



Frequently Asked Questions Prospect Lake Water Treatment Plant

1. Is the developer of the project a foreign investor?

The IDE-Ridgewood Project Team (collectively referred to as the “Project Company”) is comprised of Ridgewood Infrastructure, a US – based investor in essential infrastructure with multiple investments in the United States . IDE is a world-renowned designer and operator of advanced water treatment plants, with multiple projects based in the United States and several abroad. Together, Ridgewood and IDE will contribute 25% to the base price of the new water treatment plant, with Ridgewood’s investment making up 75% of this contribution and the balance coming from IDE. In summary, IDE’s investment will be 6.25% of the total base price.

2. Why does the Fiveash Water Treatment Plant need to be replaced?

The Fiveash Water Treatment Plant was constructed in 1953 and expanded several times over the past 70 years. It was not designed to meet any hurricane standards and is at risk during extreme weather events. It uses a lime softening technology that is unable to meet the City’s color goal of less than 5 color units, resulting in a yellow tinge. Nearly all components of Fiveash are near the end of their useful life, requiring significant capital investments to maintain its use as a treatment plant. The existing Fiveash technology is ineffective at removal of important emerging contaminants such as PFAS, and will likely require significant investments to meet future regulatory requirements.

3. What will happen to the current plant?

The Current plant will continue to operate as a distribution center for production water.

4. Why move location?

There is insufficient space at the Fiveash location to construct the new Water Treatment Plant, as the existing plant must remain in operation throughout construction.

5. Will the City and the public have access to the proposed site?

The Prospect Lake Wellfields site is currently restricted for official City use only with no public access due to security requirements associated with critical infrastructure. To ensure both the security of the site and the safety of any visitors to the site, access to the site will be closely monitored and controlled by the Project Company through their design-build contractor, Kiewit, during construction of the project and, after construction is completed, through their operator, IDE during the operating period of the agreement. This monitoring and control, however, does not mean access will not be granted nor limited. City staff and their technical consultant, Hazen and Sawyer, will be onsite regularly during construction to review design submittals, inspect construction, and participate in training. Once operations have commenced, city staff who are operating and maintaining the plant full time will have uninterrupted access.

6. How long will it take to complete the project?

Following the City Commission's approval and subsequent execution of the contract documents it will take up to 42 months to complete construction and begin delivering water to the City.

7. How does this compare to the City constructing a Water Treatment Plant on it's own?

The Project Company's schedule is approximately 2 years shorter than if the City were to reject the Project Company's proposal and initiate a new construction project. This significantly shorter schedule means the City will save on 2 more years of repair and replacement costs maintaining Fiveash, it eliminates the risk of a significantly more expensive project due to the impact of two more years of high inflation, and it provides the City a price certain, date certain guarantee for a new, needed water treatment facility.

8. Is there a drainwell that will be impacted by the proposed water treatment plant location at Prospect Lake?

There is no drainwell located within the boundaries of the Prospect lake site.

9. How will Customer rates be impacted?

Customer rates are determined based on total cost to operate and maintain the water and wastewater systems. When input into the City's water and sewer financial model, the water rate is projected to increase from \$31 per month in 2022 to \$75 per month in 2032, or a 143% increase over the ten-year period. It should be noted that if the City were to do nothing and remove all costs associated with the new Water Treatment Plant, rates are still projected to increase by 37% over the same ten-year period.

10. Will the City be responsible for any “relief events” that cause a service interruption?

No. The Project Company is contractually obligated to provide the water quality and quantity required by the City on a daily basis and is subject to several financial penalties if these delivery requirements are not continually satisfied. The new water treatment plant is being designed and constructed to withstand up to a Category 5 hurricane, so even a major storm does not constitute a relief event. If a piece of equipment breaks, the Project Company must repair or replace it at their cost and must, in turn, pay any penalties for an interruption in service. If the Project Company exceeds its anticipated (and guaranteed) use of electricity or chemicals, they must reimburse the City for this overage.

11. How does the Project Company intend to work with City staff and what concessions have been made?

The Project Company will engage with City staff in accordance with the Labor Services Agreement. This agreement defines how the Project Company’s operating team, manned by IDE operating experts, will be working with City employees. It is important to note that no concessions on City employee rights, benefits, nor any other terms of employment have been modified. The City retains full authority and control over the City employees working at the new water treatment plant, including their salaries, benefits, retirements, promotions, as well as any disciplinary action, all which will be done in accordance with the current and future Collective Bargaining Agreements the City has negotiated with the local teamsters.

12. How will the community and local businesses be disrupted during construction of the new water treatment plant?

The City will experience very little disruption due to the construction of the water treatment plant. The plant is being constructed at the City owned Prospect Lake site. While there will be some limited increase in truck activity as equipment is delivered to the site from the Prospect Road entrance, this truck activity will be limited to the daytime and no trucks will be allowed to park or “que” on Prospect Road.

13. Will the location of the new water treatment plant impact flight operations at the City’s executive airport (FXE)?

The Project Company has already been meeting with City officials at FXE to ensure the proposed design of the water treatment plant and the construction and operating activities that will occur at the site will not impact flight operations. In addition, the Project Company is working with FXE officials and directly with the FAA to ensure the water treatment plant complies with all regulatory and permitting requirements. The FAA has already approved the proposed construction activities required for the new plant site.

14. Has the City been communicating and coordinating with other municipalities that are currently being supplied by Fiveash?

