date | | 7/20 | /2010 | | | | | Fund | Constru | uction Bor | nd Fund | |
| End Date | | 6/20 | /2019 | | | I | Jseful Life >: | 20Yrs? | (es | | | |
| Cost E | stimatio | n Information | | | | Tot. Fed | eral Loan A | mount | | | | |
| | 2 | Cost Est. C | Class | | | Pro | gram/Allov | vance T | ask In | formation | | |
| 10/2, | /2017 | Cost Est. D | ate | P | roject <i>I</i> | Nanager | Todd King | l | | | | |
| | Cost Est. Source | | | | | CIP Number | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | C |)escript | ion | | | | | | |
| Cost Type | | Fiscal Year | Expense | Э | Fringe | BenefilNo | onPersonne | | Со | mment | | |
| Engineering Service | | Y19 | | \$148 | | | | | | | | |
| Engineering Service | s F | -Y20 | | \$29 | | | | | | | | |
| Task | | Start Date | End Date | Dur | ration | | | | | | | |
| Scope Developmer | nt . | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | |
| Project Execution | | 7/20/2010 | 6/20/2019 |) | 3257 | | | | | | | |
| Project Closeout | | 6/20/2019 | 8/19/2019 | | 60 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY: | 22 | FY23 | FY24 | FY25 | + | Total | | |
| | 1 | 48 29 | 0 | | 0 | 0 | 0 | | 0 | 177 | | |

| | /Δ | | | GLV | VA FY | 2020-2 | 2024 | CIP | | | | | 211002 CII |
|-------------------|---------------|----------------|-------------|--------------|-----------------|----------|---------|-----------|--------|--------|---------------|------------|------------|
| Great Lakes Water | Authority | | WRR | RF PS | No. 2 | Pumpi | ing l | mprov | veme | nts - | Phase 1 | | |
| Phase Construc | tion | | | | Co | ntract F | PC-79 | 5 | | Stat | us Active | | |
| Title PC-795, Pu | Imp Station | No. 2 Pumping | g Improveme | nts | | | | | | | | | 1 |
| Phase Budget | Wastewate | er | | | | | Сс | ost Alloo | cation | CTA | | | |
| Phase Status | Active | | | | | | Fui | nding S | ource | Fede | ral Loan Prog | grams | |
| Start Date | | 10/17 | /2016 | | | | | | Fund | Impro | ovement & E | xtension I | - Un |
| End Date | | 6/20 | /2019 | | | | Usefu | l Life >2 | 20Yrs? | Yes | | | |
| C | ost Estimatio | on Information | | | | Tot. Fed | leral I | Loan Ai | mount | | | | |
| | 1 | Cost Est. C | Class | | | Pro | ograr | n/Allov | vance | lask I | nformation | | |
| 9 | 2/17/2018 | Cost Est. D | ate | Р | roject <i>N</i> | ۸anager | , | | | | | | |
| Contract | | Cost Est. S | ource | С | IP Num | ber | | | | | | | |
| P. Kora | | | repared By | D | escript | ion | | | | | | | |
| | | | | | _ | | | | | | | | |
| Cost Ty | ре | Fiscal Year | Expense |) | Fringe | BenefitN | onPe | rsonne | | С | omment | | |
| Construction | | FY19 | \$2 | ,000 | | | | | | | | | |
| Construction | | FY20 | \$1 | ,134 | | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | | |
| Scope Develop | ment | | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | | |
| Project Executio | n | 6/9/2016 | 6/30/2020 | | 1482 | | | | | | | | |
| Project Closeou | † | 7/1/2020 | 8/30/2020 | | 60 | | | | | | | | |
| Prior Yr Actua | ls FY1 | 9 FY20 | FY21 | FY2 | 22 | FY23 | F | Y24 | FY25 | 5+ | Total | | |
| | 2, | .000 1,134 | 0 | | 0 | 0 |) | 0 | | 0 | 3,134 | | |

| GLWA Great Lakes Water Authority | | WR | | A FY 2020 No. 2 Pum | | vements | - Phase 1 | 211002 C |
|-------------------------------------|-------------------|---------------|-------|------------------------|-----------------|------------|-------------|-----------------|
| Phase not applicable | | | | Contract | NA | Sta | tus Closed | l Out |
| Title Prior Year Actual Ex | penses | | | | | | | |
| Phase Budget Wastewa | ater | | | | Cost Allo | cation CTA | | |
| Phase Status Closed C | Dut | | | | Funding S | Source | | |
| Start Date | | | | | | Fund | | |
| End Date | | | | | Useful Life > | 20Yrs? | | |
| | | | | Tot Fe | deral Loan A | mount | | |
| Cost Estimo | ation Information | | | | | | | |
| 1 | Cost Est. C | lass | | | Program/Allow | wance Task | Information | |
| | Cost Est. D | ate | Pro | oject Manage | er | | | |
| | Cost Est. S | ource | CI | P Number | | | | |
| | Cost Est. P | repared By | De | escription | | | | |
| Cost Type | Fiscal Year | Expens | | -ringe Benefit | NonPersonne | (| Comment | |
| Construction | FY18- | | \$142 | ninge benenn | | FY18 | Johnmenn | |
| Engineering Services | FY18- | | \$43 | | | FY18 | | |
| Unknown | FY18- | | \$28 | | | FY16 | | |
| Unknown | FY18- | | \$80 | | | FY17 | | |
| GLWA Salaries CIP2020 | FY18- | | \$21 | 8 | | Eng Est | | |
| Prior Yr Actuals F | Y19 FY20 | FY21 | FY2 | 2 FY23 | FY24 | FY25+ | Total | |
| 322 | | | | | | | 322 | |
| | Р | hase Total Ex | pense | s By FY (All fig | ures are in \$1 | ,000's) | | |



211002 CIP#

WRRF PS No. 2 Pumping Improvements - Phase 1

| | | | | | | | | | | - | | | |
|--------|------------|--------|---------|-------|-------------|------------|----------|---------------|-------------|--------------|-------------|-------------|-------|
| hase | GLWA Em | nploy | ees Pro | oject | t manager | nent | | Contrac | NA | | Status / | Active | |
| itle 🤆 | SLWA Salc | aries | | | | | | | | | | | |
| Phase | e Budget | Wast | tewate | er | | | | | Cost | Allocation | CTA | | |
| Pha | se Status | Activ | /e | | | | | | Fundi | ing Source | Bond Proc | ceeds | |
| S | tart Date | | | | | | | | | Fund | Construct | ion Bond Fu | und |
| I | Ind Date | | | | | | | | Useful Li | ife >20Yrs? | No | | |
| | Cc | ost Es | timatic | on In | formation | | 1 | Tot. I | ederal Loc | an Amount | | | \$0 |
| | | | 3 | | Cost Est. C | lass | | | Program// | Allowance | Task Inform | nation | |
| | 9 | /17/2 | | | Cost Est. D | ate | Pro | ject Manag | - | | | | |
| | | , , = | | | Cost Est. S | | CIP | Number | | | | | |
| P. Ko | ora | | | | | repared By | , De | scription | | | | | |
| 1.100 | | | | | | | | | | | | | |
| | Cost Typ | се | | Fis | cal Year | Exper | nse Fr | inge Benef | itNonPerso | nne | Comm | nent | |
| GLWA | Salaries C | IP202 | 20 | FY19 |) | | \$80 | 32 | 2 | 4PC-795 | 5 | | |
| GLWA | Salaries C | IP202 | 20 | FY19 |) | | \$3 | | 1 | 0CS-144 | 14 | | |
| | Salaries C | | | FY2C |) | | \$40 | 10 | 6 | 2PC-795 | | | |
| GLWA | Salaries C | :IP202 | 20 | FY2C |) | | \$1 | (| D | 0CS-144 | 14 | | |
| Prior | Yr Actual | s | FY19 | > | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | |
| | | | | 120 | 59 | | C | 0 | 0 | 0 | 0 | 179 | |
| | | | | | P | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | |
| | Pr | oje | ct Tot | al E | xpenses | By FY C | ompare | d to Prio | r CIPs (A | ll figures | are in \$1 | l ,000's) | |
| CIP | FY16 | | FY17 | 7 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | 456 | 1, | 157 | 1,304 | 616 | | | | | 0 | 0 | 3,533 |
| 2019 | | 0 | | 109 | 599 | 2,454 | 621 | | | | | 0 | 3,783 |
| 2020 | | 0 | | 0 | 322 | 2,268 | 1,222 | 0 | 0 | 0 | 0 | 0 | 3,812 |



GLWA FY 2020-2024 CIP WRRF Rehabilitation of Primary Clarifiers

| Innovation Water MP Right Siz Reliability/Redunct NEWTP Repurposir | | Primary Clarifie | ers |
|---|---|--------------------------------|----------------------------------|
| Project Engineer/Mai | nager Nicolas Nicolas | Budget | Wastewater |
| Mai | nager Philip Kora | Class Lvl 1 | Wastewater |
| Managing | Dept WW Constr Eng | Class Lvl 2 | WRRF |
| Date Original Busines | s Case Prepared 5/9/2006 | Class Lvl 3 | Primary Treatment |
| Year Proje | ect Added to CIP 2006 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance | Rehabilitation to maintain NPDES permit cap | pacity and addressing excessi | ve, maintenance induced downtime |
| • | This project includes rehabilitation of sludge equipment, and sludge cross scum and coll concrete crack repair on floor, wall, and ce | ectors for the rectangular cla | u |
| Challenges | N/A - Active | | |
| Lookup Driver | N/A - Active | | |
| Explanation | N/A - Active | | |

| GLW Great Lakes Water | /A Authority | | GLWA FY 2020-2024 WRRF Rehabilitation | ifiers | 211003 CIP# | |
|--------------------------|------------------------|-----------------------|--|--------------------|----------------|--|
| Phase not applie | cable | | Contract NA | Sta | tus Closed Out | |
| Title Prior Year | Actual Expe | enses | | | | |
| Phase Budget | Wastewate | er | С | ost Allocation CTA | | |
| Phase Status | Closed Out | ł | Fu | Inding Source | | |
| Start Date | | | | Fund | | |
| End Date | | | Usef | ul Life >20Yrs? | | |
| Co | ost Estimatic | on Information | Tot. Federal | Loan Amount | | |
| | 1 | Cost Est. Class | Progra | m/Allowance Task | Information | |
| | | Cost Est. Date | Project Manager | | | |
| | | Cost Est. Source | CIP Number | | | |
| | | Cost Est. Prepared By | Description | | | |

| GLW Great Lakes Water. | Authority | | | GLWA FY WRRF Rel | | | nary Clar | ifiers | 211 | 003 CI |
|---------------------------|------------------|----------------|---------------|---------------------|----------------|----------------|------------|--------------|---------|--------|
| Phase Study and | d Design and | d Construction | Assistance | C | ontract C | :S-1484 | Stat | us Cance | lled | |
| Title CS-1484 Re | ehabilitation | of Primary Clo | arifiers | | | | | | | |
| Phase Budget | Wastewate | r | | | | Cost Alloc | cation CTA | | | |
| Phase Status | Cancelled | | | | | Funding S | ource Bond | Proceeds | | |
| Start Date | | 8/11/ | 2010 | | | | Fund Cons | truction Bor | nd Fund | |
| End Date | | 7/9/ | 2019 | | ι | Jseful Life >2 | 20Yrs? Yes | | | |
| C. | at Estimatio | n Information | | | Tot. Fede | eral Loan Ar | nount | | | |
| | | | | | | | | | | |
| | 4 | Cost Est. C | | Project | Pro Manager | gram/Allow | ance Task | Information | | |
| | 0/2/2017 | Cost Est. D | | CIP Nur | - | | | | | |
| | | Cost Est. So | | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | Descrip | tion | | | | | |
| Cost Ty | pe | Fiscal Year | Expense | e Fringe | BenefilNo | nPersonne | C | Comment | | |
| Engineering Serv | vices F | -Y19 | | \$0 | | | | | | |
| Engineering Serv | vices I | -Y20 | | \$0 | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | |
| Scope Developi | ment | | | | | | | | | |
| Procurement | | | | | | | | | | |
| Project Executio | n | 8/11/2010 | 6/30/2020 | 361 | 1 | | | | | |
| Project Closeou | t | 7/1/2020 | 8/30/2020 | 60 |) | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | Ρ | hase Total Ex | penses By F | Y (All figure | es are in \$1, | .000's) | | | |



211003 CIP#

| | Pohabili | tation | of Primary | Clarificre |
|------|----------|--------|------------|-------------------|
| WKKF | kenddill | ration | of Primarv | <i>Clarifiers</i> |

| Phase | GLWA Emp | loye | ees Proje | ect | t manager | ment | | C | Contract | NA | | | Statu | s C | Cancell | ed | | |
|---------|----------------|-------------|-----------|--------------|-------------|------------|-----------------------------|------------------------------------|------------|-------|---------|------------|--------|-------|---------|----|-------|--|
| litle 🤆 | GLWA Salari | es | | | | | | | | | | | | | | | | |
| Phase | e Budget W | /aste | ewater | | | | | | | (| Cost A | llocation | CTA | | | | | |
| Pha | ise Status C | anc | celled | | | | Funding Source Bond Pr | | | | | | | | eeds | | | |
| S | itart Date | | | | | | Fund Construction Bond Fund | | | | | | | | | nd | | |
| I | End Date | | | | | | Useful Life >20Yrs? No | | | | | | | | | | | |
| | Cos | t Est | imation | Inf | formation | | ٦ | | Tot. F | edero | al Loan | n Amount | | | | | \$0 | |
| | | | 5 | | Cost Est. C | Class | | Program/Allowance Task Information | | | | | | | | | | |
| | Cost Est. Date | | | | | | | ojec | t Manag | Jer | | | | | | | | |
| | | Cost Est. S | ource | e CIP Number | | | | | | | | | | | | | | |
| | | | | | Cost Est. P | repared By | D | escri | ption | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | |
| | Cost Type | | | | cal Year | Exper | | Fring | e Benefi | 1NonF | Person | ne | Сс | omm | ent | | | |
| | Salaries CIP | | | (19 | | | \$0 0 0 | | | | | 0 | | | | | | |
| GLWA | Salaries CIP | 202 | 20 F1 | 7 20 |) | | \$0 | | (|) | | 0 | | | | | | |
| Prior | Yr Actuals | | FY19 | | FY20 | FY21 | FY2 | 2 | FY23 | | FY24 | FY2 | 5+ | Tot | tal | | | |
| | | | | 0 | 0 | | כ | 0 | | 0 | | 0 | 0 | | 0 | | | |
| | | | | | Р | hase Total | Expense | s By | FY (All fi | gures | are in | \$1,000's) | | | | | | |
| | Pro | jec | t Tota | ΙE | xpenses | By FY C | ompai | ed f | to Prior | CIP | s (All | figures | are ir | n \$1 | ,000's | 5) | | |
| CIP | FY16 | | FY17 | | FY18 | FY19 | FY20 | | FY21 | FY2 | 22 | FY23 | FY24 | 4 | FY25 | 5 | Total | |
| 2018 | | 1 | 22 | _ | 240 | 120 | | | | | | | | 0 | | 0 | 581 | |
| 2019 | | 0 | 1,70 | _ | 272 | 201 | | 6 | 0 | | 0 | 0 | | 0 | | 0 | 2,231 | |
| 2020 | | 0 | | 0 | | 0 | | 0 | 0 | | 0 | 0 | | 0 | | 0 | 0 | |



WRRF PS #1 Rack & Grit and MPI Sampling Station 1 Improvements

211004 CIP#

| Innovation | Project Status Active | Rack and Grit |
|--|--|--|
| 🗆 Water MP Right Sizir | CIP Type Project | |
| Reliability/Redunda NEWTP Repurposing | | |
| Project Engineer/Mana | iger Partho Ghosh | Budget Wastewater |
| Mana | iger Philip Kora | Class Lvl 1 Wastewater |
| Managing D | Dept WW Constr Eng | Class Lvl 2 WRRF |
| Date Original Business | Case Prepared 3/17/2008 | Class Lvl 3 Primary Treatment |
| Year Projec | t Added to CIP 2008 | Location City of Detroit |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| | ehabilitate aging rack and grit system for e reas | fficient removal of grit to reduce loading on downstream process |
| - | ne scope of work includes modifications an ump Station 1 and MPI Sampling Station 1. | d improvements of the existing grit and screening handling system at |
| Challenges N | /A - Active | |
| | /A - Active | |
| Explanation N | /A - Active | |



211004 CIP#

WRRF PS #1 Rack & Grit and MPI Sampling Station 1 Improvements

| Phase not applicable | | | | | Con | tract | NA | Sta | lus Closec | l Out | | | |
|-----------------------------|------------------|--------------|-----------|-----------------------------------|-----|------------------------------------|--------------|---------------|-------------------|-------|--|--|--|
| Title Prior Year Actual E | Expense | es | | | | | | | | | | | |
| Phase Budget Wastev | vater | | | | | | Cost Allo | cation CTA | | | | | |
| Phase Status Closed | Out | | | Funding Source | | | | | | | | | |
| Start Date | | | | Fund | | | | | | | | | |
| End Date | End Date | | | | | Useful Life >20Yrs? | | | | | | | |
| Cost Estim | nation lı | nformation | | | , | Tot. Fec | deral Loan A | mount | | | | | |
| | 1 Cost Est. Clas | | | | | Program/Allowance Task Information | | | | | | | |
| | | Cost Est. D | ate | Project Manager | | | | | | | | | |
| | ource | CIP Number | | | | | | | | | | | |
| | | Cost Est. Pi | epared By | d By Description | | | | | | | | | |
| Cost Type | Fi | scal Year | Expens | Expense Fringe BenefilNonPersonne | | | | | Comment | | | | |
| Construction | FY1 | 8- | \$: | 3,068 | | | | FY18 | | | | | |
| Engineering Services | FY1 | 8- | | \$234 | 34 | | | FY18 | 18 | | | | |
| Unknown | FY1 | 8- | \$1 | 6,571 | | | | Pre-Bifurcati | on | | | | |
| Unknown | FY1 | 8- | \$ | 1,770 | | | | FY16 | | | | | |
| Unknown | Inknown FY18- | | | 2,603 | | | | FY17 | | | | | |
| GLWA Salaries CIP2020 FY18- | | | | \$185 | | 74 | | FY18 | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | | | |
| 24,505 | | | | | | | 24,505 | 1 | | | | | |



211004 CIP#

WRRF PS #1 Rack & Grit and MPI Sampling Station 1 Improvements

| Phase GLWA Empl Title GLWA Salarie | | Project | managen | nent | | C | Contract N | A | Stat | lus Active | | | |
|---|---------|----------|-----------------------------|---------------|------------------------------------|---------|---------------|----------------|-----------|-------------------|--|-----|--|
| Phase Budget W | 'astewa | Iter | | | | | | Cost Alloc | ation CTA | | | | |
| Phase Status Ad | ctive | | | | Funding Source Bond Proceeds | | | | | | | | |
| Start Date | | | Fund Construction Bond Fund | | | | | | | | | | |
| End Date | | | | | Useful Life >20Yrs? No | | | | | | | | |
| Cost | Estimat | tion Inf | ormation | | Tot. Federal Loan Amount | | | | | | | \$0 | |
| | 3 | | Cost Est. C | ass | Program/Allowance Task Information | | | | | | | | |
| 9/1 | 7/2018 | | Cost Est. Do | ate | Project Manager | | | | | | | | |
| | | | Cost Est. Sc | ource | CIP Number | | | | | | | | |
| P. Kora | | | Cost Est. Pr | epared By | D | escrip | otion | | | | | | |
| Cost Type |) | Fise | cal Year | Expens | е | Fringe | e BenefilNo | nPersonne | C | Comment | | | |
| GLWA Salaries CIP | 2020 | FY19 | | | \$100 | | 40 | 5 | | | | | |
| GLWA Salaries CIP | | \$60 | | 24 | 3 | | | | | | | | |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | | |
| | | 145 | 87 | 0 | | 0 | 0 | 0 | 0 | 232 | | | |
| | | | Pł | nase Total Ex | kpense | es By F | Y (All figure | es are in \$1, | 000's) | | | | |

| | GLW Great Lakes Water A | A | | WR | RF PS #1 | | | 2020-2 t and M | | | ng Sto | ation 1 | Impro | veme | | 1004 CIP# |
|--------|----------------------------|--------------|-------|--------------|--------------|----------|----------|-------------------|---------|-----------|--------|-----------|-----------|---------|-------|-----------|
| Phase | Construct | ion | | | | | | ontract | | - | • | | Active | | | |
| | | | 1 Ra | ck & Grit a | nd MPI San | npling S | | | | | | | / (011/0 | | | |
| | se Budget | • | | | | | | | | | ation | CTA | | | | |
| | ase Status | | | | | | | | | | l | Bond Pr | oceeds | | | |
| | Start Date | | | 11/18/ | 2013 | | | | | | l | | ction Bor | nd Fund | d | |
| | End Date | | | 7/30/ | | | | | Useful | life >2 | l | | | | G | |
| | | | | | 2017 | | | Tel Fe | | | l | 103 | | | | |
| | Co | ost Estimati | on In | formation | | | | Tot. Fee | | | l | | | | | |
| | | 1 | | Cost Est. C | lass | | | | - | /Allow | ance | Task Info | ormation | | | _ |
| | 9 | /17/2018 | | Cost Est. D | ate | | | Manage | | | | | | | | |
| Cor | ntract | | | Cost Est. So | ource | C | IP Num | nber | | | | | | | | |
| P. K | ora/D. Ber | nett | | Cost Est. Pi | repared By | D | escript | ion | | | | | | | | |
| | Cost Typ | be | Fis | cal Year | Expen | se | Fringe | BenefilN | onPers | onne | | Con | nment | | | |
| Constr | ruction | | FY19 |) | \$ | 51,679 | | | | | | | | | | |
| Constr | ruction | | FY2C |) | | \$782 | | | | | | | | | | |
| | Task | | St | art Date | End Date | Dur | ation | | | | | | | | | |
| Scope | e Developr | nent | | | | | | | | | | | | | | |
| | rement | | | | | | | - | | | | | | | | |
| - | t Executio | | _ | 1/18/2013 | 9/30/201 | _ | 2142 | | | | | | | | | |
| Projec | t Closeout | | | 9/30/2019 | 11/29/201 | 9 | 60 | | | | | | | | | |
| Prio | r Yr Actual | | | FY20 | FY21 | FY2 | | FY23 | | 24 | FY2 | 5+ | Total | | | |
| | | 1 | .679 | 782 | C |) | 0 | (|) | 0 | | 0 | 2,461 | | | |
| | | | | P | hase Total B | Expense | es By FY | ' (All figu | res are | e in \$1, | 000's) | | | | | |
| | | | | - | By FY Co | | | | - | _ | | | - | | | |
| CIP | FY16 | FY1 | | FY18 | FY19 | FY20 | FY | (21 | FY22 | FY | (23 | FY24 | FY2 | | Total | |
| 2018 | 13 | | 303 | 2,652 | 2,652 | | | | | | | | 0 | 0 | 21,49 | |
| 2019 | | 0 20, | 944 | 3,648 | 2,752 | 30 | 3 | | | | | | | 0 | 27,64 | +/ |



211004 CIP#

WRRF PS #1 Rack & Grit and MPI Sampling Station 1 Improvements

| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
|------|------|------|--------|-------|------|------|------|------|------|------|--------|
| 2020 | 0 | 0 | 24,505 | 1,824 | 869 | 0 | 0 | 0 | 0 | 0 | 27,198 |



GLWA FY 2020-2024 CIP WRRF PS No. 2 Improvements Phase II

□ Innovation

□ Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP \Box

Project Engineer/Manager Alfredo Lava Manager Ali Khraizat Managing Dept WW Design Eng Date Original Business Case Prepared 7/27/2016 Year Project Added to CIP 2014 Main Raw Sewage Pumps at Pump Station 2



| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class Lvl 3 | Primary Treatment |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project Significance This project will improve the pump reliability of PS-2 to meet the NPDES permit flow capacity requirements.

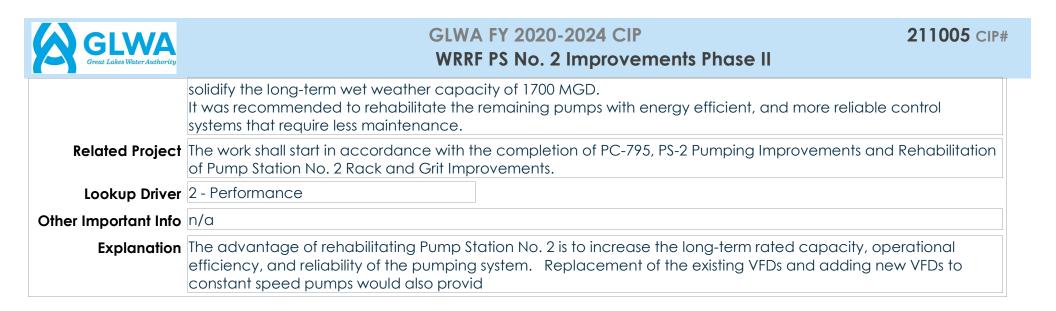
Scope of Work The preliminary scope of this project is to provide basis of design (study) report for rehabilitation/rebuilding plan for existing pump and its control and any associated equipment. The study will look into the addition of VFD to the three constant speed pumps. The study will not be limited to increasing the capacity of existing pumps to meet the long-term goal for wet weather capacity. The Scope also include: Provide engineering design for rehabilitation/rebuilding of the pumps, replacement of HVAC System, I&C Improvements (i.e. automation, etc.), structural, architectural and electrical improvement, provide design for any recommendation made by the study report. The services during construction is: provide construction assistance, such as review of shop drawings, response to RFIs, attending progress meetings, verifying and assisting GLWA for any changes requested by the contractor, etc.

Construction will follow after the completion of design.

Challenges Shutdowns of the pumps to be rehabilitated will require co-ordination with operations and careful planning to meet NPDES permit requirements for the flow capacity during the construction phase.

Project History Pump Station No. 2 was built in 1994. Seven out of eight pumps were running since 1994. These pumps never attained the design capacity due to an unidentified drifting problem. The eighth pump (Pump No. 10) was installed under PC-740 with a modified suction elbow that provided better pumping capacity. The VFDs for five (5) pumps were also replaced in 2005 under PC-744 contract.

A new impeller was installed on Pump No. 9 and a rebuilt impeller was installed on Pump No. 16 in 2008, which provided sufficient improvements in pumping capacity. To mitigate the declining of pumping capacity, DWSD initiated a CS-1444/PC-795 PS-2 Pumping Improvements project to rehabilitate Pump No. 11 and Pump No. 14 to





PM Weighted

78.6

Score

| Criteria | Score | Comment |
|---|--|--|
| Condition | 5 Replac | cement or major rehab needed immed |
| Efficiency and Innovation | 4 Signific | ant Operational efficiency |
| Financial | 4 Project | will likely result in avoidance of fines |
| O&M | 3 Project | will alleviate most ongoing O&M issues |
| Performance (Service Level/Reliability) | 4 High Ri | sk of Performance Failures |
| Public Benefit | 3 Project | part of GLWA strategic plan |
| Public Health & Safety | 4 Project | will have significant positive impact or |
| Regulatory (Environmental/Legal) | 4 Risk of 1 | non compliance in near term |
| | and the second | |

RC Weighted

Score

72.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 2 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |

| GLWA Great Lakes Water Authorit | y | | | GLWA F WRRF P | 2 | 211005 CIF | | | | |
|------------------------------------|--------------|--------------|-----------|------------------|-------------|----------------|------------|-------------|-----|--|
| Phase not applicab | le | | | (| Contract N | A | Sta | tus Closed | Out | |
| Title Prior Year Actu | Jal Expense | S | | | | | | | | |
| Phase Budget Wa | stewater | | | | | Cost Allo | cation CTA | | | |
| Phase Status Clo | sed Out | | | | | Funding S | ource | | | |
| Start Date | | | | | | | Fund | | | |
| End Date | | | | | L | Jseful Life >2 | 20Yrs? | | | |
| Cost E | stimation In | formation | | | Tot. Fede | eral Loan Ar | nount | | \$0 | |
| | 1 | Cost Est. Cl | ass | | Pro | gram/Allow | vance Task | Information | | |
| | | Cost Est. Do | ate | Projec | t Manager | | | | | |
| | | Cost Est. Sc | ource | CIP Nu | umber | | | | | |
| | | Cost Est. Pr | epared By | Descri | ption | | | | | |
| | 1 | | | | | | | | | |
| Cost Type | Fis | scal Year | Expens | e Fring | e BenefitNo | nPersonne | C | Comment | | |
| GLWA Salaries CIP2 | 020 FY18 | 8- | | \$0 | 0 | OF | Y18 | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| 0 | | | | | | | | 0 | | |

| GLW Great Lakes Water A | A uthority | | | | | | 2020- No. 2 | | | nents Pha | ıse II | | | 211005 CIF |
|--------------------------------|----------------------|--------|---------------|---------------|--------|------------|----------------|-----|-------------|------------|----------|----------|-------------|------------|
| Phase Study and | d Desigr | n and | Construction | Assistance | | Co | ontract | CS | -130 | Sto | atus | Future F | Planned Sto | art |
| Title CS-130 Pur | np Stati | on No | o. 2 Improver | nents Phase I | l at W | /astewo | ater Trec | atm | ent Plant | (WRRF) | | | | |
| Phase Budget | Wastew | vater | | | | | | | Cost Allo | cation CTA | \ | | | |
| Phase Status | Future F | Planne | ed Start | | | | | | Funding S | Source Bon | id Pro | ceeds | | |
| Start Date | | | | | | | | | | Fund Cor | nstruc | tion Bor | nd Fund | |
| End Date | | | | | | | | Us | eful Life > | 20Yrs? Yes | | | | |
| Co | ost Estim | ation | Information | | | | Tot. Fe | der | al Loan A | mount | | | | |
| | | 4 | Cost Est. C | lass | | | P | rog | ram/Allov | wance Task | c Infor | mation | | |
| 1 | 0/2/201 | 7 | Cost Est. D | ate | Р | roject | Manage | er | | | | | | |
| | Cost Est. Sourc | | | | | CIP Number | | | | | | | | |
| Ali Khraizat Cost Est. Prepare | | | | | D |)escrip | lion | | | | | | | |
| | | | | . , | | | | | | | | | | |
| Cost Typ | be | | Fiscal Year | Expense | Э | Fringe | Benefill | Von | Personne | | Com | ment | | |
| Engineering Serv | rices | F١ | (20 | | \$0 | | | | | | | | | |
| Engineering Serv | rices | F١ | (21 | | \$670 | | | | | | | | | |
| Engineering Serv | rices | F١ | (22 | | \$620 | | | | | | | | | |
| Engineering Serv | rices | F١ | (23 | 4 | \$520 | | | | | | | | | |
| Engineering Serv | rices | F١ | (24 | 4 | \$500 | | | | | | | | | |
| Engineering Serv | rices | F١ | (25+ | | \$102 | | | | | 2020CIP | | | | |
| Task | | | Start Date | End Date | Dur | ration | | | | | | | | |
| Scope Developr | nent | | 3/8/2020 | 6/30/2020 | | 114 | 1 | | | | | | | |
| Procurement | | | 7/1/2020 | 2/6/2021 | | 220 |) | | | | | | | |
| Project Executio | n | | 2/7/2021 | 12/17/2025 | | 1774 | 1 | | | | | | | |
| Project Closeout | | | 12/18/2025 | 2/16/2026 | | 60 |) | | | | | | | |
| Prior Yr Actual | s l | FY19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY25+ | Т | otal | | |
| | | | 0 0 | 670 | | 620 | 52 | 20 | 500 | 102 | 2 | 2,412 | | |

| A GIWA | | | | GLV | A FY | 2020-2 | 202 | 24 CIP | | | | 2 | 211005 CI |
|----------------------------|-----------|---------------|---------------|-------|----------|-------------|-----|-------------------------------------|----------|------|-------------------------|----------|-----------|
| Great Lakes Water Authorit | y | | | WR | RF PS | No. 2 I | m | provem | nents P | has | se ll | | |
| Phase Construction | | | | | Co | ontract | NA | | | Sta | tus Future Plann | ned Star | t |
| Title Pump Station | No. 2 Imp | provements Pl | nase II at Wa | stewa | ter Tree | atment P | lar | nt (WRRF) | | | | | |
| Phase Budget Wa | stewater | | | | | | | Cost Allo | cation (| CTA | | | |
| Phase Status Fut | ure Plann | ed Start | | | | | | Funding S | Source E | Bonc | l Proceeds | | |
| Start Date | | | | | | | | | Fund (| Cons | struction Bond Fu | nd | |
| End Date | | | | | | | Us | eful Life > | 20Yrs? Y | (es | | | |
| Cost E | stimatior | n Information | | | | Tot. Fec | ler | al Loan A | mount | | | | |
| | 4 | Cost Est. C | lass | | | Pr | oa | ram/Allo | wance T | ask | Information | | |
| 10/2 | /2017 | Cost Est. D | | P | roject | Manager | - | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | |
| 10/2/ | 2017 | Cost Est. S | | | IP Nun | - | | | | | | | |
| | | | | | escrip | | | | | | | | |
| Ali Khraizat | | Cost est. P | repared By | D | cocrip | lion | | | | | | | |
| Cost Type | | Fiscal Year | Expense | Ð | Fringe | BenefitN | on | Personne | | C | Comment | | |
| Construction | F | Y22 | | \$0 | | | | | | | | | |
| Construction | F | Y24 | \$8 | ,000, | | | | | | | | | |
| Construction | F | Y25+ | \$10 | ,600 | | | | | 2020CIP | • | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | | |
| Scope Developmer | nt 👘 | | | | | | | | | | | | |
| Procurement | | 12/1/2022 | 5/30/2023 | | 180 |) | | | | | | | |
| Project Execution | | 6/1/2023 | 12/17/2025 | | 930 |) | | | | | | | |
| Project Closeout | | 12/18/2025 | 2/16/2026 | | 60 |) | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | | FY24 | FY25 | + | Total | | |
| | | 0 0 | 0 | | 0 | C |) | 8,000 | 10, | 600 | 18,600 | | |
| | | Р | hase Total Ex | pense | s By F | Y (All figu | res | are in \$1 | ,000's) | | | | |

| | GLW Great Lakes Water A | Authority | | | | | | Y 2020- S No. 2 | | | ents Ph | nase II | | | 2110 | 005 CIP |
|---------|-----------------------------------|-----------|-----------|--------------|--------------|---------------|---------|--------------------|------------|----------|---------|-----------------------|-----------------|---------|---------|----------|
| Phase | GLWA Em | ploye | es Projec | ct manager | nent | | С | Contract | NA | | ; | Status F | - uture F | lanne | d Start | |
| Title (| GLWA Sala | iries | | | | | | | | | | | | | | |
| Phas | e Budget | Waste | ewater | | | | | | Cos | ł Alloco | ation C | TA | | | | |
| Pho | ase Status | Future | e Planneo | d Start | | | | | Fund | ding So | urce Bo | ond Proc | eeds | | | |
| S | Start Date | | | | | | | | | F | Fund C | onstruct | ion Bor | nd Fund | b | |
| | End Date | | | | | | | | Useful | Life >20 | Yrs? N | 0 | | | | |
| | Со | ost Esti | mation I | nformation | | 1 | | Tot. Fe | deral Lo | an Am | ount | | | | \$0 | |
| | | | 3 | Cost Est. C | lass | | | F | rogram | Allowc | ince To | ısk Inforr | nation | | | |
| | | | | Cost Est. D | ate | Р | roject | Manage | - | | | | | | | |
| | | | | Cost Est. So | ource | C | IP Nu | mber | | | | | | | | |
| | | | | | repared By | D | escrip | otion | | | | | | | | |
| | | | | | , | | | | | | | | | | | |
| | Cost Typ | be | F | scal Year | Expen | se | Fringe | e Benefit | VonPers | onne | | Comn | nent | | | |
| | Salaries C | | | | | \$10 | | 4 | | | S-130 | | | | | |
| | Salaries C | | | | | \$65 | | 26 | | | S-130 | | | | | |
| | Salaries C | | | | | \$65 | | 26 | | | S-130 | | | | | |
| | Salaries C Salaries C | | | | | \$100 \$20 | | 40 8 | | PS | S-130 | | | | _ | |
| | Salaries C | | | | | \$145 | | 57 | | PS | | | | | _ | |
| | Salaries C | | | | | \$15 | | 6 | | | 20CIP | | | | | |
| Prio | r Yr Actual | s | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY | 24 | FY25+ | · Tc | otal | | | |
| | | | | | 14 | | 91 | Ş |)] | 168 | 2 | 23 | 587 | | | |
| | | | | PI | hase Total I | xpense | es By F | FY (All fig | ures are | in \$1,0 | 00's) | | | | | <u>+</u> |
| | Pre | ojec | t Total | Expenses | By FY Co | ompa | red t | o Prior | CIPs (A | All figu | res a | re in \$ [°] | '000 , I | s) | | 7 |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | | FY21 | FY22 | FY2 | 23 | FY24 | FY2 | | Total | |
| 2018 | | | | 600 | 1,700 | 4,80 | | 3,700 | | | | 0 | | 0 | 10,800 | |
| 2019 | | 0 | | 7 | | 51 | 5 | 115 | 9,294 | 1 9 | ,101 | 3,055 | | 0 | 22,087 | |



GLWA FY 2020-2024 CIP

WRRF PS No. 2 Improvements Phase II

211005 CIP#

| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
|------|------|------|------|------|------|------|------|------|-------|--------|--------|
| 2020 | O | C | 0 | 0 | 0 | 684 | 711 | 611 | 8,668 | 10,925 | 21,599 |



GLWA FY 2020-2024 CIP WRRF PS No. 1 Improvements 211006 CIP#

| Innovation Water MP Right Si Reliability/Redund NEWTP Repurposition | | Pump Station 1 Interio | Dr |
|--|--|--|---|
| Project Engineer/Ma | nager Alfredo Lava | Budget | Wastewater |
| Ma | nager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing | J Dept WW Design Eng | Class Lvl 2 | WRRF |
| Date Original Busines | ss Case Prepared 4/13/2017 | Class Lvl 3 | Primary Treatment |
| Year Proj | ect Added to CIP 2016 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance | Condition assessment and rehabiliation of all | pumps at Pump Station No. | I to increase efficiency and reliability. |
| Scope of Work | The study/design work will identify all major po pump and all related appurtenances. The co determined in the study and design along with period. Investigation and evaluation of all the inlet go (MCCs) and other related equipment, HVAC for rehabilitation or replacement are also par | onstruction services will provid th the sequencing of pump s ates, outlet gates and associ system, Control System and p | le rehabilitation and/or replacement as hutdown throughout the rehabilitation ated actuators, Motor Control Centers |
| Challenges | Maintaining the adequate pumping capacit | v during construction | |

Challenges Maintaining the adequate pumping capacity during construction.

Project History GLWA operate two raw sewage pumping stations: PS-1 and PS-2, at the Water Resources Recovery Facility. Raw wastewater (influent) from the collection system flows to the Influent Pumping Station through the Detroit River Interceptor (16 feet in diameter), Oakwood Interceptor (12.5 feet in diameter) and North Interceptor East Arm (NIEA). The main Influent Pumping Station No. 1 (PS-1) was constructed in the 1930s. PS-1 has eight constant speed pumps of various capacities (six were installed in the 1940s and two more were added in 1956) and has a Firm Capacity (largest pump out of service) of 1,225 MGD during wet weather event. The Influent Pumping Station No. 2 (PS-2) has eight raw sewage pumps (combination of variable and constant speed pumps) with a Firm Capacity of 805 MGD during wet weather event.

The pumps at PS-1 were rehabilitated in 2004 and 2005 under PC-744 project (DWP 1007).

Related Project PC-757 – Rehabilitation of Primary Clarifiers Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery. PC 789 – Pump Station No. 1 Rack & Grit Building, MPI 1, and JSS Improvements. PC-795 – Pump Station No. 2 Pumping



GLWA FY 2020-2024 CIP WRRF PS No. 1 Improvements

211006 CIP#

Improvements.

Lookup Driver 1 - Condition



PM Weighted Score

80.8

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 5 | Replacement or major rehab needed immed |
| Efficiency and Innovation | 4 | Significant Operational efficiency |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | Project will alleviate most ongoing O&M issues |
| Performance (Service Level/Reliability) | 4 | High Risk of Performance Failures |
| Public Benefit | 3 | Project part of GLWA strategic plan |
| Public Health & Safety | 4 | Project will have significant positive impact or |
| Regulatory (Environmental/Legal) | 4 | Risk of non compliance in near term |

RC Weighted

Score

75

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 2 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |

| GLWA Great Lakes Water Authority | | | GL\ | WA FY 2020- WRRF PS N | | 24 CIP 1 Improvem | ents | 211006 c |
|--|--------------------|--------------|--------------------|--------------------------|-----|----------------------|------------------------|-----------------|
| Phase Study and Design a | | | | Contract | NA | ٨ | Status Future Plannec | l Start |
| Title Rehabilitation of Ma | in Lift Pumps at I | Pump Station | n No. 1 | | | | | |
| Phase Budget Wastewat | ter | | | | | Cost Allocation | CTA | |
| Phase Status Future Pla | inned Start | | | | | Funding Source | Bond Proceeds | |
| Start Date | 6/11 | /2018 | | | | Fund | Construction Bond Fund | |
| End Date | 7/18 | /2023 | | | Us | eful Life >20Yrs? | ? Yes | |
| Cost Estimat | ion Information | | | Tot. Fe | der | al Loan Amoun | t | |
| 4 | Cost Est. C | lass | | P | rog | ıram/Allowance | e Task Information | |
| 10/1/2017 | Cost Est. D | ate | F | Project Manage | er | | | |
| | Cost Est. S | | C | CIP Number | | | | |
| Ali Khraizat | | repared By | [| Description | | | | |
| Cost Type | Fiscal Year | Expens | е | Fringe Benefill | ۱on | Personne | Comment | |
| Engineering Services | FY19 | | \$442 | | | | | |
| Engineering Services | FY20 | \$1 | ,593 | | | | | |
| Engineering Services | FY21 | | \$178 | | | | | |
| Engineering Services | FY22 | | \$310 | | | | | |
| Engineering Services | FY23 | | \$178 | | | | | |
| Engineering Services | FY24 | | \$36 | | | | | |
| GLWA Salaries CIP2020 | FY19 | | \$35 ¢05 | 14 | | Eng Pr | | _ |
| GLWA Salaries CIP2020 | FY20 | | \$85 | 34 | | Eng Pr | | |
| GLWA Salaries CIP2020 GLWA Salaries CIP2020 | FY21 | | \$40 \$47 | 16 | | CA Ph | | - |
| GLWA Salaries CIP2020 | FY22 FY23 | | \$46 \$17 | 18 | | CA Ph CA Ph | | _ |
| GLWA Salaries CIP2020 | FY24 | | ۹۱ <i>/</i> \$5 | 2 | | 0CA Ph | | - |
| | | | 1 | | | UCATH | | |
| Task | Start Date | End Date | Du | ration | | | | |
| Scope Development | | | | | | | | |



WRRF PS No. 1 Improvements

211006 CIP#

| Task | | Start Date | End Date | Duration | | | | |
|-------------------|------|------------|-----------|----------|------|------|-------|-------|
| Procurement | | 4/2/2018 | 11/8/2018 | 22 | 20 | | | |
| Project Execution | | 11/9/2018 | 2/14/2025 | 228 | 39 | | | |
| Project Closeout | | 2/15/2025 | 4/16/2025 | ć | 50 | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total |
| | 49 | 1,712 | 234 | 374 | 202 | 43 | 0 | 3,056 |

| GLWA Great Lakes Water Authority | y | | | GL\ | NA FY WRR | | | 24 CIP 1 Impro | veme | ents | | | | 211006 CI |
|-------------------------------------|-----------|-----------------|---------------|-------|--------------|----------|------|-------------------|---------|--------|-------|--------|---------|-----------|
| Phase Construction | | | | | Co | ntract | NA | | | Stat | US | Future | Planned | Start |
| Title Rehabilitation | of Main I | _ift Pumps at F | Pump Station | No. 1 | | | | | | | | | | |
| Phase Budget Wa | stewater | | | | | | | Cost Alloc | cation | CTA | | | | |
| Phase Status Futu | ure Plann | ed Start | | | | | | Funding S | ource | Bond | Proc | ceeds | | |
| Start Date | | 8/2, | /2020 | | | | | | Fund | Cons | truct | ion Bo | nd Fund | |
| End Date | | 7/18, | /2023 | | | | Us | eful Life >2 | 20Yrs? | Yes | | | | |
| Cost E | stimatior | Information | | | | Tot. Fe | der | al Loan Ar | nount | | | | | |
| | 3 | Cost Est. C | lass | | | Р | rog | ram/Allow | ance | Task I | nforr | mation | | |
| | | Cost Est. D | ate | P | Project N | ۸anage | r | | | | | | | |
| Contract | | Cost Est. S | ource | C | CIP Num | ber | | | | | | | | |
| | | Cost Est. P | repared By | 0 | Descripti | on | | | | | | | | |
| | | | | | | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | | Fringe | Benefith | lon | Personne | | С | omr | nent | | - |
| Construction | | Y21 | | ,000 | | | | | | | | | | |
| Construction | | Y22 | • | ,000 | | | | | | | | | | - |
| Construction | | Y23 | - | ,000 | | | | | | | | | | - |
| Construction | F | Y24 | | \$600 | | | | | | | | | | |
| Task | | Start Date | End Date | Dui | ration | | | | | | | | | |
| Scope Developmer | nt – | 11/9/2018 | 9/1/2021 | | 1027 | | | | | | | | | |
| Procurement | | 9/2/2021 | 3/1/2022 | | 180 | | | | | | | | | |
| Project Execution | | 3/2/2022 | 2/14/2025 | | 1080 | | | | | | | | | |
| Project Closeout | | 2/15/2025 | 4/16/2025 | | 60 | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY2 | 5+ | To | otal | | |
| | | 0 0 | 2,000 | 8 | 8,000 | 8,00 | 0 | 600 | | 0 | | 18,600 | | |
| | | Р | hase Total Ex | pens | es By FY | (All fig | ures | are in \$1 | .000's) | | | | | |

| GLWA Great Lakes Water Authority | | | | | FY 2020-20 RRF PS No. | 24 CIP 1 Improve | ements | | 211006 C |
|--|------------|--------------|-----------|-------------|--------------------------|---------------------|--------------------|--------------------|-----------------|
| Phase GLWA Employe | ees Projec | ct managen | nent | | Contract N/ | A | Stat | us Future F | Planned Start |
| Title GLWA Salaries | | | | | | | | | |
| Phase Budget Wast | ewater | | | | | Cost Alloca | tion CTA | | |
| Phase Status Futur | e Planne | d Start | | | | Funding Sou | Jrce Bond | Proceeds | |
| Start Date | | | | | | F | und Cons | truction Bon | nd Fund |
| End Date | | | | | U | seful Life >20 | Yrs? No | | |
| Cost Est | timation I | nformation | | | Tot. Fede | eral Loan Amo | ount | | \$0 |
| | 3 | Cost Est. C | lass | | Prog | gram/Allowa | nce Task I | nformation | |
| | | Cost Est. D | ate | Projec | ct Manager | | | | |
| | | Cost Est. So | ource | CIP N | umber | | | | |
| | | Cost Est. Pr | epared By | Descr | ription | | | | |
| Cost Type | F | iscal Year | Expens | e Fring | ge BenefilNor | nPersonne | C | Comment | |
| GLWA Salaries CIP202 | 20 FY1 | 9 | | \$5 | 2 | S/E | D/CA Pha | se | |
| GLWA Salaries CIP202 | 20 FY2 | 20 | | \$65 | 26 | S/E | D/CA Pha | se | |
| GLWA Salaries CIP202 | 20 FY2 | 21 | | \$65 | 26 | S/E | D/CA Pha | se | |
| GLWA Salaries CIP202 | | | | \$16 | 6 | | Phase | | |
| GLWA Salaries CIP202 | | | | \$20 | 8 | | D/CA Pha | se | |
| GLWA Salaries CIP202 | | | | \$110 | 44 | | Phase | | |
| GLWA Salaries CIP202 | | | | \$10 | 4 | | D/CA Pha | se | |
| GLWA Salaries CIP202 | | | | \$110 | 44 | | Phase | | |
| CINIA Calarian CIDOOC | | ′4 | | \$10 | 4 | 03/1 | D/CA Pha | 5e | |
| GLWA Salaries CIP202 | | | | \$55 | $\gamma\gamma$ | | Phase | | |
| GLWA Salaries CIP202 GLWA Salaries CIP202 GLWA Salaries CIP202 | 20 FY2 | 25+ | | \$55 \$5 | 22 2 | | Phase D/CA Pha: | se | |
| GLWA Salaries CIP202 | 20 FY2 | 25+ | FY21 | - | | | | se Total | |



GLWA FY 2020-2024 CIP WRRF PS No. 1 Improvements

| | Proje | ct Total E | xpenses | By FY C | ompare | d to Prior | CIPs (Al | I figures | are in \$1 | ,000's) | |
|------|-------|------------|---------|---------|--------|------------|----------|-----------|------------|---------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | | 600 | 5,350 | 5,125 | 2,054 | | | 0 | 0 | 13,129 |
| 2019 | 0 | | | 500 | 1,800 | 2,462 | 9,394 | 9,245 | 719 | 0 | 24,120 |
| 2020 | 0 | 0 | | 498 | 1,803 | 2,325 | 8,424 | 8,370 | 811 | 84 | 22,315 |



WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

□ Water MP Right Sizing

□ NEWTP Repurposing

✓ Reliability/Redundancy

Project Status Future Planned

CIP Type Project

Project New To CIP $\ \square$

Project Engineer/Manager Beena Chackunkal Manager Ali Khraizat

Managing Dept WW Design Eng

Date Original Business Case Prepared 10/12/2016

Year Project Added to CIP 2016

WRRF Pumping Station 2: Bar Racks and Grit Collection System



211007 CIP#

| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class Lvl 3 | Primary Treatment |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

| Project Significance | Replacement of all bar racks and associated equipment for more reliable and efficient operations. Improvements to the grit collection system will prevent the grit affecting the downstream equipment. These improvements will enable WRRF to be in compliance with NPDES permit. |
|----------------------|---|
| Scope of Work | The work consists of evaluation, design and construction for the replacement of Bar Racks and Grit Collection System including their associated motors and electrical panels as necessary to meet the long-term wet weather capacity requirements at thePS-2. |
| Challenges | Maintaining the MDEQ-NPDES required capacity during the construction phase of the project. |
| Project History | The Pump Station No. 2 Rack and Grit Collection system have been in service for almost twenty years. The equipment are near the end of its useful life. Improper transport of collected screenings has been ongoing problem and rags and other floatable materials are not screened thoroughly. The condition and reliability of the Pump Station No. 2 Grit System was inspected and the grit crane was upgraded in 2002 by PC-744/DWP-1006. The HVAC system was found in good condition but needs some rehabilitation due to its ending life cycle. Modifications are needed to the existing Grit removal system because of the draining issues. Grit Chambers cannot be emptied due to clogged drains. Grit carry over cause deterioration of the downstream process and equipment Rehabilitation/Replacement of screening belt since the equipment is nearing to its useful life. Rehabilitation of Grit Channel Drain Gate stems. The bar screen foundations, screen frames, and conveyance chutes in PS-2 have been in service for approximately twenty years. |
| | Rehabilitation of Grit Channel Drain Gate stems. The bar screen foundations, screen frames, and conveyance chutes in PS-2 have been in service for |



WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Related Project PC-757: Rehabilitation of Primary Clarifiers & Pipe Gallery PC 789 – Pump Station No. 1 Rack and Grit Building, MPI and JSS Improvements PC 795 – Pump Station No. 2 Improvements

Lookup Driver 2 - Performance

Other Important Info *Innovation note: Include new grit removal equipment rather than replacement in kind (cyclonic). The CIP Project Proposal – CIP 1314 – "Replacement of Bar Racks at Pump Station No. 2" and CIP Project Proposal – CIP 1223 – "Rehabilitation of Grit and Screening System at PS-2 and Rehabilitation of Sampling Sites at WWTP" are combined into one project under CIP 1314. That combined new budget for CIP 1314 (CIP 1223 and 1314) has a total amount of \$11,617,000. The design of "Rehabilitation of Sampling Sites" is completed and will be bid separately for construction. The previous design for Bar Rack System by Sigma under As Needed Engineering Services Contact task order will not proceed for construction as designed. An engineering decision to have a fresh look and start new study, design and construction project through this CIP project will proceed. The original budget for CIP-1314 is \$3.667M. The \$6.0M CIP budget transfer was made from CIP-1223. The new revised CIP-1314 budget is \$9.667

Explanation Plant operations report on the failure of shear pins and accelerated wearing and tearing of the bar racks causing downtime for the maintenance and violation of the permit



PM Weighted

Score **73.4**

| | C | |
|---|----------|--|
| Criteria | Score | Comment |
| Condition | 4 | Replacement or major rehab needed immed |
| Efficiency and Innovation | 4 | Project will have a positive impact on Wear & |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | Project will have significant positive impact or |
| Performance (Service Level/Reliability) | 4 | Project will have a significant positive impact |
| Public Benefit | 2 | Additional Savings in O&M |
| Public Health & Safety | 3 | Failure not catastophic, moderate chance of |
| Regulatory (Environmental/Legal) | 4 | Relatively high, but not imminent risk |

RC Weighted

Score

65.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 3 | |
| Efficiency and Innovation | 1 | |
| Financial | 3 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 4 | |



WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

| Phase GLWA Emplo Title GLWA Salaries | | Project | manager | nent | | C | Contract N | ١A | Stat | us Future | e Planned Start |
|---|-----------------------|---------|--------------|--------|--------|--------|-------------|-----------------------|--------------|------------------|-----------------|
| Phase Budget Wastewater | | | | | | | | Cost Allo | cation CTA | | |
| Phase Status Futu | Jre Plo | anned S | Start | | | | | Funding S | ource Bond | Proceed | S |
| Start Date | | | | | | | | | Fund Cons | truction B | ond Fund |
| End Date | | | | | | | I | Useful Life >: | 20Yrs? No | | |
| Cost Estimation Information | | | | | | | Tot. Fed | eral Loan A | mount | | \$0 |
| | 4 | C | Cost Est. Cl | ass | | | Pro | ogram/Allov | vance Task I | nformatio | on |
| | | C | Cost Est. Do | ate | Р | roject | Manager | | | | |
| | | C | Cost Est. So | ource | C | IP Nu | mber | | | | |
| | Cost Est. Prepared By | | | | D | escrip | otion | | | | |
| Cost Type | | Fisc | al Year | Expens | ense F | | e BenefilNo | onPersonne | C | omment | |
| GLWA Salaries CIP20 | 020 | FY20 | | | \$10 | | 4 | 0 | S/D/CA Pha | se | |
| GLWA Salaries CIP20 | 020 | FY21 | | | \$70 | | 28 | | S/D/CA Pha | se | |
| GLWA Salaries CIP20 | 020 | FY22 | | | \$25 | | 10 | | C Phase | ISE | |
| GLWA Salaries CIP20 | | FY22 | | | \$70 | | 28 | | S/D/CA Pha | | |
| GLWA Salaries CIP20 | | FY23 | | | \$110 | | 44 | | C Phase | | |
| GLWA Salaries CIP20 | | FY23 | | | \$35 | | 14 | | S/D/CA Pha | se | |
| GLWA Salaries CIP20 | | FY24 | | | \$110 | | 44 | | C Phase | | |
| GLWA Salaries CIP20 | | FY24 | | | \$10 | | 4 | | S/D/CA Pha | se | |
| GLWA Salaries CIP20 | 020 | FY25+ | F | | \$35 | | 14 | | C Phase | | |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | |
| | | 0 | 14 | 98 | | 133 | 203 | 168 | 49 | 66 | 5 |
| | | 0 | | | cpense | | | 168 res are in \$1 | | 66 | 5 |

| GLWA Great Lakes Water Authority | ‡2 Bar Rac | | | 2020-2 ement | | | Collec | ctio | n System | Improv | 211007 CI vements | | |
|--|--------------------------------|--------------|--------------|---------------------|-----------------|----------|--------|--------------|----------|--------|----------------------|-----------|-------|
| Phase Study and Design | | | | | Co | ontract | NA | | | Stat | us Future F | Planned S | Start |
| Title Replacement of Bo | ar Ra | cks at Pump | Station No.2 | | | | | | | | | | |
| Phase Budget Wastewater | | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status Future P | lanne | ed Start | | | | | | Funding S | ource B | ond | Proceeds | | |
| Start Date | | 12/8/ | 2018 | | | | | | Fund C | Cons | truction Bor | nd Fund | |
| End Date | | 1/14/ | 2024 | | | | Us | eful Life >2 | 20Yrs? Y | es | | | |
| Cost Estimation Information | | | | | | Tot. Fee | der | al Loan Ar | nount | | | | |
| | 1 | Cost Est. C | lass | | | Рі | rog | ram/Allow | ance To | ask I | nformation | | |
| 10/2/2017 | 7 | Cost Est. D | ate | P | roject <i>I</i> | ۸anage | r | | | | | | |
| | | Cost Est. Se | ource | CIP Number | | | | | | | | | |
| Ali Khraizat | Ali Khraizat Cost Est. Prepare | | repared By | 0 |)escript | ion | | | | | | | |
| | | | | | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | | Fringe | Benefit∧ | lon | Personne | | С | comment | | |
| Engineering Services | | (19 | d | \$6 | | | | | | | | | |
| Engineering Services | | (20 | | \$255 | | | | | | | | | |
| Engineering Services Engineering Services | | (21 (22 | · · | ,000 \$135 | | | | | | | | | |
| Engineering Services | | (23 | | §103 | | | | | | | | | |
| Engineering Services | | (24 | · · · · · · | \$75 | | | | | | | | | |
| Task | | Start Date | End Date | Dui | ration | | | | | | | | |
| Scope Development | | | | | | | | | | | | | |
| Procurement | | 3/25/2019 | 10/31/2019 | | 220 | | | | | | | | |
| Project Execution | | 11/1/2019 | 2/5/2025 | | 1923 | | | | | | | | |
| Project Closeout | | 2/6/2025 | 4/7/2025 | | 60 | | | | | | | | |
| Prior Yr Actuals F | Y19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY25 | F | Total | | |
| | | 6 255 | 1,000 | | 135 | 103 | 3 | 75 | | 0 | 1,574 | | |

| GLWA | |
|-----------------------------|-----------------------------------|
| Great Lakes Water Authority | WRRF PS #2 Bar Rac |
| hase Construction | |
| itle Replacement of | of Bar Racks at Pump Station No.2 |
| Phase Budget Was | tewater |
| Phase Status Futu | re Planned Start |
| Start Date | 1/29/2021 |
| End Date | 1/14/2024 |
| Cost Es | stimation Information |
| | 4 Cost Est. Class |
| 10/2/2 | 2017 Cost Est. Date |
| | Cost Est. Source |
| Ali Karaizat | Cost Est Proparad By |

| GLWA | FY | 2020 | -2024 | CIP |
|-------------|----|------|-------|-----|
|-------------|----|------|-------|-----|

ks Replacements and Grit Collection System Improvements

| Phase Constructior Title Replacemen | | Packs at 1 | | Station No. 2 | Contract NA | | | | | Stat | US F | uture F | Planned | Start | | |
|---|-----------------------------------|------------|-----------|---------------|--------------|------------------------|----------|-----|-------------|--------|--------|---------|---------|---------|---|---|
| Phase Budget Wo | | | | | | | | | Cost Allo | cation | CTA | | | | | |
| Phase Status Fu | Phase Status Future Planned Start | | | | | | | | Funding S | Source | Bond | Proc | eeds | | | |
| Start Date | | | 1/29/ | 2021 | | | | | | Fund | Cons | tructi | on Bor | nd Fund | | |
| End Date | | | 1/14/ | 2024 | | | | Us | eful Life > | 20Yrs? | Yes | | | | | |
| Cost | Estimatio | on Inform | ation | | | | Tot. Fe | der | al Loan A | mount | | | | | | |
| | 4 | Cos | t Est. C | lass | | | P | rog | ram/Allov | wance | Task I | nform | nation | | | |
| 10/2 | 2/2017 | Cos | t Est. Do | ate | Ρ | r <mark>oject</mark> / | Manage | r | | | | | | | |] |
| | | Cos | t Est. Sc | ource | С | IP Num | nber | | | | | | | | | 1 |
| Ali Khraizat | | Cos | t Est. Pr | repared By | D | escript | lion | | | | | | | | | |
| Cost Type | | Fiscal | (ear | Expense |) | Fringe | Benefith | lon | Personne | | С | Comm | nent | | | |
| Construction | | FY19 | | | \$0 | | | | | 2020CI | Р | | | | | |
| Construction | | FY20 | | | \$0 | | | | | 2020CI | Р | | | | | |
| Construction | | FY21 | | - | 231 | | | | | | | | | | | |
| Construction | | FY22 | | • | ,771 | | | | | | | | | | _ | |
| Construction | | FY23 | | • | ,000 | | | | | | | | | | | |
| Construction | | FY24 | | \$7, | ,595 | | | | | | | | | | | |
| Task | | Start D | ate | End Date | Dur | ation | | | | | | | | | | |
| Scope Developme | ent | | | | | | | | | | | | | | | |
| Procurement | | 8/24 | /2021 | 2/20/2022 | | 180 |) | | | | | | | | | |
| Project Execution | | 2/21 | /2022 | 2/5/2025 | | 1080 |) | | | | | | | | | |
| Project Closeout | | 2/6 | /2025 | 4/7/2025 | | 60 |) | | | | | | | | | |
| Prior Yr Actuals | FY19 | 7 F | Y20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY2 | 5+ | То | tal | | | |
| | | 0 | 0 | 231 | 1 | ,771 | 6,00 | 0 | 7,595 | | 0 | 1 | 5,597 | | | |
| | | 0 | | | | | | | | | | | | | | |



WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

| | Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | | | | | | | | | | |
|------|--|------|------|-------|-------|-------|-------|-------|-------|------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | | 650 | 2,900 | 3,300 | 2,817 | | | 0 | 0 | 9,667 |
| 2019 | 0 | | | 7 | 402 | 1,980 | 2,404 | 6,956 | 8,814 | 0 | 20,563 |
| 2020 | 0 | 0 | | 6 | 269 | 1,329 | 2,039 | 6,306 | 7,838 | 49 | 17,836 |



WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

\checkmark Innovation

□ Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP $\ \square$

Project Engineer/Manager Ravi Yelamanchi Manager Ali Khraizat Managing Dept WW Design Eng Date Original Business Case Prepared 7/27/2016 Year Project Added to CIP 2017 Ferric Chloride Tanks at Pump Station 1



211008 CIP#

| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class Lvl 3 | Primary Treatment |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project SignificanceThe Ferric Chloride Systems at PS-1 is used to reduce phosphorus to the required permit levels. The system, which
include chemical storage tanks, secondary containment, valves and piping is in need of rehabilitation. The
Complex B sludge lines are clogged due to Struvite and need rehabilitation/replacement.Scope of WorkThe scope of work will include study design and construction for the ferric chloride feed system at PS-1.
Specifically it will include: a study to evaluate alternative locations for application of ferric chloride, a pilot study

to test alternative application points, and inspection of the existing chemical feed systems, a study to provide recommendations for system modifications and improvements, design of recommended system improvements, and construction of chemical feed system improvements. Evaluation and recommended design and construction of the sludge lines in Complex B is also included in the scope.

Challenges Maintaining capacity of the existing feed system during construction will be a challenge. Also, determining the simplest system that will meet current and future phosphorous limits for both primary and secondary effluent will be a challenge.

Project History There are phosphorous effluent permit limits for both primary effluent (during wet weather) and for secondary effluent. Effluent limits for phosphorous were lowered again in 2016 and now stand at 1.5 mg/l for primary effluent and 0.7 mg/l (October – March) and 0.6 mg/l (April – September) for secondary effluent. GLWA has historically been able to meet the phosphorous limits for both primary and secondary effluent by adding ferric chloride to the primary clarifier influent. The physical/chemical removal in the primary clarifiers lowered the phosphorous concentrations to meet the primary effluent limits. However, GLWA has begun to experience some difficulty with the settling of the secondary biomass in the final clarifiers. Preliminary investigations have indicated that this settling ability issue could be caused by low phosphorous concentrations in the secondary influent wastewater. This is because the biomass in the secondary system requires a certain ratio of carbon (CBOD), nitrogen, and

| GLWA Great Lakes Water Authority | GLWA FY 2020-2024 CIP 211008 CIF WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines | |
|-------------------------------------|---|--|
| | phosphorous to reduce the pollutant concentrations and then settle in the final clarifiers. As such, in addition to rehabilitating the ferric chloride system at PS-1, there also needs to be a study and possibly pilot test conducted to review the best location for ferric chloride addition to the wastewater. | |
| - | Rehabilitation of Pump Station – 2 Ferric Chloride Feed System is currently in design stage and construction will start soon. | |
| Lookup Driver | 1 - Condition | |
| - | *Innovation note: Align sizing & design with U of M phosphorus & enhanced carbon capture studies, as well as improved mixing of the ferric with primary influent. | |
| Explanation | The current chemical feed systems at PS-1 has deteriorated to the point where this need to be rehabilitated. | |



PM Weighted Score

73.4

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 4 | Shows abnormal wear. Replacement or major |
| Efficiency and Innovation | 4 | Right sizing system will have significant operati |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | Project will have significant positive impact or |
| Performance (Service Level/Reliability) | 4 | High Risk of Performance Failures |
| Public Benefit | 2 | Mostly require new infrastructure |
| Public Health & Safety | 3 | Project likely to address hazard issues |
| Regulatory (Environmental/Legal) | 4 | Risk of non compliance in near term |

RC Weighted

Score

74.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 3 | |
| 0&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |

| GLWA Great Lakes Water Authority |
|-------------------------------------|
|-------------------------------------|

211008 CIP#

WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

| Phase GLWA Emplo itle GLWA Salaries | GLWA Employees Project management GLWA Salaries | | | | | | N | A | | Status | Active | | |
|--|--|------------------|--------------|-----------|-----------|--------------------|------|--------------|--------------|-------------|-----------|---------|----------|
| Phase Budget Wa | astewa | ter | | | | | | Cost Allo | cation C | CTA | | | |
| Phase Status Act | tive | | | | | | | Funding S | Source B | ond P | roceeds | | |
| Start Date | | | | | | | | | Fund C | onstru | uction Bo | nd Fund | |
| End Date | | | | | | | U | seful Life > | 20Yrs? N | 0 | | | |
| Cost I | cost Estimation Information | | | | | Tot. F | ede | eral Loan A | mount | | | | \$0 |
| | 4 | | Cost Est. C | lass | | | Prog | gram/Allov | wance To | ask Inf | ormation | | |
| 10/1 | /2017 | | Cost Est. D | ate | Р | roject Manag | er | | | | | | |
| | | Cost Est. Source | | | C | CIP Number | | | | | | | |
| Ali Khraizat | | | Cost Est. Pı | epared By | D | Description | | | | | | | |
| Cost Type | | Fis | scal Year | Expens | е | Fringe Benefi | No | nPersonne | | Со | mment | | |
| GLWA Salaries CIP2 | 2020 | FY19 | 7 | | \$15 | 6 | | | s/d/ca f | /D/CA Phase | | | |
| GLWA Salaries CIP2 | 2020 | FY20 |) | | \$100 | 40 |) | 5 C Phas | | C Phase | | | |
| GLWA Salaries CIP2 | 2020 | FY20 |) | | \$75 | 30 |) | | S/D/CA Phase | | | | |
| GLWA Salaries CIP2 | 2020 | FY2 | 1 | | \$89 | 35 | i | 4 | C Phase | | | | |
| GLWA Salaries CIP2 | 2020 | FY2 | 1 | | \$15 | 6 |) | | s/d/ca f | Phase | | | |
| GLWA Salaries CIP2 | 2020 | FY22 | 2 | | \$28 | 11 | | | C Phase | | | | |
| GLWA Salaries CIP2 | 2020 | FY22 | 2 | | \$8 | 3 | | | s/d/ca f | Phase | | | <u>]</u> |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY22 FY23 | | FY24 | FY25+ | - | Total | | | |
| | | 21 | 250 | 149 | | 50 | 0 | 0 | | 0 | 470 |] | |

| Great Lakes Water A | uthority | | | itation of I | erric | | | | - | n in F | | | - | • |
|---------------------|------------------|--------------------------|--------------|--------------|------------------------------|-----------------|---------|----------|---------------|--------|------|-------------|---------|-------|
| hase Study and | - | | | | | Co | ontract | NA | A | | Stat | us Future | Planned | Start |
| Г | | | hloride Feed | a Systems | | | | | | | 07.4 | | | |
| Phase Budget | | | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status | Future P | lanneo | d Start | | Funding Source Bond Proceeds | | | | | | | | | |
| Start Date | | | 6/10/ | 2019 | | | | | | Fund | Cons | truction Bo | nd Fund | |
| End Date | | | 12/24/ | 2022 | | | | Us | seful Life >2 | 20Yrs? | Yes | | | |
| Co | | Tot. Federal Loan Amount | | | | | | | | | | | | |
| | lass | | | I | Prog | gram/Allow | vance | e Task I | nformation | | | | | |
| | Cost Est. Date | | | | | Project Manager | | | | | | | | |
| | Cost Est. Source | | | | CIP Number | | | | | | | | | |
| | Cost Est. Prepa | | | | | escript | ion | | | | | | | |
| Cost Typ | be | Fi | iscal Year | Expense | 9 | Fringe | Benefit | Nor | Personne | | С | comment | | |
| Engineering Serv | | FY1 | 9 | • | ,000, | | | | | | | | | |
| Engineering Serv | ices | FY2 | 20 | | \$200 | | | | | | | | | |
| Engineering Serv | | FY2 | 21 | | \$200 | | | | | | | | | |
| Engineering Serv | ices | FY2 | 2 | | \$50 | | | | | | | | | |
| Task | | S | tart Date | End Date | Dur | ation | | | | | | | | |
| Scope Developr | nent | | | | | | | | | | | | | |
| Procurement | | | 9/1/2018 | 11/30/2018 | | 90 | | | | | | | | |
| Project Execution | | | 12/1/2018 | 3/30/2022 | | | | | | | | | | |
| Project Closeout | | | 3/31/2022 | 6/29/2022 | 22 90 | | | | 1 | | | | | |
| Prior Yr Actual | s F | Y19 | FY20 | FY21 200 | FY2 | | FY23 | 0 | FY24 | FY2 | 25+ | Total | | |
| 1,000 200 | | | | | | 50 | | 0 | 0 | | 0 | 1,450 | | |

| GLWA Great Lakes Water Authority | W | RRF Rehabil | itation of F | | FY 2020 nloride F | | | m in P | S-1 c | and Con | nplex B | 211008 c Sludge Line | |
|-------------------------------------|--------------------------------|---------------|--------------|------------------------------------|----------------------|----|-----------|--------|-------|-------------|----------|-------------------------|--|
| Phase Construction | | | | | Contract | NA | Ą | | Stat | us Future | Plannec | d Start | |
| Title Rehabilitation o | f Ferric | Chloride Feed | d Systems | | | | | | | | | | |
| Phase Budget Waste | ewater | - | | | | | Cost Allo | cation | CTA | | | | |
| Phase Status Future | e Planr | ned Start | | | | | Funding | Source | Bond | Proceeds | | | |
| Start Date | | 1/3/ | /2021 | | | | | Fund | Cons | truction Bo | ond Func | 1 | |
| End Date | | 12/24/ | ′2022 | Useful Life >20Yrs? Yes | | | | | | | | | |
| Cost Est | imatior | n Information | | Tot. Federal Loan Amount | | | | | | | | | |
| | 4 | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | | | |
| | | Cost Est. D | ate | Project Manager | | | | | | | | | |
| | | Cost Est. Se | ource | CIP N | umber | | | | | | | | |
| | | Cost Est. P | repared By | Description | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | se Fringe BenefilNonPersonne | | | | | С | | | | |
| Construction | F | Y20 | \$2, | .500 | | | | 2020CI | Р | | | | |
| Construction | F | Y21 | \$4, | 634 | | | | 2020CI | Р | | | | |
| Construction | F | Y22 | \$1, | .500 | | | | | | | | | |
| Task | | Start Date | End Date | Duratio | n | | | | | | | | |
| Procurement | | 5/1/2019 | 9/30/2019 | - | 152 | | | | | | | | |
| Project Execution | | 10/1/2019 | 3/30/2022 | ç | 911 | | | | | | | | |
| Project Closeout | ject Closeout 3/31/2022 6/30/2 | | 6/30/2022 | | 91 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | | FY24 | FY2 | 5+ | Total | | | |
| | 0 2,500 4 | | | 1,500 |) | 0 | С | | 0 | 8,634 | | | |

 GLWA FY 2020-2024 CIP
 211008 CIP#

 WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

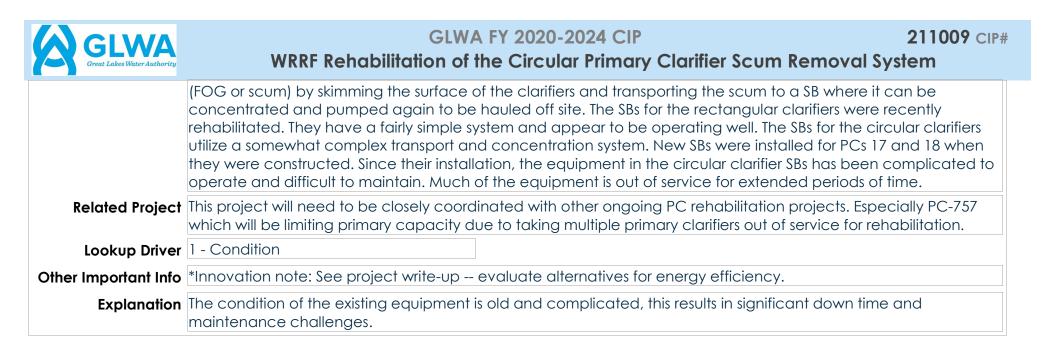
 Phase not applicable
 Contract
 NA
 Status
 Closed Out

| Title P | rior Year A | ctu | al Expense | S | | | | | | | | | | | | |
|----------------|-----------------------------|-----------------------|------------|-------------|------------|-----------------|------------------------------------|-------------|--------------|------------|---------|--------|---|--|--|--|
| Phase | e Budget V | Nast | tewater | | | | | Cost | Allocation | CTA | | | | | | |
| Pha | ıse Status (| Close | ed Out | | | | | Fundi | ng Source | | | | | | | |
| S | start Date | | | | | | | | | | | | | | | |
| | End Date | | | | | | | Useful Li | fe >20Yrs? | | | | | | | |
| | Cost Estimation Information | | | | | | Tot. Federal Loan Amount \$0 | | | | | | | | | |
| | | | 1 | Cost Est. C | lass | | Program/Allowance Task Information | | | | | | | | | |
| | | | | Cost Est. D | ate | Project Manager | | | | | | | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | | | | | |
| | | Cost Est. Prepared By | | | | | cription | | | | | | | | | |
| | Cost Typ | e | Fis | scal Year | Exper | nse Fri | nge Benefi | NonPerso | nne | Comm | nent | | | | | |
| Engine | ering Servi | | FY18 | 8- | | \$12 FY18 | | | | | | | | | | |
| Prior | r Yr Actuals | 5 | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | | _ | | | |
| | | 12 | | | | | | | | | 12 | | | | | |
| | | | | P | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | | | | | |
| | Pro | ojeo | ct Total E | xpenses | By FY C | ompare | d to Prior | CIPs (A | II figures | are in \$1 | ,000's) | | | | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | | | | |
| 2018 | | | | 400 | 1,400 | 5,200 | 2,000 | 633 | | 0 | 0 | 9,633 | | | | |
| 2019 | | 0 | | | 7 | 115 | 1,259 | 2,732 | 5,537 | 2,363 | 0 | 12,013 | | | | |
| 2020 | | 0 | 0 | 12 | 1,021 | 2,950 | 4,983 | 1,600 | 0 | 0 | 0 | 10,566 | | | | |



GLWA FY 2020-2024 CIP 211009 CIP# WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

| ✓ Innovation | Project Status Future Planned | The existing scum system is complicated | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|--|
| □ Water MP Right Sizing | CIP Type Project | to operate and difficult | | | | | | | | |
| ✓ Reliability/Redundancy | Project New To CIP | to maintain, equipment remains out of service | | | | | | | | |
| NEWTP Repurposing | | for extended period. | | | | | | | | |
| | | The scum beaches | | | | | | | | |
| | | need better enclosure and heating system, | | | | | | | | |
| | | during extreme cold | | | | | | | | |
| | | conditions scum | | | | | | | | |
| | | collection system get frozen | | | | | | | | |
| Project Engineer/Manager | Ali Khraizat | Budget Wastewater | | | | | | | | |
| | Ali Khraizat | Class Lvl 1 Wastewater | | | | | | | | |
| Managing Dept | | Class Lvl 2 WRRF | | | | | | | | |
| Date Original Business Case | | Class Lvl 3 Primary Treatment | | | | | | | | |
| - | Ided to CIP 2017 | Location City of Detroit | | | | | | | | |
| • | | Fund and Cost Center Wastewater - 5421-892211 | | | | | | | | |
| | | over 10 years old and need to be rehabilitated. They will help preventing scum from entering the aeration tanks. | | | | | | | | |
| Scope of Work This pr | roject will provide for the study, design | and construction of new scum equipment in the Scum Buildings for | | | | | | | | |
| | | f an evaluation of the existing process and simplified alternative | | | | | | | | |
| - | • | n removal from the buildings. Future alternatives for scum disposal, process, will be considered. All alternatives will be evaluated for | | | | | | | | |
| | | age). The scum removal system at the rectangular PCs will also be | | | | | | | | |
| | | be applied to the circular SBs. Design and construction services will | | | | | | | | |
| | cluded for the selected scum removal s | • | | | | | | | | |
| out of | Each of the scum removal facility serves two circular clarifiers, so two circular clarifiers at a given time needs to be out of services during rehabilitation, this will limit the primary capacity to minimum to meet NPDES permit requirements. | | | | | | | | | |
| • • | y There are 12 rectangular PCs (1-12) and 6 circular PCs (13-18) clarifiers at the WRRF. PCs remove TSS, BOD, and phosphorous through a chemically enhanced settling process. The clarifiers also remove fats, oils, and grease | | | | | | | | | |





