



GLWA 2020-2024 Capital Improvement Plan
Preliminary Draft 1
Comments, Questions and Answers
December 13, 2018

Summary:

The 2020-2024 Capital Improvement Plan (CIP) review period began with the release of the Preliminary Draft 1.0 at the Great Lakes Water Authority (GLWA) Capital Improvement Planning Committee on October 29, 2018. Preliminary Draft 1.0 was also released at the Charges Roll-Out #1 - CIP meeting held on October 25, 2018. Comments were requested by November 19, 2018.



Written responses were received from member partners and the GLWA Board of Directors. In addition, feedback, questions and comments were gathered from the Asset Management / Capital Improvement Planning Work Group meeting held on November 27, 2018.

General comments were received from several of the respondents that provided positive feedback and support for the CIP's ease of use, level of detail, as well as the effort that went into developing it and the improvements incorporated year-over-year.

The respondents also provided 45 comments and questions related to many areas within the CIP and in the projects that were presented. Each of these comments and questions have an associated response written after each question. Where applicable, and as indicated in the response to each question or comment, modifications to the overall CIP document have been made and can be viewed within the 2020-2024 Capital Improvement Plan Preliminary Draft 2.

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FY2020-2024 CIP Preliminary Draft 1 Questions & Comments Summary

Comment Type	Quantity	Question Number																																		
Prioritization, Risk & Project Timing	20	3	4	5	6	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	37															
Project Information (Condition Assessments to Inform CIP, BCE versus RFP scope of work, O&M Projects)	6	10	38	40	43	44	45																													
CIP Delivery & Spend Rate Assumption Policy	5	1	11	27	33	35																														
Financial Information & Procurement (CIP Chapter III)	4	8	29	39	42																															
CIP Format & Information Provided	3	30	36	41																																
Process (Review Committee, Charges-Rollout)	3	9	31	32																																
External Resource Availability	2	2	7																																	
Water Treatment Capacity Reduction Re-evaluation	2	28	34																																	
Total	45																																			

We want to thank those member partners, directors and stakeholders for the time and effort that they have taken to help to improve this CIP document and the process by which it is developed and rolled out. This includes the many participants within the Asset Management / Capital Improvement Planning Work Group that have worked over the past year to help improve key areas within the plan. This process is ever evolving and it is our intention to continuously improve the document and the process for each year. While many of the questions and comments will be addressed in this year's CIP document, some of them will help to shape future CIPs to ensure transparency and the delivery of a world class, effective and efficient capital plan.

General Comments:

"I am very heartened in that the level of detail and effort placed into the CIP plan continues to increase and improve year-over-year, and now clearly sets forth a much-improved understanding of the prioritized needs of GLWA in addressing the maintenance of its critical assets."

"The CIP document looks very good. I can't image how much effort this took to prepare it, but you should be particularly proud."

"The CIP looks very good, it is easy to use and easy to track projects using the CIP number. It is obvious that a lot of thought, time and effort went into the plan."

"Process has improved."

"Like some of the changes/improvements, continues to improve year-over-year."

"Continuing improvements in CIP process, especially in the connection between the financial and technical side."

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Specific Comments, Questions & Answers:

Question \ Comment #	Topic
1	<p>Question: The below CIP 'spend rate assumption' policy proposed by GLWA administration was reviewed at an Audit Committee meeting of October 26, 2018, modified, but not acted upon by the Audit Committee. Slight revisions to the policy were discussed at the Committee meeting as noted:</p> <p>Capital Program Spend Rate Assumption (SRA). Annually, a projected spend rate assumption for the financial plan related to the upcoming capital improvement plan will be established based upon pertinent factors and data available at that time. Such pertinent factors and data will include the mix of projects and phases in the proposed CIP, interdependency risk, criticality, and other measures provided by the GLWA team members that develop and manage the CIP projects. That SRA will be presented to the Audit Committee no later than December each year after the GLWA Board of Directors, CIP Committee and member partners have had the opportunity to review the draft capital improvement plan.</p> <p>The issues generally discussed at the Audit Committee meeting of concern follow:</p> <ul style="list-style-type: none">• Capital programs are often restricted in the ability to solve all necessary maintenance / capital requirements by the lack of funding available to do so. In the short term, given perhaps \$450M in available I&E and unexpended bond proceeds, no such limitation on funding capacity exists.• The SRA takes the projects as outlined in the CIP and reduces the project listing from what is needed to be completed to what is realistically available to spend for budgetary purposes. The limitations, which have not been clearly identified, necessitate the SRA for budgetary purposes, despite the prioritization established in the CIP plan as drafted. Summary information – for water and

