

Professional Services Contract Award: O.N. Stevens Water Treatment Plant Solids Handling and Disposal Facility Project

Nicholas Winkelmann, P.E.

Director of Water Systems and Support Services

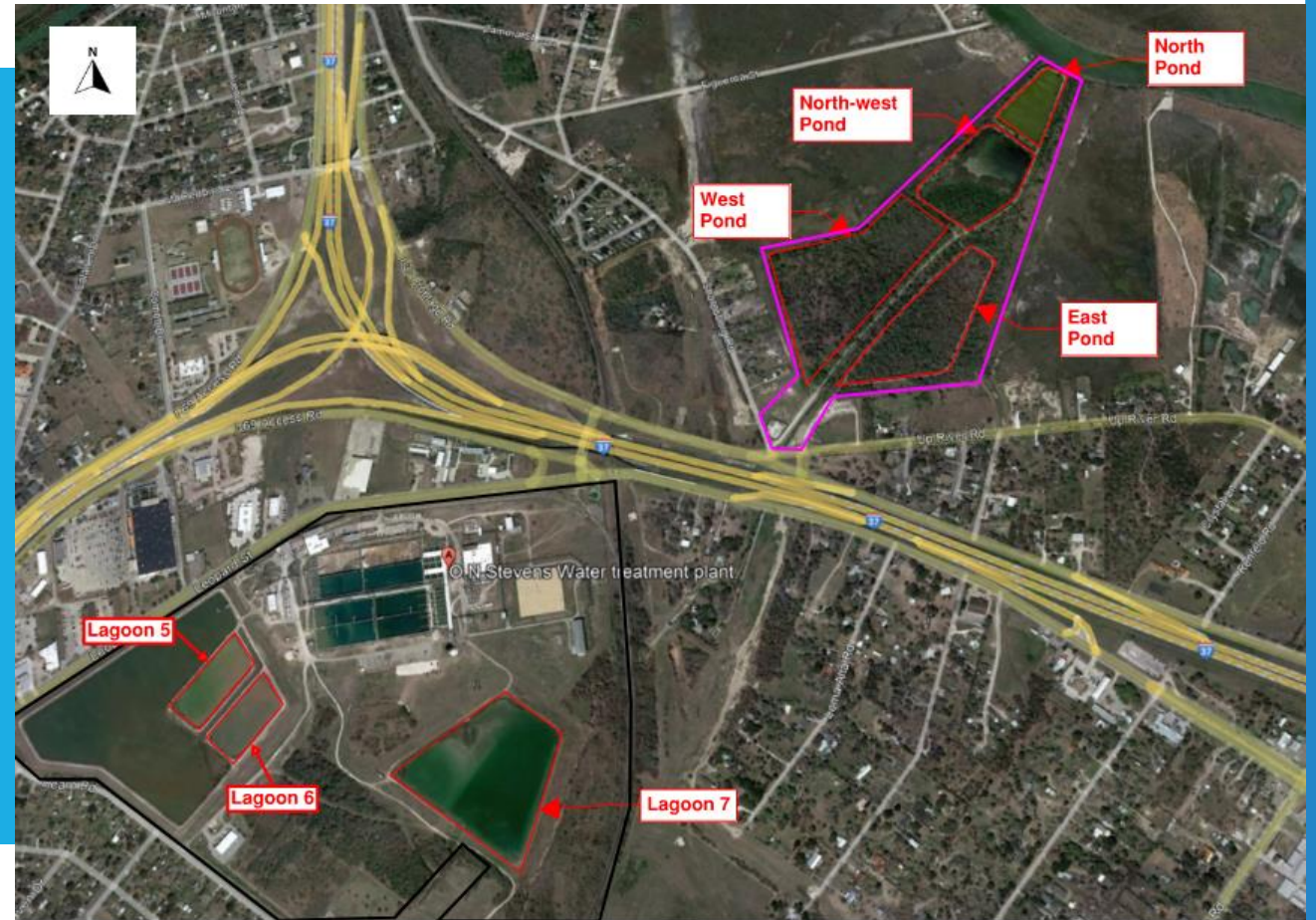
December 10, 2024



Background

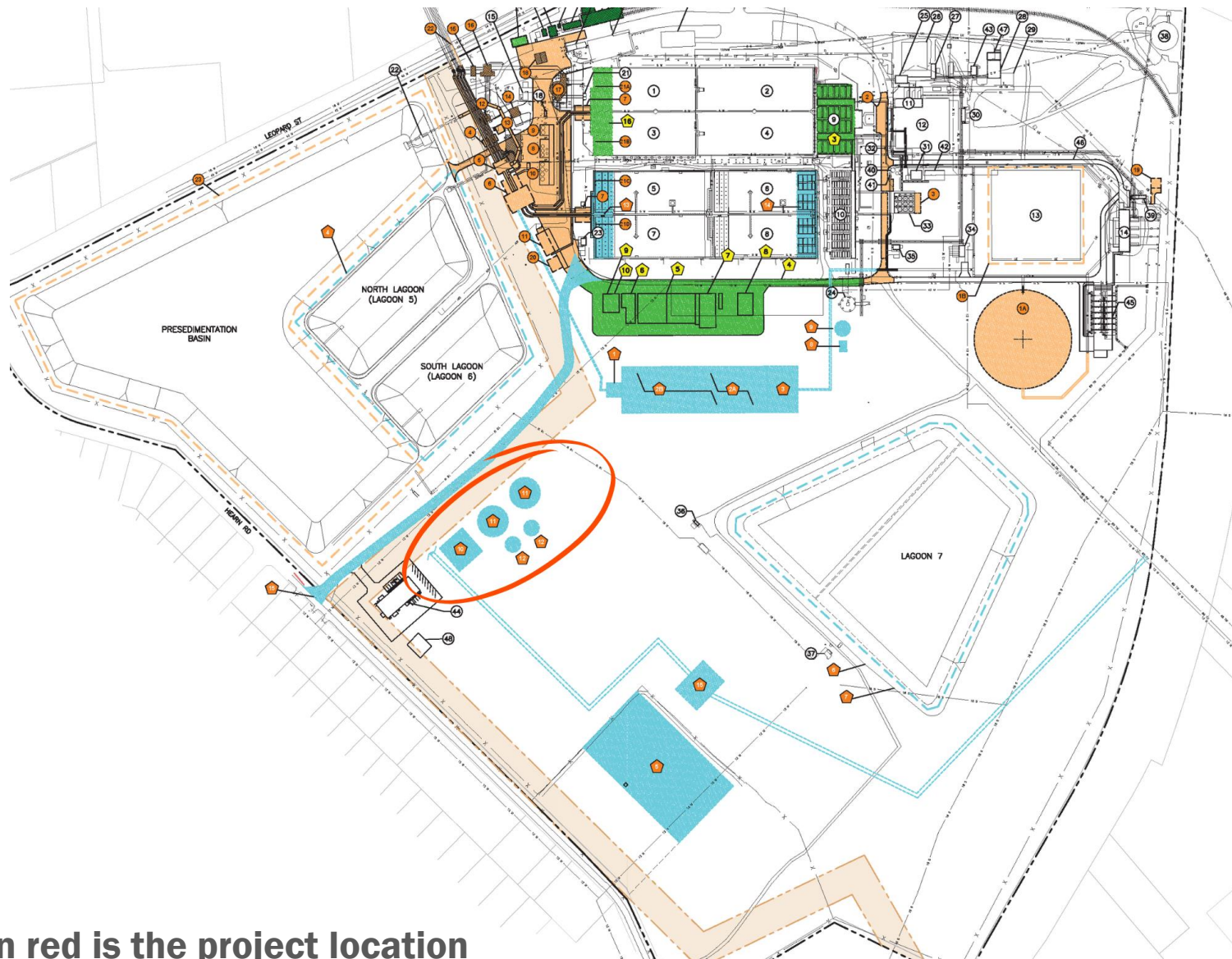
O.N. Stevens Water Treatment Plant (ONSWTP) uses conventional water treatment processes for removal of turbidity and naturally occurring organic matter which generates solid waste that is stored in lagoons.

- Three on-site and four off-site lagoons store the solids
- Lagoons are filling at a greater rate due to increased water demand resulting in increased solids
- The decant water from these lagoons has the potential to cause water quality issues if lagoons are operated more than their storage capacities



This current process of storing solids and dredging the lagoons is not efficient and effective.