PM Weighted

Score **52.8**

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 3 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Efficiency and Innovation | 3 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Financial | 3 | 11/28/18 - Khraizat & Caldwell modified priorit |
| O&M | 2 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Performance (Service Level/Reliability) | 3 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Public Benefit | 2 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Public Health & Safety | 2 | 11/28/18 - Khraizat & Caldwell modified priorit |
| Regulatory (Environmental/Legal) | 3 | 11/28/18 - Khraizat & Caldwell modified priorit |
| | | |

RC Weighted

Score

52.8

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 3 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Efficiency and Innovation | 3 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Financial | 3 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| O&M | 2 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Performance (Service Level/Reliability) | 3 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Public Benefit | 2 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Public Health & Safety | 2 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| Regulatory (Environmental/Legal) | 3 | 11/28/18 - Khraizat & Caldwell modified prioritiz |
| | | |



211009 CIP#

WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

| hase GLWA Employe itle GLWA Salaries | ees Proje | ct managen | nent | | Contract NA | 4 | Stat | us Future | Planned Start | | |
|---|---------------------------|--------------|-----------|------------------------------|----------------|---------------|--------------|-------------|---------------|--|--|
| Phase Budget Wast | ewater | | | | | Cost Allo | cation CTA | | | | |
| Phase Status Future | e Planne | d Start | | Funding Source Bond Proceeds | | | | | | | |
| Start Date | | | | | | | Fund Cons | truction Bo | nd Fund | | |
| End Date | | | | | U | seful Life >: | 20Yrs? No | | | | |
| Cost Est | imation I | nformation | | | Tot. Fede | ral Loan A | mount | | \$0 | | |
| | 4 | Cost Est. C | ass | | Prog | gram/Allov | vance Task I | nformation | 1 | | |
| 10/1/2 | 017 | Cost Est. Do | ate | Proje | ect Manager | | | | | | |
| | | Cost Est. So | ource | CIP I | Number | | | | | | |
| Ali Khraizat | | Cost Est. Pr | epared By | Desc | cription | | | | | | |
| Cost Type | F | iscal Year | Expense | e Frir | nge BenefilNor | nPersonne | С | omment | | | |
| GLWA Salaries CIP202 | 20 FY2 | 21 | | \$20 | 8 | ļ | S/D/CA Phas | e | | | |
| GLWA Salaries CIP202 | 20 FY2 | 22 | | \$85 | 34 | | S/D/CA Phase | | | | |
| GLWA Salaries CIP202 | 20 FY2 | 23 | | \$35 | 14 | | C Phase | | | | |
| GLWA Salaries CIP202 | 20 FY2 | 23 | | \$45 | 18 | | S/D/CA Phas | e | | | |
| GLWA Salaries CIP202 | 20 FY2 | 24 | | \$200 | 79 | | C Phase | | | | |
| GLWA Salaries CIP202 | 20 FY2 | 24 | | \$15 | 6 | ļ | S/D/CA Phas | e | | | |
| GLWA Salaries CIP202 | 20 FY2 | 25+ | | \$15 | 6 | | C Phase | | | | |
| GLWA Salaries CIP202 | s CIP2020 FY25+ | | | \$10 | 4 | 0 | S/D/CA Phas | e | | | |
| | or Yr Actuals FY19 FY20 F | | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| Prior Yr Actuals | FY19 | FT20 | 1121 | | | | | | - | | |

| hase Study and | | | onstruction | Assistance | ce Contract NA Status Future Planned | | | | | | | | l Start | |
|-------------------------------|--------------------------|-----|-------------|----------------|--|------------------------------------|---------|------|------------|---------|-------|--------------------|---------|--|
| | 0 | | | Clarifier Scul | m Re | | | 11/- | Λ | | 51410 | | 131011 | |
| Phase Budget | | | | | | | | | Cost Alloc | ation C | TA | | | |
| Phase Status | | | d Start | | Funding Source Bond Proceeds | | | | | | | | | |
| Start Date | | | 11/8/ | 2020 | | | | | | | | truction Bond Fund | | |
| End Date | | | 5/24/ | | Useful Life >20Yrs? Yes | | | | | | | | | |
| Cost Estimation Information | | | | | | Tot. Federal Loan Amount | | | | | | | | |
| 4 Cost Est. Class | | | | | | Program/Allowance Task Information | | | | | | | | |
| 1 | 10/2/2017 Cost Est. Date | | | | F | roject | Manage | - | | uncent | | | | |
| Cost Est. Source | | | | CIP Number | | | | | | | | | | |
| Ali Khraizat Cost Est. Prepar | | | | | г | Descrip | lion | | | | | | | |
| | | | | | | | | | | | | | | |
| Cost Typ | | Fi | scal Year | Expense |) | Fringe | Benefil | Non | Personne | | С | omment | | |
| ngineering Serv | | FY2 | | | \$750 | | | | | | | | _ | |
| ngineering Serv | | FY2 | | | 500 | | | | | | | | | |
| ngineering Serv | | FY2 | | - | 5125 | | | | | | | | _ | |
| ngineering Serv | ices | FY2 | 4 | \$ | 5125 | | | | | | | | | |
| Task | | S | tart Date | End Date | Du | ration | | | | | | | | |
| cope Developr | nent | | | | | | | | | | | | | |
| rocurement | | | 4/1/2020 | 11/7/2020 | | 220 |) | | | | | | | |
| roject Executio | า | | 11/8/2020 | 7/23/2024 | | 1353 | 3 | | | | | | | |
| roject Closeout | | | 7/24/2024 | 9/22/2024 | | |) | | | | | | | |
| Prior Yr Actual | s FY1 | 9 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY25+ | + | Total | | |
| | | 0 | 0 | 750 | | 500 | 12 | 25 | 125 | | 0 | 1,500 | | |

| | GLWA Great Lakes Water Author | ity | | WRRF R | ehabilita | | | Y 2020- e Circule | | | Clarif | ier Scur | n Ren | nova | | 1009 כוף : ו |
|--------------|----------------------------------|------------|-------|--------------|--|------------------------------------|-------|----------------------|--------------|-----------------|----------------|------------|----------|-------|----------------|----------------------------|
| Phase | Constructior | 1 | | | | | C | Contract | NA | | | Status | Future I | Plann | ed Start | |
| Title R | ehabilitatior | n of the (| Circ | ular Primary | Clarifier Sc | cum Rer | nova | al System | | | | | | | | |
| Phase | e Budget Wo | astewate | er | | | | | | Cost | Alloc | cation | CTA | ΓΑ | | | |
| Pha | se Status Fut | ure Plar | nec | d Start | | Funding Source Bond Proc | | | | | | | | | | |
| S | tart Date | | | 6/4/ | 2022 | Fund Construction Bond Fund | | | | | | | | | nd | |
| | End Date | | | 5/24/ | 2024 | Useful Life >20Yrs? Yes | | | | | | | | | | |
| | Cost | Estimatio | on Ir | nformation | | Tot. Federal Loan Amount | | | | | | | | | | |
| | | 3 | | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | | | | |
| | | | | Cost Est. D | ate | P | ojec | t Manage | r | | | | | | | |
| | | | | Cost Est. So | ource | CIP Number | | | | | | | | | | |
| Engi | neer | | | Cost Est. Pr | repared By | D | escri | ption | | | | | | | | |
| | Cost Type | | Fi | scal Year | ar Expense Fringe BenefitNonPersonne Comment | | | | | | | | | | | |
| Constr | uction | | FY2 | 3 | | \$5,000 | | | | | | | | | | |
| Constr | uction | | FY2 | 24 | | \$4,300 | | | | | | | | | | |
| | Task | | S | tart Date | End Date | ate Duration | | | | | | | | | | |
| Procur | | | | 2/3/2022 | 8/2/202 | | | 80 | | | | | | | | |
| - | Execution | | | 8/3/2022 | 7/23/202 | | | 20 | | | | | | | | |
| Project | Closeout | | | 7/24/2024 | 9/22/202 | 24 | (| 60 | | | | | | | | |
| Prior | Yr Actuals | FY1 | | FY20 | FY21 | FY2 | | FY23 | FY2 | | FY2 | | otal | | | |
| | | | 0 | | | | 0 | 5,00 | | 1,300 | | 0 | 9,300 | | | |
| | | | | PI | hase Total | Expense | es By | FY (All fig | ures are | in \$1 , | ,000's) | | | | | |
| | | | | Expenses | - | | | | _ | | | | | - | | [|
| CIP | FY16 | FY1 | 7 | FY18 | FY19 | FY20 | | FY21 | FY22 | | Y23 | FY24 | FY2 | | Total | 0 |
| 2018 2019 | | 0 | | 266 | 324 | 1,87 | 7 | 2,671 859 | 2,670 572 | | 2,679 5,796 | 0 5,005 | | 0 | 10,48 12,23 | _ |
| 2017 | | 0 | 0 | | 0 | | 0 | 778 | 619 | _ | 5,237 | 4,725 | | 35 | 11,39 | |
| L | 1 | | | · · · · · · | | | | B-55 | | | | | 1 | | | |



WRRF Returned Activated Sludge (RAS) Pumps, Influent Mixed Liquor System and Motor

212001 CIP#

| Innovation Water MP Right Siz Reliability/Redunction NEWTP Repurposir | | Return activated sludge pump and Motor Control Center building | | | | | | | |
|--|---------------------------------------|--|--|--|--|--|--|--|--|
| Project Engineer/Mar | nager Nicolas Nicolas | Budget Wastewater | | | | | | | |
| Mar | nager Philip Kora | Class Lvl 1 Wastewater | | | | | | | |
| Managing | Dept WW Constr Eng | Class Lvl 2 WRRF | | | | | | | |
| Date Original Busines | s Case Prepared 4/1/2005 | Class Lvl 3 Secondary Treatment & Disinfection | | | | | | | |
| Year Proje | ect Added to CIP 2005 | Location City of Detroit | | | | | | | |
| | | Fund and Cost Center Wastewater - 5421-892211 | | | | | | | |
| Project Significance | Replace aging pump units, control and | instrumentation and building enclosures | | | | | | | |
| | MCCs at each secondary clarifier, pro | This project provides new power supply cable to/from secondary clarifiers and substation MCC, provides new MCCs at each secondary clarifier, provides short-circuit analysis and fault rating , replace 25 RAS pumps at the secondary clarifiers and complete all miscellaneous electrical work such as replacement of cables, conduit, pull | | | | | | | |
| Challenges | N/A - Active | | | | | | | | |
| Lookup Driver | N/A - Active | | | | | | | | |
| Explanation | N/A - Active | | | | | | | | |

GLWA Great Lakes Water Authority

GLWA FY 2020-2024 CIP

212001 CIP#

WRRF Returned Activated Sludge (RAS) Pumps, Influent Mixed Liquor System and Motor

| Phase not appli | cable | | | | | C | Contract | NA | | Status | Closed | lOut | |
|------------------|-------------|--------|--------------|-------------|--------|--------|--------------|----------------|-----------|----------|----------|------|---|
| Title Prior Year | Actual Exp | penses | ; | | | | | | | | | | |
| Phase Budget | Wastewa | ter | | | | | | Cost Alle | ocation C | TA | | | |
| Phase Status | Closed O | ut | | | | | | Funding | Source | | | | |
| Start Date | | | | | | | | | Fund | | | | |
| End Date | | | | | | | | Useful Life | >20Yrs? | | | | |
| Co | ost Estimat | ion In | formation | | | | Tot. Fe | deral Loan A | Amount | | | | |
| | 1 | | Cost Est. Cl | ass | | | P | rogram/Alla | wance To | ısk Info | ormation | | |
| | | | Cost Est. Do | ate | Р | rojec | t Manage | r | | | | | |
| | | | Cost Est. Sc | ource | С | IP Nu | mber | | | | | | |
| | | | Cost Est. Pr | epared By | D | escrij | ption | | | | | | |
| Cost Ty | се | Fis | cal Year | Expens | е | Fring | e Benefit | IonPersonne | 9 | Cor | nment | | |
| Unknown | | FY18 | 3- | \$34 | 1,090 | | | | 2020CIP | | | |] |
| Prior Yr Actua | ls FY | 19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | - | Total | | |
| 34,0 | 090 | | | | | | | | | | 34,090 | | |
| | | | Ph | ase Total E | (pense | es By | FY (All figu | ures are in \$ | 1,000's) | | | | |

| | GLWA Great Lakes Water Authority | W | RRF Returne | ed Activo | | A FY 2020 dge (RAS | | | nt Mixed L | iquor Sys | | 001 CIP# Motor |
|--------|-------------------------------------|----------|---------------|-------------|--------------|-----------------------|--------|-----------------|---------------|-------------------|--------------|-------------------|
| Phase | Construction | | | | | Contrac | PC- | 776 | Status (| Closed Out | ł | |
| | PC-776 Returne or Secondary | | - | (RAS) Pump | os, Influent | Mixed Liqu | or Sys | tem and Mot | or Control C | enters (MC | C) Improverr | nents |
| Phas | e Budget Was | tewate | r | | | | (| Cost Allocatio | on CTA | | | |
| Pho | ise Status Clos | ed Out | | | | | I | unding Sourc | e Bond Proc | ceeds | | |
| 5 | Start Date | | 8/23 | 3/2010 | | | | Fur | nd Construct | ion Bond Fi | und | |
| | End Date | | | 9/2016 | | | Use | eful Life >20Yr | s? Yes | | | |
| | | | | | - | Tot | Eodora | al Loan Amou | nt | | | |
| | Cost Es | stimatio | n Information | | | 101. | | | | | | |
| | | 1 | Cost Est. | Class | | | _ | am/Allowand | e Task Infor | nation | | |
| | | | Cost Est. | Date | Proj | ject Mana | ger | | | | | |
| | | | Cost Est. | Source | CIP | Number | | | | | | |
| | | | Cost Est. | Prepared By | y Des | cription | | | | | | |
| | | | | | | | | | | | | |
| | Task | | Start Date | End Date | e Durat | ion | | | | | | |
| Scope | Development | t | | | | | | | | | | |
| Procur | ement | | | | | | | | | | | |
| Projec | t Execution | | | | | | | | | | | |
| Projec | t Closeout | | | | | | | | | | | |
| | | | | Phase Total | Expenses | By FY (All f | igures | are in \$1,000 | 's) | | | |
| | Proje | ct Tot | al Expense | s By FY C | ompare | d to Prio | r CIP | s (All figure | es are in \$* | 1 <i>,</i> 000's) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY2 | 22 FY23 | FY24 | FY25 | Total | |
| 2018 | 24060 | 1 | 15 | | | | | | 0 | 0 | 24,175 | |
| 2019 | 0 | 34,0 | 90 | | | | | | | 0 | 34,090 | |
| 2020 | 0 | | 0 34,090 | | | | | | | | 34,090 | |



GLWA FY 2020-2024 CIP 212002 CIP# WRRF Study, Design, & Construction Management Services for Modified Detroit River Outfall

212002 CIP#

| Innovation Water MP Right Sizing Reliability/Redundancy | Project Status Closed CIP Type Project | DRO2 plan at WR | RF ELECTRICATION OF THE REPORT |
|---|--|-------------------------------|--|
| | Project New To CIP 🛛 | | |
| Project Engineer/Manager | Alfredo Lava | Budget | Wastewater |
| Manager | Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing Dept | WW Design Eng | Class Lvl 2 | WRRF |
| Date Original Business Case | e Prepared | Class Lvl 3 | Secondary Treatment & Disinfection |
| Year Project Ad | ded to CIP 2006 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| | le remediation and decommissioning of boded tunnel | non-utilized portions of as-b | ouilt PC-709 construction, which resulted |
| mana | cope of work includes limited study, detain gement services necessary to implement t requirements. | | |
| Lookup Driver N/A - | Pending Closeout | | |
| Explanation N/A - | Pending Closeout | | |

GLWA FY 2020-2024 CIP 212002 CIP# WRRF Study, Design, & Construction Management Services for Modified Detroit River Outfall

| Phase not applicable | | | | | Contr | act N | IA | Stat | us Closed | d Out | |
|-------------------------|-----------|--------------|-----------|-------|-------------|---------|----------------|---------------|------------------|-------|--|
| Title Prior Year Actual | Expense | S | | | | | | | | | |
| Phase Budget Waste | water | | | | | | Cost Allo | cation CTA | | | |
| Phase Status Closed | d Out | | | | | | Funding S | ource | | | |
| Start Date | | | | | | | | Fund | | | |
| End Date | | | | | | ι | Useful Life >: | 20Yrs? | | | |
| Cost Estir | mation In | formation | | | Тс | t. Fede | eral Loan A | mount | | | |
| | 1 | Cost Est. Cl | ass | | | Pro | ogram/Allov | vance Task | Informatior | า | |
| | | Cost Est. Do | ate | F | Project Mar | nager | | | | | |
| | | Cost Est. Sc | urce | (| CIP Numbe | r | | | | | |
| | | Cost Est. Pr | epared By | | Description | | | | | | |
| Cost Type | Fis | cal Year | Expens | е | Fringe Ber | nefitNc | onPersonne | C | Comment | | |
| Unknown | FY18 | 3- | | \$279 | | | | FY16 | | | |
| Unknown | FY18 | 3- | \$10 | 0,091 | | | | Pre-Bifurcati | on | | |
| Unknown | FY18 | 3- | | \$449 | | | | FY17 | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 F` | (23 | FY24 | FY25+ | Total | | |
| 10,819 | | | | | | | | | 10,819 | | |

| | GLWA Great Lakes Water Authority | WRRF | Study, De | esign, & C | | FY 2020 | | | | es for Mo | dified De | | 002 CIP# r Outfal |
|---------|-------------------------------------|-------------|-------------|---------------|-----------|--------------|--------|---------|---------------|---------------|------------|--------|----------------------|
| | Study and De | • | | | | Contrac | | | | | Closed Out | | |
| Title (| CS-1448 Study, | , Design, 8 | Constructi | on Managei | ment Serv | ices for M | odifie | ed Det | roit River C | Dutfall No. 2 | 2 - WRRF | | |
| Phas | e Budget Was | stewater | | | | | | Cost | Allocation | CTA | | | |
| Pho | use Status Clos | sed Out | | | | | | Fund | ing Source | Bond Proc | eeds | | |
| 9 | Start Date | | 10/31 | /2006 | | | | | Fund | Constructi | on Bond Fu | Ind | |
| | End Date | | 10/31 | /2016 | | | Us | seful L | ife >20Yrs? | Yes | | | |
| | Cost E | stimation | Information | | 1 | Tot. | Fede | ral Loc | an Amount | | | | |
| | | 2 | Cost Est. | Class | | | Prog | gram// | Allowance | Task Inforn | nation | | |
| | | | Cost Est. I | Date | Proj | ect Mana | ger | | | | | | |
| Cor | ntract | | Cost Est. S | Source | CIP | Number | | | | | | | |
| | | | Cost Est. I | Prepared By | Des | cription | | | | | | | |
| | Terel | | Start Data | Fred Darks | | - 12 | | | | | | | |
| Scono | Task Developmen | | Start Date | End Date | Durati | on | | | | | | | |
| | rement | | | | | | | | | | | | |
| | t Execution | | | | | | | | | | | | |
| | t Closeout | | | | | | | | | | | | |
| | | | I | Phase Total E | xpenses I | By FY (All f | igure | s are i | in \$1,000's) | 1 | | | |
| | Proje | ct Total | Expense | s By FY Co | mpare | d to Prio | r Cll | Ps (A | ll figures | are in \$1 | ,000's) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | | (22 | FY23 | FY24 | FY25 | Total | |
| 2018 | 8449 | 9 33 | 3 | | | | | | | 0 | 0 | 8,482 | |
| 2019 | C | 10,819 | | | | | | | | | 0 | 10,819 | |
| 2020 | C |) (| 10,819 | | | | | | | | | 10,819 | |



GLWA FY 2020-2024 CIP WRRF Aeration System Improvements

| Innovation | Project Status Active | Equipment for aeration | |
|---|--|---|--|
| □ Water MP Right Sizing | CIP Type Project | syste | em and a second se |
| Reliability/Redundar NEWTP Repurposing | Project New To CIP | | |
| Project Engineer/Manag | ger Kashmira Patel | Budget | Wastewater |
| Manag | ger Philip Kora | Class Lvl 1 | Wastewater |
| Managing De | ept WW Constr Eng | Class Lvl 2 | WRRF |
| Date Original Business C | case Prepared 4/25/2008 | Class Lvl 3 | Secondary Treatment & Disinfection |
| Year Project | Added to CIP 2008 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance Im | prove aeration system and provide nece | essary inter-connections | |
| de & 4 | e scope of work includes study, design, a ocks, replacement of influent, Return Act 4, replace RAS and influent magmeters for placement of influent gates and operato | ivated Sludge (RAS) piping, iso or Intermediate Lift Pumps (ILP) | lation gate and valves for decks Nos. 3 Nos. 3, 4 & 7. The work also includes |
| Challenges N/ | A - Under Procurement | | |
| Lookup Driver N/ | A - Under Procurement | | |

Explanation N/A - Under Procurement

| GLWA Great Lakes Water Authority | | | FY 2020-2 Aeration S | | nproveme | ents | 212003 |
|-------------------------------------|-------------|--------|-------------------------|---------------|-----------------|------------|--------|
| Phase not applicable | | | Contract | ١A | Stat | us Closed | Out |
| Title Prior Year Actual Expenses | | | | | | | |
| Phase Budget Wastewater | | | | Cost Allo | cation CTA | | |
| Phase Status Closed Out | | | | Funding S | ource | | |
| Start Date | | | | | Fund | | |
| End Date | | | I | Useful Life > | 20Yrs? | | |
| | | | Tot Fod | eral Loan A | mount | | |
| Cost Estimation Information | | | | | | | |
| 1 Cost Est. | Class | | | ogram/Allov | wance Task I | nformation | |
| Cost Est. | Date | Projec | ct Manager | | | | |
| Cost Est. | Source | CIP N | umber | | | | |
| Cost Est. | Prepared By | Descr | iption | | | | |
| | | | | | | | |
| Cost Type Fiscal Year | Expens | | ge BenefilNo | | | omment | |
| Construction FY18- | | 7,767 | | | FY18 PC-796 | | |
| Engineering Services FY18- | | \$171 | | | FY18 CS-157 | | |
| Unknown FY18- | \$1 | ,902 | | | FY17 | | |
| Unknown FY18- | \$1 | ,881 | | | Pre-Bifurcation | on | |
| Unknown FY18- | | \$22 | | | FY16 | | |
| GLWA Salaries CIP2020 FY18- | | \$77 | 31 | | FY18 PC-796 | | |
| Prior Yr Actuals FY19 FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| 11,851 | | | | | | 11,851 | |

P#

| Great Lakes Water | Authority | | | VVK | | eration and the state of the st | - | | ibiov | | us Active | |
|----------------------------|--------------|----------------|------------|------|-----------------|--|-------|------------|--------|---------|-------------|--------------|
| | | em Improveme | nts | | | | -C-/9 | 0 | | Siun | S ACIVE | |
| Phase Budget | | • | | | | | Сс | ost Allo | cation | CTA | | |
| Phase Status | Active | | | | | | Fu | nding S | ource | Feder | al Loan Pro | grams |
| Start Date | | 10/3 | /2016 | | | | | | Fund | Impro | vement & E | Extension Fu |
| End Date | | 9/24 | /2018 | | | | Usefu | ul Life >: | 20Yrs? | Yes | | |
| Co | ost Estimati | on Information | | | | Tot. Fed | leral | Loan Ai | mount | | | |
| | 1 | Cost Est. C | lass | | | Pro | ograr | n/Allov | vance | Task lı | nformation | |
| 9 | /17/2018 | Cost Est. D | ate | Ρ | roject <i>I</i> | Nanager | | | | | | |
| Contract | | Cost Est. S | ource | С | IP Num | nber | | | | | | |
| P. Kora/D. Ber | nnett | Cost Est. P | repared By | D | escript | ion | | | | | | |
| Cost Ty | ре | Fiscal Year | Expense | Ð | Fringe | BenefilNo | onPe | rsonne | | С | omment | |
| onstruction | | FY19 | \$4 | ,590 | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| ope Developi | ment | | | | | | | | | | | |
| ocurement | | | | | | | | | | | | |
| oject Executio | n | 10/3/2016 | 1/21/2019 | | 840 | | | | | | | |
| oject Closeou ⁻ | t | 1/22/2019 | 3/23/2019 | | 60 | | | | | | | |
| Prior Yr Actua | ls FY1 | 9 FY20 | FY21 | FY2 | 22 | FY23 | F | Y24 | FY2 | 5+ | Total | |
| | 4 | ,590 C | 0 | | 0 | 0 |) | 0 | | 0 | 4,590 | |

| GLW Great Lakes Water. | Authority | | | | | 2020-2 eration | | · · · · | nprove | ments | | 212003 CI |
|---------------------------|------------------|-----------------|--------------|------|-----------------|-------------------|-------|------------|----------|-------------|----------------|-----------|
| Phase Study and | d Design ar | nd Constructior | n Assistance | | Co | ontract | CS-15 | 57 | | Status Ac | tive | |
| Title CS-157 Ae | ration Syste | em Improvemei | nts | | | | | | | | | |
| Phase Budget | Wastewate | er | | | | | C | ost Allo | cation C | TA | | |
| Phase Status | Active | | | | | | Fu | nding S | ource Fe | ederal Loa | n Programs | |
| Start Date | | 2/21 | /2012 | | | | | | Fund In | nproveme | nt & Extension | Fun |
| End Date | | 2/28 | /2018 | | | | Usefu | ul Life >2 | 20Yrs? Y | es | | |
| Co | ost Estimati | on Information | | | | Tot. Fe | deral | Loan Aı | mount | | | |
| | 1 | Cost Est. C | lass | | | P | rogra | m/Allov | vance To | ask Informo | ation | |
| 9 | /17/2018 | Cost Est. D | ate | P | roject <i>I</i> | Manage | r | | | | | |
| Contract | | Cost Est. S | ource | С | IP Num | nber | | | | | | |
| P. Kora/V. Sho | arma | Cost Est. P | repared By | D | escript | ion | | | | | | |
| Cost Ty | ne | Fiscal Year | Expense | ż | Fringe | BenefilN | JonPe | rsonne | | Comme | ent | |
| Engineering Serv | • | FY19 | | \$88 | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| Scope Develop | ment | | | | | - | | | | | | |
| Procurement | | | | | | | | | | | | |
| Project Executio | n | 2/21/2012 | 3/24/2019 | | 2588 | - | | | | | | |
| Project Closeou | t | | | | | | | | | | | |
| Prior Yr Actua | ls FY1 | 9 FY20 | FY21 | FY2 | 22 | FY23 | ł | -Y24 | FY25+ | + Toto | | |
| | | 88 C | 0 | | 0 | | 0 | 0 | | 0 | 88 | |

| | GLWA Great Lakes Water Autho | A writy | | | | | A FY 202 F Aeratio | | | | ovem | ents | | | 21 | 2003 CIP# |
|-------|---------------------------------|-------------------|----------|-------------|------------|----------|-----------------------|----------|--------|------------|--------|---------|----------|-------|-----------|-----------|
| | GLWA Empl GLWA Salarie | , | Projec | t manager | ment | | Contrac | t na | | | Sta | tus A | Active | | | |
| Phas | e Budget W | astewo | ater | | | | | C | Cost | Allocatio | n CTA | | | | | |
| Pho | ise Status Ac | ctive | | | | | | F | undi | ng Sourc | e Fede | eral Lc | oan Pro | grar | ms | |
| S | Start Date | | | | | | | | | Fun | d Impr | ovem | nent & E | Exter | nsion Fun | |
| | End Date | | | | | | | Use | ful Li | fe >20Yrs | ? No | | | | | |
| | Cost | Estimo | ation In | formation | | ٦ | Tot. | Federa | l Loa | in Amou | nt | | | | \$0 | |
| | | 3 | | Cost Est. C | Class | | | Progro | am/A | Allowanc | e Task | Inform | nation | | | |
| | 9/1 | 7/2018 | | Cost Est. D | ate | Pro | oject Mana | ger | | | | | | | | |
| | | | | Cost Est. S | ource | CII | ^o Number | | | | | | | | | |
| P.Ko | ora | | | Cost Est. P | repared By | / De | scription | | | | | | | | | |
| | Cost Type | | Fis | scal Year | Expe | nse F | ringe Bene | fitNonPo | ersor | nne | (| Comr | nent | | | |
| GLWA | Salaries CIP | 2020 | FY19 | 9 | | \$6 | | 2 | | 0CS-1 | 57 | | | | | |
| GLWA | Salaries CIP | 2020 | FY19 | 9 | | \$100 | 2 | 0 | | 5 PC-7 | 96 | | | | | |
| Prior | r Yr Actuals | F | Y19 | FY20 | FY21 | FY22 | FY2 | 3 | FY24 | 4 F` | Y25+ | Tc | otal | | | |
| | | | 153 | C |) | 0 | 0 | 0 | | 0 | 0 | | 153 | | | |
| | | | | Р | hase Total | Expenses | By FY (All | igures o | are i | n \$1,000' | s) | | | | | |
| | | | | xpenses | | | | | | | | | | | | |
| CIP | FY16 | F | Y17 | FY18 | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | FY | 24 | FY25 | | Total | |
| 2018 | | 0 | 2,348 | 11,197 | 2,658 | 0.500 | | | | | | 0 | | 0 | 16,20 | |
| 2019 | | 0 | 3,805 | 9,273 | 2,719 | 2,523 | | | 0 | | 0 | 0 | | 0 | 18,32 | |
| 2020 | | 0 | 0 | 11,851 | 4,831 | С | C | | 0 | | 0 | 0 | | 0 | 16,68 | |



WRRF Chlorination and Dechlorination Process Equipment Improvements

212004 CIP#

| Innovation Water MP Right Sizin Reliability/Redundation NEWTP Repurposing | | Chlorinator/Sulfonato buildin | TAN AND |
|--|---|---|---------------------------------------|
| Project Engineer/Mana | ager Ali Khraizat | Budget | Wastewater |
| Mana | ager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing [| Dept WW Design Eng | Class Lvl 2 | WRRF |
| Date Original Business | Case Prepared 8/8/2016 | Class Lvl 3 | Secondary Treatment & Disinfection |
| Year Projec | t Added to CIP 2010 | | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| C | he disinfection complex equipment condit hemicals utilized in the operations of the a evels. | | |
| а Т | cope of Work is to refurbish evaporators, cl process water valves, gas safety panels, con his proposed CIP budget is for construction nrough "As Needed Engineering Services C | mpressors, gas flow meters, an only. The design and construc | nd all accessories and appurtenances. |
| C | Chlorine and sulfur dioxide are both extreme In uncontrolled gas release occurs. Mainta equirements is a challenge. | | |
| n | he DMT Disinfection Complex was commiss najor projects. However budget and staffin ne equipment condition has deteriorated. | | |
| C | he RRO segment 2, and RRO Disinfection Pr control and existing DRO Chlorination and E lesign and construction phase of "RRO Disi | De-chlorination system control | needs to be integrated during the |
| Lookup Driver | - Condition | | |
| Т | Innovation note: Align with considerations on the maintenance of the equipment hasn't be equipment and maintaining them according | been performed at the recom | 9 |



WRRF Chlorination and Dechlorination Process Equipment Improvements

Explanation Non-compliance with the manufacturers recommended maintenance schedule has caused the disinfection equipment condition to deteriorate.



PM Weighted

Score 83.8

Criteria Score Comment Condition 5 Replacement or major rehab needed immed Efficiency and Innovation 2 Significant Operational efficiency Financial 3 Moderate positive financial implications throa 0&M 4 High levels of O&M Performance (Service Level/Reliability) 4 High Risk of Performance Failures Public Benefit 4 Significant impact on public image 5 Likely to address major hazard issues or conce Public Health & Safety Regulatory (Environmental/Legal) 5 Compliance Failure

RC Weighted

Score

81.6

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 4 | |
| Financial | 3 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 5 | |
| Regulatory (Environmental/Legal) | 4 | |



212004 CIP#

WRRF Chlorination and Dechlorination Process Equipment Improvements

| Phase not applic | cable | ÷ | | | | | Co | ontract | NA | | Sto | ıtus | Closed | Out | |
|-----------------------------|----------------------------|---------------------|-------|--------------|-----------|----------------------|--------|----------|---------|-----------|-------|------|--------|-----|--|
| Title Prior Year A | Actuc | al Exp | enses | S | | | | | | | | | | | |
| Phase Budget | | Cost Allocation CTA | | | | | | | | | | | | | |
| Phase Status | Close | ed Ou | ut | | | Funding Source | | | | | | | | | |
| Start Date | | | | | | Fund | | | | | | | | | |
| End Date | | | | | | Useful Life >20Yrs? | | | | | | | | | |
| Co | ost Est | limati | on In | formation | | | | Tot. Fe | derc | al Loan A | mount | | | | |
| | | 1 | | Cost Est. C | lass | Program/Allowance To | | | | | | | mation | | |
| | | | | Cost Est. D | ate | Project Manager | | | | | | | | | |
| | | | | Cost Est. So | ource | CIP Number | | | | | | | | | |
| | Cost Est. Prepar | | | | | red By Description | | | | | | | | | |
| Cost Typ | се | | Fis | cal Year | Expens | е | Fringe | Benefill | NonF | ersonne | | Com | ment | | |
| Engineering Serv | Engineering Services FY18- | | | | , \$30 | | | | FY18 | | | | | | |
| Unknown FY18- | | | | | \$86 | | | | FY17 | | | | | | |
| GLWA Salaries CIP2020 FY18- | | | | | \$1 | | 0 | | 02020CI | | | | | | |
| Prior Yr Actual | S | FY1 | 9 | FY20 | FY21 | FY: | 22 | FY23 | | FY24 | FY25+ | Т | otal | | |
| 1 | 117 | | | | | | | | | | | | 117 | | |

| GLW Great Lakes Water | A uthority | WRRF | Chlorinatio | | | 2020-2 chlorin | | | cess Equ | Jipr | ment Im | provem | 212004 c ents |
|----------------------------------|-------------------|---------------------|-----------------------|---|--------|-------------------|-----|------------|----------|-----------|-----------|----------|------------------|
| Phase Construct | tion | | | | Co | ontract | СС | N-238 | S | tatu | S Under F | rocureme | ent |
| Title Chlorinatio | on and Dec | hlorination Pro | cess Equipme | ent Imp | proven | nents | | | | | | | |
| Phase Budget Wastewater | | er | | Cost Allocation CTA | | | | | | | | | |
| Phase Status | Under Proc | urement | | Funding Source Bond Proceeds | | | | | | | | | |
| Start Date | | 3/3, | /2018 | Fund Construction Bond Fund | | | | | | | | | |
| End Date | | 8/25, | /2019 | Useful Life >20Yrs? Yes | | | | | | | | | |
| C. | at Ectimatic | on Information | | | | Tot. Fea | der | al Loan Ai | mount | | | | |
| | | | 1999 | Tot. Federal Loan Amount Program/Allowance Task Information | | | | | | | | | |
| | 4 | Cost Est. C | | | | | | vance las | sk in | rormation | | | |
| 1 | 0/2/2017 | Cost Est. D | Project Manager | | | | | | | | | | |
| | | Cost Est. S | CIP Number | | | | | | | | | | |
| Ali Khraizat | Ali Khraizat | | Cost Est. Prepared By | | | / Description | | | | | | | |
| | | | <u> </u> | . r | | Deve | | | | <u> </u> | | | |
| Cost Typ Construction | Je | Fiscal Year FY19 | Expense | ; 6859 | Inge | benennv | ION | Personne | | CO | mment | | |
| Construction | | FY20 | • | ,142 | | | | | | | | | |
| Construction | | FY21 | • | ,585 | | | | | | | | | |
| | | | · | | | | | | | | | | |
| Task | | Start Date | End Date | Dura | mon | | | | | | | | |
| Scope Development Procurement | | 7/3/2018 | 12/30/2018 | | 180 | | | | | | | | |
| Project Execution | | 1/1/2019 | 8/23/2020 | | 600 | | | | | | | | |
| Project Closeout | | 8/24/2020 | 10/23/2020 | | | | | | | | | | |
| Prior Yr Actua | 1 | | FY21 | FY22 | 60 | FY23 | | FY24 | FY25+ | | Total | | |
| | | 859 2,142 | | 1122 | 0 | | 2 | 0 | 11201 | 0 | 4,586 | | |
| <u> </u> | | | | | | | | | | | , | | |

| GLWA Great Lakes Water Authority |
|-------------------------------------|
|-------------------------------------|

212004 CIP#

WRRF Chlorination and Dechlorination Process Equipment Improvements

| hase GLWA Empl i tle GLWA Salarie | | oject | managem | ient | | Contract | NA | Sta | tus Active | | | | |
|--|-----------------------------|-------|--------------|---------|------------------------------------|----------------|---------------|-----------|------------|----|----|--|--|
| Phase Budget Wastewater | | | | | Cost Allocation CTA | | | | | | | | |
| Phase Status Ad | Phase Status Active | | | | | | d Proceeds | | | | | | |
| Start Date | | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | | | | | | | Useful Life > | 20Yrs? No | No | | | | |
| Cost | Cost Estimation Information | | | | | Tot. Fe | deral Loan A | mount | | \$ | 50 | | |
| | 5 | | Cost Est. Cl | ass | Program/Allowance Task Information | | | | | | | | |
| | Cost Est. Date | | | | | roject Manage | | | | | | | |
| | | | Cost Est. So | urce | C | CIP Number | | | | | | | |
| | Cost Est. Prepar | | | | | escription | | | | | | | |
| | | | | | | - | | | | | | | |
| Cost Type |) | Fisc | cal Year | Expense | е | Fringe Benefil | VonPersonne | (| Comment | | | | |
| GLWA Salaries CIP | 2020 | FY19 | | | \$10 | 4 | 0 | C Phase | | | | | |
| GLWA Salaries CIP2020 FY20 | | | | | \$90 | 36 | | C Phase | | | | | |
| GLWA Salaries CIP2020 FY21 | | | | | \$19 | 8 | | C Phase | | | | | |
| Prior Yr Actuals | FY1 | 9 | FY20 | FY21 | FY2 | 22 FY23 | FY24 | FY25+ | Total | | | | |
| | | 14 | 126 | 27 | | 0 | 0 0 | | 167 | | | | |
| | | | | | | | | <u> </u> | | | | | |

212004 CIP#

WRRF Chlorination and Dechlorination Process Equipment Improvements

| Phase | Construction | Assista | nce | | | | Contr | act N | lew | | Statu | Active | ; | | |
|-------------|---|---------|-------|-------------|------------|---------------------|-------------|---------|---------------|----------|---------|-----------|------|-------|--|
| Title (| CS-301 Task 23 - General Eng Serves (Sigma) | | | | | | | | | | | | | | |
| Existin | g DWSD conti | ract co | verte | ed over to | new GLWA | contra | ct. | | | | | | | | |
| Phas | e Budget Wa | stewate | er | | | Cost Allocation CTA | | | | | | | | | |
| Pho | ase Status Act | ive | | | | | | | Funding | Source | Bond F | roceeds | | | |
| | Start Date | | | | | | | | 5 | | | uction Bc | | nd | |
| | End Date | | | | | | | | Useful Life 3 | | | | | | |
| | | | | | | - | | | | | | | | | |
| | Cost E | stimati | on In | formation | | | Тс | ot. Fed | eral Loan A | Amount | | | | \$0 | |
| | | 5 | | Cost Est. C | lass | | | Pro | ogram/Alla | wance | Task In | formatior | n | | |
| | 9/12/ | /2018 | | Cost Est. D | ate | Р | roject Ma | nager | | | | | | | |
| Cor | ntract | | | Cost Est. S | ource | C | IP Numbe | er - | | | | | | | |
| WRF | RF Eng Design | | | Cost Est. P | repared By | By Description | | | | | | | | | |
| | 0 0 | | | | . , | | | | | | | | | | |
| | Cost Type | | Fis | cal Year | Exper | nse | Fringe Bei | nefilNa | onPersonne | Э | Со | mment | | | |
| Engine | eering Service | S | FY19 |) | | \$40 | | | | 2020C | IP | | | | |
| | eering Service | | FY2C | | | \$77 | | | | 2020C | | | | | |
| Engine | eering Service | S | FY21 | | | \$58 | | | | 2020C | IP | | | | |
| | Task | | St | art Date | End Date | Dur | ation | | | | | | | | |
| Projec | t Execution | | | 5/27/2017 | 6/27/20 | 20 | 1127 | | | | | | | | |
| Prio | r Yr Actuals | FY1 | 9 | FY20 | FY21 | FY2 | 22 F | Y23 | FY24 | FY2 | 25+ | Total | | | |
| | | | 40 | 77 | 58 | 3 | | | | | | 175 | 5 | | |
| Phase Total | | | | | | | es By FY (A | ll figu | res are in \$ | 1,000's) | | | | | |
| | Proje | ect To | tal E | xpenses | By FY C | ompa | red to Pi | rior C | IPs (All fi | gures | are in | \$1,000 |)'s) | | |
| CIP | FY16 | FY1 | | FY18 | FY19 | FY20 | FY21 | | - | FY23 | FY24 | | | Total | |
| 2018 | | | | 400 | 2,800 | 1,80 | 00 | | | | | 0 | 0 | 5,000 | |
| 2019 | |) | 86 | | 2,101 | 2,42 | | 61 | | | | | 0 | 5,270 | |
| 2020 | 0 |) | 0 | 117 | 913 | 2,34 | 45 1,6 | 70 | 0 | 0 | | 0 | 0 | 5,045 | |



GLWA FY 2020-2024 CIP WRRF Rouge River Outfall No. 2 (RRO-2) Segment 1

212005 CIP#

| Innovation Water MP Right Siz Reliability/Redunct NEWTP Repurposir | | Piece of movable dam at DRO-2 |
|---|--|--|
| Project Engineer/Mar | nager Partho Ghosh | Budget Wastewater |
| Mar | nager Philip Kora | Class Lvl 1 Wastewater |
| Managing | Dept WW Constr Eng | Class Lvl 2 WRRF |
| Date Original Busines | s Case Prepared 3/30/2011 | Class Lvl 3 Secondary Treatment & Disinfection |
| Year Proje | ect Added to CIP 2011 | Location City of Detroit |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| | Cap abandoned entrance shaft of failed D wet weather flow discharge | RO-2 tunnel and rehabilitate movable dams and stop logs to control |
| • | installation of new power pack building. This | w Stop Log-8 Gates, modification of Movable Dam MD-1, and project will also provide for a hydraulic actuation system for gates logs SL-1 A/B, and replace chlorination/dechlorination tank car |
| | emergency shutoff valves. The project will fi abandoned PC-709 precast tunnel lining se | orther include modification of PLC based control system, capping gments. |
| | | |



212005 CIP#

WRRF Rouge River Outfall No. 2 (RRO-2) Segment 1

| hase not applicable | | | | | Contract | NA | Sta | lus Closec | l Out | | | | | | |
|------------------------|-------------------|--------------|--------------------------|---------------------|----------------|------------------------------------|-------|------------|-------|--|--|--|--|--|--|
| itle Prior Year Actual | Expense | €S | | | | | | | | | | | | | |
| Phase Budget Waste | water | | | Cost Allocation CTA | | | | | | | | | | | |
| Phase Status Close | d Out | | | Funding Source | | | | | | | | | | | |
| Start Date | | | | Fund | | | | | | | | | | | |
| End Date | | | | Useful Life >20Yrs? | | | | | | | | | | | |
| Cost Esti | nformation | | Tot. Federal Loan Amount | | | | | | | | | | | | |
| | 1 Cost Est. Class | | | | | Program/Allowance Task Information | | | | | | | | | |
| | | Cost Est. Do | ate | P | Project Manag | er | | | | | | | | | |
| | | Cost Est. Sc | ource | CIP Number | | | | | | | | | | | |
| | | Cost Est. Pr | epared By | ed By Description | | | | | | | | | | | |
| Cost Type | Fi | iscal Year | Expens | 0 | Fringe Benefit | NonPersonne | (| Comment | | | | | | | |
| Jnknown | FY1 | | • | \$209 | rninge berienn | | FY16 | Johnnenn | | | | | | | |
| Jnknown | FY1 | | | \$43 | | | FY17 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY: | 22 FY23 | FY24 | FY25+ | Total | | | | | | | |
| | 1117 | 1120 | 1121 | 11. | 22 1125 | 1124 | 11201 | 252 | | | | | | | |
| 252 | | | | | | | | | | | | | | | |

| | GLWA Great Lakes Water Author | ty | | WR | | A FY 2020 e River C | | | - | -2) Segn | nent 1 | 21 | 2005 CIP |
|---------|----------------------------------|--------------|---------------|---------------|------------|------------------------|------------|------------|--------------|-------------|--------------|-----------|----------|
| Phase | Construction | 1 | | | | Contrac | t PC | -786 | | Status (| Closed Out | | |
| Title F | PC-786 Rouge | e River Outf | all No. 2 (RI | RO-2) Segme | ent 1 - WR | RF Modific | ation | S | | | | | |
| Phas | se Budget Wo | stewater | | | | | | Cost / | Allocation | CTA | | | |
| Pho | ase Status Clo | | | | Fundiı | ng Source | Federal Lc | an Program | ms | | | | |
| 3 | Start Date 5/21/2012 | | | | | | | | Fund | Improvem | ient & Exter | nsion Fun | |
| | End Date | | 12/21 | /2016 | | | Us | eful Lif | fe >20Yrs? | Yes | | | |
| | Cost | Estimation I | nformation | | 1 | Tot. | Feder | al Loa | in Amount | | | | |
| | | 1 | Cost Est. (| | | | Proa | ram/A | Allowance | Task Inforn | nation | | |
| | | | Cost Est. I | Date | Proj | ect Mana | - | | | | | |] |
| | | | Cost Est. S | | CIP Number | | | | | | | | |
| | | | | Prepared By | Des | cription | | | | | | |] |
| | | | | | | | | | | | | | |
| | Task | | Start Date | End Date | Durat | ion | | | | | | | |
| Scope | e Developme | nt | | | | | | | | | | | |
| Procur | rement | | | | | | | | | | | | |
| Projec | t Execution | | | | | | | | | | | | |
| Projec | t Closeout | | | | | | | | | | | | |
| | | | F | Phase Total I | Expenses | By FY (All f | igures | are ir | n \$1,000's) | | | | |
| | Proi | ect Total | Expense | s By FY Co | ompare | d to Prio | r CIP | s (Al | l fiaures | are in \$1 | .000's) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY | _ | FY23 | FY24 | FY25 | Total | |
| 2018 | 1212 | 5 62 | | | | | | | | 0 | 0 | 12,18 | 7 |
| 2019 | | 0 252 | | | | | | | | | 0 | 25 | 2 |
| 2020 | | 0 0 | 252 | | | | | | | | | 25 | 2 |



GLWA FY 2020-2024 CIP WRRF Rouge River Outfall (RRO) Disinfection (Alternative)

\Box Innovation

Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP $\ \square$

Project Engineer/Manager Darrel Field Manager Philip Kora Managing Dept WW Constr Eng Date Original Business Case Prepared 2/11/2015

Year Project Added to CIP 2014

Plan view of RRO location



212006 CIP#

| Budget | Wastewater |
|----------------------|------------------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class LvI 3 | Secondary Treatment & Disinfection |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project Significance Provide project oversight and design build services for alternative disinfection services to meet NPDES Permit requirements at existing Rouge River Outfall

Scope of Work The consultant shall provide comprehensive professional services for project oversight and Owner's representation for the PC-797 RRO Disinfection Progressive Design-Build Contract. The scope of work consists of completing basis of design, design and construction services to develop and implement a solution that will result in 100% disinfection of wet weather flow discharged from WRRF to Detroit River outfall and Rouge River Outfall in order to meet NPDES Permit requirements.

Challenges N/A - Under Procurement

Project History The DR0-2 Outfall was originally designed in 1998 under CS-1150, and construction began in 1999 under PC-709. Some surface construction work and substantial underground work were performed, including construction of the entrance shaft, two access shafts, six diffuser riser shafts in the Detroit River, and about half of the length of the tunnel. On April 23, 2003, uncontrollable high rates of ground water mixed with Hydrogen Sulfide (H2S) inflow flooded the tunnel, and it has remained so since that time.

After the tunnel flooded, GLWA (then DWSD) terminated the PC-709 contract and looked for other alternative to complete the work. After further study of the tunnel construction a different alternative was considered and thus, scope for the Modified Detroit River Outfall No. 2 (MOD DR0-2) under CS-1448 design was established. This contract called for a design to construct a new rock tunnel at a higher elevation with Slurry Shield Tunnel Boring Machine (TBM). The design of the MOD DR0-2 was completed on December 2007 and the construction of the DR0-2 project under PC-771 was started on November 2008. Due to economic hardship during the fiscal year 2008/2009, DWSD requested MDEQ to terminate this contract. After further discussion an agreement reached with GLWA (then DWSD) and MDEQ to allow termination of this Contract and look for feasible and cost effective



WRRF Rouge River Outfall (RRO) Disinfection (Alternative)

| | solutions to meet the wet-weather discharge to Rouge River Outfall. Therefore, on April 2009, GLWA (then DWSD) terminated the PC-771, MOD DR0-2 Contract. |
|------------------------|---|
| | The Rouge River Outfall No. 2 (RR0-2) proposal was first developed in 2009. The RR0-2 was to be a ground level conduit extending approximately 2,500 feet to the intersection of the Rouge River and the Rouge Shipping canal. The RR0-2 conduit was to be used during the wet-weather events and primary effluent to the river shall be disinfected by mixing of Chlorine and De-chlorination. The Basis of Design (BOD) for the RR0-2 project was issued on November 6, 2009. GLWA (then DWSD) performed a RR0-2 Segment- 1 contract to do the ancillary work such as modification of gates, stop logs and chlorine tank shut off valves at WRRF. |
| | In 2012/2013 the WRRF commissioned a study of the feasibility of alternative disinfection methods for meeting the requirements of the Rouge River Disinfection. The results of this study and a subsequent hydraulic study came to the conclusion that the existing conduits to the Rouge River had sufficient contact time to properly disinfect and dechlorinate the secondary effluent from the WRRF. If a method could be designed to shunt secondary flows to the Rouge |
| | River during wet weather and send primary effluent through the longer DRO, then a substantial savings would result from a new design approach. This approach was further explored and discussed with the MDEQ. The result is a NPDES permit modification allowing for the construction of the proposed Rouge River Outfall Disinfection project, keeping the April 2019 project completion date that had been in the NPDES permit. |
| Related Project | 1. CS-1448, RR0-2 Segment 1-WRRF Modifications. 2. PC-786, RR0-2 Segment 1-WRRF Modifications. |
| Lookup Driver | N/A - Under Procurement |
| Other Important Info | n/a |
| Explanation | N/A - Under Procurement |



212006 CIP#

WRRF Rouge River Outfall (RRO) Disinfection (Alternative)

| Phase not appli Title Prior Year | | | Cor | ntract | NA | | Stat | tus Cla | osed Out | ł | | | | | |
|-------------------------------------|-----------------------------|--------------------------|--------------|-----------|------------------------------------|----|---------------------|---------|----------|-------|-------|-----|--|--|--|
| | | | 5 | | | | | 6 | | | | | | | |
| Phase Budget | | | | | Cost Allocation CTA | | | | | | | | | | |
| Phase Status | Closed | Out | | | Funding Source | | | | | | | | | | |
| Start Date | | | | | Fund | | | | | | | | | | |
| End Date | End Date | | | | | | Useful Life >20Yrs? | | | | | | | | |
| Co | | Tot. Federal Loan Amount | | | | | | | | | | | | | |
| 1 Cost Est. Class | | | | lass | Program/Allowance Task Information | | | | | | | | | | |
| | Cost Est. Date | | | | Project Manager | | | | | | | | | | |
| | | | Cost Est. Sc | ource | e CIP Number | | | | | | | | | | |
| | | | Cost Est. Pr | epared By | red By Description | | | | | | | | | | |
| Cost Ty | pe | Fis | scal Year | Expens | e Fringe Be | | enefit | NonPe | ersonne | C | Comme | nt | | | |
| Construction | | FY18 | 3- | \$18 | 3,802 | | | | FY18 | | | | | | |
| Engineering Serv | vices | FY18 | 3- | | \$660 | | | | | FY18 | | | | | |
| Unknown | Jnknown FY18- | | \$! | 5,961 | | | | | FY17 | | | | | | |
| Unknown | Jnknown FY18- | | | \$912 | | | | | FY16 | | | | | | |
| GLWA Salaries C | GLWA Salaries CIP2020 FY18- | | | \$76 | | 30 | | | FY18 | | | | | | |
| Prior Yr Actua | ls F | Y19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY25+ | Toto | al | | | |
| 26,4 | 441 | | | | | | | | | | 26, | 441 | | | |

| GLWA | | | | | | | 024 CIP | | • | | • 、 | 212006 CI | | | |
|----------------------------|-------------------------|----------------|-----------------|--------|-----------|---------------------|---------------|----------|-----------|-------------|--------|-----------|--|--|--|
| Great Lakes Water Authorit | ity | | WKKF KC | ouge | River | Outfall | (RRO) Di | sintect | ion | (Alternat | ive) | | | | |
| Phase Construction | n Manage | ement | | | Co | ntract (| CS-1781 | | Statu | JS Active | | | | | |
| Title CS-1781 Roug | je River O | utfall (RRO) D | isinfection (A | lternc | ative) | | | | | | | 1 | | | |
| Phase Budget Wa | Phase Budget Wastewater | | | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status Active | | | | | | | Funding S | Source F | eder | al Loan Pro | ograms | | | | |
| Start Date | /2016 | | | | | Fund | mpro | vement & | Extension | Fun | | | | | |
| End Date | | 12/19/ | /2016 | | | I | Useful Life > | 20Yrs? | 'es | | | | | | |
| | - | | | | | Tot Fed | eral Loan A | mount | | | | | | | |
| Cost E | Estimation | n Information | | | | | | | | | | | | | |
| | 1 | Cost Est. C | Cost Est. Class | | | Pro | ogram/Allo | wance T | ask lı | nformation | | | | | |
| 9/17, | /2018 | Cost Est. Date | | | roject N | Nanager | | | | | | | | | |
| Contract | | Cost Est. S | ource | C | CIP Num | ber | | | | | | | | | |
| P. Kora | | Cost Est. P | repared By | D |)escripti | on | | | | | | | | | |
| | | | | | | | | 1 | | | I | | | | |
| Cost Type | | Fiscal Year | Expense | e | Fringe I | BenefilNo | onPersonne | | С | omment | | | | | |
| Engineering Service | es F | Y19 | | \$547 | | | | CS-1781 | | | | | | | |
| Engineering Service | es F | Y20 | | \$155 | | | | CS-1781 | | | | | | | |
| Task | | Start Date | End Date | Dur | ration | | | | | | | | | | |
| Project Execution | | 8/19/2016 | 12/19/2019 | | 1217 | | | | | | | | | | |
| Project Closeout | | 12/19/2019 | 3/19/2020 | | 91 | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25 | + | Total | | | | | |
| | 5 | 47 155 | 0 | | 0 | 0 | 0 | | 0 | 702 | | | | | |

| GLWA Great Lakes Water Authority | WRRF | | A FY 2020-2 iver Outfall | | ection (Alterna | 212006 ci tive) | | | | | |
|-------------------------------------|---------------------------------------|------------------------------------|-----------------------------|-------------------|---------------------|--------------------|--|--|--|--|--|
| Phase Design and Build | | | Contract P | °C-797 | Status Active | | | | | | |
| Title PC-797 Rouge River O | outfall (RRO) Disinfection (| Alternative | e) | | | | | | | | |
| Phase Budget Wastewate | Pr | Cost Allocation CTA | | | | | | | | | |
| Phase Status Active | | | | Funding Sour | ce Federal Loan Pro | ograms | | | | | |
| Start Date | 2/19/2016 | | | Fui | nd Improvement & | Extension Fun | | | | | |
| End Date | 12/31/2019 | | I | Useful Life >20Yr | rs? Yes | | | | | | |
| Cost Estimatio | on Information | Tot. Federal Loan Amount | | | | | | | | | |
| 1 | Cost Est. Class | Program/Allowance Task Information | | | | | | | | | |
| 9/17/2018 | Cost Est. Date | Proj | ject Manager | | | | | | | | |
| Contract | Cost Est. Source | CIP | Number | | | | | | | | |
| P. Kora/ D. Field | Cost Est. Prepared By | , Des | cription | | | | | | | | |
| Cost Type | Fiscal Year Expe | nse Fri | inge BenefilNo | nPersonne | Comment | | | | | | |
| ,,, | I | 16,280 | | PC-7 | | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | \$4,337 | | PC-7 | | | | | | | |
| Task | Start Date End Date | . Durati | ion | | | | | | | | |
| Project Execution | 2/19/2016 4/1/20 | 19 | 1137 | | | | | | | | |
| Project Closeout | 4/2/2019 12/31/20 | 19 | 273 | | | | | | | | |
| Prior Yr Actuals FY19 | 9 FY20 FY21 | FY22 | FY23 | FY24 F | Y25+ Total | | | | | | |
| 16,5 | 280 4,337 | 0 | 0 0 | 0 | 0 20,617 | | | | | | |



212006 CIP#

WRRF Rouge River Outfall (RRO) Disinfection (Alternative)

| Phase Budget Wastewater Cost Allocation CTA Phase Status Active Funding Source Federal Loan Programs Start Date Fund Improvement & Extension Fun Improvement & Extension Fun End Date Useful Life >20Yrs? No \$0 0 3 Cost Est. Class Program/Allowance Task Information \$0 9/17/2018 Cost Est. Date Cost Est. Source Project Manager CIP Number \$0 Cost Type Fiscal Year Expense Fringe BenefitINonPersonne Comment GLWA Solaries CIP2020 FY19 \$120 48 6PC-797 GLWA Solaries CIP2020 FY19 \$60 24 3PC-797 GLWA Solaries CIP2020 FY20 \$3 1 0CS-1781 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total Project Total Expensese By FY Compareed to Prior CIPs (All figures are in \$1,000's) <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> | | | | | | | _ | | | | | | | | | |
|--|---|-----------------------------|---------|-------------------|-------------|------------|--------------------------------------|------------|------------|------------|-------------|--------|----------|--------------|-----------|--|
| Phase Budget Wastewater Cost Allocation CTA Phase Status Active Funding Source Federal Loan Programs Start Date Fund Improvement & Extension Fun Improvement & Extension Fun End Date Useful Life >20Yrs? No \$0 0 3 Cost Est. Class Program/Allowance Task Information \$0 9/17/2018 Cost Est. Date Cost Est. Source Project Manager CIP Number \$0 Cost Type Fiscal Year Expense Fringe BenefitINonPersonne Comment GLWA Solaries CIP2020 FY19 \$120 48 6PC-797 GLWA Solaries CIP2020 FY19 \$60 24 3PC-797 GLWA Solaries CIP2020 FY20 \$3 1 0CS-1781 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total Project Total Expensese By FY Compareed to Prior CIPs (All figures are in \$1,000's) <td>Phase</td> <td>GLWA Employ</td> <td>yees Pr</td> <td>ojec[.]</td> <td>t manager</td> <td>ment</td> <td></td> <td>Contrac</td> <td>NA</td> <td></td> <td>Status /</td> <td>Active</td> <td></td> | Phase | GLWA Employ | yees Pr | ojec [.] | t manager | ment | | Contrac | NA | | Status / | Active | | | | |
| Funding Source Federal Loan Programs Start Date Fund Improvement & Extension Fun Useful Life >20Yrs? No Cost Estimation Information Tot: Federal Loan Amount \$0 Program/Allowance Task Information 9/17/2018 Cost Est. Class 9/17/2018 Cost Est. Date Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Comment GLWA Salaries CIP2020 FY19 \$120 48 6PC-797 GLWA Salaries CIP2020 FY20 FY21 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY24 | litle 🤇 | GLWA Salaries | | | | | | | | | | | | | | |
| Start Date Fund Improvement & Extension Fun End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount \$0 3 Cost Est. Class Program/Allowance Task Information \$0 9/17/2018 Cost Est. Date Cost Est. Source Project Manager Classe Classe Project Manager Cost Est. Source Project Manager Cost Est. Source Cost Est. Source Cost Est. Source Project Manager Cost Est. Source Project Manager Cost Est. Source Cost Est. Source Project Manager Cost Est. Source Source Source Cost Est. Source | Phas | e Budget Was | stewate | er | | | Cost Allocation CTA | | | | | | | | | |
| Useful Life >20Yrs? No Useful Life >20Yrs? No Cost Estimation Information State State State State State State Cost Est. Class 9/17/2018 Cost Est. Date Cost Est. Source CIP Number CIP Number Comment Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$ Comment GLWA Salaries CIP2020 FY19 \$ Comment GLWA Salaries CIP2020 FY20 \$ Prior Yr Actuals FY19 \$ Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$ Prior Yr Actuals FY19 FY2 FY2 Comment < | Pha | i se Status Acti | ve | | | | Funding Source Federal Loan Programs | | | | | | | | | |
| Tot. Federal Loan Amount \$0 Tot. Federal Loan Amount \$0 Program/Allowance Task Information 9/17/2018 Cost Est. Date Cost Est. Source Cost Est. Source Cost Est. Source Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment Comment GLWA Salaries CIP2020 FY19 \$120 48 6PC-797 Comment GLWA Salaries CIP2020 FY19 \$46 2 OCS-1781 Comment GLWA Salaries CIP2020 FY19 \$46 2 OCS-1781 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 <th colspan="2" f<="" td=""><td>S</td><td colspan="6">Start Date</td><td></td><td></td><td>Fund</td><td>Improvem</td><td>nent & Exter</td><td>nsion Fun</td></th> | <td>S</td> <td colspan="6">Start Date</td> <td></td> <td></td> <td>Fund</td> <td>Improvem</td> <td>nent & Exter</td> <td>nsion Fun</td> | | S | Start Date | | | | | | | | Fund | Improvem | nent & Exter | nsion Fun | |
| Coord Extinction modimum intermention Project Manager 9/17/2018 Cost Est. Date Cost Est. Source Cost Est. Source CIP Number Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$120 48 6 PC-797 GLWA Salaries CIP2020 FY19 \$6 2 OCS-1781 GLWA Salaries CIP2020 FY19 \$60 24 3PC-797 GLWA Salaries CIP2020 FY20 \$3 1 OCS-1781 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Friat FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CiP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 729 6,530 15,800 | | End Date | | | | | | | | | | | | | | |
| Program/Allowance Task Information 9/17/2018 Cost Est. Date Project Manager Image: Cite Cite Cite Cite Cite Cite Cite Cite | | Cost Estimation Information | | | | | | Tot. I | ederal Loc | an Amount | | | \$0 | | | |
| 9/17/2018 Cost Est. Date Project Manager 0 Cost Est. Source Cost Est. Source CIP Number P. Kora Cost Est. Prepared By Description Comment GLWA Sclaries CIP2020 FY19 \$120 48 6PC-797 GLWA Sclaries CIP2020 FY19 \$6 2 0 CS-1781 GLWA Sclaries CIP2020 FY20 \$60 24 3 PC-797 GLWA Sclaries CIP2020 FY20 \$3 1 0 CS-1781 GLWA Sclaries CIP2020 FY20 \$3 1 0 CS-1781 Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Project Total Expenses By FY 20 FY21 FY22 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <td></td> <td></td> <td></td> <td></td> <td></td> <td>lass</td> <td></td> <td></td> <td>Program /</td> <td>Allowance</td> <td>Task Inform</td> <td>mation</td> <td></td> | | | | | | lass | | | Program / | Allowance | Task Inform | mation | | | | |
| Image: Second | | | | | | | Pro | iect Mana | - | Allowulice | | nunon | | | | |
| Cost Fst. Prepared By Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$120 48 6 PC-797 GLWA Salaries CIP2020 FY19 \$6 2 0 CCs-1781 GLWA Salaries CIP2020 FY20 \$60 24 3 PC-797 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 182 91 0 0 0 0 0 273 Prior Yr Actuals FY19 FY20 FY21 FY24 FY25+ Total Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 | | 9/1// | 2018 | | | | | | | | | | | | | |
| Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$120 48 6PC-797 GLWA Salaries CIP2020 FY19 \$6 2 0 CS-1781 GLWA Salaries CIP2020 FY19 \$66 24 3 PC-797 GLWA Salaries CIP2020 FY20 \$60 24 3 PC-797 GLWA Salaries CIP2020 FY20 \$33 1 0 CS-1781 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Cord O 0 0 0 47,399 Q19 FY20 FY21 FY22 FY23 FY24 FY25 Total Q19 0 6,530 15,800 15,520 9,020 0 | | | | | Cost Est. S | ource | | | | | | | | | | |
| GLWA Salaries CIP2020 FY19 \$120 48 6 PC-797 GLWA Salaries CIP2020 FY19 \$6 2 0 CS-1781 GLWA Salaries CIP2020 FY20 \$60 24 3 PC-797 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 0 0 0 47,599 | P.Ko | P. Kora Cost Est. Prepared | | | | repared By | , Des | cription | | | | | | | | |
| GLWA Salaries CIP2020 FY19 \$120 48 6 PC-797 GLWA Salaries CIP2020 FY19 \$6 2 0 CS-1781 GLWA Salaries CIP2020 FY20 \$60 24 3 PC-797 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 GLWA Salaries CIP2020 FY20 \$3 1 0 CS-1781 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 0 0 0 47,599 | | Cost Ivpe | | Fis | rcal Year | Expe | nse Fr | ince Benef | itNonPerso | nne | Comp | nent | | | | |
| GLWA Salaries CIP2020 FY19 Image: FY19 FY20 FY60 CS-1781 Image: FY19 FY20 | GIWA | |)20 | | | LAPOI | | - | | | | | | | | |
| GLWA Salaries CIP2020 $FY20$ $FY20$ $\$3$ 1 0 $CS-1781$ Prior Yr Actuals $FY19$ $FY20$ $FY21$ $FY22$ $FY23$ $FY24$ $FY25+$ $Total$ Prior Yr Actuals $FY12$ $PY20$ $FY21$ $FY2$ $FY24$ $FY25+$ $Total$ CIP200 CS-1781CIP200 TracePrior Yr Actuals $FY19$ $FY20$ $FY21$ $FY24$ $FY25+$ $Total$ CIP200 CS-1781Prior Vr Coll figures are in \$1,000's)CIPFY18FY19FY20FY21FY22FY23FY24FY25TotalCIPFY16FY18FY19FY20FY21FY22FY23FY24FY25TotalCIPFY16FY18FY19FY20FY21FY22FY23FY24FY25Total20187296,53015,80015,817FY20FY21FY23FY24FY25Total20187296,53015,817FY20FY20F | | | | | | | | | | | | | | | | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 182 91 0 0 0 0 0 273 Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total 182 91 0 0 0 0 0 273 Prior Yr Actuals 91 0 0 0 Prior Yr Actuals 91 0 0 273 Project Total Expenses By FY Counce to Prior CIPs (All figures are in \$1,000's) Prior FY16 FY17 FY18 FY19 FY20 FY21 FY23 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 - - - 0 0 47,366 2019 0 6,873 20,619 15,817 4,157 - | GLWA | Salaries CIP20 |)20 | FY20 |) | | \$60 | 2 | 4 | 3PC-797 | 7 | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | GLWA | Salaries CIP20 |)20 | FY20 |) | | \$3 | | 1 | 0 CS-178 | 81 | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | Drior | | EV10 | ר | EV00 | EV01 | EV00 | EV02 | EV0 | | | | | | | |
| Phase Total Expenses By FY (All figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 0 0 47,599 2019 0 6,873 20,619 15,817 4,157 0 47,466 | Prior | TI ACTUAIS | | | | | | | | | | | | | | |
| Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 0 0 47,599 2019 0 6,873 20,619 15,817 4,157 0 0 47,466 | | | | TOZ | | | | - | | | | 275 | | | | |
| CIP FY16 FY17 FY18 FY19 FY20 FY21 FY23 FY24 FY25 Total 2018 729 6,530 15,800 15,520 9,020 | | | | | | | - | | | - | | | | | | |
| 2018 729 6,530 15,800 9,020 6,000 6,000 6,000 47,599 2019 6,873 20,619 15,817 4,157 6 6 6 0 47,466 | | | | | | | | | | | | | Tatal | | | |
| 2019 0 6,873 20,619 15,817 4,157 0 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | | | | | | | | FIZI | FIZZ | FIZ3 | | | | | | |
| | | | | | | | | | | | 0 | | | | | |
| | 2020 | 0 | | 0 | 26,441 | 17,009 | 4,137 | 0 | 0 | 0 | 0 | 0 | 48,033 | | | |



GLWA FY 2020-2024 CIP WRRF Rehabilitation of the Secondary Clarifiers

212007 CIP#

□ Innovation Only one or maximum Project Status Future Planned two out of total 25 □ Water MP Right Sizing **CIP Type** Project secondary clarifiers can be taken out of service ✓ Reliability/Redundancy Project New To CIP \Box at a time for repairs. □ NEWTP Repurposing Secondary system has a lot of moving parts and equipment. A long term (8 years) rehabilitation program for the secondary clarifiers needs to be Project Engineer/Manager Beena Chackunkal **Budget** Wastewater Manager Ali Khraizat Class Lvl 1 Wastewater Managing Dept WW Design Eng Class Lvl 2 WRRF Date Original Business Case Prepared 7/27/2016 Class Lvl 3 Secondary Treatment & Disinfection Year Project Added to CIP 2017 Location City of Detroit Fund and Cost Center Wastewater - 5421-892211

Project Significance The secondary clarifiers need to be inspected and rehabilitated for certain components such as the rake arms.

Scope of Work This project will provide for inspection, study, design, and construction for refurbishing the secondary clarifiers. A key component will be the inspection of the concrete and the rake arms. Once the condition of these components is determined, alternatives will be evaluated and the selected alternative will be designed and constructed. The scope will also include evaluating and designing isolation gates for the individual clarifiers. The B Houses have energy intensive HVAC units. These will be evaluated for potential payback with alternative, energy efficient units.

- **Challenges** This will be a long term project because only one or two clarifiers can be taken out of service at a time. Also, there may be different levels of rehabilitation for each clarifier depending upon the results of the inspection.
- **Project History** There are 25 secondary clarifiers at the GLWA WRRF. They have been rehabilitated in the past for other components such as RAS pumps, troughs and weirs, and center drives. It is time to refurbish some of the other key components.
- **Related Project** This project should be coordinated with the recently completed upgrades to finalize a list of components that were not previously upgraded.



WRRF Rehabilitation of the Secondary Clarifiers

Lookup Driver 1 - Condition

Other Important Info n/a

Explanation Some of the key components are approaching the end of their useful life.



PM Weighted

Score **58.4**

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 4 | Asset has <25% of its design service life remain |
| Efficiency and Innovation | 1 | Project will have a moderate impact on energ |
| Financial | 1 | Will generate savings |
| O&M | 3 | Moderate levels of O&M. Project will alleviate |
| Performance (Service Level/Reliability) | 3 | Generally meets design needs, moderate risk |
| Public Benefit | 3 | Moderate savings for GLWA |
| Public Health & Safety | 3 | Failure not catastophic, moderate chance of |
| Regulatory (Environmental/Legal) | 4 | Moderate risk of causing regulatory violation |

RC Weighted

Score

53.2

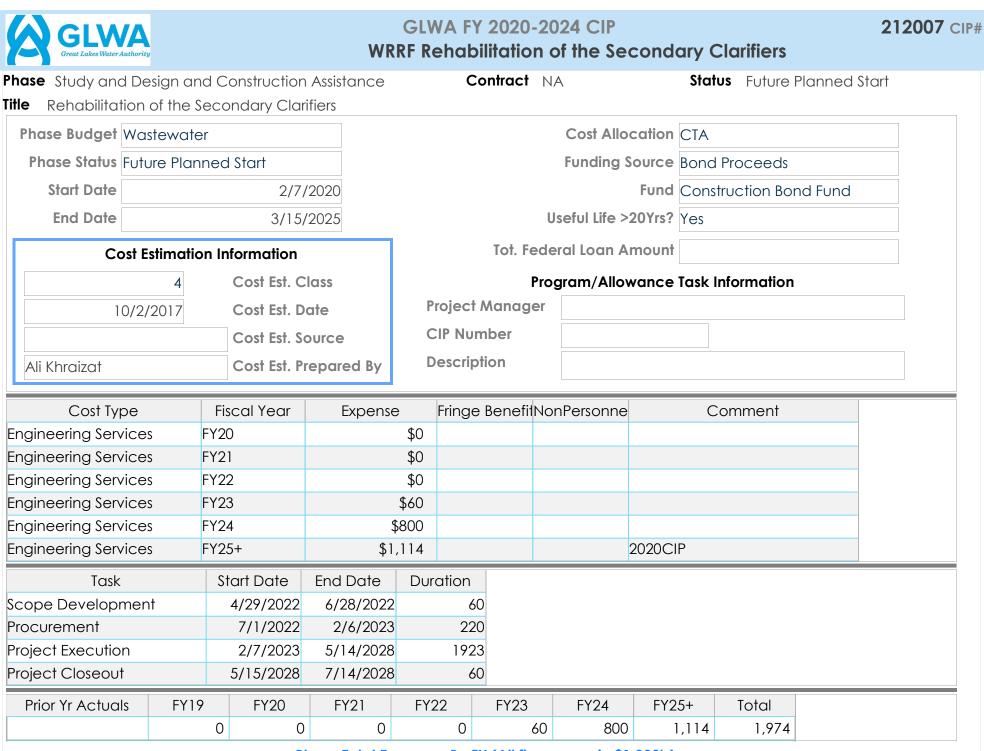
| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 1 | |
| Financial | 1 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 4 | |
| Public Health & Safety | 1 | |
| Regulatory (Environmental/Legal) | 4 | |



212007 CIP#

WRRF Rehabilitation of the Secondary Clarifiers

| Phase GLWA Employee: Iitle GLWA Salaries | s Projec | ct manager | nent | | Contract | NA | A | St | atus | Future I | Planned | Start |
|---|----------|--------------|------------|-------|----------------|------|--------------|------------|---------|----------|---------|-------|
| Phase Budget Wastew | vater | | | | | | Cost Allo | cation CT/ | 4 | | | |
| Phase Status Future F | lannec | d Start | | | | | Funding S | ource Bor | nd Pro | ceeds | | |
| Start Date | | | | | | | | Fund Co | nstruc | tion Bor | nd Fund | |
| End Date | | | | | | Us | seful Life > | 20Yrs? No | | | | |
| Cost Estim | ation Ir | nformation | | | Tot. Fe | eder | ral Loan A | mount | | | | \$0 |
| | 4 | Cost Est. C | lass | | | Prog | gram/Allow | wance Tas | k Infor | mation | | |
| 10/1/201 | 7 | Cost Est. D | ate | Р | roject Manag | er | | | | | | |
| | | Cost Est. Se | ource | C | CIP Number | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | C | escription | | | | | | | |
| Cost Type | Fi | scal Year | Expens | е | Fringe Benefit | Non | Personne | | Comr | ment | | |
| GLWA Salaries CIP2020 | FY1 | 9 | | \$0 | 0 | | 0 | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY2 | 0 | | \$0 | 0 | | 0 | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY2 | .1 | | \$0 | 0 | | 0 | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY2 | 2 | | \$0 | 0 | | 0 | | | | | |
| GLWA Salaries CIP2020 | FY2 | 3 | | \$8 | 3 | | 0 | s/d | | | | |
| GLWA Salaries CIP2020 | FY2 | .4 | | \$95 | 38 | | | S/D | | | | |
| GLWA Salaries CIP2020 | FY2 | 5+ | | \$362 | 143 | | | CA/C Pha | se | | | |
| Prior Yr Actuals | Y19 | FY20 | FY21 | FY | 22 FY23 | | FY24 | FY25+ | T | otal | | |
| | 0 | 0 | 0 | | 0 | 11 | 133 | 50. | 5 | 649 | | |



| | GLWA | | | | M | | | | 2024 C | IP Second | ary Clar | ifiers | 212 | 2007 CI |
|---------|----------------|------------|------|-------------|------------|---------|-----------|----------|------------|---------------|-----------|-------------|-----------|---------|
| Phase | Construction |) | | | | | | ntract | | Jecona | | Future Plan | ned Start | |
| Title 🛛 | Rehabilitatior | n of the S | ieco | ondary Clai | rifiers | | | | | | | | | |
| Phas | e Budget Wo | astewate | er | | | | | | Cost | Allocation | CTA | | | |
| Pho | ase Status Fut | ure Plan | ned | l Start | | | | | Fundi | ing Source | Bond Prod | ceeds | | |
| | Start Date | | | 3/31, | /2022 | | | | | Fund | Construct | ion Bond F | und | |
| | End Date | | | 3/15, | /2025 | | | | Useful Li | ife >20Yrs? | Yes | | | |
| | Cost | Estimatic | n In | formation | | ٦ | | Tot. Fe | deral Loc | an Amount | | | | |
| | 031 | 3 | / | Cost Est. C | lass | | | | | Allowance | | mation | | |
| | | 3 | | Cost Est. D | | P | oject M | | - | Allowulice | | nanon | | |
| | | | | 1 | | | IP Num | | - | | | | | |
| | • | | | Cost Est. S | | | escriptio | | | | | | | |
| Eng | ineer | | | COST EST. P | repared By | | escripin | | | | | | | |
| | Cost Type | | Fis | scal Year | Exper | nse | Fringe B | enefil | IonPerso | nne | Comr | nent | | |
| Constr | ruction | | FY2 | 5+ | \$ | 27,495 | | | | 2020C | IP | | | |
| | Task | | St | tart Date | End Date | Dure | ation | | | | | | | |
| Scope | Developme | nt | | | | | | | | | | | | |
| Procur | rement | | 1 | 1/29/2024 | 5/28/20 | 25 | 180 | | | | | | | |
| Projec | t Execution | | | 5/30/2025 | 8/14/20 | 28 | 1172 | | | | | | | |
| Projec | t Closeout | | | 5/15/2028 | 8/14/20 | 28 | 91 | | | | | | | |
| Prio | r Yr Actuals | FY19 | 7 | FY20 | FY21 | FY2 | 2 | FY23 | FY2 | 4 FY2 | 25+ To | otal | | |
| | | | 0 | 0 | (| C | 0 | | 0 | 0 27 | 7,495 | 27,495 | | |
| | | | | Ρ | hase Total | Expense | s By FY | (All fig | ures are i | in \$1,000's) | | | | |
| | Proj | ect Tot | al E | xpenses | By FY C | ompar | ed to | Prior (| CIPs (A | ll figures | are in \$ | 1,000's) | | |
| CIP | FY16 | FY1 | 7 | FY18 | FY19 | FY20 | FY2 | 21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | | 301 | 3,576 | 5,54 | | ,540 | 5,540 | 10,499 | 0 | • | 30,999 | _ |
| 2019 | | 0 | | | | 85 | | ,374 | 3,680 | 9,216 | 19,676 | | 34,805 | |
| 2020 | | 0 | 0 | | 0 | | 0 | 0 | 0 | 71 | 933 | 29,114 | 30,118 | 3 |



GLWA FY 2020-2024 CIP WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)

| ✓ Innovation | Project Status Future Planned | Intermediate Lift Pum Station N | 2 |
|------------------------|---|--|---|
| Water MP Right Siz | zing CIP Type Project | 51011011 | |
| ✓ Reliability/Redund | | | |
| NEWTP Repurposit | ng Project New To CIP | | |
| Project Engineer/Mai | nager Beena Chackunkal | Budget | Wastewater |
| Mai | nager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 | WRRF |
| Date Original Busines | s Case Prepared 9/14/2017 | Class Lvl 3 | Secondary Treatment & Disinfection |
| Year Proje | ect Added to CIP 2017 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| | Feasibility study, design and construction of redundancy/distribution, pump sizing to acc lift pumps that lift primary effluent to the aer Maintaining the required wet weather secon | commodate dry and wet wea ation basins for secondary tre | ther operations for the five intermediate atment. |
| Project History | weather flows. ILP Station No. 1 houses ILP Nos. 1 and 2. The 365 MGD and a motor size of 2,500 hp. The the pump speed. ILP Nos. 1 and 2 can feed ILP Station No. 2 houses ILP Nos. 3, 4, and 7. capacity of 350 MGD each and a motor size 4 feed Aeration Deck Nos. 3 and 4, while ILP Aeration Deck Nos. 2, 3, or 4. | pumps are equipped with var Aeration Deck Nos. 1 and 2. The pumps are vertical turbing e of 2,500 hp. The pumps are | iable frequency drives (VFDs) to vary e pumps with a maximum rated design also equipped with VFDs. ILP Nos. 3 and |
| Related Project | PC-796: Aeration System Improvements, whi | ch is under construction. | |
| Lookup Driver | 3 - Regulatory | | |
| - | Opportunity for a common header system to | o allow for any ILP to supply a | ny bioreactor. If feasible provide II Ps |
| | | | |



WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)

that can meet the regulatory and dry weather needs without the need for speed control.