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	<p>sewer combined (data assembled from various sources after the Audit Committee meeting):</p> <ul style="list-style-type: none"> o Foster Group analysis of average annual spend rate from 1987 to 2015 for water and sewer - \$225.9M. Includes both DWSD-R and GLWA expenditures. o FY—2016 to FY-2018 expenditures: 2016 Total - \$135.2M. GLWA - \$38.8M. DWSD - \$96.4M. 2017 Total - \$130.1M. GLWA - \$99.0M. DWSD-R - \$31.1M. 2018 GLWA preliminary - \$106M. DWSD-R not known. o CIP Plan: 2019 - \$173.7M (80% of which is \$138M). 2020 - \$282.7M (80% of which is \$226M). o For the six years ending FY-2024, the capital expenditures are projected is \$1,699.6M – average annual spend rate based on the proposed 2019 – 2024 CIP plan: \$283.3M. <p>GLWA Staff: Agree. The “Spend Rate Assumption” policy was further discussed at the 11.16.2018 Audit Committee meeting with a policy to be presented to the full Board for consideration on 11.28.2018.</p>
2	<p>Question: Non-GLWA construction projects will be in direct competition with the GLWA construction projects for labor and other related resources. Over the next six years, GLWA is expected to incur \$1.7 billion of construction costs (absent any limitations and as identified in the CIP Plan version 1). The number of construction projects about to start in southeast Michigan is spectacular and will entail substantial labor needs even as the construction projects underway have limited the capacity of the construction companies to complete projects (and / or raise prices given the labor supply is fixed even as demand is increasing):</p> <ul style="list-style-type: none"> o Bridge to Canada - \$2 billion to \$4 billion; o Wayne County jail / courthouse - \$600 million; o Hudson’s site office building - \$1 billion;

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	<ul style="list-style-type: none"> o Transit facilities / roads as contemplated in the Regional Transit Plan, now deferred - \$1.4 billion; o St. Clair electrical plant – \$1 billion; o Mound road – \$100 million; o Train station - \$740 million to \$1 billion; o Brewster Douglas housing - \$300 million; o Fanuc – Auburn Hills – \$51 million; o Lead remediation.; o 21st Century Infrastructure Commission reported needs of \$4 billion annually needed to resolve all infrastructure related to governmental responsibilities (generally not presently funded) and another \$3 billion annually for commercial utility companies; o Chemical Bank Building - \$500 million. <p>The above listing is obviously not complete. Rather, it represents simply some of the major announced projects of significance. Undoubtedly, the listing would increase if local governmental units would be polled as well as commercial entities.</p> <p>GLWA Staff: Agree. This is a concern. While we can't control this risk, there are efforts in place to mitigate that risk which include the following:</p> <ul style="list-style-type: none"> a) While the competition will continue to increase, GLWA offers the engineering and construction community <i>long-term, ongoing business opportunities</i>. This is a foundational message in the vendor outreach initiatives; b) GLWA has advanced its active participation in the construction service sector and vendor engagement and is continuing to expand these efforts to communicate the message above. This has also brought new bidders to GLWA projects; c) Expanding and diversifying vendor participation to smaller businesses and confronting the myth that GLWA works only with general contractors; d) Another is a new program with monthly open dialog with GLWA executive management and GLWA's key capital delivery partners to assure vendor concerns are mitigated;

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	<p>e) Internal training and communication that we are not in a business as usual environment. Working with team members to prioritize and package projects in ways that have not been done before.</p> <p>Ultimately, however, GLWA cannot control these external forces. Red flags that the GLWA team is actively monitoring include the number of bid responses and estimating variances. Of the more than 90 projects underway, only one project (so far) has experienced a slow down due to contractor resource constraints. GLWA is communicating with that contractor to ensure that completion date commitments are met.</p>
3	<p>Question: Discussions on criticality – heat chart on pages V-2 and V-3. Several projects of the highest potential for failure and consequences of failure (and have some significant dollars) are not expected to be launched in the near term.</p> <p>One example of concern to Oakland and Macomb Counties is the notation that the Northeast Pump Station project involving \$26 million of funding required to remediate the current condition of the Station – even as the expected launch date of the project has been set at FY2024. This Northeast Pump Station project ranked number one on the listing having the highest probability of failure and the highest consequence of failure should an event occur. Yet, it presently isn't expected to be started for five years.</p> <p>GLWA Staff: The heat chart is presented to daylight areas to focus the discussion. Here are some additional comments on those projects.</p> <p>Northeast Pump Station: GLWA and representatives from the Oakland-Macomb Interceptor District (OMID) are working together to advance the design work. OMID is seeking alternative ways to fund the project as a high priority. GLWA staff would recommend modifying the CIP to advance the effort as an active project in design. This project would be included in the 2020-2024</p>

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	<p>CIP with “Contribution-in-aid of Construction” funding and will be accounted for differently within the Financial chapter (Chapter III) of the CIP. Current estimated cashflows/impact on CIP would be:</p> <p>FY 2019 \$1M FY 2020 \$7M FY 2021 \$10.5M FY 2022 \$10.5M FY 2023 \$2.5M Total: \$31.5M</p> <p>North Interceptor East Arm: GLWA and OMID staff are working together to advance the design work. OMID is seeking alternative ways to fund the project as a high priority. GLWA staff would recommend modifying the CIP to advance the effort as an active project in design. This project would be included in the 2020-2024 CIP with a funding of “Contribution-in-aid of Construction” and will be accounted for differently within the Financial chapter (Chapter III) of the CIP. Current estimated cashflows/impact on CIP would be:</p> <p>FY 2019 \$0.5M FY 2020 \$15M FY 2021 \$14.5M Total: \$30.0M</p>
4	<p>Question: With limitations in the ability to spend, the issue of criticality becomes increasingly important as to the launch of projects, or even projects currently underway. Emphasis should be made in the policy to reflect the prioritization of the potential for failure and consequences of failure.</p> <p>GLWA Staff: Agree. In addition to the requirements of the proposed SRA policy, additional internal efforts are underway to manage the prioritization of CIP spend. This includes:</p> <ul style="list-style-type: none"> • Cross-functional meetings to evaluate priorities that include most members of executive leadership; • Recent appointment of a CIP Director who understands the convergence of capital delivery, market forces, and criticality

