Subject:	NEWRF Control Building Expansion Evaluation	**Date:**	December 12, 2025
Client:	City of Clearwater	**BV Project No.:**	408831
Project Name:	Water Reclamation Facilities Master Plan	**City Project No.:**	17-0007-UT

1.0 Introduction

The City of Clearwater has completed a 30-year Master Plan and implementation strategy for the City's three water reclamation facilities (WRFs): East WRF (EWRF), Marshall Street WRF (MSWRF) and Northeast WRF (NEWRF). On March 3, 2023, Clearwater's City Council approved the consolidation of EWRF and MSWRF to NEWRF which was recommended through a collaborative effort between Black & Veatch and the City's Public Utilities Department. The treatment process expansion necessary to accommodate the additional flow from MSWRF and EWRF to NEWRF is documented in the Task 4 Future Improvements TM (City Project No. 17-0007-UT, September 2025).

The purpose of this technical brief is to outline the expansion requirements of the NEWRF control building to accommodate the additional staff needed as a result of the consolidation of the WRFs. No changes were made to either the existing control building site layout or any proposed new layout. This technical brief provides additional details on the expansion requirements necessary for the NEWRF control building based on increasing staff after WRF consolidation as well as City preference on future spaces needs. The additional staff and space accommodation were developed in a collaborative effort between Black & Veatch and the City in a series of two workshops described in Table 1.

Table 1 NEWRF Control Building Expansion Workshops

Workshop No.	Date	Description
1	9/11/2025	Black & Veatch confirmed existing NEWRF control building accommodations and discussed future space accommodations with the City.
2	9/22/2025	Black & Veatch confirmed future staff additions needing accommodation at the NEWRF control building and continued discussion on future space accommodations with the City.

2.0 Staff Considerations

As of October 2025, the City has staff at each of the three WRFs. **Table 2** provides an overview of the existing Public Utilities division staff associated with the WRFs and current location. The table summarizes the departments based on full-time equivalents (FTEs).

Table 2 Existing FTEs and WRF Location

Public Utilities Division ID	City ID Description	No. FTEs	No. Positions Filled	No. Positions Vacant	No. FTEs Located at NEWRF	No. FTEs Located at MSWRF	No. FTEs Located at EWRF
1353	Industrial Pretreatment Program	6	6	0	0	6	0
1351	Wastewater Environmental Technologies	2	1	1	0	1	0
1354	MSWRF – Operations	13	13	0	0	13	0
1355	NEWRF – Operations	13	12	1	13	0	0
1356	EWRF – Operations	10	10	0	0	0	10
1347	Infrastructure Maintenance	31	25	6	15	12	4
1352	Laboratory	3	2	1	0	3	0
	Total	78	69	9	28	35	14

Based on a review of the City's organization chart from April 30, 2025, there are 78 FTEs supporting the WRFs. Currently, 28 of the FTEs are located at NEWRF; therefore, NEWRF will need to accommodate 50 additional staff members.

3.0 Shift Considerations

Based on discussions with City staff, Table 3 provides an overview of the anticipated staff located at NEWRF post-consolidation per shift.

Table 3 NEWRF Post-Consolidation Staff Shift Consideration

Shift	Percentage of Staff	No. Staff at NEWRF
A – Day	70%	54
B – Afternoon	15%	12
C – Night	15%	12

3.1 Emergency Scenario Consideration

During an emergency scenario (i.e., tropical storms, hurricanes), the City anticipates 70 percent of staff (approximately 54 FTEs) to be onsite at NEWRF for 3 days.

4.0 Existing NEWRF Control Building Accommodations

Table 4 provides an overview of the existing control building accommodations and size.