PM Weighted

Score **74.6**

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 4 | Asset has <25% of its design service life remain |
| Efficiency and Innovation | 3 | Project will have a moderate impact on energ |
| Financial | 4 | Total financial consequence of \$1,000,000-\$5, |
| O&M | 3 | Moderate levels of O&M. Project will alleviate |
| Performance (Service Level/Reliability) | 4 | Risk of Performance Failure |
| Public Benefit | 3 | Project part of GLWA strategic plan |
| Public Health & Safety | 3 | Failure not catastophic, moderate chance of |
| Regulatory (Environmental/Legal) | 5 | Significant fines for Compliance Failure |

RC Weighted

Score

72.8

| Criteria | Score | Comment |
|---|-------|-------------------------------|
| Condition | 4 | Rebuilt greater than 10 years |
| Efficiency and Innovation | 2 | |
| Financial | 4 | |
| O&M | 3 | 8 |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 5 | |



212008 CIP#

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)

| hase GLWA Employ itle GLWA Salaries | | roject | managen | nent | | Co | ntract N | IA | Stat | us Futur | e Planned Start | ł |
|--|-------------------|--------|--------------|--------|---------------------|-----------|-----------|----------------|--------------|-----------------|-----------------|---|
| Phase Budget Was | stewat | er | | | Cost Allocation CTA | | | | | | | |
| Phase Status Futu | re Plai | nned | Start | | | | | Funding S | ource Bond | Proceec | ls | |
| Start Date | | | | | | | | | Fund Cons | truction E | Bond Fund | |
| End Date | | | | | | | l | Useful Life >: | 20Yrs? No | | | |
| Cost Estimation Information | | | | | | | Tot. Fede | eral Loan A | mount | | \$0 | |
| | 3 Cost Est. Class | | | | | | Pro | ogram/Allov | vance Task I | nformatio | on | |
| 10/1/ | 2018 | | Cost Est. Do | ate | F | ۲oject ۸ | Λanager | | | | | |
| | Cost Est. Source | | | | | | | | | | | |
| Cost Est. Prepared | | | | | 0 | Descripti | ion | | | | | |
| Cost Type | | Fiso | cal Year | Expens | е | Fringe I | BenefilNo | onPersonne | С | omment | | |
| GLWA Salaries CIP20 | 020 | FY20 | | | \$18 | | 7 | | Eng Phase | | | |
| GLWA Salaries CIP20 |)20 | FY21 | | | \$67 | | 27 | | Eng Phase | | | |
| GLWA Salaries CIP20 | | FY22 | | | \$5 | | 2 | | C Phase | | | |
| GLWA Salaries CIP20 | | FY22 | | | \$65 | | 26 | | Eng Phase | | | |
| GLWA Salaries CIP20 | | FY23 | | | \$12 | | 5 | | Eng Phase | | | |
| GLWA Salaries CIP20 | | FY23 | | | \$100 | | 40 | | C Phase | | | |
| GLWA Salaries CIP20 | | FY24 | | | \$20 | | 8 | | C Phase | | | |
| GLWA Salaries CIP20 | | FY24 | | | \$12 | | 5 | | Eng Phase | | | |
| GLWA Salaries CIP20 | | FY25 | | | \$50 | | 20 | | C Phase | | | |
| GLWA Salaries CIP20 |)20 | FY25 | + | | \$10 | | 4 | 0 | Eng Phase | | | |
| Prior Yr Actuals | FY1 | 9 | FY20 | FY21 | FY | 22 | FY23 | FY24 | FY25+ | Total | | |
| | | | 25 | 94 | | 98 | 157 | 45 | 86 | 50 | | |



212008 CIP#

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)

| Phase Construction | | | | | Co | ntract | NA | Stat | us Future | Planned Start | |
|---------------------|------------|----------------|----------------|-------|-----------------------|-----------|-----------------|--------------|-------------|---------------|--|
| Title WRRF Rehabili | itation of | f Intermediate | Lift Pumps (IL | .Ps) | | | | | | | |
| Phase Budget Wa | istewate | r | | | | | Cost Allo | cation CTA | | | |
| Phase Status Fut | ure Planı | ned Start | | | | | Funding S | ource Bond | Proceeds | | |
| Start Date | | 6/2/ | 2021 | | | | | Fund Cons | truction Bo | nd Fund | |
| End Date | | 5/17/ | 2024 | | | | Useful Life > | 20Yrs? Yes | | | |
| Cost E | Istimatio | n Information | | | | Tot. Fee | deral Loan A | mount | | | |
| | 4 | Cost Est. C | lass | | | P | rogram/Allov | wance Task I | nformation | 1 | |
| 10/2 | /2017 | Cost Est. D | ate | P | r <mark>oject </mark> | ۸anage | r | | | | |
| | | Cost Est. Se | ource | С | IP Num | ber | | | | | |
| Ali Khraizat | | | | | Description | | | | | | |
| Cost Type | | Fiscal Year | Expense | 9 | Fringe | Benefith | IonPersonne | C | omment | | |
| Construction | | FY22 | 0 | \$103 | | | | | | | |
| Construction | | FY23 | • | ,370 | | | | | | | |
| Construction | | FY24 | - | ,665 | | | | | | | |
| Construction | | FY25+ | \$6 | ,645 | | | | 2020CIP | | | |
| Task | | Start Date | End Date | Dure | ation | | | | | | |
| Scope Developmer | nt | 11/8/2019 | 8/29/2021 | | 660 | | | | | | |
| Procurement | | 8/31/2021 | 2/27/2022 | | 180 | | | | | | |
| Project Execution | | 2/28/2022 | 2/12/2025 | | 1080 | | | | | | |
| Project Closeout | | 2/13/2025 | 4/14/2025 | | 60 | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | |
| | | | | | 103 | 6,37 | 0 5,665 | 6,645 | 18,783 | | |
| | | P | hase Total Ex | pense | es By FY | (All figu | ures are in \$1 | ,000's) | | | |

| GLW Great Lakes Water Au | A thority | | WRRF | | | | 024 CIP Intermed | iate Lift Po | umps (ILP | 212008 s) |
|--|---------------------|-------------------|-------------------|----------------|-----------------|-----------|---------------------|--------------|-------------------|---------------|
| hase Study and | Design and | d Constructior | Assistance | | Co | ntract N | ١A | Sta | tus Future | Planned Start |
| itle WRRF Reha | bilitation of | Intermediate | Lift Pumps (Il | LPs) | | | | | | |
| Phase Budget | Vastewater | | | | | | Cost Allo | cation CTA | | |
| Phase Status F | uture Planr | ned Start | | | | | Funding S | ource Bond | Proceeds | |
| Start Date | | 9/3, | /2018 | | | | | Fund Cons | struction Boi | nd Fund |
| End Date | | 5/17, | /2024 | | | I | Useful Life >2 | 20Yrs? Yes | | |
| Co | st Estimatio | n Information | | | | Tot. Fed | eral Loan Aı | mount | | |
| | 4 | Cost Est. C | lass | | | Pro | ogram/Allow | vance Task | Information | |
| | • | Cost Est. D | | Р | roject <i>I</i> | مnager ا | | | | |
| | | Cost Est. S | | C | IP Num | ıber | | | | |
| Ali Khraizat | | | repared By | D | escript | ion | | | | |
| | | C031 E31. 1 | epored by | | 1- | | | | | |
| Cost Typ | е | Fiscal Year | Expense | е | Fringe | BenefilNo | onPersonne | (| Comment | |
| | F | -Y25+ | | \$80 | | | | 2020CIP | | |
| Engineering Servi | | Y20 | | \$204 | | | | | | |
| Engineering Servi | | Y21 | | \$406 | | | | | | |
| Engineering Servi | | Y22 | | \$455 | | | | | | |
| Engineering Servi Engineering Servi | | Y23 Y24 | | \$200 \$200 | | | | | | |
| | | | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | |
| Scope Developn Procurement | ient | 4/1/2019 | 11/7/2019 |) | 220 | | | | | |
| nocoroment | | 11/8/2019 | 2/12/2025 | | 1923 | | | | | |
| Project Execution | | , 3, 2817 | | | | | | | | |
| Project Executior Project Closeout | | 2/13/2025 | 4/14/2025 |) | 60 | | | | | |
| , | FY19 | 2/13/2025 FY20 | 4/14/2025 FY21 | FY2 | | FY23 | FY24 | FY25+ | Total | |



212008 CIP#

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)

| | Projec | ct Total I | Expense | s By FY C | ompare | d to Prior | ^r CIPs (Al | l figures | are in \$1 | ,000's) | |
|------|--------|------------|---------|-----------|--------|------------|-----------------------|-----------|------------|---------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2019 | 0 | | | | 230 | 1,141 | 6,569 | 5,767 | 6,809 | 0 | 20,516 |
| 2020 | 0 | 0 | | | 229 | 500 | 656 | 6,727 | 5,910 | 6,811 | 20,833 |



WRRF Replacement of Belt Filter Presses for Complex I and Upper Level Complex II

213001 CIP#

| Innovation | Project Status Closed | PC 787 Belt filter presses | |
|------------------------------|--|---------------------------------------|------------------------------|
| □ Water MP Right Siz | cing CIP Type Project | replacement | |
| ✓ Reliability/Redund | lancy | | |
| □ NEWTP Repurposir | Project New To CIP | | |
| Project Engineer/Mar | nager Vinod Sharma / Nicolas Nicolas | Budget Waste | ewater |
| Mar | nager Ali Khraizat | Class Lvl 1 Waste | ewater |
| Managing | Dept WW Design Eng | Class Lvl 2 WRRF | |
| Date Original Busines | s Case Prepared 5/10/2006 | Class Lvl 3 Resid | uals Management |
| Year Proje | ect Added to CIP 2006 | Location City c | of Detroit |
| | | Fund and Cost Center Waste | ewater - 5421-892211 |
| | Study, design and construction assistance permit capacities | of equipment experiencing numerou | s breakdowns and for meeting |
| • | The work will consist of replacements of 10 Dewatering, Screened Final Effluent boost supportive equipment including control p | er pumps, sludge belt conveyors, slud | • |
| Lookup Driver | | | |
| Explanation | N/A - Pending Closeout | | |

| GLWA Great Lakes Water Authority | WRRF Repl | acement | GLWA FY of Belt Filte | | | I and Upper Level Co | 213001 ci mplex II |
|-------------------------------------|-----------------------|---------------|--------------------------|------------|-----------------|------------------------|-----------------------|
| Phase Construction | | | Co | ontract PC | 2-787 | Status Closed Out | |
| Title PC-787 Replaceme | ent of Belt Filter Pr | esses for Con | nplex I and U | pper Level | Complex II | | |
| Project closed out in FY | 17 | | | | | | |
| Phase Budget Wastew | ater | | | | Cost Allocation | CTA | |
| Phase Status Closed | Out | | | | Funding Source | Bond Proceeds | |
| Start Date | 5/21 | /2012 | | | Fund | Construction Bond Fund | |
| End Date | 8/3 | 3/2016 | | Yes | | | |
| Cost Estime | ation Information | | | Tot. Fede | ral Loan Amount | | |
| 1 | Cost Est. (| Class | | Prog | gram/Allowance | Task Information | |
| | Cost Est. I | Date | Project <i>N</i> | Nanager | | | |
| | Cost Est. S | Source | CIP Num | nber | | | |
| | Cost Est. I | Prepared By | Descript | ion | | | |
| Task | Start Date | End Date | Duration | | | | |
| Scope Development | | | | | | | |
| Procurement | | | | | | | |
| Project Execution | | | | | | | |
| Project Closeout | | | | | | | |

| GLW Great Lakes Water | Authority | WRRF Rep | acement a | GLWA FY 2 of Belt Filter I | | | I and Upper Level Co | 213001 mplex II |
|---------------------------------|------------------|------------------|----------------|-------------------------------|-----------|-------------------|------------------------|--------------------|
| hase Study and | d Design and | - | | | ract CS | - | Status Closed Out | |
| le CS-1483 Re | eplacement | of Belt Filter I | Presses for Co | mplex I and Up | per Leve | l Complex II | | |
| Phase Budget | Wastewate | r | | | | Cost Allocation | CTA | |
| Phase Status | Closed Out | | | | | Funding Source | Bond Proceeds | |
| Start Date | | 1/11 | /2010 | | | Fund | Construction Bond Fund | |
| End Date | | 12/31 | /2016 | | Us | eful Life >20Yrs? | Yes | |
| Co | ost Estimatio | n Information | | Т | ot. Feder | al Loan Amount | | |
| | 1 | Cost Est. | Class | | Prog | ram/Allowance | Task Information | |
| | | Cost Est. | Date | Project Mo | inager | | | |
| | | Cost Est. | Source | CIP Numbe | er | | | |
| | | Cost Est. | Prepared By | Description | n | | | |
| | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | |
| icope Developi | ment | | | | | | | |
| Procurement | | | | | | | | |
| Project Executio | | | | | | | | |
| Project Closeou | t | | | | | | | |

| | GLW Great Lakes Water A | Authority | | WRRF Repl | acemen | | | Y 2020 er Pres | | | | lex I d | and U | oper Lev | | 213001 c plex II |
|---------|----------------------------|-----------|----------|--------------|-------------|---------|---------|-------------------|-------|---------|----------|----------|------------------|-----------|-------|---------------------|
| Phase | not applic | cable | | | | | | Contract | | | | | _ | Closed Ou | | |
| | Prior Year A | | | ses | | | | | | | | | | | | |
| \$36,67 | 0K FY18 B | acke | d out to | reconcile LT | D | | | | | | | | | | | |
| Phas | e Budget | Wast | ewater | | | | | | | Cost | Allocat | ion CT | A | | | |
| Pha | ise Status | Close | ed Out | | | | | | | Fundi | ng Sou | rce | | | | |
| S | start Date | | | | | | | | | | Fu | Jnd | | | | |
| | End Date | | | | | | | | Us | eful Li | fe >20Y | (rs? | | | | |
| _ | | | | | | - | | Tot F | odor | | ın Amo | | | | | |
| | Co | ost Est | imation | Information | | | | | | | | | | | | |
| | | | 1 | Cost Est. (| | | | | - | ram/# | Allowar | nce Tas | k Inforr | nation | | |
| | | | | Cost Est. E | Date | | - | Manag | Jer | | | | | | | |
| | | | | Cost Est. S | ource | | | mber | | | | | | | | |
| | | | | Cost Est. F | Prepared By | / D | escrip | otion | | | | | | | | |
| | Cost Typ | ре | | Fiscal Year | Expe | nse | Fringe | e Benefi | 1Non | Perso | nne | | Comn | nent | | |
| Jnknov | wn | | F١ | ′18- | | \$2,568 | | | | | FY1 | 7 | | | | |
| Jnknov | wn | | F١ | ′18- | | \$1,463 | | | | | FY1 | 6 | | | | |
| Jnknov | | | | ′18- | \$ | 32,638 | | | | | | -Bifurco | ation | | | |
| GLWA | Salaries C | IP202 | 20 F | ′18- | | \$1 | | | | | FY1 | 8 | | | | |
| Prior | r Yr Actual | S | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY2 | 4 | FY25+ | Tc | otal | | |
| | | 0 | | | | | | | | | | | | 0 | | |
| | | | | F | hase Total | Expense | es By I | FY (All fi | gures | are i | n \$1,00 | 0's) | | | | |
| | Pr | ojec | t Tota | Expenses | s By FY C | ompa | red t | o Prior | CIP | s (Al | ll figur | res ar | e in \$ 1 | (,000's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | | FY21 | FY | 22 | FY23 | 3 | FY24 | FY25 | Total | |
| 2018 | | 29 | 1,87 | | | | | | | | | | 0 | 0 | | 901 |
| 2019 | | 0 | 36,66 | | | | | | | | | | | 0 | 36, | 669 |
| 2020 | | 0 | | 0 0 | | | | | | | | | | | | 0 |



GLWA FY 2020-2024 CIP WRRF Rehabilitation of Central Offload Facility

Innovation

□ Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP $\ \square$

Project Engineer/Manager Partho Ghosh

Manager Philip Kora

Managing Dept WW Constr Eng

Date Original Business Case Prepared 8/8/2016

Year Project Added to CIP 2010

Powdered lime discharges into the COF causing lime to discharge throughout the building making the scrubber system to fail



| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class LvI 3 | Residuals Management |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

 Project Significance
 Refurbishment or replacement of COF equipment including sludge storage bins, conveyors, and lime offload system, scrubber system, HVAC etc., will improve reliability and performance. This improvement will enable WRRF to be in compliance with NPDES permit

 Scope of Work
 The study, design and construction for the rehabilitation of the central offload facility includes bin activators, rotary feeder values, knife gate values, bottom hoppers, conveyors, and other associated items. The work also

rotary feeder valves, knife gate valves, bottom hoppers, conveyors, and other associated items. The work also includes rehabilitation of HVAC system of the entire facility, lime offloading system, drainage system, elevator, and doors.

Challenges Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Project History The Central Offload Facility was built under PC-744 (DWP-1074) as a design build project in 2005. The project completion was delayed due to the lime sludge slide gates on the lime mixers which were continuously leaking whenever sludge head in storage bins was high. This problem was finally resolved after replacing the gates. Due to the nature of lime and sludge and continuous operation of this facility, the equipment started failing causing various operational and maintenance problems. Eventually, the facility needs a major rehabilitation.

| Related Project PC - 757: Rehabilitation of Prim | ary Clarifiers and Pipe Gallery Improvements |
|--|--|
|--|--|

Lookup Driver 1 - Condition

Explanation N/A - Under Procurement



PM Weighted Score

78.4

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 5 | Replacement or major rehab needed immed |
| Efficiency and Innovation | 4 | Project will remove significant operational hur |
| Financial | 3 | Will generate savings |
| O&M | 4 | High levels of O&M |
| Performance (Service Level/Reliability) | 5 | Will cause capacity problems |
| Public Benefit | 3 | Moderate savings for GLWA |
| Public Health & Safety | 3 | Moderate impact on public Health & Safety |
| Regulatory (Environmental/Legal) | 4 | Regulatory Compliance failure will lead to fine |

RC Weighted

Score

76.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 3 | |
| Financial | 3 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |



213002 CIP#

| Phase GLWA Em [itle GLWA Salc | | rojec | t managen | nent | | Co | ontract N | A | Sta | tus Active | |
|--|----------------------|--------|--------------|-----------|-------|---------|-----------|----------------|------------|---------------|---------------|
| Phase Budget | Wastewa [.] | ter | | | | | | Cost Alloc | ation CTA | | |
| Phase Status | Active | | | | | | | Funding Se | ource Fede | eral Loan Pro | ograms |
| Start Date | | | | | | | | | Fund Impr | ovement & | Extension Fun |
| End Date | | | | | | | U | lseful Life >2 | 20Yrs? No | | |
| Co | ost Estimat | ion In | formation | | | | Tot. Fede | eral Loan Ar | nount | | \$0 |
| | 3 | | Cost Est. C | lass | | | Pro | gram/Allow | vance Task | Information | |
| 9 | /17/2018 | | Cost Est. D | ate | Р | roject | Manager | | | | |
| | | | Cost Est. So | ource | C | CIP Nun | nber | | | | |
| P. Kora | | | Cost Est. Pr | epared By | D |)escrip | lion | | | | |
| Cost Typ | се | Fis | scal Year | Expens | е | Fringe | BenefitNo | nPersonne | (| Comment | |
| GLWA Salaries C | CIP2020 | FY19 | 9 | | \$100 | | 40 | 5 | | | |
| GLWA Salaries C | | FY19 | · | | \$20 | | 8 | 1 | | | |
| GLWA Salaries C | | FY2 | | | \$120 | | 48 | 6 | | | |
| GLWA Salaries C | | FY2 | - | | \$15 | | 6 | 1 | | | |
| GLWA Salaries C | CIP2020 | FY2 | 1 | | \$80 | | 32 | 4 | | | |
| GLWA Salaries C | CIP2020 | FY2 | 1 | | \$5 | | 2 | 0 | | | |
| Prior Yr Actua | ls FY | 19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | |
| | | 174 | 196 | 123 | | 0 | 0 | 0 | 0 | 493 | |

| | | <u></u> | | | | | 010000 |
|-------------------------------------|------------|---------|-------------|-------------------------|---------------|------------|-----------------|
| GLWA Great Lakes Water Authority | | | | 2024 CIP n of Centro | al Offload | Facility | 213002 C |
| Phase not applicable | | | Contract | NA | Statu | s Closed | Out |
| Title Prior Year Actual Expenses | | | | | | | |
| Phase Budget Wastewater | | | | Cost Allo | cation CTA | | |
| Phase Status Closed Out | | | | Funding S | ource | | |
| Start Date | | | | | Fund | | |
| End Date | | | | Useful Life > | 20Yrs? | | |
| Cost Estimation Information | | | Tot. Fe | deral Loan A | mount | | |
| | | | | | | <i>.</i> | |
| 1 Cost Est. C | IOSS | _ | | | vance Task Ir | nformation | |
| Cost Est. D | ate | Projec | et Manage | r | | | |
| Cost Est. S | ource | CIP N | umber | | | | |
| Cost Est. P | repared By | Descr | iption | | | | |
| Cost Type Fiscal Year | Expense | Frinc | ne Benefith | IonPersonne | C | omment | |
| Engineering Services FY18- | • | 742 | je benenir | | FY18 | JHIHCHI | |
| Unknown FY18- | • | 202 | | | FY17 | | |
| GLWA Salaries CIP2020 FY18- | • | \$27 | 11 | | FY18 | | |
| Prior Yr Actuals FY19 FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| 982 | | | | | | 982 | |

| GLW Great Lakes Water | Authority | | | WR | | | | | 24 CIP of Centro | al Off | load | Facility | | 213002 CIF |
|-------------------------------------|------------------|---------|--------------|-----------------------------|------|-----------|------------|------|---------------------|---------|-------------|--------------|-----------|------------|
| Phase Study and Title CS-1701 Re | 0 | | | Assistance load Facility | | Co | ontract | C\$ | 5-1701 | | Stat | us Active | | |
| Phase Budget | Wastewa | ater | | | | | | | Cost Allo | cation | CTA | | | |
| Phase Status | Active | | | | | | | | Funding S | ource | Feder | ral Loan Pro | ograms | |
| Start Date | | | 10/17/ | 2016 | | | | | | Fund | Impro | vement & | Extension | Fun |
| End Date | | | 1/19/ | 2021 | | | | U | seful Life >: | 20Yrs? | Yes | | | |
| Co | ost Estima | tion Ir | nformation | | | | Tot. Fe | ede | ral Loan Aı | mount | | | \$1,170,1 | 123 |
| | 1 | | Cost Est. C | lass | | | | Proc | aram/Allov | vance | Task I | nformation | | |
| 9 | /12/2018 | | Cost Est. D | | P | Project I | Manag | - | | | | | · | |
| Contract | 71272010 | | Cost Est. So | | C | CIP Nun | nber | | | | | | | |
| A. Khraizat | | | | repared By | C | Descript | ion | | | | | | | |
| A. KHI dizdi | | | CO31 E31. 11 | cpurcu by | | | | | | | | | | |
| Cost Ty | ре | Fi | scal Year | Expense |) | Fringe | Benefit | Nor | Personne | | С | omment | | |
| Engineering Ser | | FY1 | | | \$30 | | | | | | | | | |
| Engineering Ser | | FY2 | | | 5200 | | | | | | | | | |
| Engineering Ser | vices | FY2 | 21 | | \$74 | | | | | | | | | |
| Task | (| S | tart Date | End Date | Dui | ration | | | | | | | | |
| Scope Develop | ment | | | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | | | |
| Project Executio | n | | 10/17/2016 | 4/19/2021 | | 1645 | | | | | | | | |
| Project Closeou | † | | 1/19/2021 | 3/20/2021 | | 60 |) | | | | | | | |
| Prior Yr Actua | lls FY | ′19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY2 | <u>25</u> + | Total | | |
| | | 30 | 200 | 74 | | 0 | | 0 | 0 | | 0 | 304 | | |
| | | | PI | hase Total Ex | pens | es By F | ((All fig | jure | s are in \$1 | ,000's) |) | | | |

| GLWA Great Lakes Water Author | ity | | WR | | | 2020-2 ilitation | | 24 CIP of Centro | al Offi | oad | Facility | | 213002 (|
|----------------------------------|------------|-----------------|------------|----------|-----------|---------------------|---------|---------------------|---------|--------|--------------|----------|----------|
| hase Construction | ٦ | | | | Co | ontract (| СС | DN-279 | | Stat | us Active | | |
| itle Rehabilitation | n of Centi | ral Offload Fa | cility | | | | | | | | | | |
| Construction will st | art after | the design is c | omplete. | | | | | | | | | | |
| Phase Budget Wo | astewate | r | | | | | | Cost Allo | cation | CTA | | | |
| Phase Status Ac | tive | | | | | | | Funding S | ource | Bond | Proceeds | | |
| Start Date | | 7/20 | /2018 | | | | | | Fund | Cons | truction Bor | nd Fund | |
| End Date | | 1/19 | /2021 | | | | Us | eful Life >: | 20Yrs? | Yes | | | |
| Cost | Estimatio | n Information | | | | Tot. Fed | ler | al Loan Ai | mount | | | \$14,347 | ,000 |
| | 1 | Cost Est. C | Class | | | Pre | og | ram/Allov | vance | Task I | nformation | | |
| 9/12 | 2/2018 | Cost Est. D | ate | P | Project / | Nanager | | | | | | | |
| Contract | | Cost Est. S | ource | (| CIP Num | nber | | | | | | | |
| A. Khraizat/P. Ko | ra | Cost Est. P | repared By | 0 | Descript | ion | | | | | | | |
| Cost Type | | Fiscal Year | Expense | <u> </u> | Fringo | BonofitN | <u></u> | Personne | | C | omment | | |
| | | FY19 | | ,000 | Innge | Denemin | On | I EISOLINE | | C | Ommern | | |
| | | FY20 | · · | ,300 | | | | | | | | | |
| Construction | | FY21 | · · · | ,100 | | | | | | | | | |
| Construction | I | FY22 | | \$0 | | | | | | | | | |
| Construction | ł | FY23 | | \$0 | | | | | | | | | |
| Task | | Start Date | End Date | Du | ration | | | | | | | | |
| cope Developme | nt | 10/17/2016 | 4/20/2018 | | 550 | | | | | | | | |
| Procurement | | 4/20/2018 | 10/17/2018 | | 180 | | | | | | | | |
| Project Execution | | 10/18/2018 | 4/19/2021 | | 914 | | | | | | | | |
| roject Closeout | | 4/20/2021 | 6/19/2021 | | 60 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY2 | 5+ | Total | | |
| | 4,0 | 000 7,300 | 3,100 | | 0 | 0 |) | 0 | | 0 | 14,400 | | |



WRRF Rehabilitation of Central Offload Facility

| | Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | | | | | | | | | | | | | | |
|------|--|------|-------|-------|-------|-------|------|------|------|------|--------|--|--|--|--|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | | | | |
| 2018 | | 800 | 5,850 | 6,750 | 4,350 | | | | 0 | 0 | 17,750 | | | | |
| 2019 | 0 | 202 | 665 | 6,447 | 7,520 | 4,579 | | | | 0 | 19,413 | | | | |
| 2020 | 0 | 0 | 982 | 4,204 | 7,696 | 3,297 | 0 | 0 | 0 | 0 | 16,179 | | | | |



WRRF Sewage Sludge Incinerator Air Quality Improvements

213003 CIP#

| Innovation | Project Status Closed | Schematic | | | | | | | |
|---|---|------------------------------------|------------------------------|--|--|--|--|--|--|
| □ Water MP Right Si | zing CIP Type Project | incinerator air quali improveme | nt | | | | | | |
| Reliability/RedundNEWTP Repurposit | dancy Project New To CIP | equipme | | | | | | | |
| Project Engineer/Ma | nager Kashmira Patel | Budget | Wastewater | | | | | | |
| Ma | nager Philip Kora | Class Lvl 1 | Wastewater | | | | | | |
| Managing | Dept WW Constr Eng | Class Lvl 2 | WRRF | | | | | | |
| Date Original Busines | ss Case Prepared 4/26/2012 | Class Lvl 3 | Residuals Management | | | | | | |
| Year Proje | ect Added to CIP 2012 | Location City of Detroit | | | | | | | |
| | | Fund and Cost Center | Wastewater - 5421-892211 | | | | | | |
| Project Significance | Provide sludge incinerations air quality impro requirements | ovements at Incinerator Com | plex II to meet NPDES Permit | | | | | | |
| Scope of Work | This project involves the design and construction for sludge incinerator air quality improvements at Complex II Incinerator Facility at WRRF. The scope of work includes installation of new scrubber, induced draft fan, noise reduction modification, and air quality and monitoring equipment. | | | | | | | | |
| Challenges | N/A - Active | | | | | | | | |
| Lookup Driver | N/A - Active | | | | | | | | |
| | | | | | | | | | |



213003 CIP#

WRRF Sewage Sludge Incinerator Air Quality Improvements

| | | | | • | • | | | • | |
|-------------------------|--------------|--------------|--------------------------------------|------------------------------------|----------------|--------------|-------|------------|-------|
| hase GLWA Emplo | yees Projec | t managem | ent | C | Contract N | Ą | State | us Closec | l Out |
| tle GLWA Salaries | 5 | | | | | | | | |
| Phase Budget Wastewater | | | Cost Allocation CTA | | | | | | |
| Phase Status Closed Out | | | Funding Source Federal Loan Programs | | | | | | |
| Start Date | | | Fund Improvement & Extension Fun | | | | | | |
| End Date | | | Useful Life >20Yrs? No | | | | | | |
| Cost E | stimation In | formation | | | Tot. Fede | eral Loan Ar | nount | | \$0 |
| 5 Cost Est. Class | | | | Program/Allowance Task Information | | | | | |
| | | Cost Est. Da | te | Project | Manager | _ | | | |
| | | Cost Est. So | urce | CIP Nu | mber | | | | |
| Cost Est. Prepared By | | | Description | | | | | | |
| | | | | | | | | | |
| D • • • • • • | 51/1.0 | 5)(00 | 51/01 | 5)(0.0 | 5)(00 | | | - · · | |
| Prior Yr Actuals | FY19 0 | FY20 | FY21 0 | FY22 0 | FY23 0 | FY24 0 | FY25+ | Total 0 | |
| | 0 | - | | | FY (All figure | | | 0 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| GLW Great Lakes Water A | A uthority | | WRRF Sev | GLWA FY vage Sludg | | | Quality I | mprover | nents | 213003 CI |
|----------------------------|----------------------|-----------------|-----------------|-----------------------|-----------------|----------------|-------------|--------------|--------------|-----------|
| Phase Design an | | | | | ontract Po | C-791 | State | us Closed | Out | |
| Title PC-791 Sev | vage Sludge | e Incinerator A | Air Quality Imp | provements o | at WRRF | | | | | |
| Phase Budget | Wastewater | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Closed Out | | | | | Funding So | ource Feder | ral Loan Pro | ograms | |
| Start Date | | 12/17 | /2012 | | | | Fund Impro | ovement & | Extension Fu | JN |
| End Date | | 6/30, | /2017 | | U | lseful Life >2 | OYrs? Yes | | | |
| Co | st Estimation | n Information | | | Tot. Fede | eral Loan Am | nount | | | |
| | 4 | Cost Est. C | lass | | Pro | gram/Allow | ance Task l | nformation | | |
| 9, | /15/2017 | Cost Est. D | ate | Project <i>N</i> | N anager | | | | | |
| Engineering | | Cost Est. S | ource | CIP Num | ber | | | | | |
| Biren Saparia | | Cost Est. P | repared By | Descript | ion | | | | | |
| | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | |
| Scope Developr | nent | | | | | | | | | |
| Procurement | | | | | | | | | | |
| Project Execution | n | 12/17/2012 | 6/30/2017 | 1656 | | | | | | |
| Project Closeout | | 7/1/2017 | 12/15/2017 | 167 | | | | | | |
| Prior Yr Actual | s FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| | GLAN Great Lakes Water. | Authority | | | WRRF Se | | | FY 2020 Idge Ind | | | Air Quo | ality Ir | npr | ovem | ents | | 003 CIP |
|--------|----------------------------|------------------|--------------|-------------|------------|------------------------------------|-------|---------------------|---------|----------|-----------|----------|---------------------|----------|------|--------|---------|
| Phase | not appli | cable |) | | | | (| Contract | NA | | | Statu | s (| Closed C | Dut | | |
| | Prior Year A | | | S | | | | | | | | | | | | | |
| Phas | se Budget | Wast | ewater | | | | | | Сс | ost All | ocation | CTA | | | | | |
| Pho | ase Status | Close | ed Out | | | | | | Fu | nding | Source | | | | | | |
| | Start Date | | | | | | | | | | Fund | | | | | | |
| | End Date | | | | | | | | Usefu | ıl Life | >20Yrs? | | | | | | |
| | | | | | | - | | Tot E | | | | | | | | | |
| | Co | ost Est | timation Ir | formation | _ | Tot. Federal Loan Amount | | | | | | | | | | | |
| | | | 1 | Cost Est. C | | Program/Allowance Task Information | | | | | | | | | | | |
| | | | | Cost Est. D | | | | et Manag | er | | | | | | | | |
| | | | | Cost Est. S | ource | | | umber | | | | | | | | | |
| | | | | Cost Est. P | repared By | , D | escri | iption | | | | | | | | | |
| | Cost Ty | pe | Fi | scal Year | Expei | nse | Fring | ge Benefi | NonPe | rsonn | e | Сс | omm | nent | | | |
| Constr | ruction | | FY1 | 8- | | \$436 | | | | | FY18 | | | | | | |
| | eering Serv | /ices | FY1 | | | \$56 | | | | | FY18 | | | | | | |
| Unkno | | | FY1 | | \$ | 36,153 | | | | | Prev Yr | S | | | | _ | |
| GLWA | Salaries C | CIP202 | 20 FY1 | 8- | | \$22 | | 9 | | | FY18 | | | | | | |
| Prio | r Yr Actua | ls | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | F | Y24 | FY2 | 25+ | То | tal | | | |
| | 36, | 676 | | | | | | | | | | | 3 | 6,676 | | | |
| | | | | P | hase Total | Expense | s By | FY (All fig | gures a | re in \$ | 51,000's) | | | | | | |
| | Pı | ojec | ct Total I | xpenses | By FY C | ompai | ed | to Prior | CIPs | (All f | igures | are ir | <mark>ו \$</mark> 1 | ,000's |) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | | FY21 | FY22 | | FY23 | FY2 | 4 | FY25 | | Total | |
| 2018 | 3 | 3043 | 3,000 | | | | | | | | | | 0 | | 0 | 36,043 | |
| 2019 | | 0 | 50,635 | 459 | | | 0 | | | 0 | | | | | 0 | 51,094 | |
| 2020 | | 0 | 0 | 36,676 | 0 | | 0 | 0 | | 0 | 0 | | 0 | | 0 | 36,676 | |

| GLWA Great Lakes Water Authority | GL | WA FY 2020-2024 CIP WRRF Biosolids Dryer Facili | 213004 CIP# ity |
|--|--|---|---|
| Innovation Water MP Right Size Reliability/Redunction NEWTP Repurposition | dancy | New GLWA Biosolia Dryer Facil | |
| Managing Date Original Busines | nager Darrel Field nager Philip Kora Dept WW Constr Eng as Case Prepared 4/26/2012 ect Added to CIP 2012 | Class Lvl 1 Class Lvl 2 Class Lvl 3 Location | |
| Project Significance | Allows retirement of Complex I Incine facility in North America | erators. Will provide significant cost sa | ivings and is the largest Biosolids dryer |
| | This project provides for study, design tons per day (dtpd). The scope of wo | | facility with a firm capacity of 330 dry m from Complex I to Complex II. |
| | N/A - Pending Closeout | | |
| | N/A - Pending Closeout N/A - Pending Closeout | | |

| GLW/ Great Lakes Water Author | A <i>vority</i> | | | GLV | VA FY 2020 WRRF Bio | | | er Facility | | 21300 | |
|----------------------------------|---------------------------|-----------------|--------------|--------|------------------------|----------|----------|--------------|------------|-------|--|
| Phase not applica | able | | | | Contract | NA | | State | us Closed | l Out | |
| Title Prior Year Ac | ctual Exp | enses | | | | | | | | | |
| Phase Budget W | /astewat | er | | | | Со | st Allc | cation CTA | | | |
| Phase Status C | losed Ou | t | | | | Fur | ding | Source | | | |
| Start Date | | | | | | | | Fund | | | |
| End Date | | | | | | Usefu | Life > | 20Yrs? | | | |
| | | | | 1 | Tet F | | | | | | |
| Cost | t Estimati | ion Information | | | | ederal L | | | | | |
| | 1 | Cost Est. C | lass | | I | Progran | n/Allo | wance Task I | nformation | | |
| | | Cost Est. D | ate | Р | roject Manag | er | | | | | |
| | | Cost Est. S | ource | C | CIP Number | | | | | | |
| | | Cost Est. P | repared By | D | escription | | | | | | |
| Cost Type |) | Fiscal Year | Expens | e | Fringe Benefit | NonPer | sonne | e C | omment | | |
| Construction | | FY18- | | \$186 | | | | FY18 | | | |
| Engineering Servic | ces | FY18- | | \$192 | | | | FY18 | | | |
| Unknown | | FY18- | \$ | 1,438 | | | | FY16 | | | |
| Unknown | | FY18- | | \$585 | | | | FY17 | | | |
| GLWA Salaries CIP | 2020 | FY18- | | \$5 | 2 | | | FY18 | | | |
| Prior Yr Actuals | FY1 | 9 FY20 | FY21 | FY2 | 22 FY23 | F | Y24 | FY25+ | Total | | |
| 2,40 | 8 | | | | | | | | 2,408 | | |
| | | Р | hase Total E | xpense | es By FY (All fig | jures ar | e in \$* | l,000's) | | | |

| GLW Great Lakes Water. | Authority | | | GLV | | | 024 CIP olids Drye | er Facilit | y | | | 213004 CIP |
|---------------------------|------------------|----------------|------------|------|-----------------|-----------|-----------------------|------------|-----------|---------|-----------|------------|
| Phase Design ar | nd Build | | | | Co | ontract P | C-792 | | Status | Closed | Out | |
| Title PC-792 Bio | solids Drye | Facility at WR | RF | | | | | | | | | |
| Phase Budget | Wastewate | er | | | | | Cost Allo | ocation C | ТА | | | |
| Phase Status | Closed Ou | t | | | | | Funding | Source Fe | ederal L | oan Pro | ograms | |
| Start Date | | 5/23 | /2013 | | | | | Fund In | nprover | nent & | Extension | Fun |
| End Date | | 10/31 | /2016 | | | I | Useful Life > | 20Yrs? Y | es | | | |
| Co | ost Estimatio | on Information | | | | Tot. Fed | eral Loan A | mount | | | | |
| | 1 | Cost Est. C | Class | | | Pro | ogram/Allo | wance To | ask Infor | mation | | |
| 9 | /17/2018 | Cost Est. D | ate | Ρ | roject <i>I</i> | Manager | | | | | | |
| Contract | | Cost Est. S | ource | С | IP Num | nber | | | | | | |
| P. Kora/D. Fiel | ld | Cost Est. P | repared By | D | escript | ion | | | | | | |
| | | | | | | | | | | | | |
| Cost Ty | ре | Fiscal Year | Expense | Э | Fringe | BenefilNo | onPersonne |) | Com | ment | | |
| Design-Build | | FY19 | | \$21 | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| Scope Developi | ment | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | |
| Project Executio | n | 5/23/2013 | 12/31/2017 | | 1683 | | | | | | | |
| Project Closeou | t | 1/1/2018 | 6/30/2018 | | 180 | | | | | | | |
| Prior Yr Actua | ls FY1 | 9 FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | + T | otal | | |
| | | 21 0 | 0 | | 0 | 0 | C |) | 0 | 21 | | |

| | GLW Great Lakes Water Au | A thority | | | | GLW | A FY 2020 WRRF Bio | | | ility | | 2130 |
|--------------|-----------------------------|---------------------|-----------|-------------|------------|---------------------|--------------------------------------|------------|------------|-------------|--------------|-----------|
| ase (| GLWA Emp | oloye | es Projec | t manager | nent | | Contrac | NA | | Status (| Closed Out | |
| l e G | LWA Salar | ries | | | | | | | | | | |
| Phase | e Budget V | Vaste | ewater | | | | | Cost | Allocation | CTA | | |
| Phas | se Status (| Close | d Out | | | | Funding Source Federal Loan Programs | | | | | |
| St | art Date | | | | | | | | Fund | Improvem | nent & Exter | nsion Fun |
| E | nd Date | | | | | | | Useful L | No | | | |
| | Cos | st Esti | mation In | formation | | ٦ | Tot. I | ederal Loc | an Amount | | | \$0 |
| | | | 2 | Cost Est. C | lass | | | Program/ | Allowance | Task Inforn | nation | |
| | 9/17/2018 Cost Est. Date | | | | Pro | ject Manag | ger | | | | | |
| | Cost Est. Source | | | | CIF | ⁹ Number | | | | | | |
| P. Ko | ora | | | Cost Est. P | repared By | De | scription | | | | | |
| | Cost Typ | e | Fis | cal Year | Exper | ise Fi | ringe Benef | ilNonPerso | nne | Comm | nent | |
| LWAS | Salaries Cl | | | | Expor | \$1 | - | | 0 | 001111 | | |
| Prior | Yr Actuals | | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | |
| THO | | , | 1117 | 0 | |) | 0 | 0 | 0 | 0 | 1 | |
| | | | | | | | By FY (All fi | | - | | | |
| | Pro | ojec | t Total E | xpenses | By FY C | ompare | ed to Prio | r CIPs (A | ll figures | are in \$1 | ,000's) | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 18 | 134 | 190 | 1,691 | 60 | 26 | | | | | 0 | 0 | 135,967 |
|)19 | | 0 | 2,024 | 193 | 23 | | | | | | 0 | 2,240 |
| 20 | | 0 | 0 | 2,408 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 2,430 |



WRRF Complex I Incinerators Decommissioning and Reusability

\checkmark Innovation

□ Water MP Right Sizing

- Reliability/Redundancy
- □ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP $\ \square$

Project Engineer/Manager Ravi Yelamanchi Manager Ali Khraizat Managing Dept WW Design Eng

Date Original Business Case Prepared 8/15/2016

Year Project Added to CIP 2014

Complex – I Incinerator Building at the WRRF



213005 CIP#

| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class LvI 3 | Residuals Management |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project Significance This project will decommission the C-I Incinerators building and investigate the re-usability.

Scope of Work Provide basis of design report for decommissioning of the Complex-I demolition and relocation drawings for existing pass through utilities. Provide recommendation for future reusability plan for Complex I. The demolition cost and construction assistance, and relocation of utilities is not included in this budgeted CIP. The budgeted CIP includes study, design and minimum rehabilitation to install heating to continue utilizing the building other than incinerations. The cost to demolish equipment and rehabilitate the existing building for reuse is very high and further capital investment is deferred until reuse need of this building is well defined.

Challenges Possible challenges with this project will include shutdowns of the secondary water system and abatement of asbestos and lead for this building built 1940's. Some utility service lines may be shared with adjoining Complex II Incinerator and Complex I Dewa

Project History Complex I was installed and in operation since the 1940's and has completed its valuable life cycle. The Bio-solids Alternatives Evaluation at the WWTP evaluated several options for long-term dewatering disposal as it relates to overall, and more specifically, the Complex I Incinerator Facility. Most of the options indicated that a long-term phasing out of Complex I especially due to its aged equipment and challenges of meet regularity requirements.

Related Project n/a

Lookup Driver 3 - Regulatory

Other Important Info *Innovation note: Future uses may include alternative sludge handling; keep aligned with Master Plan and Research & Innovation.

Explanation Due to new EPA regulations and cost issues this facility will need to be phased out.



PM Weighted

Score 38.4

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 2 | Asset has <25% of its design service life remain |
| Efficiency and Innovation | 3 | Project will have a moderate impact on energ |
| Financial | 2 | Will generate savings |
| O&M | 3 | Moderate positive impact on O&M |
| Performance (Service Level/Reliability) | 3 | Process is out of service |
| Public Benefit | 1 | Moderate savings for GLWA |
| Public Health & Safety | 1 | Likely to address minor hazard issues or conce |
| Regulatory (Environmental/Legal) | 1 | Moderate risk of causing regulatory violation |
| | | |

RC Weighted

Score

38.4

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 2 | |
| Efficiency and Innovation | 3 | |
| Financial | 2 | |
| 0&M | 3 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 1 | |
| Public Health & Safety | 1 | |
| Regulatory (Environmental/Legal) | 1 | |



213005 CIP#

WRRF Complex I Incinerators Decommissioning and Reusability

| licable | | | | Contract | NA | Sta | lus Closed | lOut |
|------------|--|---|---|---|---|---|---|---|
| Actual Ex | penses | | | | | | | |
| Wastewa | ater | | | | Cost Allo | cation CTA | | |
| Closed C | Dut | | | | Funding S | ource | | |
| • | | | | | | Fund | | |
| • | | | | | Useful Life > | 20Yrs? | | |
| ost Estimo | tion Information | | | Tot. Fe | deral Loan A | mount | | \$O |
| 1 | Cost Est. C | lass | | P | rogram/Allov | vance Task | Information | |
| | Cost Est. D | ate | Pro | ject Manage | r | | | |
| | Cost Est. S | ource | CIF | 9 Number | | | | |
| | Cost Est. P | repared By | De | scription | | | | |
| | | | | | | | | |
| | | Expens | | ringe Benefith | | | Comment | |
| | | | | 3 | | | | |
| | | | ΨΟ | | | | | |
| | (19 FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | - |
| 43 | | | | | | | 43 | |
| | Р | hase Total E | kpenses | By FY (All figu | ures are in \$1 | ,000's) | | |
| | Actual Ex Wastewo Closed C Cost Estima 1 | Actual Expenses Wastewater Closed Out Cost Estimation Information 1 Cost Est. C Cost Est. D Cost Est. D Cost Est. So Cost Est. Pi vpe FY18- CIP2020 FY18- | Actual Expenses Wastewater Closed Out Cost Estimation Information 1 Cost Est. Class Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepared By ype Fiscal Year Expens rvices FY18- CIP2020 FY18- als FY19 FY20 FY21 43 | Actual Expenses Wastewater Closed Out Cost Estimation Information 1 Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepared By Vpe Fiscal Year Expense FY18- Sala Clip2020 FY18- Sala FY19 FY20 FY21 FY22 43 | Actual Expenses Wastewater Closed Out Cost Estimation Information 1 Cost Est. Class 2 Cost Est. Class 1 Cost Est. Class Cost Est. Date Project Manage Cost Est. Source CIP Number Description Description vpe Fiscal Year Expense Fringe Benefit rvices FY18- \$34 43 Cals FY19 FY20 FY21 FY22 FY23 43 Intervices FY19 FY20 FY21 FY22 FY23 | Actual Expenses t Wastewater Cost Alloc c Closed Out Funding S c Closed Out Standard Standard c Closed Out Funding S c Closed Out Standard Standard c Closed Out Funding S c Closed Out Standard Standard l Cost Est. Class Program/Allow C Cost Est. Date ClP Number C Cost Est. Date ClP Number C Cost Est. Prepared By Project Manager vices FY18- \$34 CIP2020 FY18- \$6 3 02 c St FY19 FY20 FY21 FY22 FY23 FY24 d3 L L L L L | Actual Expenses t Wastewater Cost Allocation CTA s Closed Out Funding Source Fund s Closed Out Funding Source Fund s Closed Out Tot. Federal Loan Amount Funding Source s Cost Est. Class Tot. Federal Loan Amount Program/Allowance Task 1 Cost Est. Class Project Manager Cost Est. Source Cost Est. Source ClP Number Description Cost vpe Fiscal Year Expense Fringe BenefitNonPersonne Cost rvices FY18- \$34 FY18 ClP2020 FY18- \$6 3 02020CIP als FY19 FY20 FY21 FY22 FY23 FY24 FY25+ | Actual Expenses Wastewater Closed Out Closed Out Funding Source Fund Closed Out Funding Source Fund Useful Life >20Yrs? Cost Est. Class Cost Est. Class Cost Est. Date Cost Est. Date Cost Est. Prepared By Vpe Fiscal Year Expense Fringe BenefitNonPersonne Comment rvices FY18- ClP Number Description Cost Est. Prepared By Pringe BenefitNonPersonne Comment FY18- \$34 FY18- \$4 ClP Xumber Comment FY18- \$4 Sold 3 O2020CIP |

| GLW Great Lakes Water | VA r Authority | WRRF Com | GLWA FY 2020-2024 CIP plex I Incinerators Decommissio | ning and Reusability | 213005 CIF |
|--------------------------|-------------------|-----------------------|--|--------------------------|------------|
| Phase Design & | Construction | n Assistance | Contract CS-228 | Status Pending Close-out | |
| Title Complex | Incineration H | Heating | | | |
| Phase Budget | Wastewater | | Cost Allocation | CTA | |
| Phase Status | Pending Clo | ose-out | Funding Source | Bond Proceeds | |
| Start Date | | | Fund | Construction Bond Fund | |
| End Date | | | Useful Life >20Yrs? | Yes | |
| С | ost Estimatior | n Information | Tot. Federal Loan Amount | \$ | 60 |
| | 5 | Cost Est. Class | Program/Allowance | Task Information | |
| | 9/12/2018 | Cost Est. Date | Project Manager | | |
| Contract | | Cost Est. Source | CIP Number | | |
| Design Eng | | Cost Est. Prepared By | Description | | |



213005 CIP#

WRRF Complex I Incinerators Decommissioning and Reusability

| hase GLWA Emplo tle GLWA Salaries | | t manageme | ent | C | Contract N | A | Sta | tus Future P | lanned Start | |
|--------------------------------------|-------------------|---------------|----------|-----------------|------------|---------------|------------|------------------------|--------------|--|
| Phase Budget Wa | | | | | | Cost Alloc | ation CTA | | | |
| Phase Status Fut | ure Plannec | l Start | | | | Funding So | ource Bond | Bond Proceeds | | |
| Start Date | | | | | | | Fund Con | Construction Bond Fund | | |
| End Date | | | | | U | seful Life >2 | 20Yrs? No | | | |
| Cost E | stimation In | formation | _ | | Tot. Fede | eral Loan Ar | nount | | \$0 | |
| | 5 Cost Est. Class | | | | Pro | gram/Allow | vance Task | Information | | |
| | | Cost Est. Da | le | Project Manager | | | | | | |
| | | Cost Est. Sou | Jrce | CIP Nu | mber | | | | | |
| | | Cost Est. Pre | pared By | Descrip | otion | | | | | |
| | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |

| GLW Great Lakes Water Av | A uthority | W | /RRF Comj | | | 2020-2 nerator | | | nissioning | and Reu | usability | 213005 CI |
|-----------------------------|--------------------------|-----------------|--------------|--|--------|-------------------|-----|--------------|------------|------------------|------------|-----------|
| Phase Study and | l Design ar | nd Construction | Assistance | | Co | ntract | NA | | Stat | us Future | Planned St | art |
| Title Complex I | Incinerato | rs Decommissio | ning and Reu | Reusability at Wastewater Treatment Plant (WRRF) | | | | | | | | |
| Phase Budget | Wastewate | er | | Cost Allocation CTA | | | | | | | | |
| Phase Status | Future Plar | nned Start | | | | | | Funding S | ource Bond | Proceeds | | |
| Start Date | | 1/8, | /2021 | | | | | | Fund Cons | truction Bo | nd Fund | |
| End Date | | 8/29/ | /2023 | | | | Us | eful Life >: | 20Yrs? Yes | | | |
| Со | st Estimatio | on Information | | | | Tot. Fee | der | al Loan A | mount | | | |
| | 4 | Cost Est. C | lass | | | Pr | og | ram/Allov | vance Task | Information | | |
| 10 | 10/2/2017 Cost Est. Date | | | Proje | ect N | Nanager | r | | | | | |
| | | Cost Est. S | ource | CIP | Num | ber | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | Desc | cripti | ion | | | | | | |
| Cost Typ | e | Fiscal Year | Expense | e Frir | nge | BenefitN | lon | Personne | C | Comment | | |
| Engineering Serv | ices | FY25+ | | \$350 | | | | | 2020CIP | | | |
| Task | | Start Date | End Date | Duratio | on | | | | | | | |
| Scope Developn | nent | | | | | | | | | | | |
| Procurement | | 7/1/2024 | 8/30/2024 | | 60 | | | | | | | |
| Project Execution | า | 8/31/2024 | 4/20/2027 | | 962 | | | | | | | |
| Project Closeout | | 4/21/2027 | 6/20/2027 | | 60 | | | | | | | |
| Prior Yr Actual | s FY1 | 9 FY20 | FY21 | FY22 | | FY23 | | FY24 | FY25+ | Total | | |
| | | | | | | | | | 350 | 350 | | |

| OF Lakes Water Authority WRRF Complex I Incinerators Decommissioning and Reusability Phase Construction Contract NA Status Future Planned Start | | | | | | | | | | | | | | |
|---|--------|-----------------------------------|------------|---------------|-------------|--|---------|-----------|----------------|------------|-------------|-------------|----------|--|
| Phase Contract NA Status Future Planned Start International Start Start Date Cost Allocation CTA Phase Status Future Planned Start Funding Source Bond Proceeds Start Date 3/7/2022 Funding Source Bond Proceeds Find Date 8/29/2023 Useful Life >20Yrs? Yes Cost Estimation Information Project Manager Program/Allowance Task Information 10/2/2017 Cost Est. Date Cost Est. Source Cost Est. Norce Ali Khraizat Cost Est. Prepared By Fringe BenefitNonPersonne Comment Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Comment Cost Externation 10/27/2025 10/26/2025 180 Fringe BenefitNo | | GLW | 4 | | | | | | | | | | 213005 C | |
| Itile Complex Lincinerators Decommissioning and Reusability at Wastewater Treatment Plant (WRRF) Phase Budget Wastewater Phase Status Future Planned Start Start Date 3/7/2022 End Date 8/29/2023 Useful Life >20Yrs? Yes Cost Estimation Information Tot. Federal Loan Amount 10/2/2017 Cost Est. Class 10/2/2017 Cost Est. Source Ali Khraizat Cost Est. Prepared By Cost Type Fiscal Year End Date End Date Cost Type Fiscal Year End Date Start Date Cost Start. Date Cost Est. Prepared By Cost Type Fiscal Year End Date Start Date Cost Type Fiscal Year End Date Start Date End Date Duration Project Execution 10/27/2025 Task Start Date End Date Project Execution 10/27/2025 Project Execution 10/27/2025 Project Closeout 4/21/2027 Frior Yr Actuals FY1P | | Great Lakes Water Autho | rity | v | | plex I | Incin | nerators | Decomn | nissioning | and Reu | sability | | |
| Phase Budget Wastewater Cost Allocation CTA Phase Status Future Planned Start Funding Source Bond Proceeds Start Date 3/7/2022 Fund Construction Bond Fund End Date 8/29/2023 Useful Life >20Yrs? Yes Cost Estimation Information Tot. Federal Loan Amount 10/2/2017 Cost Est. Class 10/2/2017 Cost Est. Date Cost Est. Source Cipert Manager Ali Khroizat Cost Est. Prepared By Project Manager Comment Cost Type Fiscal Year End Date Start Date Cost Type Fiscal Year End Date Duration Project Execution 10/27/2025 Task Start Date End Date Project Execution 10/27/2025 Project Closeout 4/21/2027 6/20/2027 Project Closeout 4/21/2027 6/20/2027 Project Closeout FY19 FY20 FY21 FY23 FY24 FY25+ Total | Phase | Constructio | n | | | | Co | ntract N | ١A | Stat | us Future | Planned Sto | rt | |
| Funding Source Bond Proceeds Funding Source Bond Proceeds Start Date 3/7/2022 Funding Source Bond Proceeds Fund Construction Bond Fund Cost Estimation Information 4 Cost Est. Class Tot. Federal Loan Amount Program/Allowance Task Information 10/2/2017 Cost Est. Class Cost Est. Source Ali Khraizat Cost Est. Prepared By Project Manager Construction Fringe Benefit/None Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe Benefit/None Construction FY25+ S4.059 Comment Construction Fringe Benefit/None Comment 2020CIP Total Project Execution | Title | Complex I In | cinerators | s Decommissio | ning and Re | Reusability at Wastewater Treatment Plant (WRRF) | | | | | | | | |
| Start DateStart DateStart DateStart DateStart DateStart DateCost Est. ClassOcots Est. ClassTot. Federal Loan Amount10/2/2017Cost Est. ClassProject Manager10/2/2017Cost Est. DateCost Est. SourceCost TypeFiscal YearExpenseCost TypeFiscal YearExpenseCost TypeFiscal YearExpenseCost TypeFiscal YearDurationTaskStart DateDurationProject Execution10/27/202510/26/2025Project Closeout4/29/202510/26/2027Project Closeout4/21/20276/20/2027Prior Yr ActualsFY19FY20FY21FriorFY24FY24FY25+TotalFY25+Total | Pha | se Budget W | astewate | r | | Cost Allocation CTA | | | | | | | | |
| End Date 8/29/2023 Useful Life >20Yrs? Yes Cost Estimation Information 4 Cost Est. Class Tot. Federal Loan Amount 10/2/2017 Cost Est. Date Project Manager Cost Est. Source Cost Est. Prepared By Project Manager Ali Khraizat Cost Est. Prepared By Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment Construction FY25+ \$4,059 2020CIP 2020CIP Task Start Date End Date Duration 2020CIP Project Execution 10/27/2025 10/26/2025 180 Project Closeout 4/21/2027 6/20/2027 540 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total | Ph | Phase Status Future Planned Start | | | | | | | Funding So | ource Bond | l Proceeds | | | |
| Tot. Federal Loan Amount 4 Cost Est. Class 10/2/2017 Cost Est. Class 10/2/2017 Cost Est. Class Cost Est. Source ClP Number Ali Khraizat Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Cost Type Start Date Frogram/Allowance Task Information Project Kanager Cost Est. Source Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Construction FY25+ Start Date End Date Duration Project Execution 10/27/2025 10/27/2025 4/20/2027 Fringer Closeout 4/21/2027 Fringer Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total | | Start Date | 3/7/2022 | | | | | | | Fund Cons | truction Bo | nd Fund | | |
| Tot. Federal Loan Amount 4 Cost Est. Class Program/Allowance Task Information 10/2/2017 Cost Est. Class Project Manager 10/2/2017 Cost Est. Source ClP Number Description Ali Khraizat Cost Est. Prepared By Project Manager | | End Date | | 8/29/ | /2023 | | | I | Useful Life >2 | 20Yrs? Yes | | | | |
| 4 Cost Est. Class Project Manager 10/2/2017 Cost Est. Date Project Manager Cost Est. Source ClP Number Description Ali Khraizat Cost Est. Prepared By Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment Cost Type Fiscal Year Expense Fiscal Year Expense Project Closeout 4/29/2025 10/26/2025 180 Project Closeout 4/21/2027 6/20/2027 540 Project Closeout 4/21/2027 FY21 FY2 FY23 FY24 FY25+ Total | | | | | | | | Tot Eod | oral Loan Ar | | | | | |
| 10/2/2017 Cost Est. Date Project Manager Cost Est. Source CIP Number Ali Khraizat Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Cost Type Fy25+ Start Date End Date Duration Project Kacution 10/27/2025 10/27/2025 10/26/2025 Project Closeout 10/27/2025 4/21/2027 6/20/2027 Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total | | Cost | Estimatio | n Information | | | | | | | | | | |
| Image: Construction Cost Est. Source CIP Number Description Ali Khraizat Cost Est. Prepared By CiP Number Description Cost Type Fiscal Year Expense Fringe Benefit Normer Cost Type Fiscal Year Expense Fringe Benefit Normer 2020CIP Construction FY25+ \$4,059 2020CIP 2020CIP Task Start Date End Date Duration 2020CIP Procurement 4/29/2025 10/26/2025 180 Project Execution 10/27/2025 4/20/2027 540 Project Closeout 4/21/2027 6/20/2027 60 Prior Yr Actuals FY1P FY20 FY21 FY22 FY23 FY24 FY25+ Total | | 4 Cost Est. Class | | | | Program/Allowance Task Information | | | | | | | | |
| Ali KhraizatCost TypeFiscal YearExpenseFringe BenefitCommentConstructionFY25+\$4,0592020CIPTaskStart DateEnd DateDurationProcurement4/29/202510/26/2025180Project Execution10/27/20254/20/2027540Project Closeout4/21/20276/20/2027540Prior Yr ActualsFY1PFY20FY21FY22FY23FY24FY25+Total | | 10/2 | 2/2017 | Cost Est. D | ate | Pro | ject A | Λanager | | | | | | |
| Cost TypeFiscal YearExpenseFringe BenefitNonPersonneCommentConstruction $FY25+$ $\$4,059$ $2020CIP$ TaskStart DateEnd DateDurationProcurement $4/29/2025$ $10/26/2025$ 180 Project Execution $10/27/2025$ $4/20/2027$ 540 Project Closeout $4/21/2027$ $6/20/2027$ 50 Prior Yr Actuals $FY1Y$ $FY20$ $FY21$ $FY22$ $FY23$ $FY24$ $FY25+$ Total | | | | Cost Est. S | ource | CIP | ' Num | ber | | | | | | |
| Construction $FY25+$ $\$4,059$ $2020CIP$ TaskStart DateEnd Date $DUr \exists IonProcurement4/29/202510/26/2025180Project Execution10/27/20254/20/2027540Project Closeout4/21/20276/20/2027540Prior Yr ActualsFY1FY20FY21FY23FY23FY24FY25+Total$ | Ali | Khraizat | | Cost Est. P | repared By | De | scripti | ion | | | | | | |
| Construction $FY25+$ $\$4,059$ $2020CIP$ TaskStart DateEnd Date $DUr \exists IonProcurement4/29/202510/26/2025180Project Execution10/27/20254/20/2027540Project Closeout4/21/20276/20/2027540Prior Yr ActualsFY1FY20FY21FY23FY23FY24FY25+Total$ | | | | | | | | | | | | | | |
| TaskStart DateEnd DateDurationProcurement $4/29/2025$ $10/26/2025$ 180 Project Execution $10/27/2025$ $4/20/2027$ 540 Project Closeout $4/21/2027$ $6/20/2027$ 60 Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY25+Total | | Cost Type | | Fiscal Year | Expense | e Fr | ringe l | BenefilNo | onPersonne | C | Comment | | | |
| Procurement 4/29/2025 10/26/2025 180 Project Execution 10/27/2025 4/20/2027 540 Project Closeout 4/21/2027 6/20/2027 60 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | Const | truction | | FY25+ | \$4 | 1,059 | | | 2 | 2020CIP | | | | |
| Project Execution 10/27/2025 4/20/2027 540 Project Closeout 4/21/2027 6/20/2027 60 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | | Task | | Start Date | End Date | Durat | tion | | | | | | | |
| Project Closeout 4/21/2027 6/20/2027 60 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | Procu | vrement | | 4/29/2025 | 10/26/2025 | 5 | 180 | | | | | | | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | Projec | ct Execution | | 10/27/2025 | 4/20/2027 | 7 | 540 | | | | | | | |
| | Projec | ct Closeout | | 4/21/2027 | 6/20/2027 | 7 | 60 | | | | | | | |
| Image: Markow in the second se | Pric | or Yr Actuals | FY19 | FY20 | FY21 | FY22 | | FY23 | FY24 | FY25+ | Total | | | |
| | | | | | | | | | | 4,059 | 4,059 | | | |

| | GLWA Great Lakes Water Authorit | y | ١ | WRRF Coi | | |)-2024 C ors Decc | | oning and | d Reusab | 2130 Dility | | | |
|---------------------|------------------------------------|-----------|--------------|-------------|------------------------------------|---------------|----------------------|---------------|-------------|-------------|----------------|--|--|--|
| hase | Construction | | | | | Contrac | CON-22 | 9 | Status A | Active | | | | |
| ïtle ∨ | VRRF Comple | x I Steam | n heaters | | | | | | | | | | | |
| Steam | heat replac | ement w | as necessary | to protect | vital assets | s from freez | zing. | | | | | | | |
| Phase | e Budget Wa | stewater | | | | | Cost | Allocation | CTA | | | | | |
| Phase Status Active | | | | | | | Fundi | ing Source | Bond Proc | eeds | | | | |
| S | tart Date | | | | | | | Fund | Constructi | ion Bond Fu | und | | | |
| I | End Date | | | | | | Useful L | ife >20Yrs? | Yes | | | | | |
| | | | | | - | Tot I | ederal Loc | an Amount | | | \$0 | | | |
| | Cost E | | Information | | Program/Allowance Task Information | | | | | | | | | |
| 5 Cost Est. Class | | | | | | | | Allowance | Task Inforn | nation | | | | |
| | 9/12, | /2018 | Cost Est. I | Date | | ect Manag | ger | | | | | | | |
| Con | tract | | Cost Est. S | Source | CIP | Number | | | | | | | | |
| Eng | | | Cost Est. F | Prepared By | y Des | cription | | | | | | | | |
| | | | | | | | | | | | | | | |
| - · · | Task | | Start Date | End Date | e Durati | on | | | | | | | | |
| rojeci | t Execution | | | | | | | | | i | | | | |
| Prior | Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | B FY2 | 4 FY2 | 25+ To | otal | | | | |
| | | | 0 | | | | | | | 0 | | | | |
| | | | | Phase Total | Expenses | By FY (All fi | gures are i | in \$1,000's) | | | | | | |
| | Proje | ect Tota | I Expense | s By FY C | ompare | d to Prio | r CIPs (A | ll figures | are in \$1 | ,000's) | | | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | | | |
| 2018 | | | 900 | 200 | | | | | 0 | 0 | 1,100 | | | |
| 2019 | |) | 0 /0 | | | 161 | 1,221 | 2,352 | 1,171 | 0 | 4,905 | | | |
| 2020 | (| D | 0 43 | 0 | 0 | 0 | 0 | 0 | 0 | 4,409 | 4,452 | | | |



WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

| Innovation | Project Status Future Planned | Sludge Feed Pum | ps |
|--|--|--|--|
| □ Water MP Right Siz | CIP Type Project | | |
| Reliability/Redund NEWTP Repurposin | Project New To CIP | | |
| Project Engineer/Man | ager Ravi Yelamanchi | Budget | Wastewater |
| Man | ager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 | WRRF |
| Date Original Business | s Case Prepared | Class Lvl 3 | Residuals Management |
| Year Proje | ct Added to CIP 2016 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| Project Significance | mproved sludge feed pumping system will | provide wide range of operat | ng conditions. |
| - | The scope of work includes study, design, a and 6 and other modifications to the pump | | ement of sludge feed pumps SFP 1, 2, 5 |
| Challenges | Maintaining Plant Operational Capacity du | ring construction. | |
| | Water Resource Recovery Facility (WRRF) has to the dewatering facilities (i.e. belt filter pre- Storage Tanks 1 & 2 supplies the centrifuges 4 supplies the centrifuges on the lower leve supplies the belt filter presses in Dewatering basement allow sludge from any storage to Jnder Contract PC-792, Storage Tanks SST-3 3DF Facility. | esses complexes and complex on dewatering complex II up of Dewatering Complex II; an Complex I. However, control unks to supply any Dewatering | Il centrifuges.) Typically, sludge from per level; sludge from Storage Tanks 3 & d sludge from Storage Tanks 5 & 6 valves in the Dewatering Complex II area. |
| Related Project | PC - 791 and CON -197. | | |
| Lookup Driver | 2 - Performance | | |



PM Weighted Score

66.4

Criteria Score Comment Condition 3 Moderate renewal or rehab needed in short to Efficiency and Innovation 4 Right sizing system will have significant operati Financial 2 Low Financial impact at this time 0&M 3 Moderate levels of O&M Performance (Service Level/Reliability) 4 Expected performance failures under normal Public Benefit 3 Moderate savings for GLWA 3 Likely to address minor hazard issues or conce Public Health & Safety Regulatory (Environmental/Legal) 4 Not Imminent risk

RC Weighted

Score

67.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 3 | |
| Efficiency and Innovation | 4 | |
| Financial | 3 | |
| 0&M | 5 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 2 | |
| Public Health & Safety | 2 | |
| Regulatory (Environmental/Legal) | 4 | |



WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

| Phase Constructior |) | | | Cont | | | NA | | Statu | s Future | Planned Start | |
|--------------------|------------------|----------------|---------------------|-----------------------------|-----------|----------|--------------|---------|---------|---------------|---------------|--|
| Title Improvement | s to Slud | ge Feed Pump | s at Dewate | ring Fo | acilities | | | | | | | |
| Phase Budget Wo | astewate | er | | | | | Cost All | ocation | CTA | | | |
| Phase Status Fut | ure Plan | ned Start | | Funding Source | | | | | | Bond Proceeds | | |
| Start Date | | 6/7, | 2021 | Fund Construction Bond Fund | | | | | | | nd Fund | |
| End Date | | 2022 | Useful Life >20Yrs? | | | | | | | | | |
| Cost | Estimatic | on Information | | | | Tot. Fea | deral Loan / | Amount | | | | |
| | 4 | Cost Est. C | lass | | | Pr | ogram/Allo | wance | Task In | formation | | |
| 10/2 | /2017 | Cost Est. D | ate | Р | roject / | Managei | | | | | | |
| | Cost Est. Source | | ource | C | IP Num | nber | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | D | escript) | ion | | | | | | |
| Cost Type | | Fiscal Year | Expense | Э | Fringe | BenefilN | onPersonne | Э | Сс | omment | | |
| Construction | | FY24 | \$1 | ,000, | | | | 2020CI | Р | | | |
| Construction | | FY25+ | \$2 | ,055 | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| Scope Developme | nt | | | | | | | | | | | |
| Procurement | | 6/30/2023 | 12/27/2023 | | 180 | | | | | | | |
| Project Execution | | 12/28/2023 | 6/20/2025 | | 540 | | | | | | | |
| Project Closeout | | 6/21/2025 | 8/20/2025 | | 60 | | | | | | | |
| Prior Yr Actuals | FY19 | P FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY2 | 5+ | Total | | |
| | | | | | 0 | (|) 1,00 | 2 2 | 2,055 | 3,055 | | |

| GLW Great Lakes Water Av | A <i>thority</i> | WR | RF Improve | | | | 024 CIP Feed Pu | mps at De | watering | 213006 (Facilities | | |
|-----------------------------|----------------------------|----------------|--------------|--|-----------|-----------|--------------------|-------------|--------------|------------------------|--|--|
| Phase Study and | 0 | | | | | ntract N | A | Stat | us Future I | Planned Start | | |
| Title Improveme | ents to Sluc | lge Feed Pump | s at Dewater | ing Fc | icilities | | | | | | | |
| Phase Budget | Wastewate | er | | Cost Allocation CTA | | | | | | | | |
| Phase Status | -uture Plar | nned Start | | Funding Source Bond Proceeds | | | | | | | | |
| Start Date | | 4/10/ | 2020 | | | | | Fund Cons | truction Bor | nd Fund | | |
| End Date | | 11/29/ | 2022 | | | | Useful Life > | >20Yrs? Yes | | | | |
| | st Estimati | on Information | | | | Tot. Fed | eral Loan A | Amount | | | | |
| | | Cost Est. C | | | | | | | nformation | | | |
| | 4 | | | Program/Allowance Task Information Project Manager | | | | | | | | |
| 10 | 10/2/2017 Cost Est. Date | | ate | | - | - | | | | | | |
| | | Cost Est. Se | ource | С | IP Num | ıber | | | | | | |
| Ali Khraizat | | Cost Est. P | epared By | D | escript | ion | | | | | | |
| Cost Typ | e | Fiscal Year | Expense | ; | Fringe | BenefitNo | onPersonne | e C | omment | | | |
| Engineering Serv | | FY23 | | \$10 | U | | | | | | | |
| Engineering Serv | ices | FY24 | ¢ | 5275 | | | | 2020CIP | | | | |
| Engineering Serv | ices | FY25+ | | \$10 | | | | | | | | |
| Task | | Start Date | End Date | Duro | ation | | | | | | | |
| Scope Developn | nent | | | | | | | | | | | |
| Procurement | | 1/23/2022 | 8/31/2022 | | 220 | | | | | | | |
| Project Executior | ו | 9/1/2022 | 6/20/2025 | | 1023 | | | | | | | |
| Project Closeout | | 6/21/2025 | 8/20/2025 | | 60 | | | | | | | |
| Prior Yr Actuals | s FY1 | 9 FY20 | FY21 | FY2 | 2 | FY23 | FY24 | FY25+ | Total | | | |
| | | | 0 | | | 10 | 275 | 5 10 | 295 | | | |



213006 CIP#

WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

| hase GLWA Employees Project management | | | | nent | Contract NA | | | | | atus | Future | Planned | Start |
|--|---------------------------|----------------------|--------------|-----------|-----------------------------|----------------------------|---------|-----------|------------|--------|---------|---------|-------|
| Fitle GLWA Salaries | S | | | | | | | | | | | | |
| Phase Budget Wa | astewa | ter | | | | | | Cost Allo | cation CTA | \ | | | |
| Phase Status Fut | ure Plc | inned | Start | | | | | Funding S | ource Bon | id Pro | ceeds | | |
| Start Date | | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | Ind Date | | | | Useful Life >20Yrs? No | | | | | | | | |
| Cost E | Estimat | ion In | formation | | Tot. Federal Loan Amount | | | | | | | | \$0 |
| | 5 | | Cost Est. C | lass | | | Prog | ram/Allov | vance Task | c Info | rmation | | |
| | | | Cost Est. De | ate | Р | roject Manag | er | | | | | | |
| | Cost Est. Source | | | ource | C | CIP Number | | | | | | | |
| | | Cost Est. Prepared B | | epared By | D | escription | | | | | | | |
| | | | | | | 1 | | | | | | | |
| Cost Type | | _ | scal Year | Expens | | Fringe Benefi ⁻ | Non | | | Com | iment | | |
| GLWA Salaries CIP2 | 020 | FY23 | 3 | | \$10 | 4 | | 0 | S/D | | | | |
| GLWA Salaries CIP2 | 020 | FY24 | 1 | | \$20 | 8 | | | C Phase | | | | |
| GLWA Salaries CIP2 | 020 | FY24 | 4 | | \$45 | 18 | | | S/D/CA Pho | ase | | | |
| GLWA Salaries CIP2 | WA Salaries CIP2020 FY25+ | | | \$147 | 58 | | C Phase | | | | | | |
| GLWA Salaries CIP2 | 020 | FY25 | 5+ | | \$44 | 17 | | | S/D/CA Pho | ase | | | |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY2 | 22 FY23 | | FY24 | FY25+ | 1 | [otal | | |
| | | 0 | | 0 | | 0 | 14 | 91 | 266 | 5 | 371 | | |
| | | | | | | | | | | | | | |

| | GLW Great Lakes Water Au | A thority | | WR | RF Impro | | A FY 2020 Its to Slud | | | at Dewat | ering Fa | _ | 006 CI | |
|---------|-----------------------------|---------------------|------------|-------------|-----------------|------------------------------------|--------------------------|--------------|---------------|------------|----------|-------|--------|--|
| Phase | not applic | able | | | | Contract NA Status Closed Out | | | | | | | | |
| Title P | rior Year A | ctua | l Expense | S | | | | | | | | | | |
| Phas | e Budget V | Vaste | ewater | | | Cost Allocation CTA | | | | | | | | |
| Pho | se Status (| Close | ed Out | | | | | Fund | ing Source | | | | | |
| S | tart Date | | | | | | | | Fund | | | | | |
| | End Date | | | | | Useful Life >20Yrs? | | | | | | | | |
| | Car | | | formation | | Tot. Federal Loan Amount | | | | | | | | |
| | Cos | ST EST | imation in | | | | 101. | | | | | | | |
| | | | | Cost Est. C | | Program/Allowance Task Information | | | | | | | | |
| | Cost Est. Date | | | | Project Manager | | | | | | | | | |
| | Cost Est. Source | | | | | | P Number | | | | | | | |
| | | | | Cost Est. P | repared By | / De | escription | | | | | | | |
| | Cost Typ | е | Fis | scal Year | Expe | nse F | ringe Benet | filNonPerso | nne | Comm | nent | | | |
| Unknoʻ | wn | | FY18 | 8- | | \$1 | | | FY16 | | | | | |
| Unkno | wn | | FY18 | 8- | | \$4 | | | FY17 | | | | | |
| Prior | Yr Actuals | | FY19 | FY20 | FY21 | FY22 | 2 FY23 | 3 FY2 | 24 FY2 | .5+ Tc | otal | | | |
| | | 5 | | | | | | | | | 5 | | | |
| | | | | P | hase Total | Expenses | s By FY (All f | igures are i | in \$1,000's) | | | | | |
| | Pro | ojec | t Total E | xpenses | By FY C | ompar | ed to Prio | r CIPs (A | ll figures | are in \$1 | ,000's) | | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | | |
| 2018 | | | 33 | 402 | 750 | | | | | 0 | 0 | 1,185 | | |
| 2019 | | 0 | 4 | | - | 57 | | 2,391 | 1,130 | 1.0.44 | 0 | 3,857 | | |
| 2020 | | 0 | 0 | 5 | 0 | | 0 | 0 | 24 | 1,366 | 2,331 | 3,726 | | |



213007 CIP#

| Innovation | Project Status Active | Picture from left to righ Sludge Conveyer | |
|-----------------------|---|---|--|
| Water MP Right Size | cing CIP Type Project | Damaged by Fire an | |
| Reliability/Redund | dancy | Conveyer B in th | |
| □ NEWTP Repurposir | ng Project New To CIP | Complex – | |
| | | Dewatering Buildin and Fire Damage Conveyer H in Comple II Incinerators Buildir | ed ex- |
| Project Engineer/Mar | nager Chris Breinling | Budget | Wastewater |
| Mar | nager Philip Kora | Class Lvl 1 | Wastewater |
| Managing | Dept WW Constr Eng | Class Lvl 2 | WRRF |
| Date Original Busines | s Case Prepared 7/27/2016 | Class Lvl 3 | Residuals Management |
| Year Proje | ect Added to CIP 2016 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| | GLWA have an ongoing study and design of March 4, 2016 fire incident in Complex –II Inc cleaner, fire resistant, reliable and safe sludg | inerators building. The constru | |
| | The restoration of sludge conveying capacity sludge conveyance from each dewatering f Replacement of the Unit Substation EB-26 in I | acility to the incinerators. Rep | |
| • | Maintaining the sludge conveyance capaci improvements, will be the most significant ch | | nts during the construction of these |
| | The C-II Incineration complex is over 40 years anticipation of an alternative Biosolids dispose pieces of equipment that are nearing the en- in order to be used as the primary long-term contract to rehabilitate some of the aging pr requirements. GLWA just completed the cons dry tons per day. The BDF facility is currently in GLWA plan for Biosolids disposal is to utilize BI Incinerators and anything beyond that to the Complex-II Incinerators to process the sludge | al solution to handle all the solution to handle all the solution of their useful life and requisolids disposal method. GLWA roblem of the incineration an struction of a Biosolids Dryer F n operation under an in-term DF to its capacity first, then se e land fill. This Biosolids Dispose | olids. The Complex-II have many major ire replacement or major rehabilitation A approved a PC-774 and PC-791 d to meet the new air permit facility (BDF) with a firm capacity of 316 agreement with NEFCO. The current and the additional load to Complex-II al Plan requires investment in the |



WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

avoid the highest cost of land fill.