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	<p>who will facilitate the deployment of a cohesive, prioritized CIP delivery with cross-functional partners; and</p> <ul style="list-style-type: none">• Anticipated proposal award recommendation in next 60 to 90 days of a Capital Program Management delivery team.
5	<p>Question: Bumping – if a water main breaks or a sewer collapses, it takes complete precedence over all other capital needs. However, how does GLWA address the launching of higher critical projects (failure / consequences) when no failure has occurred but clearly pending if no priority actions are undertaken over and above those lower projects that have already been launched?</p> <p>GLWA Staff: The concept of prioritizing projects is a recent addition to the CIP over the past several years. As such, projects that have already begun (based upon previously approved CIPs) were determined to be a high priority at the time of CIP development. Understanding this and taking this into account when implementing the new prioritization process, only those projects “new” or “future planned” were prioritized because they have yet to start and have yet to have expenditures/contracts/etc. associated with them. Because shelving a design or ceasing construction could have significant financial ramifications, these projects already underway were not prioritized and therefore take precedence over non-initiated projects. If the “active” projects are to be prioritized, a significant analysis would be required for each project to truly understand the ramifications (financial/legal/operational) of delaying the project to make way for “future planned” projects with higher priorities.</p> <p>In addition, emergency contracts that are currently in place will be used when emergencies arise and will continue to be addressed immediately so that there is no impact to other projects.</p>
6	<p>Question: I have also attached a revised version of a handout provided to the CIP Committee at the end of the meeting, as well as certain GLWA administration members. The information addresses some concerns involving the policy requested to be</p>

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	<p>adopted as part of the Audit Committee meeting (no action was taken at the meeting) with an open question that needs to be addressed as part of the policy development – that being, the need to emphasize priority projects (some of which will be discussed subsequently) that have a higher possibility of failure and / or a consequence should a failure occur. The attached review also provides material involving the past several years capital expenditures relative to the analysis memorandum provided by Bart F. at the Audit Committee meeting of October 26th.</p> <p>GLWA Staff: See comments related to Questions 1-5 above.</p>
7	<p>Question: We are entering a convergence of many matters that will impact the ability to perform the capital program as outlined in the draft plan. While there is no immediate concerns on the limitations on available funding (with perhaps \$450 million available as of June 30 2018), the limitation WILL be resource competition with other capital programs <u>not yet underway in southeast Michigan</u> (a partial listing of the more significant matters is included in the above PDF file). The labor shortage could be spectacular given somewhere between \$6-\$9 billion in costs in the listing above alone – which doesn't attempt to identify lesser projects throughout the region. With increasing demand against an inability to expand supply, prices will rise – and will be another factor not yet seen notwithstanding the ability to actually do the project.</p> <p>Fortunately, we have one thing going for us. Our immediate needs for capital projects are presently funded. As the leading indicators are pointing downward at this moment, if certain economists are right certain of these projects (or more likely the smaller ones not in the listing) will be postponed – freeing up vendor capacity. Time will tell.</p> <p>GLWA Staff: See response to Question 2 above.</p>

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8	<p>Question: The CIP Plan presently has not included the amount available in the Improvement & Extension (I & E) fund and unexpended bond proceeds' accounts as of June 30, 2018 – my general estimate is about \$450M for water and sewer combined. If true, this gives GLWA about 2 – 3 years of cash on hand (at the present spend rate) to address the programs without going back to the market. The CIP Plan financial projections are not presently included on page II-12 which would be helpful in understanding when we'd need to go back out into the market.</p> <p>GLWA Staff: The nature of the CIP as a <i>planning</i> document provides input into the financial planning process. The preliminary financial plan will be presented in the latter half of December 2018 to the Audit and CIP Committees.</p>
9	<p>Question: Page II-3 indicates the folks included from the community on the Water and Sewer Review Committees. One suburban customer was on the water committee while a DWSD-R member was on the sewer committee. Hopefully, in the future we can have a suburban member on the sewer committee and likewise a DWSD-R member on the water committee.</p> <p>GLWA Staff: Expanding the review committee membership to include one suburban customer and one DWSD-R member for both water and wastewater will be sought after in future CIP development.</p>
10	<p>Question: The Power Point presentation on the CIP plan provided on page 10 entitled 'New Projects – 8 Water & 1 Wastewater' was a bit confusing (note – there were several versions of the power point floating around but the slide title was the same). My issue with this presentation was relatively simple. When I went to the 'heat maps' (pages V-2 and V-3) which pictorially represent the most severe projects under consideration (possibility of failure / consequences of failure), the 'new' projects launched on the page 10 listing were generally not even on the listing. For water, there were 11 more severe possibility / consequence failures <u>higher</u></p>

