

City of Lauderhill Water Treatment Plant Chlorine Conversion

REQUEST FOR PROPOSAL
NO.: 2024-022

Issued for:

City of Lauderhill

Visit us on the web at:
https://lauderhill.ionwave.net/

Advertisement Dates: March 6, 2024 and March 13, 2024

Opens: May 2, 2024

Date Issued: March 7, 2024

NOTICE TO PROPOSERS

NOTICE IS HEREBY GIVEN that the **City of Lauderhill** is seeking sealed Design-Build proposals for the following work as specified**:**

CITY OF LAUDERHILL WATER TREATMENT PLANT CHLORINE CONVERSION

RFP NUMBER #2024-022

CITY OF LAUDERHILL

The City of Lauderhill will be accepting sealed proposals until **11:45 AM** on **May 2, 2024**. All proposals shall be submitted via IonWave: **https://lauderhill.ionwave.net/. Proposals received after 11:45 A.M. EST will not be considered and will be returned to the proposer unopened.**

This proposal will cover the conversion of the existing chlorine gas treatment facilities in the Water Treatment Plant of the City of Lauderhill to use a bulk delivery system of sodium hypochlorite. It includes all the labor, materials, equipment and incidentals necessary for completion of the design and construction for the replacement of the existing chlorine gas facilities to deliver sodium hypochlorite in bulk, installation of new sodium hypochlorite storage tanks, and modification to the existing chlorine storage building at the water treatment plant.

Contract Documents may be obtained and examined on and after **March 7, 2024** on IonWave.

Proposals will be ranked on a combination of qualifications and pricing for proposal **RFP#2024-022 CITY OF LAUDERHILL WATER TREATMENT PLANT CHLORINE CONVERSION.** A Contract(s) will be awarded to the highest ranked Proposer as described in the Instruction to Proposer. Proposals will be based on the complete work required in the contract documents. Proposals based on a portion of the work will not be considered.

All proposers must register with the City online. The direct link is **www.colvendor.com .**

A pre-bid meeting followed by a site visit will be held at 10:30 AM on March 11, 2024 at City of Lauderhill City Hall, 5581 W. Oakland Park Blvd, Lauderhill, FL 33313.

Responsible questions regarding this RFP offering may be directed to the Purchasing Department via IonWave question Tab. The last date for questions pertaining to this proposal is **ten (10) days prior to the proposal's due date**. Questions received after this date will not be answered.

The City of Lauderhill has determined that this RFP shall be reserved for SBE participation and shall comply with City Code of Ordinance Chapter 2, Article III. Section 2-139.(f)(3) – Local Vendors.

Bid security in the form of Bid Bond or certified check made payable to the "City of Lauderhill", in an amount equal to five percent (5%) of the bid, must be submitted with the bid. Bidder must use Bid Bond form provided. No Bidder may withdraw his bod within 90 days after the actual date of opening thereof. Guaranty Bonds in the form of a 100% Construction Performance Bond and a 100% Construction Payment Bond will be required upon award of bid.

Proposer agrees to extend identical pricing and goods under the same terms and conditions to other governmental entities. A contracting agency wishing to utilize like services will execute its own contract with the successful Proposer(s) for its requirements.

Per Section 287.05701, Florida Statutes, the City of Lauderhill will not request documentation of or consider a vendor's social, political, or ideological interests when determining the vendor is a responsible vendor.

The City Commission of the City of Lauderhill reserves the right to reject any and all proposals, to waive any and all informalities or irregularities and to accept or reject all or any part of any proposal as they may deem to be in the best interest of the citizens of the City of Lauderhill. **The winning firm is required to enter into a contract with the City of Lauderhill.**



Kentrea White
Purchasing and Contract Manager

Advertisement Dates: March 6, 2024 and March 13, 2024

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STATEMENT OF NON- PARTICIPATION

RFP NO.: 2024-022

City of Lauderhill Water Treatment Plant Chlorine Conversion

Note: If you do not intend to submit a bid /proposal on this item/service, complete this form and mail to:
Purchasing Division
City of Lauderhill
5581 W. Oakland Park Blvd. Suite 230
Lauderhill, FL. 33313
Please indicate the Proposal number and title of the Proposal on the outside of the envelope.

We/I do not wish to participate in this proposal for the following reason:

- ☐ Specifications proprietary
- ☐ Cannot supply at this time
- ☐ We do not carry this item
- ☐ We do not provide this service
- ☐ Unable to meet specifications
- ☐ Unable to meet Bond requirements
- ☐ Other

Please keep us on your bid list for future projects _____yes _____no

Signature: _____

Name of Company: _____

Address: _____

SECTION 1 – DEFINITIONS

Whenever the following terms appear in the Proposal, the intent and meaning shall be interpreted as follows:

1.1 City: The City of Lauderhill, Florida.

1.2 Contract: The written agreement for performance of the Scope of Work entered into between the City and the successful Proposer.

1.3 Contract Administrator: The Purchasing and Contracts Manager, or some other employee expressly designated as Contract Administrator in writing by the City Manager, who is the representative of the CITY concerning the Contract Documents.

1.4 Evaluation/Selection committee: City staff and/ or outside consultants assigned to evaluate the submitted proposals.

1.5 Proposer: Any individual, firm, or corporation submitting a proposal for this project, acting directly or through a duly authorized representative. For the purpose of this Agreement, Proposer shall mean the same thing as the Bidder.

1.6 Proposal: shall refer to any term used interchangeably with Bid while retaining the same meaning.

1.7 Purchasing Office: The Purchasing Division-Department of Finance of the City of Lauderhill.

1.8 "Provider", "Bidder", "Contractor", "Successful Proposer" "Vendor" or "Consultant": The Proposer receiving an award as a result of this Request for Proposal. Said terms may be used interchangeably while retaining the same meaning.

1.9 Qualifications/Proposal, Proposals, shall refer to any Offer(s) submitted in response to this Request for Proposal.

1.10 Request for Proposal, RFP", or Proposal: This Request for Proposal including all Exhibits and Attachments as approved by the City, and addendums or change orders issued by the Purchasing Division.

1.11 Request For Proposal, or Proposal: Terms used interchangeably in this Request for Proposal while retaining the same meaning.

1.12 Subcontractor/ Sub consultant: Any person, firm, entity, or organization, other than the employees of the successful Proposer, who contract with the Successful Proposer to furnish labor, or labor and materials, in connection with the Work or Services to the City, whether directly or indirectly, on behalf of the Successful Proposer.

1.13 Work, Services, Program, Project, or Engagement: All matters that will be required to be done by the successful Proposer in accordance with the Scope of Work, and the Terms and Conditions of this RFP.