The sludge from Dewatering Complex II travels through a series of conveyor belts (i.e., conveyors G, H and J) before it reaches Incineration Complex II. The sludge from Dewatering Complex II Lower Level was transported by Conveyor G to Conveyor H. In Incinerator Complex II, Conveyor H branches to Conveyors K and L then continue to various conveyors to feed incinerators. The sludge from Dewatering C-II Upper Level was transported by Conveyor J which branches to Conveyors M and N in Incineration C-II then continue to various Conveyors to feed incinerators. The sludge from Dewatering C-II Upper Level was transported by Conveyor J which branches to Conveyors M and N in Incineration C-II then continue to various Conveyors to feed incinerators. The conveyor belt structures in Incineration C-II are old, have been modified, rebuilt or repaired several times that might have altered the overall integrity of the structures. The existing "Dusseau" hopper oftentimes plugged resulting to sludge spillage. The existing feed system to the incinerator from the hoppers should be redesigned and replaced. New control systems, safeguards, provision of SFE water, run time meter or tie to ovation system and poor lighting system in the complex needs improvement. Drainage problems had historically existed within the basement of Complex II Incineration and C-II Dewatering having to do with both building drainage, and filtrate drainage. These problems led to excessive demands on operations and maintenance staff, shutdown of process-related equipment, and safety concerns for WWTP

personnel. Improvements to the C-II Incinerators building drainage system were completed in 2003 under contract DWP-1028. However, the drainage problems were not completely eliminated and still continue to exist and further Improvements to the C-II Dewatering are in design for improvements. In order to have an effective sludge conveyer's wash system, a key requirement for safe operation of sludge conveyance system, the drainage improvements in the Complex-II Dewatering and Incinerators building are essential.

Related Project The change order to Contract PC-791 was issued by GLWA to address the fire emergency and restore the operation of C-II Incineration.

Lookup Driver 3 - Regulatory

Other Important Info n/a

Explanation The existing sludge conveyance system is very old and is critical to disposal of biosolids to meet permit requirements (e.g. incinerator air permit requirements). The disposal of biosolids to meet allowable permitted inventory of biosolids at the WRRF, s



PM Weighted

Score **92.4**

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 5 | Immediate replacement required |
| Efficiency and Innovation | 4 | Project will remove significant operational hur |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | Significant Positive impact on O&M |
| Performance (Service Level/Reliability) | 5 | Causing Significant Capacity Problems |
| Public Benefit | 4 | Significant, noticeable impact on GLWA imag |
| Public Health & Safety | 5 | Project will have a major & measurable positiv |
| Regulatory (Environmental/Legal) | 5 | Significant fines for Compliance Failure |
| | | |

RC Weighted

Score

87.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 4 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 5 | |
| Public Benefit | 4 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 5 | |



213007 CIP#

WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

| Phase not applic | cable | | | | | Contract | NA | Stat | us Closed | Out | | | |
|--------------------|---------------------------------|-------|---------------|-----------|------------------------------------|----------------|---------------|------------|-----------|-----|--|--|--|
| Title Prior Year A | Actual | Exper | nses | | | | | | | | | | |
| Phase Budget | Waste | water | - | | | | Cost Allo | cation CTA | | | | | |
| Phase Status | Closed | d Out | | | | | Funding | Source | | | | | |
| Start Date | | | | | | | | Fund | | | | | |
| End Date | | | | | | | Useful Life > | 20Yrs? | | | | | |
| Co | st Estii | matio | n Information | | Tot. Federal Loan Amount | | | | | | | | |
| | | 1 | Cost Est. C | ass | Program/Allowance Task Information | | | | | | | | |
| | | | Cost Est. D | ate | Project Manager | | | | | | | | |
| | | | Cost Est. So | ource | C | CIP Number | | | | | | | |
| | | | Cost Est. Pi | epared By | 0 |)escription | | | | | | | |
| Cost Typ | be | | Fiscal Year | Expens | е | Fringe Benefit | NonPersonne | C | omment | | | | |
| Construction | | F | - Y18- | | \$399 | | | FY18 | | | | | |
| Engineering Serv | ngineering Services FY18- | | | | | | | FY18 | | | | | |
| GLWA Salaries C | GLWA Salaries CIP2020 FY18- | | | | | 20 | | FY18 | | | | | |
| Prior Yr Actual | Prior Yr Actuals FY19 FY20 FY21 | | | | | | FY24 | FY25+ | Total | | | | |
| 871 | | | | | | | | | 871 | | | | |

| | GLW Great Lakes Water # | Authority | | WRRI | F Modifice | GLWA FY 2020-2024 CIP Aodification to Incinerator Sludge Feed Systems at Complex | | | | | | | | | |
|--------|----------------------------|------------------|---------|--------------|------------|---|----------------|---------------|------------|-------------|---|--|--|--|--|
| Phase | Construct | tion Assiste | ance | | | | Contract | CS-291 | Sta | tus Active | | | | | |
| Title | Engineerin | g services | for the | e replacen | nent of MC | C's and | d EB-26 | | | | | | | | |
| This c | contract wo | as realloca | ated fr | om CIP No | . 380601 | | | | | | | | | | |
| Pha | se Budget | Wastewa | ter | | | | | Cost Allo | cation CTA | | | | | | |
| Ph | ase Status | Active | | | | Funding Source Bond Proceeds | | | | | | | | | |
| | Start Date | | | | | Fund Construction Bond Fund | | | | | | | | | |
| | End Date | | | | | | | Useful Life > | 20Yrs? Yes | | | | | | |
| | Co | ost Estimat | ion Inf | ormation | | Tot. Federal Loan Amount \$ | | | | | | | | | |
| | | 5 | | Cost Est. C | ass | | F | Program/Allov | wance Task | Information | 1 | | | | |
| | 9 | /12/2018 | | Cost Est. Do | ate | Р | | | | | | | | | |
| Со | ntract | | | Cost Est. Sc | ource | C | CIP Number | | | | | | | | |
| Enç | 9 | | | Cost Est. Pr | epared By | D | escription | | | | | | | | |
| | Cost Tyr | 20 | Fis | cal Year | Expens | 0 | Fringe Benefit | NonPersonne | | Comment | | | | | |
| Engin | eering Serv | | FY19 | | LAPEIIS | \$17 | ringe benenn | | 2020CIP | Johnmenn | | | | | |
| - | eering Serv | | FY20 | | | \$17 | | | 2020CIP | | | | | | |
| | eering Serv | | FY21 | | | \$11 | | | 2020CIP | | | | | | |
| LIGIN | | | 1121 | | | ψιι | | | | | | | | | |
| Pric | or Yr Actual | ls FY | 19 | FY20 | FY21 | FY2 | 22 FY23 | FY24 | FY25+ | Total | | | | | |
| | | | 17 | 17 | 11 | | | | | 45 | | | | | |

| GLW Great Lakes Water A | A <i>uthority</i> | WRR | F Modifica | odification to Incinerator Sludge Feed Systems at Complex -II | | | | | | | | | 213007 CIP -II |
|----------------------------|-----------------------------|----------------|-------------|---|----------|--------------------------|-----------|-------------|--------|-------------|--------------|---------|-------------------|
| Phase Construct | | | | | | ontract | | | | Stat | us Active | | |
| Title CON-197 N | Aodification | to Incinerator | Sludge Feed | l Syste | ems at (| Complex | x -11 | | | | | | |
| Phase Budget | Wastewate | r | | | | | | Cost Allo | cation | CTA | | | |
| Phase Status | Active | | | | | | | Funding S | Source | Bond | Proceeds | | |
| Start Date | | 2/5, | /2018 | | | | | | Fund | Cons | truction Bor | nd Fund | |
| End Date | | 1/27, | /2020 | | | | Us | eful Life > | 20Yrs? | Yes | | | |
| Co | Cost Estimation Information | | | | | Tot. Federal Loan Amount | | | | | | | |
| | 1 | lass | | | P | rog | ram/Allov | wance | Task | Information | | | |
| 9 | /12/2018 | ate | P | roject <i>N</i> | Manage | | | | | | | | |
| Contract | | | | | | nber | | | | | | | |
| P. Kora | | Cost Est. P | repared By | D | escript | ion | | | | | | | |
| | | | | | | | | | | | | | |
| Cost Typ | be | Fiscal Year | Expense | ÷ | Fringe | BenefitՒ | lon | Personne | | C | Comment | | |
| Construction | | FY19 | \$6 | ,799 | | | | | | | | | |
| Construction | | FY20 | · · · | ,351 | | | | | | | | | |
| Construction | | FY21 | \$3 | ,083 | | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | | |
| Scope Developr | ment | 8/22/2016 | 10/26/2017 | | 430 | | | | | | | | |
| Procurement | | 10/30/2017 | 4/20/2018 | | 172 | | | | | | | | |
| Project Executio | n | 4/21/2018 | 2/19/2021 | | 1035 | | | | | | | | |
| Project Closeout | | 2/20/2021 | 4/21/2021 | | 60 | | | | | | | | |
| Prior Yr Actual | s FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY2 | 5+ | Total | | |
| | 6,7 | 799 8,351 | 3,083 | | 0 | | 0 | 0 | | 0 | 18,233 | | |

| | | | | 0 | | 00.00 | | | | | | 01000 |
|------------------------------|------------------|----------------|---------------|----------|----------------------|----------|---------------|---------|--------|--------------|---------|-------------------|
| GLAN Great Lakes Water | Authority | WRR | F Modifica | | A FY 20: o Incine | | | Feed | Syste | ems at Co | omplex | 213007 CII -II |
| Phase Study and | d Design an | | | | Contro | | - | | | us Active | | |
| | • | aded sludge co | | vstem c | | _ | | | oran | | | |
| CS-060 is funded | | | | | | <u> </u> | | 3007 | | | | |
| Phase Budget | | | | | | 1 | Cost Allo | | CTA | | | |
| Phase Status | | | | | | | Fundina S | Source | Bond | Proceeds | | |
| Start Date | | 8/22/ | 2016 | | | | | | | truction Bor | nd Fund | |
| End Date | | 10/31/ | | | | | lseful Life > | | | | | |
| | | 10/31/ | 2010 | | | | | | 163 | | | |
| Co | ost Estimatio | on Information | | | To | l. Fede | eral Loan A | mount | | | | |
| | 5 | Cost Est. C | lass | | | Pro | gram/Allov | wance | Task I | nformation | | |
| 9 | /12/2018 | Cost Est. D | ate | Pro | oject Man | ager | | | | | | |
| Contract | | Cost Est. So | ource | CI | P Number | , | | | | | | |
| WW Engineeri | ing | Cost Est. Pi | epared By | De | scription | | | | | | | |
| Cost Ty | pe | Fiscal Year | Expense | e F | ringe Ben | efitNo | nPersonne | | С | comment | | |
| Engineering Serv | /ices | FY19 | 4 | 5170 | | | | | | | | |
| Engineering Serv | /ices | FY20 | 9 | 5170 | | | | | | | | |
| Engineering Serv | /ices | FY21 | | \$98 | | | | 2020CI | P | | | |
| Task | | Start Date | End Date | Dura | tion | | | | | | | |
| Scope Developi | ment | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | |
| Project Executio | | 8/22/2016 | 2/19/2021 | | 1642 | | | | | | | |
| Project Closeou ⁻ | | 2/20/2021 | 4/21/2021 | | 60 | | | | | | | |
| Prior Yr Actua | | | FY21 | FY22 | | 23 | FY24 | FY2 | | Total | | |
| | | 170 170 | 98 | | 0 | 0 | 0 | | 0 | 438 | | |
| | | PI | nase Total Ex | penses | By FY (Al | l figure | es are in \$1 | ,000's) | | | | |



213007 CIP#

WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

| | | | | | | | | | | | - | | | | | | |
|---------|---------------|----------|-------|-------------|------------|------------------------------------|--------|------------|-------|----------|--------|--------|--------|--------------------|--------|--------|--------|
| Phase | GLWA Empl | oyees Pi | rojec | t manager | ment | | С | Contract | NA | | | | Statu | S A | ctive | | |
| Title (| GLWA Salarie | es | | | | | | | | | | | | | | | |
| Phas | e Budget Wa | astewat | er | | | | | | (| Cost | Alloc | ation | CTA | | | | |
| Pho | ise Status Ac | ctive | | | | | | | I | undi | ng So | ource | Bond I | Proce | eeds | | |
| S | Start Date | | | | | | | | | | | Fund | Constr | ructio | on Bon | id Fur | nd |
| | End Date | | | | | | | | Use | eful Li | fe >2 | OYrs? | No | | | | |
| | Cost | Estimati | on In | formation | | ٦ | | Tot. F | edero | al Loa | ın An | nount | | | | | \$0 |
| | | 3 | | Cost Est. C | Class | Program/Allowance Task Information | | | | | | | | | | | |
| | 9/17 | 7/2018 | | Cost Est. D | ate | Pr | oject | Manag | - | | | | | | | | |
| | | | | Cost Est. S | ource | С | IP Nu | mber | | | | | | | | | |
| P. Ko | ora | | | Cost Est. P | repared By | , D | escrip | otion | | | | | | | | | |
| | | | | | . , | | | | | | | | | | | | |
| | Cost Type | | Fis | scal Year | Exper | nse | Fringe | e Benefi | 1NonF | Person | nne | | Сс | omm | ent | | |
| | Salaries CIP2 | | FY19 | | | \$8 | | 3 | | | | ng Ph | | | | | |
| | Salaries CIP2 | | FY19 | | | \$112 | | 44 | | | | C Phas | | | | | |
| | Salaries CIP2 | | FY2 | | | \$8 | | ĉ | | | | ng Ph | | | | | |
| | Salaries CIP2 | | FY2 | | | \$112 | 44 | | | 6C Phase | | | | | | | |
| GLWA | Salaries CIP2 | 2020 | FY2 | 1 | | \$80 | | 32 | 2 | | 40 | C Phas | ie | | | | |
| Prior | r Yr Actuals | FY1 | 9 | FY20 | FY21 | FY2 | 2 | FY23 | | FY24 | 4 | FY2 | 5+ | Tot | tal | | |
| | | | 173 | 173 | 11 | 6 | 0 | | 0 | | 0 | | 0 | | 462 | | |
| | | | | P | hase Total | Expense | s By F | FY (All fi | gures | are i | n \$1, | 000's) | | | | | |
| | Proj | ect To | tal E | xpenses | By FY C | ompar | ed t | o Prior | CIP | s (Al | ll fig | ures | are ir | <mark>ו \$1</mark> | ,000's | s) | |
| CIP | FY16 | FY1 | 7 | FY18 | FY19 | FY20 | F | FY21 | FY2 | 22 | FY | 23 | FY2 | 4 | FY25 | 5 | Total |
| 2018 | | 1 | ,500 | 9,600 | 7,822 | | | | | | | | | 0 | | 0 | 18,922 |
| 2019 | | 0 | | 567 | 6,787 | 11,35 | 6 | 3,477 | | | | | | | | 0 | 22,187 |
| 2020 | | 0 | 0 | 871 | 7,159 | 8,71 | 1 | 3,308 | | 0 | | 0 | | 0 | | 0 | 20,049 |



GLWA FY 2020-2024 CIP WRRF Rehabilitation of the Ash Handling Systems

213008 CIP#

| Innovation Water MP Right S Reliability/Redund NEWTP Repurposition | | Ash crusher system was last rehabilitated 15 years ago and near the end of its useful life, due to Complex I decommissioning dry ash system needs to be reconfigured and rehabilitated | |
|---|---|--|--|
| Project Engineer/Ma | I nager Alfredo Lava | Budget Wo | astewater |
| Ma | inager Ali Khraizat | Class Lvl 1 Wo | astewater |
| Managing | g Dept WW Design Eng | Class Lvl 2 WR | ₹RF |
| Date Original Busine | ss Case Prepared 7/27/2016 | Class Lvl 3 Rea | siduals Management |
| Year Proj | ect Added to CIP 2017 | Location Cit | y of Detroit |
| | | Fund and Cost Center Wo | astewater - 5421-892211 |
| Project Significance | The ash systems convey and store ash for ultin are not working. | nate disposal. The incinerators o | cannot be used if both the systems |
| Scope of Work | The scope of work will include study, design, c systems. The scope will also include the piping miscellaneous silo repairs (concrete, access, e (foot bridge, spalling concrete, etc.) at the dr sluicing system at the wet ash system. | g, valves, isolation gates, vacuu etc.) site work and drainage, an | um pumps, air filters, HVAC, boilers, ad miscellaneous structural repairs |
| Challenges | Maintaining the dry ash system at capacity w | hile the wet ash system is being | built will be a challenge. |
| Project History | The C-I and C-II Incinerators have been the p plant was first built. The original ash handling s | system was a wet ash/sluicing pr | rocess. The dry ash system was |

constructed in the 1960s and expanded with the construction of the C-II Incinerators in the 1970s. The wet ash system has not been in use for over five years and there is no backup if the dry ash system goes down. The C-I Incinerators are planned to be decommissioned in the next year or two and there is a potential to link the C-I ash handling system to the C-II system to provide extra storage.

Related Project This project should be coordinated with the decommissioning of the C-I Incinerators as well as any planned plant wide pipe rehabilitation program.

Lookup Driver 1 - Condition



WRRF Rehabilitation of the Ash Handling Systems

Other Important Info *Innovation note: Due to only 10-15 years remaining useful life on Complex I, reconsider recommissioning wet ash. Recommend focusing on reuse of dry ash elements of Complex I, and adding redundancy and automation to the dry ash system.

Explanation The wet ash system has been out of service for over five years and the dry ash system is nearing the end of its useful life.



PM Weighted Score

66

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 4 | Asset has <25% of its design service life remain |
| Efficiency and Innovation | 3 | Project will have a moderate impact on energ |
| Financial | 3 | Project will generate significant savings |
| O&M | 4 | Significant Positive impact on O&M |
| Performance (Service Level/Reliability) | 4 | Expected performance failures under normal |
| Public Benefit | 2 | Additional Savings in O&M |
| Public Health & Safety | 3 | Likely to address minor hazard issues or conce |
| Regulatory (Environmental/Legal) | 3 | Moderate risk of causing regulatory violation |

RC Weighted

Score

57.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 1 | |
| Financial | 3 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 1 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |



213008 CIP#

WRRF Rehabilitation of the Ash Handling Systems

| itle GLWA Salarie | es | | | | | | | | |
|--|--|--|-------------|---------------------------------------|---------------------------|----------------------------|---|--------------|------|
| Phase Budget W | astewate | r | | | | Cost Alloc | ation CTA | | |
| Phase Status Fu | ture Plan | ned Start | | | | Funding S | ource Bond | Proceeds | |
| Start Date | | | | | | | Fund Const | ruction Bond | Fund |
| End Date | | | | | U | seful Life >2 | OYrs? No | | |
| Cost | Estimatio | on Information | | | Tot. Fede | r <mark>al Loan A</mark> r | nount | | \$0 |
| | 5 | Cost Est. | Class | | nformation | | | | |
| 10/ | 1/2017 | Cost Est. | Date | Project | Manager | | | | |
| | | Cost Est. | Source | CIP Nu | mber | | | | |
| Ali Khraizat | | Cost Est. | Prepared By | Descri | otion | | | | |
| Cost Type | | Fiscal Year | Expense | e Fring | e BenefilNor | Personne | C | omment | |
| GLWA Salaries CIP | | FY20 | | \$8 | 3 | | Phase | | |
| | 0000 | | | \$8 | 3 | 0.0 | /D/CA | | |
| GLWA Salaries CIP | 2020 | FY21 | | ΨŪ | 5 | 03 | | | |
| | | FY21 FY22 | | \$10 | 4 | 03 | | | |
| GLWA Salaries CIP | 2020 | | | · · | | 0 | | | |
| GLWA Salaries CIP GLWA Salaries CIP | 2020 2020 | FY22 | | \$10 | 4 | 0 C [| 2 | | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 2020 2020 | FY22 FY22 | | \$10 \$65 | 4 26 | 0 [(| C D/CA | | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 2020 2020 2020 2020 | FY22 FY22 FY23 | | \$10 \$65 \$115 | 4 26 46 | 0 [[[| C D/CA C Phase | | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 2020 2020 2020 2020 2020 | FY22 FY22 FY23 FY23 | | \$10 \$65 \$115 \$45 | 4 26 46 18 | 0 [[[[] | C D/CA C Phase D/CA | | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 2020 2020 2020 2020 2020 | FY22 FY22 FY23 FY23 FY24 FY24 | FY21 | \$10 \$65 \$115 \$45 \$42 | 4 26 46 18 17 | 0 [[[[] | C D/CA C Phase D/CA C Phase | Total | |

| GLWA Great Lakes Water Authority | | WRR | GLWA FY 2020-2024 CIP WRRF Rehabilitation of the Ash Handling Systems | | | | | | | | | |
|-------------------------------------|-----------------|------------|--|------------|-------------|-----------|------------------|-------------|-----|--|--|--|
| Phase Design & Construction | on Assistance | | (| Contract | TBD | | Status Future F | Planned Sto | ırt | | | |
| Title Rehabilitation of the A | Ash Handling Sy | stems | | | | | | | 1 | | | |
| Phase Budget Wastewate | er | | | | Cost Alle | ocation (| CTA | | | | | |
| Phase Status Future Plan | ned Start | | | | Funding | Source B | Sond Proceeds | | | | | |
| Start Date | | | | | | Fund (| Construction Bon | nd Fund | | | | |
| End Date | | | | | Useful Life | >20Yrs? Y | 'es | | | | | |
| Cost Estimatio | on Information | | | \$ | 60 | | | | | | | |
| | | | | | | | | | | | | |
| 4 | Cost Est. C | lass | | | - | wance T | ask Information | | | | | |
| 9/12/2018 | Cost Est. D | ate | Projec | t Manage | r | | | | | | | |
| | Cost Est. So | ource | CIP Nu | umber | | | | | | | | |
| Ali Khraizat | Cost Est. Pi | repared By | Descri | iption | | | | | | | | |
| Cost Type | Fiscal Year | Expense | e Fring | e Benefilh | IonPersonne | Ð | Comment | | | | | |
| Engineering Services | FY21 | , \$1, | .100 | | | 2020CIP | | | | | | |
| Engineering Services | FY22 | \$ | 6420 | | | 2020CIP | | | | | | |
| Engineering Services | FY23 | \$ | 350 | | | 2020CIP | | | | | | |
| Engineering Services | FY24 | | \$90 | | | 2020CIP | | | | | | |
| Task | Start Date | End Date | Duration | 1 | | | | | | | | |
| Procurement | 1/27/2020 | 6/27/2020 | 1 | 52 | | | | | | | | |
| Project Execution | 6/28/2020 | 12/30/2023 | 12 | 80 | | | | | | | | |
| Project Closeout | 12/31/2023 | 6/30/2024 |] | 82 | | | | | | | | |
| Prior Yr Actuals FY19 | 9 FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | + Total | | | | | |
| | | 1,100 | 420 | 350 |) 90 | C | 1,960 | | | | | |



213008 CIP#

WRRF Rehabilitation of the Ash Handling Systems

| Phase Study Title Rehabilitation of the Ash H | | | | | | | | | | | | | | | |
|--|--------------------------|------------------------------------|-------|-----------------|----------|------------|--------------|--|---------|-----------|---------|--|--|--|--|
| Title Rehabilitation of the Ash H | hase Study | | | | | | | Contract NA Status Future Planned Star | | | | | | | |
| | landling Sys | stems | | | | | | | | | | | | | |
| Phase Budget Wastewater | | | | | | (| Cost Allo | cation C | TA | | | | | | |
| Phase Status Future Planned | Start | | | | | F | Funding S | ource B | ond Pi | roceeds | | | | | |
| Start Date | 11/8/2 | 2019 | | | | | | Fund C | Constru | uction Bo | nd Fund | | | | |
| End Date | 12/14/2 | | | | | Use | eful Life >: | | | | | | | | |
| | | 2014 | | | | | | | 05 | | | | | | |
| Cost Estimation In | | | | Tot. Fe | derc | al Loan Ai | nount | | | | | | | | |
| 5 | ass | Program/Allowance Task Information | | | | | | | | | | | | | |
| 9/12/2018 | 9/12/2018 Cost Est. Date | | | | | | | | | | | | | | |
| | Cost Est. Source | | | | | | | | | | | | | | |
| Ali Khraizat | | | | | | | | | | | | | | | |
| Cost Type Fis | cal Year | Expense | e Fr | inge I | Benefith | VonF | Personne | | Cor | nment | | | | | |
| Engineering Services FY20 |) | \$ | 5100 | | | | | | | | | | | | |
| Engineering Services FY21 | | | \$0 | | | | | | | | | | | | |
| Engineering Services FY22 | | | \$0 | | | | | | | | | | | | |
| Engineering Services FY23 | | | \$0 | | | | | | | | | | | | |
| Engineering Services FY24 | 1 | | \$0 | | | | | | | | | | | | |
| | art Date | End Date | Durat | ion | | | | | | | | | | | |
| Task St | | | | | | | | | | | | | | | |
| | 1/30/2019 | 4/30/2019 | | 90 | | | | | | | | | | | |
| | 1/30/2019 5/1/2019 | 4/30/2019 7/31/2019 | | 90 91 | | | | | | | | | | | |
| Scope DevelopmentProcurementProject Execution | 5/1/2019 8/1/2019 | | | 91 151 | | | | | | | | | | | |
| Scope Development Procurement | 5/1/2019 | 7/31/2019 | | 91 | | | | | | | | | | | |
| Scope DevelopmentProcurementProject Execution | 5/1/2019 8/1/2019 | 7/31/2019 12/30/2019 | FY22 | 91 151 31 | FY23 | | FY24 | FY25- | + | Total | | | | | |

| | GLWA Great Lakes Water Authority | | | WR | | | | 2024 C of the | | Hand | dling S | ystems | | 2 | 13008 CIP |
|---------|-------------------------------------|-----------|---------------|--------------|--------|----------|------------|------------------|---------|--------|----------|------------|--------|----------|-----------|
| Phase | Construction | | | | | Co | ontract | NA | | | Status | Future F | lanne | ed Start | |
| Title 🛛 | Rehabilitation | of the As | h Handling Sy | /stems | | | | | | | | | | | |
| Phas | e Budget Was | stewater | | | | | | Cost | Alloc | ation | CTA | | | | |
| Pho | ase Status Futu | ure Plann | ed Start | | | | | Fund | ing So | ource | Bond Pr | oceeds | | | |
| | Start Date | | 12/30, | /2021 | | | | | | Fund | Constru | iction Bor | nd Fur | nd | |
| | End Date | | 12/14 | /2024 | | | | Useful L | ife >2 | OYrs? | Yes | | | | |
| | Cost F | stimation | Information | | | | Tot. Fe | deral Loc | an An | nount | | | | | |
| | | 1 | Cost Est. C | `lass | | | P | Program/ | ۵۱۱۵۰ | ance | Task Inf | ormation | | | |
| | 10/0/ | 4 | | | Р | roiect / | Manage | - | | unce | | ormanon | | | |
| | 10/2/ | 2017 | Cost Est. D | | | - | | | | | | | | | |
| | | | Cost Est. S | ource | | IP Num | | | | | | | | | _ |
| Ali k | (hraizat | | Cost Est. P | repared By | D | escript | ion | | | | | | | | |
| | Cost Type | | Fiscal Year | Expens | е | Fringe | Benefill | NonPerso | nne | | Cor | nment | | | |
| Constr | ruction | F | Y22 | \$ | 5,000 | | | | | | | | | | |
| Constr | ruction | F | Y23 | \$9 | 9,000, | | | | | | | | | | |
| Constr | ruction | F | Y24 | \$2 | 2,000 | | | | | | | | | | |
| | Task | | Start Date | End Date | Dur | ation | | | | | | | | | |
| Scope | e Developmen | t | | | | | | | | | | | | | |
| Procur | rement | | 6/29/2021 | 12/26/202 | | 180 | | | | | | | | | |
| Projec | t Execution | | 12/27/2021 | 12/30/2023 | 3 | 733 | | | | | | | | | |
| Projec | t Closeout | | 12/31/2023 | 2/29/2024 | 1 | 60 | | | | | | | | | |
| Prio | r Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY2 | 24 | FY2 | 5+ | Total | | | |
| | | | | | 5 | 5,000 | 9,00 | 0 2 | ,000 | | 0 | 16,000 | | | |
| | | | Р | hase Total E | pense | es By FY | ((All fig | ures are | in \$1, | 000's) | | | | | |
| | Proje | ct Tota | l Expenses | By FY Co | mpai | red to | Prior | CIPs (A | ll fig | ures | are in | \$1,000's | s) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | | Y21 | FY22 | | (23 | FY24 | FY2 | - | Total | |
| 2018 | | | 530 | 1,045 | 6,22 | 25 | 5,725 | 4,791 | | | | 0 | 0 | 18,3 | 16 |



213008 CIP#

WRRF Rehabilitation of the Ash Handling Systems

| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
|------|------|------|------|------|------|-------|-------|-------|-------|------|--------|
| 2019 | 0 | | | | 687 | 916 | 3,614 | 6,069 | 9,330 | 0 | 20,616 |
| 2020 | 0 | 0 | | 0 | 111 | 1,111 | 5,525 | 9,574 | 2,184 | 0 | 18,505 |



WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

\Box Innovation

Water MP Right Sizing

NEWTP Repurposing

✓ Reliability/Redundancy

Project Status Active

CIP Type Project

Project New To CIP $\ \square$

Old IWC and Analytical Lab; new one will be built at the location of the WRRF because of Gordie Howe International Bridge Project



214001 CIP#

| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class Lvl 3 | IWC |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project Engineer/Manager Beena Chackunkal Manager Ali Khraizat

Managing Dept WW Design Eng

Date Original Business Case Prepared 10/12/2016

Year Project Added to CIP 2014

Project Significance Laboratory Optimization, Continued operation of IWC and Lab, lease termination for analytical laboratory, and utilization of available space in WRRF NAB Scope of Work Relocate Industrial Waste Control Division and Analytical Lab to New Administration Building at WRRF. Consolidate the existing Operations Lab with Analytical Lab. **Challenges** Maintaining the laboratory operations during relocation. Project History In accordance with the NPDES Permit, GLWA implements and enforces an Industrial Pretreatment Program (IPP), and regulates the discharge of wastewater from commercial and industrial sources throughout the service area. A key component of the IPP includes the performance of analytical testing on wastewater samples collected from industrial and commercial sources, in-system samples from the sewer system and other sources including groundwater and septage. The Industrial Waste Control Division (IWC) is responsible for implementation of the IPP, and analytical services are obtained from the Analytical Laboratory located at the MCHT facility. IWC activities are housed at the Livernois Center Building (LCB) located at 303 S. Livernois, while the Analytical Laboratory leases space at the MCHT on Second Avenue. The State of Michigan Department of Transportation and the Govt. of Canada have proposed to construct a new bridge crossing across the Detroit River, with a completion date of 2020. The Livernois Center Building lies within the area designated for the Bridge and support services and need to be relocated. It would be desirable to relocate the laboratory facilities at the same time to optimize the operations and make use of underutilized GLWA facilities rather than lease space from a 3rd party.



GLWA FY 2020-2024 CIP 214001 CIP# WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

| Related Project | none |
|------------------------|---|
| Lookup Driver | 3 - Regulatory |
| Explanation | Length and reorganization is yet established. |



PM Weighted Score

71.6

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 3 | Immediate replacement required |
| Efficiency and Innovation | 5 | Substantial operational efficiencies |
| Financial | 3 | securing of grants/external funds will cover pre |
| O&M | 2 | Major,measurable positive impact on O&M |
| Performance (Service Level/Reliability) | 4 | Likelyhood of serious inconveniencies and bus |
| Public Benefit | 3 | Supports neighborhood growth |
| Public Health & Safety | 3 | Cancelling project will continue posing signific |
| Regulatory (Environmental/Legal) | 5 | Project is part of a mandated or otherwise ent |
| | | |

RC Weighted

Score

62.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 3 | |
| Efficiency and Innovation | 5 | |
| Financial | 3 | |
| 0&M | 2 | |
| Performance (Service Level/Reliability) | 2 | |
| Public Benefit | 3 | |
| Public Health & Safety | 2 | |
| Regulatory (Environmental/Legal) | 5 | |

| GLW Great Lakes Water | Authority | WRRF | Relocatio | on of Indus | | | | 2024 CIP rol Divisior | n and | Analy | tical Lo | aboratory | 214001 CIF Operation |
|--------------------------|--|-----------|---------------|--------------|--------|--------|-------------|--------------------------|----------|----------|------------|-----------|-------------------------|
| Phase Design & | Constru | uction A | ssistance | | | Co | ontract | CS-262 | | Status | Active | | |
| Title General E | ngineeri | ing Serv | rices for des | ign of CON-2 | 280 ar | nd Anc | llytical Lo | ab (Sigma) | | | | | |
| Phase Budget | Wastev | vater | | | | | | Cost Allo | cation (| CTA | | | |
| Phase Status | Active | | | | | | | Funding S | ource | Bond Pr | oceeds | | |
| Start Date | | | | | | | | | Fund | Constru | iction Boi | nd Fund | |
| End Date | | | | | | | | Useful Life >: | 20Yrs? | Yes | | | |
| C | ost Estim | nation lı | nformation | | | | Tot. Fe | deral Loan A | mount | | | | \$0 |
| | | 1 | Cost Est. C | lass | | | P | rogram/Allow | vance T | ask Info | ormation | | |
| 9 | 2/12/201 | 8 | Cost Est. D | ate | Ρ | roject | Manage | r | | | | | |
| Contract | | | Cost Est. So | ource | С | IP Nun | nber | | | | | | |
| | | | Cost Est. Pr | epared By | D | escrip | lion | | | | | | |
| Cost Ty | pe | Fi | scal Year | Expense | Ð | Fringe | Benefith | IonPersonne | | Cor | nment | | |
| Engineering Ser | vices | FY1 | 9 | Q 1 | \$220 | | | | 2020CIF | D | | | |
| Engineering Ser | vices | FY2 | 0 | | \$53 | | | | 2020CIF | 0 | | | |
| Task | < columnation of the second se | S | tart Date | End Date | Dur | ation | | | | | | | |
| Project Executio | n | | 10/1/2017 | 6/27/2020 | | 1000 |) | | | | | | |
| Project Closeou | t | | 6/28/2020 | 8/28/2020 | | 61 | | | | | | | |
| Prior Yr Actua | IIS | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25 | 5+ | Total | | |
| | | 220 | 53 | 0 | | | | | | | 273 | | |

GLWA FY 2020-2024 CIP 214001 CIP# WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations Status Closed Out **Phase** not applicable Contract NA Prior Year Actual Expenses Title Phase Budget Wastewater Cost Allocation CTA Phase Status Closed Out **Funding Source** Start Date Fund End Date Useful Life >20Yrs? Tot. Federal Loan Amount **Cost Estimation Information** Cost Est. Class Program/Allowance Task Information **Project Manager** Cost Est. Date **CIP Number** Cost Est. Source Description Cost Est. Prepared By Fiscal Year Fringe BenefilNonPersonne Cost Type Expense Comment **Engineering Services** FY18-\$385 FY18 Unknown FY18-\$182 FY17 GLWA Salaries CIP2020 2 0FY18 FY18-\$4 Prior Yr Actuals FY19 FY20 FY22 FY23 Total FY21 FY24 FY25+ 573 573

| | | | on of Indus | | | | | | | • | | • |
|-------------------|-----------|--------------|-------------|--------------|-------------|--------|---------------|-----------|--------|----------------|-----|---|
| nase Construction | | | | | Contra | ct C | ON-280 | | Statu | us Active | | |
| tle Relocation of | | | ol Division | | | | | | | | | |
| Phase Budget Wa | stewater | | | | | | Cost Alloc | ation IV | VC | | | |
| Phase Status Act | ive | | | | | | Funding So | ource Bo | ond | Proceeds | | |
| Start Date | | | | | | | | Fund C | onst | ruction Bond F | und | |
| End Date | | | | | | U | seful Life >2 | 20Yrs? Ye | ∋s | | | |
| Cost E | stimatior | Information | | | Tot. | Fede | ral Loan Ar | nount | | | | |
| | 1 | Cost Est. C | lass | | | Pro | gram/Allow | ance Ta | ısk Ir | nformation | | |
| 9/12 | /2018 | Cost Est. D | ate | P | roject Mana | | | | | | | |
| Contract | | Cost Est. So | ource | С | IP Number | | | | | | | |
| Engineer | | | epared By | D | escription | | | | | | | |
| g | | | | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense |) | Fringe Bene | efitNo | nPersonne | | С | omment | | |
| Construction | | Y19 | \$1, | ,654 | | | | | | | | |
| Construction | | Y20 | | \$0 | | | | | | | | |
| Construction | F | Y21 | | \$0 | | | | | | | | |
| Task | | Start Date | End Date | Dure | ation | | | | | | | |
| cope Developmer | nt – | 1/4/2018 | 7/3/2018 | | 180 | | | | | | | |
| rocurement | | 7/3/2018 | 12/22/2018 | | 172 | | | | | | | |
| Project Execution | | 6/25/2018 | 1/21/2019 | | 210 | | | | | | | |
| Project Closeout | | 1/22/2019 | 3/22/2019 | | 59 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 FY2 | 3 | FY24 | FY25+ | | Total | | |
| | | | | | | | 1 | | | | | |

| GLW Great Lakes Water | Authority | WRRF | Relocatio | on of Indu | | | 2020-20 Contro | | and And | alytical La | boratory | 214001 CIP# Operations |
|--------------------------|-----------|------------|--------------|-------------|------------|------------|-------------------|---------------|------------|---------------|----------|---------------------------|
| Phase GLWA En | nploye | ees Projec | t managen | nent | | Con | ntract N/ | A | Stat | us Active | | |
| Title GLWA Sala | aries | | | | | | | | | | | |
| Phase Budget | Wast | ewater | | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Activ | е | | | | | | Funding So | ource Bonc | l Proceeds | | |
| Start Date | | | | | | | | | Fund Cons | struction Bon | nd Fund | |
| End Date | | | | | | | U | seful Life >2 | OYrs? No | | | |
| C | ost Est | imation In | formation | | | | Tot. Fede | eral Loan An | nount | | \$ | 60 |
| | | 5 | Cost Est. C | ass | | | Prog | gram/Allow | ance Task | Information | | |
| | | | Cost Est. Do | ate | Р | roject M | anager | | | | | |
| | | | Cost Est. Sc | ource | C | CIP Numb | per | | | | | |
| | | | Cost Est. Pr | epared By | D |)escriptic | on | | | | | |
| Cost Ty | 'ne | Fig | cal Year | Expens | <u> </u> | Fringe B | enefitNo | nPersonne | C | Comment | | |
| GLWA Salaries (| | | | • | 5 \$110 | Thinge b | 44 | | C Phase | Johnmenn | | |
| GLWA Salaries C | | | | | \$10 | | 4 | | 2 Phase | | | |
| GLWA Salaries (| CIP202 | 20 FY2 | 1 | | \$0 | | 0 | 0 | | | | |
| Prior Yr Actua | ıls | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | |
| | | 154 | 14 | 0 | | 0 | 0 | 0 | 0 | 168 | | |
| | | | DL | aco Total E | | | | | 000'-) | | | |

 GLWA FY 2020-2024 CIP
 214001 CIP#

 WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

 Phase Construction
 Contract NA
 Status Active

 Title Relocation of Analytical Laboration
 Contract NA
 Status Active

| | | | , | | | | | | | | | | | | | | | | |
|---------|------------|--------|---------|-------|--------------|------------|---------|--------|-------------|-------|----------|--------|--------|------|---------|--------|-------|--------|--|
| Phas | e Budget | Was | tewater | | | | | | | | Cost / | Alloc | ation | CTA | | | | | |
| Pha | ise Status | Acti | ve | | | | | | | | Fundir | ng So | ource | Bonc | l Proc | eeds | | | |
| S | itart Date | | | | | | | | | | | | Fund | Cons | structi | on Bon | nd Fu | nd | |
| | End Date | | | | | | | | | Use | eful Lif | e >2 | OYrs? | Yes | | | | | |
| | Co | ost Es | timatio | n Inf | formation | | | | Tot. F | eder | al Loa | n An | nount | | | | | \$O | |
| | | | 3 | | Cost Est. C | lass | | | | Prog | ram/A | llow | ance | Task | Inform | nation | | | |
| | 9 | /12/2 | 2018 | | Cost Est. D | ate | F | rojec | t Manag | jer | | | | | | | | | |
| Eng | Est. | | | | Cost Est. So | ource | (| CIP Nu | umber | | | | | | | | | | |
| | hraizat | | | | Cost Est. Pi | repared By | , [| Descri | iption | | | | | | | | | | |
| | | | | | | • | | | | | | | | | | | | | |
| | Cost Typ | be | | | cal Year | Expe | nse | Fring | je Benefi | INon | Persor | | | | Comm | nent | | | |
| Constr | | | | Y19 | | | \$800 | | | | | | 020CI | | | | | | |
| Constr | uction | | F | Y20 |) | | \$7,500 | | | | | 2 | 020CI | Р | | | | | |
| | Task | | | Sto | art Date | End Date | e Du | ration | ı | | | | | | | | | | |
| Procur | ement | | | 10 | 0/29/2018 | 4/27/20 | 19 | 18 | 80 | | | | | | | | | | |
| • | t Executio | | | | 4/28/2019 | 10/28/20 | | 5 | 49 | | | | | | | | | | |
| Project | t Closeout | | | 1(| 0/29/2020 | 12/28/20 | 20 | | 60 | | | | | | | | | | |
| Prior | Yr Actual | S | FY19 | | FY20 | FY21 | FY | 22 | FY23 | | FY24 | 1 | FY2 | 5+ | То | tal | | | |
| | | | 8 | 00 | 7,500 | | | | | | | | | | | 8,300 | | | |
| | | | | | P | hase Total | Expens | es By | FY (All fig | gures | are ir | n \$1, | 000's) | | | | | | |
| | Pr | oje | ct Toto | I E | xpenses | By FY C | ompa | red | to Prior | CIP | s (Al | l fig | ures | are | in \$1 | ,000's | s) | | |
| CIP | FY16 | | FY17 | | FY18 | FY19 | FY20 | | FY21 | FY | 22 | FΥ | '23 | FY | 24 | FY25 | 5 | Total | |
| 2018 | | | | | 5,000 | 2,000 | | | | | | | | | 0 | | 0 | 7,000 | |
| 2019 | | 0 | 1 | 32 | | 4,001 | 7,7 | | 1,000 | | | | | | | | 0 | 12,947 | |
| 2020 | | 0 | | 0 | 573 | 2,828 | 7,5 | 67 | 0 | | 0 | | 0 | | 0 | | 0 | 10,968 | |



Underground Electrical Duct Bank Repair and EB-1, EB-2 and EB-10 Primary Power Service

216001 CIP#

| Innovation Water MP Right Si Reliability/Redund NEWTP Repurposit | | Electrical Duct Bank |
|---|---|--|
| Project Engineer/Ma | nager Vinod Sharma | Budget Wastewater |
| Ma | nager Philip Kora | Class Lvl 1 Wastewater |
| Managing | J Dept WW Constr Eng | Class Lvl 2 WRRF |
| Date Original Busines | ss Case Prepared 5/7/1998 | Class Lvl 3 General Purpose |
| Year Proje | ect Added to CIP 1998 | Location City of Detroit |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| Project Significance | Procure and install electrical power system to per NPDES permit | meet safety standards and prove third redundant electric feeder |
| Scope of Work | Gears A & B, unit substation EB-1, EB-2, and EB phase primary transformers; and repair of bui | onstruction assistance work for repairing the 15KV Primary Switch B-10, unit 5KV substation and switch gear DE-1, and two outdoor 3- Iding structure and associated components. The work will also and coordination of system reconnection with new cables. |
| Challenges | N/A - Pending Closeout | |
| Chancinges | | |
| - | N/A - Pending Closeout | |

| se GLWA Employe GLWA Salaries | ∍es Project | managem | ent | С | contract NA | 4 | Stat | us Closed (| Dut |
|----------------------------------|-------------|---------------|-----------|-----------------------------|-------------|-------------------------------|------------|-------------|-----|
| hase Budget Wast | ewater | | | | | Cost Alloca | tion CTA | | |
| Phase Status Close | d Out | | | | | Funding Sou | rce Bond | Proceeds | |
| Start Date | | | | Fund Construction Bond Fund | | | | | |
| End Date | | | | | Us | seful Life >20` | Yrs? No | | |
| Cost Est | imation Inf | ormation | | | Tot. Fede | ral Loan Amo | ount | | \$0 |
| | 1 | Cost Est. Clo | ass | | Proç | gram/Allowa | nce Task I | nformation | |
| | | Cost Est. Da | ite | Project | Manager | | | | |
| | 1 | Cost Est. So | urce | CIP Nui | | | | | |
| | | Cost Est. Pre | epared By | Descrip | otion | | | | |
| | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| | 0 | | | | | | | 0 | |
| rior Yr Actuals | | FY20 0 | FY21 0 | FY22 0 | FY23 0 | FY24 0 es are in \$1,00 | 0 | Total 0 | |

| GLW | | | | | Y 2020-20 | | | FD 10 D. | | 216001 c |
|--------------------|------------------|----------------|-------------|------------|----------------|----------------|--------------|--------------|---------|------------|
| Great Lakes Water. | | ground Ele | ectrical L | | | | | | | ower Servi |
| hase Construct | | | | | Contract Po | | | us Closed | | |
| | derground Elec | ctrical Duct E | 3ank Repair | and EB-1, | EB-2 and EB | -10 Primary | Power Servio | ce Improve | ements | |
| Weiss Construct | ion | | | | | | | | | |
| Phase Budget | Wastewater | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Closed Out | | | | | Funding So | ource Bond | Proceeds | | |
| Start Date | | 5/21/2 | 2012 | | | | Fund Const | truction Bor | nd Fund | |
| End Date | | 5/21/2 | 2016 | | U | seful Life >2 | 20Yrs? Yes | | | |
| | | e 11 | | | Tot Fode | eral Loan Ar | nount | | | |
| | ost Estimation I | | | | | | | | | |
| | 1 | Cost Est. Cl | ass | | | gram/Allow | ance Task I | nformation | | |
| | | Cost Est. Do | ate | Projec | t Manager | | | | | |
| Contract | | Cost Est. So | urce | CIP Nu | umber | | | | | |
| | | Cost Est. Pro | epared By | Descri | ption | | | | | |
| | | | | | | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| THOLT ACTOU | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | | | | - | | | 0 | | |
| | | Ph | ase lotal E | xpenses by | FY (All figure | es are in \$1, | 000 S) | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| GLW Great Lakes Water A | uthority Underg | ground Electrical D | GLWA FY 2020-202 Puct Bank Repair an | | and EB-10 Primary Po | 216001 CIP wer Service |
|----------------------------|-------------------|------------------------|---|-------------------|------------------------|---------------------------|
| Phase Study and | d Design and C | onstruction Assistance | Contract NA | | Status Closed Out | |
| Title Undergrou | nd Electrical D | uct Bank Repair and EB | B-1, EB-2 and EB-10 | | | |
| Phase Budget | Wastewater | | | Cost Allocation | СТА | |
| Phase Status | Closed Out | | | Funding Source | Bond Proceeds | |
| Start Date | | 6/12/2008 | | Fund | Construction Bond Fund | |
| End Date | | 6/11/2016 | Us | eful Life >20Yrs? | Yes | |
| Co | ost Estimation In | formation | Tot. Feder | al Loan Amount | \$ | БО |
| | 1 | Cost Est. Class | Prog | ram/Allowance | Task Information | |
| | | Cost Est. Date | Project Manager | | | |
| | | Cost Est. Source | CIP Number | | | |
| | | Cost Est. Prepared By | Description | | | |

GLWA FY 2020-2024 CIP 216001 CIP# Underground Electrical Duct Bank Repair and EB-1, EB-2 and EB-10 Primary Power Service Contract NA Status Closed Out **Phase** not applicable Title Prior Year Actual Expenses Cost Allocation CTA Phase Budget Wastewater Phase Status Closed Out **Funding Source** Start Date Fund Useful Life >20Yrs? End Date Tot. Federal Loan Amount **Cost Estimation Information** Cost Est. Class Program/Allowance Task Information **Project Manager** Cost Est. Date **CIP Number** Cost Est. Source Description Cost Est. Prepared By Cost Type Fringe BenefilNonPersonne Fiscal Year Expense Comment Construction FY18-\$989 FY18-616900 FY18-\$39 FY18-617950 Construction FY18-Unknown to reconcile with LTD \$1 Unknown FY18-\$1,072 FY17 FY18-Unknown \$1,339 FY16 \$29,225 Unknown FY18-Pre-Bifurcation GI WA Salaries CIP2020 FY18-\$15 FY18 6 FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Prior Yr Actuals Total 32.686 32.686 Phase Total Expenses By FY (All figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 0 2018 23037 2,575 1,532 0 27,144 2019 0 31,636 1,033 0 32,669

| | GLWA Great Lakes Water Authority | Under | ground E | lectrical | | |)-2024 C ir and E | | and EB- | 10 Prima | 2160 Iry Power S | 001 CIP# Service |
|------|--|-------|----------|-----------|------|------|----------------------|------|---------|----------|---------------------|---------------------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2020 | 0 | 0 | 32,686 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32,686 | |



216002 CIP# Plant-wide Fire Alarm Systems Upgrade/ Integration and Fire Protection Improvements

| Innovation | Project Status Closed | Fire alarm system |
|---|---|---|
| □ Water MP Right Siz | cing CIP Type Project | |
| Reliability/Redunct NEWTP Repurposir | lancy Project New To CIP | |
| Project Engineer/Mar | nager Vinod Sharma | Budget Wastewater |
| Mar | nager Ali Khraizat | Class Lvl 1 Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 WRRF |
| Date Original Busines | s Case Prepared 4/13/2004 | Class Lvl 3 General Purpose |
| Year Proje | ect Added to CIP 2004 | Location City of Detroit |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| Project Significance | Install an integrated Fire Alarm system to fo | cilitate centralized monitoring |
| • | (of which 50+ have a stand-alone fire alarr | tegrated Plant-wide Fire Alarm System in approximately 100 buildings n system) at the WRRF in order to facilitate centralized monitoring and stem will be interfaced with the existing WRRF Control System. |
| Challenges | N/A - Pending Closeout | |
| Lookup Driver | N/A - Pending Closeout | |
| Explanation | N/A - Pending Closeout | |

| ase Construction | | Contract PC-782 | Status Closed Out |
|------------------------|----------------------------|--|------------------------|
| le PC-782 Plant-wide I | Fire Alarm Systems Upgrade | / Integration and Fire Protection Improvem | nents |
| Phase Budget Wastewa | ater | Cost Allocation | CTA |
| Phase Status Closed C | Dut | Funding Source | Bond Proceeds |
| Start Date | 4/15/2013 | Fund | Construction Bond Fund |
| End Date | 11/4/2016 | Useful Life >20Yrs? | Yes |
| Cost Estimo | ition Information | Tot. Federal Loan Amount | |

Cost Est. Source

Cost Est. Prepared By

| Program/Allowance | Task Information |
|--------------------------|------------------|
| Tot. Federal Loan Amount | |
| Useful Life >20Yrs? | Yes |

216002 CIP#

CIP Number

Description

| Task | Start Date | End Date | Duration |
|-------------------|------------|----------|----------|
| Scope Development | | | |
| Procurement | | | |
| Project Execution | | | |
| Project Closeout | | | |

| se Study and | d Design and | d Constructio | n Assistance | Cont | ract CS-14 | 143 | Status | Closed Out |
|-----------------------------|-------------------|---------------|--------------|------------------------------------|---------------|-----------------|----------|-----------------|
| e CS-1443 PI | ant-wide Fire | e Alarm Syste | ms Upgrade/ | Integration and | d Fire Protec | ction Improver | nents | |
| Phase Budget | Wastewater | ſ | | | C | ost Allocation | CTA | |
| Phase Status | Closed Out | | | | Fu | nding Source | Bond Pro | oceeds |
| Start Date | | 6/12 | 2/2008 | | | Fund | Construc | ction Bond Fund |
| End Date | | 12/31 | /2015 | | Usef | ul Life >20Yrs? | Yes | |
| Co | ost Estimatio | n Information | | T | ot. Federal | Loan Amount | | |
| | 1 Cost Est. Class | | Class | Program/Allowance Task Information | | | | |
| | | Cost Est. I | Date | Project Ma | inager | | | |
| | | Cost Est. S | Source | CIP Numbe | er | | | |
| | | Cost Est. I | Prepared By | Descriptior | ı | | | |
| | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | |
| cope Developi | ment | | | | | | | |
| rocurement | | | | | | | | |
| roject Executio | n | | | | | | | |
| roject Closeou [.] | ł | | | | | | | |

| GLW Great Lakes Water | Authority Plc | Int-wide Fire Alarm Sy | GLWA FY 2020-2024 CIP /stems Upgrade/ Integratio | on and Fire Protection Im | 216002 CIF provements |
|----------------------------------|----------------|---|---|--------------------------------|--------------------------|
| Phase GLWA Em Title GLWA Sala | . , . | ect management | Contract NA | Status Closed Out | |
| Phase Budget | | | Cost Alloc | | |
| Phase Status Start Date | Closed Out | | - | FundConstruction Bond Fund | |
| End Date | | | Useful Life >2 | OYrs? Yes | |
| Co | ost Estimation | Information Cost Est. Class | Tot. Federal Loan An Program/Allow | nount ance Task Information | \$0 |
| | | Cost Est. Date Cost Est. Source Cost Est. Prepared By | Project Manager CIP Number Description | | |

GLWA FY 2020-2024 CIP 216002 CIP# Plant-wide Fire Alarm Systems Upgrade/ Integration and Fire Protection Improvements **Phase** not applicable Contract NA Status Closed Out Prior Year Actual Expenses Title Phase Budget Wastewater Cost Allocation CTA Phase Status Closed Out **Funding Source** Start Date Fund Useful Life >20Yrs? End Date Tot. Federal Loan Amount **Cost Estimation Information** Cost Est. Class Program/Allowance Task Information **Project Manager** Cost Est. Date **CIP Number** Cost Est. Source Description Cost Est. Prepared By Cost Type Fiscal Year Fringe BenefilNonPersonne Expense Comment FY18-\$503 FY17 Unknown FY18-\$347 FY16 Unknown GLWA Salaries CIP2020 FY18-FY18 \$4 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 855 855 Phase Total Expenses By FY (All figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) FY17 FY18 FY20 FY21 FY22 FY23 FY24 FY25 CIP FY19 Total FY16 2018 5390 624 0 0 6,014 2019 0 850 850 0

855

2020

0

0

855



Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

□ Water MP Right Sizing

✓ Reliability/Redundancy

NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP \Box

The RAS-3 sampling station in the basement of Intermediate Lift Pump No. 2 (ILP No. 2) Building samples the return activated sludge flows to Aeration Deck No.4



216004 CIP#

Project Engineer/Manager Beena Chackunkal Manager Ali Khraizat

Managing Dept WW Design Eng

Date Original Business Case Prepared 8/1/2016

Year Project Added to CIP 2010

Budget Wastewater Class Lvl 1 Wastewater Class Lvl 2 WRRF Class Lvl 3 General Purpose Location City of Detroit Fund and Cost Center Wastewater - 5421-892211

Project Significance Rehabilitation of the sampling facilities will improve system reliability and allow for consistent and accurate sampling. This will help to submit an accurate report to MDEQ. The rehabilitation of Ferric Chloride system will improve the phosphorous removal to comply with the Permit.

Scope of Work | The scope of work includes:

Replacement of existing sampling equipment, installing new samplers, pumps, piping, housing and support equipment such as I&C, HVAC, etc. at the various sampling sites. The scope also include: Replacement of existing two steel Ferric Chloride tanks at PS#2 with four (4) smaller tanks.

Provide new piping layout, gravity feed, and self-cleaning strainer.

Rehabilitate Ferric Chloride Unloading station, associated Valves and Appurtenances.

Provide Flow meters and new control strategies to meet future demands of Ferric Chloride at Pump Station # 2. The CIP is for construction only.

Challenges Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Project History The Sampling sites are located at Oakwood, MPI-2, NEIA, PEAS1, 3 & 4, ML1 thru 4, and RAS1 thru 4, C2SE 3 4. Sampling is performed to monitor permit compliance and process performance. Samples are also collected and analyzed on composite samples. The above sampling stations are required to be rehabilitated or replaced for meeting the permit sampling requirements. These sampling stations regularly fails to collect samples due to the clogging problem in the sample line. Replacement of existing sampling equipment, installing new samplers, pumps, HVAC, etc. were also proposed through Need Assessment 2010 – 2016 for these sampling stations.

| GLWA Great Lakes Water Authority | GLWA FY 2020-2024 CIP 216004 CIP# Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF |
|-------------------------------------|---|
| | The WRRF sampling station rehabilitation design is completed under an As Needed Engineering Services. The WRRF PS# 2 Ferric Chloride rehabilitation design is completed under another As Needed Engineering Services Contact. These two projects are combined together for construction under the revised CIP #1223 in the 2018 CIP. |
| Related Project | CIP 211008 also concerns Ferric Chloride system. PC-757: Rehabilitation of Primary Clarifiers, Drain Lines, Hot Water, and Scum Lines, PC 789 – Pump Station No. 1 Rack and Grit Building, MPI and JSS Improvements, PC 795 – Pump Station No. 2 Improvements. |
| Lookup Driver | 2 - Performance |
| Other Important Info | *Innovation note: Rehab may include alternative online/real-time sampling & analysis, as well as improved mixing of the ferric with primary influent. The original CIP Project Proposal CIP-1223, "Rehabilitation of Grit and Screening System at PS-2 and Rehabilitation of Sampling Sites at WWTP" included two major scope items; Rehabilitation of Grit & Bar Screening System and Sampling Stations. That construction budget for CIP-1223 amount \$11 M was set aside in CIP. The design for Grit & Screening System and Sampling Station were complete under As Needed Engineering Services Contract, CS-1481 Task 18. The construction for "Rehabilitation of Sampling Sites" will move forward and be bid out separately for construction without Grit & Bar Screening System. The Bar Rack System and Grit System designed under As Needed Engineering Services Contact CS-1481, Task 18 will not proceed for construction as designed. An engineering decision to have a fresh look and start a new study, design and construction project through CIP- 1314 will proceed. The proposed CIP budget is for construction cost only. The original budget for CIP-1223 was \$11M and has been reduced to \$5M. The remaining \$6M budget has been transferred to CIP-1314 to complete study, design and construction of Grit and Screening System at PS#2. |
| Explanation | Plant operations report on the failure of shear pins and accelerated wearing and tearing of the bar racks causing downtime for the maintenance and violation of the permit. |



PM Weighted Score

82.2

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 5 | Excessive Maintenance levels for the equipme |
| Efficiency and Innovation | 3 | Process efficiency for a more robust system ar |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | High levels of O&M |
| Performance (Service Level/Reliability) | 5 | Equipment obsolete/extremely difficult to mai |
| Public Benefit | 3 | Moderate savings for GLWA |
| Public Health & Safety | 3 | Moderate positive impact on public H&S |
| Regulatory (Environmental/Legal) | 5 | Compliance Failure will lead to significant fine |
| | | |

RC Weighted

Score

82.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 4 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 5 | |
| Public Benefit | 3 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 5 | |

| nase Construction A | ssistanc | e | | | Cont | ract C | S-301 | Sta | tus Active | |
|--------------------------|---------------------|---------------|----------------|------------------------------------|-----------|----------|---------------|------------|--------------|---------|
| le Engineering Ser | vices fo | r the Rehab c | of Various Sar | npling | stations | | | | | |
| Phase Budget Wast | ewater | | | | | | Cost Allo | cation CTA | | |
| Phase Status Activ | Phase Status Active | | | | | | Funding S | ource Bond | d Proceeds | |
| Start Date | Start Date | | | | | | | Fund Con | struction Bo | nd Fund |
| End Date | | | | | | ι | Jseful Life > | 20Yrs? Yes | | |
| Cost Est | imation | Information | | | Т | ot. Fede | eral Loan A | mount | | \$0 |
| 1 Cost Est. Class | | | lass | Program/Allowance Task Information | | | | | | |
| 9/12/2018 Cost Est. Date | | | ate | Project Manager | | | | | | |
| Contract | | Cost Est. S | ource | CIP Number | | er | | | | |
| Eng | | Cost Est. P | repared By | By Description | | | | | | |
| Cost Type | | Fiscal Year | Expense | 9 | Fringe Be | enefilNc | nPersonne | (| Comment | |
| ngineering Services | F | Y19 | | \$55 | | | | 2020CIP | | |
| ngineering Services | | Y20 | 4 | \$105 | | | | 2020CIP | | |
| ngineering Services | F | Y21 | | \$16 | | | | 2020CIP | | |
| Task | | Start Date | End Date | Duro | ation | | | | | |
| roject Execution | | 5/27/2017 | 6/27/2020 | | 1127 | | | | | |
| roject Closeout | | 6/28/2020 | 8/28/2020 | | 61 | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 F | -Y23 | FY24 | FY25+ | Total | |
| | Ľ | 55 105 | 16 | | | | | | 176 | |

| | | _ | | | | | | | | | | | | |
|-------|-----------------------------|-------------------|--------------|------------|---|---------------------|---------------|---------|-----------|-------|---|--|--|--|
| | GLW Great Lakes Water | A uthority | Rehabilita | tion of Va | GLWA FY 2020-2024 CIP 2160 Various Sampling Sites and PS#2 Ferric Chloride System at WRI | | | | | | | | | |
| Phase | not appli | cable | | | | Contract | NA | Statu | us Closed | l Out | | | | |
| Title | Prior Year / | Actual Exp | enses | | | | | | | | T | | | |
| Pho | Phase Budget Wastewater | | | | | Cost Allocation CTA | | | | | | | | |
| Ph | ase Status | Closed Ou | Jt | | Funding Source | | | | | | | | | |
| | Start Date | | | | Fund | | | | | | | | | |
| | End Date | | | | | | Useful Life 🗧 | >20Yrs? | | | | | | |
| | Cost Estimation Information | | | | | Tot. Fe | ederal Loan A | Amount | | | | | | |
| | | | | | | | | | | | | | | |
| | | I | Cost Est. C | ICISS | Program/Allowance Task Information | | | | | | | | | |
| | | | Cost Est. D | ate | Project Manager | | | | | | | | | |
| | | | Cost Est. Se | ource | (| CIP Number | | | | | | | | |
| | | | Cost Est. Pi | repared By | 0 | Description | | | | | | | | |
| | | | | | | 1 | | | | | | | | |
| | Cost Ty | се | Fiscal Year | Expens | е | Fringe Benefit | NonPersonne | e C | omment | | | | | |
| Engin | eering Serv | vices | FY18- | | \$123 | | | FY18 | | | | | | |
| Unkn | own | | FY18- | | \$312 | | | FY17 | | | | | | |
| GLW | GLWA Salaries CIP2020 FY18- | | | | \$3 1 0 FY18 | | | | | | | | | |
| Prie | or Yr Actua | ls FY1 | 9 FY20 | FY21 | FY | 22 FY23 | FY24 | FY25+ | Total | | | | | |
| | 439 | | | | | | | 439 | | | | | | |

| GLWA Great Lakes Water Authori | ty | Rehabilita | tion of Va | | | 2020- oling S | | | i#2 Ferri | c Chloride | e System c | 216004 c it WRRF | | | |
|-----------------------------------|----------------------------|-----------------------------|------------------------------|--------------------------------------|------------------------------------|-------------------------|-----------------------------|--------|-----------|--------------------|---------------|---------------------|--|--|--|
| Phase Construction | | | | | | ontract | | | St | atus Future | e Planned Sto | ırt | | | |
| Title Rehabilitation | of Vario | us Sampling Si [.] | tes and PS#2 | Ferric | : Chlori | de Syste | em a | t WRRF | | | | | | | |
| Phase Budget Wc | istewater | - | | Cost Allocation CTA | | | | | | | | | | | |
| Phase Status Fut | ure Planr | | Funding Source Bond Proceeds | | | | | | | | | | | | |
| Start Date | Start Date 4/2/2018 | | | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | End Date 9/24/2019 | | | | | Useful Life >20Yrs? Yes | | | | | | | | | |
| Cost I | | Tot. Federal Loan Amount | | | | | | | | | | | | | |
| | 3 Cost Est. Class | | | | Program/Allowance Task Information | | | | | | | | | | |
| 10/2 | 10/2/2017 Cost Est. Date | | | P | roject <i>I</i> | Manage | er | | | | | | | | |
| | Cost Est. Sourc | | | С | IP Num | nber | | | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | D | escript | ion | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | se Fringe BenefilNonPersonne Comment | | | | | | | | | | | |
| Construction | F | Y19 | | \$487 | | | | | | | | | | | |
| Construction | F | Y20 | \$3 | ,500 | | | | | | | | | | | |
| Construction | F | Y21 | 4 | \$500 | | | | | | | | | | | |
| Task | | Start Date | End Date | Dure | ation | | | | | | | | | | |
| Scope Developmer | nt | | | | | | | | | | | | | | |
| Procurement | | 6/13/2018 | 12/10/2018 | | 180 | | | | | | | | | | |
| Project Execution | | 12/11/2018 | 12/11/2020 | | 731 | | | | | | | | | | |
| Project Closeout | | 12/12/2020 | 2/10/2021 | | 60 | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY25+ | Total | | | | | |
| | 4 | .87 3,500 | 500 | | 0 | | 0 | 0 | | 0 4,487 | 7 | | | | |

Fildse foldi expenses by FT (All ligules die ill \$1,000 s)

| ase Construction | on Assistar | Rehabilita | | | | ontract (| | | atus Active | , | |
|-----------------------------|-------------|------------------------------|-----------------------|--------------------------|---------------|-----------|---------------|--------------------|---------------|---------|--|
| | | or the Rehab c | f Ferric PS No | o.2 | 0 | | CJ-Z7Z | 310 | ACINE | | |
| Phase Budget V | | Cost Allocation CTA | | | | | | | | | |
| Phase Status A | | Funding Source Bond Proceeds | | | | | | | | | |
| Start Date | | | | | | | | Fund Cor | struction Bor | nd Fund | |
| End Date | | | | | | | Useful Life > | 20Yrs? Yes | | | |
| Cost Estimation Information | | | | Tot. Federal Loan Amount | | | | | | | |
| 1 Cost Est. Class | | | lass | | | Pr | ogram/Allo | wance Task | Information | | |
| 9/12/2018 Cost Est. Date | | | ate | Pr | oject N | Nanager | , | | | | |
| Contract | | Cost Est. So | ource | С | IP Num | ber | | | | | |
| Eng | | Cost Est. Pi | epared By | By Description | | | | | | | |
| Cost Typ | е | Fiscal Year | Expense | Э | Fringe | BenefilN | onPersonne | | Comment | | |
| ngineering Servi | | FY19 | | \$25 | | | | 2020CIP | | | |
| ngineering Servio | | FY20 FY21 | | \$65 \$14 | | | | 2020CIP 2020CIP | | | |
| | Ces | | | • | | | | 2020CII | | | |
| Task oject Execution | 1 | Start Date 1/1/2017 | End Date 6/30/2020 | | ation 1276 | | | | | | |
| oject Closeout | · | 7/1/2020 | 9/1/2020 | | 62 | | | | | | |
| Prior Yr Actuals | FY19 | P FY20 | FY21 | FY2 | 2 | FY23 | FY24 | FY25+ | Total | | |
| | | 25 65 | 14 | | | | | | 104 | | |

| Phase GLWA Employees Project management Contract NA Status Active Title GLWA Salaries Cost Allocation CTA Phase Budget Wastewater Cost Allocation CTA Phase Status Active Funding Source Bond Proceeds Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount Program/Allowance Task Information 5 Cost Est. Class Project Manager CiP Number | ko |
|--|----------------|
| Phase Status Active Funding Source Bond Proceeds Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount Program/Allowance Task Information 5 Cost Est. Class Project Manager | |
| Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount 5 Cost Est. Class 6 Program/Allowance Task Information 7 Cost Est. Date 9 Project Manager | |
| End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount 5 Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager | |
| Cost Estimation Information Tot. Federal Loan Amount 5 Cost Est. Class Cost Est. Date Project Manager | \$0 |
| Source Task Information 5 Cost Est. Class Cost Est. Date Project Manager | \$0 |
| Cost Est. Date Project Manager | |
| | |
| | |
| Cost Est. Source CIP Number | |
| Cost Est. Prepared By Description | |
| Cost Type Fiscal Year Expense Fringe BenefilNonPersonne Comment | |
| GLWA Salaries CIP2020 FY19 \$15 6 CA Phase | |
| GLWA Salaries CIP2020 FY19 \$15 6 C Phase | |
| GLWA Salaries CIP2020 FY20 \$150 59 C Phase | _ |
| GLWA Salaries CIP2020 FY20 \$30 12 CA Phase | _ |
| GLWA Salaries CIP2020FY21\$4518C PhaseGLWA Salaries CIP2020FY21\$1040 CA Phase | _ |
| SEWA Solidiles Cil 2020 1121 \$10 4 0 CATTIOSE | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | |
| 42 251 77 0 370 | |
| Phase Total Expenses By FY (All figures are in \$1,000's) | |
| Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | |
| CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 | Total |
| 2018 2,500 2,500 0 0 0 | 5,000 |
| 2019 0 312 40 551 3,957 565 600 0 2020 0 0 439 609 3,921 607 0 0 0 0 | 5,425 5,576 |



Assessment and Rehabilitation of WRRF yard piping and underground utilities

216006 CIP#

| \checkmark Innovation | | Project Status Future Planned | GLWA WR | RF | | | | | | |
|-------------------------|---|-------------------------------|------------------------------|---|--|--|--|--|--|--|
| □ Water MP Right Siz | zing | CIP Type Project | | | | | | | | |
| Reliability/Redund | lancy | | | | | | | | | |
| □ NEWTP Repurposir | ng | Project New To CIP \Box | | | | | | | | |
| Project Engineer/Mar | nager A | li Khraizat | Budget | Wastewater | | | | | | |
| Mar | nager A | li Khraizat | Class Lvl 1 | Wastewater | | | | | | |
| Managing | Dept V | VW Design Eng | Class Lvl 2 | WRRF | | | | | | |
| Date Original Busines | s Case | Prepared 7/27/2016 | Class Lvl 3 | General Purpose | | | | | | |
| Year Proje | ect Add | ed to CIP 2017 | Location | City of Detroit | | | | | | |
| | | | Fund and Cost Center | Wastewater - 5421-892211 | | | | | | |
| Scope of Work | Yard piping and underground utilities are vital to the operations of the WRRF. The integrity of these systems will be maintained with this project. The Secondary Water system needs to be relocated or completely refurbished to provide uninterrupted water for fire protection and process applications such as seal water to the pumps. Some of the yard piping is original to the plant and requires a condition assessment. This project will include the study, design, and construction for the needed improvements to yard piping and underground utilities. This includes right sizing, as-built confirmation and condition assessment of our yard piping and underground utilities. It is possible that the secondary water system may need to be relocated. The distribution models for the water systems will also be updated. A redundant potable water feed to the WRRF will also be evaluated. | | | | | | | | | |
| · · | rehabili | | he most significant challeng | nent processes during assessment and e on this project. Temporary power, air, e work. | | | | | | |
| | Some of the pipe lines at the WRRF have been inexistence since the plant was built and have been found on record dating back to 1938. As the plant has grown, so have the systems. In general, the majority of the changes to the multiple systems occurred when the specific buildings or components to the plant were built or renovated. Therefore, an evaluation and necessary replacement of these pipelines are needed to make sure the integrity of these pipelines. | | | | | | | | | |
| - | bject There are currently no other specific projects for underground utilities, however many other projects require continuous service from these utilities and the ability to consistently supply the required quantities will need to be coordinated with these projects during construction of the improvements. | | | | | | | | | |



Assessment and Rehabilitation of WRRF yard piping and underground utilities

Lookup Driver 1 - Condition

Other Important Info Reliable utility is a critical aspect of O&M for the facility and to avoid outages.

Explanation Some of the underground utilities are original to the plant and are critical to the plant treatment processes (e.g. incinerator air permit requirements).



PM Weighted Score

80.8

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 5 | Asset has exceeded its design service levels |
| Efficiency and Innovation | 4 | Right sizing system will have significant operati |
| Financial | 4 | Project will likely result in avoidance of emerge |
| 0&M | 4 | Project will have significant impact on O&M |
| Performance (Service Level/Reliability) | 4 | Expected performance failures under normal |
| Public Benefit | 3 | Moderate additional savings |
| Public Health & Safety | 4 | Likely to address significant hazard issues or co |
| Regulatory (Environmental/Legal) | 4 | Regulatory Compliance failure will lead to fine |
| | | |

RC Weighted

Score

76.4

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 3 | |
| 0&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |



216006 CIP#

Assessment and Rehabilitation of WRRF yard piping and underground utilities

| Phase GLWA Emplo | oyees P | rojec | t managen | nent | | Contract | NA | 4 | Sto | atus 🛛 | -uture F | Planned Start | |
|---------------------|----------------------------|--------|--------------|---------------|------------------------------------|------------------|-------------|---------------|------------|--------|----------|---------------|--|
| Title GLWA Salaries | S | | | | | | | | | | | | |
| Phase Budget Wa | stewat | ter | | | | | | Cost Allo | cation CTA | ٩ | | | |
| Phase Status Futu | ure Pla | nned | l Start | | Funding Source Bond Proceeds | | | | | | | | |
| Start Date | | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | | | | | Useful Life >20Yrs? No | | | | | | | | |
| Cost E | Estimati | ion In | formation | | Tot. Federal Loan Amount | | | | | | | \$0 | |
| | 3 Cost Est. Class | | | lass | Program/Allowance Task Information | | | | | | | | |
| 10/1/ | 10/1/2017 Cost Est. Date | | | ate | Р | roject Manag | ger | _ | | | | | |
| | , | | Cost Est. So | ource | e CIP Number | | | | | | | | |
| Ali Khraizat | | | | | D | escription | | | | | | | |
| | | | | | | | | | | | | | |
| Cost Type | | Fis | scal Year | Expens | е | Fringe Benef | itNor | nPersonne | | Comn | nent | | |
| GLWA Salaries CIP20 | 020 | FY20 | C | | \$160 | 63 | 3 | | DB | | | | |
| GLWA Salaries CIP20 | 020 | FY2 | 1 | | \$250 | 99 | | | DB | | | | |
| GLWA Salaries CIP20 | 020 | FY22 | 2 | | \$0 | 0 | | 0 | C Phase | | | | |
| GLWA Salaries CIP20 | 020 | FY22 | 2 | | \$250 | 99 | 7 | | DB | | | | |
| GLWA Salaries CIP20 | 020 | FY2 | 3 | | \$0 | (|) | 0 | C Phase | | | | |
| GLWA Salaries CIP20 | 020 | FY23 | 3 | | \$0 | (|) | 0 | Eng Phase | | | | |
| GLWA Salaries CIP20 | 020 | FY24 | 4 | | \$0 | (|) | 0 | C Phase | | | | |
| GLWA Salaries CIP20 | GLWA Salaries CIP2020 FY24 | | | \$0 | (| כ | 0 Eng Phase | | | | | | |
| Prior Yr Actuals | FY1 | 19 | FY20 | FY21 | FY2 | 22 FY23 | | FY24 | FY25+ | Tc | otal | | |
| | | 0 | 223 | 349 | | 349 | 0 | 0 | | | 921 | | |
| | 1 | | | nase Total Ex | xpense | es By FY (All fi | gure | es are in \$1 | ,000's) | | | | |

| GLWA Great Lakes Water Authority | | GLWA FY 2020-2024 CIP chabilitation of WRRF yard piping and underground u | | | | | | | | | | |
|-------------------------------------|-----------------------------|--|----------------|--------------------------------|------------------------------|-----------|---------------|--------------------|---------------|---------|-----|--|
| Phase Design and Bu | vild | | | Contract NA Status Future Plan | | | | | | | art | |
| Title Assessment and | d Rehab | vilitation of WR | FF yard pipir | ng and | l under | ground ι | utilities | | | | | |
| Phase Budget Was | tewater | | | | | | | | | | | |
| Phase Status Futu | re Plann | ed Start | | | Funding Source Bond Proceeds | | | | | | | |
| Start Date | Start Date 9/13/2019 | | | | | | | Fund Con | struction Bor | nd Fund | | |
| End Date | | 10/19/ | 2024 | | | | Useful Life > | 20Yrs? Yes | | | | |
| Cost Es | timatior | n Information | | | | | | | | | | |
| | 5 | Cost Est. C | lass | | | Pro | ogram/Allov | wance Task | Information | | | |
| 9/12/2 | 9/12/2018 Cost Est. Date | | | | roject N | Λanager | | | | | | |
| Eng | | | st Est. Source | | IP Num | ber | | | | | | |
| Ali Khraizat | | | repared By | D | escript | ion | | | | | | |
| Cost Type | | Fiscal Year | Expense | 9 | Fringe | BenefilNo | onPersonne | (| Comment | | | |
| Other | F | Y22 | | \$0 | | | | | | | | |
| Design-Build | F | Y20 | | \$100 | | | | | | | | |
| Design-Build | | Y21 | · · | ,909 | | | | | | | | |
| Design-Build | | Y22 | · · · · | ,500 | | | | 2020CIP | | | | |
| Design-Build Design-Build | | Y23 Y24 | · · | ,500 ,500 | | | | 2020CIP 2020CIP | | | | |
| Design-Build | | Y25+ | • | ,423 | | | | 2020CII 2020CIP | | | | |
| Task | | Start Date | End Date | Dure | ation | | | | | | | |
| Scope Development | | | | | | | | | | | | |
| Procurement | | 7/1/2020 | 2/6/2021 | | 220 | | | | | | | |
| Project Execution | | 2/7/2021 | 5/16/2026 | | 1924 | | | | | | | |
| Project Closeout | | 5/17/2026 | 7/16/2026 | | 60 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | FY24 | FY25+ | Total | | | |
| | | 0 100 | 4,909 | 3 | ,500 | 4,500 | 3,500 | 7,423 | 23,932 | | | |



Assessment and Rehabilitation of WRRF yard piping and underground utilities

| | Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | | | | | | | | | | | |
|------|--|------|-------|-------|--------|--------|--------|--------|--------|-------|--------|--|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | 1,700 | 2,000 | 12,000 | 15,600 | 16,279 | 4,141 | 0 | 0 | 51,720 | |
| 2019 | 0 | | | | 1,718 | 4,008 | 7,174 | 17,530 | 24,026 | 0 | 54,456 | |
| 2020 | 0 | 0 | | 0 | 323 | 5,258 | 3,849 | 4,500 | 3,500 | 7,423 | 24,853 | |



\Box Innovation

□ Water MP Right Sizing

Reliability/Redundancy

Project Engineer/Manager Phillip Kora

Manager Philip Kora Managing Dept WW Constr Eng

Year Project Added to CIP 2017

Date Original Business Case Prepared 7/27/2016

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP $\ \square$

The new 3rd 120/13.8 kV Transformer installed and owned by the Great Lakes Water Authority waiting for the 3rd Primary Electric Feed Line to be installed and energized



| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class LvI 3 | General Purpose |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

Project Significance GLWA's WWTP will have a redundant primary electrical service to power the WRRF equipment.