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	<p>than what was being launched as 'new'. Similarly, the one 'new' sewer projects had 8 projects on the heat map with more possibilities of failure / consequences in failure than on the list. I would have expected that the highest possibility of failure / consequences of failure to the projects launched in the new CIP Plan.</p> <p>GLWA Staff: The projects identified as "New" in the plan indicate projects that are, in fact, brand new to the plan. Which means they are projects that previously were not included in other versions and have a new Business Case Evaluation provided. This does not mean that the project will begin immediately. To determine when these projects begin, look at the phase schedule or overall projected expenditures. In addition, the "New" Project Status has been eliminated, thus identifying projects Active, Pending Closeout or Future Planned. The projects that are New to the plan (i.e. have not existed in previous years CIPs) will now be identified in a Table within the document AND with a checkbox within the Business Case Evaluation (BCE).</p>
11	<p>Question: Dealing with pages 16 and 20 in the Power Point, which summarize the amount of the 'FY-2020 – 2024' Water Summary and Sewer Summary, respectively, the totals are a bit difficult to understand. Upon inquiry, the FY-19 to FY-24 total costs for the 'approved' row and 'Draft CIP' for the period from July 1, 2018 forward total \$921.1M for water and \$778.6M for sewer for the six years ended June 30 2024 – combined this is \$1.7 billion six-year construction costs (the average over a six-year period is a need to <u>spend</u> at a pace of \$283M annually to actually achieve what the engineers have cited as capital needs.</p> <p>As memory serves, the similar six-year period ending June 30, 2023 resulted in a construction cost of under \$1.5 billion. GLWA is up about \$200 million in the six-year CIP plan requirements – likely attributable to a significant improvement in assessing the infrastructure needs and the inability to stay ahead on the spending plan as compared to the budgeted need. This just</p>

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	<p>continues to demonstrate the need for GLWA as to the importance of achieving the spending plan equivalent to the engineer's projections. The Spending Rate Assumption may solve the financial / budgeting matters, but it appears that the need is outstripping the ability to spend – and increasing.</p> <p>GLWA Staff: Agreed. This will be addressed in the financial plan.</p>
12	<p>Question: No. 1 - #115005 - WWP WTP Building Ventilation - \$5,071M. The first expenditure is \$7K for 2019 and \$507K for 2020, with the work being done two years from now. If the project is the highest ranked project, involves ventilation issues in a chemical storage room, what is being done in the interim to protect the GLWA workers in that area from harm?</p> <p>GLWA Staff: GLWA WWP plant staff have temporary measures in place to protect workers from exposure to the build-up of chemicals due to the inadequate permanent ventilation in the chemical storage rooms. The issue normally develops during the peak pumping season (Late May – End of August). During this time, industrial fans are used to ventilate the area (Ozone and Sodium Bisulfate). The permanent ventilation will be essential because this facility will have an increased demand placed on it per the recommendations from the Water Master Plan that will extend the issue beyond the peak season.</p> <p>The schedule with the first major spend of \$507K in 2020 is based on a qualifications-based selection procurement process occurring in 2019 with the design commencing in 2020.</p>
13	<p>Question: No. 2 - #111001 - Lake Huron Pumps - \$52.4M. Very high probability of failure with moderate consequences. Project planning started in 2017 and is expected to continue through to 2025 (and possibly beyond) when \$32.8M will be spent. Pumps, electrical gear (original to plant) and other equipment. With the electrical gear issue, the cost will run headlong into the vendor capacity issue for electricians. Odd – at the bottom of the detailed page, it appears with two rows – one labeled 2019 and a similar</p>

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	<p>amount labeled 2020 – with the same total cost except for the array of cost at the end of 2024 / 2025. No change in earlier costs. Appears then to indicate the earlier project cost – likely representing planning – is not complete so no remediation of this critical project can occur until then. Only \$401K expected to be expended in 2020 – and \$42.8M in years 2024 and beyond. Have we lost a year from the original projections in resolving this project? Five years to get to resolving the number 2 project?</p> <p>GLWA Staff: The original overall projected expenditures and the overall schedule remain exactly the same as the FY2019 CIP. The 2019 CIP accounted for costs in the planning horizon from FY2019-2023. Year 2024 in this plan is for projected expenditures anticipated in FY2024 and beyond. Therefore, with the 2020 CIP, year 2024 becomes part of the 5-year planning horizon and thus projected expenditures are identified specifically for that year (2024). In this 2020 CIP, the \$32.8M in FY 2025 will be split over several years. This project is scheduled for completion in FY2027.</p>
14	<p>Question: No. 3 - #113003 – Southwest WTP Pumps, Flocculation and Filtration System - \$148,3M. Moderately high probability (4) with moderate consequences (3). No planning work to be done until 2023 with remediation starting in 2024. Several areas indicated as improperly functioning. Over-sized equipment. Electrical system issues with lack of available parts. Substantial upgrade. If this is ranked 3, why then is no serious work being done for five years?</p> <p>GLWA Staff: Financial - This work has been moved out to start in 2023/2024 in order to meet the GLWA overall Financial Plan. This project was moved forward because Southwest WTP staff have been able to maintain the old equipment and operate it to meet drinking water standards. The age of the equipment, however, lends itself to a moderate-high probability of failure according to the CIP scoring criteria.</p>