Table 4 Existing Control Building Accommodations

Control Building Room	Approximate Existing Size (square feet, SF)	Notes
Reception	175 SF	
Control Room	600 SF + 1,100 SF	Larger modified space includes storage of various items.
Supervisor's Office	240 SF	Shared Office
Office 1	185 SF	
Office 2	170 SF	
Break Room	530 SF	Includes vending machines, refrigerators, microwave; ice machine outside.
Laboratory	208 SF	Additional Laboratory refrigerators and Sample Prep area are currently happening in MCC room on first level.
Storage Rooms	110 SF + 90 SF + 40 SF + 130 SF	
Men's Locker Room	460 SF	
Electrical Room	900 SF	Includes additional Laboratory refrigerators; power project currently in progress (City Project No. 17-0028-UT).
Maintenance Workshops and Workstations	1,250 SF + 475 SF	Double height space. Includes separate Break Room area.
Maintenance Foreman's Office	100 SF	
Blower Bay	2,315 SF	Double height space; Includes main generator for plant.
Total	9,078 SF	

5.0 Future NEWRF Control building Accommodations

Table 5 provides an overview of the future NEWRF control building accommodations and size as established through workshops. The subsections that follow describe these areas in detail.

Table 5 Future Control Building Accommodations

Control Building Room	Required Size, Square Feet (SF)	Notes
Reception	125 SF	
Control Room	4,750 SF	26 – 6ft benching stations and 5 – 8ft x 8ft workstations. Space for 4 separate teams in workstation area. Includes small conference room and private phone booth space.
Supervisor's Office	175 SF	
Office 1	120 SF	
Office 2	120 SF	
Office 3	120 SF	
Conference/Training Room	425 SF	Doubles as emergency sleeping area.
Break Room	600 SF	Doubles as emergency sleeping area.
IT and Data Room	275 SF total	
Restrooms	300 SF + 300 SF	More accommodations for men than women but maintain minimum plumbing fixture counts for women based on occupancy count per floor.
Men's Locker Room	900 SF	
Women's Locker Room	300 SF	
Lactation Room	85 SF	
Janitor Rooms	100 SF + 100 SF	2 rooms total.
Electrical Rooms	300 SF + 300 SF	
Laboratory	1,400 SF	Office room with space for 3 workstations; DI (deionized) water system room.
Maintenance Workshops and Workstations	1,750 SF	
Maintenance Foreman's Office	120 SF	
Storage	2,400 SF	Suggest mezzanine storage to maximize building footprint.
Total	15,065	

5.1 Reception

The reception area will be a minimal space designed to accommodate small gatherings, including frequent contractors and occasional small public tour groups, such as school visits. Sign-in will be required, but a staffed desk is not necessary. Two post boards will be required in this area. At a minimum, the space shall include a roof overhang to protect it from rain.

5.2 Control Room

The open workstation area will include space for 26, 6 ft benching desks and 5, 8 ft x 8 ft workstations. Desks will be shared between shifts in a hoteling fashion. The space will remain flexible with opportunities to group desks and workstations by department team. The initial layout will accommodate four separate teaming areas.

The workstation area shall include a small meeting room with a table and chairs to accommodate three people and two phone booth-style rooms for private conversations. One phone booth shall be indicated as a “future lactation room” and able to be easily converted to meet US Department of Labor Fair Labor Standards Act requirements. This space shall include a counter with a small sink and power for future undercounter mini refrigerator. The door to this space shall be equipped with a privacy lock and any windows shall have privacy coverings. This room needs to comply with ADA requirements.

5.3 Offices

A supervisor office and three additional private offices shall be provided, each with space for a single workstation and two additional chairs for small meetings. Each office would be best suited adjacent to the open workstation area and the respective division team.

5.4 Conference Room

The conference room will provide space for 4 modular tables and 16 chairs able to be rearranged for meetings and training. The space will double as a sleeping area during emergencies, so tables and chairs will need to be collapsible to take up minimal floor space. Conference equipment will include a projector, screen, video conferencing equipment, and room darkening window shades if applicable.

5.5 Break Room

There will be one combined break room shared by all departments. The break room will be equipped with 2 refrigerators, water/ice dispenser, 3 microwaves, handwashing sink, divided kitchen sink with garbage disposal, and a stove for cooking during emergency staffing situations. Tables and chairs shall remain flexible to allow space for sleeping accommodation during emergencies.

5.6 Restrooms and Locker Rooms

Restrooms are recommended to be an equal number of on each of the two floors. Required plumbing fixture counts shall be equally distributed between men and women, and additional plumbing fixtures shall be provided for men. First floor restrooms shall be adjacent and connected to locker rooms.