Scope of Work The scope of this design-build project includes design and construction of 3rd 120 kV primary electric supply transmission line owned by DTE tapping into the 120-kV Waterman-Zug line in the vicinity of Dearborn St. and Copland St right-of-way at Tower 1368. The design-build services also include securing the property right-of-way easements from the property owners, as well as the design and construction of power transmission supply line. This primary transmission power line will energize the already installed new 120-13.8 industrial substation owned by GLWA near EB-1.

Challenges Negotiation with private property owners and testing of the automatic switch over will require co-ordination with operations.

Project History The WRRF has been supplied primary electrical power through the DTE Maxwell Switching Station via two power supply lines Maxwell 1 and Maxwell 2. The two main electrical buildings at the WRRF which feed the primary and secondary facilities are Electrical Building 1 and 2 (EB-1 and EB2). EB2 supply electrical power to the pump station #1 and all the primary treatment facilities. EB1 supply power to pump station #2, secondary treatment facilities, dewatering, incineration and all other remaining facilities. The City of Detroit's Public Lighting Department (PLD) provided a redundant 24kV back-up electrical services to EB2 through the City of Detroit 24kV industrial substation. In the event of DTE power supply failure the PLD 24kV power supply line provided redundancy and reliability to EB2. The back-up power supply by PLD at EB-2 required a manual switch over in the event of DTE power failure. The City of Detroit's PLD discontinued its power generation in the late 1980's. PLD also started curtailing electrical power supply distribution to its customers. The study by HRC in 1988 and later by Metcalf &



GLWA FY 2020-2024 CIP DTE Primary Electric 3rd Feed Supply to WRRF

Eddy in the early 90's during design and construction of Pump Station # 2 project identified the need for a 3rd primary electrical supply line. In order to provide reliable and redundant primary electric power supply to the WRRF after the September 8, 2011 power failure event, GLWA initiated a consulting services contract "CS-1449 Underground Electrical Duct Bank Repair and EB-1, EB-2 and EB-10 Primary Power Services Improvements at the WWTP". This CS-1449 scope required to study and design reliable and redundant primary electrical power system improvements. The study recommended to abandon PLD's 24kV back-up electric power supply to EB-2 and replace with a 3rd power supply feed line from DTE's Waterman substation. In addition to the 3rd power feed line, the study also recommended a new 120-13.8 kV transformer near EB-1 and a new 15kV power supply line to EB-2, to address power redundancy and reliability. Construction of the primary power services improvements design through CS-1449 were procured through contract PC-783. The contract PC-783 in the 1st quarter of 2016 abandoned and removed the 24kV power feed line and industrial substation owned by PLD. On May 29, 2012, GLWA signed a letter of agreement with DTE to provide a 3rd 120kV feed transmission line owned by DTE (paid by GLWA) to a new 120-13.8 kV industrial substation built and owned by GLWA. The DTE agreed to obtain all required property right-of-way and easements for the route with reasonable effort per the agreement with GLWA. The PC-783 contract allocated \$1.30 Million budget for DTE to execute these services. GLWA, through construction contract PC-783, has already installed a new 120-13.8 industrial substation near EB-1, a new 15kV power supply line from the new transformer to EB-2, and removed 24kV back-up electrical service line and industrial substation owned by PLD. However, DTE failed to get property right-of-way and easements for the route. DTE's original design route for transmission line was along the railroad tracks but the rail company declined to provide right-ofway for DTE's new transmission line. DTE later planned a longer transmission route to buy property from private owners, but a property owner increased the price sensing urgency for GLWA. The new cost estimate by DTE for this new transmission line is \$4.3 Million. GLWA's WRRF requires a reliable and redundant electrical power supply in order to be in compliance with NPDES permit requirements. The disconnection and removal of backup power supply from PLD leaves GLWA vulnerable for power failure and this urgent power supply line needs to be installed at the earliest. In order to speed design and construction GLWA is proposing a design-build project delivery method for the 3rd power supply line project. Presently there is no true redundant primary electrical service feed line to the WRRF, both the primary electric supply lines originate from the DTE Maxwell Switching Station. GLWA's General Counsel is currently working on utilizing the "Condemnation Process" to acquire easement from the private property owners for this route.

Related Project PC-783 project.

Lookup Driver 3 - Regulatory

Other Important Info n/a

Explanation GLWA's WWTP requires a reliable and redundant primary electrical power supply in order to be in compliance with its NPDES permit requirements. The disconnection and removal of backup power supply line and substation from PLD leaves GLWA very vulnerable in



PM Weighted Score

89.8

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 5 | Immediate replacement/rehabilitation require |
| Efficiency and Innovation | 3 | Project will have a moderate impact on enerç |
| Financial | 5 | Project will result in avoidance of fines |
| O&M | 2 | Repair of equipment will cost money in case c |
| Performance (Service Level/Reliability) | 5 | High Risk of Performance Failures |
| Public Benefit | 5 | Additional Savings for GLWA |
| Public Health & Safety | 5 | Catastrophic failure w/safety/health/environn |
| Regulatory (Environmental/Legal) | 5 | Imminent risk of causing permit violations |

RC Weighted

Score

82.8

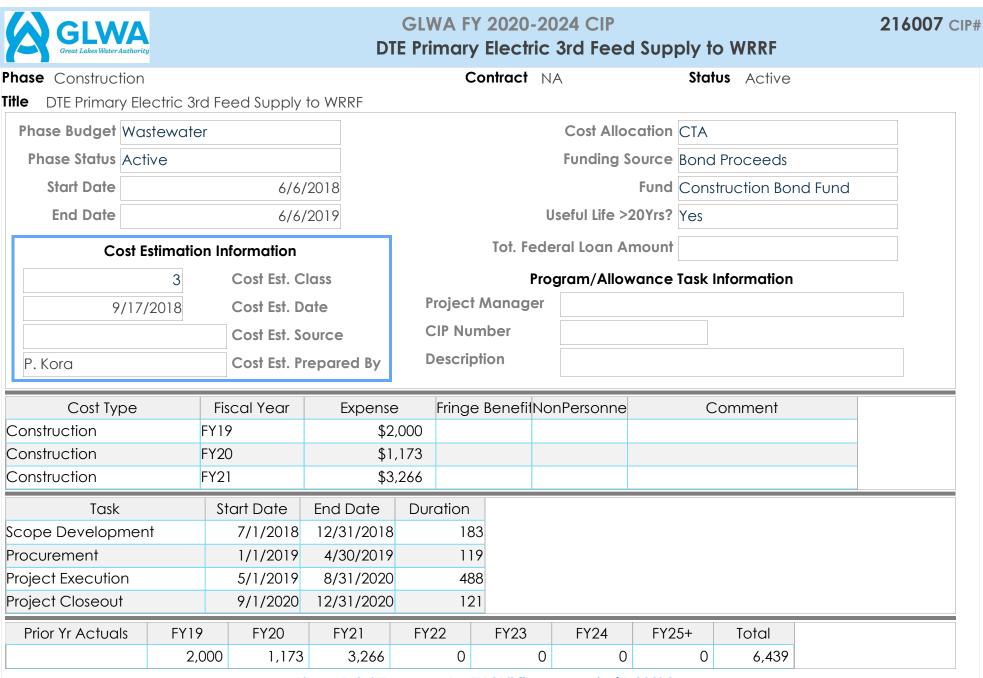
| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 1 | |
| Financial | 5 | |
| 0&M | 2 | |
| Performance (Service Level/Reliability) | 5 | |
| Public Benefit | 5 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 5 | |



216007 CIP#

DTE Primary Electric 3rd Feed Supply to WRRF

| Phase GLWA Employe | ees Pro | oject mana | igemen | ıt | | Co | ontract N | A | | Statu | s Active | | |
|----------------------------|---------|------------|-----------|---------|------------------------------------|---------------------|-----------|---------------|-----------|--------|-------------|---------|--|
| Phase Budget Wast | ewate | r | | | | | | Cost Allo | ocation (| CTA | | | |
| Phase Status Activ | | | | | Funding | Source E | Bond I | Proceeds | | | | | |
| Start Date | | | | | | | | | Fund (| Constr | ruction Bor | nd Fund | |
| End Date | | | | | | | U | lseful Life > | 20Yrs? | 10 | | | |
| Cost Est | imatio | n Informat | ion | | Tot. Federal Loan Amount | | | | | | | \$0 | |
| | 3 | Cost E | st. Class | ; | Program/Allowance Task Information | | | | | | | | |
| 9/17/2 | 018 | Cost E | st. Date | | Р | roject | Manager | | | | | | |
| | | Cost E | st. Sourc | e | CIP Number | | | | | | | | |
| P. Kora | | Cost E | st. Prepo | ared By | D | escrip ¹ | lion | | | | | | |
| Cost Type | | Fiscal Ye | ar | Expense | e | Fringe | BenefilNo | nPersonne | ; | Сс | omment | | |
| GLWA Salaries CIP202 | 20 | FY19 | | | \$40 | | 16 | 2 | 2 | | | | |
| GLWA Salaries CIP202 | 20 | FY20 | | | \$40 | | 16 | 2 | | | | | |
| GLWA Salaries CIP2020 FY21 | | | | \$40 | | 16 | 2 | | | | | | |
| Prior Yr Actuals | FY19 | FY2 | 0 | FY21 | FY2 | 22 | FY23 | FY24 | FY25 | + | Total | | |
| | | 58 | 58 | 58 | | 0 | 0 | (|) | 0 | 174 | | |



| GLWA Great Lakes Water Authority | | | D | | WA FY 2020 imary Electi | | d Supply to | o WRRF | 216007 C | | | |
|-------------------------------------|-----------|--------------|-----------|--------------------------|----------------------------|---------------|--------------|------------|-----------------|--|--|--|
| Phase not applicable | | | | | Contract | NA | Stat | us Closed | l Out | | | |
| Title Prior Year Actual | Expense | S | | | | | | | | | | |
| Phase Budget Waste | water | | | | | Cost Allo | ocation CTA | | | | | |
| Phase Status Closed | d Out | | | | | Funding | Source | | | | | |
| Start Date | | | | | | | Fund | | | | | |
| End Date | | | | | | Useful Life > | >20Yrs? | | | | | |
| | | | | | | | | | | | | |
| Cost Estir | nation In | formation | | Tot. Federal Loan Amount | | | | | | | | |
| | 1 | Cost Est. C | ass | | I | Program/Allo | wance Task I | nformation | | | | |
| | | Cost Est. Do | ate | F | Project Manag | er | | | | | | |
| | | Cost Est. Sc | ource | (| CIP Number | | | | | | | |
| | | Cost Est. Pr | epared By | 0 | Description | | | | | | | |
| Cost Type | Fis | scal Year | Expens | e | Fringe Benefit | NonPersonne | e C | comment | | | | |
| Construction | FY18 | | • | - \$292 | | | FY18 | | | | | |
| Engineering Services | FY18 | 3- | | \$25 | | | FY18 | | | | | |
| Other | FY18 | 3- | | \$251 | | | FY18 | | | | | |
| Unknown | FY18 | 3- | | \$15 | | | FY17 | | | | | |
| Unknown FY18- | | | | \$1 | | | to reconcile | with LTD | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 FY23 | FY24 | FY25+ | Total | | | | |
| 584 | | | | | | | | 584 | | | | |

| | GLWA Great Lakes Water Authorit | ty | | [| | GLWA FY 2020-2024 CIP TE Primary Electric 3rd Feed Supply to WRRF | | | | | | | | |
|---------|------------------------------------|---------------|--------------|--------------|-----------------|--|----------|------------|---------|-----------|-----------|-------|-------|---|
| Phase | Design & Co | nstruction A | ssistance | | | Contrac | t TBD | | | Status | Active | | | |
| Title [| DTE Primary El | ectric 3rd Fe | eed Supply | to WRRF | | | | | | | | | | |
| Phas | e Budget Wo | istewater | | | | | С | ost Allo | cation | CTA | | | | |
| Pho | ase Status Ac | tive | | | | | Fu | nding S | ource | Bond Pro | oceeds | | | |
| 5 | Start Date | | | | | | | | Fund | Construe | ction Bor | nd Fu | nd | |
| | End Date | | | | | | Usef | ul Life >: | 20Yrs? | Yes | | | | |
| | 0 | - 19 | f | | 1 | Tot | Federal | Loan A | mount | | | | \$0 | |
| | Cost I | Estimation Ir | | | | 101. | | | | | | | φU | |
| | | 4 | Cost Est. C | | | | - | m/Allov | vance | Task Info | rmation | | | |
| | 9/13 | /2018 | Cost Est. D | ate | Project Manager | | | | | | | | | |
| Estir | nate | | Cost Est. So | ource | CIP Number | | | | | | | | | |
| Eng | ineering | | Cost Est. Pr | repared By | De | scription | | | | | | | | |
| | Cost Type | Fi | scal Year | Expen | se F | ringe Bene | filNonPe | ersonne | | Com | nment | | | |
| Engine | ering Service | es FY1 | 9 | | \$50 | | | | 2020CI | P | | | | |
| Engine | ering Service | es FY2 | 0 | | \$150 | | | | 2020CI | P | | | | |
| Engine | ering Service | es FY2 | 1 | | \$50 | | | | 2020CI | P | | | | |
| Prio | r Yr Actuals | FY19 | FY20 | FY21 | FY22 | 2 FY2 | 3 | FY24 | FY2 | 25+ | Total | | | |
| | | 50 | 150 | 50 |) | | | | | | 250 | | | |
| | | | PI | nase Total I | xpenses | By FY (All | igures a | re in \$1 | ,000's) | | | | | |
| | Proje | ect Total B | Expenses | By FY Co | ompare | ed to Prio | r CIPs | (All fig | gures | are in 3 | \$1,000' | 's) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | ? F | Y23 | FY24 | FY2 | 5 | Total | |
| 2018 | | | 3,500 | 3,500 | | | | | | | 0 | 0 | 7,00 | _ |
| 2019 | | D 15 | | 2,002 | 1,326 | | | | | | | 0 | 6,66 | _ |
| 2020 | (| 0 C | 584 | 2,108 | 1,381 | 3,374 | | 0 | 0 | | 0 | 0 | 7,44 | 7 |



GLWA FY 2020-2024 CIP Rehabilitation of Screened Final Effluent (SFE) Pump Station

\checkmark Innovation

✓ Water MP Right Sizing

□ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP ☑

Project Engineer/Manager Ali Khraizat Manager Ali Khraizat Managing Dept WW Design Eng Date Original Business Case Prepared 6/21/2017 Year Project Added to CIP 2018



| Budget | Wastewater |
|----------------------|------------------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | WRRF |
| Class Lvl 3 | Secondary Treatment & Disinfection |
| Location | City of Detroit |
| Fund and Cost Center | Wastewater - 5421-892211 |

| Project Significance | The SFE Pump Station provides SFE water to many of the GLWA WRRF treatment processes and needs to be completely rehabilitated to maintain uninterrupted supply of SFE water to these processes. |
|----------------------|---|
| Scope of Work | This project will include the study, design, and construction for the needed improvements to the SFE pump station. This includes required capacity, pumps, strainers, piping, controls, building improvements, and electrical supply. This will also include a study to evaluate the potential for replacing the secondary water utilization with SFE utilization where feasible and an alternative analysis to the existing carrier water at chlorination/dechlorination facility, seal water, recovery needs which may include additional SFE treatment such as chemical addition to accommodate process needs. |
| Challenges | Maintaining the adequate supply of SFE to the plant treatment processes during construction of the SFE improvements. |
| Project History | The SFE pump station has eight pumps with a total capacity of approximately 135 MGD. Pumps 1,2,4, and 6 were installed in 1973, pumps 3 and 5 in 1980, and pumps 7 and 8 in 1998. The older pumps were rebuilt in 1998. Strainers have been reconditioned as necessary over time. Due to the critical nature of the SFE pump station and the elapsed time since a major rehabilitation (over 15 years), a significant upgrade/rehabilitation is required. In addition, the two 5 kV transformers that supply power from EB-3 are approximately 40 years old and are in need of replacement. |
| Related Project | There are no other specific projects for the SFE pump station that need to be coordinated with, however many other projects require SFE to consistently supply the required quantities needed. This will need to be coordinated with these projects during construction of the improvements. |
| Lookup Driver | 1 - Condition |



Rehabilitation of Screened Final Effluent (SFE) Pump Station

Other Important Info *Innovation note: optimize of a valuable resource recovered for facility needs.

Explanation The SFE pump station is very old and is critical to other treatment processes meeting permit requirements (e.g. incinerator air permit requirements). The Secondary Water System is very corroded and needs to be rehabilitated or relocated.



PM Weighted Score

55.8

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 5 | Some components are passed their useful life |
| Efficiency and Innovation | 4 | Project will have a significant impact on efficie |
| Financial | 4 | Exposure to multiple fines for permit violations |
| O&M | 4 | Significant O&M is required to keep the SFE in |
| Performance (Service Level/Reliability) | 2 | Much of the equipment is out frequently out c |
| Public Benefit | 2 | Public will benefit from improved air quality |
| Public Health & Safety | 1 | Permit violations would cause both air quality |
| Regulatory (Environmental/Legal) | 2 | If the SFE pump station goes down, there is an |

RC Weighted

Score

55.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 4 | |
| Financial | 4 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 2 | |
| Public Benefit | 2 | |
| Public Health & Safety | 1 | |
| Regulatory (Environmental/Legal) | 2 | |



216008 CIP#

Rehabilitation of Screened Final Effluent (SFE) Pump Station

| Phase GLWA Employee Title GLWA Salaries | s Projec | t managen | nent | | Contract | NA | Sta | tus Future I | Planned Start | | |
|--|----------|--------------|-----------|---------------------------------|--------------|---------------|-------------|---------------|---------------|--|--|
| Phase Budget Wastew | vater | | | Cost Allocation CTA | | | | | | | |
| Phase Status Future F | Planned | Start | | | | Funding S | Source Bond | d Proceeds | | | |
| Start Date | | | | | | | Fund Cons | struction Bor | nd Fund | | |
| End Date | | | | | | Useful Life > | 20Yrs? No | | | | |
| Cost Estim | ation In | formation | | | Tot. Fe | deral Loan A | mount | | \$O | | |
| | 3 | Cost Est. Cl | ass | | P | rogram/Allov | wance Task | Information | | | |
| 10/1/201 | 8 | Cost Est. Do | ate | Pr | oject Manage | r | | | | | |
| | | Cost Est. Sc | ource | CIP Number | | | | | | | |
| | | Cost Est. Pr | epared By | D | escription | | | | | | |
| Cost Type | Fis | cal Year | Expens | pense Fringe BenefitNonPersonne | | | | Comment | | | |
| GLWA Salaries CIP2020 | FY19 |) | | \$8 | 3 | 0 | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY20 |) | | \$65 | 26 | | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY21 | l | | \$65 | 26 | | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY22 | 2 | | \$125 | 50 | | 2020CIP | | | | |
| GLWA Salaries CIP2020 | FY23 | 3 | | \$75 | 30 | | 2020CIP | | | | |
| GLWA Salaries CIP2020 FY24 | | | | \$25 | 10 | | 2020CIP | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 FY23 | FY24 | FY25+ | Total | | | |
| | 11 | 91 | 91 | | 175 10 | 5 35 | | 508 | | | |



216008 CIP#

Rehabilitation of Screened Final Effluent (SFE) Pump Station

| Phase Construct | ion | | | | Co | ntract | NA | Sto | itus Future | e Planned Start | | |
|-------------------|------------|-------------------|---------------|----------------|-----------------|----------|---------------|------------|--------------------|-----------------|--|--|
| Title Rehabilitat | ion of Scr | eened Final Efflu | ent (SFE) Pur | np Sto | ation | | | | | | | |
| Phase Budget | Wastewa | ter | | | | | Cost Allo | cation CTA | | | | |
| Phase Status | Future Plo | inned Start | | | | | Funding S | Source Bon | Bond Proceeds | | | |
| Start Date | | | | | | | | Fund Con | struction B | ond Fund | | |
| End Date | | | | | | | Useful Life > | 20Yrs? Yes | | | | |
| Со | st Estimat | ion Information | | | | Tot. Fee | deral Loan A | mount | | \$0 | | |
| | 5 | Cost Est. C | lass | | | Рі | rogram/Allov | wance Task | Informatio | n | | |
| 9, | /12/2018 | Cost Est. D | ate | Р | roject <i>N</i> | Nanage | r | | | | | |
| Eng | | Cost Est. S | ource | CIP Number | | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | By Description | | | | | | | | |
| Cost Typ | be | Fiscal Year | Expense | Э | Fringe | Benefith | IonPersonne | (| Comment | | | |
| Construction | | FY22 | \$9 | ,000 | | | | 2020CIP | | | | |
| Construction | | FY23 | \$7 | ,500 | | | | 2020CIP | | | | |
| Construction | | FY24 | \$5 | 5,400 | | | | 2020CIP | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| Procurement | | 12/11/2020 | 6/9/2021 | | 180 | | | | | | | |
| Project Execution | า | 6/10/2021 | 10/11/2023 | 5 | 853 | | | | | | | |
| Project Closeout | | 10/12/2023 | 12/11/2023 | 5 | 60 | | | | | | | |
| Prior Yr Actual | s FY | 19 FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | | |
| | | | 0 | 9 | 9,000 | 7,500 | 5,400 | | 21,900 | 0 | | |

| GLWA Great Lakes Water Authority | y | | Rehabilite | | | 2020-20 eened | | uent (SF | E) Pump Station | 216008 CI | | | |
|--|--------------------------|-----------------|---------------|---------------------|------------|------------------|--------------|--------------------|----------------------|-----------|--|--|--|
| Phase Study and De | esign and | d Constructior | Assistance | | Con | tract NA | ٩ | St | atus Future Planned | Start | | | |
| Title Rehabilitation | of Scree | ned Final Efflu | ent (SFE) Pun | np Static | on | | | | | | | | |
| Phase Budget Wa | stewater | - | | Cost Allocation CTA | | | | | | | | | |
| Phase Status Fut | ure Planr | ned Start | | | | | Funding S | Source Bor | nd Proceeds | | | | |
| Start Date | | | | | | | | Fund Co | nstruction Bond Fund | | | | |
| End Date | End Date | | | | | | seful Life > | 20Yrs? Yes | | | | | |
| Cost E | | | ١ | lot. Fede | ral Loan A | mount | | \$0 | | | | | |
| | 4 | Cost Est. C | lass | | | Prog | gram/Allov | wance Tas | k Information | | | | |
| 9/12 | 9/12/2018 Cost Est. Date | | | | | | | | | | | | |
| Eng | Eng Cost Est. Source | | | | | er | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | / Description | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | ə Fri | inge Be | enefilNor | nPersonne | | Comment | | | | |
| Engineering Service | s F | Y19 | | \$40 | | | | 2020CIP | | | | | |
| Engineering Service | s F | Y20 | \$1 | .000 | | | | 2020CIP | | | | | |
| Engineering Service | | Y21 | | \$900 | | | | 2020CIP | | | | | |
| Engineering Service | | Y22 | | \$300 \$000 | | | | 2020CIP | | _ | | | |
| Engineering Service Engineering Service | | Y23 Y24 | | \$200 \$100 | | | | 2020CIP 2020CIP | | | | | |
| Task | .5 | Start Date | End Date | Durati | ion | | | 2020 011 | | | | | |
| Scope Developmer | nt. | 9/12/2018 | 12/28/2018 | | 107 | | | | | | | | |
| Procurement | | 1/2/2019 | 8/10/2019 | | 220 | | | | | | | | |
| Project Execution | | 8/11/2019 | 10/11/2023 | | 1522 | | | | | | | | |
| Project Closeout | | 10/12/2023 | 12/11/2023 | | 60 | | | | | | | | |
| | 5)(1.0 | 5)(00 | EVO1 | FY22 | | | FY24 | FY25+ | Total | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FIZZ | | FY23 | FTZ4 | 11231 | Total | | | | |



216008 CIP#

Rehabilitation of Screened Final Effluent (SFE) Pump Station

| | Proje | ct Total I | Expenses | s By FY C | ompare | d to Prio | r CIPs (Al | l figures | are in \$1 | ,000's) | |
|------|-------|------------|----------|-----------|--------|-----------|------------|-----------|------------|---------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2020 | 0 | 0 | | 51 | 1,091 | 991 | 9,475 | 7,805 | 5,535 | | 24,948 |



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

222001 CIP#

| Innovation Water MP Right Size Reliability/Redund NEWTP Repurposition | | Aerial photo, far left, of Oakwood Sewer District depicting previously designed relief sewers tributary to Oakwood Pump Station and CSO Retention Treatment Basin. Part of the planned relief sewers and associated hydraulic structures were constructed between | | | | | | |
|--|---|---|--|--|--|--|--|--|
| Project Engineer/Mai | nager Todd King | Budget Wastewater | | | | | | |
| Mai | nager Todd King | Class Lvl 1 Wastewater | | | | | | |
| Managing | Dept Field Services | Class Lvl 2 Field Services | | | | | | |
| Date Original Busines | s Case Prepared 7/27/2016 | Class Lvl 3 Interceptors | | | | | | |
| Year Proje | ect Added to CIP 2014 | Location Multiple Counties | | | | | | |
| | | Fund and Cost Center Wastewater - 5421-892211 | | | | | | |
| | recommended in report by Applied Science Sewers, 2) Analysis and improvement of Oak | tary Sewer system and implementation of various projects as es, Inc. Dated 2/26/16. Projects to include: 1) Clean & Inspect Trunk kwood PS/RTB operations, 3) Second influent sewer to Oakwood PS, cts to be prioritized and validated as part of Wastewater Master Plan | | | | | | |
| Scope of Work | The work includes basis of design (study) report on alternative solution to proposed Oakwood District Intercommunity Relief Sewer, diversion of storm water flow, and construction assistance during construction phase of emerging projects. Coordinate with DWSD projects including catch basin restrictions and green spaces. | | | | | | | |
| - | Maintaining the wet weather contract capacities and adequate CSO treatment during extreme storm events and mitigate basement and street flooding in the District and intercommunity regional districts are the most significant challenges for the project to address. | | | | | | | |
| | The Oakwood District is located in the southwest portion of the City of Detroit covering an area of 1,520 acres. In general, it's bound within by a continuous stretch of the northerly and westerly bank of the Rouge River, thence stretches of the city limits of River Rouge and Ecorse to the south, thence a stretch of the city limits of Lincoln Park B-192 | | | | | | | |



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

222001 CIP#

to the far lower west (abutting a stretch of Outer Drive near the adjacent watercourse of Ecorse Creek further west), thence a stretch of the city limits of Melvindale to the north near I-75 (between Outer Drive and Schaefer Hwy), thence a continued stretch of city limits of Melvindale to the upper west abutting Schaefer Hwy (between I-75 and the point of beginning along southerly embankment of the Rouge River adjacent Mellon Ave. Much of the District was originally platted as Oakwood Village, later annexed to the City of Detroit. Some areas of the District are situated in relatively low-lying, flood prone topographies. Much of the combined sewer drainage system was originally designed and built since the 1930's with laterals and larger trunk and intercepting sewers tributary to the former (and present replacement) Oakwood Pumping Station situated near the intersection of Sanders and Liddesdale Street. In early years, combined sanitary and intercepted storm runoff flow drained to that pump station was coarsely screened, pumped (lifted) and, in turn, conveyed though two discharge conduits tributary to a segment of O'Brien Drain--a natural and man-made (modified) stream confluent to the Rouge River-without further treatment.

Whereas much of the remaining area of the District, predominantly that north of Fort Street and east of Schaefer highway (a/k/a Oakwood Heights), is situated on relatively higher terrain. Originally, good portions of this area4 connected to public sewers drained to other streams or outfalls tributary to the Rouge and otherwise drained to the original municipal wastewater treatment plant in Detroit via other lateral, trunk and intercepting sewers tributary to an original 24" siphon connection constructed beneath the Rouge River just south of the Fort Street bridge to the city's 12'-9" Oakwood Interceptor also constructed in the 1930's extending from the WWTP, largely paralleling the Rouge River to a point ending just north of Fort Street beneath Miller Road.

In the 1940's, a 3'-0" sewer was constructed from the original pump station's discharge channel which proceeded northerly beneath Sanders St and thence easterly beneath Fort St to a drop shaft hydraulic structure at below intersection at Bayside St in turn connected with a 24" siphoned sewer running easterly beneath the Rouge River and connecting with a downstream hydraulic connection to the City's 12'-9" Oakwood Interceptor (later renamed Oakwood Northwest Interceptor, or ONWI) tributary to the WWTP (originally built in the 30's and placed into operation in early 40's) to primarily convey pumped sanitary (dry weather) flow from the southerly portion of the District to the treatment plant. Continued sewer modifications in the District promoted the intercepting sewers constructed along Pleasant, Sanders and elsewhere connecting with the main Liddesdale Interceptor—the primary influent sewer to pump station.

In the 1950's, to meet increased service needs in the far western sewer districts of the City of Detroit and neighboring communities of Wayne County and otherwise mitigate increased public health risks, the county (with endorsements from a coalition of these municipalities) commissioned construction of the 10'-0" cylinder Northwest Interceptor (NWI). The NWI was constructed in segments, phased over 10 years. Its alignment generally extends 15 miles northwest from its terminus near Fort and Bayside within the Oakwood District --largely following the original watercourse of main trunk of the Rouge thence northerly beneath the Southfield Freeway (M-39) to a connection with the tributary 7'-6" cylindrical Ford Road intercepting sewer—which transports upstream drainage from Detroit's Rouge River District as well as drainage from several hydraulically-connected suburban communities. The NWI's transport capacity, although initially sized to convey wet weather flows resulting up to the



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

222001 CIP#

typical 10-year uniform rainstorm simulated across the collection system, contributes to 1/4 or more of all annual tributary influent flows to the WRRF, on average—depending on prevailing transport capacities along its extensive run as well as limited transport capacities within the downstream ONWI. It should be recognized that the sole hydraulic-connection from the Oakwood Sewer District for drainage to the NWI is via a drop manhole connection of the aforementioned 36" sanitary discharge main leading from the new (replacement) Oakwood pump station and integral CSO retention treatment basin built in 2011 (PC-755). This connection, which is located beneath Fort St just upstream of the above-mentioned 1950's hydraulic drop shaft structure located at Fort at Bayside with a connected 6'-3" siphon to the ONWI. For more information on Oakwood District refer to Section 2.4 of the linked Description of Sewer Service Districts from the 2003 Wastewater Master Plan, some subject to revisions, since the Oakwood Pump Station and CSO Control Facility was constructed in 2011. Also for further reference, refer to linked Oakwood District Sewer Maps. Prior Drainage Plans; Continued Interim Plans As part of overall renovation, larger, deeper intercepting sewers and relief sewers were proposed to Oakwood District to alleviate the surcharging and flooding of basement. Contact PCS-79 (2011) implemented sewer modifications designed in the Oakwood Heights area as well as Junction Chamber No. 1 at the headworks (influent channels) to the new Oakwood pump station/CSO RTB just east of Pleasant Ave; PCS-80 (2012) implemented select designed relief and replacement sewers in tributary area to the existing 9'-0"- Liddesdale intercepting sewer. In addition, the proposed system also consisted of a replacement of the existing sewer systems through the district area. The existing sewer system generally consists of sewer line located behind homes, which is connecting sanitary flows from homes and storm flows from the catch basins located in the street. Previously, GLWA authorized a new task to Applied Science, Inc. (ASI) under CS-1482 to perform the baseline hydraulic and hydrologic analysis for the impacted areas of the Oakwood District based on the recent condition of the site, such as conversion of the green space by the Marathon Oil Company, current hydrologic factors given the current land use, and assessment of other land and abandoned properties. Moreover, extended efforts have been undertaken by ASI, as engineering representative of Wayne County, and GLWA to address wet weather capacity needs for the intercommunity districts tributary to GLWA's NWI and the county's Rouge Valley Interceptor (1965) illustrated on above map)--which are hydraulically-connected with a passive structure (B-097) built in the 1960's at their crossing (i.e., double 6'-6" siphons of the RVI beneath the NWI's alianment) in proximity of Pleasant Ave and Oakwood Ave intersection.

Related Project CS-1482, Oakwood District Analysis (ongoing) ; CS-1522 (DWSD), Green Infrastructure; Wastewater Master Plan (GLWA CS-036) ; CS-1525, Regulatory Assistance

Lookup Driver 2 - Performance

Other Important Info Refer to linked aerial photo of Oakwood District with overlay of proposed new sewers, as built drawings of recent construction in the District for PCS-79, PCS-80 and PC-755; map of Intercommunity Collection System including portion of Oakwood District shown above—and other select resources linked below.

Explanation Preferred alternative wet weather relief sewer modifications to mitigate historical basement and street flooding in impacted districts and otherwise provide increased flow transport and treatment for economic, ecologic and



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

societal benefit of customers in



Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

| PM Weighted Score | | |
|---|-------|---------|
| 51.8 | | |
| Criteria | Score | Comment |
| Condition | 1 | |
| Efficiency and Innovation | 3 | |
| Financial | 3 | |
| 0&M | 1 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 2 | |

RC Weighted

Score

51.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 1 | |
| Efficiency and Innovation | 3 | |
| Financial | 3 | |
| O&M | 1 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 2 | |



222001 CIP#

Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

| hase Construct | ion | | | | Co | ontract N | 4 | Stat | us Future | Planned Start | |
|-----------------------|------------------|-------|-------------|--------------|------------------------------------|-----------|-------------|-----------|-----------|---------------|--|
| | | ercor | nmunity Re | lief Sewer M | odification a | It Oakwoo | d District | | | | |
| Phase Budget | Wastewate | er | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Future Plar | nned | Start | | Funding Source Bond Proceeds | | | | | | |
| Start Date | | | 8/1/ | 2021 | Fund Construction Bond Fund | | | | | | |
| End Date | | | 6/16/ | 2024 | Useful Life >20Yrs? Yes | | | | | | |
| Co | st Estimatio | on In | formation | | | Tot. Fede | ral Loan An | nount | | | |
| | 5 | | Cost Est. C | lass | Program/Allowance Task Information | | | | | | |
| | Cost Est. Date | | ate | Project | Project Manager | | | | | | |
| | Cost Est. Source | | ource | CIP Number | | | | | | | |
| | | | Cost Est. P | repared By | Descript | lion | | | | | |
| Task | | St | art Date | End Date | Duration | | | | | | |
| Scope Developn | nent | | | | | | | | | | |
| Procurement | | | | | | | | | | | |
| Project Executior | า | | | | | | | | | | |
| Project Closeout | | | | | | | | | | | |
| Prior Yr Actual | s FY1 | 9 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| GLW Great Lakes Water | A Authority | Oakwood | l District In | | | 2020- Unity R | | | ⁻ Modific | ation at O | akwooc | 222001 CI I District |
|--------------------------|-----------------------|---------------|----------------|---------|---------|------------------|-----|---------------|----------------------|----------------|------------|-------------------------|
| Phase Study and | 0 | | | | | ontract | | | St | atus Future F | Planned St | tart |
| Title Oakwood | District Inter | rcommunity Re | eliet Sewer Mo | odifica | ition c | it Oakwa | 000 | | | | | |
| Phase Budget | Wastewate | r | | | | | | Cost Alloc | cation CT/ | 4 | | |
| Phase Status | Future Planı | ned Start | | | | | | Funding S | ource Bor | nd Proceeds | | |
| Start Date | | 11/6, | /2019 | | | | | | Fund Co | nstruction Bor | nd Fund | |
| End Date | | 6/12, | /2024 | | | | Us | eful Life >2 | 20Yrs? Yes | | | |
| Co | ost Estimatio | n Information | | | | Tot. Fe | der | al Loan Ar | nount | | | |
| | 5 | Cost Est. C | lass | | | Р | rog | ram/Allow | vance Tas | k Information | | |
| | | Cost Est. D | ate | Pr | oject | Manage | r | | | | | |
| | | Cost Est. S | ource | CI | P Nun | nber | | | | | | |
| | | | repared By | De | escrip | lion | | | | | | |
| | | | | | | | | | | | | |
| Cost Typ | be | Fiscal Year | Expense | ə F | -ringe | Benefith | lon | Personne | | Comment | | |
| Construction | | FY22 | \$3 | ,800 | | | | | 2020CIP | | | |
| Construction | | FY23 | \$10 | ,077 | | | | | 2020CIP | | | |
| Construction | | FY24 | \$10 | ,077 | | | | | 2020CIP | | | |
| Construction | | FY25+ | \$14 | ,077 | | | | | 2020CIP | | | |
| Task | | Start Date | End Date | Durc | ation | | | | | | | |
| Scope Developr | ment | 7/1/2021 | 9/30/2021 | | 91 | | | | | | | |
| Procurement | | 9/30/2021 | 6/28/2022 | | 271 | | | | | | | |
| Project Executio | n | 6/28/2022 | 6/22/2027 | | 1820 |) | | | | | | |
| Project Closeout | ł | 6/22/2027 | 8/21/2027 | | 60 |) | | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY2 | 2 | FY23 | | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 3, | ,800 | 10,07 | 7 | 10,077 | 14,07 | 7 38,031 | | |
| | | Р | hase Total Ex | pense | s By F | Y (All fig | ure | s are in \$1, | ,000's) | | | |

| | | . , | ees Projec | et manager | ment | | Contract | NA | | Status F | uture Planr | ned Start |
|-------|------------|--------|------------|-------------|------------|-----------------------------|---------------|-------------|--------------|-------------|-------------|-----------|
| | LWA Sala | | | | | | | | | | | |
| Phase | e Budget ' | Waste | ewater | | | | | Cost | Allocation | СТА | | |
| Phas | se Status | Future | e Planneo | d Start | | | | Fundi | ng Source | Bond Proc | eeds | |
| St | tart Date | | | | | Fund Construction Bond Fund | | | | | | und |
| E | nd Date | | | | | | | Useful Li | fe >20Yrs? | No | | |
| | Со | st Est | imation Ir | nformation | | 1 | Tot. F | ederal Loc | ın Amount | | | \$0 |
| | | | 5 | Cost Est. C | lass | | | Program/A | Allowance | Task Inforn | nation | |
| | | | | Cost Est. D | ate | Proj | ect Manag | ger | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | |
| | | | | | repared By | Des | cription | | | | | |
| | | | | | | | - | | | | | |
| Prior | Yr Actuals | s | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 5+ To | otal | |
| | | | 0 | 0 | (|) | 0 | 0 | 0 | 0 | 0 | |
| | | | | Р | hase Total | Expenses E | By FY (All fi | gures are i | n \$1,000's) | | | |
| | Pro | ojec | t Total I | Expenses | By FY C | ompare | d to Prio | CIPs (A | l figures | are in \$1 | ,000's) | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 018 | | | | | 550 | 2,750 | 5,500 | 2,200 | | 0 | 0 | 11,000 |
| 019 | | 0 | | | | 10 | 1,372 | 5,961 | 10,292 | 20,365 | 0 | 38,000 |
| 020 | | 0 | 0 | | 0 | 0 | 0 | 3,800 | 10,077 | 10,077 | 14,077 | 38,03 |



GLWA FY 2020-2024 CIP Detroit River Interceptor (DRI) Evaluation and Rehabilitation

| Innovation | Project Status Active | Visual inspection of | |
|--|--|--|--|
| □ Water MP Right Sizin | - | large sew | ver |
| Reliability/Redundaria | | | |
| □ NEWTP Repurposing | Project New To CIP | | |
| Project Engineer/Mana | ger Mini Panicker | Budget | Wastewater |
| Mana | ger Biren Saparia | Class Lvl 1 | Wastewater |
| Managing D | ept SCC | Class Lvl 2 | Field Services |
| Date Original Business (| Case Prepared 10/11/2016 | Class Lvl 3 | Interceptors |
| Year Projec | t Added to CIP 2016 | Location | City of Detroit |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| po | ortions based on the evaluation results are ollection system and to increase its service | e essential to optimize the tran e life. | |
| Scope of Work | ortions based on the evaluation results are | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement t | sportation capacity of the GLWA ecords, investigate the existing o optimize the design capacity of the |
| Scope of Work Pr CC Challenges DI | ortions based on the evaluation results are ollection system and to increase its service eliminary Scope of Work of the Project is o onditions, provide the necessary cleaning | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement t w and infiltration into the colle oth inspection and rehabilitati | sportation capacity of the GLWA ecords, investigate the existing o optimize the design capacity of the ection system. on. Recommendations from these |
| Scope of Work Pr Challenges DI in: Project History Th Da | ortions based on the evaluation results are ollection system and to increase its service eliminary Scope of Work of the Project is c onditions , provide the necessary cleaning ollection system and to minimize the inflo RI may have flow control challenges for b | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement to w and infiltration into the collect oth inspection and rehabilitation aning, rehabilitation or replace eptors and sewers are dated be mpleted in 5 different phases of encrustation and infiltration. So | ecords, investigate the existing o optimize the design capacity of the ection system. on. Recommendations from these ement. pack to 1912 under various contracts. and there were portions deteriorated |
| Scope of Work Pr Challenges DI in: Project History Th Da | ortions based on the evaluation results are ollection system and to increase its service eliminary Scope of Work of the Project is o onditions , provide the necessary cleaning ollection system and to minimize the inflo RI may have flow control challenges for b spections may reveal further need for clean he installation of some of the GLWA interce etroit River Interceptor inspection was cor ith visible surface aggregates, attached et udge deposition with reduced transportat | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement to w and infiltration into the collect oth inspection and rehabilitation aning, rehabilitation or replace eptors and sewers are dated be mpleted in 5 different phases of encrustation and infiltration. So | ecords, investigate the existing o optimize the design capacity of the ection system. on. Recommendations from these ement. pack to 1912 under various contracts. and there were portions deteriorated |
| Scope of Work Pr Challenges Di in: Project History Th Ov Slu | ortions based on the evaluation results are ollection system and to increase its service eliminary Scope of Work of the Project is of onditions , provide the necessary cleaning ollection system and to minimize the inflo RI may have flow control challenges for b spections may reveal further need for clean the installation of some of the GLWA interces etroit River Interceptor inspection was cor ith visible surface aggregates, attached et udge deposition with reduced transportat ON-183 | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement to w and infiltration into the collect oth inspection and rehabilitation aning, rehabilitation or replace eptors and sewers are dated be mpleted in 5 different phases of encrustation and infiltration. So | ecords, investigate the existing o optimize the design capacity of the ection system. on. Recommendations from these ement. pack to 1912 under various contracts. and there were portions deteriorated |
| Scope of Work Pr Challenges Di in: Project History Th De Wi Slu Related Project C | ortions based on the evaluation results are ollection system and to increase its service eliminary Scope of Work of the Project is of onditions , provide the necessary cleaning ollection system and to minimize the inflo RI may have flow control challenges for b spections may reveal further need for clean the installation of some of the GLWA interce etroit River Interceptor inspection was cor ith visible surface aggregates, attached et udge deposition with reduced transportat ON-183 - Condition | e essential to optimize the tran e life. as follows: Review the existing r g/rehabilitation/replacement to w and infiltration into the collect oth inspection and rehabilitation aning, rehabilitation or replace eptors and sewers are dated be mpleted in 5 different phases of encrustation and infiltration. So | ecords, investigate the existing o optimize the design capacity of the ection system. on. Recommendations from these ement. pack to 1912 under various contracts. and there were portions deteriorated |



222002 CIP#

PM Weighted Score 73.2 Criteria Score Comment Condition 5 Efficiency and Innovation 2 Financial 4 0&M 3 Performance (Service Level/Reliability) 4 Public Benefit 4 Public Health & Safety 3 Regulatory (Environmental/Legal) 4

RC Weighted

Score

65.4

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 1 | |
| Financial | 5 | |
| O&M | 1 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |



Detroit River Interceptor (DRI) Evaluation and Rehabilitation

| Phase Construction | | | | | | ntract (| Con-183 | | Statu | s Active | | |
|--------------------|-------------|----------------|----------------|--------|---------|----------|---------------|----------|--------|------------|---------|--|
| Title Con-183 Detr | oit River I | nterceptor (DF | RI) Evaluation | and Re | ehabi | litation | | | | | | |
| Phase Budget Wa | astewate | r | | | | | Cost Allo | cation (| CTA | | | |
| Phase Status Ac | tive | | | | | | Funding S | Source | Bond F | Proceeds | | |
| Start Date | | 10/1/ | 2017 | | | | | Fund | Constr | uction Bor | nd Fund | |
| End Date | | 6/30/ | ′2020 | | | | Useful Life > | 20Yrs? | (es | | | |
| Cost | Estimatio | n Information | | | | Tot. Fed | leral Loan A | mount | | | | |
| | 4 | Cost Est. C | lass | | | Pre | ogram/Allov | wance T | ask In | formation | | |
| 8/31 | 1/2017 | Cost Est. D | ate | Pro | ject N | Nanager | | | | | | |
| Engineering | | Cost Est. S | ource | CIP | Num | ber | | | | | | |
| Biren Saparia | | Cost Est. P | repared By | De | scripti | ion | | | | | | |
| Cost Type | | Fiscal Year | Expense | e Fr | inge | BenefilN | onPersonne | | Сс | omment | | |
| Construction | F | -Y19 | \$2 | ,424 | | | | 2020CIF |) | | | |
| Task | | Start Date | End Date | Durat | ion | | | | | | | |
| Scope Developme | ent | 8/1/2017 | 8/30/2017 | | 29 | | | | | | | |
| Procurement | | 8/30/2017 | 10/30/2017 | | 61 | | | | | | | |
| Project Execution | | 11/1/2017 | 12/30/2018 | | 424 | | | | | | | |
| Project Closeout | | 1/1/2019 | 2/28/2019 | | 58 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | | FY23 | FY24 | FY25 | + | Total | | |
| | 2,4 | 124 0 | 0 | | 0 | С | 0 | | 0 | 2,424 | | |

| GELW Great Lakes Water | Authority | | | Detroit Ri | | NA FY 2020 nterceptor | | | ation and | Rehabilit | 222002 tation |
|-------------------------------------|-----------|-------------|--------------|------------|-------|--------------------------|------|---------------|---------------|------------|------------------|
| Phase not appli Title Prior Year | | | c | | | Contract | | | | JS Closed | |
| Phase Budget | | • | 5 | | | | | Cost Allo | cation CTA | | |
| Phase Status | Close | ed Out | | | | | | Funding S | ource | | |
| Start Date | | | | | | | | | Fund | | |
| End Date | | | | | | | Us | seful Life >: | 20Yrs? | | |
| C | ost Es | timation Ir | formation | | | Tot. F | edei | ral Loan A | mount | | |
| | | 1 | Cost Est. C | lass | | | Prog | gram/Allov | vance Task Ir | nformation | |
| | | | Cost Est. D | ate | P | Project Manag | er | | | | |
| | | | Cost Est. So | ource | C | CIP Number | | | | | |
| | | | Cost Est. Pi | epared By | 0 | Description | | | | | |
| Cost Ty | ре | Fi | scal Year | Expens | е | Fringe Benefi | Nor | Personne | C | omment | |
| Construction | | FY1 | 8- | \$2 | 2,635 | | | | FY18 | | |
| Unknown | | FY1 | 8- | | \$5 | | | | FY17 | | |
| GLWA Salaries C | CIP202 | 20 FY1 | 8- | | \$5 | 2 | 2 | 0 | FY18 | | |
| Prior Yr Actua | Ils | FY19 | FY20 | FY21 | FY | 22 FY23 | | FY24 | FY25+ | Total | |
| 2, | 647 | | | | | | | | | 2,647 | |
| | | | Ы | | | | | | 000'-) | | |

9#

| GLWA Great Lakes Water Authorit | ty | | Detroit Riv | | | 2020- eptor (| | | ation a | nd Ref | nabilit | ation | 222002 CII |
|------------------------------------|-----------|----------------|-------------|------|---------|------------------|-----|--------------|-----------|------------|---------|---------|------------|
| Phase Design and E | Build | | | | Co | ontract | DB | -226 | 5 | Status , | Active | | |
| Title Repair/Rehab | of DRI fr | om Alter Rd to | WRRF | | | | | | | | | | |
| Pool for future proje | ects | | | | | | | | | | | | |
| Phase Budget Wc | istewatei | r | | | | | | Cost Allo | cation C | TA | | | |
| Phase Status Ac | tive | | | | | | | Funding S | ource Bo | ond Proc | ceeds | | |
| Start Date | | | | | | | | | Fund Co | onstruct | ion Bor | nd Fund | |
| End Date | | | | | | | Us | eful Life >2 | 20Yrs? Ye | ∋s | | | |
| | | | | | | Tot Fo | dor | al Loan Aı | mount | | | | |
| Cost I | stimatio | n Information | | | | | | | | | | | |
| | 1 | Cost Est. C | lass | _ | | | - | ram/Allov | vance Ta | isk Infori | mation | | |
| 8/31 | /2017 | Cost Est. D | ate | | - | Manage | er | | | | | | |
| Contractor | | Cost Est. Se | ource | C | IP Nun | nber | | | | | | | |
| Biren Saparia | | Cost Est. Pr | repared By | D | escript | ion | | | | | | | |
| Cost Type | | Fiscal Year | Expense | Э | Fringe | Benefill | √on | Personne | | Comr | nent | | |
| Design-Build | F | -Y19 | \$7 | ,000 | | | | | | | | | |
| Design-Build | F | =Y20 | \$10 | ,000 | | | | | | | | | |
| Design-Build | | FY21 | • | ,000 | | | | | | | | | |
| Design-Build | | =Y22 | \$10 | ,000 | | | | | | | | | |
| Design-Build | | =Y23 | | \$0 | | | | | | | | | |
| Design-Build | ł | FY24 | | \$0 | | | | | | | | | |
| Task | | Start Date | End Date | | ation | | | | | | | | |
| Scope Developmer | nt | 10/1/2017 | 12/31/2017 | | 91 | | | | | | | | |
| Procurement | | 12/31/2017 | 5/20/2018 | | 140 | - | | | | | | | |
| Project Execution | | 5/24/2018 | 3/25/2023 | | 1766 | - | | | | | | | |
| Project Closeout | | 3/25/2023 | 5/24/2023 | | 60 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY25+ | · To | otal | | |
| | 7,0 | 10,000 | 10,000 | 10 | 0,000 | | 0 | 0 | | 0 3 | 37,000 | | |

| GLWA Great Lakes Water Autho | N rity | | Detroit Ri | | | | 2024 CIP DRI) Evalue | ation and | d Reh | abilitat | | 2002 0 |
|---------------------------------|------------------|--------------|---------------|-------|-----------|-------------|-------------------------|------------|----------|-----------|-------------|--------|
| | | Pł | nase Total Ex | pens | es By F | ((All figu | res are in \$1 | ,000's) | | | | |
| Phase To Be Deter | mined | | | | Co | ontract | NA | Ste | atus F | uture Plc | inned Start | |
| Title For Future Ins | pection of D | RI | | | | | | | | | | |
| Phase Budget W | astewater | | | | | | Cost Allo | cation CTA | 4 | | | |
| Phase Status Fu | iture Planned | d Start | | | | | Funding S | ource Bon | nd Proc | eeds | | |
| Start Date | | | | | | | | Fund Cor | nstructi | ion Bond | Fund | |
| End Date | | | | | | | Useful Life > | 20Yrs? Yes | | | | |
| Cost | Estimation II | nformation | | | | Tot. Fee | deral Loan A | mount | | | \$0 | |
| | 4 | Cost Est. C | lass | | | Pr | ogram/Allov | vance Task | k Inforn | nation | | |
| | | Cost Est. De | ate | P | Project I | Managei | r | | | | | |
| Engineering | | Cost Est. So | ource | C | CIP Nun | nber | | | | | | |
| Mini Panicker | | Cost Est. Pr | epared By | 0 | Descript | ion | | | | | | |
| | | | | | | | | | | | | |
| Cost Type | Fi | scal Year | Expense | е | Fringe | BenefitN | onPersonne | | Comm | nent | | |
| Construction | FY2 | 3 | \$1 | ,000, | | | | | | | | |
| Construction | FY2 | 4 | \$1 | ,000, | | | | | | | | |
| Construction | FY2 | 5+ | \$5 | 5,000 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 | FY23 | FY24 | FY25+ | Тс | otal | | |
| | 0 | 0 | 0 | | 0 | 1,000 | 0,1,000 | 5,000 | C | 7,000 | | |



222002 CIP#

Detroit River Interceptor (DRI) Evaluation and Rehabilitation

| ise GLWA En | nployees Proj | ect management | Contract NA | Status | Future Planned Start |
|--------------------|----------------|-----------------------|-------------------------|-------------|----------------------|
| e GLWA Sala | aries | | | | |
| Phase Budget | Wastewater | | Cost Allocatio | n CTA | |
| Phase Status | Future Plann | ed Start | Funding Sourc | e Bond Pr | oceeds |
| Start Date | | | Fun | d Constru | ction Bond Fund |
| End Date | | | Useful Life >20Yrs | ? Yes | |
| Co | ost Estimatior | n Information | Tot. Federal Loan Amour | nt | \$0 |
| | 5 | Cost Est. Class | Program/Allowanc | e Task Info | ormation |
| | | Cost Est. Date | Project Manager | | |
| | | Cost Est. Source | CIP Number | | |
| | | Cost Est. Prepared By | Description | | |

| | Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | | | | | | | | | | |
|------|--|------|--------|-------|--------|--------|--------|--------|-------|-------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | 321 | 10,000 | 5,000 | 5,000 | | | | 0 | 0 | 20,321 |
| 2019 | 0 | 5 | 2,232 | 1,084 | 8,052 | 10,187 | 10,187 | 10,187 | 2,491 | 0 | 44,425 |
| 2020 | 0 | 0 | 2,647 | 9,424 | 10,000 | 10,000 | 10,000 | 1,000 | 1,000 | 5,000 | 49,071 |



North Interceptor East Arm (NIEA) Evaluation and Rehabilitation

222003 CIP#

| ✓ Innovation | Project Status Future Planned | Elevation profile of pa of the NIE | |
|---|--|---|---|
| Water MP Right Sizi | ng CIP Type Project | | |
| Reliability/Redunde NEWTP Repurposin | Project New To CIP | | |
| Project Engineer/Man | aaer Todd Kina | Budaet | Wastewater |
| | ager Todd King | Class Lvl 1 | Wastewater |
| | Dept Field Services | Class Lvl 2 | Field Services |
| ••• | Case Prepared 3/3/2017 | | Interceptors |
| - | ct Added to CIP 2016 | | Multiple Counties |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| r t s | Review the available inspection report (NTH 2 reach. The report also recommends 1500 line the existing conditions, develop a data gap of optimize the design capacity of the collection system, and extend the service life, evaluate cleaning/rehabilitation/replace to optimize the nfiltration into the collection system, and to e | eal feet of potential slip lining analysis and provide the nec on system, minimize the inflow the existing conditions, and p he design capacity of the co | . This SOW includes further evaluation of cessary cleaning/rehabilitation to and infiltration into the collection provide the necessary |
| | NIEA may have flow control challenges for bo | | tion. |
| 1 i c t | The installation of some of the GLWA intercepolitical inspection by NTH recently revealed structure inspection was recently completed and there attached encrustation and infiltration. Some ransportation capacity. Inspections of sewer severy 5 to 7 years. Recommendations from the por replacement. | uctural deficiencies and sludg e were portions deteriorated trunk sewer inspection also re rs to reveal the existing condi | ge deposits. Detroit River Interceptor with visible surface aggregates, evealed sludge deposition with reduced tions are necessary and shall be done |
| | PCI-4, PCI-18, PCI-19 CIP 222007 also on NIEA | | |
| | | D 207 | |



North Interceptor East Arm (NIEA) Evaluation and Rehabilitation

Lookup Driver 1 - Condition

Other Important Info *Innovation note: Consider new techniques for assessment.

Explanation Recent inspections revealed portions with encrustation and deterioration.



GLWA FY 2020-2024 CIP North Interceptor East Arm (NIEA) Evaluation and Rehabilitation

222003 CIP#

| PM Weighted | |
|-------------|--|
| Score | |
| | |

73.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 2 | |
| Financial | 4 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 4 | |

RC Weighted

Score

65.4

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 1 | |
| Financial | 5 | |
| O&M | 1 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 4 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |



North Interceptor East Arm (NIEA) Evaluation and Rehabilitation

| Phase To Be Determined Title North Interceptor East Arm (NIEA) Evaluation | | | | | lDaha | | ontract | NA | | Stat | us Future | e Plann | ed Start | |
|--|-------------------------|-------------|--------|--------------|---------------|--------|------------------|-------------|----------|-----------|------------------|-------------|----------|---------|
| | | • | | n (NIEA) EVO | aluation and | Rena | DIIITATIC | Sh | - | | | | | |
| | Phase Budget Wastewater | | | | | | | | Cos | t Alloca | |) | | |
| Phase | e Status F | uture Pla | nnec | d Start | | | | | Fund | ding Sou | Jrce Cont | ribution in | Aid of | Constru |
| Sto | art Date | | | | | | | | | F | und Cons | truction B | ond Fu | nd |
| Er | nd Date | | | | | | | | Useful | Life >20 | Yrs? Yes | | | |
| | Cos | st Estimati | ion In | formation | | | | Tot. Fee | deral Lo | oan Amo | ount | | | |
| 5 Cost Est. Class | | | | lass | | | Pr | ogram | /Allowa | nce Task | Informatic | n | | |
| | | | | Cost Est. D | ate | P | r oject l | Manage | · | | | | | |
| | | | | Cost Est. So | ource | С | IP Nun | nber | | | | | | |
| | | | | | repared By | D | escript | lion | | | | | | |
| | | | | 0051 251.11 | eparea by | | | | | | | | | |
| | Cost Type | е | Fis | scal Year | Expens | е | Fringe | BenefitN | onPers | onne | C | comment | | |
| Unknow | 'n | | FY19 | 9 | | \$500 | | | | 20 | 20CIP | | | |
| Unknow | 'n | | FY2 | 0 | \$15 | 5,000 | | | | 20 | 20CIP | | | |
| Unknow | 'n | | FY2 | 1 | \$14 | 1,500 | | | | 20 | 20CIP | | | |
| | Task | | St | tart Date | End Date | Dur | ation | | | | | | | |
| Scope D | Developm | nent | | | | | | | | | | | | |
| Procure | ment | | | | | | | | | | | | | |
| Project E | Execution | 1 | | | | | | | | | | | | |
| Project (| Closeout | | | | | | | | | | | | | |
| Prior Y | Yr Actuals | FY1 | 9 | FY20 | FY21 | FY2 | 22 | FY23 | FY | 24 | FY25+ | Total | | |
| | | | 500 | 15,000 | 14,500 | | 0 | (|) | 0 | 0 | 30,00 | 0 | |
| | | | | PI | hase Total Ex | (pense | es By F | Y (All figu | res are | in \$1,00 | 00's) | | | |
| | Pro | oject To | tal E | xpenses | By FY Co | mpai | red to | Prior C | CIPs (A | All figu | res are | in \$1,00 | 0's) | |
| CIP | FY16 | FY | 7 | FY18 | FY19 | FY20 | F | Y21 | FY22 | FY2 | S FY | 24 F` | Y25 | Total |
| 2018 | | | | 11,000 | 12,000 | 3,00 | 00 | B-210 | | | | 0 | 0 | 26,000 |



222003 CIP#

North Interceptor East Arm (NIEA) Evaluation and Rehabilitation

| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
|------|------|------|------|------|--------|--------|--------|-------|------|------|--------|
| 2019 | 0 | | | | | 11,000 | 12,000 | 3,000 | | 0 | 26,000 |
| 2020 | 0 | 0 | | 500 | 15,000 | 14,500 | 0 | 0 | 0 | 0 | 30,000 |



GLWA FY 2020-2024 CIP Collection System Infrastructure Improvements

| | Innovation | |
|--|------------|--|
|--|------------|--|

□ Water MP Right Sizing

□ NEWTP Repurposing

□ Reliability/Redundancy

Project Status Active

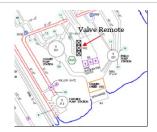
CIP Type Project

Project New To CIP 🛛

Project Engineer/Manager Mini Panicker Manager Biren Saparia Managing Dept SCC Date Original Business Case Prepared 7/28/2016

Year Project Added to CIP 2017

Example of a Valve Remote at Conner Pump Station



| Budget | Wastewater |
|----------------------|--------------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | Field Services |
| Class Lvl 3 | Interceptors |
| Location | Multiple Counties |
| Fund and Cost Center | Wastewater - 5421-892211 |

| | VR-Gates, ISDs, and backwater gates are operational elements in the collection system that help in minimizing the untreated overflows and maximizing the flows to the wastewater treatment plant and CSO control facilities. | | | | | | | |
|------------------------|---|--|--|--|--|--|--|--|
| Scope of Work | Evaluate the existing conditions of the VR-Gates, ISDs, Backwater Gates and Access Hatches, provide the necessary design and the Construction Assistance for their replacement/rehabilitation. | | | | | | | |
| Challenges | These are operational elements, so flow control may be a challenge. | | | | | | | |
| | GLWA interceptors and sewers were constructed in the early 1900s. The hatches and access covers secure operations and maintenance access points throughout the system for items such as the backwater gates, ISD, and VR. The backwater gates, ISD, and VR are all critical elements that control and divert flows throughout the system. Most of them have reached their life expectancy and are hard to operate properly. These structures play vital roles in controlling the flow, increasing the storage capacity, and in meeting the NPDES permits. | | | | | | | |
| Related Project | SCP-SCC-019, PC-695 | | | | | | | |
| Lookup Driver | 1 - Condition | | | | | | | |
| Other Important Info | Google map of VR-3 and VR-9 are included. VR-4, 5, 6, 10, 11 &13 are also part of the project | | | | | | | |
| Explanation | These structures have reached their life expectancy and some of the operating technology is outdated. | | | | | | | |



| PM Weighted Score | | | |
|----------------------|------------------------|-------|---------|
| 72.6 | | | |
| | Criteria | Score | Comment |
| Condition | | 4 | |
| Efficiency and Inno | ovation | 3 | |
| Financial | | 3 | |
| 0&M | | 4 | |
| Performance (Serv | ice Level/Reliability) | 4 | |
| Public Benefit | | 4 | |
| Public Health & Sa | fety | 4 | |
| Regulatory (Enviror | nmental/Legal) | 3 | |

RC Weighted

Score

68.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 3 | |
| Financial | 3 | |
| O&M | 5 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 2 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |

| GLW Great Lakes Water | Authority | C | GL Collect | 222004 CI | | | | |
|-----------------------------|------------------|----------------------|---------------|-----------------|-------------------|-----|--|--|
| Phase not applie | cable | | | Contract NA | Closed Out | | | |
| Title Prior Year | Actual Expense | 2S | | | | | | |
| Phase Budget | Wastewater | | | | Cost Allocation | CTA | | |
| Phase Status | Closed Out | | | | | | | |
| Start Date | | | | | | | | |
| End Date | | | | Us | eful Life >20Yrs? | | | |
| Cost Estimation Information | | | | Tot. Feder | | \$O | | |
| 1 Cost Est. Class | | | | Prog | ormation | | | |
| | | Cost Est. Date | | Project Manager | | | | |
| Cost Est. Source | | | | CIP Number | | | | |
| | | Cost Est. Prepared B | Ву | Description | | | | |

| GLWA FY 2020-2024 CIP Collection System Infrastructure Improvements | | | | | | | | | | 222004 | | | | |
|--|-------------------------|--------------|--------------------|------------------------------------|---------------------|---------|-------------------|---------|-----------|---------------|--|--|--|--|
| Phase Construction | | | | | Co | ontract | NA | Statu | us Future | Planned Start | | | | |
| Title Collection System | n Eleme | ents Improve | ments | | | | | | | | | | | |
| Phase Budget Waster | Phase Budget Wastewater | | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status Future | Planne | ed Start | | Funding Source Bond Proceeds | | | | | | | | | | |
| Start Date | | 1/1, | /2019 | Fund Construction Bond Fund | | | | | | | | | | |
| End Date | | 6/30/ | /2020 | Useful Life >20Yrs? Yes | | | | | | | | | | |
| Cost Estin | nation | Information | | Tot. Federal Loan Amount | | | | | | | | | | |
| | 2 | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | | | | |
| 8/31/20 | | Cost Est. D | ate | Project Manager | | | | | | | | | | |
| Contractor | | Cost Est. S | | CIP Number | | | | | | | | | | |
| Biren Saparia | | | t Est. Prepared By | | Description | | | | | | | | | |
| Biren Sapana | | CO31 E31. 1 | | | | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | e Fringe Be | | Benefit | enefilNonPersonne | | omment | | | | | |
| Construction | FY | 20 | \$1,500 | | | | | | | | | | | |
| Construction | FY | 21 | \$2 | 2,514 | | | | 2020CIP | | | | | | |
| Construction | | 22 | \$6 | 5,000 | | | | 2020CIP | | | | | | |
| Construction | | 23 | \$ | | | | | 2020CIP | | | | | | |
| | | 24 | • | ,000 | | | | 2020CIP | | | | | | |
| Construction | Construction FY25+ | | \$60 |),000 | | | | 2020CIP | | | | | | |
| Task | | Start Date | End Date | Durc | ation | | | | | | | | | |
| Scope Development | | 1/1/2019 | 4/30/2019 | 9 1 | | | | | | | | | | |
| Procurement | | 5/1/2019 | 8/1/2019 | 9 | | | | | | | | | | |
| Project Execution | | 8/1/2019 | 3/1/2022 | 2 9. | | | | | | | | | | |
| Project Closeout | | 3/2/2021 | 6/30/2022 | 2 48 | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | FY24 | FY25+ | Total | | | | | |
| | | 0 1,500 | 2,514 | 6, | ,000 | 5,00 | 0 8,000 | 60,000 | 83,014 | | | | | |

| GLW Great Lakes Water A | Col | GLWA FY 2020-2024 CIP Collection System Infrastructure Improvements | | | | | | | | | | | | | |
|-------------------------------|-----------------------------|--|------------|---------------------------------------|------------------------------|--------------------------|------------|----------|---------------|---------|--|--|--|--|--|
| Phase Design | | | Cor | ntract N | IA | Sta | tus Active | | | | | | | | |
| Title Collection | System Elei | ments Improve | ments | | | | | | | | | | | | |
| Phase Budget | Phase Budget Wastewater | | | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status | Phase Status Active | | | | Funding Source Bond Proceeds | | | | | | | | | | |
| Start Date | | 7/1, | /2018 | | | | | Fund Con | struction Bor | nd Fund | | | | | |
| End Date | End Date 12/30/2018 | | | | | Useful Life >20Yrs? Yes | | | | | | | | | |
| Co | Cost Estimation Information | | | | | Tot. Federal Loan Amount | | | | | | | | | |
| | 4 | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | | | | | |
| 8, | 8/31/2017 Cost Est. Date | | | Project Manager | | | | | | | | | | | |
| Engineering | | Cost Est. S | ource | CIP Number | | | | | | | | | | | |
| Biren Saparia Cost Est. Prepo | | | repared By | ed By Description | | | | | | | | | | | |
| Cost Type Fiscal Year Ex | | | | nse Fringe BenefilNonPersonne Comment | | | | | | | | | | | |
| | | FY19 | • | \$500 | 0 - | | | 2020CIP | | | | | | | |
| | | FY20 | \$1 | ,500 | | | 2020CIP | | | | | | | | |
| Engineering Services | | FY21 | \$1 | ,000, | | | | 2020CIP | .0CIP | | | | | | |
| Task | | Start Date | End Date | Durat | tion | | | | | | | | | | |
| Scope Development | | 7/1/2018 | 9/30/2018 | | 91 | | | | | | | | | | |
| Procurement | | 9/30/2018 | 1/1/2019 | | 93 | | | | | | | | | | |
| Project Execution | | 1/2/2019 | 4/30/2021 | | 849 | | | | | | | | | | |
| Project Closeout | | 4/30/2021 | 6/30/2021 | | 61 | | | | | | | | | | |
| Prior Yr Actual | r Actuals FY19 FY20 FY21 | | FY21 | FY22 | | FY23 | FY24 | FY25+ | Total | | | | | | |
| | | 500 1,500 | 1,000 | | | | | | 3,000 | | | | | | |

| GLWA Great Lakes Water Authorit | ty | | Col | | | 2020-: stem | | 24 CIP astructu | ure Im | nprove | ements | | 222004 CIP |
|------------------------------------|-----------|---------------|-------------|-------|----------|----------------|-----|--------------------|--------|----------|-----------|----------|------------|
| Phase Study | | | | | Co | ntract | NA | | | Status | Pendin | g Close- | out |
| Fitle Collection Sys | tem Elen | nents Improve | ements | | | | | | | | | | |
| Phase Budget Wo | stewate | r | | | | | | Cost Allo | cation | CTA | | | |
| Phase Status Per | nding Clo | ose-out | | | | | | Funding S | ource | Reveni | Je Financ | ed Capi | tal |
| Start Date | | 7/1 | /2018 | | | | | | Fund | Improv | ement & | Extensio | n Fun |
| End Date | | 12/30 |)/2018 | | | | Us | eful Life > | 20Yrs? | Yes | | | |
| Cost E | Estimatio | n Information | | | | Tot. Fe | der | al Loan A | mount | | | | |
| | 4 | Cost Est. | Class | | | P | rog | ram/Allov | vance | Task Inf | ormation | | |
| 8/31 | /2017 | Cost Est. I | Date | Pr | oject N | Nanage | r | | | | | | |
| Engineering | | Cost Est. S | Source | С | IP Num | ber | | | | | | | |
| Biren Saparia | | Cost Est. I | Prepared By | D | escripti | on | | | | | | | |
| Cost Type | | Fiscal Year | Expense | • | Fringe I | Benefit∧ | lon | Personne | | Со | mment | | |
| Engineering Service | es l | FY19 | • | \$500 | 0 | | | | 2020CI | Р | | | |
| Engineering Service | es l | FY20 | Ş | \$500 | | | | | 2020CI | Р | | | |
| Task | | Start Date | End Date | Duro | ation | | | | | | | | |
| Scope Developmer | nt | 7/1/2018 | 9/30/2018 | | 91 | | | | | | | | |
| Procurement | | 9/30/2018 | 1/1/2019 | | 93 | | | | | | | | |
| Project Execution | | 1/2/2019 | 4/30/2021 | | 849 | | | | | | | | |
| Project Closeout | | | | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 | FY23 | | FY24 | FY2 | 5+ | Total | | |
| | 5 | 500 500 | 0 0 | | 0 | | 0 | 0 | | 0 | 1,000 | | |

| Cost Estimation Information Cost Estimation Information Cost Estimation Information Start Date Funding Source Bond Proceeds Cost Estimation Information Tot. Federal Loan Amount \$0 \$0 Cost Estimation Information Tot. Federal Loan Amount \$0 Cost Estimation Information Tot. Federal Loan Amount \$0 Cost Est. Class Program/Allowance Task Information \$0 Cost Est. Source Cost Est. Prepared By Project Manager | hase GL | at Lakes Water A | uthority ploye | es Projec | t managei | | ollection | System Contract | | Jcture In | nprovem Status A | | | |
|---|----------|------------------|-------------------|-----------|-------------|----------------|----------------|--------------------|-------------|--------------|---------------------|------------|-----------------|---|
| Funding Source Bond Proceeds Start Date Funding Source Bond Proceeds Fund Construction Bond Fund Useful Life >20Yrs? No Tot. Federal Loan Amount \$0 Program/Allowance Task Information Start Date Cost Est. Class Cost Est. Date Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe Benefi(NonPersonne Comment GLWA Salaries CIP2020 FY19 FY22 FY23 FY24 FY25* Total Prior Yr Actuals FY19 FY22 FY23 FY24 FY25* Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP CIP FY16 FY17 FY18 FY19 FY2 FY24 FY24 FY24 FY24 <td></td> <td></td> <td>. ,</td> <td>,</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>T</td> | | | . , | , | 0 | | | | | | | | | T |
| Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No 5 Cost Est. Class Tot. Federal Loan Amount \$0 6 Cost Est. Date Cost Est. Date Program/Allowance Task Information Cost Est. Date Cost Est. Date Cost Est. Number | Phase B | udget | Waste | ewater | | | | | Cost | Allocation | CTA | | | |
| Useful Life >20Yrs? NoUseful Life >20Yrs? NoCost Estimation Information5Cost Est. ClassCost Est. DateCost Est. DateCost Est. DateProject ManagerCost Est. Prepared ByProject ManagerCost TypeFiscal YearCost Est. Prepared ByExpensePrior Yr ActualsFY19FY19FY21FY22FY23FY24FY25+TotalProject Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's)Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's)CIPFY16FY17FY18FY19FY20FY21FY22FY23FY23FY24CIPFY16FY16FY17FY18FY19FY20FY21FY22FY23FY24FY25Total20183411,0191,01400,2,374 | Phase | Status | Active | Э | | | | | Fundi | ng Source | Bond Proc | eeds | | |
| Tot. Federal Loan Amount \$0 Cost Est. Class Program/Allowance Task Information S Cost Est. Class Cost Est. Date Cost Est. Source CIP Number Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Cost Est. Prepared By Comment Cost Est. Prepared By Fringe BenefitNonPersonne Comment GLWA Salaries CIP2020 FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Content Colspan="6">FY19 FY20 FY21 < | Star | t Date | | | | | | | | Fund | Constructi | on Bond Fu | und | |
| Cost Est. Class S Cost Est. Class Program/Allowance Task Information Project Manager Project Manager Cost Est. Source Cost Est. Source Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Phase Total Expenses By FY (All figures are in \$1,000's) Project Total Expenses By FY (All figures are in \$1,000's) FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY24 FY25 Total CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 341 1,000 1,422 0 0 2,763 2019 0 341 1,019 1,014 U 0 2,374 | End | d Date | | | | | | | Useful Li | fe >20Yrs? | No | | | |
| Cost Est. Date Cost Est. Date Project Manager Cost Est. Source Cost Est. Prepared By Project Manager Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY19 \$13 5 1 C Phase Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 19 0 0 0 0 0 0 19 Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 341 1,000 1,422 0 0 2,763 2019 0 341 1,019 1,014 0 2,374 | | Co | ost Esti | mation Ir | nformation | | | Tot. F | ederal Loc | ın Amount | | | \$0 | |
| Cost Est. Date Cost Est. Date Project Manager Image: Cipe Cost Est. Source Cost Est. Source Cost Est. Prepared By Project Manager Image: Cipe Cost Est. Prepared By Cost Type Fiscal Year Expense Fringe Benefit/NonPersone Comment GLWA Salaries CIP2020 FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) Project Total FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 | | | | 5 | Cost Est. C | Class | | | Program/ | Allowance | Task Inforn | nation | | |
| Cost Est. Prepared By Description Cost Type Fiscal Year Expense Fringe Benefit NonPersone Comment GLWA Salaries CIP2020 FY19 \$13 5 1 CPhase Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24+ FY25+ Total Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) FY25 Total CIP FY16 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 Global Global Global Global Global Global Global Global Q19 Q1 Q1 Q10 Q12 Global Q10 Q12,763 Q19 Q1 Q1 Q10 </td <td></td> <td></td> <td></td> <td></td> <td>Cost Est. D</td> <td>ate</td> <td>Proj</td> <td>ect Manag</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | Cost Est. D | ate | Proj | ect Manag | - | | | | | |
| Cost Type Fiscal Year Expense Fringe Benefit NonPersonne Comment GLWA Salaries CIP2020 FY19 \$13 5 1C Phase Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total 19 0 0 0 0 0 19 19 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total 19 0 0 0 0 0 19 19 Prior Yr Actuals FY19 FY21 FY22 FY23 FY24 FY25+ Total Prior Cortal Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 341 1,000 1,422 0 0 2,763 2,374 2019 0 341 1,019 1,014 <td></td> <td></td> <td></td> <td></td> <td>Cost Est. S</td> <td>ource</td> <td>CIP</td> <td>Number</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | Cost Est. S | ource | CIP | Number | | | | | | |
| Cost Type Fiscal Year Expense Fringe Benefit <nonpersonne< th=""> Comment GLWA Salaries CIP2020 FY19 \$13 5 1 C Phase Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 0 19 0 0 0 0 0 19 19 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24+ FY25+ Total 19 0 0 0 0 0 0 19 19 Prior CTotal Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 - 341 1,000 1,422 - - 0 0 2,763 2019 0 - 341 1,019 1,014 -</nonpersonne<> | | | | | Cost Est. P | repared By | , Des | cription | | | | | | |
| GLWA Salaries CIP2020FY19Sole of the second | | | | | | | | | | | | | | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total 19 0 0 0 0 0 0 19 19 Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total 19 0 0 0 0 0 19 19 19 Prior Yr Actuals FY19 FY20 Prior Yr Actual figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIP's (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 0 341 1,000 1,422 0 0 2,763 2019 0 341 1,019 1,014 0 2,374 | | | | | | Expe | | nge Benef | ilNonPerso | | | nent | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | GLWA Sa | laries C | IP202 | D FY1 | 9 | | \$13 | | 5 | 1 C Phas | se | | | |
| Phase Total Expenses By FY (All figures are in \$1,000's) Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 0 341 1,000 1,422 0 0 0 2,763 2019 0 341 1,019 1,014 0 0 2,374 | Prior Yr | Actual | S | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | tal | | |
| Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 0 341 1,000 1,422 0 0 0 2,763 2019 0 341 1,019 1,014 0 0 2,374 | | | | 19 | C |) | 0 | 0 | 0 | 0 | 0 | 19 | | |
| CIP FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 Total 2018 341 1,000 1,422 2,763 2019 341 1,019 1,014 | | | | | P | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | | |
| 2018 | | Pr | ojec | t Total I | Expenses | By FY C | ompare | d to Prio | r CIPs (A | ll figures | are in \$1 | ,000's) | | |
| 2019 0 341 1,019 1,014 0 0 2,374 | | FY16 | | FY17 | | | | FY21 | FY22 | FY23 | FY24 | | | |
| | | | | | | | | | | | 0 | | | - |
| | 019 | | 0 | 0 | 341 | 1,019 1,019 | 1,014 3,500 | 3,514 | 6,000 | 5,000 | 8,000 | 0 00,00 | 2,3/4 87,033 | _ |



| Innovation | Project Status Reclassified | |
|---|--|---|
| □ Water MP Right Si | zing CIP Type Project | |
| □ Reliability/Redund | | |
| □ NEWTP Repurposi | ng Project New To CIP | |
| Project Engineer/Ma | nager Mini Panicker | Budget Wastewater |
| | nager Biren Saparia | Class Lvl 1 Wastewater |
| Managing | Dept SCC | Class Lvl 2 Field Services |
| Date Original Busines | ss Case Prepared 7/28/2016 | Class LvI 3 Interceptors |
| Year Proje | ect Added to CIP 2017 | Location Multiple Counties |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| | | |
| Project Significance | Access Hatches are structures in the c lines. Many are deteriorated and dang | ollection system to provide reliable access to buried equipment and pipe gerous to operate. |
| | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int | |
| | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int collection system are installed under v | gerous to operate. Thes, evaluate the existing conditions, provide the necessary replacement/ to the collection system and underground structures. Access hatches in the |
| Scope of Work Challenges | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int collection system are installed under v NA | gerous to operate. Thes, evaluate the existing conditions, provide the necessary replacement/ to the collection system and underground structures. Access hatches in the |
| Scope of Work Challenges | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int collection system are installed under v NA Access hatches in the collection system vaults and equipment. | gerous to operate. Thes, evaluate the existing conditions, provide the necessary replacement/ to the collection system and underground structures. Access hatches in the arious projects for providing access to underground vaults and equipment. |
| Scope of Work Challenges Project History | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int collection system are installed under v NA Access hatches in the collection system vaults and equipment. Various | gerous to operate. Thes, evaluate the existing conditions, provide the necessary replacement/ to the collection system and underground structures. Access hatches in the arious projects for providing access to underground vaults and equipment. |
| Scope of Work Challenges Project History Related Project | lines. Many are deteriorated and dang Locate the deteriorating access hatch rehabilitation to minimize the inflow int collection system are installed under v NA Access hatches in the collection system vaults and equipment. Various 1 - Condition | gerous to operate. Thes, evaluate the existing conditions, provide the necessary replacement/ to the collection system and underground structures. Access hatches in the arious projects for providing access to underground vaults and equipment. |



PM Weighted Score

65.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 3 | |
| Financial | 2 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 5 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 2 | |

RC Weighted

Score

56.4

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 1 | |
| Financial | 1 | |
| 0&M | 2 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 4 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 2 | |



222005 CIP#

Collection System Access Hatch Improvements

| Phase Construc | ction | | | | С | ontract N | A | Stat | us Cance | elled | |
|------------------|---------------|--------|-------------|------------|------------------------------|-------------------------|--------------|-----------|-------------|---------|--|
| Title Collection | n System Ac | cess | Hatch Imp | provements | | | | | | | |
| Phase Budget | Wastewate | er | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Cancelled | | | | Funding Source Bond Proceeds | | | | | | |
| Start Date | • | | | | | | | Fund Cons | truction Bo | nd Fund | |
| End Date | End Date | | | | | Useful Life >20Yrs? Yes | | | | | |
| С | ost Estimatio | on Inf | formation | | | Tot. Fede | eral Loan Am | ount | | | |
| | 4 | | Cost Est. C | Class | | Pro | gram/Allow | ance Task | Information | 1 | |
| ξ | 8/31/2017 | | Cost Est. D | Date | Project | Manager | | | | | |
| Engineering | | | Cost Est. S | ource | CIP Number | | | | | | |
| Biren Saparia | 1 | | Cost Est. P | repared By | Description | | | | | | |
| | | | | 1 | | | | | | | |
| Cost Ty | /pe | | cal Year | Expense | | e BenefilNo | | | Comment | | |
| Construction | | FY25 |)+ | | \$0 | | 20 | D20CIP | | | |
| Task | k | Sto | art Date | End Date | Duration | | | | | | |
| Scope Develop | oment | | | | | | | | | | |
| Procurement | | | | | | | | | | | |
| Project Executio | on | | | | | | | | | | |
| Project Closeou | Jt | | | | | | | | | | |
| Prior Yr Actuc | als FY1 | 7 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| THOLT ACTUC | | 0 | С | 0 0 | 0 | 0 | 0 | 0 | 0 | | |

| | | _ | | | | | | | | | | | |
|---------|----------------------------|-----------|------------|-------------|------------|----------|-----------------------|-------------|--------------|-------------|-------------------|-------|----------|
| | GLAN Great Lakes Water. | Authority | | | C | | A FY 2020 N System | | | nprovem | nents | 222 | 2005 CIP |
| Phase | GLWA En | nploye | ees Projec | t manage | ment | | Contrac | t NA | | Status (| Cancelled | | |
| Title (| GLWA Sala | aries | | | | | | | | | | | |
| Phas | se Budget | Wast | ewater | | | | | Cos | Allocation | CTA | | | |
| Pho | ase Status | Cano | celled | | | | | Fund | ding Source | Bond Proc | ceeds | | |
| | Start Date | | | | | | | | Fund | Construct | ion Bond Fi | und | |
| | End Date | | | | | | | Useful | Life >20Yrs? | No | | | |
| | Co | ost Est | imation Ir | formation | | 1 | Tot. | Federal Lo | an Amoun | ŀ | | \$0 | |
| | | | 5 | Cost Est. C | 'lass | | | Program | Allowance | Task Inform | nation | | |
| | | | 5 | Cost Est. D | | Proi | ect Mana | | Allowance | | nanon | | |
| | | | | 1 | | | Number | J O. | | | | | |
| | | | | Cost Est. S | | | | | | | | | |
| | | | | Cost Est. P | repared By | Des | cription | | | | | | |
| | | | 5)(10) | 51/00 | 5//01 | 5)(00 | EVO | | | | | | |
| Prio | r Yr Actua | IS | FY19 | FY20 | FY21 | FY22 | FY2 | | | | otal | | |
| | | | 0 | C | |) | 0 | 0 | 0 | 0 | 0 | | |
| | | | | P | hase Total | Expenses | By FY (All f | igures are | în \$1,000's |) | | | |
| | Pi | ojec | t Total I | xpenses | By FY C | | | | - | are in \$1 | 1 <i>,</i> 000's) | 1 | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | | 3,196 | 2,000 | 2,001 | | | | 0 | 0 | 7,197 | _ |
| 2019 | | 0 | | 341 | 1,000 | 1,422 | | | | | 0 | 2,763 | _ |
| 2020 | | 0 | 0 | | 0 | 0 | 0 | C | 0 0 | 0 | 0 | 0 |) |



NIEA Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.