Project Location within ONSWTP

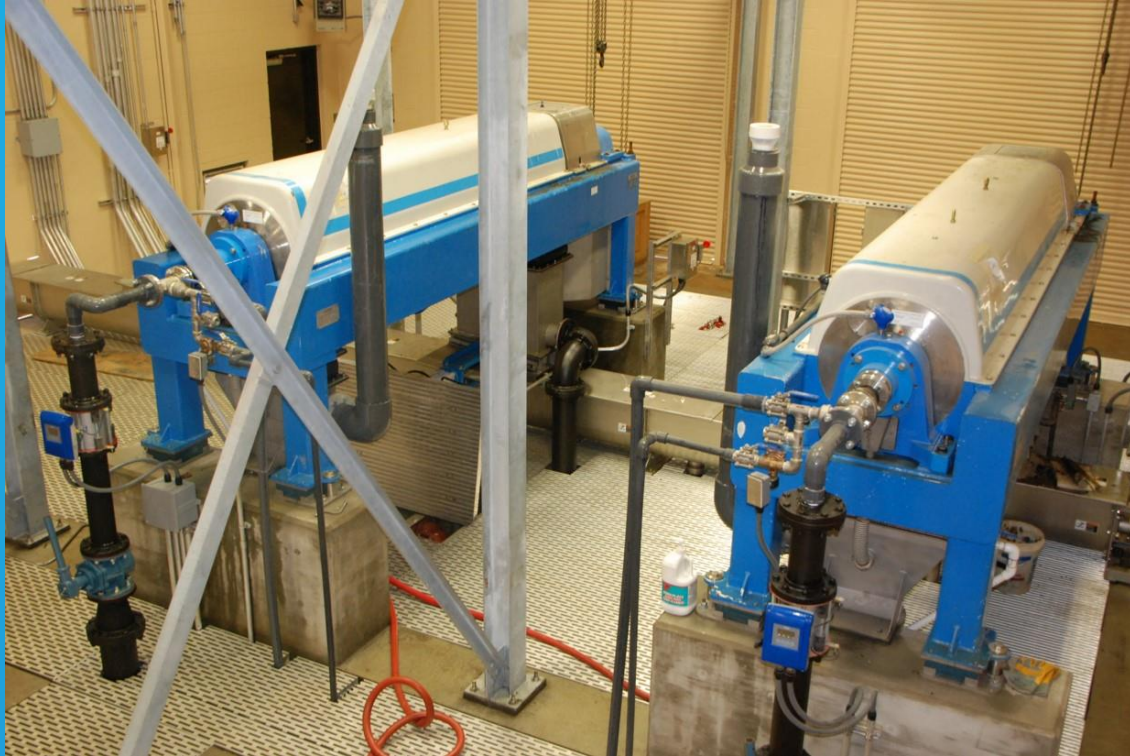


The area circled in red is the project location

Scope of Work

- **Services including preliminary design, detailed design and bid phase services for a new solids handling facility at the O.N. Stevens Water Treatment Plant**
- **Preliminary unit process to be considered and sized include:**
 - **Gravity thickeners and mixing tank(s)**
 - **Two-story dewatering facility with centrifuges, polymer system, roll-off dumpster area, office/control room and storage room**
 - **Condition assessment and improvements to existing sludge pumps and piping**
 - **Evaluate the requirements for one or more new solids pump stations, including wet well, pumps and piping**
 - **Additional upgrades for dredging equipment (repurpose existing dredging equipment owned by City or include a bid item for procurement of a new equipment) as needed**
 - **Electrical and instrumentation upgrades including a new PCR building and substation**

Typical Solids Handling Equipment



Solids Handling at Major Texas Utilities

Twenty-two water treatment plants in Texas that serve populations greater than 250,000 and have treated flows of at least 50MGD were reviewed. Sixteen of the twenty-two plants utilize a solids handling facility. Of the six remaining, two are in the planning stages to upgrade.

Utility Name	Solids Handling Protocol
Austin Water	Centrifuge facilities for processing at three WTPs
City of Arlington	Mechanical solids handling facilities at WWTP
City of Fort Worth	Mechanical solids handling facilities at WWTP
Dallas Water Utilities	Planning underway for a new solids handling facility in 2030 at one WTP
El Paso Water	Belt press facility for processing at WTP
Laredo	Belt press facilities for processing at two WTPs

Staff Recommendation

- Staff recommends approval of a professional services contract with Ardurra Group, Inc. in an amount not to exceed \$4,789,425 for the ONSWTP Solids Handling and Disposal Facility Project
- A new solids handling facility will effectively manage solids as CCW continues to improve the plant's reliable treatment capacity
- Fiscal impact for CCW in FY 2025 is \$4,789,425 with funding available from the Water Capital Fund
 - Currently the project has \$3,000,000 budgeted for design
 - The \$1,789,425 shortfall will be coming from \$5,780,088 in construction cost savings from the Nueces Bay Boulevard and Poth Lane water line replacement project

Project Schedule

2025 – 2027	2027	2027 – 2030
January – March	March – August	September – September
Design	Bid/Award	Construction

The top half of the slide features four horizontal, wavy bands of varying shades of blue, ranging from a light cyan to a darker blue, creating a sense of movement and water.

Thank you!

The logo for Corpus Christi Water (CCW) features the letters 'CCW' in a bold, blue, sans-serif font. The letters are filled with a wavy, layered pattern of blue and cyan, matching the decorative lines at the top of the slide.

Corpus
Christi WaterSM
Serving the Coastal Bend