1.14 Piggybacking: An agreement which establishes the ability of the City to piggy-back the contract of another governmental entity with a specific vendor. The Piggy-back agreement ensures that standard contractual requirements of the City are incorporated as a part of the contractual relationship with the vendor in addition to any requirements already incorporated in the agreement with the other governmental entity.

1.15 Local Vendor Bids: The City of Lauderhill Code has determined that this bid shall be reserved for participation by local City of Lauderhill vendors only. No vendor shall receive more than three set-aside bid award contracts in a fiscal year. Any local City of Lauderhill vendor that has received at least one local vendor bid award contract in each of three (3) consecutive fiscal years shall not be eligible to participate in local vendor bids for the following fiscal year. If the bid prices received from local vendors are not economically comparable to normal market pricing, the procurement shall be canceled.

SECTION 2 – SCOPE OF SERVICES

2.1 General

Through the issuance of this Request for Proposals (RFP), the City of Lauderhill, Florida (City) is hereby soliciting competitive, sealed Bid Proposals to facilitate the City's conversion from a chlorine gas to a sodium hypochlorite bulk delivery system at the City of Lauderhill Water Treatment Plan. The scope of the Work includes the design, construction, test and startup of the Project, as well as obtaining the necessary permits and meeting State and federal regulatory requirements. The procurement of this RFP was based off the results of the Feasibility Study for the Conversion from Gas to Liquid Chlorine. (See Attachment J).

The issuance of this RFP is the step in the procurement process conducted by the City to ensure that the qualified, responsive and responsible Bidder offering the City the most advantageous Bid Proposal is selected to enter into a Design-Build Contract (Contract) with the City for the Work. Bidders should carefully review this RFP to ensure a clear understanding of the City's needs, objectives, and Scope of Work.

2.2 Project Description

The items to be covered in this proposal are as follows:

- Installation of two (2) 8,000 Gal tanks for sodium hypochlorite 15-day storage. (Assman ICT 8000 or approved equal)
- Replacement of existing chlorine gas equipment, piping & ancillary components with a new system necessary to deliver sodium hypochlorite in bulk for water treatment.
- Modification of existing chlorine building to house the sodium hypochlorite storage tanks and provide a secondary containment. This modification must include the following:
    - Removal of the interior wall between chlorine storage area and chlorinator room.
    - Installation of a new roll up door on East side of building.
    - Replacement of double door on West side of building with a roll up door.
    - Installation of two (2) tank pads for the sodium hypochlorite storage tanks.
    - Installation of secondary containment wall with a protective chemically resistant coating.
- Installation of three (3) peristaltic dosing pumps for regular duty, and an additional two (2) spare peristaltic dosing pumps (Blue and White ProSeries M, Watson Marlow – Qdos, or approved equal).
- Maintenance of the existing SCADA data delivery throughout the construction of new chlorination facilities, and installation of new SCADA system for bulk delivery system.

2.3 City's Consultant Support Team

The City has contracted the services of BCC Engineering, LLC., a consulting engineering firm to provide procurement assistance, including development of a conceptual design for the procurement process and Contract administration assistance through the end of the Project.

2.4 Project Site and Background

The WTP is located at 2101 NW 49th Avenue, Lauderhill, FL 33313. The site consists of approximately 7.4 acres (AC). The WTP is designed to provide up to 16million gallons per day (MGD) of treated water to the City; however, on average, it conveys approximately 6.6-MGD to its approximately 55,000 customers and 11,050 service connections, according to Florida Department of Environmental Protection (FDEP) historical records. The WTPs public water service (PWS) identification number is 4060787.

Raw water treated at the plant is supplied by six groundwater wells (not under the influence of any surface water) that extract water from the Biscayne Aquifer. Well discharge piping combines into a common raw water header pipe just upstream of the WTP's two lime-softening solids contact clarifiers (SCCs). At this point, raw water can be directed into either one of the SCCs, or flow can be split between the two clarifiers. Based on a discussion with City staff, the WTP plant normally operates one train for six months and then will switch over to the other train for the second half of the year. The two SCCs each have a treatment capacity of 8.0 MGD. Following the clarifiers, softened and settled water flows into one of two circular filtration basins. Each of these basins also has a capacity of 8.0 MGD. The filtered water then flows from each of the filters into a common clearwell which has a capacity of 53,000 gallons (GAL). The clearwell is equipped with five transfer pumps. These clearwell transfer pumps convey filtered water to the WTP's two ground storage tanks (GSTs) which each have a capacity of 3.0 MGD. Five high-service pumps (located in the high-service pump station [HSPS] building) draw water from the GSTs and convey finished water to the potable water distribution system.

The WTP currently utilizes Cl_2 (gas) and NH_3 (aqueous) to disinfect treated water. There are multiple Cl_2 and NH_3 injection points located throughout the treatment process. The Cl_2 injection points are located on the raw water header pipe just upstream of the SCCs, on each of the settled water lines situated between the SCCs and the filter basins, on each of the filtered water lines between the filter basins and the clearwell, on the filtered water line between the clearwell and the GSTs, and lastly on the finished water line between the GSTs and the HSPS. Ammonia injection points are also located on the filtered water line between the clearwell and the GSTs and on the finished water line between the GSTs and the HSPS.

2.5 Permitting

It is envisioned that the following permits will be required for this Work, however it will be the Design-Builder's responsibility to perform due diligence to ensure that all requirement permits are obtained.

- Broward County Health Department
- City's Engineering Permit – Fees waived by the City
- City's Building Permit – Fees waived by the City

SECTION 3 – QUALIFICATIONS

3.1 The Proposer must provide references of experience performing the design and constructions of at least one (1) project involving the installation and/or replacement of a disinfection system at a water treatment plant. The Proposer must provide certificates of experience/training for an employee directly involved in the design, supervision, or installation of a disinfection system at a water treatment plant. If the Proposer is not experienced in the design or installation of disinfection system at a water treatment plant, then a consultant must be retained on site at all times until the Proposer's staff has been fully trained.

The following is a list of types of design-build Firms:

- Engineer/Architect led team.
- General Contractor led team.
- Joint Venture: Engineer/General Contractor
- Integrated Firms

Proposals will be considered from qualified firms or individuals whose experience includes successful work on similar projects. In addition, the firm must have a sufficient number of qualified staff in the applicable disciplines to complete the work in the time required and in accordance with State of Florida statutes and standards, if applicable.

SECTION 4 - TERMS OF CONTRACT

4.1 The City anticipates awarding a contract(s) for one (1) year, contingent on funding availability. Failure to complete work or satisfy deadline requirements shall result in termination of any future obligations of the City of Lauderhill to the company. Services shall begin on the first day after the Contract Agreement is executed by all parties.