222007 CIP#

| \blacksquare Innovation | Project Status Future Planned | Example inspection of a | |
|---------------------------|--|---|----------------------|
| □ Water MP Right Siz | CIP Type Project | large sewer | |
| Reliability/Redund | lancy | | |
| □ NEWTP Repurposir | Project New To CIP | | |
| Project Engineer/Mar | nager Todd King | Budget Wastewater | |
| Mai | nager Todd King | Class Lvl 1 Wastewater | |
| Managing | Dept Field Services | Class Lvl 2 Field Services | |
| Date Original Busines | s Case Prepared 3/3/2017 | Class LvI 3 Interceptors | |
| Year Proje | ect Added to CIP 2017 | Location City of Detroit | |
| | | Fund and Cost Center Wastewater - 5421-892211 | |
| | | the existing NIEA based upon structural deficiencies identified from imize the transportation capacity of the GLWA collection system of | |
| • | rehabilitation/replacement option, design c | s follows: Review available data, provide the necessary nd implement them to optimize the design capacity of the collec to the collection system, and extend the service life. | tion: |
| Challenges | NIEA may have flow control challenges for I | ooth inspection and rehabilitation. | |
| - · · | NIEA inspection upstream of this segment b Recent Detroit River Interceptor and North V deteriorated with visible surface aggregate also revealed sludge deposition with reduce | ptors and sewers are dated back to 1912 under various contracts NTH recently revealed structural deficiencies and sludge deposit Vest Interceptor inspections revealed that there were portions s, attached encrustation and infiltration. Some trunk sewer inspected transportation capacity. Inspections of sewers to reveal the exi every 5 to 7 years. Recommendations from these inspections may on or replacement | ts. tion sting |
| Related Project | CIP 222003 also on NIEA | | |
| Lookup Driver | 1 - Condition | | |
| Other Important Info | *Innovation note: Consider new techniques | for assessment. | |



GLWA FY 2020-2024 CIP NIEA Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.

222007 CIP#

| PM Weighted Score | | |
|---------------------------|-------|--|
| 69.8 | | |
| Criteria | Score | |
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 4 | |
| D&M | 4 | |

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 4 | |
| O&M | 4 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 2 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |

RC Weighted

Score

72.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 3 | |
| Financial | 4 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 2 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |



222007 CIP#

NIEA Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.

| ase GLWA Em | nployees Projec | ct managem [,] | ent | С | ontract NA | λ. | Status | Future Plo | anned Start |
|-----------------|------------------|-------------------------|--------------|------------------------------|------------|-------------------|----------|------------|-------------|
| le GLWA Salc | aries | | | | | | | | |
| Phase Budget | Wastewater | | | | | Cost Allocation | CTA | | |
| Phase Status | Future Planned | d Start | | Funding Source Bond Proceeds | | | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | Fund |
| End Date | | | | | Us | eful Life >20Yrs? | No | | |
| Cc | ost Estimation I | nformation | | | Tot. Fede | al Loan Amount | | | \$0 |
| | 5 | Cost Est. Clo | ass | | Prog | ram/Allowance | Task Inf | ormation | |
| | | Cost Est. Da | te | Project | Manager | | | | |
| | | Cost Est. Sou | urce | CIP Number | | | | | |
| | | Cost Est. Pre | pared By | Descrip | otion | | | | |
| | | | | | | | | | |
| Prior Yr Actual | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 FY2 | 5+ | Total | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | ase Total Ex | | | | | | |

| GLWA Great Lakes Water Authority | y | 1 | IIEA Rehal | GLWA FY bilitation fi | | 24 CIP RF to Gratio | ł Ave. a | nd Sylv | ester St. | 222007 CIP# |
|-------------------------------------|-----------|-----------------|------------|--------------------------|-----------|------------------------|------------|------------------|------------|-------------|
| Phase Construction | | | | Co | ontract N | Ą | Statu | us Future | Planned St | art |
| Title NIEA Evaluatio | on and Re | habilitation fr | om WRRF to | Gratiot Ave. | and Sylve | ster St. | | | | |
| Phase Budget Wa | stewater | | | | | Cost Allocat | ion CTA | | | |
| Phase Status Futu | ure Plann | ed Start | | | | Funding Sour | ce Bond | Proceeds | | |
| Start Date | | 1/2/ | 2019 | | | Fu | nd Const | ruction Bo | nd Fund | |
| End Date | | 6/30/ | 2021 | | U | seful Life >20Y | rs? Yes | | | |
| Cost E | stimation | Information | | | Tot. Fede | ral Loan Amo | unt | | | |
| | 5 | Cost Est. C | lass | | Prog | gram/Allowan | ce Task li | nformation | ı | |
| | | Cost Est. D | ate | Project / | Nanager | | | | | |
| | | Cost Est. S | ource | CIP Num | nber | | | | | |
| | | Cost Est. P | repared By | Descript | ion | | | | | |
| | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | _ | | | | | |
| Scope Developmer | nt 🛛 | 4/28/2020 | 6/28/2020 | | | | | | | |
| Procurement | | 6/28/2020 | 12/25/2020 | 180 | | | | | | |
| Project Execution | | 12/25/2020 | 6/22/2024 | 1275 | | | | | | |
| Project Closeout | | 6/22/2024 | 8/21/2024 | 60 | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| GLWA Great Lakes Water Authority |
|-------------------------------------|
|-------------------------------------|

222007 CIP#

NIEA Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.

| Phase Design | | | | | C | ontract N | 4 | Statu | us Future | Planned Start | |
|------------------------------|---------------------------------|--------|-----------------|--------------|------------------------------|-----------|---------------|---------------|------------|---------------|--|
| fitle NIEA Evalu | ation a | and Re | habilitation fr | om WRRF to (| Gratiot Ave. | and Sylve | ster St. | | | | |
| Phase Budget | Wastev | water | | | Cost Allocation CTA | | | | | | |
| Phase Status | ase Status Future Planned Start | | | | Funding Source Bond Proceeds | | | | | | |
| Start Date | itart Date 7/1/2018 | | | | | | | Fund Const | ruction Bo | nd Fund | |
| End Date | End Date 12/30/2020 | | | | | U | seful Life >2 | 20Yrs? Yes | | | |
| Co | ost Estin | nation | Information | | | Tot. Fede | ral Loan Ar | nount | | | |
| | | 5 | Cost Est. C | lass | | Prog | gram/Allow | vance Task li | nformation | 1 | |
| | | | Cost Est. D | ate | Project | Manager | | | | | |
| | | | Cost Est. So | ource | CIP Nun | nber | | | | | |
| | | | Cost Est. Pr | epared By | Descrip | tion | | | | | |
| Task | | | Start Date | End Date | Duration | | | | | | |
| Scope Developi | | | 7/1/2018 | 9/30/2018 | 201011011 91 | | | | | | |
| Procurement | | | 9/30/2018 | 6/29/2019 | 272 | | | | | | |
| Project Executio | n | | 6/29/2019 | 6/22/2024 | 1820 | | | | | | |
| Project Closeou ⁻ | t | | 6/22/2024 | 9/20/2024 | 90 |) | | | | | |
| Prior Yr Actua | ls | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| | GLW Great Lakes Water A | Authority | | ı | NIEA Reh | | FY 2020 On from \ | | | ve. and | Sylvester | | 007 CIP# |
|-------|-----------------------------------|-----------|-------------|-------------|--------------|----------------|-----------------------------|----------------------|--------------|-------------|------------|--------|----------|
| Phase | not applic | cable | Э | | | | Contract | NA | | Status (| Closed Out | | |
| Title | Prior Year A | Actua | al Expense | S | | | | | | | | | |
| Pha | se Budget | Wast | ewater | | | | | Cost | Allocation | CTA | | | |
| Ph | ase Status | Close | ed Out | | | | | Fundi | ing Source | | | | |
| | Start Date | | | | | | | | Fund | | | | |
| | End Date | | | | | | | llseful li | ife >20Yrs? | | | | |
| | | | | | | - | | | | | | | |
| | Co | ost Es | timation Ir | nformation | | | Tot. F | ederal Loc | an Amount | | | \$0 | |
| | | | 1 | Cost Est. C | Class | | | Program/ | Allowance | Task Inforr | nation | | |
| | | | | Cost Est. D | ate | Proj | ect Manag | ger | | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | | |
| | | | | Cost Est. P | repared By | Des | cription | | | | | | |
| | | | | | | | - | | | | | | |
| Pric | or Yr Actual | S | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | | |
| | | 0 | | | | | | | | | 0 | | |
| | | | | Р | hase Total I | xpenses | By FY (All fi | gures are i | n \$1,000's) | | | | |
| | Pr | ojeo | ct Total | Expenses | By FY Co | ompare | d to Prio | ^r CIPs (A | ll figures | are in \$ | 1,000's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | | 7,000 | 7,000 | 7,000 | | | | 0 | 0 | 21,000 | |
| 2019 | | 0 | | | 4 | 760 | 3,295 | 5,689 | 5,689 | 5,566 | 0 | 21,003 | |
| 2020 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |



GLWA FY 2020-2024 CIP Fairview Pumping Station - Replace Four Sanitary Pumps

| Innovation Water MP Right Si Reliability/Redund NEWTP Repurposition | | Sanitary pumps at Fairview Pumping | |
|--|--|--|---|
| Project Engineer/Ma | nager Jorge Nicolas | Budget W | /astewater |
| Ma | nager Grant Gartrell | Class Lvl 1 W | /astewater |
| Managing | J Dept Water Eng | Class Lvl 2 SC | CC |
| Date Original Busines | ss Case Prepared 3/9/2011 | Class Lvl 3 Pu | Umping Stations |
| Year Proje | ect Added to CIP 2011 | Location C | ity of Detroit |
| | | Fund and Cost Center W | astewater - 5421-892211 |
| | | | |
| Project Significance | Replacement and upgrade of pumping equipmediant | nent's to improve transportat | ion of waste water to the treatment |
| | | and construction for four new | w pumping systems including inlet and |
| Scope of Work | plant The scope of work consists of the study, design, a discharge valves and wet well hydraulics. This w | and construction for four new | w pumping systems including inlet and |
| Scope of Work | plant The scope of work consists of the study, design, of discharge valves and wet well hydraulics. This w upgrading electrical and control systems. N/A - Active | and construction for four new | w pumping systems including inlet and |
| Scope of Work Challenges Project History | plant The scope of work consists of the study, design, of discharge valves and wet well hydraulics. This w upgrading electrical and control systems. N/A - Active | and construction for four new Il also include enlarging doc | w pumping systems including inlet and prways, revamping roadways, and |
| Scope of Work Challenges Project History | plant The scope of work consists of the study, design, of discharge valves and wet well hydraulics. This w upgrading electrical and control systems. N/A - Active n/a Wastewater Master Plan and ongoing discussion procedures. | and construction for four new Il also include enlarging doc | w pumping systems including inlet and prways, revamping roadways, and |
| Scope of Work Challenges Project History Related Project | plant The scope of work consists of the study, design, of discharge valves and wet well hydraulics. This we upgrading electrical and control systems. N/A - Active n/a Wastewater Master Plan and ongoing discussion procedures. 1 - Condition | and construction for four new Il also include enlarging doc | w pumping systems including inlet and prways, revamping roadways, and |



| PM Weighted Score | | | |
|----------------------|------------------------|-------|---------|
| 72.8 | | | |
| | Criteria | Score | Comment |
| Condition | | 4 | |
| Efficiency and Inno | ovation | 4 | |
| Financial | | 4 | |
| O&M | | 3 | |
| Performance (Servi | ice Level/Reliability) | 4 | |
| Public Benefit | | 3 | |
| Public Health & Saf | ety | 3 | |
| Regulatory (Enviror | nmental/Legal) | 4 | |

Score

0 Criteria Score Comment Condition Efficiency and Innovation Financial 0&M Performance (Service Level/Reliability) Public Benefit Public Health & Safety Regulatory (Environmental/Legal)



232001 CIP#

Fairview Pumping Station - Replace Four Sanitary Pumps

| Phase GLWA Em Title GLWA Sala | | ees Pro | oject | managem | nent | | C | ontract N | A | Sta | tus Active | | | |
|--|-------------------------------|---------|-------|--------------|-----------------------------|------------------|--------------|----------------|------------|-------------|------------|---------------|--|--|
| Phase Budget | Wast | ewate | er | | | | | | Cost Alloc | cation CTA | | | | |
| Phase Status | Activ | 'e | | | | Funding Source B | | | | | | 3ond Proceeds | | |
| Start Date | Start Date | | | | Fund Construction Bond Fund | | | | | | | | | |
| End Date | End Date | | | | | | U | lseful Life >2 | 20Yrs? No | | | | | |
| Cost Estimation Information | | | | | | Tot. Fede | eral Loan Ar | nount | | | \$0 | | | |
| | 5 Cost Est. Class | | | ass | | | Pro | gram/Allow | vance Task | Information | | | | |
| | | | | Cost Est. Do | ate | Project Manager | | | | | | | | |
| | | | | Cost Est. So | ource | CIP Number | | | | | | | | |
| | | | | Cost Est. Pr | epared By | D | escrip | otion | | | | | | |
| Cost Typ | be | | Fis | cal Year | Expens | е | Fringe | e BenefitNo | nPersonne | (| Comment | | | |
| GLWA Salaries C | IP202 | 20 | FY19 | • | | \$10 | | 4 | 0 | | | | | |
| GLWA Salaries C | IP202 | 20 | FY20 |) | | \$10 | | 4 | 0 | | | | | |
| GLWA Salaries C | GLWA Salaries CIP2020 FY21 | | | \$10 | | 4 | 0 | | | | | | | |
| Prior Yr Actual | Prior Yr Actuals FY19 FY20 FY | | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | | | | |
| | | | 14 | 14 | 14 | | 0 | 0 | 0 | 0 | 42 | | | |

| GLWA Great Lakes Water Authority | | | Fairview | | | 2020-2 Station | | | e Fou | r Sa | nitary Pu | umps | 232001 CIF |
|-------------------------------------|-------------------|----------------|---------------|------------------------------|----------|-------------------|-----|--------------|---------|------|-----------|-------------|------------|
| Phase Construction | | | | | Co | ontract | NA | ١ | | Stat | us Future | e Planned S | tart |
| Title Fairview Pumpi | ing Static | on - Replace I | our Sanitary | Pump | DS | | | | | | | | |
| Now CS-201 | | | | | | | | | | | | | |
| Phase Budget Was | stewater | | | Cost Allocation CTA | | | | | | | | | |
| Phase Status Futu | ire Plann | ed Start | | Funding Source Bond Proceeds | | | | | | | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | | | |
| End Date | | | | | | | Us | eful Life >: | 20Yrs? | Yes | | | |
| Cost Estimation Information | | | | | | Tot. Fea | ler | al Loan A | mount | | | | |
| | 4 Cost Est. Class | | | | | Pr | og | ıram/Allov | vance | [ask | nformatio | n | |
| | | Cost Est. D | ate | Project Manager | | | | | | | | | |
| consultant | | Cost Est. S | ource | CIP Number | | | | | | | | | |
| Consultant Brown | & Caldw | | | ed By Description | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | 9 | Fringe | BenefilN | on | Personne | | C | comment | | |
| Construction | F` | (19 | \$5 | ,506 | | | | | | | | | |
| Construction | F١ | (20 | \$17 | ,506 | | | | | | | | | |
| Construction | F | (21 | \$4 | ,397 | | | | | | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | | |
| Scope Developmen | t | 4/27/2016 | 6/1/2018 | | 765 | | | | | | | | |
| Procurement | | 6/1/2018 | 9/1/2018 | | 92 | | | | | | | | |
| Project Execution | | 9/1/2018 | 10/1/2020 | | 761 | | | | | | | | |
| Project Closeout | | 10/1/2020 | 1/1/2021 | | 92 | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY2 | 5+ | Total | | |
| 5,506 17,506 4, | | | | | 0 | C |) | 0 | | 0 | 27,409 | 9 | |
| | | Р | hase Total Ex | pense | es By Fi | ((All figu | re | s are in \$1 | ,000's) | | | | |

B-232

| GLW Great Lakes Water | A uthority | | Fairview | | | |)24 CIP - Replac | e Four Sa | nitary Pur | 232001 CIF mps | |
|--------------------------|-------------------------|------------------|---------------|------------------------------|-------------------------|------------|---------------------|------------|-------------|-------------------|--|
| Phase Design & | Constructic | n Assistance | | | Contr | ract C | S-1747 | Sta | tus Active | | |
| Title CS-1747 Fc | iirview Pum | ping Station - F | Replace Four | Sanitary | y Pumps | S | | | | | |
| Phase Budget | Wastewate | r | | | | | Cost Allo | cation CTA | | | |
| Phase Status | Active | | | Funding Source Bond Proceeds | | | | | | | |
| Start Date | | 7/5 | /2016 | Fund Construction Bond Fund | | | | | | | |
| End Date | End Date 10/5/20 | | | | Useful Life >20Yrs? Yes | | | | | | |
| | | | Te | ot Fode | eral Loan Aı | mount | | | | | |
| | | n Information | | | | | | | | | |
| | 3 | Cost Est. C | Class | | | | gram/Allov | vance Task | Information | | |
| | | Cost Est. D | ate | Proj | ject Ma | nager | | | | | |
| consultant | | Cost Est. S | ource | CIP | Numbe | er | | | | | |
| Consultant Bro | own & Calc | lwe Cost Est. P | repared By | Des | scription | ו | | | | | |
| Cost Typ | De | Fiscal Year | Expense | ə Fri | inge Be | nefilNo | nPersonne | (| Comment | | |
| Engineering Serv | rices | FY19 | C S | \$480 | | | | | | | |
| Engineering Serv | rices | FY20 | C S | \$480 | | | | | | | |
| Engineering Serv | rices | FY21 | | \$480 | | | | | | | |
| Task | | Start Date | End Date | Durati | ion | | | | | | |
| Scope Developr | nent | 7/22/2015 | 11/23/2015 | | 124 | | | | | | |
| Procurement | | 11/23/2015 | 4/25/2016 | | 154 | | | | | | |
| Project Executio | n | 4/25/2016 | 10/1/2020 | | 1620 | | | | | | |
| Project Closeout | | 10/1/2020 | 12/30/2020 | | 90 | | | | | | |
| Prior Yr Actua | s FY19 | P FY20 | FY21 | FY22 | F | Y23 | FY24 | FY25+ | Total | | |
| | | 480 480 | 480 | | 0 | 0 | 0 | 0 | 1,440 | | |
| | | Р | hase Total Ex | penses | By FY (A | All figure | es are in \$1 | ,000's) | | | |

| | GLW Great Lakes Water J | Authority | | | Fairvie | | A FY 202 ping Sta | | | | ur Sar | nitary Pu | umps | | 001 CIP# |
|----------------|----------------------------|------------------|------------|-------------|------------|---------|----------------------|---------|------------|------------|---------|-----------|-------|--------|----------|
| Phase | not applie | cable | | | | | Contra | ct NA | Ą | | Statu | JS Close | d Out | | |
| Title P | Prior Year / | Actuc | Il Expense | S | | | | | | | | | | | |
| Phas | e Budget | Waste | ewater | | | | | | Cost A | llocation | CTA | | | | |
| Pha | ise Status | Close | ed Out | | | | | | Fundin | ig Source | | | | | |
| S | Start Date | | | | | | | | | Fund | | | | | |
| | End Date | | | | | | | U | seful Life | e >20Yrs? | | | | | |
| | | | | e 1. | | - | Tot | Fodo | ralloar | n Amount | | | | | |
| | Co | DST EST | imation in | formation | | | 101. | | | | | | | | |
| | | | 1 | Cost Est. C | | Du | | | gram/A | llowance | Task li | nformatio | n | | |
| | | | | Cost Est. D | | | oject Manc | iger | | | | | | | |
| | | | | Cost Est. S | ource | | P Number | | | | | | | | |
| | | | | Cost Est. P | repared By | , De | escription | | | | | | | | |
| | Cost Typ | pe | Fis | scal Year | Exper | nse F | - ringe Bene | efitNor | nPerson | ine | С | omment | | | |
| Engine | ering Serv | /ices | FY18 | 3- | | \$751 | | | | FY18 | | | | | |
| Unknov | | | FY18 | | | \$778 | | | | FY17 | | | | | |
| GLWA | Salaries C | CIP202 | 0 FY18 | 3- | | \$16 | | 6 | | FY18 | | | | | |
| Prior | r Yr Actual | ls | FY19 | FY20 | FY21 | FY2 | 2 FY2 | 3 | FY24 | FY2 | 25+ | Total | | | |
| | 1,4 | 551 | | | | | | | | | | 1,55 | l | | |
| | | | | Р | hase Total | Expense | s By FY (All | figure | es are in | \$1,000's) | | | | | |
| | Pr | ojec | t Total E | xpenses | By FY C | ompar | ed to Pric | or Cl | Ps (All | figures | are i | n \$1,00 | D's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | F | Y22 | FY23 | FY2 | | ′25 | Total | |
| 2018 | | 128 | 472 | 2,100 | 14,350 | 15,350 | | | | | | 0 | 0 | 32,400 | |
| 2019 | | 0 | 778 | 508 | 12,094 | 14,414 | | | 0 | | | | 0 | 31,768 | |
| 2020 | | 0 | 0 | 1,551 | 6,000 | 18,000 | 4,89 | | 0 | 0 | | 0 | 0 | 30,442 | |



GLWA FY 2020-2024 CIP Freud & Conner Creek Pump Station Improvements

□ Innovation

□ Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP \Box

Project Engineer/Manager Mini Panicker Manager Biren Saparia

Managing Dept SCC

Date Original Business Case Prepared 10/12/2016

Year Project Added to CIP 2016

Freud Pump Station



Budget Wastewater Class Lvl 1 Wastewater Class Lvl 2 SCC Class Lvl 3 Pumping Stations Location City of Detroit Fund and Cost Center Wastewater - 5421-892211

Project Significance The primary objective of this project is to study the overall performance of Connor Creek and Freud sewage pumping stations and develop design, and build an operational strategy to optimize the utilization of interconnected piping and operation between both pumping stations and the Connor Creek Retention and Treatment Basin.

Scope of Work Provide basis of design, and final design for an operational strategy to optimize the utilization of interconnected piping and operation between Connor Creek and Freud pumping stations and the Connor Creek Retention and Treatment Basin. Provide construction of the emerging project and construction assistance during construction of the emerging project.

Challenges Meeting the collection system transport capacity during the construction

Project History The Connor Creek Pump Station (CCPS) was originally built in 1928 with four storm water pumps, each with a rated capacity of 500 cubic feet per second (cfs). The CCPS was expanded in 1940 adding four more pumps of the same capacity. The pump station currently has a total capacity of 4,000 cfs and a firm capacity of 3,500 cfs. The pumps are primed using a vacuum system that relies on the flooding of the discharge channel siphon to maintain a water seal, which allows the pumps to be primed. Since the Conner Creek CSO RTB went into operation in November 2005, the discharge channel for the CCPS is drained when the CC RTB is dewatered. Therefore, the vacuum priming system cannot prime the pumps. This results in the CCPS pumps being unable to start until the discharge channel is flooded and the vacuum priming system has a seal on the discharge to prime the pumps. The Freud Pump Station (FPS) was originally built in 1954 with eight storm water pumps, each with a 450 cfs capacity. Two additional pumps were subsequently installed for dewatering and to act as sanitary pumps during dry weather flows. These two pumps are rated at 35 cfs and 20 cfs and are not operated when the storm water pumps are in service. Under the current operating protocol, the FPS is operated first and results in water flowing to $\frac{B-235}{B-235}$



Freud & Conner Creek Pump Station Improvements

| the discharge channel of the CCPS, providing sufficient water to ensure submergence of the vacuum siphon |
|--|
| block to allow the vacuum system to prime the CCPS pumps. |

The FPS pumps do not require priming during normal operations. The discharge pipe from each pump is tied to three 14' x 14' box conduits which transport flow to the CC RTB. The crown elevation of these conduits is approximately 95' and the lowest ground elevation along these conduits ranges from 96' to 100'. Surcharging and flooding have been reported when the CC RTB is filled to the overflow elevation of 98' and more than three of the FPS storm water pumps are in operation

Related Project CS-120 Freud and Connor Creek PS Improvements, CON-109, PO #s 3783,3784,3785,&3786

Lookup Driver 2 - Performance

Other Important Info n/a

Explanation During peak wet weather there is a potential for the sewers to surcharge and flood the street.



Comment

| PM Weighted | | | |
|---------------------|------------------------|-------|--|
| Score | | | |
| 75.8 | | | |
| | Criteria | Score | |
| Condition | | 5 | |
| Efficiency and Inno | ovation | 2 | |
| Financial | | 2 | |
| 0&M | | 3 | |
| Performance (Serv | ice Level/Reliability) | 5 | |
| Public Benefit | | 4 | |
| Public Health & Sa | fety | 3 | |

RC Weighted

Regulatory (Environmental/Legal)

Score

79.6

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 1 | |
| Financial | 5 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 5 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 5 | |

5



232002 CIP#

Freud & Conner Creek Pump Station Improvements

| Phase Construc | tion | | | Co | ntract PC | D-3785 | Status | Closed Out |
|------------------|----------------|-----------------|----------|-----------|-----------------|--------------------|-----------|-----------------|
| Title PO-3785 Fi | reud PS Impr | vmts | | | | | | |
| Freud transform | ner T1 updgro | ades | | | | | | |
| Phase Budget | Wastewater | | | | | Cost Allocation | CTA | |
| Phase Status | Closed Out | | | | | Funding Source | Bond Pro | bceeds |
| Start Date | | 9/30/201 | 6 | | | Fund | Construc | ction Bond Fund |
| End Date | | 6/30/201 | 7 | | U | seful Life >20Yrs? | Yes | |
| C | ost Estimatior | n Information | | | Tot. Fede | ral Loan Amount | | |
| | 1 | Cost Est. Class | ; | | Prog | gram/Allowance | Task Info | rmation |
| | | Cost Est. Date | | Project N | Nanage r | Todd King | | |
| | | Cost Est. Sourc | e | CIP Num | ber | | | |
| | | Cost Est. Prepo | ared By | Descripti | on | | | |
| | | | | | | | | |
| Task | < | Start Date En | d Date | Duration | | | | |
| Project Closeou | it. | 9/30/2016 6 | /30/2017 | 273 | | | | |

| GLW Great Lakes Water | Authority | 1 | Freud | GLWA FY 2020- & Conner Cree | | Improv | ements | 232002 CIP |
|------------------------------|------------------|-----------------------|--------|--------------------------------|------------------------|-----------|-----------------|------------|
| Phase Construct | tion | | | Contract | PO-3786 | Status | Closed Out | |
| Title PO-3786, V | /acuum prim | ing system validation | n | | | | | |
| Vacuum primine | g system vali | dation | | | | | | |
| Phase Budget | Wastewater | | | | Cost Allocation | CTA | | |
| Phase Status | Closed Out | | | | Funding Source | Bond Pro | oceeds | |
| Start Date | | 9/30/2016 | | | Fund | Construc | ction Bond Fund | |
| End Date | | 6/30/2017 | | | Useful Life >20Yrs? | Yes | | |
| Co | ost Estimation | Information | | Tot. Fe | deral Loan Amount | | | |
| | 1 | Cost Est. Class | | P | rogram/Allowance | Task Info | rmation | |
| | | Cost Est. Date | | Project Manage | er | | | |
| Bid | | Cost Est. Source | | CIP Number | | | | |
| Mini Panicker | | Cost Est. Prepare | d By | Description | | | | |
| | | | | | | | | |
| Task | | Start Date End E | Date | Duration | | | | |
| Project Closeou ⁻ | t | 9/30/2016 6/30 | 0/2017 | 273 | | | | |



232002 CIP#

Freud & Conner Creek Pump Station Improvements

| hase GLWA Employ | /ees Projec | ct managen | nent | | Contrac | t N/ | Ą | S | atus | Active | | |
|-------------------------|--------------|--------------|-----------|-----------------------------|--------------|-------|-------------|-----------|---------------|----------|--|-----|
| itle GLWA Salaries | | | | | | | | | | | | |
| Phase Budget Was | stewater | | | Cost Allocation C | | | | | | | | |
| Phase Status Activ | ve | | | Funding Source | | | | | Bond Proceeds | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | | | | Useful Life >20Yrs? No | | | | | | | | |
| Cost Es | stimation Ir | nformation | | | Tot. I | ede | eral Loan A | mount | | | | \$0 |
| | 5 | Cost Est. C | ass | | | Prog | gram/Allov | vance Tas | k Info | ormation | | |
| | | Cost Est. Do | ate | Р | roject Manag | ger | | | | | | |
| | | Cost Est. Sc | ource | CIP Number | | | | | | | | |
| | | Cost Est. Pr | epared By | D | escription | | | | | | | |
| Cost Type | Fi | scal Year | Expense | Э | Fringe Benef | ilNoi | nPersonne | | Con | nment | | |
| GLWA Salaries CIP20 | 20 FY1 | 9 | | \$10 | | 4 | | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | .0 | | \$20 | | 8 | 1 | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | :1 | | \$10 | | 4 | 0 | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | 2 | | \$10 | | 4 | 0 | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | 3 | | \$10 | | 4 | 0 | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | .4 | | \$5 | | 2 | 0 | CS-120 | | | | |
| GLWA Salaries CIP20 |)20 FY2 | 5+ | | \$5 | | 2 | 0 | CS-120 | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 FY23 | 8 | FY24 | FY25+ | | Total | | |
| | 14 | 29 | 14 | | 14 | 14 | 7 | | 7 | 99 | | |

| GLW Great Lakes Water # | /A Authority | | | Freud | | | | 024 CIP Pump St | ation Impr | ovemen | 2320 ts |
|------------------------------------|------------------------|---------|-----------------------|-------------------------|--------------|-----------------|-----------|--------------------|---------------------------|-------------|---------------|
| nase Construct | tion | | | | | Co | ontract N | ١A | Stat | us Future | Planned Start |
| le Construction | on pha | se fror | n CS-120 | | | | | | | | |
| Construction Co | ontract | origin | ating from CS | 5-120. | | | | | | | |
| Phase Budget | Wastev | vater | | | | | | Cost Allo | cation CTA | | |
| Phase Status | Future I | Planne | ed Start | | | | | Funding S | Source Bond | Proceeds | |
| Start Date | | | | | | | | | Fund Cons | truction Bo | nd Fund |
| End Date | | | | | | | | Useful Life > | 20Yrs? Yes | | |
| Co | ost Estim | nation | Information | | | | Tot. Fed | eral Loan A | mount | | |
| | | 2 | Cost Est. C | lass | | | Pro | ogram/Allov | wance Task I | nformation | |
| 8 | /31/201 | 7 | Cost Est. D | ate | Р | roject <i>l</i> | Nanager | | | | |
| Contractor | | | Cost Est. So | ource | C | CIP Num | nber | | | | , |
| Biren Saparia | | | Cost Est. Pi | epared By | D |)escript | ion | | | | |
| Cost Typ | ре | | Fiscal Year | Expense |) | Fringe | BenefilNa | onPersonne | С | omment | |
| Construction | | F١ | (20 | \$15 | ,000, | | | | land acquisi [.] | tion | |
| onstruction | | F١ | (21 | \$12 | ,000, | | | | 2020CIP | | |
| onstruction | | F١ | (22 | \$49 | ,000, | | | | | | |
| Construction | | | (23 | · · · · · | ,000 | | | | | | |
| Construction | | | (24 | \$24 | ,500 | | | | | | |
| Construction | | ۲۱ | (25+ | | \$0 | | | | 2020CIP | | |
| Task | | | Start Date | End Date | Dur | ation | | | | | |
| cope Developr | ment | | 10/1/2018 | 6/30/2019 | | 272 | | | | | |
| rocurement | | | 7/1/2019 | 9/30/2019 | | 91 | | | | | |
| roject Executio roject Closeout | | | 10/1/2019 7/1/2023 | 6/30/2023 12/24/2023 | | 1368 176 | - | | | | |
| Prior Yr Actual | | FY19 | FY20 | FY21 | FY | 1 | FY23 | FY24 | FY25+ | Total | |
| | | | 0 15,000 | | | 7,000 | 49,000 | | | 149,500 | |

| GLWA Great Lakes Water Autho | A <i>rity</i> | | Freud | GLWA FY & Conner | | 24 CIP Pump Station | Improv | vements | 232002 CIP# |
|---------------------------------|-------------------------|------------------|------------------|---------------------|-------------|------------------------|-----------|-----------------|-------------|
| | | Р | hase Total Ex | oenses By FY | (All figure | es are in \$1,000's) | | | |
| Phase Construction | n | | | Co | ntract PC | D-3784 | Status | Closed Out | |
| Title PO-3784, Roc | of upgrade | e and structur | al repairs for (| Conner Pump | o Station | | | | |
| Roof upgrade and | d structurc | Il repairs for C | onner Pump S | itation | | | | | |
| Phase Budget W | astewater | | | | | Cost Allocation | CTA | | |
| Phase Status Cl | osed Out | | | | | Funding Source | Bond Pro | oceeds | |
| Start Date | | 9/30, | /2016 | | | Fund | Construe | ction Bond Fund | |
| End Date | | 6/30, | /2017 | | U | seful Life >20Yrs? | Yes | | |
| Cost | Estimation | n Information | | | Tot. Fede | ral Loan Amount | | | |
| | 4 | Cost Est. C | lass | | Prog | gram/Allowance | Task Info | ormation | |
| 8/3 | 1/2017 | Cost Est. D | ate | Project N | Nanager | | | | |
| Engineering | | Cost Est. S | ource | CIP Num | ber | | | | |
| Biren Saparia | | Cost Est. P | repared By | Descripti | on | | | | |
| | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | |
| Project Closeout | | 9/30/2016 | 6/30/2017 | 273 | | | | | |

| GLWA | | | | VA FY 2020 | | | | 232002 |
|-----------------------------|--------------------|------------|-------|----------------|---------------|---------------|-----------|--------|
| Great Lakes Water Authority | | Freud | 3 & C | onner Cree | ek Pump Sto | ation Impro | vemen | ts |
| Phase not applicable | | | | Contract | NA | Statu | s Closed | Out |
| Title Prior Year Actual E | Expenses | | | | | | | |
| Phase Budget Wastev | vater | | | | Cost Allo | cation CTA | | |
| Phase Status Closed | Out | | | | Funding S | ource | | |
| Start Date | | | | | | Fund | | |
| End Date | | | | | Useful Life > | 20Yrs? | | |
| | | | | 7.4.5 | | | | |
| Cost Estim | nation Information | | | IOT. FE | ederal Loan A | mount | | |
| | 1 Cost Est. C | Class | | I | Program/Allow | vance Task In | formation | |
| | Cost Est. D | ate | P | roject Manag | er | | | |
| | Cost Est. S | ource | С | IP Number | | | | |
| | Cost Est. F | repared By | D | escription | | | | |
| | | | | | | | | |
| Cost Type | Fiscal Year | Expens | е | Fringe Benefit | NonPersonne | Cc | mment | |
| Construction | FY18- | \$2 | 2,288 | | | FY18 | | |
| Engineering Services | FY18- | | \$709 | | | FY18 | | |
| Unknown | FY18- | \$2 | 2,101 | | | FY17 | | |
| GLWA Salaries CIP2020 | FY18- | | \$9 | 3 | 0 | 2020CIP | | |
| Prior Yr Actuals | FY19 FY20 | FY21 | FY2 | 22 FY23 | FY24 | FY25+ | Total | |
| 5,110 | | | | | | | 5,110 | |

| GLW Great Lakes Water Aut | A thority | | | Freuc | | | 2020-2 Creek | | | ation | Impr | ovement | s | 232002 CIP |
|--|---------------------|--------------|------------------------|-------------|----------------|-----------------|-----------------|------|-------------|------------------|----------|-------------|-----------|------------|
| Phase Study and | - | | | | | | ntract | CS- | 120 | | Stat | us Active | | |
| | | | reek Pump | Station Imp | roven | nents | | | | | | | | |
| Phase Budget V | Vastewat | er | | | | | | (| Cost Allo | cation | CTA | | | |
| Phase Status / | Active | | | | | | | F | unding S | Source | Reve | nue Financ | ed Capito | al |
| Start Date | | | 6/7/ | 2017 | | | | | | Fund | Impro | ovement & | Extension | Fun |
| End Date | | | 8/15/ | 2022 | | | | Use | eful Life > | 20Yrs? | No | | | |
| Cos | st Estimati | on Inf | ormation | | | | Tot. Fee | derc | al Loan A | mount | | | | |
| | 4 | (| Cost Est. C | lass | | | Pr | ogr | am/Allov | wance | Task I | Information | | |
| 8/ | 31/2017 | (| Cost Est. Do | ate | P | roject <i>N</i> | Nanagei | r | | | | | | |
| Engineering | | | Cost Est. Sc | ource | C | IP Num | ber | | | | | | | |
| Biren Saparia | | | Cost Est. Pr | epared By | D |)escript | ion | | | | | | | |
| Cost Typ | е | Fiso | cal Year | Expense | Э | Fringe | BenefilN | IonF | ersonne | | C | Comment | | |
| Engineering Servi | | FY19 | | • | ,070, | | | | | | | | | |
| Engineering Servi | ces | FY20 | | \$2 | ,000 | | | | | 2020CI | Р | | | |
| Engineering Servi | ces | FY21 | | \$1 | ,000, | | | | | | | | | |
| Engineering Servi | | FY22 | | - | ,000, | | | | | | | | | |
| Engineering Servi | | FY23 | | · · · | ,000 | | | | | | D | | | |
| Engineering Servi Engineering Servi | | FY24 FY25 | | | \$500 \$250 | | | | | 2020CI 2020CI | | | | |
| | Ces | - | | | | | | | | 202001 | 1 | | | |
| Task | ant | _ | art Date | End Date | | ation | | | | | | | | |
| Scope Developm Procurement | ieni | | 9/14/2018 2/18/2018 | 12/18/2018 | | 95 122 | | | | | | | | |
| Project Execution |) | _ | 3/27/2017 | 6/30/2023 | | 2286 | | | | | | | | |
| Project Closeout | - | | 7/1/2023 | 12/30/2023 | | 182 | | | | | | | | |
| Prior Yr Actuals | FY1 | 9 | FY20 | FY21 | FY: | 22 | FY23 | | FY24 | FY2 | 5+ | Total | | |
| | 1 | ,070 | 2,000 | 1,000 | | 000, 1 | 1,000 | C | 500 | | 250 | 6,820 | | |

| GLW Great Lakes Water. | | | Freud | GLWA F | | | 24 CIP Pump Sto | ation Im | pro | vem | ents | | 232002 CI |
|---------------------------|---------------|----------------|---------------|-----------|-------------|------|--------------------|-----------|-------|--------|--------|-----|-----------|
| | | P | hase Total Ex | | | | - | | - | | | | |
| Phase Construct | tion | | | | Contract | СС | DN-109 | S | tatu | s Act | ive | | |
| Title CON-109, | Freud & Co | nner Creek Pu | mp Station Im | provemer | nts | | | | | | | | |
| Freud Pump Re | habilitation | and procurem | ent of new p | ump and | a switchg | ear | | | | | | | |
| Phase Budget | Wastewate | er | | | | | Cost Alloc | cation C1 | A | | | | |
| Phase Status | Active | | | | | | Funding S | ource Bo | nd F | rocee | ds | | |
| Start Date | | 12/19, | /2016 | | | | | Fund Co | onstr | uction | Bond F | und | |
| End Date | | 12/19, | /2017 | | | Us | eful Life >2 | 20Yrs? Ye | S | | | | |
| Co | ost Estimatic | on Information | | | Tot. Fe | edei | al Loan Ar | nount | | | | | |
| | 4 | Cost Est. C | lass | | | Prog | ram/Allow | ance Ta | sk In | format | ion | | |
| 8 | /31/2017 | Cost Est. D | ate | Projec | t Manag | er | | | | | | | |
| Engineering | | Cost Est. S | ource | CIP N | umber | | | | | | | | |
| Biren Saparia | | Cost Est. P | repared By | Descri | iption | | | | | | | | |
| Cost Ty |)e | Fiscal Year | Expense | e Frinc | ie Benefit | Nor | Personne | | Co | mmer | nt. | | |
| Construction | | FY19 | | 5900 | je beriem | | | 2020CIP | 00 | | | | |
| Task | | Start Date | End Date | Duratior | 1 | | | | | | | | |
| Scope Developi | | 11/15/2016 | 11/30/2016 | | 15 | | | | | | | | |
| Procurement | | 9/30/2016 | 9/30/2016 | | 0 | | | | | | | | |
| Project Executio | n | 9/30/2016 | 10/30/2018 | 7 | 60 | | | | | | | | |
| Project Closeou | ł | 11/1/2018 | 11/30/2018 | | 29 | | | | | | | | |
| Prior Yr Actua | ls FY19 | 9 FY20 | FY21 | FY22 | FY23 | | FY24 | FY25+ | | Total | | | |
| | | 900 0 | 0 | 0 | | 0 | 0 | | 0 | 9 | 00 | | |
| | | Р | hase Total Ex | penses By | FY (All fig | JURE | s are in \$1, | .000's) | | | | | |

#

| | GLWA Great Lakes Water Authorit | v | | Freu | | FY 2020 | | | Improve | ements | 23 | 32002 CIP |
|---------|------------------------------------|-------------|-------------|--------------|-----------|----------------|-------------|--------------|-------------|--------------|-----------|-----------|
| Phase | Construction | | | | | Contract | PO-3783 | | Status (| Closed Out | | |
| Title P | °O-3783, Coni | her PLC up | grades | | | | | | | | | |
| Conne | er PLC upgrad | des | | | | | | | | | | |
| Phas | e Budget Wa | stewater | | | | | Cost | Allocation | СТА | | | |
| Pho | ise Status Clo | sed Out | | | | | Fundi | ng Source | Revenue I | Financed C | Capital | |
| S | itart Date | | 9/30 | /2016 | | | | Fund | Improvem | nent & Exter | nsion Fun | |
| | End Date | | 6/30, | /2017 | | | Useful Li | fe >20Yrs? | No | | | |
| | Cost E | stimation I | nformation | i | 1 | Tot. F | ederal Loc | ın Amount | | | | |
| | | 2 | Cost Est. C | lass | | | Program/ | Allowance | Task Inforr | nation | | 1 |
| | 8/31, | /2017 | Cost Est. D | ate | Proj | ect Manag | jer | | | | | |
| Cor | itractor | | Cost Est. S | ource | CIP | Number | | | | | | |
| Bire | n Saparia | | Cost Est. P | repared By | Des | cription | | | | | | |
| | | | | | | | | | | | | |
| | Task | S | tart Date | End Date | Durati | on | | | | | | |
| Projec | t Closeout | | 9/30/2016 | 6/30/201 | 7 | 273 | | | | | | |
| | | | P | hase Total E | xpenses I | By FY (All fig | gures are i | n \$1,000's) | | | | |
| | Proje | ect Total | Expenses | By FY Co | mpare | d to Prior | CIPs (A | ll figures | are in \$1 | 1,000's) | | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | 8,040 | 5,900 | 5,100 | 2,460 | 1,000 | | | 0 | 0 | 22,5 | 00 |
| 2019 | (| 2,101 | 1,384 | 1,192 | | 223 | 1,582 | 11,000 | 15,000 | 0 | 32,4 | 32 |
| 2020 | (| 0 0 | 5,110 | 1,984 | 17,029 | 13,014 | 50,014 | 50,014 | 25,007 | 257 | 162,4 | 29 |

| GLWA Great Lakes Water Authority | | (2020-2024 CIP ortheast Pumping Statio | 232003 CIP# |
|--|---|--|---|
| Innovation Water MP Right Sizir Reliability/Redundation NEWTP Repurposing | | Pump at the Northec Pumping Station | |
| Managing E Date Original Business | ager Biren Saparia | Class Lvl 1 Class Lvl 2 Class Lvl 3 Location | Wastewater Wastewater SCC Pumping Stations City of Detroit Wastewater - 5421-892211 |
| re | his project will include replacement of the in epair of the original service elevator, rebuild and upgrade of the dry well, repair and upg the station, etc. | ling of the spare pumps, repo | air and upgrade of the wet well, repair |
| 0 | rovide basis of design, and final design for a ption. Provide construction of the emerging | g project and construction as | sistance during construction. |
| Project History C m c si c d | Aeeting the collection system transport cap he Northeast Sewage Pumping Station was inother sewage pump was added under PC OMID Contract-3,OMID performed the remo- hanifold system; structural alterations to acc hamber to support deteriorated external w des; placement of new concrete walls and construction of precast concrete walls abov access; and other associated work to accor his proposed rehabilitation project is to add | built under contract PC-216. C-736. Later on OMID added toval of existing discharge pipin commodate filling the east ar ralls, replacement of the NESF I beams to form a centralized re the central chamber and p mplish the repairs etc. | It had only three sanitary pumps and 2 more sewage pumps. Recently under ng; installation of a new discharge pipe nd west sides of the existing discharge 2S roof structure over the east and west I discharge opening to the PCI-4 sewer, precast roof slab panels for permanent |
| I I | | | |
| | C-216, PC-672, PC-736 | | |
| | C-216, PC-672, PC-736 | | |



Northeast Pumping Station

Explanation Some equipment in this station are the original one when the station was built in 1969



| PM Weighted Score | | |
|---|-------|---------|
| 79.6 | | |
| Criteria | Score | Comment |
| Condition | 5 | |
| Efficiency and Innovation | 4 | |
| Financial | 5 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 5 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 4 | |

RC Weighted

Score

89

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 4 | |
| Financial | 5 | |
| O&M | 4 | |
| Performance (Service Level/Reliability) | 5 | |
| Public Benefit | 5 | |
| Public Health & Safety | 4 | |
| Regulatory (Environmental/Legal) | 4 | |

| GLW Great Lakes Water | /A Authority | | | | GLV | | 2020-20 rtheast | | 4 CIP | Statio | n | | | 232003 CIP |
|-----------------------------------|------------------------|-------------|-------------|--------------------|---|------------------------|--------------------|------|------------|---------|--------|-------------------|-----------|------------|
| Phase To Be Det | ermined | | | | | Co | ntract N | ١A | | | Statu | s Future F | lanned S | Start |
| Title Northeast | Pumping St | ation | | | | | | | | | | | | |
| Phase Budget | Wastewate | er | | | Cost Allocation OMID | | | | | | | | | |
| Phase Status Future Planned Start | | | | | Funding Source Contribution in Aid of Constru | | | | | | | | | nstru |
| Start Date | | | | | | | | | | Fund Ir | nprov | ement & I | Extension | Fun |
| End Date | End Date | | | | | Useful Life >20Yrs? No | | | | | | | | |
| Co | ost Estimatio | on Infoi | rmation | | | | Tot. Fed | erc | al Loan An | nount | | | | |
| | 4 | C | ost Est. Cl | ass | | | Pro | ogr | am/Allow | ance Te | ask In | formation | | |
| 8 | 8/31/2017 Cost Est. D | | ost Est. Do | ate | Project | | | | | | | | | |
| Engineering Cost | | ost Est. Sc | urce | CIP Numbe | | ber | | | | | | | | |
| Biren Saparia Cost Est. Pre | | | epared By | ared By Descriptio | | | | | | | | | | |
| Cost Ty | 20 | Fisco | al Year | Expense | 2 | Fringe | BenefilNc | ٦nF | Personne | | Co | mment | | |
| Unknown | | FY19 | | • | \$1,000 | | | 5111 | | 020CIP | 00 | | | |
| Unknown | | | | \$7 | \$7,000 | | | | 2020CIP | | | | | |
| Unknown FY21 | | | \$1C | \$10,500 | | | | 2 | 020CIP | | | | | |
| Unknown FY22 | | | | \$10,500 | | | | | 020CIP | | | | | |
| Unknown | | FY23 | | \$2 | ,500 | | | | 2 | 020CIP | | | | |
| Task | | Star | t Date | End Date | Dur | ation | | | | | | | | |
| Scope Developi | ment | | | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | | | |
| Project Executio | | | | | | | | | | | | | | |
| Project Closeou | | | | 1 | | 1 | | _ | | | | 1 | | |
| Prior Yr Actua | | | FY20 | FY21 | FY2 | | FY23 | | FY24 | FY25 | | Total | | |
| | 1, | 000 | 7,000 | 10,500 | 10 | 0,500 | 2,500 | | 0 | | 0 | 31,500 | | |



GLWA FY 2020-2024 CIP Northeast Pumping Station

| Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's) | | | | | | | | | | | |
|--|------|------|-------|--------|--------|--------|--------|--------|------|------|--------|
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | | 2,408 | 10,920 | 13,000 | | | | 0 | 0 | 26,328 |
| 2019 | 0 | | | | | 2,408 | 10,920 | 13,000 | | 0 | 26,328 |
| 2020 | 0 | 0 | | 1,000 | 7,000 | 10,500 | 10,500 | 2,500 | 0 | 0 | 31,500 |



Collection System In System Storage Devices (ISDs) Improvement

| Innovation Water MP Right Siz Reliability/Redund NEWTP Repurposit | | Inflatable da illustrati | | | | | | |
|--|--|-----------------------------|--|--|--|--|--|--|
| Project Engineer/Ma | nager Mini Panicker | Budget | Wastewater | | | | | |
| Ma | nager Biren Saparia | Class Lvl 1 | 1 Wastewater | | | | | |
| Managing | Dept SCC | Class Lvl 2 | SCC | | | | | |
| Date Original Busines | ss Case Prepared 7/28/2016 | Class LvI 3 | In System Devices | | | | | |
| Year Proje | ect Added to CIP 2017 | | n Multiple Counties | | | | | |
| | | Fund and Cost Center | Wastewater - 5421-892211 | | | | | |
| Project Significance | ISDs are operational elements in the collection s events to minimize the frequency and volume o wastewater treatment plant and CSO control fo | of the untreated overflows | | | | | | |
| Scope of Work | Assess the existing conditions of the ISD element | s and their structures and | rehabilitate/ replace. | | | | | |
| Challenges | These are operational elements, so flow control | may be a challenge espe | ecially during wet weather periods. | | | | | |
| Project History | 13 ISDs were installed in the GLWA combined se since then. | wers in 2003 under PC-747 | 7. No major rehabilitation has been done | | | | | |
| Related Project | PC-747 | | | | | | | |
| Lookup Driver | 1 - Condition | | | | | | | |
| Other Important Info | *Innovation note: May need to increase scope for dynamic control of in-line elements see U of M study. Asset Numbers are -WS986810250861, WS986810250862, WS986810250863, WS986810250864, WS986810250865, WS986810250866, WS986810250867, WS986810250868, WS986810250869, WS986810250870, WS986810250871, WS986810250872,WS986810250873 | | | | | | | |
| Explanation | These gates have reached their life expectancy | and the operating tech | pology is outdated | | | | | |



GLWA FY 2020-2024 CIP Collection System In System Storage Devices (ISDs) Improvement

PM Weighted

| Score | | |
|---|-------|---------|
| 53.4 | | |
| Criteria | Score | Comment |
| Condition | 4 | |
| Efficiency and Innovation | 3 | |
| Financial | 1 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 2 | |
| Public Health & Safety | 2 | |
| Regulatory (Environmental/Legal) | 3 | |

RC Weighted

Score

50

| Score | Comment |
|-------|---|
| 30016 | Comment |
| 4 | |
| 3 | |
| 1 | |
| 3 | |
| 3 | |
| 2 | |
| 1 | |
| 3 | |
| | Score 4 3 1 3 3 3 2 1 1 3 |



233002 CIP#

Collection System In System Storage Devices (ISDs) Improvement

| hase not applicable | Contract NA | Status Closed Out | | | | | | |
|--------------------------------|--------------------------|-------------------|--|--|--|--|--|--|
| tle Prior Year Actual Expenses | | | | | | | | |
| Phase Budget Wastewater | Cost Allocation CTA | | | | | | | |
| Phase Status Closed Out | Funding Source | | | | | | | |
| Start Date | Fund | | | | | | | |
| End Date | Useful Life >20Yrs? | | | | | | | |
| Cost Estimation Information | Tot. Federal Loan Amount | \$0 | | | | | | |
| 1 Cost Est. Class | Program/Allowance | Task Information | | | | | | |
| Cost Est. Date | Project Manager | | | | | | | |
| Cost Est. Source | CIP Number | | | | | | | |
| Cost Est. Prepared B | by Description | | | | | | | |

| GLW/ Great Lakes Water Auth | A | Co | ollection Sy | GLWA FY ystem In S | | | vices (ISI | Ds) Impro | 233002 ovement | | |
|--------------------------------|--------------|---------------|--------------|------------------------------------|------------|-------------|------------|-----------------|----------------|--|--|
| Phase Constructio | on | | | Co | ontract N | A | Statu | Js Cance | lled | | |
| Title Collection S | ystem In Sy | stem Storage | Devices (ISD | s) Improvem | ent | | | | | | |
| Phase Budget W | /astewater | | | | | Cost Alloco | ation CTA | | | | |
| Phase Status C | ancelled | | | | | Funding So | urce Bond | Proceeds | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | |
| End Date | | | | Useful Life >20Yrs? Yes | | | | | | | |
| Cos | t Estimatior | n Information | | Tot. Federal Loan Amount | | | | | | | |
| | 2 | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | |
| 8/3 | 31/2017 | Cost Est. D | ate | Project Manager | | | | | | | |
| Contractor | | Cost Est. S | ource | CIP Nun | CIP Number | | | | | | |
| Biren Saparia | | Cost Est. P | repared By | Descript | lion | | | | | | |
| | | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | | |
| Scope Developm | ent | 7/26/2021 | 9/26/2021 | 62 | | | | | | | |
| Procurement | | 9/26/2021 | 3/25/2022 | 180 |) | | | | | | |
| Project Execution | | 3/25/2022 | 9/20/2024 | 910 | | | | | | | |
| Project Closeout | | 9/20/2024 | 10/20/2024 | 30 |) | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| GLWA Great Lakes Water Authori | ity | Co | ollection Sy | GLWA FY ystem In S | | | evices (ISE | Ds) Impro | 233002 c ovement | | |
|-----------------------------------|-------------------|--------------|--------------|------------------------------|-----------|------------|--------------|------------|---------------------|--|--|
| Phase Design | | | | Co | ontract N | A | Statu | s Cance | lled | | |
| Title Collection Sys | stem In Sys | stem Storage | Devices (ISD | s) Improvem | ient | | | | | | |
| Phase Budget Wc | astewater | | | | | Cost Alloc | ation CTA | | | | |
| Phase Status Ca | incelled | | | Funding Source Bond Proceeds | | | | | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | |
| End Date | | | | Useful Life >20Yrs? Yes | | | | | | | |
| | | | | | | | | | | | |
| Cost I | Estimation | Information | | Tot. Federal Loan Amount | | | | | | | |
| | 1 Cost Est. Class | | | | Pro | gram/Allow | ance Task Ir | nformation | | | |
| | | Cost Est. D | ate | Project Manager | | | | | | | |
| NA | | Cost Est. So | ource | CIP Number | | | | | | | |
| NA | | Cost Est. Pi | repared By | Description | | | | | | | |
| | | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | | |
| Scope Developmer | nt | 12/29/2019 | 3/29/2020 | 91 | | | | | | | |
| Procurement | | 3/29/2020 | 12/26/2020 | 272 | 2 | | | | | | |
| Project Execution | | 12/26/2020 | 9/20/2024 | 1364 | 1 | | | | | | |
| Project Closeout | | 9/20/2024 | 10/20/2024 | 30 |) | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 1117 | | | | | | | | | | |

| GLWA Great Lakes Water Authori | ty | Co | ollection Sy | GLWA FY /stem In S | | 24 CIP orage Devic | es (ISD: | s) Improvei | 233002 ment |
|-----------------------------------|------------|--------------------------|---------------|------------------------------|------------|-----------------------|------------|---------------|----------------|
| hase Study | | | | Co | ontract N/ | 4 | Status | Cancelled | |
| tle Collection Sys | tem In Sys | stem Storage | Devices (ISD: | s) Improvem | ent | | | | |
| Phase Budget Wc | istewater | | | | | Cost Allocatio | n CTA | | |
| Phase Status Ca | ncelled | | | Funding Source | | | | ve Financed C | Capital |
| Start Date | | | | Fund Improvement & Extension | | | | | |
| End Date | | | | | U | ? No | | | |
| Cost I | | Tot. Federal Loan Amount | | | | | | | |
| Cost Est. Class | | | lass | | Prog | gram/Allowanc | e Task Inf | ormation | |
| | | Cost Est. D | ate | Project Manager | | | | | |
| NA | | Cost Est. S | ource | CIP Num | nber | | | | |
| NA | | Cost Est. P | repared By | Description | | | | | |
| | | | | | 1 | | | | |
| Task | | Start Date | End Date | Duration | - | | | | |
| cope Developmer | nt | 7/1/2018 | 9/30/2018 | | - | | | | |
| rocurement | | 9/30/2018 | 6/29/2019 | | | | | | |
| roject Execution | | 6/29/2019 | 12/29/2019 | | | | | | |
| roject Closeout | | 12/29/2019 | 1/28/2020 | 30 | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 F | (25+ | Total | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | |



233002 CIP#

Collection System In System Storage Devices (ISDs) Improvement

| Phase | GLWA Emplo | yees Projec | ct manage | ment | | Contrac | NA | | Status | Cancelled | |
|--------|----------------|-------------|-------------|------------|----------|--------------|-------------|---------------|------------|------------|-------|
| itle 🤆 | GLWA Salaries | 5 | | | | | | | | | |
| Phase | e Budget Wa | stewater | | | | | Cost | Allocation | CTA | | |
| Pha | se Status Ca | ncelled | | | | | Fund | ing Source | Bond Prod | ceeds | |
| S | itart Date | | | | | | | Fund | Construct | ion Bond F | und |
| I | End Date | | | | | | Useful L | ife >20Yrs? | No | | |
| | Cost E | stimation I | nformation | | 1 | Tot. I | ederal Loc | an Amount | | | \$0 |
| | | 1 | Cost Est. C | Class | | | Program/ | Allowance | Task Infor | mation | |
| | Cost Est. Date | | | | Proj | ject Manag | ger | | | | |
| | | | Cost Est. S | ource | CIP | CIP Number | | | | | |
| | | | Cost Est. P | repared By | , Des | scription | | | | | |
| | | | | | _ | | | | | | |
| Prior | Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | B FY2 | 4 FY2 | 25+ To | otal | |
| | | 0 | C |) | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | P | hase Total | Expenses | By FY (All f | gures are i | in \$1,000's) | | | |
| | Proje | ect Total | Expenses | By FY C | ompare | d to Prio | r CIPs (A | ll figures | are in \$ | 1,000's) | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | | 86 | 464 | 2,000 | 1,000 | | | 0 | 0 | 3,550 |
| 2019 | (| כ | 86 | 82 | 382 | 2,000 | 1,000 | | | 0 | 3,550 |
| 2020 | (| 0 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Wastewater System-Wide Instrumentation & Control Software and Hardware Upgrade

251002 CIP#

| Innovation Water MP Right Sizi Reliability/Redundation NEWTP Repurposing | | Ovation hardware and screens |
|---|--|--|
| Project Engineer/Man | ager Beena Chackunkal | Budget Wastewater |
| Man | ager Ali Khraizat | Class Lvl 1 Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 General Purpose |
| Date Original Business | Case Prepared 7/27/2016 | Class Lvl 3 General Purpose |
| Year Proje | ct Added to CIP 2017 | Location Multiple Counties |
| | | Fund and Cost Center Wastewater - 5421-892211 |
| ł | nardware upgrades. It is necessary when th upgraded too. | upgrade is for the operating system and miscellaneous ovation e old OS is no longer supported by Microsoft. Ovation needs to be us hardware. An evaluation for the upgrade will be conducted. |
| ב ר ת ע ע ע ע ע ע | During the evaluation of the upgrade, the st neet GLWA's future needs. Replace Obsolete/End of Life Allen Bradley upgrade critical Instrumentation. New Contr Upgrade Ovation at 4 CSO Site(Connor, Oa Instrumentation. Implement high performan- process control. | PLC5 control systems at 3 CSO Facilities (Leib, St. Aubin, 7-Mile) and rollers, HMI, network components and controls system integration. kwood, Baby Creek and Belle Isle) and Upgrade critical ce graphics and advance alarm management and advanced tes. New consoles, HVAC, Flooring, security enhancements and |
| Challenges (| Co-ordinate with Plant and CSO operation f | or shutdown requests during the software and hardware upgrade. |
| , , , , , , , , , , , , , , , , , , , | Anytime when Microsoft stops supporting ar | vation System utilizes Microsoft Windows based operating system. operating system, Ovation upgrades its software and miscellaneous w windows based operating system. GLWA business practice has and wait few years to upgrade. |
| Related Project | ast upgrade was completed in 2014. | |
| Lookup Driver | - O&M | |



hardware needs to be upgraded.