The city provides bulk water sales to other communities, to include Davie, Oakland Park, Wilton Manors, Tamarac, Lauderdale-by-the-Sea, and Port Everglades. The proposed Water Treatment Plant has been discussed in technical forums, and the City has provided information to those communities when requested.

15. Do we know what the anticipated noise level is for the new plant when operating at fully capacity?

As part of the design, a comprehensive noise study and sound modeling are being completed that will determine what existing, ambient noise levels are and what the sound profile for the new plant. While decibel levels give an indication of the level of the sound, what is more important is the decibel levels across several octave bands. The following regarding sound requirements and additional control measures in place:

- The design includes a maximum sound limit of 85dBA at each/any piece of equipment. Sound will dissipate due to natural attenuation as it moves to the boundaries of the treatment plant and beyond. Given the nearest residence is approximately 450 ft from the plant, natural attenuation will result in approximately a reduction of over 50 dBA, with a resulting sound level of approximately 30 dBA (anything below 35 dBA is defined as “quiet”)
- The plant has been designed such that the Nano-Filtration building runs east-west along the north boundary of the treatment plant. This building will provide a noise attenuation for most of the operating facility. By reference, a standard brick wall will block an average of 40 dBA and a stud wall will block 30dBA
- Between the existing houses to the North of the plant location is Gator Lake. Gator Lake is lined along the north bank and south bank with thick, dense trees. Those trees will provide additional noise attenuation (from 6 to 15 dBA) for the operating facility.
- The project will be in compliance with City noise ordinances. There will be certain activities during construction from time to time will require us to submit a temporary waiver on some of these ordinances.

16. Will there be a lot of white light emitting from the plant and are there concerns about impact to pilots of approaching planes?

The plant lighting will be similar to that of a traditional office park. Existing conditions and additional mitigation measures will be designed into the project including, but not limited to:

- Low profile design. The tallest structure will be approximately 30 feet, but most equipment and structures will be substantially less.

- Lights will be directed downward where practical.
- The Project Company has been in communication with the FAA and the design is reflective of their feedback. All construction activities will also be in compliance with the FAA requirements.
- The trees along the north and south banks of Gator Lake will provide shielding of light from the neighborhood on the north side of Gator Lake.
- The Project will be in compliance with the City's ordinances on lighting (47-25.3)

17. Will the plan include any remediation for trees/vegetation lost due to construction?

The Project Team is coordinating with the City on tree removal and related permitting requirements. As work proceeds, the Project Company will have the appropriate permits, which includes evaluating the quality of the vegetation to determine if the trees and vegetation are defined by the City as “nuisance” or if they should be replaced in accordance with the City standards. Gator Lake is lined along its north bank and south bank with thick, dense trees which will provide additional noise screening for the operating facility and will not be removed during construction.

18. Are there any environmental guidelines in place to protect the wildlife living in the area where the proposed water treatment plant is to be?

The project must comply with all state and federal laws and regulations in order to protect wildlife. Annex E of the Comprehensive Agreement contains a Listed Species Assessment Report as well as other information to comply with the Endangered Species Act. As part of the regulatory review process, numerous environmental permits will be required prior to construction to ensure compliance.

19. Are the contract documents available for review by the public?

The draft Comprehensive Agreement, and all presentations and other materials, are available on the city's website at <https://fortlauderdale.civilspace.io/en/projects/water-treatment-plant>

20. What is the timeline for important decisions to be finalized?

The Comprehensive Agreement is tentatively scheduled for consideration during the February 7, 2023 City Commission meeting.

21. Will the new plant affect or provide better water quality to adjacent municipalities like Oakland Park?

Yes. The existing Fiveash WTP produces a water with a color on average of 16 color units. The proposed treatment plant is expected to produce a finished water with less than 5 color units at least 90 percent of the time.

22. Will a new treatment plant remove the tannins from the water which give it a green tinge?

Yes. The proposed project includes technology that will deliver water with a color below the visible detection limit at least 90 percent of the time.

23. Can the City discontinue the process of chloramine disinfection of drinking water?

No. EPA and state regulations would not allow disinfection with free chlorine because City data indicate that human health standards for haloacetic acids and trihalomethanes would be exceeded.

24. What are haloacetic acids and trihalomethanes?

Disinfectants can react with naturally-occurring materials in the water to form byproducts, including haloacetic acids and trihalomethanes. These disinfection byproducts have been linked to cancer and reproductive effects in lab animals.

25. If the City changes the Fiveash treatment technology from lime softening to membranes and ion exchange could other methods of disinfection be used?

Yes. Once color causing organics are removed free chlorination could be an option. Further study would be required.

26. Is ozone and granular activated carbon addition to a rehabilitated Fiveash a feasible option?

None of the pilot testing investigations run since 1990 have demonstrated stable operations using existing Fiveash lime softening infrastructure as feed water. Of the technologies considered which meet the City's 3 fundamental goals, GAC was determined to be impractical (by Carollo) given the rapid change out of carbon caused by high influent organics. Hence, membrane treatment at some level became imperative.

27. Is the City’s current practice of chloramination practiced elsewhere in Florida?

Yes. In fact, it is practiced at 29 of the 31 water treatment plants in Broward County alone. Figure 1 illustrates the location of all major water treatment plants in Broward County and identifies which use chloramine and which use free chlorine.



Figure 1: Map of Major Water Treatment Plants Using Chloramine and Free Chlorine in Broward County