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15	<p>Question: No. 4 - #112006 – Northeast WTP Flocculator - \$2.7M. High probability of failure (4.5) with slightly less than moderate consequences (2.5). The description (i.e. ‘most of the existing flocculators are not operable and are beyond repair...’ creating a greater load on filtration) opens a question – why would this ever have allowed to occur? It had to have been noticed well before now. Only \$3K of costs in 2019 and then finish in 2020 / 2021.</p> <p>GLWA Staff: Capital improvements projects have been on hold at Northeast WTP because treatment at this facility will be permanently decommissioned to align system treatment capacity with demand. GLWA engineering and operations staff have been preparing the performance requirements, technical specifications and drawings for the replacement of the flocculation equipment at Northeast WTP. The costs shown in 2019 are for remaining in-house costs to facilitate procurement of a construction contractor. About nine months has been conservatively estimated for the construction contractor procurement and award period with an anticipated contract award in FY2020. The construction will take about 18 months to complete.</p>
16	<p>Question: No. 5 - #114007 – Springwells WTP Powdered Activated Carbon System - \$3.9M. High probability of failure (4.5) with moderate consequences (2.5). System not working as intended but can be addressed through labor work arounds. Planning to be done in 2020 / 2021 with no work on this matter until 2025. Why would planning be invested in this project in 2020 / 2021 when there is no expectation to get to for three years – which is presently 6 years from now – even as there is a high probability of failure in the interim?</p> <p>GLWA Staff: <u>Mitigation in Place:</u> The powdered activated carbon (PAC) feed system is a system used to address taste and odor issues that occur infrequently with the Belle Isle intake. Consequently, the PAC feed system is not a critical system required to maintain water quality, which is why it has moderate</p>

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	<p>consequences. Moreover, the plant operations staff have devised and satisfactorily demonstrated temporary means of feeding PAC if needed. PAC has not been needed at Springwells for over a decade. Therefore, although the current permanent PAC feed system is not adequate, there is a temporary reliable means to feed PAC and there it not an immediate need to install a new permanent system. Therefore, based upon the recent mitigation strategy in place, the project has been reprioritized from 64 to 47 resulting in better alignment of overall risk with the projected expenditure timing.</p>
17	<p>Question: No. 7 - #111009 – Lake Huron WTP Two 35 MGD High Lift Pumps and Meter - \$26.1M. Moderate probability (3.0) with moderate consequences (3.0). It would seem that this would have been part of the project number 2 above (#111001). Seems to be down-sizing the pumps for what seems to be lower water production. How much of this cost might be related to the loss of Genesee County’s communities and the restructuring involving Flint?</p> <p>GLWA Staff: <u>Operational & Dependent:</u> This project is predecessor project to 96-inch transmission main relocation (CIP 122004) and Lake Huron Water Production metering project. Once the 96-inch transmission main is shut down to relocate the main, the demands downstream of Lake Huron are reduced to 20 MGD. Furthermore, an additional 15 MGD is needed to flush the 96-inch transmission main to maintain good water quality. These combined flow rates result in 35 MGD and the current high lift pumps have a capacity of 70 MGD and cannot be turned down to 35 MGD without causing damage to the pumps. This project could be incorporated into the CIP 111001, but this would mean delaying the relocation of the 96-inch transmission main, which is a highly critical project. For this reason, completion of the installation of the 35 MGD pumps is recommended now.</p>
18	<p>Question: No. 8 – #114010 - Springwells WTP Piping and High Lift Header - \$135.7M. High probability of failure (4.5) with moderate</p>

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	<p>consequences (2.5). 7 – 72-inch pipes with 6 riveted steel pipe material installed in 1930. 7th pipe if prestressed concrete. Steel pipes are leaking. Isolation valves need replacement. Other needs as well. Planning from 2019 to 2022 with no remediation until 2025. Complex construction and sequencing. Seems to be taking four years to plan and not even start remediation until 2025. Are there any steps and actions that could be taken in interim?</p> <p>GLWA Staff: Recent condition assessment of the header reveals that the condition of this piping is satisfactory with a low probability of failure. Furthermore, Water Supply Operations Engineering procured a new design-build contract (DB12), which replaced critical pipe supports that provide additional integrity to the header system at the Springwells Water Treatment Plant.</p>
19	<p>Question: No. 9 – #132012 - Ypsilanti Pump Station Improvements - \$9.9M. High probability of failure (4.4) with less than moderate consequences (2.3). Pumping station has no generator back up. Pumps, motors and electrical equipment original to pump station – past useful life. Substantia maintenance required. Contaminated groundwater on site. Planning to begin in 2019 and be completed in 2024. Seems to be general lack of maintenance over the years. How can a pump station become operational without a generator as back-up? Are there any other pump-stations with no back-up generators?</p> <p>GLWA Staff: The Ypsilanti Station is currently powered from two independent electrical feeders from DTE. The Station can operate as designed provided that there are no disruptions to service from the DTE electric feeders. A permanent standby generator dedicated to Ypsilanti is planned to provide a third redundant power feed to the station in case of loss of service to DTE. Standard of care in the industry is to provide two independent power feeds to a pumping station or water treatment facility. GLWA meets this standard at all of its facilities. GLWA's predecessor organization, DWSD, installed permanent standby generators at some of the water pumping stations and all of the water treatment plants in the</p>