Locker rooms shall include N individual shower room with stalls and an adjacent changing space separated from locker areas with curtains for privacy. One general purpose outlet shall be provided in each changing space. Large laundry hampers are required for soiled uniforms. Benches shall be provided for convenience near lockers.

Lockers shall be full height and approximately 36-inches wide with space to accommodate 13 uniform shirts and pant sets, 2 pairs of boots, and personal items. Locker doors shall be solid with vents and a dedicated name tag slot.

The men's locker room shall include 1 ADA compliant shower/changing room, 2 standard shower/changing rooms, 60 lockers, and 3 benches. The women's locker room shall include 1 ADA-compliant shower/changing room, 15 lockers, and 2 benches.

A janitor room shall be provided adjacent to the men and women's restroom pair on each floor and shall include a mop sink, chemical dispenser, and storage shelves.

5.7 Electrical Room

The electrical room is to remain on the first floor. There is a current project in construction (City Project No. 17-0028-UT) with additional space allocated for electrical panels and equipment to support remodeled business spaces.

5.8 Laboratory

The laboratory will need to remain flexible for needs changing in the future. Currently, micro, nutrient, settleability, and total solids tests are performed – none of which require a fume hood. A separate room shall be provided for a client-designed DI (deionized) water system. Space for large sampling events will be needed. Two ice machines are required and can be located outside – one for samples and one for staff working outside. Separate office space with workstations to support 3 lab staff shall be included in this area. It is recommended to move the lab to the lower level and utilize space from the existing Blower Bay and MCC.

5.9 Maintenance Workshop

The maintenance workshop shall include space to accommodate 6 maintenance and repair workstations, floor space for large item repair, and 2 vehicle repair bays. The workshop will also include a hand sink, emergency eye wash, and area of lockable storage. The maintenance workshop shall be near first floor restrooms and locker rooms.

The Maintenance Foreman's Office shall be in close proximity. It shall have space for a workstation and 2 additional chairs for meetings.

5.10 Storage

Storage space is a priority and in short supply in the existing layout. It is recommended to utilize the double height Blower Bay area and design a mezzanine with stairs for various storage needs including:

- Lockable, air-conditioned storage for electronics.
- Large storage bays with floor space for pumps and motors.
- Smaller storage rooms for Control Room and Laboratory.
- Emergency preparedness storage for sleeping cots and emergency supplies that are accessed less frequently.

5.11 Exterior

Dedicated charging and parking for 8 gator carts will be required on site. These parking spaces will be covered and secured with lockable gates as tools will be stored on the carts.

Two ice machines shall be provided on the exterior of the building: one dedicated to sampling, one dedicated to employee use while in the field.

6.0 Construction Considerations

The following subsections describe aspects that are recommended to be considered prior to and during construction.

6.1 Accessibility

As a business occupancy, the control building will accommodate ADA requirements throughout, except in the Laboratory and Maintenance Workshop, which are exempted work areas. All feasible efforts to maintain or improve accessibility on site and throughout the existing structure shall be taken. All new construction elements shall meet accessibility requirements, except as noted above.

6.2 Hurricane Hazards

The existing structure will be upgraded to meet current hurricane safety standards where technically feasible. All new doors, windows, and shutters shall meet impact and wind ratings per local code requirements and shall have a Florida Product Approval number. The structure location is out of the 100-year flood plain.

6.3 Interior Finish Materials

The Building and Maintenance Department must approve all interior finishes. Sealed concrete floors are desired throughout. Carpet shall not be installed in any areas, so acoustic considerations shall be included for lay-in ceilings and wall treatments.

Entries and stair wells shall include recessed floor mats for water containment and slip resistant flooring throughout. Restrooms and locker rooms shall have ceramic tile walls and epoxy or tile flooring with cove base for cleanability. The laboratory shall have plastic or steel cabinetry, epoxy flooring, and cleanable Fiber-Reinforced Plastic (FRP) wall covering the full height of the wall.

7.0 Next Steps

Further evaluation is recommended to confirm the feasibility to expand the existing control building or construct a new control building on site. A feasibility study may include the following elements:

- Existing control building expansion layout requirements
- New control building layout location
- Parking considerations
- Life cycle costs analysis to expand or replace the control building