In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the City as authorized by the awarding authority. The extension period shall not extend for more than ninety (90) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate in effect when this extension clause is invoked by the City.

SECTION 5 – INQUIRIES/AVAILABILITY

5.1 Inquiries concerning Proposal Submittals should be made in writing via IonWave.

5.2 Solicitation documents shall be obtained and download via IonWave at https://lauderhill.ionwave.net/.

5.3 CONTACT WITH PERSONNEL OF THE CITY OF LAUDERHILL OTHER THAN THE PURCHASING MANAGER OR DESIGNATED REPRESENTATIVE REGARDING THIS REQUEST FOR QUALIFICATIONS MAY BE GROUNDS FOR ELIMINATION FROM THE SELECTION PROCESS.

SECTION 6 – SUBMITTAL INFORMATION: How, When & Where

6.1 Proposer should submit (in a sealed envelope indicating Proposer's name and Request for Proposal (RFP) number) copies of the Proposal, each identified as follows:

RFP No.: RFP 2024-022
RFP Name: **City of Lauderhill Water Treatment Plant Chlorine Conversion**
Due Date/ Time: May 2, 2024 @ 11:45 A.M.

6.2 All (RFP's), must be submitted via IonWave.

6.3 Responses to the RFP must be signed by an authorized officer of the proposing firm who is legally authorized to enter into a contractual relationship in the name of the Proposer. The submittal of a Statement of Proposal by the Proposer will be considered by the city as constituting an Offer by the Proposer to perform the required services.

SECTION 7 - EVALUATION METHODOLOGY

Evaluation Criteria

A contract will be awarded to the consultant whose proposal is judged by the City of Lauderhill to be in its best interests, and whose proposal most closely satisfies the overall project specifications as well as other factors including, but not limited, to:

CRITERIA	MAXIMUM POINTS
A. Project Understanding	15
B. Project Approach	15
C. Ability to Perform/Staffing of Project	15
D. Experience	15
E. Best Value/Cost Effectiveness	30
F. Local Lauderhill Business Preference	10
Total	**100**

A. **Project Understanding:** This criterion will be used to assign points based on how well the consultant's proposal demonstrates their understanding of the project. The consultant should be able to explain how they will accomplish each task identified in this RFP. Also, the consultant should be able to identify how the overall project objectives are related to the current situation and discuss possible pitfalls with the project.

B. **Project Approach:** This criterion will be used to assign points based on project approach or methodology. The project approach should discuss issues and challenges for each task and demonstrate alternative ways that would be practical and cost effective. The project approach shall include a schedule for the design and construction of the project, as well as a detailed description of the method proposed to maintain chlorination during construction and complete the transition to the new disinfection system.

C. **Ability to Perform/Staffing of Project:** This criterion will be used to assign points based on capability and availability of the project team. Points will be assigned based on qualification of staff or project team members, provided in the "Company Background and Qualifications" and "Personnel/Management" section. It is important to note how a particular staff's expertise is related to the skills or tasks that would be required to provide the best solution and project deliverables. The key personnel for this project must be identified in this section as follows:

- Project Manager
- Engineer of Record
- Construction Manager

A resume must be provided for the contractor's and engineer's staff, with copies of occupational license for the Engineer of Record to practice in Florida.

D. **Experience:** Candidate has successfully completed similar projects and has the qualifications necessary to undertake this project. Prior work demonstrates innovative ideas that have engaged audiences and delivered results within a similar scope and challenges. Maximum point value will be awarded to proposers that have worked with destinations on similar scope projects within the last 5 years.

E. **Best Value/Cost Effectiveness:** This criterion will be used to assign points based on the cost-effectiveness of the proposal. The scoring will be based on the combination of cost and value. If there are two or more firms with identical or very similar cost proposal, then the firm that provides the most value-added services beyond the RFP requirements will be assigned the higher score. Conversely, if there are two or more firms with similar deliverables and additional value-added services, then the firm with the lowest cost will be assigned the higher score.

F. **Local Lauderhill Business:** To receive a ten (10) point preference as a local business, the proposer shall have an official business address within the City of Lauderhill from the date/time that this proposal is officially released.

SECTION 8 - SELECTION PROCEDURE

8.1 An Evaluation Committee appointed by the City will be responsible for selecting the most qualified firms. The Evaluation Committee may also, at its sole discretion, request additional or clarifying information from any responder. The Evaluation Committee may expressly request such information to remedy any incomplete response but will not be obligated to do so. The occurrence or absence of such a request shall not be cause for objection by any responder. Proprietary information from competing responders shall not be disclosed to the public or to competitors prior to any award subject to Public Records Law, Chapter 119, Florida Statutes.

8.2 The City may require additional information and Proposers agree to furnish such information. The City reserves the right, at its sole discretion, to award the contract to the proposer who will best service the interest of the City. The City reserves the right, based upon its deliberations and its sole opinion, to accept or reject any proposal. The City reserves the right to waive minor irregularities or variations to the specifications and in the bidding process.

8.3 The firms may be asked to make a presentation of its qualifications and methodology to staff and /or the City Commission. These firms shall have thirty (30) days to prepare and conduct these presentations. The committee shall evaluate the proposals based on the demonstrated proficiency level of the proposing firm for work of a similar type as specified in the Scope of Services with and including proof of insurance and bonding capability as described herein, and other requirements as required by the City.

8.4 The City reserves the right to award one proposer, to split the award among multiple proposers or to not award.

8.5 NO AWARD WITH RESPECT HERETO SHALL BE DEEMED FINAL AND ALL SUCH AWARDS SHALL BE DEEMED CONDITIONAL, UNLESS AND UNTIL THE PARTIES SHALL HAVE FULLY EXECUTED THE AGREEMENT(S) CONTEMPLATED HEREIN, AND A FULLY EXECUTED AGREEMENT HAS BEEN RETURNED TO THE BIDDER BY THE CITY. THE CITY RESERVES THE RIGHT TO REVOKE ANY AWARD MADE HEREUNDER, WITHOUT PENALTY, PREMIUM, OR OBLIGATION, AT ANY TIME PRIOR TO THE DELIVERY OF THE FULLY EXECUTED AGREEMENT(S) TO THE BIDDER, NOTWITHSTANDING THAT AN AWARD MAY HAVE BEEN PUBLISHED. NO BIDDER SHALL BE ENTITLED TO RELY ON ANY ANNOUNCEMENT OF AWARDS, AND THE CITY SHALL IN NO WAY BE ESTOPED IN THE REVOCATION OF AN AWARD PREVIOUSLY GRANTED.