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	late-1990s in preparation for “Y2K”. Not all of the stations however received standby power generators. These other stations that do not have standby generators are the Newburgh Station, the Ford Road Station, the Eastside Station, the Imlay Station, the Rochester Station, and the Haggerty Station. These Stations were identified as part of the 2018 Water Pumping Station Needs Assessment project completed under CS-052A, which recommended standby power for these Stations.
20	<p>Question: No. 1 - #232003 – Northeast Pumping Station - \$26.3M. Highest project at GLWA on the ‘heat map’ for water and sewer projects – only one square to the right higher on consequences. Probability (4.7) with consequences (4.3). Roughly 800,000 Oakland and Macomb residents rely on this pump station for sewer services. Complete rehabilitation of the pump station. Project scheduled <u>in 2018</u> to begin in 2018 and be completed in 2020. Present time line is to start the project in 2025 or beyond.</p> <p>The delay in the project seems to be related to the negotiations between GLWA and Oakland / Macomb (i.e. OMIDD) in transferring the responsibilities from GLWA to OMIDD. Discussions with WRC have indicated that some work is being done on the pump station, but no confirmation of what work, how much and whether the work will mitigate the risks of failure. Need a really good explanation on this one as it is the highest of all projects at GLWA given its condition and involves 800,000 residents and businesses. Given its assessment need assurances failure is not imminent.</p> <p>GLWA Staff: See response to question 3 above.</p>
21	<p>Question: No. 3 - #216006 – Assessment and Rehab WRRF Yard Piping and Underground Utilities - \$24.9M. High probability (4.0) and consequences (3.7). This project seems to be moving target. In the 2018 and 2019 CIP Plan, the expected costs would be \$52M to \$54M. In the 2020 CIP Plan, the costs have declined to \$24.9M – likely arising from the assessment efforts. The piping</p>

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	<p>and underground utilities are apparently very old. While a high priority, the reduction in the overall cost has declined which tends to indicate that the assessments are demonstrating less of an issue than originally thought several years ago. Please confirm – if true, no questions.</p> <p>GLWA Staff: <u>Financial</u>: Engineering is prepared to move this project forward to FY19 but was delayed due to financial prioritization. In the 2019 CIP, this project was combined with Screened Final Effluent (SFE) improvements project totaling \$54 million, in the 2020 CIP these projects were separated ~\$25 million for yard piping and ~\$25 million for SFE.</p>
22	<p>Question: No. 6 - #211005 – WRRF Pump Station No. 2 Improvements Phase II - \$21.6M. High probability (4.0) with moderate consequences (3.3). Improve pump reliability. Because this seems to be referencing a ‘Phase II’ the preliminary work is done (or well understood). While the 2019 plan called for most of the costs to be incurred in 2022 to 2024. Most of the costs start in 2024 and are completed in 2025. If the project score is still high (72.8) and there is a high probability of failure, why has the project start been pushed off for 5 years given its rather high ranking among sewer projects (i.e. – number 6).</p> <p>GLWA Staff: <u>Dependent</u>: The project cannot begin any sooner due to an active project for PS No. 1, restricting us by flow compliance requirements (number of pumps that can be out at one time for rehabilitation / replacement).</p>
23	<p>Question: No. 7 - #211009 – WRRF Rehab of Circular Primary Clarifier Scum Removal System - \$11.4M. High probability (4.3) and moderate consequences (3.0). In 2018, the projected completion date for the remediation of the scum removal clarifiers was to be 2023. While some work is being done <u>before</u> 2023, most of the work is now being performed in 2023 and 2024. Two clarifiers will be out of service at a time while being remediated –</p>

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	<p>limiting the NPDES permit requirements. Still a fairly highly rated project for delays to 2024. Why would it have been delayed?</p> <p>GLWA Staff: <u>Mitigation in Place:</u> This project was delayed because the design engineering group and Operations and Maintenance (O&M) are actively working on resolving the immediate process related concerns for this area. Therefore, based upon the recent mitigation strategy planned, the project has been reprioritized from 70 to 53 resulting in better alignment of overall risk with the projected expenditure timing.</p>
24	<p>Question: No. 9 - #213006 – WRRF Improvements to Sludge Feed Pumps at Dewatering Facility - \$3.7M. High probability (4.0) with moderate consequences (3.0). The 9th highest project in the form of priority has only \$24K being spent in 2023 and the remainder in 2024 and 2025.</p> <p>GLWA Staff: <u>Financial:</u> Project was delayed due to financial prioritization.</p>
25	<p>Question: No. 10 – 222003 – North Interceptor East Arm Evaluation and Rehab - \$26.0M. Moderate probability (3.5) and moderate consequences (3.2). In the 2018 CIP Plan this project was to have started 2018 and been completed by 2020. In the 2020 CIP Plan, the entire project will not get started until 2025. Cannot tell whether there has been some of the earlier funds budgeted that have been spent on an assessment that resulted in this significant delay, but this is likely. Please confirm reasoning for delay of the start for 6 years.</p> <p>GLWA Staff: See response to question 3 above.</p>
26	<p>Question: No. 11 - #211007 – WRRF Pump Station #2 Bar Racks Replacement and Grit Collection Improvements - \$17.8M. Probability (3.7) with consequences (3.0). This project starts in 2020 and is completed in 2023 and 2024 where \$14M will</p>