PM Weighted Score

75

| Efficiency and Innovation4Project will remove significant operational hFinancial4Project will likely result in avoidance of finesO&M4Significant positive impact on O&MPerformance (Service Level/Reliability)4Significant positive impact on system reliabilityPublic Benefit3Moderate savings for GLWAPublic Health & Safety3Moderate positive impact | | | |
|---|---|-------|---|
| Efficiency and Innovation4Project will remove significant operational hFinancial4Project will likely result in avoidance of finesO&M4Significant positive impact on O&MPerformance (Service Level/Reliability)4Significant positive impact on system reliabilityPublic Benefit3Moderate savings for GLWAPublic Health & Safety3Moderate positive impact | Criteria | Score | Comment |
| Financial4Project will likely result in avoidance of finesO&M4Significant positive impact on O&MPerformance (Service Level/Reliability)4Significant positive impact on system reliabilityPublic Benefit3Moderate savings for GLWAPublic Health & Safety3Moderate positive impact | Condition | 4 | Process functions require high levels of mainte |
| O&M4Significant positive impact on O&MPerformance (Service Level/Reliability)4Significant positive impact on system reliabilityPublic Benefit3Moderate savings for GLWAPublic Health & Safety3Moderate positive impact | Efficiency and Innovation | 4 | Project will remove significant operational hur |
| Performance (Service Level/Reliability)4 Significant positive impact on system reliabilityPublic Benefit3 Moderate savings for GLWAPublic Health & Safety3 Moderate positive impact | Financial | 4 | Project will likely result in avoidance of fines |
| Public Benefit3 Moderate savings for GLWAPublic Health & Safety3 Moderate positive impact | O&M | 4 | Significant positive impact on O&M |
| Public Health & Safety 3 Moderate positive impact | Performance (Service Level/Reliability) | 4 | Significant positive impact on system reliability |
| | Public Benefit | 3 | Moderate savings for GLWA |
| Regulatory (Environmental/Legal) 4Risk of non-compliance in near term | Public Health & Safety | 3 | Moderate positive impact |
| | Regulatory (Environmental/Legal) | 4 | Risk of non compliance in near term |

RC Weighted

Score

70.2

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 5 | |
| Efficiency and Innovation | 4 | |
| Financial | 3 | |
| 0&M | 3 | |
| Performance (Service Level/Reliability) | 3 | |
| Public Benefit | 3 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 4 | |

| GLWA Great Lakes Water Autho | rity | Vastewater | System-Wi | | | | 024 CIP on & Co | ntrol So | oftwa | re and H | lardwa | 251002 CI re Upgrade | |
|---------------------------------|--------------------------|--------------------------|---------------|------------------------------------|---------|----------|---------------------|----------|--------|------------|-----------|-------------------------|--|
| Phase Study and D | 0 | | | | | ntract | | | Statu | s Future | Planned | Start | |
| Title Wastewater | System W | ide Instrument | ation & Conti | rol Soft | ware | and Hard | dware Upg | grade | | | | 1 | |
| Phase Budget W | Phase Budget Wastewater | | | | | | Cost Allocation CTA | | | | | | |
| Phase Status Fu | ture Plan | ned Start | | | | | Funding | y Source | Reven | iue Financ | ed Capit | tal | |
| Start Date | | 2/1, | 2018 | | | | | Fund | Improv | vement & | Extensior | n Fun | |
| End Date | | 3/6, | 2022 | | | | Useful Life | >20Yrs? | No | | | | |
| Cost | | Tot. Federal Loan Amount | | | | | | | | | | | |
| | 4 Cost Est. Class | | | Program/Allowance Task Information | | | | | | | | | |
| 10/2 | 10/2/2017 Cost Est. Date | | | Project Manager | | | | | | | | | |
| | | Cost Est. S | ource | CIP Number | | | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | De | scripti | ion | | | | | | | |
| Cost Type | | Fiscal Year | Expense | e F | ringe | BenefilN | onPersonr | e | Сс | omment | | | |
| Engineering Servic | es | FY19 | | \$0 | | | | | | | | | |
| Task | | Start Date | End Date | Dura | tion | | | | | | | | |
| Scope Developme | ent | | | | | | | | | | | | |
| Procurement | | 7/1/2019 | 2/6/2020 | | 220 | | | | | | | | |
| Project Execution | | 2/7/2020 | 10/22/2023 | | 1353 | | | | | | | | |
| Project Closeout | | 10/23/2023 | 12/22/2023 | | 60 | | | | | | | | |
| Prior Yr Actuals | FY19 | P FY20 | FY21 | FY22 | 2 | FY23 | FY24 | FY2 | 25+ | Total | | | |
| | | 0 0 | 0 | | 0 | C | | 0 | 0 | 0 | | | |

| GLWA Great Lakes Water Authori | ity V | Vastewater | Svstem-Wi | GLWA ide Insti | | | | rol Softv | vare and H | lardwar | 251002 c re Upgrade |
|-----------------------------------|-----------------------------------|----------------|---------------|---------------------|------------------------------------|---------|---------------|-----------|--------------|-----------|------------------------|
| Phase Construction | | | | Contract NA | | | | | atus Future | | |
| Title Wastewater S | ystem W | ide Instrument | ation & Conti | rol Softwa | ire and | Hardv | vare Upgrc | de | | | |
| Phase Budget Wastewater | | | | Cost Allocation CTA | | | | | | | |
| Phase Status Fut | Phase Status Future Planned Start | | | | | | Funding S | ource Rev | venue Financ | ed Capit | al |
| Start Date | | 4/5/ | 2020 | | | | | Fund Imp | provement & | Extension | Fun |
| End Date | | 3/26/ | | | | U | seful Life >2 | | | | |
| | 2022 | | Tet | | ral Loan Ar | | | | | | |
| Cost | | | 101 | | | | | | | | |
| | 3 Cost Est. Class | | | | Program/Allowance Task Information | | | | | | |
| Cost Est. Date | | | ate | Project Manager | | | | | | | |
| | Cost Est. Source | | | | CIP Number | | | | | | |
| Engineer | | Cost Est. P | repared By | By Description | | | | | | | |
| | | | | | | | | | | | |
| Cost Type | | Fiscal Year | Expense | | ge Bene | əfilNor | Personne | | Comment | | |
| Construction | | FY20 | | \$0 | | _ | | | | | |
| Construction | | FY21 | | \$0 | | | | | | | |
| Task | | Start Date | End Date | Duratio | n | | | | | | |
| Scope Developme | nt | | | | | | | | | | |
| Procurement | | 5/4/2021 | 10/31/2021 | | 180 | | | | | | |
| Project Execution | | 11/1/2021 | 10/22/2023 | 23 720 | | | | | | | |
| Project Closeout | | 10/23/2023 | 12/22/2023 | 23 60 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY2 | 23 | FY24 | FY25+ | Total | | |
| | | 0 | 0 | (|) | 0 | 0 | | 0 | | |
| - | - | P | hase Total Ex | penses By | / FY (All | figure | s are in \$1 | ,000's) | | | |

| | GIW | Δ | | | | GLWA | A FY 2020 |)-2024 C | IP | | | 2510 | 002 (|
|-------|-------------------------|----------|-------------|-------------|------------|----------|---------------|-------------|--------------|-------------|-------------|-----------|-------|
| | Great Lakes Water Aut | hority | | | - | Wide Ins | | | Control S | | | lware Upg | rade |
| | GLWA Emp GLWA Salari | | Projec | t manager | nent | | Contract | NA | | Status A | Active | | |
| | | | | | | | | Cost | Allocation | | | | |
| | e Budget 🕅 | | lier | | | | | | | | | 2 | |
| | ise Status A | CTIVE | | | | | | FUnd | | Revenue F | | | |
| S | tart Date | | | | | | | | | Improvem | ient & Exte | nsion Fun | |
| | End Date | | | | | | | Useful Li | fe >20Yrs? | No | | | |
| | Cos | t Estima | tion In | formation | | 1 | Tot. F | ederal Loc | an Amount | | | \$O | |
| | | 3 | | Cost Est. C | lass | | | Program/ | Allowance | Task Inforn | nation | | |
| | | | | Cost Est. D | ate | Proj | ject Manag | | | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | | |
| | | | | | repared By | Des | cription | | | | | | |
| | | | | | | | - | | | | | | |
| | Cost Type | е | Fis | scal Year | Exper | nse Fri | inge Benef | itNonPerso | nne | Comm | nent | | |
| SLWA | Salaries CII | P2020 | FY20 | C | | \$0 | (| C | 0C Pha | se | | | |
| Prior | Yr Actuals | FY | <i>'</i> 19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | | |
| THO | Tr / Croals | | 0 | 0 | |) | 0 | 0 | 0 | 0 | 0 | | |
| | | | | P | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | | |
| | Pro | oiect To | otal E | xpenses | By FY C | ompare | d to Prio | r CIPs (A | ll fiaures | are in \$1 | .000's) | | |
| CIP | FY16 | | (17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 018 | | | | | | | 3,299 | 2,563 | | 0 | 0 | 5,862 | |
| 019 | | 0 | | | 877 | 2,653 | 7,012 | 3,506 | | | 0 | 14,048 | |
| 020 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |



260100 CIP#

WRRF, Lift Station and Wastewater Collection System Structures Allowance

| Innovation | Project Status Active | WRF | RF |
|--|---|--|---|
| □ Water MP Right Sizi | ng CIP Type Allowance | | |
| Reliability/Redunded NEWTP Repurposin | Project New To CIP | | Second |
| Project Engineer/Man | ager Beena Chackunkal | Budget | Wastewater |
| Man | ager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 | Programs |
| Date Original Business | Case Prepared 4/13/2017 | Class LvI 3 | Programs |
| Year Proje | ct Added to CIP 2012 | Location | Multiple Counties |
| | | Fund and Cost Center | Wastewater - 5421-892111 |
| Project Significance | Funding required for unplanned, emergency | and critical small capital pro | jects in the entire wastewater system |
| r F | This is an allowance for unplanned critical pr eplacement, energy saving projects, etc c Facilities. Unplanned critical items include, b control, demolition, earthwork, concrete, mo | at the Wastewater Treatment F out not limited to, mechanical | Plant and other Wastewater Operation |
| Challenges | N/A - Allowance | | |
| | WRRF has audited twice in the past for all ec equipment repair and future planning and e | | |
| F M C | At present 2 capital projects has been identi Replacement of Emergency Lighting and Ex NTP was issued on 12/2/2016 and the Final C Meter at Neff Road Pumping Station. This pro CS -060 is also funded from this Allowance bo of WRRF. | ist Signs. The construction bud ompletion Date is 12/27/2017. Dject has recently been comp | get for this projects is \$1,178,743. The (b) SCP-PC-016G, Replacement of Flow leted in March 2017. |
| Lookup Driver | N/A - Allowance | | |
| | | | |



PM Weighted Score

73

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 4 | Process functions require high levels of mainte |
| Efficiency and Innovation | 4 | Project will remove significant operational hur |
| Financial | 3 | Project will likely result in avoidance of fines |
| O&M | 4 | Significant positive impact on O&M |
| Performance (Service Level/Reliability) | 4 | Significant positive impact on system reliability |
| Public Benefit | 3 | Moderate savings for GLWA |
| Public Health & Safety | 3 | Moderate positive impact |
| Regulatory (Environmental/Legal) | 4 | Risk of non compliance in near term |
| | | |

RC Weighted

Score

0

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | | |
| Efficiency and Innovation | | |
| Financial | | |
| O&M | | |
| Performance (Service Level/Reliability) | | |
| Public Benefit | | |
| Public Health & Safety | | |
| Regulatory (Environmental/Legal) | | |

| GLWA Great Lakes Water Authority |
|-------------------------------------|
|-------------------------------------|



WRRF, Lift Station and Wastewater Collection System Structures Allowance

| hase Construc | | | Contract N | | Status | Closed Out |
|--|--------------------------|---|-------------|--|-------------------------------------|---|
| Phase Budget Phase Status Start Date End Date | Wastewater Closed Out | ce back drives of 4 DS-70 | · · · · | Cost Allocation Funding Source | Bond Pro | oceeds ction Bond Fund |
| C(| ost Estimation I | nformation Cost Est. Class Cost Est. Date Cost Est. Source | | gram/Allowance Beena Chackun 260103 | | ormation |
| | | Cost Est. Prepared By | Description | 100 HP Motors, V Installation of Mo Main Drive 300 H | FD's and ptor Prote IP Motors | Centrifuges Back Drive I Control Panels and ection Modules for s for Four (4) Sharples ng Complex II at the |

| GLW Great Lakes Water. | Authority | WRRF, Lift St | ation | GLWA FY 2020-20 and Wastewater (| | tem Structures Allowa | 260100 CIP Ince |
|---------------------------|------------------|--------------------|---------|-------------------------------------|--------------------|---|--------------------|
| Phase Construct | tion | | | Contract SC | CP-PC-010 | Status Closed Out | |
| Title SCP-PC-01 | 0 Tooles Contr | acting - Replace \ | Various | Air Distribution Equip 2 | 260105 | | 1 |
| Phase Budget | Wastewater | | | | Cost Allocation | СТА | |
| Phase Status | Closed Out | | | | Funding Source | Revenue Financed Capital | |
| Start Date | | | | | Fund | Improvement & Extension F | un |
| End Date | | | | U | seful Life >20Yrs? | No | |
| Ca | ost Estimation I | nformation | | Tot. Fede | eral Loan Amount | | |
| | 1 | Cost Est. Class | | Prog | gram/Allowance | Task Information | |
| | | Cost Est. Date | | Project Manager | Beena Chackun | kal | |
| | | Cost Est. Source | | CIP Number | 260105 | | |
| | | Cost Est. Prepare | ed By | Description | | air distribution equipment f ening facility at Pump Static | |
| | | | | | at the WRRF | | |

| GLWA Great Lakes Water Authority | WRRF, Lift Station | GLWA FY 2020-20 and Wastewater (| | tem Structures Allowa | 260100 CII nce |
|-------------------------------------|-------------------------------|-------------------------------------|----------------------------------|---|-------------------|
| Phase Construction | | Contract N | 4 | Status Closed Out | |
| Title 260102 RFP 44380 Titu | s Welding Co - Replace Stairs | s - WRRF | | | |
| Phase Budget Wastewate | er | | Cost Allocation | CTA | |
| Phase Status Closed Ou | t | | Funding Source | Bond Proceeds | |
| Start Date | | | Fund | Construction Bond Fund | |
| End Date | | U | seful Life >20Yrs? | Yes | |
| Cost Estimation | on Information | Tot. Fede | ral Loan Amount | | |
| 2 | Cost Est. Class | Prog | gram/Allowance | Task Information | |
| | Cost Est. Date | Project Manager | Beena Chackunl | kal | |
| Contract | Cost Est. Source | CIP Number | 260102 | | |
| | Cost Est. Prepared By | Description | and around the cracked parape | safety hazards present within Administration Building such t stones, uneven sidewalk floors and unsafe door. | |

| GLW Great Lakes Water | /A Authority | WRRF, | Lift Station | GLWA FY and Wast | | | System | Structure | s Allowa | 260100 CI nce |
|--------------------------|------------------------|----------------|---------------|---------------------|------------|-----------------------------|-------------|------------|-------------|------------------|
| Phase Construc | tion | | | Co | ontract SC | CP-PC-014 | Stat | us Closed | Out | |
| Title SCP-PC-01 | 4 Ferndale | Electric Emerg | ency Lighting | g - 260101 | | | | | | |
| The constructio | n money fo | r SCP-PC-014 v | vas funded fr | om this Allow | ance. In | Correct Proje | ect | | | |
| Phase Budget | Wastewate | r | | | | Cost Alloco | ation CTA | | | |
| Phase Status | Closed Out | • | | | | Funding So | urce Reve | nue Financ | ed Capital | |
| Start Date | | 5/25 | /2016 | | | I | Fund Impro | ovement & | Extension F | un |
| End Date | | 12/27 | /2017 | | U | seful Life >20 | Yrs? No | | | |
| C | ost Estimatic | n Information | | | Tot. Fede | eral Loan Am | ount | | | |
| | 1 | Cost Est. C | Class | | Prog | gram/Allowc | ance Task I | nformation | | |
| | | Cost Est. D | ate | Project / | Nanager | Beena Cha | ckunkal | | | |
| | | Cost Est. S | ource | CIP Nun | nber | 260101 | | | | |
| | | Cost Est. P | repared By | Descript | ion | Plant-wide lighting, exi | | | | |
| | | | | | | supplies an | d batteries | at the WRF | RF. | |
| Task | (| Start Date | End Date | Duration | | | | | | |
| Scope Develop | ment | | | | | | | | | |
| Procurement | | | | | | | | | | |
| Project Executio | n | 5/25/2016 | 12/27/2017 | 581 | | | | | | |
| Project Closeou | † | 12/27/2017 | 1/26/2018 | 30 | | | | | | |
| Prior Yr Actua | lls FY19 | P FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| WRRF, | Lift Station | | | | tem Str | | 260100 c nce |
|---------------------|--|--|--|---|---|--|---|
| | | Co | ntract SC | CP-PC-016G | Status | Closed Out | |
| ontractors Inc, Nef | f Road Pump | ing Station Fl | owmeter | Replacement - 20 | 60108 | | |
| or 2018. | | | | | | | |
| rater | | | | Cost Allocation | CTA | | |
| Out | | | | Funding Source | Revenue | e Financed Capital | |
| 4/22/ | 2016 | | | Fund | Improvei | ment & Extension Fu | 'n |
| 4/17/ | 2017 | | U | seful Life >20Yrs? | No | | |
| ation Information | | | Tot. Fede | ral Loan Amount | | | |
| Cost Est. C | lass | | Prog | gram/Allowance | Task Info | rmation | |
| Cost Est. D | ate | Project N | Nanager | Beena Chackun | ikal | | |
| Cost Est. So | ource | CIP Num | ber | 260108 | | | |
| Cost Est. Pr | repared By | Descripti | on | / | | | |
| Start Date | End Date | Duration | | | | | |
| Sidir Dale | | Doranon | | | | | |
| | | | | | | | |
| 4/22/2016 | 4/17/2017 | 360 | | | | | |
| 4/17/2017 | 11/3/2017 | 200 | | | | | |
| | Image: Start Date Start Date 4/22/2016 | ontractors Inc, Neff Road Pump for 2018. /ater Out 4/22/2016 4/17/2017 ation Information Cost Est. Class Cost Est. Date Cost Est. Date Cost Est. Source Cost Est. Prepared By | Co Ontractors Inc, Neff Road Pumping Station FI for 2018. vater Out 4/22/2016 4/17/2017 ation Information Cost Est. Class Cost Est. Class Cost Est. Source Cost Est. Source Cost Est. Prepared By Start Date End Date 4/22/2016 4/22/2016 Start Date End Date Duration 4/22/2016 4/17/2017 360 | WRRF, Lift Station and Wastewater (Contract SC) Contractors Inc, Neff Road Pumping Station Flowmeter (For 2018.) rater Out 4/22/2016 4/17/2017 ution Information Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Number Description | Contract SCP-PC-016G Contractors Inc, Neff Road Pumping Station Flowmeter Replacement - 24 for 2018. vater Cost Allocation Out Funding Source 4/22/2016 Fund 4/22/2016 Fund 4/17/2017 Useful Life >20Yrs? ation Information Fogram/Allowance Cost Est. Class Project Manager Beena Chackur Cost Est. Date City of Grosse Postation Sanitary Start Date Duration Start Date Duration 4/22/2016 4/17/2017 360 | WRRF, Lift Station and Wastewater Collection System Str Contract SCP-PC-016G Status ontractors Inc, Neff Road Pumping Station Flowmeter Replacement - 260108 cost Allocation CTA Cost Allocation CTA Got 2018. cost Allocation CTA Got 4/22/2016 4/22/2016 Fund Improve 4/22/2016 Allocation CTA Cost Allocation CTA Fund Improve 4/22/2016 Allocation CTA Fund Improve 4/17/2017 Useful Life >20Yrs? No Tot. Federal Loan Amount Program/Allowance Task Info Cost Est. Class Cost Est. Source Cost Est. Prepared By Description City of Grosse Pointe - Ne Start Date End Date Duration 4/22/2016 4/17/2017 360 | WRRF, Lift Station and Wastewater Collection System Structures Allowan Contract SCP-PC-016G Status Closed Out ontractors Inc, Neff Road Pumping Station Flowmeter Replacement - 260108 for 2018. cost Allocation CTA Out Cost Allocation CTA Out 4/22/2016 Funding Source Avenue Financed Capital 4/22/2016 4/17/2017 Useful Life >20Yrs? No Tot. Federal Loan Amount Program/Allowance Task Information Project Manager Beena Chackunkal Cost Est. Class Cost Est. Source Cost Est. Prepared By Description City of Grosse Pointe - Neff Road Pumping Station Sanitary Flowmeter Replacement Advance 4/22/2016 4/17/2017 360 |

| GLW Great Lakes Water J | Authority | WRRF, | Lift Station | | NA FY 2020 I Wastewat | | | stem Structure | es Allowa | 260100 cii nce |
|----------------------------|---------------|------------------|-----------------|-------|--------------------------|--------------|------------|-------------------|--------------|-------------------|
| Phase Study and | d Design and | d Construction | Assistance | | Contrac | t NA | | Status Active | <u>;</u> | |
| Title Unallocate | ed S/D/CA - | WRRF, Lift Stati | on and Was | tewat | er Collection | System Strue | ctures All | lowance | | |
| Expecting Engin | neering Serv | ices for any Cr | itical jobs for | the r | next 5 years. | | | | | |
| Phase Budget | Wastewate | r | | | | Cost A | llocation | CTA | | |
| Phase Status | Active | | | | | Fundin | g Source | Revenue Financ | ced Capital | |
| Start Date | | 7/1/ | /2018 | | | | Fund | Improvement 8 | Extension Fi | Jn |
| End Date | | 6/30/ | /2023 | | | Useful Life | e >20Yrs? | ? No | | |
| C | ost Estimatio | n Information | | | Tot. I | Federal Loar | Amoun | t | | |
| | 3 | Cost Est. C | lass | | | | | e Task Informatio | <u>ำ</u> | |
| | | Cost Est. D | | Р | roject Manag | - | | | · | |
| | | Cost Est. Se | | | CIP Number | | | | | |
| | | | | | Description | | | | | |
| Engineer | | Cost Est. Pi | repared By | | rescription | | | | | |
| Cost Typ | ce | Fiscal Year | Expense | Ð | Fringe Benef | ilNonPerson | ne | Comment | | |
| Engineering Serv | vices I | FY19 | | \$100 | | | | | | |
| Engineering Serv | vices I | FY19 | | \$0 | | | 20200 | CIP | | |
| Engineering Serv | vices I | FY20 | (| \$100 | | | | | | |
| Engineering Serv | vices I | FY20 | | \$0 | | | 20200 | CIP | | |
| Engineering Serv | vices I | FY21 | 0 | \$100 | | | | | | |
| Engineering Serv | vices I | FY21 | | \$0 | | | 20200 | CIP | | |
| Engineering Serv | vices I | FY22 | (| \$100 | | | | | | |
| Engineering Serv | vices I | FY23 | | \$100 | | | | | | |
| Engineering Serv | vices I | FY24 | | \$100 | | | 2020C | CIP | | |
| Engineering Serv | vices I | FY25+ | | \$500 | | | 20200 | | | |
| Task | | Start Date | End Date | Dur | ration | | | | | |
| Scope Developr | ment | 10/16/2017 | 7/3/2018 | | 260 | | | | | |
| Procurement | | 7/3/2018 | 1/29/2019 | | 210 | | | | | |
| Project Executio | n | 1/30/2019 | 4/29/2024 | | 1916 _{B-272} | | | | | |



260100 CIP#

WRRF, Lift Station and Wastewater Collection System Structures Allowance

| Task | | Start Date | End Date | Duration | | | | |
|------------------|------|------------|-----------|----------|------|------|-------|-------|
| Project Closeout | | 4/29/2024 | 6/28/2024 | Ċ | 60 | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total |
| | 1 | 00 100 | 100 | 100 | 100 | 100 | 500 | 1,100 |

| GLWA Great Lakes Water Authority | WRRF, Li | | LWA FY 2 nd Waste | | | on Syste | em Structures Allowc | 260100 CIP# Ince |
|-------------------------------------|-------------------|----------------|----------------------|------------|-------------|-----------|------------------------|---------------------|
| Phase Construction | | | Con | itract NA | ١ | | Status Active | |
| Title Unallocated Construction | on - WRRF, Lift S | Station and Wo | astewater (| Collection | System St | tructures | s Allowance | |
| Expected Construction Cost | from this Allow | ance for the n | ext five yea | ars. | | | | |
| Phase Budget Wastewater | | | | | Cost Allo | cation (| CTA | |
| Phase Status Active | | | | | Funding S | Source B | Bond Proceeds | |
| Start Date | 7/1/20 | 018 | | | | Fund (| Construction Bond Fund | |
| End Date | 6/30/20 | 023 | | Us | eful Life > | 20Yrs? Y | /es | |
| Cost Estimation | Information | | | Tot. Feder | al Loan A | mount | | |
| 4 | Cost Est. Cla | ISS | | Prog | ram/Allov | wance T | ask Information | |
| 10/2/2017 | Cost Est. Dat | le | Project M | anager | | | | |
| | Cost Est. Sou | Jrce | CIP Numb | per | | | | |
| Ali Khraizat | Cost Est. Pre | pared By | Descriptio | n | | | | |
| Cost Type | Fiscal Year | Expense | Fringo P | onofitNon | Personne | | Comment | |
| ,, | 19 | \$1,000 | - | eneminon | | | Comment | |
| | 20 | \$1,000 | | | | | | |
| Construction FY | | \$1,000 | | | | | | |
| Construction FY | 22 | \$1,000 | | | | | | |
| Construction FY | 23 | \$1,000 | C | | | | | |
| Construction FY | 24 | \$1,000 | 0 | | | 2020CIP | | |
| Construction FY | 25+ | \$5,000 | D | | | 2020CIP | | |
| Other FY | 19 | \$0 | 0 | | | 2020CIP | | |
| | 20 | \$0 | | | | 2020CIP | | |
| Other FY | 21 | \$(| C | | | 2020CIP | | |
| Task | Start Date E | End Date D | Ouration | | | | | |
| Scope Development | 10/16/2017 | 7/3/2018 | 260 | | | | | |
| Procurement | 10/3/2018 | 1/31/2019 | 120 | | | | | |
| Project Execution | 2/1/2019 | 5/1/2024 | 1916 B | -274 | | | | |

| GLW Great Lakes Water | A uthority | WRRF, | Lift Station | GLWA FY and Was | | | n System | Structure | s Allowa | 260100 CI nce |
|------------------------------|-------------------|-----------------|---------------|--------------------|---------------|----------------|------------|--------------|----------|------------------|
| Task | | Start Date | End Date | Duration | _ | | | | | |
| Project Closeou ⁻ | t | 5/2/2024 | 6/30/2024 | - 59 | | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | 1,0 | 00 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 5,000 | 11,000 | | |
| | | PI | hase Total Ex | penses By F | Y (All figure | es are in \$1, | 000's) | | | |
| Phase Construct | tion | | | Co | ontract N | A | Stat | us Closed | Out | |
| Title 260113, Wo | alsh Construe | ction, WRRF Fir | e Remediati | on | | | | | | |
| Phase Budget | Wastewater | | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Closed Out | | | | | Funding So | ource Bonc | l Proceeds | | |
| Start Date | | | | | | | Fund Cons | truction Bor | nd Fund | |
| End Date | | | | | U | seful Life >2 | OYrs? Yes | | | |
| Ca | ost Estimation | n Information | | | Tot. Fede | eral Loan Ar | nount | | | |
| | 1 | Cost Est. C | lass | | Pro | gram/Allow | ance Task | Information | | |
| | | Cost Est. D | ate | Project | Manager | Ali Khraiza | t | | | |
| | | Cost Est. So | ource | CIP Nun | nber | 260113 | | | | |
| | | Cost Est. Pr | repared By | Descrip | lion | WRRF Fire | Remediatio | n | | |
| | | | | | | | | | | |

| hase Construct | ion | | | Co | ontract D | WS-065 | Ste | atus Clo | osed Ou | t | |
|---------------------------------------|-------------------------------------|-----------------------|-----------------|---|-----------|---|--|-------------------------------------|----------------------------------|------------------------|--|
| itle DWS-065, To | ooles, Conr | or Creek CSC |) Control Facil | | | | | | | | |
| 260112 | | | | | | | | | | | |
| Phase Budget | Wastewate | r | | | | Cost Alloc | ation CTA | Λ | | | |
| Phase Status | Closed Out | | | | | Funding So | ource Bor | d Procee | eds | | |
| Start Date | | 12/5 | 5/2016 | | | | Fund Cor | nstructior | n Bond F | und | |
| End Date | | 7/3 | 3/2017 | | U | lseful Life >2 | OYrs? Yes | | | | |
| | at Eatima atia | n Information | | | Tot Fede | eral Loan An | ount | | | | |
| | | | | | | | | | lien | | |
| | 1 Cost Est. Class Cost Est. Date | | | | | gram/Allow Kashmira F | | (Informa | non | | |
| | | | | Project ManagerKashmira PatelCIP Number260112 | | | | | | | |
| | | Cost Est. S | | Description The scope of work includes installation of c | | | | | | | |
| | | | Prepared By | | | access ha Channels o Installation existing Foi scope of w | tch on top and one r of Grave rebay roo | o of Conr lear Rolle l access | ner Influe er Gates pad on | ent Area. top of | |
| | | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | | |
| Scope Developr | nent | | | | | | | | | | |
| Procurement | ~ | 10/5/001/ | 7/3/2017 | 210 | | | | | | | |
| Project Executior Project Closeout | | 12/5/2016 7/3/2017 | | 60 | - | | | | | | |
| Prior Yr Actual | | | FY21 | FY22 | FY23 | FY24 | FY25+ | Tota | ıl | | |
| | | | 0 C | 0 | 0 | 0 | (| | 0 | | |

| GLW/ | GLWA FY 2020-2024 CIP WRRF, Lift Station and Wastewater Collection System Structures Allow | | | | | | | | | | |
|---|---|--------|--------------|-----------|-------|----------------|---------------|---------------|---------------|-----------|--|
| Creat Lakes Water Auth Phase not application | able | | WWKKF, | | unu | Contract | | - | atus Closed | | |
| itle Prior Year Ad | ctual Exp | penses | 5 | | | | | | | | |
| Phase Budget 🕅 | Vastewa | ter | | | | | Cost Allo | cation CTA | | | |
| Phase Status C | Closed O | ut | | | | | Funding S | ource | | | |
| Start Date | | | | | Fund | | | | | | |
| End Date | | | | | | | Useful Life > | 20Yrs? | | | |
| Cos | t Estimat | ion In | formation | | | Tot. Fe | ederal Loan A | mount | | | |
| | 1 | | Cost Est. C | lass | | I | Program/Allow | wance Task | Information | | |
| | | | Cost Est. D | ate | P | roject Manage | er | | | | |
| | | | Cost Est. So | ource | С | IP Number | | | | | |
| | | | Cost Est. Pı | epared By | D | escription | | | | | |
| Cost Type | Э | Fis | cal Year | Expens | Э | Fringe Benefit | NonPersonne | | Comment | | |
| Construction | | FY18 | }- | \$2 | 2,228 | | | 260113 - Fire | e Remediatio | on | |
| Construction | | FY18 | }- | | \$900 | | | 260101 - SC | P-PC-014 | | |
| Unknown | | FY18 | | | \$290 | | | | llance at Sta | | |
| Unknown | | FY18 | 3- | \$17 | ,006 | | | 260113 - Ba | llance at Sta | rt of FY1 | |
| Unknown | | FY18 | }- | \$1 | ,458 | | | 260110 - Ba | llance at Sta | rt of FY1 | |
| GLWA Salaries CIF | P2020 | FY18 | 3- | | \$40 | 16 | | 260101 - SC | P-PC-014 | | |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY2 | 22 FY23 | FY24 | FY25+ | Total | | |
| 21,93 | 38 | | | | | | | | 21,938 | | |

)#

| GLW Great Lakes Water | /A Authority | WRRF, Lift Stati | GLWA FY 2020-20 ion and Wastewater | | stem St | ructures Allowa | 260100 CIF nce |
|--------------------------|------------------------|-----------------------|---------------------------------------|---------------------|-----------|-----------------|-------------------|
| Phase Construct | tion | | Contract SC | CP-PC-015 | Status | Closed Out | |
| Title SCP-PC-01 | 5, SCP-PC-015 | , W-3 Construction, O | verhead Door - 260111 | | | | 1 |
| Phase Budget | Wastewater | | | Cost Allocation | CTA | | |
| Phase Status | Closed Out | | | Funding Source | Bond Pr | oceeds | |
| Start Date | | | | Fund | Constru | ction Bond Fund | |
| End Date | | | U | lseful Life >20Yrs? | Yes | | |
| Co | ost Estimation I | nformation | Tot. Fede | eral Loan Amount | | | |
| | 1 | Cost Est. Class | Pro | gram/Allowance | Task Info | ormation | |
| | | Cost Est. Date | Project Manager | Beena Chackur | nkal | | |
| | | Cost Est. Source | CIP Number | 260111 | | | |
| | | Cost Est. Prepared B | By Description | Overhead Door | | | |

| GLW Great Lakes Water J | /A Authority | WRRF, Lift Statio | GLWA FY 2020-20 n and Wastewater | | tem Sti | ructures Allowa | 260100 CII nce |
|----------------------------|------------------------|-----------------------|-------------------------------------|---------------------|-----------|---------------------|-------------------|
| Phase Construct | tion | | Contract N | IA | Status | Closed Out | |
| Title 260109, RF | B-46533, Weiss | Construction, Rehab V | alve Remote Flow Cont | rol Facility | | | |
| Phase Budget | Wastewater | | | Cost Allocation | CTA | | |
| Phase Status | Closed Out | | | Funding Source | Bond Pro | oceeds | |
| Start Date | | | | Fund | Construe | ction Bond Fund | |
| End Date | | | l | Jseful Life >20Yrs? | Yes | | |
| Co | ost Estimation I | nformation | Tot. Fede | eral Loan Amount | | | |
| | 1 | Cost Est. Class | Pro | gram/Allowance | Task Info | ormation | |
| | | Cost Est. Date | Project Manager | Gary Stoll | | | |
| | | Cost Est. Source | CIP Number | 260109 | | | |
| | | Cost Est. Prepared By | Description | Rehab Valve Re | mote Flc | ow Control Facility | |

| GLV Great Lakes Water | Authority | WRRF, Lift Static | GLWA FY 2020-2 on and Wastewater | | tem Stı | | 260100 CII าce |
|--|------------------|--|--|---|--------------------|--|-------------------|
| Phase Construc Title 260104, RF | | | Contract station at Incinerator Co | NA | | Closed Out | |
| Phase Budget Phase Status Start Date End Date | Closed Out | | | _ | Revenue Improve | e Financed Capital ement & Extension Fu | IN |
| | ost Estimation I | nformation Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepared By | Project Manager CIP Number | deral Loan Amount ogram/Allowance Beena Chackun 260104 Installation of EB- Incinerator Com | kal -25 Unit S | Substation at | |

| GLWA Great Lakes Water Authority WRRF, Lift Stat | GLWA FY 2020-2024 CIP ion and Wastewater Collection Sys | 260100 CIF stem Structures Allowance |
|---|--|---|
| Phase Construction | Contract NA | Status Closed Out |
| Title 260107, Pump Station 2 Aeration Blower Repla | acement | |
| Phase Budget Wastewater | Cost Allocation | СТА |
| Phase Status Closed Out | Funding Source | Bond Proceeds |
| Start Date | Fund | Construction Bond Fund |
| End Date | Useful Life >20Yrs? | Yes |
| Cost Estimation Information | Tot. Federal Loan Amount | |
| 2 Cost Est. Class | Program/Allowance | Task Information |
| Cost Est. Date | Project Manager | |
| Contract Cost Est. Source | CIP Number 260107 | |
| Cost Est. Prepared | By Description | |

| | GLW/ Great Lakes Water Auth | A prity | | WRRF, I | Lift Statio | | | 2020-2 tewater | | | stem Stru | ctures Al | 260 llowance | 100 CIP | | |
|---------|--------------------------------|-------------------|------|--------------|-------------|-----------------------------|------------------------------------|-------------------|------------|--------------|------------|-----------|-----------------|---------|--|--|
| Phase | GLWA Emp | loyees Pro | ojec | t managen | nent | | Сс | ontract | NA | | Status A | Active | | | | |
| Title (| GLWA Salari | es | | | | | | | | | | | | | | |
| Phas | se Budget W | astewate | r | | | | | | Cost | Allocation | CTA | | | | | |
| Pho | ase Status A | ctive | | | | | | | Fundi | ng Source | Bond Proc | eeds | | | | |
| | Start Date | | | | | Fund Construction Bond Fund | | | | | | | | | | |
| | End Date | | | | | | | | Useful Li | fe >20Yrs? | No | | | | | |
| | Cos | Estimatio | n In | formation | | ٦ | | Tot. Fee | deral Loa | ın Amount | | | \$0 | | | |
| | | 3 | | Cost Est. C | lass | | Program/Allowance Task Information | | | | | | | | | |
| | | | | Cost Est. Do | ate | Proj | ect | Manage | r | | | | | | | |
| | | | | Cost Est. So | ource | CIP | Nun | nber | | | | | | | | |
| | | | | Cost Est. Pr | | Des | crip | tion | | | | | | | | |
| Prio | or Yr Actuals | FY19 |) | FY20 | FY21 | FY22 | | FY23 | FY2 | 4 FY2 | 25+ Tc | otal | | | | |
| | | | 0 | 0 | (|) | 0 | (| C | 0 | 0 | 0 | | | | |
| | | | | Pł | nase Total | Expenses | By F | Y (All figu | vres are i | n \$1,000's) | | | | | | |
| | Pro | ject Tot | al E | xpenses | By FY Co | ompare | d to | o Prior C | CIPs (Al | ll figures | are in \$1 | ,000's) | | | | |
| CIP | FY16 | FY17 | 7 | FY18 | FY19 | FY20 | F | Y21 | FY22 | FY23 | FY24 | FY25 | Total | | | |
| 2018 | | 5, | 587 | 12,000 | 12,000 | 15,000 | 1 | 15,000 | 12,000 | | 0 | 0 | 71,587 | | | |
| 2019 | | 0 14,7 | | 2,195 | 1,100 | 1,100 | | 2,200 | 2,200 | 2,200 | | 0 | 25,753 | | | |
| 2020 | | 0 | 0 | 21,938 | 1,100 | 1,100 | | 1,100 | 1,100 | 1,100 | 1,100 | 5,500 | 34,038 | | | |



GLWA FY 2020-2024 CIP Sewer and Interceptor Rehabilitation Program

| Innovation Water MP Right Si Reliability/Redund NEWTP Repurposition | | An example intercept | ror Internet in the second secon |
|--|--|--|--|
| Project Engineer/Ma | nager Mini Panicker | Budget | Wastewater |
| Ma | nager Biren Saparia | Class Lvl 1 | Wastewater |
| Managing | Dept SCC | Class Lvl 2 | Programs |
| Date Original Busines | s Case Prepared 10/11/2016 | | Programs |
| Year Proj | ect Added to CIP 2013 | | Multiple Counties |
| | | Fund and Cost Center | Wastewater - 5421-882301 |
| Scope of Work | Rehabilitation and replacement program of the deficiencies identified from the evaluation result essential to optimize the transportation capacity expectancy. Provide CCTV and/or sonar inspection of the GL existing conditions as per the National Association Certification Program (PACP) standards, evalua cleaning/rehabilitation/replace to optimize the inflow and infiltration into the collection system. | v of the GLWA collection s WA Collection System Inter on of Sewer Service Comp te the existing conditions, design capacity of the co | bilitation and cleaning program is ystem and to increase its life erceptors and Trunk Sewers to reveal the panies' (NASSCO) Pipeline Assessment and provide the necessary pllection system and to minimize the |
| Challenges | Large sewers and interceptors may have flow c | ontrol challenges for both | inspection and rehabilitation. |
| Project History | The installation of some of these interceptors an Detroit River Interceptor inspection was recently deteriorated with visible surface aggregates, at revealed sludge deposition with reduced transp conditions are necessary and shall be done eve reveal further need for cleaning, rehabilitation of | completed in 5 different tached encrustation and portation capacity. Inspec ry 5 to 7 years. Recomme | phases and there were portions infiltration. Some trunk sewer inspection tions of sewers to reveal the existing |
| Related Project | GLWA - CON-68, CON-149, CS-168, DWSD - DWS | -889, DWSD-DWS-876, DWS | SD-DWS-901 |
| Lookup Driver | 1 - Condition | | |

Other Important Info n/a



Sewer and Interceptor Rehabilitation Program

Explanation Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.



| PM Weighted Score | | | |
|--|-------|---------|---------|
| 87.6 | | | |
| Criteria | Score | | Comment |
| Condition | 4 | | |
| Efficiency and Innovation | 3 | | |
| Financial | 4 | | |
| 0&M | 3 | | |
| Performance (Service Level/Reliability) | 5 | | |
| Public Benefit | 5 | | |
| Public Health & Safety | 5 | | |
| | _ | | |
| Regulatory (Environmental/Legal) RC Weighted | 5 | | |
| RC Weighted Score 0 | | Comment | |
| RC Weighted Score | Score | Comment | |
| RC Weighted Score 0 Criteria Condition | | Comment | |
| RC Weighted Score 0 Criteria | | Comment | |
| RC Weighted Score 0 Criteria Condition Efficiency and Innovation | | Comment | |
| RC Weighted Score 0 Criteria Condition Efficiency and Innovation Financial | | Comment | |
| RC Weighted Score 0 Criteria Condition Efficiency and Innovation Financial O&M | | Comment | |
| RC Weighted Score 0 Criteria Condition Efficiency and Innovation Financial O&M Performance (Service Level/Reliability) | | Comment | |

| GLW Great Lakes Water Au | A thority | | Se | | | 2020-20 Itercept | 024 CIP for Rehat | oilitatio | n Pr | ogram | | 260200 C |
|-----------------------------|---------------------|------------------|---------------|------------------------------------|--|---|-------------------------------|---|---|----------------------|--|-----------------|
| hase Design & C | Constructi | on Assistance | | | Co | ntract C | :S-168 | | Statu | us Active | | |
| itle CS-168, FK E | Engineerir | ig, Sewer and Ir | nterceptor Ev | aluat | ion and | Rehabilit | ation Progr | am | | | | |
| FK Engineering A | ssociates | | | | | | | | | | | |
| Phase Budget V | Vastewat | er | | | | | Cost Allo | cation C | ΤA | | | |
| Phase Status / | Active | | | Funding Source Bond Proceeds | | | | | | | | |
| Start Date | | 9/1, | /2017 | | | | Fund Construction Bond Fund | | | | | |
| End Date | | 9/1, | /2020 | | | l | Jseful Life >: | 20Yrs? Y | es | | | |
| Cos | st Estimati | on Information | | | | Tot. Fede | eral Loan A | mount | | | | |
| | 1 | Cost Est. C | lass | Program/Allowance Task Information | | | | | | | | |
| | Cost Est. Date | | | | Project Manager Biren Saparia | | | | | | | |
| Bid | | Cost Est. S | ource | CIP Number 260202 | | | | | | | | |
| Mini Panicker | repared By | C |)escripti | on | service to of GLWA primary of focused g | perform Conveyc bjective geotechr ion and | the ance ofthi nical | struction a as needed System Se is project is and struct elop an arr | d rehabilit wers. The to condu rural | tation ; uct a | | |
| Cost Typ | е | Fiscal Year | Expense | Э | Fringe | BenefitNo | nPersonne | | С | omment | | |
| Engineering Servi | | FY19 | \$1 | ,079 | | | | | | | | |
| Engineering Servi | ces | FY20 | | \$913 | | | | | | | | |
| Task | | Start Date | End Date | Dui | ration | | | | | | | |
| Project Execution | 1 | 9/1/2017 | 6/1/2020 | | 1004 | | | | | | | |
| Project Closeout | | 6/1/2020 | 8/31/2020 | | 91 | | | | | | | |
| Prior Yr Actuals | FY1 | 9 FY20 | FY21 | FY | 22 | FY23 | FY24 | FY25+ | - | Total | | |
| | 1 | ,079 913 | 0 | | 0 | 0 | 0 | | 0 | 1,992 | | |

| GLWA Great Lakes Water Authority | | Se | GLWA FY 2020-2024 CIP ewer and Interceptor Rehabilitation Program | | | | | |
|---|---------------------------------------|---------------|--|---|--------|-------------------|--|--|
| hase Construction | ase Construction | | | CS-068 | Status | Pending Close-out | | |
| itle CS-068, Sewer and | d Interceptor Eval | Jation and Re | ehabilitation Program | | | | | |
| Sewer Inspection. Easts VR02 Upgrades Conner CSO Backwate Installation of the Weir of Installation of Sluice Go | r Upgrades (Nine) on Conner Discha | rge Channel | | | | | | |
| Phase Budget Wastew | Phase Budget Wastewater | | | Cost Allocation CTA | | | | |
| Phase Status Pending | Phase Status Pending Close-out | | | Funding Source Bond Proceeds | | | | |
| Start Date | 10/25 | 5/2016 | | ction Bond Fund | | | | |
| End Date | 4/25 | 5/2018 | | | | | | |
| Cost Estimation Information | | | Tot. Fee | | | | | |
| 1 Cost Est. Class | | | Program/Allowance Task Information | | | | | |
| | Cost Est. Date Cost Est. Source | | Project Manage | Biren Saparia | | | | |
| Bid | | | CIP Number | 260203 | | | | |
| Mini Panicker Cost Est. Prepared By | | | Description | tors and Trunk Sewers for Deposits and Structural Integrity. | | | | |
| Task | Start Date | End Date | Duration | | | | | |
| Scope Development | | | | | | | | |

| scope Developmen | 11 | | | | | | | | |
|-------------------|------|------------|-----------|------|------|------|-------|-------|--|
| Procurement | | | | | | | | | |
| Project Execution | | 10/25/2016 | 3/25/2018 | 51 | 6 | | | | |
| Project Closeout | | 10/25/2018 | 4/24/2018 | -18 | 34 | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| | | 0 (|) 0 | 0 | 0 | 0 | 0 | 0 | |

| · - | y | | Sev | GLWA FY wer and Ir | | | ilitation P | rogram | | 260200 |
|--|----------------------|--------------|---------------|------------------------------------|--|----------|-------------|-------------|--------------|--------|
| hase Study and De | esign and o | Construction | Assistance | Co | ontract P | 0-005030 | Stat | us Pendir | ng Close-out | |
| tle PO-005030, Se | wer and I | nterceptor E | valuation and | d Rehabilita | tion Progra | am | | | | |
| This includes Constr | | istance to C | on-183 (dri e | Emergency | under Ren | | | | | |
| Phase Budget Wastewater | | | | Cost Allocation CTA | | | | | | |
| Phase Status Pending Close-out | | | | Funding Source Bond Proceeds | | | | | | |
| Start Date | 8/25/2016 | | | | | | Fund Const | truction Bc | ond Fund | |
| End Date | 6/30/2018 | | | Useful Life >20Yrs? Yes | | | | | | |
| Cost Estimation Information | | | | Tot. Federal Loan Amount | | | | | | |
| 1 Cost Est. Class Cost Est. Date | | | lass | Program/Allowance Task Information | | | | | | |
| | | | ate | Project Manager Biren Saparia | | | ıria | | | |
| Bid | Bid Cost Est. Source | | | CIP Number 260201 | | | | | | |
| Mini Panicker Cost Est. Prepared By | | | Description | | Evaluate the results of the DRI inspection, propose repair/rehabilitation alternatives and to prepare construction document for bidding purposes. | | | | | |
| | | Start Date | End Date | Duration | | | | | | |
| Task | | | | Doranon | | | | | | |
| Task Scope Developmer | | Sidii Dale | | | | | | | | |
| Scope Developmer | | | | | | | | | | |
| Task Scope Developmer Procurement Project Execution | | 8/25/2016 | 6/30/2018 | 674 | 1 | | | | | |
| Scope Developmer Procurement | | | | | _ | | | | | |
| Scope Developmer Procurement Project Execution | | 8/25/2016 | 6/30/2018 | | _ | FY24 | FY25+ | Total | | |

| GLW Great Lakes Water Ast | A <i>uthority</i> | | | Se | | NA FY 2020 and Interce | | | oilitation P | rogram | 260200 | | |
|------------------------------|-----------------------------|-------|--------------|-----------|--------------------------|---------------------------|------|---------------|--------------|------------|--------|--|--|
| Phase not applic | able | | | | | Contract | NA | A | Stat | us Closed | Out | | |
| Title Prior Year A | ctual Ex | oense | S | | | | | | | | | | |
| Phase Budget | Nastewa | ater | | | | | | Cost Allo | cation CTA | | | | |
| Phase Status (| Closed C |)† | | | Funding Source | | | | | | | | |
| Start Date | | | | | Fund | | | | | | | | |
| | | | | | | | | - f 12f - N | | | | | |
| End Date | | | | | | Useful Life >20Yrs? | | | | | | | |
| Co | Cost Estimation Information | | | | Tot. Federal Loan Amount | | | | | | | | |
| | 1 Cost Est. Class | | | | | I | Prog | ram/Allov | wance Task | nformation | | | |
| | | | Cost Est. Do | ate | Project Manager | | | | | | | | |
| | | | Cost Est. Sc | urce | CIP Number | | | | | | | | |
| | | | Cost Est. Pr | | | | | | | | | | |
| | | | COSI ESI. FI | ерагеа ву | Заву | | | | | | | | |
| Cost Typ | e | Fi | scal Year | Expens | е | Fringe Benefit | Non | Personne | C | comment | | | |
| Construction | | FY1 | 8- | • | 7,822 | 0 | | | FY18-CON-1 | 49 | | | |
| Construction | | FY1 | 8- | \$ | 1,324 | | | | FY18-CS-068 | | | | |
| Engineering Servi | ices | FY1 | 8- | | \$983 | | | | FY18-CON-1 | 49 | | | |
| Unknown | | FY1 | 8- | \$: | 3,397 | | | | FY17 | | | | |
| GLWA Salaries Cl | GLWA Salaries CIP2020 FY18- | | | \$21 | 8 | | | FY18 | | | | | |
| Prior Yr Actuals | 2 FV | ´19 | FY20 | FY21 | FY: | 22 FY23 | | FY24 | FY25+ | Total | | | |
| 13,5 | | 17 | 1120 | 1121 | 11. | 22 112J | | 1124 | 11201 | 13,555 | | | |
| 10,0 | | | | | | | | | | 10,000 | | | |

| GLWA Great Lakes Water Authority | | | Se | | FY 2020-: d Interce | 2024 CIP otor Rehat | oilitation P | rogram | 260200 CI | | |
|-------------------------------------|--------------------------|--------------|--------------|------------------------------------|------------------------|------------------------|--------------|--------------------|---------------|--|--|
| Phase Construction | | | | | Contract | | Stat | us Future F | Planned Start | | |
| Title UNALLOCATED | , Sewer an | d Intercept | or Evaluatio | n and Reh | abilitation | Program | | | | | |
| Phase Budget Was | stewater | | | | | Cost Allo | cation CTA | | | | |
| Phase Status Futu | ire Plannec | l Start | | Funding Source Bond Proceeds | | | | | | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | |
| End Date | | | | Useful Life >20Yrs? Yes | | | | | | | |
| Cost E | stimation Ir | formation | | Tot. Federal Loan Amount | | | | | | | |
| | 2 | Cost Est. C | ass | Program/Allowance Task Information | | | | | | | |
| 8/31/ | 8/31/2017 Cost Est. Date | | | Project Manager | | | | | | | |
| Contractor | | Cost Est. So | ource | CIP Number | | | | | | | |
| Biren Saparia | | Cost Est. Pr | epared By | red By Description | | | | | | | |
| | | | Euro erec | e Frin | | | | Comment | | | |
| Cost Type Construction | FI: FY1 | scal Year | Expense | \$0 | ge benenn | IonPersonne | Ĺ | Johneni | | | |
| Construction | FT1 FY2 | | \$4 | ۵,557 | | | | | | | |
| Construction | FY2 | | • | 7,600 | | | | | | | |
| Construction | FY2 | | • | 5,000 | | | | | | | |
| Construction | FY2 | 3 | \$15 | 5,000 | | | | | | | |
| Construction | FY2 | 4 | \$15 | 5,000 | | | | | | | |
| Construction | FY2 | 5+ | \$95 | 5,000 | | | 2020CIP | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | 0 | 6,557 | 7,600 | 15,000 | 0 15,00 | 0 15,000 | 95,000 | 154,157 | | | |

| GLV Great Lakes Wat | VA er Authority | | | Se | | | 2020-: nterce | | 24 CIP or Rehat | oilitatic | on Pi | rogram | | 260200 CIP |
|------------------------|---------------------------|----------|--------------|------------|-------------------|-----------------|------------------|-----|--------------------|-----------|-------|-------------|---------|------------|
| Phase Construc | ction | | | | | Co | ontract | СС |)N-149 | | Statu | JS Active | | |
| Title CON-149 | , Emerger | ncy Sew | ver Repair | | | | | | | | | | | |
| Conner PLC up | ogrades | | | | | | | | | | | | | |
| Phase Budge | t Wastewo | ater | | | | | | | Cost Allo | cation (| CTA | | | |
| Phase Statu | s Active | | | | | | | | Funding S | Source E | Bond | Proceeds | | |
| Start Date | e | | 7/17/ | 2017 | | | | | | Fund (| Const | ruction Bor | nd Fund | |
| End Date | e | | 7/17/ | 2019 | | | | Us | eful Life > | 20Yrs? | (es | | | |
| C | Cost Estimo | ation In | formation | | | | Tot. Fe | der | al Loan A | mount | | | | |
| | 1 |] | Cost Est. C | lass | | | Р | rog | ram/Allov | wance T | ask l | nformation | | |
| | 8/31/2017 | • | Cost Est. D | ate | P | roject <i>I</i> | Manage | r | Beena Cł | nackunk | al | | | |
| Contractor | -, , | | Cost Est. So | | CIP Number | | | | | | | | | |
| Biren Sapario | 2 | | | repared By | ad By Description | | | | | | | | | |
| Biren sapano | J | | COSI ESI. FI | ерагеа ву | _ | | | | | | | | | |
| Cost T | уре | Fis | cal Year | Expense | Ð | Fringe | Benefith | lon | Personne | | С | omment | | |
| Construction | | FY19 |) | \$7 | ,400 | | | | | | | | | |
| Construction | | FY2C |) | \$7 | ,400 | | | | | | | | | |
| Construction | | FY21 | | \$7 | ,400 | | | | | 2020CIP |) | | | |
| Tas | ik | St | art Date | End Date | Dure | ation | | | | | | | | |
| Project Executi | on | | 7/14/2017 | 5/14/2019 | | 669 | • | | | | | | | |
| Project Closeo | ut | | 5/14/2019 | 7/13/2019 | | 60 |) | | | | | | | |
| Prior Yr Actu | als F | Y19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY25 | + | Total | | |
| | | 7,400 | 7,400 | 7,400 | | 0 | | 0 | 0 | | 0 | 22,200 | | |

| GLW Great Lakes Water A | A Authority | | Se | | Y 2020-20 Intercept | | ilitation P | rogram | 260 | 0200 CII | |
|----------------------------|-----------------------|----------------|-------------|------------------------------------|------------------------|----------------|-------------|--------------------|---------------|----------|--|
| Phase Study and | d Design and | Construction A | ssistance | C | Contract TB | BD | Stat | us Future F | Planned Start | | |
| Title Sewer and | Interceptor | Evaluation and | Rehabilito | ition Progra | m | | | | | 1 | |
| Phase Budget | Wastewater | | | | | Cost Alloc | cation CTA | | | | |
| Phase Status | Future Planne | ed Start | | | | Funding S | ource Bonc | l Proceeds | | | |
| Start Date | | | | | | | Fund Cons | truction Bor | nd Fund | | |
| End Date | | | | | U | seful Life >2 | 20Yrs? Yes | | | | |
| Co | ost Estimation | Information | | Tot. Federal Loan Amount \$0 | | | | | | | |
| | 5 | Cost Est. Cla | SS | Program/Allowance Task Information | | | | | | | |
| | | Cost Est. Dat | е | Projec | t Manager | | | | | | |
| | | Cost Est. Sou | rce | CIP Nu | mber | | | | | | |
| | | Cost Est. Pre | oared By | Descri | ption | | | | | | |
| | | | | | | · | | | | | |
| Prior Yr Actual | s FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | | 0 | 0 | | | | | 0 | | | |
| | | Phc | se Total Ex | penses By | FY (All figure | es are in \$1, | .000's) | | | <u> </u> | |

| | GLWA Great Lakes Water Author | A vrity | | | S | | A FY 2020 nd Interc | | CIP ehabilitat | ion Progr | ram | 260 | 200 CIP# |
|------|----------------------------------|-------------------|-------|--------------|------------|----------|------------------------|------------|-------------------|-------------|-------------|---------|----------|
| | GLWA Empl GLWA Salarie | , | rojec | t managen | nent | | Contrac | NA | | Status A | Active | | |
| Phas | e Budget W | astewat | er | | | | | Cos | Allocation | CTA | | | |
| Pho | ase Status Ac | ctive | | | | | | Fund | ling Source | Bond Proc | ceeds | | |
| | Start Date | | | | | | | | Fund | Construct | ion Bond Fu | und | |
| | End Date | | | | | | | Useful | Life >20Yrs? | No | | | |
| | Cost | Estimati | on In | formation | | 1 | Tot. I | ederal Lo | an Amount | | | \$0 | |
| | | 5 | | Cost Est. C | lass | | | Program | Allowance | Task Inform | nation | | |
| | | | | Cost Est. De | ate | Proj | ect Manag | ger | | | | | |
| | | | | Cost Est. Sc | ource | CIP | Number | | | | | | |
| | | | | Cost Est. Pr | epared By | , Des | cription | | | | | | |
| | Cost Type | • | Fis | cal Year | Exper | nse Fri | nge Benef | ilNonPerso | onne | Comm | nent | | |
| GLWA | Salaries CIP | 2020 | FY19 |) | | \$90 | 3 | 6 | | 3, CON-149 | | | |
| GLWA | Salaries CIP | 2020 | FY20 |) | | \$90 | 3 | 6 | 4CS-168 | 3, CON-149 | | | |
| Prio | r Yr Actuals | FY1 | 9 | FY20 | FY21 | FY22 | FY23 | B FY | 24 FY2 | 25+ To | otal | | |
| | | | 130 | 130 | | C | 0 | 0 | 0 | 0 | 260 | | |
| | | | | Pł | nase Total | Expenses | By FY (All f | gures are | in \$1,000's) | | | | |
| | Proj | ject To | tal E | xpenses | By FY C | ompare | d to Prio | r CIPs (A | Il figures | are in \$1 | ,000's) | | |
| CIP | FY16 | FY1 | 7 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | ,612 | 8,000 | 8,000 | 20,000 | 20,000 | 20,000 | | 0 | 0 | 78,612 | |
| 2019 | | | ,397 | 7,751 | 10,601 | 10,400 | 11,400 | 11,400 | | 11,400 | 0 | 77,749 | |
| 2020 | | 0 | 0 | 13,555 | 8,609 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 95,000 | 192,164 | |



GLWA FY 2020-2024 CIP Scheduled Replacement Program of Critical Assets

| Innovation Water MP Right Siz Reliability/Redunct NEWTP Repurposir | | Aerial view of the WR | RF |
|---|---|--------------------------------|--|
| Project Engineer/Mar | nager Beena Chackunkal | Budget | Wastewater |
| Mar | nager Ali Khraizat | Class Lvl 1 | Wastewater |
| Managing | Dept WW Design Eng | Class Lvl 2 | Programs |
| Date Original Busines | s Case Prepared 8/2/2016 | Class Lvl 3 | Programs |
| Year Proje | ect Added to CIP 2016 | Location | Multiple Counties |
| | | Fund and Cost Center | Wastewater - 5421-892211 |
| | This program is to perform the scheduled repl at WRRF and WW operations | acement for critical assets c | and planned small capital projects (SCP) |
| • | SRP implementation procedures includes rep replacement schedules, yearly budget Estimo conclusions and recommendations. | | |
| • | Depending on type of project, long term or sl down. | hort term projects equipmen | t or part of process areas need to shut |
| • , | WRRF and CSOs have being audited twice in helped to assess equipment repair and future those facilities. | | |
| • | At present 2 capital projects has been identif Incineration Building Roof Replacement cons completed by NTH under emergency fire rest | truction project due to fire d | |
| Lookup Driver | 2 - Performance | | |
| Other Important Info | GIS, Section Maps and Gate Books are availd | able for reference | |
| | | | |



PM Weighted Score

66.4

| Criteria | Score | Comment |
|---|-------|---|
| Condition | 4 | Significant positive impact on system reliability |
| Efficiency and Innovation | 4 | Project will remove significant operational hur |
| Financial | 3 | Project will likely result in avoidance of fines |
| 0&M | 4 | Significant positive impact on O&M |
| Performance (Service Level/Reliability) | 3 | Moderate risk of performance failure |
| Public Benefit | 3 | Moderate savings for GLWA |
| Public Health & Safety | 3 | Moderate positive impact |
| Regulatory (Environmental/Legal) | 3 | Moderate impact on regulatory issues |

RC Weighted

0

Score

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | | |
| Efficiency and Innovation | | |
| Financial | | |
| O&M | | |
| Performance (Service Level/Reliability) | | |
| Public Benefit | | |
| Public Health & Safety | | |
| Regulatory (Environmental/Legal) | | |
| | | 1 |



260300 CIP#

Scheduled Replacement Program of Critical Assets

| iuse Glwa Emplo | yees Project | managem | ent | C | contract N/ | Ą | Stat | us Cance | elled | |
|------------------|---------------|---------------|-----------|------------------------------|-------------|---------------|------------|--------------|---------|-----|
| le GLWA Salaries | ; | | | | | | | | | |
| Phase Budget Wa | stewater | | | | | Cost Alloc | ation CTA | | | |
| Phase Status Car | ncelled | | | Funding Source Bond Proceeds | | | | | | |
| Start Date | | | | | | | Fund Cons | struction Bo | nd Fund | |
| End Date | | | | | U | seful Life >2 | OYrs? No | | | |
| Cost E | stimation Inf | ormation | | | Tot. Fede | ral Loan An | nount | | | \$0 |
| | 3 | Cost Est. Clo | ass | | Prog | gram/Allow | ance Task | Informatio | ו | |
| 10/1, | /2017 | Cost Est. Da | te | Project | Manager | | | | | |
| | | Cost Est. So | urce | CIP Nu | mber | | | | | |
| | | Cost Est. Pre | epared By | Description | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | _ | |
| Prior Yr Actuals | EY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Intal | | |
| Prior Yr Actuals | FY19 0 | FY20 0 | FY21 0 | FY22 0 | FY23 0 | FY24 0 | FY25+ 0 | Total C | | |
| Prior Yr Actuals | | 0 | 0 | 0 | | 0 | 0 | | - | |
| Prior Yr Actuals | | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Prior Yr Actuals | | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| • | | | - | | | | | | | |
|---------------------------|-------------|---|---|---|---|---|---|---|--|--|
| • | | | | ontract C | ON-143 | Stat | us Closed | Out | | |
| · · · - f | | nplex II- 26030 | 01 | | | | | | | |
| | CWIP | | | | | | | | | |
| ewater | | | | | Cost Alloc | ation CTA | | | | |
| d Out | | | Funding Source Bond Proceeds | | | | | | | |
| | 7/24, | /2017 | | | | Fund Cons | truction Bor | nd Fund | | |
| | 12/14, | /2017 | | U | Jseful Life >2 | OYrs? Yes | | | | |
| mation | Information | | Tot. Federal Loan Amount | | | | | | | |
| 2 | Cost Est. C | lass | | Pro | gram/Allow | ance Task I | nformation | | | |
| Cost Est. Date | | | | Project Manager Ali Khraizat | | | | | | |
| Contract Cost Est. Source | | | CIP Nun | CIP Number 260301 | | | | | | |
| | | | | the complete removal, disp replacement of the existing Incinerator Complex II build | | | | and ng on the | | |
| | Start Date | End Date | Duration | | WKKF. | | | | | |
| | | | Boranon | | | | | | | |
| | | | | | | | | | | |
| | 7/24/2017 | 12/14/2017 | 143 | 3 | | | | | | |
| | 10/14/0017 | 2/12/2018 | 60 |) | | | | | | |
| | 12/14/2017 | | | | | | | | | |
| FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | mation | 7/24, 12/14, mation Information 2 Cost Est. C Cost Est. D Cost Est. S Cost Est. P Start Date | 7/24/2017 12/14/2017 mation Information 2 Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepared By | 7/24/2017 12/14/2017 mation Information 2 Cost Est. Class Cost Est. Date Project Cost Est. Source CIP Num Cost Est. Prepared By Description | 7/24/2017 I 12/14/2017 I mation Information Tot. Feder 2 Cost Est. Class Pro 2 Cost Est. Date Project Manager Cost Est. Source CIP Number Description Cost Est. Prepared By Start Date Duration | 7/24/2017 Useful Life >2 12/14/2017 Useful Life >2 mation Information Tot. Federal Loan Am 2 Cost Est. Class Cost Est. Date Project Manager Cost Est. Source CiP Number Cost Est. Prepared By Description The scope the completer placement incinerator WRRF. | 7/24/2017 Fund Const 12/14/2017 Useful Life >20Yrs? Yes mation Information Tot. Federal Loan Amount 2 Cost Est. Class Cost Est. Date Project Manager Cost Est. Source CIP Number 260301 The scope of work inc the complete removal replacement of the explicit or complex I WRRF. Start Date Duration | 7/24/2017 Fund Construction Boil 12/14/2017 Useful Life >20Yrs? Yes mation Information Tot. Federal Loan Amount Program/Allowance Task Information 2 Cost Est. Class Project Manager Ali Khraizat Cost Est. Date CilP Number 260301 Description Cost Est. Prepared By Description The scope of work includes but is the complete removal, disposal or replacement of the existing roofil Incinerator Complex II building a WRRF. Start Date End Date Duration | | |

| GLW Great Lakes Water | | | Sche | GLWA FY 2020-2024 CIP cheduled Replacement Program of Critical Assets | | | | | | | |
|------------------------------|-------------------|----------------|--------------|--|------------|-------------|-----------|------------|------|--|--|
| Phase Study and | d Design and | d Constructior | n Assistance | C | ontract N | 1A A | Stat | us Cancel | lled | | |
| Title UNALLOCA | ATED: Schedu | uled Replace | ment Prograr | n of Critical | Assets | | | | | | |
| Any new projec | ts that need | s Engineering | Services | | | | | | | | |
| Phase Budget | Wastewater | | | | | Cost Alloc | ation CTA | | | | |
| Phase Status | Cancelled | | | | ed Capital | | | | | | |
| Start Date | | 7/2 | /2018 | Fund Improvement & Extension Fu | | | | | | | |
| End Date | | 6/30 | /2023 | Useful Life >20Yrs? No | | | | | | | |
| Co | ost Estimatior | n Information | | Tot. Federal Loan Amount | | | | | | | |
| | 4 Cost Est. Class | | | | | ogram/Allow | ance Task | nformation | | | |
| 1 | 0/2/2017 | Cost Est. D | ate | Project Manager | | | | | | | |
| | | Cost Est. S | ource | CIP Number | | | | | | | |
| Ali Khraizat | | Cost Est. P | repared By | Descrip | otion | | | | | | |
| | | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | | |
| Scope Develop | ment | | | | | | | | | | |
| Procurement | | | | | | | | | | | |
| Project Executio | n | 7/1/2018 | 6/30/2023 | 182 | 5 | | | | | | |
| Project Closeou ⁻ | t | | | | | | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| GLWA Great Lakes Water Author | itu | | Sche | GLWA FY duled Rep | |)24 CIP nt Program | of Criti | cal Asset | s | 260300 CI |
|----------------------------------|------------|---------------|--------------|--------------------------|-----------|-----------------------|-----------|--------------|---------|-----------|
| Phase Construction | 1 | | | | ontract N | • | | us Cancel | | |
| Title UNALLOCATE | D: Schedu | uled Replace | ment Prograr | n of Critical / | Assets | | | | | |
| Any new projects f | or Constr | uction under | this CIP. | | | | | | | |
| Phase Budget Wo | astewater | | | | | Cost Allocati | on CTA | | | |
| Phase Status Co | incelled | | | | | Funding Sour | e Bond | Proceeds | | |
| Start Date | | 7/2 | /2018 | | | Fu | nd Cons | truction Bor | nd Fund | |
| End Date | | 6/30 | /2023 | | U | seful Life >20Y | s? Yes | | | |
| Cost | Estimatior | n Information | | Tot. Federal Loan Amount | | | | | | |
| | 3 | Cost Est. C | Class | | Prog | gram/Allowan | ce Task I | nformation | | |
| | | Cost Est. D | ate | Project <i>I</i> | Manager | | | | | |
| Contract | | Cost Est. S | ource | CIP Num | nber | | | | | |
| | | Cost Est. P | repared By | Descript | ion | | | | | |
| | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | |
| Scope Developme | nt | | | | | | | | | |
| Procurement | | | | | - | | | | | |
| Project Execution | | 7/1/2018 | 6/30/2024 | 2191 | | | | | | |
| Project Closeout | | | | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 F | Y25+ | Total | | |
| | | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | | |

| GLW | | | | GLWA FY | | | | | _ | 260300 C |
|---------------------|---------------|---------------|----------------|---------------|-----------|-----------------|--------------|-------------|---------|----------|
| Great Lakes Water A | Authority | | Sche | duled Rep | placeme | ent Progra | m of Critic | cal Asset | ts | |
| Phase Construct | tion | | | Co | ontract S | CP-CON-127 | Statu | Js Cance | lled | |
| Title SCP-CON- | 127, Lakesho | ore, Decommi | ssioning of Ex | isting Waterr | main and | Ductwork Re | habilitation | at WRRF | | |
| 260302 - Lakesh | ore - Reclas | sed to O&M | | | | | | | | |
| Phase Budget | Wastewate | r | | | | Cost Alloc | ation CTA | | | |
| Phase Status | Cancelled | | | | | Funding So | urce Bond | Proceeds | | |
| Start Date | | 6/5, | /2017 | | | | Fund Const | ruction Bor | nd Fund | |
| End Date | | 10/23, | /2017 | | ι | Jseful Life >2(| OYrs? Yes | | | |
| Co | ost Estimatio | n Information | | | Tot. Fede | eral Loan Am | ount | | | |
| | 1 | Cost Est. C | lass | | Pro | gram/Allow | ance Task li | nformation | | |
| | | Cost Est. D | ate | Project | Manager | Beena Cho | ackunkal | | | |
| | | Cost Est. S | ource | CIP Nun | nber | 260302 | | | | |
| | | Cost Est. P | repared By | Descrip | lion | | | | | |
| | | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | | |
| Scope Developr | ment | | | | | | | | | |
| Procurement | | | | | | | | | | |
| Project Executio | n | 6/5/2017 | 10/23/2017 | 140 |) | | | | | |
| Project Closeout | t | 10/23/2017 | 12/22/2017 | 60 |) | | | | | |
| Prior Yr Actual | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| GLWA Great Lakes Water Authority | | | Sche | | | | 2024 CIP ent Progre | am of Cri | tical Assets | 260300 CIF |
|-------------------------------------|-------------|---------------|--------------|----------|---------|----------|------------------------|-------------|---------------|------------|
| Phase not applicabl | е | | | | C | ontract | NA | Sto | atus Closed (| Out |
| Title Prior Year Actu | al Expense | es | | | | | | | | |
| \$56K FY18 (260302) E | Backed ou | ut due to rec | assification | to O8 | «М | | | | | |
| Phase Budget Was | tewater | | | | | | Cost Allo | cation CTA | \ | |
| Phase Status Clos | ed Out | | | | | | Funding | Source | | |
| Start Date | | | | | | | | Fund | | |
| End Date | | | | | | | Useful Life > | 20Yrs? | | |
| Cost Es | stimation I | nformation | | | | Tot. Fee | deral Loan A | mount | | |
| | 1 | Cost Est. C | ass | | | Рі | ogram/Allo | wance Task | Information | |
| | | Cost Est. Do | ate | Р | roject | Manage | r | | | |
| | | Cost Est. Sc | urce | C | CIP Nur | nber | | | | |
| | | Cost Est. Pr | | D |)escrip | tion | | |] | |
| Cost Type | F | iscal Year | Expens | <u>م</u> | Fringe | Benefith | onPersonne | | Comment | |
| Construction | | 18- 18- | • | ,673 | Inngo | Denemi | | 260301 - Co | | |
| Unknown | FY | - | Ψ · | \$56 | | | | 260302 - FY | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | |
| 1,673 | | | | | | | | | 1,673 | |

| | GLW Great Lakes Water A | A uthority | | | Sch | | |)-2024 C ment Pro | | Critical | Assets | 260 | 300 CIP# |
|------------------|-----------------------------------|----------------------|-----------|---------------|------------|------------|---------------|----------------------|--------------|-------------|-------------|--------|----------|
| Phase 🤇 | Construct | ion | | | | | Contract | New | | Status (| Cancelled | | |
| Title Pri | imary Cire | cular | & Recta | nlar Clarifer | Scum Build | ding Impro | vements | | | | | | |
| Design | was don | e by | GLWA | | | | | | | | | | |
| Phase | Budget | Waste | ewater | | | | | Cost | Allocation | CTA | | | |
| Phas | e Status | Canc | celled | | | | | Fundi | ng Source | Bond Proc | eeds: | | |
| Ste | art Date | | | | | | | | Fund | Constructi | ion Bond Fu | nd | |
| E | nd Date | | | | | | | Useful Li | fe >20Yrs? | Yes | | | |
| | Со | st Est | imation I | nformation | | 7 | Tot. F | ederal Loa | ın Amount | | | \$0 | |
| | | | 3 | Cost Est. C | Class | | | Program/A | Allowance | Task Inform | nation | , | |
| | 9/ | /13/2 | 018 | Cost Est. D | ate | Proj | ect Manag | ger | | | | | |
| Eng | | | | Cost Est. S | ource | CIP | Number | | | | | | |
| | naizat | | | | repared By | , Des | cription | | | | | | |
| | | | | | | | - | | | | | | |
| | Task | | 5 | itart Date | End Date | e Durati | on | | | | | | |
| Procure | ment | | | 12/1/2018 | 7/14/20 | 19 | 225 | | | | | | |
| Project | Execution | ר | | 7/15/2019 | 7/15/20 | 20 | 366 | | | | | | |
| Project | Closeout | | | 7/16/2020 | 9/14/20 | 20 | 60 | | | | | | |
| Prior ` | Yr Actual | S | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | .5+ Tc | otal | | |
| | | | | C |) | 0 | | | | | 0 | | |
| | | | | Р | hase Total | Expenses | By FY (All fi | gures are i | n \$1,000's) | | | | |
| | Pro | ojec | t Total | Expenses | By FY C | ompare | d to Prio | CIPs (Al | Il figures | are in \$1 | ,000's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total | |
| 2018 | | | 500 | | 5,000 | 5,000 | 5,000 | 5,000 | | 0 | 0 | 25,500 | |
| 2019 | | 0 | 56 | | | | 2,200 | 2,200 | 2,200 | 2,200 | 0 | 11,028 | - |
| 2020 | | 0 | 0 | 1,673 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,673 | |



Sewage Meter Design, Installation, Replacement and Rehabilitation Program

260400 CIP#

| \Box Innovation | Р | roject Status Reclassified | Example of a flow me | ter 🕤 |
|---|--|--|--|--|
| □ Water MP Right Si | izing | CIP Type Program | | |
| Reliability/Redund | dancy | | | |
| □ NEWTP Repurposi | ing | Project New To CIP | | |
| Project Engineer/Ma | inager Chai | ndan Sood | Budget | Wastewater |
| Ma | inager Chai | ndan Sood | Class Lvl 1 | Wastewater |
| Managing | g Dept Syste | ems Planning | Class Lvl 2 | Programs |
| Date Original Busines | ss Case Prep | oared 1/26/2016 | Class Lvl 3 | Programs |
| Year Proje | ect Added | to CIP 2014 | Location | Multiple Counties |
| | | | Fund and Cost Center | |
| | | | | |
| Project Significance | Improving analysis of | | ccurate billing, improving cust | omer service and allow high quality |
| | analysis of | | | |
| Scope of Work | analysis of Replace th | the system | equipment with new metering | |
| Scope of Work Challenges | analysis of Replace th Requires te The GLWA Flow Tube, | the system ne existing antiquated metering e emporary shutdown of large sewe sewer metering equipment is co | equipment with new metering ers mposed of various types of me , and Sonic Hydro ranger. Mos | equipment. etering technology, including Magnetic t of these meters have surpassed their |
| Scope of Work Challenges | analysis of Replace th Requires te The GLWA Flow Tube, life expected | the system ne existing antiquated metering e emporary shutdown of large sewe sewer metering equipment is co Partial Flume, Ultrasonic, Venturi, | equipment with new metering ers mposed of various types of me , and Sonic Hydro ranger. Mos | equipment. etering technology, including Magnetic t of these meters have surpassed their |
| Scope of Work Challenges Project History | analysis of Replace th Requires te The GLWA Flow Tube, life expecte n/a | the system ne existing antiquated metering e emporary shutdown of large sewe sewer metering equipment is co Partial Flume, Ultrasonic, Venturi, ancy for accurate metering, and | equipment with new metering ers mposed of various types of me , and Sonic Hydro ranger. Mos | equipment. etering technology, including Magnetic t of these meters have surpassed their |
| Scope of Work Challenges Project History Related Project | analysis of Replace th Requires te The GLWA Flow Tube, life expecte n/a 2 - Perform | the system ne existing antiquated metering e emporary shutdown of large sewe sewer metering equipment is co Partial Flume, Ultrasonic, Venturi, ancy for accurate metering, and | equipment with new metering ers mposed of various types of me , and Sonic Hydro ranger. Mos | equipment. etering technology, including Magnetic t of these meters have surpassed their |



Sewage Meter Design, Installation, Replacement and Rehabilitation Program

| Score | | Comment |
|------------|--------------------------------------|---|
| 5 | | |
| 4 | | |
| 4 | | |
| 4 | | |
| 4 | | |
| 4 | | |
| 4 | | |
| | | |
| 4 | | |
| 4 | | |
| 4 Score | Comment | |
| | 5 4 4 4 4 4 4 4 | 5 4 |



260400 CIP#

Sewage Meter Design, Installation, Replacement and Rehabilitation Program

| ase GLWA Employees Project management Contract NA Status Cancelled e GLWA Salaries Phase Status Cancelled Funding Source Revenue Financed Capir Fund Improvement & Extension Useful Life >20Yrs? No Cost Estimation Information I Cost Est. Class Cost Est. Date Cost Est. Source CIP Number Description Project Manager CIP Number Description | | | | | | | | | | |
|--|---------------------|------------------|---------------|-----------|---------|------------|------------------|----------|------------|--------------|
| Phase Budget Wastewater Cost Allocation CTA Phase Status Cancelled Funding Source Revenue Financed Capit Start Date Fund Improvement & Extension End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount Program/Allowance Task Information 1 Cost Est. Class Project Manager Cost Est. Source CIP Number Improvement | ase GLWA Emp | oloyees Projec | t manager | ent | С | ontract NA | Λ | Status | Cancell | ed |
| Phase Status Cancelled Funding Source Revenue Financed Capit Start Date Fund Improvement & Extension End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount Program/Allowance Task Information 1 Cost Est. Class Project Manager Cost Est. Source CIP Number Improvement of the status | e GLWA Salar | ries | | | | | | | | |
| Start Date Fund End Date Cost Estimation Information 1 Cost Est. Class Program/Allowance Task Information Project Manager CiP Number | Phase Budget | Vastewater | | | | | Cost Allocation | CTA | | |
| End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount Image: Cost Est. Class Program/Allowance Task Information 1 Cost Est. Date Project Manager Image: Clip Number Image: Clip Number Image: Cost Est. Source Clip Number Image: Clip Number Image: Clip Number | Phase Status (| Cancelled | | | | | Funding Source | Revenu | Je Finance | ed Capital |
| Cost Estimation Information Tot. Federal Loan Amount 1 Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CIP Number | Start Date | | | | | | Fund | Improv | ement & E | xtension Fun |
| 1 Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CIP Number | End Date | | | | | Us | eful Life >20Yrs | No | | |
| Cost Est. Date Project Manager Cost Est. Source CIP Number | Co | st Estimation Ir | nformation | | | Tot. Fede | al Loan Amoun | ł | | \$0 |
| Cost Est. Source CIP Number | | 1 | Cost Est. Cl | ass | | Prog | ram/Allowance | Task Inf | ormation | |
| | | | Cost Est. Do | ıte | Project | Manager | | | | |
| Cost Est. Prepared By Description | | | Cost Est. So | urce | CIP Nur | mber | | | | |
| | | | Cost Est. Pro | epared By | Descrip | otion | | | | |
| | | | | | | | | | | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | Prior Yr Actuals | 5 FY19 | FY20 | FY21 | FY22 | FY23 | FY24 FY | 25+ | Total | |
| 0 0 0 0 0 0 0 0 0 0 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Phase Total Expenses By FY (All figures are in \$1,000's) | | | | | | | Ű | U | U | |

| GLWA Great Lakes Water Authorit | y | Sewage I | Neter De | | Y 2020-20 allation, R | | nent and | Rehabili | 2 tation Progr | 60400 ci am |
|------------------------------------|-------------|----------------|--------------|--------------------------|--------------------------|----------------|--------------|------------|-------------------|----------------|
| Phase Construction | | | | C | Contract N | Ą | Stat | us Cance | elled | |
| Title Unallocated S | ewage Me | ter Design, In | stallation, | Replaceme | nt and Reha | abilitation P | rogram | | | |
| Phase Budget Wa | stewater | | | | | Cost Alloc | ation CTA | | | |
| Phase Status Ca | ncelled | | | | | Funding S | ource Reve | nue Financ | ced Capital | |
| Start Date | | | | | | | Fund Impro | ovement & | Extension Fun | |
| End Date | | | | Useful Life >20Yrs? No | | | | | | |
| Cost F | stimation I | oformation | | Tot. Federal Loan Amount | | | | | | |
| | 1 | Cost Est. Clo | 221 | | | | vance Task I | nformation | 1 | |
| | 1 | Cost Est. Da | | Project | h Manager | | | | • | |
| | | Cost Est. Sou | | CIP Nu | • | | | | | |
| | | Cost Est. Pre | | Descrij | | | | | | |
| | | COSI ESI. FIE | рагеа ву | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | I | Pho | ase Total Ex | xpenses By | FY (All figure | es are in \$1, | 000's) | | | |
| | | | | | | | , i | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | GLW Great Lakes Water Aut | A | | Sewage | Meter De | | FY 2020 stallatio | | | - | and | Rehc | abilita | tion | | 400 CIP# ו |
|---------|------------------------------|---------|----------|--------------|---------------|-----------|----------------------|---------|---------------|-------------|---------|---------|------------------|--------------|---------|---------------|
| Phase | Study and | Desigr | n and C | onstruction | Assistance | | Contrac | t CC | DN-179 |) | Stat | us C | ancelle | ed | | |
| Title (| CON-179 Se | ewage | Meter [| Design, Inst | allation, Rep | blacemen | t and Reh | nabilit | ation F | Program | | | | | | |
| Phas | e Budget V | Vastew | /ater | | | | | | Cost / | Allocation | CTA | | | | | |
| Pho | se Status C | Cancel | led | | | | | | Fundir | ng Source | Reve | nue Fi | nance | d Ca | pital | |
| S | Start Date | | | | | | | | | Fund | I Impro | oveme | ent & Ex | <i>ktens</i> | ion Fun | |
| | End Date | | | | | | | Us | eful Lif | ie >20Yrs? | No | | | | | |
| | Cos | t Estim | ation In | formation | | 1 | Tot. | Feder | al Loa | n Amoun | ł | | | | | |
| | | | 1 | Cost Est. C | lass | | | Prog | ram/A | llowance | a Task | Inform | ation | | | |
| | | | | Cost Est. D | ate | Proje | ect Mana | ger | | | | | | | | |
| | | | | Cost Est. S | ource | CIP | Number | | | | | | | | | |
| | | | | Cost Est. P | repared By | Desc | cription | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | Task | | St | tart Date | End Date | Duratio | on | | | | | | | | | |
| Scope | Developm | ient | | | | | | | | | | | | | | |
| Procur | ement | | | | | | | | | | | | | | | |
| | t Execution | | | 8/8/2017 | 8/7/202 | | 095 | | | | | | | | | |
| Projec | t Closeout | | | 8/7/2020 | 10/6/202 | 0 | 60 | | | | | | | | | |
| Prio | r Yr Actuals | F | -Y19 | FY20 | FY21 | FY22 | FY23 | 3 | FY24 | 4 FY: | 25+ | Tot | al | | | |
| | | | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | | | |
| | | | | P | hase Total E | xpenses B | y FY (All f | igure | s are ir | n \$1,000's |) | | | | | |
| | Pro | oject ' | Total E | xpenses | By FY Co | mpareo | d to Prio | r CIF | Ps (Al | l figures | are | in \$1, | , 000's] |) | | |
| CIP | FY16 | F | FY17 | FY18 | FY19 | FY20 | FY21 | FY | 22 | FY23 | FY | | FY25 | | Total | |
| 2018 | | | 500 | 500 | 500 | 500 | 500 | | 500 | | | 0 | | 0 | 3,000 | |
| 2019 | | 0 | 0 | 500 | 1,700 | 1,700 | 1,700 | | 1,000 | 1,000 | | ,000, | | 0 | 8,600 | |
| 2020 | | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | | 0 | | 0 | 0 | |



GLWA FY 2020-2024 CIP CSO Outfall Rehabilitation

260500 CIP#

| | Innovation |
|--|------------|
| | |

□ Water MP Right Sizing

✓ Reliability/Redundancy

□ NEWTP Repurposing

Project Status Active

CIP Type Program

Project New To CIP $\ \square$

Project Engineer/Manager Mini Panicker Manager Biren Saparia Managing Dept SCC Date Original Business Case Prepared 3/3/2017

Year Project Added to CIP 2017

Sewer tap piping in B009 outfall (left) and sludge buildup and poor masonry in B007 outfall (right)



| Budget | Wastewater |
|----------------------|-------------------|
| Class Lvl 1 | Wastewater |
| Class Lvl 2 | Programs |
| Class Lvl 3 | Programs |
| Location | Multiple Counties |
| Fund and Cost Center | |

Project SignificancePROJECTS 222006 AND 233001 HAVE BEEN INCORPORATED INTO THIS PROJECT. Rehabilitation of the CSO outfalls is
essential to properly discharge the uncontrollable combined sewer overflows to the receiving waters and to
prevent sewer back up into the Conveyance System. Recent inspections of the outfalls revealed structural
deficiencies like fractures, missing mortar from bricks etc. There are sediment and debris deposits in many of them.Scope of WorkPreliminary Scope of Work of the project is construction. Contract CS-168 will review the existing records, evaluate
the existing conditions, and provide the necessary design to rehabilitate the outfalls.ChallengesSome outfalls are below the river elevation; rehabilitation may be challenging.Project HistoryThe construction of these outfalls are dated back to the early 1900s under various contracts.Related ProjectCIP 1357, CS-168Lookup Driver2 - Performance