SECTION 9– REJECTION CRITERIA

9.1 Your proposal shall be considered non-responsive if any of the following criteria exist, (this list is not all-inclusive):

9.2 All questions and instructions, including the questions in the Qualifications Package, have not been properly completed.

9.3 The instructions, order, and matrixes in the Proposal Package have not been properly followed.

9.4 The RFP response Package is found to have concealed or contained false and/or misleading information.

9.5 The City did not receive the RFP Package prior to the submittal deadline.

9.6 Your firm is not licensed with the Florida Secretary of State to do business in Florida. **You must submit a State of Florida Certificate of Status for your firm.**

9.7 Executed Non-Collusive/and or Drug Free Workplace Affidavits are not submitted with the response.

9.8 The Proposal/Bid Bond/Fidelity Bond, if required, is not included in the Package.

9.9 The Proposal signature page and certification is not properly executed.

SECTION 10 - WAIVERS

The City in its sole discretion, reserves the right to reject any and all proposals, accept any proposal or any combination of proposals or waive any minor irregularity or technicality in proposals received and may, at its sole discretion, request a re-proposal, when in its sole judgment, it will best serve public interest.

SECTION 11 - INSURANCE REQUIREMENTS

11.1 The Contractor shall furnish proof of insurance requirements as indicated below. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. The City is to be added as an "additional insured" with relation to General Liability Insurance. This MUST be written in the description section of the insurance certificate, even if you have a check-off box on your insurance certificate. Any costs for adding the City as "additional insured" will be at the contractor's expense.

11.2 The City of Lauderhill shall be given notice 30 days prior to cancellation or modification of any stipulated insurance. The insurance provided will give 10 days' notice for non-payment of premium. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Purchasing Division.

11.3 The Contractor's insurance must be provided by an A.M. Best's "A-" rated or better insurance company authorized to issue insurance policies in the State of Florida, subject to approval by the City's Risk Manager. Any exclusions or provisions in the insurance maintained by the contractor that preclude coverage for work contemplated in this RFP shall be deemed unacceptable, and shall be considered breach of contract.

11.4 Any firm performing work on behalf of the City of Lauderhill must provide Workers' Compensation insurance. Exceptions and exemptions can only be made if they are in accordance with Florida Statute. For additional information, contact the Department of Financial Services, Worker's Compensation Division at (850) 413-1601 or on the web at <http://www.fldfs.com>

11.5 Commercial General Liability Insurance covering premises-operations, products-completed operations, independent contractors and contractual liability.

Limits: Combined single limit bodily injury/property damage $1,000,000.

This coverage should include, but not limited to:

a. Coverage for the liability assumed by the contractor under the indemnity provision of the contract.
b. Coverage for Premises/Operations
c. Personal and Advertising Injury Liability
d. Products/Completed Operations
e. Broad Form Contractual Liability

Covering all owned, hired, and non-owned automobile equipment, and other vehicles used by the successful bidder in the performance of the work with the following limits of liability:

Limits: Combined single limit bodily injury/property damage $1,000,000

Professional Liability (Errors & Omissions)

Limits: $2,000,000 per occurrence

This coverage should include, but not limited to:

a. Coverage for the liability assumed by the contractor under the indemnity provision of the contract.
b. Coverage for Premises/Operations
c. Products/Completed Operations
d. Broad Form Contractual Liability

11.6 Automobile Liability Insurance

Covering all owned, hired, and non-owned automobile equipment, and other vehicles used by the successful bidder in the performance of the work with the following limits of liability:

Limits: Bodily injury	$500,000 each person, $500,000 each occurrence
Property damage	$100,000 each occurrence

Professional Liability (Errors & Omissions)

Limits: $2,000,000 per occurrence

11.7 A copy of ANY current Certificate of Insurance should be included with your proposal.

11.8 In the event that you are the successful bidder, you will be required to provide a certificate naming the City as an "additional insured" for General Liability.

11.9 Certificate holder should be addressed as follows:
City of Lauderhill
Finance Department
5581 West Oakland Park Blvd.
Lauderhill, FL 33313

SECTION 12 – GENERAL CONDITIONS

1. Submission and Receipt of Bids

   1.1. Bidders must use the forms furnished by the City.

   1.2. Bids having any erasures or corrections must be initialed by the bidder in ink. Bid shall by typewritten or filled in with pen and ink. Manual signatures must be in ink.

   1.3. It will be the sole responsibility of the bidder to have their bid delivered to the office of the City Clerk before the closing hour and date shown for receipt of bids.

   1.4. Your sealed bid envelope should show the following information:

      1.4.1. Your return mailing address in the upper left-hand corner.

      1.4.2. Bid Number – write or type the bid number that appears on the first page on the first page of the bid form on the line for it on the front of the envelope.

      1.4.3. Bid Items – write or type the title of the bid on line "Sealed bid for: **RFP 2024-022**, **City of Lauderhill Water Treatment Plant Chlorine Conversion".**

   1.5. Bids transmitted by email or facsimile will not be accepted.

2. Completion of Bid Forms

   Bidder is to fill in all of the blank spaces on the bid forms and return all numbered pages. Bidder should initial each page at the bottom to indicate he has read and understands the provisions contained on that page.

3. Signature Required

   All bids must show the company name and be signed by a company officer or employee who has the authority to bind the company or firm by their signature. UNSIGNED BIDS WILL BE REJECTED. All manual signatures must be original – no rubber stamp, photocopy, etc.

4. Prices to be firm

   Bidder certifies that prices, terms and conditions in the bid will be firm for acceptance for a period of ninety (90) days from the date of bid opening unless otherwise stated by the City. Bids may not be withdrawn before the expiration of ninety (90) days. Prices shall be firm, with no escalator clauses unless specified by the City. Bids may be withdrawn after ninety (90) days only upon written notification to the City.

5. Extensions

   If there is an error in extensions (mathematical calculations), unit prices will prevail.

6. Delivery

   6.1. All items are to be bid F.O.B. delivered with freight charges prepaid and included, to designated address as specified by the City on its purchase order(s) or in letter(s) of authorization.

   6.2. Bidder must state specific number of calendar days required for delivery of each item bid pages for consideration of award of this bid.

   6.3. Delivery time will a factor for any orders placed as a result of this bid. The City reserves the right to cancel such order(s) or any part thereof, without obligation if delivery is not made within the time(s) specified herein and hold the vendor in default. (See Section 10)

7. Signed Bid Considered an Offer

   This signed bid is considered an offer on the part of the bidder, which offer shall be considered accepted upon approval by the City Commission of the City of Lauderhill (if required). The City of Lauderhill will issue a purchase or letter of authorization to the successful bidder, as authorization for delivery of the items awarded subject to requirements of detailed specifications and those contained herein.