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	<p>be spent for the two years. Seems a bit odd on the ranking. Numbers 9 and 10 have a higher ranking (not by much) with little or no work being done for an extended period of time, but lower ranked project will be active starting in 2020 and ending in 2024. No questions but if actions are to be undertaken it would have been ranked higher than numbers 9 and 10.</p> <p>GLWA Staff: <u>Resource:</u> Our resources have been focused on active projects and future projects related to the reliability of moving water through the plant process. We would like to see this project moved forward because it will help to determine our long-term solution for grit removal not only at PS No. 2 but also at PS No.1.</p>
27	<p>Question: The overall level of spending continues to be too high. GLWA will not be able to spend the money projected for 2019 and 2020. I don't view this as a problem except some Board members seem to be concerned that the CIP dollars are not being spent and the financial plan assumes a spending level of 80%, which is way too high. We should either scale back the \$ projected in the plan (one alternative would be to eliminate the allowances which never get spent anyway) or to change the Board's expectations and the financial plan assumptions. Changing the CIP is probably the easier of these alternatives.</p> <p>GLWA Staff: We acknowledge that the rate of the CIP spend is a continuing concern. As identified in the board KPI's, the CIP spend is tracking closely with what was projected (water and wastewater CIP total spend is 104% and 85%, respectively). Over the last two years, we have made significant reductions in the allowances and the engineers have had a sharp focus on ensuring projected expenditures are not overstated. In addition, the Board recently adopted the Capital Program Spend Rate Assumption Policy at November 28, 2018 Board meeting that addresses this specific issue. This is an area that we will continue to review in the future.</p>
28	<p>Question: The projects related to ending treatment at NE continue to grow in terms of number of projects and their costs. When this</p>

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	<p>was originally looked at in the Master Plan, this alternative was only slightly better financially than the other alternatives. This entire situation needs to be reviewed again especially in light of decreasing water sales. The max day water needs continue to decline from those outlined in the Master Plan. It may make more economic sense to install limited water treatment capacity at NE, eliminate all of the current NE related projects and relook at the capacity of the other water treatment plants.</p> <p>GLWA Staff: GLWA agrees that the engineering economic analysis of water system right-sizing alternatives (e.g. closing treatment at Northeast WTP vs. reducing treatment at all five water plants) is needed again to be sure that the most cost-effective, long-term alternative is implemented. GLWA will prepare a draft analysis for presentation to the appropriate member partner committees (AWG, CIP/AM) in September or October 2019. GLWA will have a more accurate cost estimate for the WWP to NE transmission main by this time and will compare it against the estimated life-cycle costs of reducing and maintaining treatment at NE. Furthermore, this draft analysis could also be used as a starting point to a scope of services for an independent analysis by an outside professional services firm for additional assurance on the preferred alternative.</p>
29	<p>Question: We should be thinking about eliminating Chapter 3 from the CIP. The logic provided for not having Chapter 3 in the draft plan will continue to exist in future years. We will probably never have a Chapter 3 to publish with the draft CIP. Rather than just having it blank, we should think about eliminating it.</p> <p>GLWA Staff: Agree. Chapter 3 will be revised to address general financial considerations and note the CIP as a link to the overall financial plan.</p>
30	<p>Question: There are still a significant number of projects listed with \$0 spend from 2019 through 2023. I would eliminate those projects from Table VI in order to make that table shorter.</p>

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	GLWA Staff: Tables VI-1(Water), VI-4 (Wastewater) & VI-14 (Centralized Services) have been modified to remove projects with status of "Closed," "Cancelled" and "Reclassified." These projects will remain in the Chapter VII, Project Descriptions and within the Appendices.
31	Question: Some of the projects presented at the Charges Roll-Out Meeting #1 were of little or no interest; more interest in larger projects. GLWA Staff: See response to Question 32.
32	Question: Collect projects that are of interest to the AM/CIP Work Group in meetings prior to the Charges Roll-Out Meeting #1 would make the content more relevant at the meeting. GLWA Staff: We agree that obtaining information from our member partners prior to the Charges Roll-Out Meeting #1 would add the most value to the meeting. We believe this should be obtained prior to the Roll Out Meeting. Most likely this will occur at an AM/CIP Work Group meeting prior to the Charges Roll-Out Meeting #1.
33	Question: There appears to be a disconnect between Finance (based upon the bond refunding information) and CIP plan. GLWA Staff: This appears to be a by-product of timing. The official statement was prepared and the transaction completed, before the CIP was compiled.
34	Question: Decommissioning NE water treatment plant – will there be a new cost benefit analysis? GLWA Staff: See response to Question #28.