Other Important Info PROJECTS 222006 AND 233001 HAVE BEEN INCORPORATED INTO THIS PROJECT.



| PM Weighted Score | | |
|---|-------|---------|
| 72.8 | | |
| Criteria | Score | Comment |
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 4 | |
| 0&M | 4 | |
| Performance (Service Level/Reliability) | 5 | |
| Public Benefit | 2 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 3 | |

RC Weighted

Score

72.8

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 4 | |
| O&M | 3 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 3 | |
| Public Health & Safety | 3 | |
| Regulatory (Environmental/Legal) | 4 | |

| Phase GLWA Employees Project management Contract NA Status Active Title GLWA Salaries Cost Allocation CTA Phase Budget Wastewater Cost Allocation CTA Phase Status Active Funding Source Bond Proceeds Statu Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information \$0 5 Cost Est. Class Cost Est. Date Cost Est. Information Cost Est. Date Program/Allowance Task Information Cost Est. Date Cost Est. Nepared By Cost Est. Prepared By Description Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Comment Comment GLWA Salaries CIP2020 FY20 FY21 \$70 28 4 GLWA Salaries CIP2020 FY21 \$70 28 GLWA Salaries CIP2020 FY24 Statu Salaries CIP2020 FY24 \$70 28 GLWA Salaries CIP2020 FY24< | GLW Great Lakes Water | | | | | GLV | VA FY 2020- CSO Out | | | itation | | | 260500 CIP |
|---|--------------------------|----------------------|--------|--------------|--------|------------------------------------|------------------------|-----|--------------|------------|--------------|---------|------------|
| Phase Budget Wastewater Cost Allocation CTA Phase Status Active Funding Source Bond Proceeds Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount \$0 Cost Est. Class Cost Est. Class Program/Allowance Task Information Cost Est. Date Cost Est. Source CIP Number Cost Est. Prepared By Expense Fringe BenefitNonPersonne Comment GLWA Solaries CIP2020 FY20 \$70 28 4 GLWA Solaries CIP2020 FY21 \$70 28 4 GLWA Solaries CIP2020 FY23 \$70 28 4 GLWA Solaries CIP2020 FY24 \$70 28 4 | | | rojec | t managen | nent | | Contract | NA | | Stat | us Active | | |
| Phase Status Active Funding Source Bond Proceeds Start Date Fund Construction Bond Fund Useful Life >20Yrs? No Cost Estimation Information 5 Cost Est. Class Tot. Federal Loan Amount \$0 5 Cost Est. Class Program/Allowance Task Information Program/Allowance Task Information Cost Est. Date Cost Est. Source CIP Number CIP Number Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Comment GLWA Salaries CIP2020 FY20 \$70 28 4 GLWA Salaries CIP2020 FY23 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 Fringe Staties CIP2020 FY24 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 | Title GLWA Sala | aries | | | | | | | | | | | |
| Start Date Fund Construction Bond Fund End Date Useful Life >20Yrs? No Cost Estimation Information Tot. Federal Loan Amount \$0 5 Cost Est. Class Program/Allowance Task Information Cost Est. Date Cost Est. Date Project Manager Cost Est. Prepared By Description Description Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Comment GLWA Salaries CIP2020 FY20 \$70 28 4 GLWA Salaries CIP2020 FY21 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY23 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 | Phase Budget | Wastewa [.] | ter | | | | | | Cost Alloc | ation CTA | | | |
| Useful Life >20Yrs? No Cost Estimation Information 5 Cost Est. Class Cost Est. Date Program/Allowance Task Information Cost Est. Date Cost Est. Source Cost Est. Prepared By Project Manager Cost Type Fiscal Year Expense Fringe Benefit/NonPersonne Cost Cip2020 FY20 Stataries Cip2020 FY21 Stataries Cip2020 FY22 Stataries Cip2020 FY23 Stataries Cip2020 FY24 Stataries Cip2020 <td>Phase Status</td> <td>Active</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Funding Sc</td> <td>ource Bond</td> <td>Proceeds</td> <td></td> <td></td> | Phase Status | Active | | | | | | | Funding Sc | ource Bond | Proceeds | | |
| Tot. Federal Loan Amount \$0 Frogram/Allowance Task Information Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CiP Number Description Description Cost Type Fiscal Year Expense Fringe BenefitNonPersonne Comment GLWA Salaries CIP2020 FY20 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY23 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 Frior Yr Actuals FY19 FY20 FY21 FY23 FY23 FY24 FY25+ Total | Start Date | | | | | | | | | Fund Cons | truction Bor | nd Fund | |
| Cost Est. Class Program/Allowance Task Information Froject Manager Cost Est. Source Cost Est. Source CIP Number Description Description ClwA Salaries CIP2020 FY20 \$70 28 4 GLWA Salaries CIP2020 FY21 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY22 \$70 28 4 GLWA Salaries CIP2020 FY24 \$70 28 4 Fringe Benefit NonPersonne Comment Comment GLWA Salaries CIP2020 FY21 \$70 28 4 Fringe Sciption 28 4 200 200 200 Fringe Sciption Comment Comment Comment 200 GLWA Salaries CIP2020 FY22 \$70 28 4 Fringe Fringe Sciption 28 4 200 200 200 Fringe Sciption 28 4 200 28 4 200 Fringe Sciption 28 <td>End Date</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Us</td> <td>eful Life >2</td> <td>OYrs? No</td> <td></td> <td></td> <td></td> | End Date | | | | | | | Us | eful Life >2 | OYrs? No | | | |
| Cost Est. DateProject ManagerCost Est. SourceCIP NumberCost Est. Prepared ByDescriptionCost TypeFiscal YearExpenseFringe Benefit NonPersonneClwA Salaries CIP2020FY20\$7028GLWA Salaries CIP2020FY21\$7028GLWA Salaries CIP2020FY22\$7028GLWA Salaries CIP2020FY23\$7028GLWA Salaries CIP2020FY23\$7028GLWA Salaries CIP2020FY23\$7028GLWA Salaries CIP2020FY24\$7028GLWA Salaries CIP2020FY24\$7028\$7028\$7028\$70 <td< td=""><td>Co</td><td>ost Estimat</td><td>ion Ir</td><td>formation</td><td></td><td></td><td>Tot. Fe</td><td>der</td><td>al Loan An</td><td>nount</td><td></td><td></td><td>\$0</td></td<> | Co | ost Estimat | ion Ir | formation | | | Tot. Fe | der | al Loan An | nount | | | \$0 |
| Cost Est. Source Cost Est. Prepared ByCIP Number DescriptionCost TypeFiscal YearExpenseFringe BenefitNonPersonneCommentGLWA Salaries CIP2020FY20\$70284GLWA Salaries CIP2020FY21\$70284GLWA Salaries CIP2020FY22\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY24\$70284Frior Yr ActualsFY19FY20FY21FY22FY23FY23FY24FY25Total | | 5 | | Cost Est. C | ass | Program/Allowance Task Information | | | | | | | |
| Cost Est. Prepared ByCost TypeFiscal YearExpenseFringe Benefit NonPersonneCommentGLWA Salaries CIP2020FY20\$70284GLWA Salaries CIP2020FY21\$70284GLWA Salaries CIP2020FY22\$70284GLWA Salaries CIP2020FY22\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY24\$70284GLWA Salaries CIP2020FY24\$70284Frior Yr ActualsFY19FY20FY21FY22FY23FY24FY23FY24FY25Total | | | | Cost Est. De | ate | P | roject Manage | er | | | | | |
| Cost Est. Prepared ByDescriptionCost TypeFiscal YearExpenseFringe BenefitNonPersonneCommentGLWA Salaries CIP2020FY20\$70284GLWA Salaries CIP2020FY21\$70284GLWA Salaries CIP2020FY22\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY24\$70284Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY25+Total | | | | Cost Est. So | ource | C | CIP Number | | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | , Description | | | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | | | | | | |
| GLWA Salaries CIP2020FY21 $\overrightarrow{570}$ 284GLWA Salaries CIP2020FY22 $\overrightarrow{570}$ 284GLWA Salaries CIP2020FY23 $\overrightarrow{570}$ 284GLWA Salaries CIP2020FY24 $\overrightarrow{570}$ 284Prior Yr ActualsFY19FY20FY21FY22FY23FY24Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY24FY23FY24FY25FY24FY25+Total | Cost Ty | pe | Fi | scal Year | Expens | е | Fringe Benefill | Von | Personne | C | Comment | | |
| GLWA Salaries CIP2V20FY22\$70284GLWA Salaries CIP2V20FY23\$70284GLWA Salaries CIP2V20FY24\$70284Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY25+Total | | | _ | - | | • | | | 4 | | | | |
| GLWA Salaries CIP2020FY23\$70284GLWA Salaries CIP2020FY24\$70284Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY24Prior Yr ActualsFY19FY20FY21FY22FY23FY24FY25+Total | | | _ | | | • | | | 4 | | | | |
| GLWA Salaries CIP2020 FY24 \$70 28 4 Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | GLWA Salaries C | CIP2020 | FY2 | 2 | | \$70 | 28 | | 4 | | | | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | GLWA Salaries C | CIP2020 | FY2 | 3 | | \$70 | 28 | | 4 | | | | |
| | GLWA Salaries C | CIP2020 | FY2 | 4 | | \$70 | 28 | | 4 | | | | |
| | Prior Yr Actua | ls FY | 19 | FY20 | FY21 | FY: | 22 FY23 | | FY24 | FY25+ | Total | | |
| 0 102 102 102 102 102 0 510 | | | 0 | 102 | 102 | | 102 10 | 2 | 102 | 0 | 510 | | |

| | GLWA Great Lakes Water Authority | GLWA FY 2020-2024 CIP 260500 CSO Outfall Rehabilitation | | | | | | | | | | |
|-------|--|--|---------------|--|--|--|--|--|--|--|--|--|
| Phase | Construction | Contract TBD Status Future F | Planned Start | | | | | | | | | |
| Title | Title Collection System Backwater Gates, Regulator Gates Rehabilitation and CSO Access Hatch Improvements | | | | | | | | | | | |
| | 233001 in 2018 CIP. Replacement of CSO outfall back water gate is essential to prevent the river inflow into the collection system. Many are missing and the rest of them have reached their life expectancy. Locate the CSO Outfall back water gates, evaluate the | | | | | | | | | | | |

existing conditions, and provide the necessary replacement / rehabilitation to minimize the river flow into the collection system. The installation of these structures are dated back to 1912 under various contracts. All back water gates were replaced in the late seventies and again 6 were replaced in the recent years under PC-698. Existing ones are past their service life. Some outfalls are below the river elevation; installation may be challenging.

| Phase Budget | Wastewat | er | Cost Allocation | CTA | | | | | |
|---------------|--------------|-----------------------|------------------------------------|--------------------------|--|--|--|--|--|
| Phase Status | Future Pla | nned Start | Funding Source | Bond Proceeds | | | | | |
| Start Date | | | Fund | d Construction Bond Fund | | | | | |
| End Date | | | Useful Life >20Yrs | ? Yes | | | | | |
| Co | ost Estimati | on Information | Tot. Federal Loan Amount | | | | | | |
| | 4 | Cost Est. Class | Program/Allowance Task Information | | | | | | |
| 8, | /31/2017 | Cost Est. Date | Project Manager | | | | | | |
| Engineering | | Cost Est. Source | CIP Number | | | | | | |
| Biren Saparia | | Cost Est. Prepared By | Description | | | | | | |

| Cost Type | Fiscal Year | Expense | Fringe | e Benefi | NonPersonne | Comment |
|-------------------|-------------|------------|----------|------------|-------------|---------|
| Construction | FY20 | \$5, | 000 | | | |
| Construction | FY21 | \$7, | 845 | | | |
| Construction | FY22 | \$5, | 824 | | | |
| Construction | FY23 | \$5, | 000 | | | 2020CIP |
| Construction | FY24 | \$5, | 000 | | | 2020CIP |
| Construction | FY25+ | \$7, | 102 | | | 2020CIP |
| Task | Start Date | End Date | Duration | | | |
| Scope Development | 1/1/2019 | 2/28/2019 | 5 | 58 | | |
| Procurement | 3/1/2019 | 6/30/2019 | 12 | 21 | | |
| Project Execution | 7/1/2019 | 12/30/2023 | 164 | 3 B-311 | | |



GLWA FY 2020-2024 CIP CSO Outfall Rehabilitation

260500 CIP#

| | Task | | Start Date | End Date | Duration | | | | |
|---|------------------|------|------------|-----------|----------|------|------|-------|-------|
| ł | Project Closeout | | 1/1/2024 | 6/30/2024 | 18 | 51 | | | |
| | | | | | | | | | |
| | Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total |

| GLAN Great Lakes Water. | Authority | | | GL | | 2020-2 O Outf | | | ilitation | | | 260500 CII | |
|------------------------------|------------------------------------|---------------|--------------|--------------|---------------------|------------------|----------|------|-------------|------------|---------------|------------|-----|
| Phase Construc | tion | | | | | Co | ontract | NA | | Sto | atus Future | Planned St | art |
| Title Unallocate | ed Generc | al CSO | Outfall Re | habilitation | | | | | | | | | |
| Phase Budget | Wastewat | er | | | Cost Allocation CTA | | | | | | | | |
| Phase Status | Future Pla | nned S | Start | | | | | F | unding S | ource Bon | d Proceeds | | |
| Start Date | | | | | | | | | | Fund Cor | nstruction Bo | nd Fund | |
| End Date | | | | | | | | Use | ful Life >: | 20Yrs? Yes | | | |
| Co | ost Estimat | ion Info | ormation | | | | Tot. Fec | dera | l Loan A | mount | | | |
| | 1 | C | Cost Est. C | lass | | | Pr | ogro | am/Allov | vance Task | Information | | |
| 8 | /31/2017 | C | Cost Est. Do | ate | P | roject <i>I</i> | Nanager | r | | | | | |
| Contractor | | C | Cost Est. Sc | ource | CIP Number | | | | | | | | |
| Biren Saparia | | C | Cost Est. Pr | epared By | C |)escript | ion | | | | _ | | |
| Cost Ty | ne | Fisc | al Year | Expense | . | Fringe | BenefitN | lonP | ersonne | | Comment | | |
| Construction | | FY19 | | | - \$0 | | | | | | | | |
| Construction | | FY20 | | \$1C | ,000, | | | | | | | | |
| Construction | | FY21 | | \$1C | ,000 | | | | | | | | |
| Construction | | FY22 | | | 5,000 | | | | | | | | |
| Construction | | FY23 | | · · |),000 | | | | | | | | |
| Construction Construction | | FY24 FY25+ | + I | • |),000 3,898 | | | | | 2020CIP | | | |
| Task | | | Irt Date | End Date | | ration | I | | | - | | | |
| Scope Develop | | | 7/1/2018 | 9/30/2018 | | 91 | | | | | | | |
| Procurement | | 9 | /30/2018 | 3/29/2020 | | 546 | | | | | | | |
| Project Executio | n | 3 | /29/2020 | 3/29/2022 | 2 | 730 | | | | | | | |
| Project Closeou | Project Closeout 3/29/2022 6/27/20 | | | | | 90 | | | | | | | |
| Prior Yr Actua | ls FY | 9 | FY20 | FY21 | FY | 22 | FY23 | | FY24 | FY25+ | Total | | |
| | | 0 | 10,000 | 10,000 | ļ | 5,000 | 10,000 |) | 10,000 | 3,898 | 48,898 | | |

| GLWA FY 2020-2024 CIP CSO Outfall Rehabilitation Phase Total Expenses By FY (All figures are in \$1,000's) Phase not applicable Contract NA Status Close Title Prior Year Actual Expenses | 260500 |
|---|--------|
| Phase not applicable Contract NA Status Close Title Prior Year Actual Expenses | |
| Title Prior Year Actual Expenses | |
| | d Out |
| | |
| Phase Budget Wastewater Cost Allocation CTA | |
| Phase Status Closed Out Funding Source | |
| Start Date Fund | |
| End Date Useful Life >20Yrs? | |
| | |
| Cost Estimation Information Tot. Federal Loan Amount | \$O |
| Cost Est. Class Program/Allowance Task Information | n |
| Cost Est. Date Project Manager | |
| Cost Est. Source CIP Number | |
| Cost Est. Prepared By Description | |
| | |
| Cost Type Fiscal Year Expense Fringe Benefit NonPersonne Comment | |
| GLWA Salaries CIP2020 FY18- \$6 3 FY18 | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY23 FY24 FY25+ Total | |
| 9 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<> | 2 |
| Phase Total Expenses By FY (All figures are in \$1,000's) | |

| | GLW Great Lakes Water Art | Authority | | | | GLV | | Y 2020 SO Ou | | | P abilitatic | on | | | 2 | 260500 CIP# |
|---------|------------------------------|-----------|-------------|-------------|--------------|------------------------------|-------|-----------------|-------|---------|-----------------|---------|---------|--------|-------|-------------|
| Phase | Construct | ion | | | | | C | Contract | СО | N-260 | | Statu | us Act | ve | | |
| Title R | Rehabilitati | ion c | of CSO Ou | tfall Phase | 1 | | | | | | | | | | | |
| Phas | e Budget | Wast | ewater | | | Cost Allocation CTA | | | | | | | | | | |
| Pho | ase Status | Activ | 'e | | | Funding Source Bond Proceeds | | | | | | | | ds | | |
| S | Start Date | | | | | Fund Construction Bond Fund | | | | | | | | | | |
| | End Date | | | | | Useful Life >20Yrs? Yes | | | | | | | | | | |
| | Со | st Es | limation lı | nformation | | 1 | | Tot. F | ederc | ıl Loai | n Amount | | | | \$0 | |
| | | | 1 | Cost Est. C | lass | | | | Progr | am/A | llowance | Task Ir | nformat | ion | | |
| | | | | Cost Est. D | ate | Р | rojec | t Manag | Jer | | | | | | | |
| Bid | | | | Cost Est. S | ource | CIP Number | | | | | | | | | | |
| | i Panicker | | | | repared By | D | escri | ption | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | Cost Typ | be | | scal Year | Expen | | | | | | | | | | | |
| Constr | ruction | | FY1 | 9 | | \$4,000 2020CIP | | | | | | | | | | |
| | Task | | S | tart Date | End Date | Dur | ation | | | | | | | | | |
| - | t Executior | | | 8/1/2018 | 2/1/201 | | | 34 | | | | | | | | |
| Projec | t Closeout | | | 2/2/2019 | 2/26/201 | 9 | 2 | 24 | | | | | | | | |
| Prio | r Yr Actuals | S | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | | FY24 | FY2 | 5+ | Total | | | |
| | | | 4,000 | | | | | | | | | | 4,0 | 00 | | |
| | | | | Р | hase Total I | Expense | es By | FY (All fig | gures | are in | n \$1,000's) | | | | | |
| | Pro | ojeo | ct Total | Expenses | By FY Co | ompa | red t | to Prior | CIP | s (All | figures | are i | n \$1,0 | 00's) | | |
| CIP | FY16 | | FY17 | FY18 | FY19 | FY20 | | FY21 | FY2 | 22 | FY23 | FY2 | 4 | FY25 | Total | |
| 2018 | | | | 6,000 | 6,000 | 6,00 | | 6,000 | | ,000 | 6,000 | | 0 | 0 | | 000 |
| 2019 | | 0 | | | 507 | 3,82 | | 10,001 | | ,001 | 10,001 | | .001 | 0 | | 337 |
| 2020 | | 0 | 0 | 9 | 4,000 | 15,10 |)2 | 17,947 | 10 | ,926 | 15,102 | 15, | 102 | 11,000 | 89, | 188 |



GLWA FY 2020-2024 CIP CSO FACILITIES IMPROVEMENT PROGRAM

260600 CIP#

\Box Innovation

□ Water MP Right Sizing

NEWTP Repurposing

✓ Reliability/Redundancy

Project Engineer/Manager Chris Nastally

Managing Dept CSO

Date Original Business Case Prepared 7/27/2016

Year Project Added to CIP 2017

Manager Chris Nastally

Project Status Active

CIP Type Program

Project New To CIP $\ \square$

Retrofitted chemical feed pump replacement at Puritan-Fenkell RTB and makeshift wooden stairs to enter Basin Valve Gallery



BudgetWastewaterClass Lvl 1WastewaterClass Lvl 2ProgramsClass Lvl 3ProgramsLocationMultiple Counties

Fund and Cost Center Wastewater - 5421-892211

Project Significance This program is being established to facilitate the study, design, construction administration, and construction of improvements necessary to maintain the facilities which contribute to the CSO Control Program and compliance herewith.

Scope of Work This program is intended to include studies, design, construction administration, and construction projects which serve to improve process areas or functions of the CSO Facilities. The overall scope of this program is to complete the following: Needs Assessment, Condition Assessment, and update to the 2013 Scheduled Replacement Plan (SRP); Replacement of CSO Facilities Fire Alarm Systems; Structural Condition Assessment Design/Build project; and flushing improvements to Baby Creek CSO Facility. A direct product of the Needs/Condition Assessment and SRP is identification of facility needs with projects identified, prioritized, and conceptual cost estimates. From this output, RFP's will be developed to address these needs. For this purpose, Design and Construction dollars have been identified in the later years of this Program to facilitate design and construction of those identified needs. It is anticipated that the primary drivers of these improvements will be obsolescence/end of service life, excessive O&M problems, reliability, efficiency and system standardization which arise from feedback from operation & maintenance, the scheduled replacement plan, and the needs/condition assessment. Following completion of the Wastewater Master Plan, new projects may be otherwise defined which will be incorporated into the CIP. These projects will likely be entered into the CIP as stand-alone projects rather than falling under this program. Furthermore, upon completion of the NPDES permit, new regulatory requirements may arise which require capital improvements. Depending on the nature of those improvements, they may be stand-alone projects or fall within the elements of this Program.

Challenges As this program starts off, there is a lot of design RFPs in the beginning which will lead to la refined projects aimed



GLWA FY 2020-2024 CIP **CSO FACILITIES IMPROVEMENT PROGRAM**

at improving operations, which lead to RFPs for design and large scale construction projects in the later years (3-5). A significant challenge to be faced will be maintaining the CSO facilities in current operations without the benefit of large-scale improvements of the CSO Systems. Another significant challenge of this program will be unforeseen conditions that may be encountered as facility inspections & condition assessments begin. For example, finding significant structural distress of a basin could lead to increase of budget or extension of timeline of improvements. Considering much of the equipment/systems identified for inclusion in this program are at or near obsolescence or are actively causing O&M issues, delays in improvements could possibly cause operational or compliance issues.

Project History The GLWA CSO Control Program consists of the operations of 6 CSO RTB's, and 3 Screening & Disinfection Facilities (SDF). The fundamental difference between the SDF's and the RTB's is the presence of a bonafied basin versus a large diameter, long effluent pipe/ outfall. The long outfall (SDF) functionally serves a purpose similar to the basin (RTB) in terms of storage of combined sewer overflow during a rain event. As a result, the SDF's are fundamentally more difficult to keep clean than the RTB's because flushing systems must transport settled solids (after a storm) long distances to leave the effluent pipe. The CSO Facilities average age is around 15 years with the oldest facilities being constructed in 1994 and the most recent facility being constructed in 2011. A scheduled replacement plan was completed in 2013, which is now out of date, and a high level Needs Assessment conducted in 2016, which didn't identify large scale projects or priorities based on condition other than those of emergency nature. Projects resulting from the 2016 NA were largely emergency projects in nature. A Goal of this program includes standardization of the systems utilized at each facility, as well as improving operational & maintenance conditions at each facility. Given the eras in which the facilities were constructed, and being part of demonstration projects, they have differing technology which makes maintenance and operations duties more difficult. Another goal of this program is to improve the operating conditions of facility assets to increase reliability, efficiency, and compliance with all GLWA regulatory and other levels of service.

Related Project The proposed new CIP budget for rehabilitation for all the CSO RTB and SDF facilities is based on the 2016 Needs Assessment Study Report and condition assessment performed under CS-1499, Task 18. The condition assessment identified deficient process equipment, systems and deteriorating structural conditions that required near-term remedial work at the three RTB's: the Puritan-Fenkell Basin and dry weather pump station (completed in 1998 under PC-697), the Seven Mile (Completed in 1999 under PC-696) and the Conner Creek (completed in 2005 under PC-739). The 2016 Needs Assessment Facility walkthrough have identified that CSO RTB and SDF's at Hubbell Southfield, St. Aubin & Leib, Baby Creek and Bell Isle needs rehabilitation. The Puritan-Fenkell and Seven Mile RTB's will be combined with this new capital improvements plan for all the remaining CSO facilities. GLWA staff have identified that Conner Creek CSO facility rehabilitation is critical to the wastewater operation and few projects has initiated as an emergency repair work. Due to recent rain events under emergency repair activities the following scope items at GLWA's Conner Creek CSO RTB are ongoing; Install additional automation, continue repairs to existing automation, replace five sodium hypochlorite pumps, repair piping leaks and relocate piping for the flushing water system, replace 5 Accusonic meters upstream, replace electrical power and controls raceway above the RTB, replace emergency relief gates causing concrete damage, replace all disinfection valves, replace all insulation and heat taping for exposed sodium hypochlorite lines, replace all sodium B-317



CSO FACILITIES IMPROVEMENT PROGRAM

hypochlorite mixers in the channels. The above Conner Creek CSO RTB facility emergency repair list include only operation critical rehabilitation needs to avoid flooding's, the remaining non critical rehabilitation needs identified in the Needs Assessment Report will be addressed through this proposed project at this facility.

| Lookup Driver | Varies |
|---------------|--------|
|---------------|--------|

Other Important Info (Replaces CIP1313).

Explanation The chemical feed system pumps, valves, gates, dewatering and sampling pumps are old and critical to the CSO RTB and SDF treatment processes meeting permit requirements.



PM Weighted

Score 82

| Criteria | Score | Comment |
|---|-------|--|
| Condition | 4 | Asset has <25% of its design service life remain |
| Efficiency and Innovation | 4 | Process efficiency for a more robust system |
| Financial | 4 | Project will likely result in avoidance of fines |
| O&M | 4 | Significant Positive impact on O&M |
| Performance (Service Level/Reliability) | 4 | Expected performance failures under normal |
| Public Benefit | 3 | Likely to impact quality of life & aesthetics |
| Public Health & Safety | 4 | Significant positive impact on staff/public |
| Regulatory (Environmental/Legal) | 5 | Imminent risk of causing permit violations |

RC Weighted

Score

90.6

| Criteria | Score | Comment |
|---|-------|---------|
| Condition | 4 | |
| Efficiency and Innovation | 4 | |
| Financial | 5 | |
| O&M | 4 | |
| Performance (Service Level/Reliability) | 4 | |
| Public Benefit | 5 | |
| Public Health & Safety | 5 | |
| Regulatory (Environmental/Legal) | 5 | |

GLWA FY 2020-2024 CIP CSO FACILITIES IMPROVEMENT PROGRAM

260600 CIP#

| Phase Constructi | ion | | | | Contract | 1802791 | Sta | tus Future F | Planned Sto | art |
|-------------------------------------|--------------|----------------|--------------|---------------------------|-------------|----------------|--------------|---------------|-------------|------------|
| Title Puritan Fen | kell Roof Re | eplacement - C | Construction | | | | | | | |
| Puritan Fenkell R replacement. W | | | - | | | , | | - | | d requires |
| Phase Budget | Wastewate | r | | Cost Allocation CSO 83/17 | | | | | | |
| Phase Status | -uture Plani | ned Start | | | | Funding S | ource Bond | d Proceeds | | |
| Start Date | | | | | | | Fund Cons | struction Bor | nd Fund | |
| End Date | | | | | | Useful Life >2 | 20Yrs? Yes | | | |
| Со | st Estimatio | n Information | | | Tot. Fee | deral Loan A | mount | | 0 | βO |
| | 1 | Cost Est. C | lass | | Рі | ogram/Allov | vance Task | Information | | |
| 6/ | /28/2018 | Cost Est. D | ate | Proje | ct Manage | r Chris Nast | ally | | | |
| Funds Request | Form | Cost Est. So | ource | CIP N | lumber | 260606 | , , | | | |
| NTH/GLWA | | Cost Est. Pi | epared By | Desc | ription | Puritan Fe | nkell Roof R | eplacemen | t | |
| Cost Typ | e | Fiscal Year | Expense | e Frin | ge BenefilN | IonPersonne | (| Comment | | |
| Construction | | FY19 | | \$300 | | | From TBD Ur | nallocated A | mount | |
| Task | | Start Date | End Date | Duratio | n | | | | | |
| Scope Developn | nent | | | | | | | | | |
| Procurement | | 9/7/2018 | 3/1/2019 | | 175 | | | | | |
| Project Execution | l | 3/1/2019 | 6/30/2019 | 2019 121 | | | | | | |
| Project Closeout | | 7/1/2019 | 10/1/2019 | | 92 | | | | | |
| Prior Yr Actuals | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | | | |
| | 3 | 300 | | | | | | 300 | | |

GLWA Great Lakes Water Authority

| GLW Great Lakes Water Aut | A thority | | (| | NA FY 2020-2 FACILITIES I/ | | | OGRAM | 260600 CIF |
|--|---------------------|---------------|-----------|--------------|-------------------------------|---|---|--|--------------------|
| Phase Design and | d Build | | | | Contract | DB-261 | | Status Active | |
| Title CSO Fire Ald | arm Improv | ement Project | | | | | | | T |
| Project is to upgr repairs to get the | | | | | | | | . Oakwood is just receivin | g some |
| Phase Budget V | Vastewate | r | | | | Cost Allo | cation (| CSO 83/17 | |
| Phase Status A | Active | | | | | Funding | Source E | Bond Proceeds | |
| Start Date | | | | | | | Fund (| Construction Bond Fund | |
| End Date | | | | | | Useful Life > | 20Yrs? | 10 | |
| | | | | | Tat Fa | deral Loan A | mount | | \$0 |
| Cos | st Estimatio | n Information | | | | | | | φU |
| | 1 | Cost Est. C | lass | _ | | | | ask Information | |
| 5 | 6/4/2018 | Cost Est. D | ate | P | roject Manage | r Chris Nas | tally | | |
| Construction B | id | Cost Est. So | ource | C | CIP Number | 260602 | | | |
| Johnson Contr | ols Inc. | Cost Est. Pi | epared By | |)escription | all CSO F Controls the CSO one facili repalced occurring | ire Alarm (Simplex) Facilities ty in whi and onl g is Oakw | tes replacement/upgradir is to a standardized Johns) Fire Alarm System. Eight include replacement. The ch the panel is not being ly minor system repairs are yood. The Oakwood pane t fire control panel system. | on of e e |
| Cost Typ | e | Fiscal Year | Expense |) | Fringe Benefit | IonPersonne | | Comment | |
| Other | | FY19 | | \$0 | | | 2020CIP | | |
| Other | | FY20 | | \$0 | | | 2020CIP | | |
| Design-Build | | FY19 | 9 | 5980 | | | from the | e TBD Unallocated Amo | |
| Task | | Start Date | End Date | Dur | ation | | | | |
| Scope Developm | nent | 11/2/2017 | 3/8/2018 | | 126 | | | | |
| Procurement | | 3/8/2018 | 5/4/2018 | | 57 | | | | |
| Project Execution |) | 5/9/2018 | 6/30/2019 | | 417 | | | | |

183

7/1/2019 12/31/2019

Project Closeout

| GLWA Great Lakes Water Authorit | ty | | | | Y 2020-2 CILITIES IN | 024 CIP | ENT PROC | GRAM | | 260600 |
|------------------------------------|-------------|--|---------------|------------|-------------------------|----------------|---------------|-------------|----------|--------|
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | 98 | 60 C |) | | | | | 980 | | |
| | | P | hase Total Ex | cpenses By | FY (All figur | es are in \$1, | .000's) | | | |
| hase Construction | | | | C | Contract C | ON-219 | Sta | tus Active | | |
| itle Baby Creek C | SO Facility | y Influent Are | a Improvem | ents | | | | | | |
| Installation of accu | isonic flow | / meters and | access hat | hes/manha | ples at Baby | / Creek to fo | acilitate fut | ure mainten | iance. | |
| Phase Budget Wa | stewater | | | | | Cost Alloc | cation CSO | 83/17 | | |
| Phase Status Act | tive | | | | | Funding S | ource Bond | d Proceeds | | |
| Start Date | | | | | | | Fund &E/ | Bond | | |
| End Date | | | | | ι | Jseful Life >2 | 20Yrs? Yes | | | |
| Cost E | stimation | Information | | | Tot. Fed | eral Loan Ar | nount | | | \$O |
| | 1 | Cost Est. C | Class | | Pro | gram/Allow | vance Task | Information | | |
| 10/12 | /2017 | Cost Est. D | ate | Projec | t Manager | Gary Stoll | | | | |
| Lakeshore Globa | | Cost Est. S | ource | CIP Nu | mber | 260604 | | | | |
| Lakeshore Globa | repared By | Description Installation of flow meters, manholes and access hatches. | | | | | | | | |
| Cost Type | | Fiscal Year | Expens | e Frina | e BenefilNc | nPersonne | (| Comment | | |
| Construction | | (19 | | \$600 | | | | .E. and Cap | ital Bon | |
| Task | | Start Date | End Date | Duration | | ' | | | | |

133

423

91

FY22

Scope Development

9/18/2017

2/1/2018

4/1/2019

FY20

FY19

600

1/29/2018

3/31/2019

7/1/2019

FY21

Procurement

Project Execution

Project Closeout

Prior Yr Actuals

FY23

FY24

FY25+

Total

600

| Great Lakes Water. | XA Authority | | | | | | 024 CIP | ENT PRO | GRAM | | 260600 CI |
|-----------------------------|------------------------|------------------|--------------|-------|----------|-----------------|----------------|------------|---|-----------|-----------|
| Phase Construc | tion | | | | Co | ntract T | BD | Ste | atus Future | Planned S | Start |
| Title Leib SDF El | lectrical Im | provements | | | | | | | | | |
| Replacement c | of compron | nised electrical | conduits, an | d equ | vipment | . Replac | ement of co | orroded pi | pe hanger s | system. | |
| Phase Budget | Wastewat | er | | | | | Cost Allo | cation CSC | D 83/17 | | |
| Phase Status | Future Plai | nned Start | | | | | Funding S | ource Bor | nd Proceeds | ; | |
| Start Date | | | | | | | | Fund I&E | /Bond | | |
| End Date | | | | | | | Useful Life >: | | - | | |
| | | | | | | | | | | | |
| Cost Estimation Information | | | | | | Tot. Fed | eral Loan A | mount | | | \$0 |
| | 1 | Cost Est. C | Class | | | Pro | ogram/Allov | vance Tasl | k Informatio | n | |
| 9 | 2/14/2018 | Cost Est. D | ate | Р | roject N | Nanage r | Kashmira | Patel | | | |
| Engineers Esti | mate | Cost Est. S | ource | C | IP Num | ber | 260607 | | | | |
| Arcadis | | Cost Est. P | repared By | D | escripti | on | Replacing | g conduits | and equipn | nenet | |
| | | | . , | | | | conduits. | , | ater infiltratio g conduit su rroded. | | em |
| Cost Ty | ре | Fiscal Year | Expense | Э | Fringe I | BenefilNo | onPersonne | | Comment | | |
| Construction | | FY19 | | \$250 | | | | 2020CIP | | | |
| Construction | | FY20 | | \$450 | | | | 2020CIP | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | |
| Scope Develop | ment | 5/4/2018 | 9/28/2018 | 6 | 147 | | | | | | |
| Procurement | | 9/28/2018 | 2/1/2019 | | 126 | | | | | | |
| Project Executio | n | 2/1/2019 | 12/31/2019 | | 333 | | | | | | |
| Project Closeou | † | 1/2/2020 | 4/1/2020 |) | 90 | | | | | | |
| Prior Yr Actua | ls FY1 | 9 FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | |

250

450

700



GLWA FY 2020-2024 CIP CSO FACILITIES IMPROVEMENT PROGRAM

260600 CIP#

| hase GLWA Empl | loyees Pro | ject manage | ement | | Contract N | A | Sta | tus Active | |
|---|--|--|---------|---|--|---|--|-------------|---------------|
| iitle GLWA Salarie | ∋s | | | | | | | | |
| Phase Budget W | astewater | r | | | | Cost Allo | cation CSO | 83/17 | |
| Phase Status Ac | ctive | | | | | Funding S | ource Reve | enue Financ | ed Capital |
| Start Date | | | | | | | Fund Impre | ovement & | Extension Fun |
| End Date | | | | | ι | Jseful Life > | 20Yrs? No | | |
| Cost | Estimatio | n Information | | | Tot. Fede | eral Loan A | mount | | \$0 |
| | 5 | Cost Est. | Class | | Pro | aram/Allov | vance Task | Information | |
| | | Cost Est. Cost Est. Cost Est. | | CIP | ject Manager Number scription | | | | |
| | | | | | | | | | |
| Cost Type |) | Fiscal Year | Expense | e Fr | inge BenefilNc | onPersonne | (| Comment | |
| Cost Type GLWA Salaries CIP | | Fiscal Year T19 | | e Fr \$100 | inge BenefilNc 40 | | CON-234 | Comment | |
| | 2020 F | | | | - | 5 | | Comment | |
| GLWA Salaries CIP | 2020 F 2020 F | -Y19 | | \$100 | 40 | 5 | CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F | -Y19 -Y19 -Y19 -Y20 | | \$100 \$9 | 40 | 5 0 2 5 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F | -Y19 -Y19 -Y19 -Y20 -Y20 | | \$100 \$9 \$40 \$100 \$4 | 40 4 16 40 2 | 5 0 2 5 0 | CON-234 CS-116 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY19 FY20 FY20 FY20 | | \$100 \$ \$9 \$ \$40 \$ \$100 \$ \$4 \$ \$50 \$ | 40 4 16 40 2 20 | 5 0 2 5 0 2 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY20 FY20 FY20 FY20 FY21 | | \$100 \$ \$9 \$ \$40 \$ \$100 \$ \$4 \$ \$50 \$ \$175 \$ | 40 4 16 40 2 20 69 | 5 0 2 5 0 2 9 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY20 FY20 FY20 FY20 FY21 FY22 | | \$100 \$ \$9 \$ \$40 \$ \$100 \$ \$4 \$ \$50 \$ \$175 \$ | 40 4 16 40 2 20 69 89 | 5 0 2 5 0 2 9 11 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY20 FY20 FY20 FY20 FY21 FY22 FY22 FY23 | | \$100 \$ \$9 \$ \$40 \$ \$100 \$ \$4 \$ \$50 \$ \$175 \$ \$225 \$ \$225 \$ | 40 4 16 40 2 20 69 89 89 | 5 0 2 5 0 2 9 11 11 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY20 FY20 FY20 FY20 FY21 FY22 FY22 FY23 FY24 | | \$100 \$9 \$40 \$100 \$100 \$40 \$50 \$175 \$225 \$2250 | 40 4 16 40 2 20 69 89 89 89 99 | 5 0 2 5 0 2 9 11 11 11 | CON-234 CS-116 CON-234 CS-116 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | FY19 FY19 FY20 FY20 FY20 FY20 FY21 FY22 FY22 FY23 | | \$100 \$ \$9 \$ \$40 \$ \$100 \$ \$4 \$ \$50 \$ \$175 \$ \$225 \$ \$225 \$ | 40 4 16 40 2 20 69 89 89 | 5 0 2 5 0 2 9 11 11 11 | CON-234 CS-116 CON-234 | Comment | |
| GLWA Salaries CIP GLWA Salaries CIP | 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F 2020 F | Y19 Y19 Y19 Y20 Y20 Y20 Y21 Y22 Y23 Y24 Y25+ | | \$100 \$9 \$40 \$100 \$100 \$40 \$50 \$175 \$225 \$2250 | 40 4 16 40 2 20 69 89 89 89 99 | 5 0 2 5 0 2 9 11 11 11 | CON-234 CS-116 CON-234 CS-116 | Comment | |



260600 CIP#

| Phase not applicabl | le | | | | | C | Contract N | ١A | Sta | lus Closed | Out | |
|-----------------------|---------|--------|--------------|-----------|-------|--------|-------------|----------------|--------------|--------------|-----|--|
| Title Prior Year Actu | ual Exp | ense | S | | | | | | | | | |
| Phase Budget Was | stewa | ter | | | | | | Cost Allo | cation CSO | 83/17 | | |
| Phase Status Clos | sed O | ut | | | | | | Funding S | ource | | | |
| Start Date | | | | | | | | | Fund | | | |
| End Date | | | | | | | I | Useful Life >: | 20Yrs? | | | |
| Cost E | stimat | ion In | formation | | | | Tot. Fed | eral Loan A | mount | | | |
| | 1 | | Cost Est. C | lass | | | Pro | ogram/Allov | vance Task | Information | | |
| Cost Est. Date | | | | ate | Р | rojec | t Manager | | | | | |
| | | | Cost Est. Sc | ource | C | CIP Nu | mber | | | | | |
| | | | Cost Est. Pr | epared By | C |)escri | ption | | | | | |
| Cost Type | | Fis | cal Year | Expens | е | Fring | e BenefilNo | onPersonne | (| Comment | | |
| Construction | | FY18 | 3- | | \$43 | | | | 260604 - Bak | oy Creek | | |
| Engineering Services | S | FY18 | 3- | | \$192 | | | | 260600 - CS | O Facilities | | |
| Engineering Services | S | FY18 | 3- | | \$243 | | | | 260603 - Co | nner Creek | | |
| GLWA Salaries CIP20 | 020 | FY18 | 3- | | \$2 | | 1 | | 260604 | | | |
| Prior Yr Actuals | FY | 19 | FY20 | FY21 | FY: | 22 | FY23 | FY24 | FY25+ | Total | | |
| 481 | | | | | | | | | | 481 | | |

| GLWA Great Lakes Water Authority | GLWA FY 2020-2024 CIP CSO FACILITIES IMPROVEMEN | 260600 CIP# |
|-------------------------------------|--|-----------------------------|
| Phase Design and Build | Contract NA | Status Future Planned Start |

Title TBD - S/D/CA/C

This phase includes the following projects with preliminary scope identified: completion of a Needs Assessment, Condition Assessment, and Upate of the Scheduled Replacement Plan; Structural Condition Assessment Design/Build, CSO Fire Alarm System Replacements, Flushing Improvements at Baby Creek, and lastly, construction dollars identified in FY 23 & beyond which focus at carrying out projects identified, and later designed, from the Needs Assessment/Condition Assessment and SRP Update project at the very beginning of this phase.

| | J J J J J J J J J J J J J J J J J J J | | | | | | | | |
|--------------|---------------------------------------|----------------|------------|---------------------|-----------------|---|---|--|----|
| Phase Budget | Wastewat | er | | | | Cost Allo | cation | CSO 83/17 | |
| Phase Status | Future Plai | nned Start | | | | Funding S | Source | Revenue Financed Capito | al |
| Start Date | | 12/8, | /2018 | | | | Improvement & Extension | Fun | |
| End Date | | 1/14, | /2024 | Useful Life >20Yrs? | | | | No | |
| Co | ost Estimati | on Information | | | Tot. Fe | deral Loan A | mount | | |
| | 5 | Cost Est. C | lass | | P | rogram/Allov | wance | Task Information | |
| | | Cost Est. D | ate | I | Project Manage | r N/A | | | |
| | | Cost Est. S | ource | (| CIP Number | | | | |
| | | Cost Est. P | repared By | 1 | Description | Program. Facilities of projects ir planned f bonafied | Since does no h the n for. As CIP pla | ⁹ Funds - for the CSO CIP a bonafied CIP for the CSG ot exist, this money is TBD fo ear term which are not CS-299 winds down and a an exists, this TBD allowanc decrease substantially. | or |
| Cost Typ | pe | Fiscal Year | Expens | е | Fringe Benefith | NonPersonne | | Comment | |
| Design-Build | | FY19 | | \$0 | | | Moved | d to other CIP Projects | |
| Design-Build | | FY19 | | \$0 | | | Moved | d to Fire Alarm Project, an | |
| Design-Build | | FY20 | | \$650 | | | Moved | to Facilities Assessment | |
| Design-Build | | FY20 | | \$0 | | | Moved | to Structural DB Project | |
| Design-Build | | FY21 | | \$500 | | | Shiftec | l to Assessment Project, le | |
| Design-Build | | FY21 | \$1 | ,500 | | | Moved | to Structural DB Project, | |



260600 CIP#

| Cost Type Fiscal Year Expense Fringe Ber | |
|--|------------------------------------|
| riseditedi Expense migeber | nefilNonPersonne Comment |
| Design-Build FY22 \$1,000 | Anticipate develop of RFPs fro |
| Design-Build FY22 \$2,500 | Shifted to Structural DB Project, |
| Design-Build FY23 \$1,500 | Larger RFPs from Facilities Assess |
| Design-Build FY23 \$5,000 | Design work will yield constructi |
| Design-Build FY24 \$1,500 | More Design Work / RFPs |
| Design-Build FY24 \$8,000 | Design Work will yiel large const |
| Design-Build FY25+ \$11,139 | Budgetary number- Const |
| Design-Build FY25+ \$1,500 | Budgetary number - Eng |
| | |
| Prior Yr Actuals FY19 FY20 FY21 FY22 FY | 23 FY24 FY25+ Total |
| 0 650 2,000 3,500 | 6,500 9,500 12,639 34,789 |

| GLW Great Lakes Water. | Authority | | | GLWA FY CSO FACI | | | ENT PROG | RAM | | 260600 CIP |
|---------------------------|-----------------------------|---------------|---------------|---------------------|---------------|----------------|------------|--------------|---------|------------|
| Phase Construc | | | | Co | ontract C | ON-144 | Stat | us Closed | Out | |
| | | on of CSO RTB | 'S | | | | | | | |
| CON 144 Const | (| | | | | | | | | |
| Phase Budget | Wastewater | ſ | | | | Cost Alloc | ation CSO | 83/17 | | |
| Phase Status | Closed Out | | | | | Funding So | ource Bonc | Proceeds | | |
| Start Date | | 2/28, | /2017 | | | | Fund Cons | truction Boi | nd Fund | |
| End Date | | 11/30, | /2017 | | l | seful Life >2 | OYrs? Yes | | | |
| Co | Cost Estimation Information | | | | Tot. Fede | eral Loan An | nount | | | |
| | 1 | Cost Est. C | lass | | Pro | gram/Allow | ance Task | Information | | |
| | | Cost Est. D | ate | Project | Manager | Kashmira F | | | | |
| | | Cost Est. S | ource | CIP Nun | nber | 215001 | | | | |
| | | Cost Est. P | repared By | Descript | lion | Project is c | completed. | | | |
| Task | | Start Date | End Date | Duration | | | | | | |
| Scope Develop | | | | Boranon | | | | | | |
| Procurement | | | | | | | | | | |
| Project Executio | 'n | 2/28/2017 | 11/30/2017 | 275 | 5 | | | | | |
| Project Closeou | t | 11/30/2017 | 1/29/2018 | 60 |) | | | | | |
| Prior Yr Actua | ls FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | | |
| | | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | Р | hase Total Ex | penses By F | Y (All figure | es are in \$1, | 000's) | | | |

| Study and [| Docian and | Construction | | | ontract C | PROVEME | | Js Closed | Quit |
|----------------------------------|--------------|---------------|------------|--------------------------------|-----------|----------------|-------------|-------------|--------------|
| ISE Study and [CS-145 - S/D] | | provements to | | | | 3-143 | 31010 | | 001 |
| D/CA CS 145. | | | | 5 | | | | | |
| hase Budget W | /astewater | | | | | Cost Alloc | ation CSO 8 | 33/17 | |
| Phase Status C | losed Out | | | | | Funding Sc | ource Reve | nue Finance | ed Capital |
| Start Date | | 3/21, | /2017 | | | | Fund Impro | vement & E | xtension Fun |
| End Date | | 12/31, | /2017 | | L | lseful Life >2 | 0Yrs? No | | |
| Cosi | t Estimatior | n Information | | Tot. Federal Loan Amount | | | | | |
| | 1 | Cost Est. C | lass | | Pro | gram/Allow | ance Task I | nformation | |
| | | Cost Est. D | ate | Project Manager Kashmira Patel | | | | | |
| | | Cost Est. S | ource | CIP Nun | nber | | | | |
| | | Cost Est. P | repared By | Descript | lion | Project has | been com | pleted | |
| | | | | | | | | | |
| Task | | Start Date | End Date | Duration | | | | | |
| ope Developme | ent | | | | | | | | |
| | | 2/01/0017 | 10/01/0017 | 0.01 | - | | | | |
| oject Execution | | 3/21/2017 | 12/31/2017 | 285 | - | | | | |
| oject Closeout | | 12/31/2017 | 3/1/2018 | 60 | | | | | |
| Dring Vr. A atuala | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| Prior Yr Actuals | 1117 | 0 0 | | 0 | 0 | 0 | 0 | 0 | |

| | | | | 0000 00 | | | | 0/0/00 |
|-------------------------------------|---------------|--------------|----------------------|-----------|------------------------|-----------|-----------------|------------|
| GLWA Great Lakes Water Authority | | | GLWA FY CSO FACII | | PROVEMENT P | ROGR | ۸M | 260600 CII |
| Phase Construction | | | Co | ontract D | WS-065 | Status | Closed Out | |
| itle DWS-065 - Rehabilitatio | on of CSO RTB | 's (Replaces | CIP1313) | | | | | |
| DWS-065 - Construction | | | | | | | | |
| Phase Budget Wastewater | ſ | | | | Cost Allocation | CSO 83/ | '17 | |
| Phase Status Closed Out | | | | | Funding Source | Bond Pro | oceeds | |
| Start Date | | | | | Fund | Construe | ction Bond Fund | |
| End Date | | | | L | Jseful Life >20Yrs? | Yes | | |
| Cost Estimation | n Information | | | Tot. Fede | eral Loan Amount | | | |
| 1 | Cost Est. (| Class | | Pro | gram/Allowance | Task Info | ormation | |
| | Cost Est. [| ate | Project <i>N</i> | Nanager | | | | |
| | Cost Est. S | ource | CIP Num | nber | | | | |
| | Cost Est. F | repared By | Descript | ion | Project has beer | n closed | out. | |
| Task | Start Date | End Date | Duration | | | | | |
| Scope Development | | | | | | | | |
| Procurement | | | | | | | | |
| Project Execution | | | | | | | | |
| Project Closeout | | | | | | | | |



260600 CIP#

| Phase Design & Col Iitle CS-172 - Conn | | | mation Imp | | | ntract C | CS-172 | Sto | atus | Active | | |
|---|------|--------------|------------|-----------|----------------------------------|-----------------|----------------------|---------------------------|--------|---------|----------|-------|
| CS-172 Design Phas | | | | | | | | | | | | |
| Phase Budget Wa | | 0 | | | | | Cost Allo | cation CSC |) 83/1 | 17 | | |
| Phase Status Act | tive | | | | | | Funding S | Source Rev | enue | Financ | ed Capil | al |
| Start Date | | 7/1/ | 2017 | | Fund Improvement & Extension Fun | | | | | | | n Fun |
| End Date | | 9/23/ | | | | ι | Jseful Life > | 20Yrs? No | | | | |
| Cost E | | | | Tot. Fede | eral Loan A | mount | | | | \$0 | | |
| | 1 | Cost Est. C | lass | | | Pro | gram/Allo | wance Task | Infor | rmation | | |
| | | Cost Est. D | ate | Р | roject A | Nanager | | | | | | |
| HDR - Budget | | | | | CIP Number 260603 | | | | | | | |
| HDR Budget | | Cost Est. Pi | repared By | D | escript | on | Connor C Automati | Creek CSO E on Install | Basin | Additio | nal | |
| Cost Type | | Fiscal Year | Expense | Ð | Fringe | BenefilNc | nPersonne | | Com | ment | | |
| Engineering Service | es F | Y19 | | \$50 | | | | 2020CIP | | | | |
| Engineering Service | es F | Y20 | | \$5 | | | | 2020CIP | | | | |
| Engineering Service | es F | Y21 | | \$0 | | | | 2020CIP | | | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | | |
| Scope Developmer | nt | | | | | | | | | | | |
| Procurement | | | | | | | | | | | | |
| Project Execution | | 7/1/2017 | 12/12/2019 | | 894 | | | | | | | |
| Project Closeout | | 12/12/2019 | 2/12/2020 | | 62 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Т | otal | | |
| | | 50 5 | 0 | | 0 | 0 | 0 | C |) | 55 | | |



| hase Design & Cor | nstructior | n Assistance | | | Co | ontract | CS-116 | Sto | atus Active | | |
|----------------------|-------------------------------------|-----------------|----------------|---|------|-------------|----------------|-------------|-------------|-----------|-----|
| tle CS-116 - Rehal | bilitation | of Conner Cre | eek CSO RTB | Effluent | Laur | nder Gat | es & Emerge | ency Relief | Gates | | |
| CS-116 - Design pho | ase, mov | ing to construe | ction assistar | nce. | | | | | | | |
| Phase Budget Was | stewater | | | | | | Cost Allo | cation CSC | 0 83/17 | | |
| Phase Status Act | ive | | | | | | Funding | Source Rev | enue Financ | ed Capito | al |
| Start Date | | 2/27/ | 2017 | | | | | Fund Imp | rovement & | Extension | Fun |
| End Date | | 9/23/ | 2019 | | | | Useful Life > | 20Yrs? No | | | |
| Cost E | stimation | n Information | | | | Tot. Fea | deral Loan A | mount | | | \$0 |
| | | | | | | | | | | | Ψ° |
| | 1 Cost Est. Class Cost Est. Date | | | | | | | | Information | | |
| | | | | | | Manage | | |] | | |
| HRC - Costs | | Cost Est. So | ource | CIP Number 260603 | | | | | | | |
| HRC | | Cost Est. Pr | epared By | Description Rehabilitation of basin effluent relief and effluent launder gates to restore proper operations. | | | | | | | |
| Cost Type | | Fiscal Year | Expense | ə Fr | inge | BenefilN | onPersonne | | Comment | | |
| Engineering Service: | s F | Y19 | | \$90 | 0 | | | | | | |
| Engineering Service | s F | Y20 | | \$43 | | | | | | | |
| Task | | Start Date | End Date | Durat | ion | | | | | | |
| cope Developmen | nt - | | | | | | | | | | |
| Procurement | | | | | | | | | | | |
| Project Execution | | 2/27/2017 | 12/12/2019 | | 1018 | | | | | | |
| Project Closeout | | 12/12/2019 | 2/12/2020 | /2020 62 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | | FY23 | FY24 | FY25+ | Total | | |
| | | 90 43 | 0 | | 0 | (| 0 0 | C |) 133 | | |
| | | PI | nase Total Ex | penses | By F | ' (All figu | res are in \$1 | ,000's) | | | |

| GREAK GREAK Water Aut | A | | | | VA FY 20 FACILITI | | 024 CIP | ENT PROG | GRAM | | 26060 |
|--|-------------------|-------------------------|-------------------------|--------|----------------------|---|----------------|------------------------------|-------------------------------|---------------|-----------|
| hase Construction | on | | | | Contro | act C | ON-234 | Sta | tus Active | | |
| tle CON-234 C | onner Cree | ek Effluent Ga | te Improvem | ents P | Project | | | | | | |
| Construction for mprovements. | CS 116 and | I CS-172 - reho | bilitation of t | he eff | fluent relie | f and e | effluent laur | nder gates, | actuators, | and misc. e | electrica |
| Phase Budget V | Vastewater | - | | | | | Cost Alloc | cation CSC | 83/17 | | |
| Phase Status A | ctive | | | | | | Funding S | ource Bond | d Proceeds | | |
| Start Date | | 3/1, | /2018 | | | | | Fund Con | struction Bo | nd Fund | |
| End Date | | 9/23 | /2019 | | | U | Jseful Life >2 | 20Yrs? Yes | | | |
| | | | | | To | t Fede | eral Loan Ar | mount | | | \$0 |
| Cos | ST ESTIMATION | n Information | | | | | | | | | |
| | 1 Cost Est. Class | | | | | Program/Allowance Task Information Project Manager Kashmira Patel | | | | | |
| Cost Est. Date | | | | | CIP Number 260603 | | | | | | |
| Construction Bi | d | Cost Est. S | ource | | | | | | | | |
| Weiss | | Cost Est. P | repared By | D | escription | | rehabilitat | tion of the e ates, actuc | offluent relie tors, and m | ef and efflue | |
| Cost Typ | e | Fiscal Year | Expense | Э | Fringe Ber | nefitNo | nPersonne | (| Comment | | |
| Construction | F | Y19 | \$5 | ,283 | | | F | Revised by | contractors | estimat | |
| Construction | F | Y20 | | \$775 | | | F | Revised by | contractors | estimat | |
| | | Start Date | End Date | Dure | ation | | | | | | |
| Task | | | | | | | | | | | |
| | ient | | | | | | | | | | |
| cope Developm roject Execution | | 6/12/2018 | 12/12/2019 | | 548 | | | | | | |
| cope Developm roject Execution | | 6/12/2018 12/12/2019 | 12/12/2019 2/12/2020 | | 548 62 | | | | | | |
| Task cope Developm Project Execution Project Closeout Prior Yr Actuals | | | | | 62 | (23 | FY24 | FY25+ | Total | | |



Phase Construction

GLWA FY 2020-2024 CIP CSO FACILITIES IMPROVEMENT PROGRAM

260600 CIP#

Contract TBD

Status Future Planned Start

Title 7 Mile Parking Lot and Site Grading Improvements Project

The 7 Mile Parking Lot is failing in many locations, traps water in many locations, and slopes towards the building directing water towards the building during rain. Furthermore, the grading in the front and side of the site slopes towards the building with no catch basins also creating water infiltration issues in side of the building. The sidewalk has completely failed and the hatch at the front entrance has damage to it leaving a hole to trip or injur someone. This project will fix the parking lot, grading issues, sidewalk, and hatch. This project will also address landscaping (because of regrading) and provide landscaping which requires minimal maintenance to keep the aesthetics of the building looking good.

| Phase Budget Wastewater | | | CSO 83/17 | |
|----------------------------|-----------------------|----------------------|--|---|
| Phase Status Future Planne | d Start | | Funding Source | Bond Proceeds |
| Start Date | | | Fund | Construction Bond Fund |
| End Date | | U | lseful Life >20Yrs? | Yes |
| Cost Estimation | nformation | Tot. Fede | eral Loan Amount | \$0 |
| 5 | Cost Est. Class | Pro | gram/Allowance | Task Information |
| 9/18/2018 | Cost Est. Date | Project Manager | Gary Stoll | |
| Estimated | Cost Est. Source | CIP Number | TBD | |
| CSO Manager | Cost Est. Prepared By | Description B-334 | locations, traps v slopes towards the towards the build the grading in the slopes towards the basins also creat side of the build completely faile entrance has do trip or injur some parking lot, grad hatch. This proje landscaping (be provide landsca | ng Lot is failing in many water in many locations, and he building directing water ding during rain. Furthermore, he front and side of the site he building with no catch ting water infiltration issues in ang. The sidewalk has d and the hatch at the front amage to it leaving a hole to one. This project will fix the ling issues, sidewalk, and ect will also address ecause of regrading) and uping which requires minimal keep the aesthetics of the good. |



260600 CIP#

Fringe BenefilNonPersonne Cost Type Fiscal Year Expense Comment FY20 \$400 estimated costs Construction Task Start Date End Date Duration Scope Development 4/1/2019 121 12/1/2018 Procurement 4/15/2019 9/15/2019 153 Project Execution 9/15/2019 6/30/2020 289 92 Project Closeout 7/1/2020 10/1/2020 Prior Yr Actuals FY19 FY20 FY21 FY23 FY24 FY25+ Total FY22 400 400

| GLWA Great Lakes Water Authority | | | | VA FY 2020-2 FACILITIES I | | ENT PROGRA <i>I</i> | Μ | 260600 CI | | |
|--|-----------------------|-------------|------------------------------------|--------------------------------|---|--|--|-----------|--|--|
| Phase Study | | | | Contract | CS-299 | Status (| Jnder Procureme | ent | | |
| Title CSO Facilities Co | nditions Assessment | | | | | | | | | |
| This project will consist Assessment for all Asse Report. F. Develop rep | ets. C. Update of Scl | neduled Rep | lacen | nent Plan. D.D | evelop a 20- | | | ssessment | | |
| Phase Budget Waster | water | | | | Cost Allo | cation CSO 83/17 | 7 | | | |
| Phase Status Under | Procurement | | | | Funding S | ource Bond Proc | ceeds | | | |
| Start Date | | | | | | Fund Construct | ion Bond Fund | | | |
| End Date | | | | | Useful Life >: | 20Yrs? No | | | | |
| Cost Estin | nation Information | | Tot. Federal Loan Amount | | | | | | | |
| | 2 Cost Est. C | lass | Program/Allowance Task Information | | | | | | | |
| 8/21/20 | | | | Project Manager Chris Nastally | | | | | | |
| CSO Manager | Cost Est. S | | | CIP Number | 260605 | , | | | | |
| | | repared By | | | | ct will consist of th | ne following mai | Dr. | | |
| Chris Nastally - estim | | | | · | tasks: A. A assessmer Assessmer Schedule 20-year C Report. F | Audit all assets. B. Int for all assets and the for all Assets. C d Replacement F IP. E. Generate c Develop reportin status of the CSO | Criticality nd Condition 2. Update of Plan. D. Develop a Needs Assessm ng tools for repor | a ent | | |
| Cost Type | Fiscal Year | Expense |) | Fringe Benefit | IonPersonne | Comn | nent | | | |
| Engineering Services | FY20 | \$2 | ,250 | | | assume 50% sper | nt this FY | | | |
| Engineering Services | FY21 | \$2 | ,250 | | | assume 50% sper | nt this FY | | | |
| Task | Start Date | End Date | Dur | ation | | | | | | |
| Scope Development | 2/15/2018 | 7/2/2018 | | 137 | | | | | | |
| Procurement | 8/21/2018 | 6/30/2019 | | 313 | | | | | | |
| Project Execution | 7/1/2019 | 6/30/2021 | | 730 | | | | | | |
| Project Closeout | 7/1/2021 | 10/1/2021 | | 92 | | | | | | |



| Great Lakes Water Authority | | | | CSO FAC | CILITIES IM | PROVEM | ENT PROG | FRAM | |
|-----------------------------|------|-------|--------------|-----------|----------------|----------------|----------|-------|--|
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| | | 2,250 | 2,250 | | | | | 4,500 | |
| | | Pho | ase Total Ex | penses By | FY (All figure | es are in \$1, | ,000's) | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| GLWA Great Lakes Water Authority | y | | | | | | 024 CIP | ENT PR | OGRAM | | 260600 c |
|-------------------------------------|-------------|---------------|---------------|---------|------------|-----------|--------------------------|------------------------------------|---|-------------------------|-----------------|
| Phase Construction | | | | | Co | ntract T | BD | | Status Active | • | |
| Title Baby Creek SE | DF - MAU | Replacement | | | | | | | | | |
| Replace Make Up A | Air Units @ | 🛛 Baby Creek | as they are p | bast th | neir life, | and rusti | ng out. | | | | |
| Phase Budget Wa | stewater | | | | | | Cost Alloc | cation C | SO 83/17 | | |
| Phase Status Act | ive | | | | | | Funding S | ource R | evenue Financ | ced Capi | al |
| Start Date | | | | | | | | Fund 18 | E/Bond | | |
| End Date | | | | | | | Useful Life >2 | 20Yrs? N | 0 | | |
| Cost E | stimatior | n Information | | | | Tot. Fed | eral Loan Ar | nount | | | \$0 |
| | 5 | Cost Est. C | lass | | | Pro | ogram/Allow | vance To | ask Information | ı | |
| 9/18/ | /2018 | Cost Est. D | ate | Р | roject N | ۸anager | Chris Nast | ally | | | |
| Estimated | | Cost Est. Se | ource | С | IP Num | ber | TBD | | | | |
| CSO Manager | | Cost Est. P | repared By | D | escripti | ion | with a new to the spa | wly desig Ice and well as ir | out existing mo gned unit to inc decrease corr ncrease tempe | crease air osions of | flow |
| Cost Type | | Fiscal Year | Expense | Э | Fringe | BenefilNo | onPersonne | | Comment | | |
| Construction | F | Y19 | (| \$150 | | | e | estimate | d costs | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | |
| Scope Developmen | nt | 8/6/2018 | 2/2/2019 | | 180 | | | | | | |
| Procurement | | 2/15/2019 | 5/1/2019 | | 75 | | | | | | |
| Project Execution | | 5/1/2019 | 6/30/2019 | | 60 | | | | | | |
| Project Closeout | | 7/1/2019 | 9/1/2019 | | 62 | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | - Total | | |
| | 1 | 50 | | | | | | | 150 | | |
| | | P | nase Total Ex | pense | es By FY | (All figu | res are in \$1, | ,000's) | | | |

| GLWA FY 2020-2024 CIP | |
|------------------------------------|--|
| CSO FACILITIES IMPROVEMENT PROGRAM | |

260600 CIP#

| Phase Design ar | nd Build | | | | Contract | TBD | Status | Future Planned | Start | | | |
|------------------|---------------|-------------------|---------------|--------|----------------|---|---|--|--------------------------|--|--|--|
| Title CSO Facili | ties - Struct | ural Improveme | nts Project (| CS-166 | 6 - Task C.05) | | | | | | | |
| | vie Design-B | Build services to | | | | | | tified and prioritiz und) and prioritize | | | | |
| Phase Budget | Wastewate | er | | | | Cost Allo | cation CSO 83/ | 17 | | | | |
| Phase Status | Future Plar | nned Start | | | | Funding S | Source Bond Pro | oceeds | | | | |
| Start Date | | | | | | | Fund Construc | Construction Bond Fund | | | | |
| End Date | | | | | | Useful Life > | 20Yrs? Yes | | | | | |
| Co | ost Estimatio | on Information | | | Tot. Fe | deral Loan A | mount | | \$0 | | | |
| | 4 | Cost Est. Cl | ass | | P | rogram/Allov | wance Task Info | ormation | | | | |
| 9 | /18/2018 | Cost Est. Do | ıte | P | roject Manage | r Chris Nas | tally | | | | | |
| Estimated | | Cost Est. Sc | urce | С | IP Number | TBD | | | | | | |
| CSO Manage | er/ NTH | Cost Est. Pr | epared By | D | escription | been per (types) id will provie inspect a ground) o | formed and stru entified and pride Design-Build se II CSO Facilities | tion assessment h uctural improvem oritized. This proje ervices to comple (above and belo pairs to be carried | ent ect etely w | | | |
| Cost Ty | ре | Fiscal Year | Expens | е | Fringe Benefit | NonPersonne | Corr | nment | | | | |
| Design-Build | | FY22 | • | 2,000 | | | Estimated | | | | | |
| Design-Build | | FY23 | \$3 | 3,500 | | | Estimated | | | | | |

GLWA Great Lakes Water Authority

| | | φο, | 000 | | Lonniaro a |
|-------------------|------------|------------|----------|--|------------|
| Design-Build | FY24 | \$3, | 500 | | Estimated |
| Design-Build F | FY25+ | \$2, | 000 | | Estimated |
| Task | Start Date | End Date | Duration | | |
| Procurement | 11/1/2018 | 6/30/2019 | 241 | | |
| Project Execution | 7/1/2021 | 7/1/2025 | 1461 | | |
| Project Closeout | 7/1/2025 | 12/31/2025 | 183 | | |



| | | | | | - | - | | | |
|------------------|------|------|--------------|--------------|---------------|----------------|--------|--------|--|
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25+ | Total | |
| | | | | 2,000 | 3,500 | 3,500 | 2,000 | 11,000 | |
| | | Ph | ase Total Ex | xpenses By F | Y (All figure | es are in \$1, | 000's) | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| GLWA Great Lakes Water Authorit | ty | | | | | 2020-20 LITIES IM | 024 CIP | ENT PI | ROG | RAM | | 260600 c |
|--|---|---------------|------------|------------------------------|----------|----------------------|--------------------------------------|-----------------------------------|-----------------------------|---|---------------------------------------|-----------------|
| hase Construction | 1 | | | | Co | ontract TE | BD | | Stat | us Future | Planned St | art |
| itle Baby Creek Sl | DF - HVA | C System Impr | ovements | | | | | | | | | |
| This project expand odor control issues | | | | , | | • • | | roughou | ut the | e facility, ve | entilation is | sues, and |
| Phase Budget Wo | stewater | ſ | | | | | Cost Allo | cation (| CSO | 83/17 | | |
| Phase Status Fut | ure Planr | ned Start | | | | | Funding S | ource | Bond | Proceeds | | |
| Start Date | | | | Fund Construction Bond Fund | | | | | | | | |
| End Date | | | | | | ι | Jseful Life >2 | 20Yrs? | No | | | |
| Cost | Cost Estimation Information 5 Cost Est. Class | | | Tot. Federal Loan Amount \$0 | | | | | | \$0 | | |
| | | | lass | | | | gram/Allow | | ack I | nformation | | T - |
| 0./10 | 5 | | | Р | roiect / | Vanager | Chris Nast | | USKI | mormanon | | |
| | /2018 | Cost Est. D | | | CIP Num | • | TBD | Ciry | | | | |
| Estimated | | Cost Est. S | ource | | | | | | | | | |
| CSO Manager | | Cost Est. P | repared By | L |)escript | | project by throughou odor cont | / addre ut the fo rol issue | essing acility es. Th | on the MAU system cor v, ventilation is project is pe for desig | ntrols n issues, ar s in concep | nd |
| Cost Type | | Fiscal Year | Expense | Ð | Fringe | BenefilNc | nPersonne | | С | omment | | |
| Construction | F | -Y20 | <u>(</u> | \$250 | | | e | estimat | ed vo | alue | | |
| Construction | F | Y21 | | \$50 | | | e | estimat | ed b | ased on ev | en distri | |
| Task | | Start Date | End Date | Dur | ration | | | | | | | |
| Scope Developme | nt | 12/3/2018 | 4/15/2019 | | 133 | | | | | | | |
| Procurement | | 5/1/2019 | 10/21/2019 | | 173 | 1 | | | | | | |
| Project Execution | | 11/1/2019 | 8/31/2020 | | 304 | | | | | | | |
| Project Closeout | | 8/31/2020 | 11/30/2020 | | 91 | | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY | 22 | FY23 | FY24 | FY25 | 5+ | Total | | |
| | | 250 | 50 | | | | | | T | 300 | | |

| GLW Great Lakes Water | A luthority | | | | | | 024 CIP | ENT PROC | GRAM | | 260600 CI |
|------------------------------|-----------------------|------------------|---------------|-----------------------|----------|-----------|----------------|---------------|--|-----------|-----------|
| Phase Construct | ion | | | | C | ontract (| CON-254 | Sta | tus Active | | |
| | | e Improvement | | | | | | | | | |
| Project is to rep causing | ace a serie | es of failed equ | ipment in dro | ain va | ults loc | ated adj | acent to the | Oakwood | RTB. This eq | uipment h | as failed |
| Phase Budget | Wastewate | er | | | | | Cost Allo | cation CSO | 83/17 | | |
| Phase Status | Active | | | | | | Funding S | ource Bond | Proceeds | | |
| Start Date | | | | | | | | Fund I&E/E | Bond | | |
| End Date | | | | | | | Useful Life >2 | 20Yrs? Yes | | | |
| Co | ost Estimatic | on Information | | | | Tot. Fed | eral Loan Aı | mount | | | \$0 |
| | 1 | Cost Est. C | lass | | | Pro | ogram/Allow | vance Task | Information | | |
| 6 | /18/2018 | Cost Est. D | ate | Р | roject | Manager | Gary Stoll | | | | |
| Contractor Bio | | Cost Est. S | ource | C | CIP Nur | nber | 260601 | | | | |
| Weiss Constru | ction | Cost Est. P | repared By | D |)escrip | tion | equipmer | nt in drain v | a series of fa aults located his equipme | d adjacer | |
| Cost Ty | | Fiscal Year | Expense | 0 | Fringe | BonofitN | onPersonne | (| Comment | | |
| Construction | | FY19 | • | 5 \$523 | Innge | Denemin | | | ontractors re | esource l | |
| Construction | | FY20 | | \$33 | | | | | ontractors re | | |
| Task | | Start Date | End Date | Dur | ation | | | | | | |
| Procurement | | 3/1/2018 | 6/18/2018 | 3 | 109 | 7 | | | | | |
| Project Executio | n | 6/18/2018 | 12/11/2019 |) | 54 | 1 | | | | | |
| Project Closeou ⁻ | | 12/11/2019 | 3/11/2020 |) | 9 | 1 | | | | | |
| Prior Yr Actua | s FY19 | 9 FY20 | FY21 | FY2 | 22 | FY23 | FY24 | FY25+ | Total | | |
| | | 523 33 | | | | | | | 556 | | |

| GLWA Great Lakes Water Authority | y | | | | | | 024 CIP | ENT PRO | GRAM | | 260600 CI |
|--|-------------|---------------|-------------|-----------|-----------|-----------|----------------|-----------------------------|--|-------------|-----------|
| Phase Construction | | | | | Con | tract ⊺∣ | BD | Ste | atus Future | Planned St | tart |
| Title 7 Mile CSO Fac | cility - Ro | of Replaceme | ent Project | | | | | | | | |
| The 7 Mile roof was shingle roof with a le | | | | d of it's | life with | 0 to 3 ye | ears remaini | ing. This p | roject will rep | place the e | existing |
| Phase Budget Was | stewate | r | | | | | Cost Alloc | ation CSC | D 83/17 | | |
| Phase Status Futu | ure Planr | ned Start | | | | | Funding S | ource Bor | nd Proceeds | | |
| Start Date | | | | | | | | Fund Cor | nstruction Bo | nd Fund | |
| End Date | | | | | | ι | Jseful Life >2 | 20Yrs? Yes | | | |
| Cost E | stimatio | n Information | | | Т | ot. Fede | eral Loan Ar | nount | | | \$0 |
| | 5 | Cost Est. C | lass | | | Pro | gram/Allow | ance Tasl | <pre>c Information</pre> | n | |
| 9/18/ | /2018 | Cost Est. D | ate | Pr | oject Mo | anager | Chris Naste | ally | | | |
| NTH / CSO Manag | ger | Cost Est. S | ource | С | IP Numb | er | TBD | | | | |
| CSO manager | | Cost Est. P | repared By | De | escriptio | n | The 7 Mile | roof was i | nspected in | 2018 and is | s at |
| | | | | | | | This projec | t will replo ger lasting | h 0 to 3 year ace the existi metal roof. | ng shingle | roof |
| Cost Type | | Fiscal Year | Expense | e I | Fringe Be | enefilNc | onPersonne | | Comment | | |
| Construction | ł | -Y20 | (| \$300 | | | E | stimate b | ased on PF R | oof Repl | |
| Task | | Start Date | End Date | Durc | ation | | | | | | |
| Scope Developmen | nt | 11/1/2018 | 1/1/2019 |) | 61 | | | | | | |
| Procurement | | 1/15/2019 | 7/15/2019 |) | 181 | | | | | | |
| Project Execution | | 7/15/2019 | 12/31/2019 |) | 169 | | | | | | |
| Project Closeout | | 1/1/2020 | 4/1/2020 |) | 91 | | | | | | |
| Prior Yr Actuals | FY19 | FY20 | FY21 | FY2 | 2 1 | FY23 | FY24 | FY25+ | Total | | |

Phase Total Expenses By FY (All figures are in \$1,000's)

300

300

| GLW Great Lakes Water. | Authority | | | | WA FY 2020-2 FACILITIES IN | 2024 CIP APROVEMENT F | ROGRAM | 260600 CIP |
|---------------------------|------------------|-------------------------|-----------------------|------------|-------------------------------|--|--|------------|
| Phase Construc | tion | | | | Contract 1 | BD | Status Future Planned St | tart |
| Title Leib SDF - | HVAC Syster | m Improvemer | nts | | | | | |
| | ased/accele | erated corrosic | n of equipm | ent i | n the facility. This | | air quality issues, and likely fy issues, and repair/replace | |
| Phase Budget | Wastewate | r | | | | Cost Allocation | CSO 83/17 | |
| Phase Status | Future Planr | ned Start | | | | Funding Source | Bond Proceeds | |
| Start Date | | | | | | Fund | I&E/Bond | |
| End Date | | | | | | Useful Life >20Yrs? | No | |
| Co | ost Estimatio | n Information | | | Tot. Fed | leral Loan Amount | | \$0 |
| | 5 | Cost Est. C | lass | | Pre | ogram/Allowance | Task Information | |
| 9 | 2/18/2018 | Cost Est. D | ate | I | Project Manager | Kashmira Patel | | |
| N/A | | Cost Est. So | ource | (| CIP Number | TBD | | |
| CSO Manage | er estimated | Cost Est. Pi | repared By | I | Description | components of failed. These an quality issues, ar increased/acce equipment in th | an the design phase. Many the Leib HVAC system have e causing ventilation issues, nd likely are also a source o elerated corrosion of e facility. This project will | air f |
| Cast Iv | | | | | | necessary to ret operation. | nd repair/replace equipme urn the system to normal | |
| Cost Ty Construction | | Fiscal Year FY20 | Expense | ÷ \$225 | Fringe BenefilNo | | Comment et is estimated, project de | |
| | I | I | | - | | | | |
| Task Scope Develop | | Start Date 9/12/2018 | End Date 1/18/2019 | | ration 128 | | | |
| Procurement | | 1/31/2019 | 8/1/2019 | | 120 | | | |
| Project Executio | n | 8/1/2019 | 6/30/2020 | | 334 | | | |
| Project Closeou | | 7/1/2020 | 10/1/2020 | | 92 | | | |



0

0

481

8,442

5,604

2020

GLWA FY 2020-2024 CIP

260600 CIP#

63,591

CSO FACILITIES IMPROVEMENT PROGRAM

5,825

10,325

13,361

15,000

| Prior | Yr Actuals | FY19 | FY20 | FY21 | FY22 | FY23 | FY2 | 4 FY2 | 25+ To | otal | |
|-------|------------|------------|---------|------------|------------|--------------|-------------|--------------|-----------|----------|----------|
| | | | 225 | | | | | | | 225 | |
| | | | Р | hase Total | Expenses B | y FY (All fi | gures are i | n \$1,000's) | | | |
| | Proje | ct Total E | xpenses | By FY C | ompared | d to Prior | CIPs (A | ll figures | are in \$ | 1,000's) | |
| CIP | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total |
| 2018 | | 3,428 | 2,247 | 6,400 | 9,000 | 7,200 | 3,610 | | 0 | | 0 31,885 |
| 2019 | 0 | 764 | 1,658 | 9,277 | 6,218 | 2,351 | 4,351 | 9,351 | 11,251 | | 0 45,221 |

4,553