   In the event of default on the part of the bidder after such acceptance, the City may take such action as it deems appropriate including legal action for damages or specific performance.

8. Annual Appropriation

   Any Contract issued is conditional upon the City appropriating funding to implement the Contract.

9. Disinfection Maintenance

   The water treatment plant must remain operational throughout the construction of the project. This RFP must include methodology to maintain chlorination for the duration of the project.

10. Downtime

    Any proposed downtime must be limited to a maximum of 8 hours during off-peak hours.

11. Switchover Plan

This RFP must include a detailed switchover/connection plan for the proposed bulk facilities at the water treatment plant.

12. Electricity Demand

This RFP must include considerations for the changes in electrical demand, if any, for the water treatment plant once the new chlorination system has been implemented.

13. Employees

Employees of the Contractor shall at all times be under its sole direction and not be an employee or agent of the City. The Contractor shall supply competent employees. The City may require the Contractor to remove an employee or subcontractor it deems careless, incompetent, insubordinate or otherwise objectionable without any cost to the City or without any increase in Contract Price. Contractor shall be responsible to the City for the acts and omissions of all employees working under its directions whether or not the actions taken go beyond the normal scope of employment.

14. Additional Terms and Conditions

No additional terms and conditions included with the proposal response shall be evaluated or considered, have no force or effect, and are inapplicable to this proposal unless agreed to in writing by the City. It is understood and agreed that the conditions in these Proposal Documents are the only conditions applicable to this proposal and the Proposer's authorized signature on the Proposal Form attests to this.

15. Deletion/Oversight/Misstatement

Any deletion, oversight or misstatement of the Specifications shall not release the Proposer from the responsibility of supplying complete and fully operational units, together with all appurtenances necessary for unrestricted operation as determined by the City in its sole discretion.

16. Withdrawal of an Offer

An Offer shall be irrevocable unless the Offer is withdrawn as provided herein. A Proposal may be withdrawn only by written communication delivered to the Purchasing Office prior to the Solicitation Closing Date & Time. The proposer must present certification to assure that they are indeed an authorized representative of the Proposer's firm at the time such communication to withdraw the Proposal is presented. A representative will verify this information prior to return of Proposer's proposal. An Offer may also be withdrawn after one hundred and eighty (180) calendar days after the Solicitation Closing Date &

Time, provided that it is withdrawn prior to the recommendation for award, by submitting a letter to the Purchasing Office at the address identified in this Solicitation. The withdrawal letter must be on company letterhead and signed by an authorized agent of the Proposer.

17. Discounts

All discounts (prompt payment and overall for awarding all items Proposed) will be considered in evaluation to determine lowest "net" cost to the City.

18. Quality

All materials used for the manufacture of construction of any supplies, materials or equipment covered by this bid shall be new. The items bid must be new, the latest model, of the best quality and highest grade workmanship unless otherwise specified in this bid by the City.

19. Brand Names

Whenever proprietary names are used, (whether or not followed by the words "or approved equal"), the item(s) will be subject to acceptance and/or approval by authorized City personnel, and said personnel will deem it their prerogative to select the item(s) which are lowest bid, item by item, meeting specifications from the information furnished by the bidder with the bid and/or sample inspections or testing of the item(s) called for herein.

20. Default Provisions

In the event of default by the bidder, the City reserves the right to procure the item(s) bid from other sources and will hold the bidder responsible for excess costs incurred as a result. A contractor who defaults on a City contract may be banned from doing business with the City for a period of 36 months from the date of default.

Any costs or expenses incurred by City as a result of Proposers default shall automatically be deducted from any outstanding amounts due Proposer. Proposer shall be responsible for reimbursing City for any and all costs or expenses incurred by City as a result of Proposers default.

21. Samples

Samples, when requested, must be furnished at, or before, bid opening, (unless otherwise specified), and will be delivered at no charge to the City. If not used and/or destroyed in testing, said sample(s) will, at bidder's request, be returned within thirty (30) days of bid award at bidder's expense. If requested by the City, samples and/or inspection of like items are to be made available in the southeast Florida area.

22. Acceptance of Materials

The material delivered as a result of this bid shall remain the property of the seller until a physical inspection and actual usage of the item(s) is made and thereafter deemed acceptable to the satisfaction of the City, in compliance with the terms and specifications contained herein. In the event that the item(s) supplied to the City is/are found to be defective, or does/do not conform to specifications, the City reserves the right to cancel the order upon written notice to the seller and return the item(s) to the seller at the seller's expense.

23. Manufacturers' Certifications

The City reserves the right to obtain separate manufacturer certification of all statements made in the bid.

24. Copyrights and Patent Rights

Bidder warrants that there has been no violation of copyrights or patent rights in manufacturing, producing and/or selling the item(s) ordered or shipped as a result of this bid, and successful bidder agrees to hold the City harmless from any and all liability, loss or expense by any such violation.

25. Laws and Regulations

All applicable laws and regulations of the Federal government, the State of Florida, and ordinances of the City of Lauderhill will apply to any resulting bid award.

26. Taxes

The City of Lauderhill is exempt from any taxes imposed by the State and federal government. Exemption certificates will be provided upon request.

27. Conflict of Instructions

If a conflict exists between the General Conditions and instructions contained herein, and the Specific Conditions and instructions contained herein, the specifics shall govern.

28. Exceptions to Specifications

For the purpose of evaluation, bidder must indicate any exception to the specifications, terms, and/or conditions, no matter how minor. This includes any agreement or contract forms supplied by the bidder that are required to be signed by the City. If exceptions are not stated by bidder, in his bid, it will be understood that the item(s)/services fully comply with the specifications, terms and/or conditions stated by the City. Exceptions are to be listed by the bidder on an attachment included with his bid. The City will not determine exceptions based on a review of any attached sales or manufacture's literature.

29. Warranties

The City of Lauderhill will not accept any disclaimer of the warranties of merchantability and fitness for a particular purpose for the product(s) offered. Proposals will clearly state any additional warranties and guarantees against defective materials and workmanship. A copy of the complete manufacturer's warranty statement is to be submitted with the bid.

30. Retention of Records and Rights to Access Clause

The successful bidder shall preserve and make available all financial records, supporting documents, statistical records, and any other documents pertinent to this contract for a period of five (5) years after termination of this contract; or if an audit has been initiated and audit findings have not been resolved at the end of these five (5) years, the records shall be retained until resolution of audit finding.

31. Qualifications/Inspections

Bids will only be considered form firms normally engaged in providing he types of commodities/services specified herein. The City reserves the right to inspect the Bidder's facilities, equipment, personnel, and organization at any time, or to take any other action necessary to determine Bidder's ability to perform. The Information Technology Manager reserves the right to reject bids where evidence or evaluation is determined to indicate inability to perform.