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35	<p>Question: There seems to be a disconnect between what the Board wants and what GLWA management wants in terms of capital expenditures.</p> <p>GLWA Staff: Ultimately all parties want the same things: a well-developed plan and its successful delivery in a cost-effective manner.</p>
36	<p>Question: Utility of the Future is not mentioned within the CIP.</p> <p>GLWA Staff: We agree that a more robust narrative related to this should be included. As such, future CIPs will contain a more informative discussion of GLWA focus on sustainability.</p>
37	<p>Question: To ensure GLWA is scoring the right things, it is recommended that the criteria used by the project managers and the review committee in CIP scoring be reviewed by the AM/CIP Work Group.</p> <p>GLWA Staff: The current eight scoring criteria and weighting methodology has been in place since 2016. At that time, the AM/CIP committee had been given the opportunity to provide input on both the criteria and weighting of the methodology and these categories. This prioritization was first used for the FY2018-2022 CIP and continues to be used in the FY2020-2024 CIP today. We agree that the review of these criteria should occur to ensure that prioritization philosophies match GLWA's existing conditions.</p>
38	<p>Question: O&M projects are not in the CIP. Is there a way to find out what those projects are?</p> <p>GLWA Staff: Those items funded by O&M and CIP funds will be presented with the budget. They are lower in scope and dollar amount.</p>

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39	<p>Question: Overall planning process: improving alignment or making more seamless the coordination between Procurement and CIP may help avoid potential gaps in terms of project delivery. What are the barriers?</p> <p>GLWA Staff: Improving capital project delivery is a high priority within GLWA. In addition to a new full-time resource dedicated to leading the CIP at GLWA, a stated objective for CS-272 Capital Program Delivery in early calendar year 2019 is <i>“selection and engagement of a Program Management Consulting (PMC) team to assist the GLWA in ushering in new and “best-in-class” processes for Capital Improvement Program (CIP) execution.”</i></p>
40	<p>Question: Need for CIP to complete condition assessments to convert to capital dollars – key challenge.</p> <p>GLWA Staff: GLWA agrees that this is a challenge because this means that without a current assessment of the condition of each asset, GLWA does not completely know the exact total capital expenditures needed. However, based upon the size and number of assets managed by GLWA, it would be very difficult to complete all condition assessments in a reasonable amount of time to accurately reflect the snapshot of total capital expenditures. Then, even if this were feasible, the frequency of the condition assessments for these assets vary greatly from one asset class to the next making it difficult to have this reoccurring snapshot.</p> <p>It is the current practice to perform periodic assessments on assets based upon risk and anticipated needs. In this matter, GLWA will be continuously updating the assessments on frequencies appropriate to the risk and previous condition of the asset. Although these assessments will not address the complete asset portfolio for any given year, the condition assessment will continue programmatically to inform the CIP.</p>

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41	<p>Question: Would like the cost breakdown between design and construction in CIP schedule.</p> <p>GLWA Staff: The cost breakdown between the design phase and construction phase are identified separately by project. This information can be found for each project in the full Business Case Evaluation (BCE) within Appendices A, B & C.</p>
42	<p>Question: Procurement previously posted upcoming procurements for the month on the website for planning purposes; it's not there anymore. Is it GLWA's intent to start doing again? It's valuable.</p> <p>GLWA Staff: Thank you for the feedback! The Procurement Group is implementing a new smartsheet tool that will improve and expand the upcoming procurements for a design, construction, and other services. The launch is planned for January/February 2019.</p>
43	<p>Question: The project definition is not always good and things change; perhaps a study phase separate from the design and construction would be valuable to add.</p> <p>GLWA Staff: GLWA strives to provide in the BCE the most accurate up-to-date information. We have made a concerted effort over the last two years to update each BCE with this latest information. However, the document is used as an annual planning document and as such, project scopes, schedules and projected expenses very commonly change based upon updated information. This frequently occurs between the BCE development and the scope of work used in the RFP.</p> <p>GLWA has prepared studies and has considered the more frequent use of studies and will continue to evaluate this internally to determine the most efficient and effective means to deliver capital improvement projects.</p>

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44	<p>Question: There appears to be inconsistency between the CIP Business Case Evaluation and the scope of work developed for the Request For Proposal. There appears an opportunity for improvement here. Better planning or more rigid language to develop the scope of work rather than revising on the back end?</p> <p>GLWA Staff: See response to Question 43.</p>
45	<p>Question: I only had one question beyond the same issue raised about GLWA's "capacity to deliver the capital improvements" that being on the Fleet Items as listed in the plan. It appears that the fleet purchases (presuming most of those are largely replacements) were heavily weighted over a two-year period instead of spread out over the five year plan. I am curious why that is and is it achievable for your staff to do that? Based on my experience a balanced amount each year works much more effectively for the Fleet staff.</p> <p>GLWA Staff: Presently GLWA's fleet staff is limited as fleet services are provided by DWSD as a shared service. GLWA has recently received requests for proposals related to a turn-key fleet management program. Presently, GLWA's fleet includes 115 that are six years or older and require replacement. Assets with a life of less than 20 years are in the capital outlay plan, not the CIP. The capital outlay plan will be presented with the proposed budget in January 2019.</p>