32. Non-Collusive Statement

By submitting this bid, the bidder affirms that this bid is without previous understanding, agreement, or connection with any person, business, or corporation submitting a bid for the same materials, supplies, or equipment, and that this bid in all respects fair, and without collusion or fraud.

Additionally, bidder agrees to abide by all conditions of this bid and certifies that they are authorized to sign this bid for the bidder. In submitting a bid to the City of Lauderhill, the bidder offers and agrees that if the bid is accepted, the bidder offers and agrees that if the bid is accepted, the bidder will convey, sell, assign or transfer to the City of Lauderhill all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the State of Florida for prices fixing relating to the particular commodities or services purchased or acquired by the City of Lauderhill. At the City's discretion, such assignment shall be made and become effective at the time the City tenders final payment to the bidder.

33. Indemnification

Contractor covenants and agree that it will indemnity and hold harmless the City and all of the City's officers, agents, and employees from any claim, loss, damage, costs, charge or expense arising out of any act, action, neglect or omission by contractor during the performance of the contract, whether direct,

or indirect, and whether to any person or property to which the City of said parties may be subject, except that neither the contactor nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused or resulting from the sole negligence of City or any of its officers, agents, or employees.

34. Reservations for Rejections and Award

The City reserve the right to accept or reject any or all bids or past or bids, to waive irregularities and technicalities, and to request re-bids. The City also reserves the right to award the contract on such items, the City deems will best serve the interests of the City. The City further reserves the right to award the contract on a "split order" basis, or such combination as shall best serve the interests of the City unless otherwise.

35. Interpretations

All Proposers shall carefully examine the Proposal Documents. Any ambiguities or inconsistencies shall be brought to the attention of the City in writing prior to the opening of Proposals; failure to do so on the part of the Proposer will constitute an acceptance by the Proposer of any subsequent decision by the City. Any questions concerning the conditions and specifications contained in this bid should be submitted in writing and received by the Purchasing Division no later than fourteen (14) calendar days prior to the bid opening. The City of Lauderhill shall not be responsible for oral interpretations given by any City personnel or representative or others. The issuance of a written addendum is the only official method whereby interpretation, clarification or additional information can be given.

36. Failure to Respond

If you elect not to bid, please return enclosed "Statement of No Response" form by the bid due date, and state your reasons(s) for not bidding. Failure to respond, either by submitting a bid, or by submitting a "Statement of No Response" form, may result in your name being removed from our mailing.

37. Bid Tabulations

Tabulations are posted at IonWave. Bidders who wish to receive a copy must obtain them there. Bid results will not be given out by telephone. The City does not directly notify unsuccessful bidders of contract awards.

38. Assignment

Successful bidder may not assign or transfer this contract, in whole or part, without prior written approval of the City of Lauderhill.

39. Termination for Convenience of City

Upon thirty (30) calendar days written notice delivered by certified mail, returned receipt requested, to the successful bidder, the City may without cause and without prejudice to any other right or remedy, terminate the agreement for the City convenience whenever the City determines that such termination is in the best interest of the of the City. Where the agreement is terminated for the convenience of the City the notice of termination to the successful bidder must state that the contract is being terminated for the convenience of the City under the terminated clause and the extent of the termination. Upon receipt of such notice, the contractor shall promptly discontinue all work at the time and to the extent indicated on the notice of the termination, terminate all outstanding sub-contractors and purchase orders to the extent that they relate to the terminated portion of the contract and refrain from placing further orders and subcontractors except as they may be necessary, and complete any continued portions of the work.

40. Public Entity Crimes

In accordance with Florida State Statue 287.133(2)(a): A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity , may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, sub-contractor or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided s. 287.017 for category two for a period of 36 months from the date of being placed on the convicted vendor list.

41. Identical Tie Bids

In accordance with Section 287.087, Florid Statues, preference shall be given to businesses with Drug-free Workplace Programs. Whenever two or more bids which are equal with respect to price, quality, and service are received for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a Drug-free Workplace Program shall be given preference in the awards process.

Established procedures for processing tie bids will be followed if none of the tie vendors have a Drug-free Workplace program. In order to have a Drug-free Workplace Program, a business shall:

a) Publish a statement notifying employees that the unlawful manufacturer, distribution, dispensing, possession, or use of a controlled substance is prohibited from the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

b) Inform employees about the dangers of drug abuse in the workplace, the business’s policy of maintaining a drug-free workplace, any available drug

counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

c) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

d) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contender to, any violations of Chapter 893 or if any controlled substance law of the United States of any states, for a violation occurring in the workplace no later than five (5) days after such conviction.

e) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employees' community, by any employee who is so convicted.

f) Make a good faith effort to continue to maintain a drug-free workplace implementation of this section.

42. Invoice/Payment

All invoices should be sent to the City of Lauderhill, Accounts Payable, 5581 West Oakland Park Blvd., Suite 241 Lauderhill, FL 33313. In accordance with Florida Statues, Chapter 218, payments will be made within 30 days within receipt of merchandise and a proper invoice. The City will attempt to pay within fewer days if the bidder is willing to offer a discount. The City cannot make advance payments, make deposits in advance of receipt of goods, or pay C.O.D.

43. Optional Contract Usage

As provided in Section 287.042(17), Florida Statues, State of Florida agencies may purchase from a contract resulting from this solicitation, provided the Department of Management Services, Division of Purchasing, has certified its use to be cost effective and in best interest of the State. Contractor(s) may sell such commodities or services certified by the Divisions State of Florida agencies at the contractor's option.

44. Non Discrimination

There shall be no discrimination as to race, color, religion, gender, nation origin, ancestor, and physical or mental disability in the operations conducted under this contract. Included as applicable activities by the contractor under this section are the solicitation for, purchased or, goods or services, or the subcontracting of work in performance of this contract.

45. Notice To Contractor

The employments of unauthorized aliens by any contractor is considered a violation of Section 274A(e)of the Immigration Nationality Act. If the contractor knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of the contract.

46. Costs Incurred by Bidders

All expense associated with the preparation and/or presentation and submission of bids to the City, or any work performed in connection therewith, shall be the sole responsibility of the Bidder and shall not be reimbursed by the City.

47. Proposals to Remain Open

All proposals shall remain open for the number of days after the day of the proposal opening stated in the special provisions, or if no such number of days is stated, all proposals shall remain open for ninety (90) days after the date of proposal opening prior to award. The City may, in its sole discretion, release any proposal prior to that date.

48. Public Records

Any material submitted in response to this solicitation will become a public document pursuant to Section 119.071, Florida Statues. This includes material which the responding, bidder/proposer might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after opening pursuant to Section 119.071, Florida Statues.
The City of Lauderhill is a public agency subject to Chapter 119, Florida Statues. The Contractor shall comply with Florida's Public Records Laws. Specifically, the Contractor shall:

a. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service;

b. Provide the public with access to such public records on the same terms and conditions that the City would provide the same records and at a cost that does not exceed that provided in Chapter 119, Fla. Stat., or as otherwise provided by law.

c. Ensure that public records that are exempt or that are confidential and exempt from public record requirements are not disclosed except as authorized by law;

d. Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt. All records stored electronically must be provided to the City in a format that is compatible with the information technology system of the agency.

The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of the Agreement and the City shall enforce the Default in accordance with the provisions set forth herein.

38. Proposers agrees to extend identical pricing and goods under the same terms and conditions to other governmental entities. A contracting agency wishing to utilize like services will execute its own contract with the successful Proposer(s) for its requirements.

The remainder of this page is intentionally left blank.

SECTION 13 - SUBMITTAL PACKAGE

Submit this portion of the Request for Proposal as your firms Qualifications Package. Complete the following information exactly as shown including numbering and tabbing sections. This information is vital for the City to rate your firm, as your evaluation and ranking will be based on the information supplied below along with any other information required by the City.

Responses to Tab #'s 1-8 should not exceed 30 pages. Points may be deducted for Responses that exceed thirty (30) pages.

TAB #1 Insert Proposer's Qualification Statement (Attachment "A")

TAB #2 Statement of Capabilities:

Provide a statement that addresses why the specific Proposer would be in the best posture to deliver the required services. (Limit to one (1) page.)

TAB #3 Proposal:

1. Submit an outline of the elements and organizational structure of the team established to manage the project. This is to include the administrative operation and key personnel and their area of responsibility.

2. Describe the Proposer's approach to the management of this contract; describe the methodology employed to ensure prompt service, customer satisfaction, prompt complaint resolution, effective employee performance and training. Please explain any differences or challenges you may have encountered with any client, and the method(s) you employed to overcome them.

TAB #4 Specific Related Experience of the Firm

List the last five (5) contracts held comparable to this specific project and related experience accomplished by the proposer firms. Indicate:

- Client Name, address, and telephone number
- Principal/ Project Manager in Charge, licensing/ certifications, various team positions
- Whether your firm was the primary or subcontractor
- Description of the contract including;
- Contract Objective (s)/ accomplishments
- Challenges encountered, resolutions
- Contract Starting and Ending Dates

Tab #5 Scope of Work

Proposer should prove the consultant's capability; describing strategies to be used and quality controls. The scope of work should demonstrate knowledge and understanding of branding and the shifting dynamics of how consumers receive and use information today.

TAB #6 **Price Bid Sheet**
Submit your cost schedule here.

TAB #7 **Personnel/Management**

TAB #8 **Attachments:**
Insert:
Non-Collusive Affidavit (Attachment "B")
Cost Schedule (Attachment "C")
Confirmation of Drug-Free Workplace (Attachment "D)
Signature Page (Attachment "E")
List of Subcontractors (Attachment "F")
References (Attachment "G")
Acknowledgement of Addendums (Attachment "H")
Certificate of Insurance, and Licenses

The remainder of this page is intentionally left blank.

ATTACHMENT A
PROPOSER'S QUALIFICATIONS STATEMENT

PROPOSER shall furnish the following information. Failure to comply with this requirement will render Bid non-responsive and shall cause its rejection. Additional sheets shall be attached as required.

PROPOSER'S Name and Principal Address:

_____

_____

_____

Contact Person's Name and Title: _____

PROPOSER'S Telephone and Fax Number: _____

PROPOSER'S Email: _____

PROPOSER'S License Number: _____

(Please attach certificate of competency and/or state registration.)

PROPOSER'S Federal Identification Number: _____

Number of years your organization has been in business, in this type of work: _____

Names and titles of all officers, partners or individuals doing business under trade name:

_____

_____

_____

_____

The business is a: Sole Proprietorship ☐ Partnership ☐
Corporation ☐

Name, address, and telephone number of surety company and agent who will provide the required bonds on this contract:

_____

_____

_____

Have you ever failed to complete work awarded to you. If so, when, where and why?

Have you personally inspected the proposed WORK and do you have a complete plan for its performance?

Will you subcontract any part of this WORK? If so, give details including a list of each sub-contractor(s) that will perform work in excess of ten percent (10%) of the contract amount and the work that will be performed by each subcontractor(s).

The foregoing list of subcontractor(s) may not be amended after award of the contract without the prior written approval of the Contract Administrator, whose approval shall not be reasonably withheld.

List and describe all bankruptcy petitions (voluntary or involuntary) which have been filed by or against the Proposer, its parent or subsidiaries or predecessor organizations during the past five (5) years. Include in the description the disposition of each such petition.

List and describe all successful Bond claims made to your surety (ies) during the last five (5) years. The list and descriptions should include claims against the bond of the Proposer and its predecessor organization(s).

List all claims, arbitrations, administrative hearings and lawsuits brought by or against the Proposer or its predecessor organizations(s) during the last (5) years. The list shall include all case names; case, arbitration or hearing identification numbers; the name of the project over which the dispute arose; and a description of the subject matter of the dispute.

List and describe all criminal proceedings or hearings concerning business related offenses in which the Proposer, its principals or officers or predecessor organization(s) were defendants.

Has the Proposer, its principals, officers or predecessor organization(s) been CONVICTED OF a Public Entity Crime, debarred or suspended from bidding by any government during the last five (5) years? If so, provide details.

The PROPOSER acknowledges and understands that the information contained in response to this Qualification Statement shall be relied upon by CITY in awarding the contract and such information is warranted by PROPOSER to be true. The discovery of any omission or misstatement that materially affects the PROPOSER'S qualifications to perform under the contract shall cause the CITY to reject the Bid, and if after the award, to cancel and terminate the award and/or contract.

By _____
(Signature)

ATTACHMENT B
NON-COLLUSIVE AFFIDAVIT

STATE OF _____

COUNTY OF _____

_____ being first duly sworn deposes and says that:

BIDDER is the _____,
(Owner, Partner, Officer, Representative or Agent)

BIDDER is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham Bid;

Neither the said BIDDER nor any of its officers, partners, owners, agents, representative, employees or parties in interest, including this affidavit, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other BIDDER, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion, or communications, or conference with any BIDDER, firm, or person to fix the price or prices in the attached Bid or any other BIDDER, or to fix any overhead, profit, or cost element of the Bid Price or the Bid Price of any other BIDDER, or to secure through any collusion conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Contract;

The price of items quoted in the attached Bid are fair and proper and are not tainted by collusion, conspiracy, connivance, or unlawful agreement on the part of the BIDDER or any other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

By _____

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public (Signature)

My Commission Expires: _____

ATTACHMENT C
PRICE BID SHEET
SECTION 00300 A-1

All bid items shall include costs for furnishing to the Owner, complete, in place and ready for continuing use the items as described below in complete adherence with the Contract Documents. The bid shall include all costs incurred in completing the Work including all tools, supplies, labor, supervision, fees, taxes, permits, insurance, bonds, miscellaneous costs along with the Contractor's overhead and profit required to install, replace, retrofit, demolish and rework the materials and equipment described, shown or detailed in these Contract Documents. The complete costs for labor, materials and equipment shall be included where applicable.

A. GENERAL ITEMS

Item No. 1: Furnish all labor, equipment and materials necessary to mobilize and de-mobilize the work including; field offices, videos/photos, project setup, sanitary facilities, construction staging area preparation and closure, project signage and project coordination/management, delivery on site of major demolition equipment as specified herein, as well as all additional expenses due to general conditions not specifically covered in all other items listed below. Fifty percent (50%) for mobilization, and fifty percent (50%) for de-mobilization. To be disbursed 30-days after mobilization and completion of contract work.

LUMP SUM PRICE: $ _____

_____ **DOLLARS**
Written

Item No. 2: For payment of Construction Performance Bond, Construction Payment Bond and Insurance premiums:

LUMP SUM PRICE: $ _____

_____ **DOLLARS**
Written

Item No. 3: Allowance for contingency items due to unforeseen site conditions to be processed by change order as directed by the Owner.

LUMP SUM PRICE: $ 50,000

Fifty thousand **DOLLARS**
Written

Item No. 4: Allowance for material testing as specified and as ordered by the Owner:

LUMP SUM PRICE: $ 20,000

Twenty thousand DOLLARS

Written

Item No. 5: Provide Design Services to finalize design/construction plans in various professional disciplines and obtain required approvals and permits to include material and labor for work related to preparation of plans for the chlorination system conversion.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 6: Site Preparation to include equipment, material and labor for proposed improvements, and manage the maintenance of traffic, locates, earthwork, demolition, site clearing, grubbing and grading among other activities related with executing the construction without interrupting the daily operation of the WTP.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 7: Provide all labor, material and incidentals required for the modification of the existing chlorine building to house sodium hypochlorite storage tanks and provide secondary containment. The price bid for this item shall include the removal of the interior wall between chlorine storage area and chlorinator room, the installation of a new roll up door, tank pads for the storage tanks, secondary containment for the tanks, and the replacement of existing double door with a new roll up door.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 8: Provide all labor, material and incidentals for the installation of regular duty and spare peristaltic dosing pumps. Pumps shall be ProSeries M, Watson Marlow – Qdos, or approved equal.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 9: Provide all labor, material and incidentals for the installation of new SCADA system for the bulk chlorination system. Existing SCADA system must remain operational until transition to new chlorination respective SCADA systems has been completed.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 10: Provide all labor, material and incidentals for the installation of the proposed chlorination system. Price bid must include removal and disposal of existing chlorination system, installation and maintenance of a temporary chlorination system to maintain disinfections throughout the construction of the new chlorination system, installation, testing and connection of this new chlorination system to the treatment plant facility.

LUMP SUM PRICE: $ _____

DOLLARS

Written

Item No. 11: Provide all labor, material and incidentals for the complete and accurate development of record drawings of the improvements installed. All record drawings shall reflect surveyed information performed by a Professional Land Surveyor registered in the state of Florida. This item includes all reproduction costs associated with the record drawings submittal approval. Payment under this item will be 50% after submittal and approval to outside permitting agencies and the remainder 50% will be paid once final approval from City of Lauderhill is received.

LUMP SUM PRICE: $ _____

DOLLARS

Written

GRAND TOTAL AMOUNT: $ _____

DOLLARS

Written

(Bid Items 1 through 11 inclusive)

ATTACHMENT D
CONFIRMATION OF DRUG-FREE WORKPLACE

In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibitions.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or Contractual services that are under Bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employee that, as a condition of working on the commodities or Contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contenders to, any violation of Chapter 893 or of any controlled substance law of the United States or any State, for a violation occurring in the workplace no later than five (5) days after the conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

A signed copy of your Drug-Free Workplace Policy must be attached to this signed copy and submitted with the Bid Documents.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

_____
Vendor's Signature

ATTACHMENT E
SIGNATURE PAGE

The undersigned attests to his (her, their) authority to submit this Submittal and to bind the firm(s) herein named to perform as per agreement. Further, by signature, the undersigned attests to the following:

1. The Proposer is financially solvent and sufficiently experienced and competent to perform all of the work required of the Proposer in the Contract;
2. The facts stated in the Proposer's response pursuant to Request for Submittals, instructions to Proposer and Specifications are true and correct in all respects;
3. The Proposer has read and complied with, and submits their proposal agreeing to all of the requirements, terms and conditions as set forth in the Request for Proposals.
4. The Proposer warrants all materials supplied by it are delivered to the CITY of Lauderhill, Florida, free from any security interest, and other lien, and that the Proposer is a lawful owner having the right to supply the same and will defend the conveyance to the CITY of Lauderhill, Florida, against all persons claiming the whole or any part thereof.
5. **Proposer understands that if a team is short listed and selected to make oral presentations to the selection committee and/or CITY, only the team members evaluated in the written submissions may present at the oral presentations. Any changes to the team at the oral presentations will result in that team's disqualification.**
6. The undersigned certifies that if the firm is selected by the City the firm will negotiate in good faith to establish an agreement.
7. Proposer understands that all information listed above may be checked by the City of Lauderhill and Proposer authorizes all entities or persons listed above to answer all questions. Proposer hereby indemnifies the City of Lauderhill and the persons and entitles listed above and holds them harmless from any claim arising from such authorization or the exercise thereof, including the dissemination of information pursuant thereto.

Submitted on this _____ day of _____, 20__.
(If an individual, partnership, or non-incorporated organization)

_____	_____
Witness	Company
_____	_____
Printed	By
_____	_____
Title	Printed Name, Title
(If a corporation, affix seal)	_____
	Company
	_____
	By
Attested by Secretary	_____
	Printed Name, Title

Incorporated under the laws of the State of _____.

CERTIFICATE
(For Partnership)

I HEREBY CERTIFY that a meeting of the partners of _____, a Partnership under the laws of the State of _____ held on _____, 20____, the following resolution was duly passed and adopted:

"RESOLVED, that _____ as _____ of the Partnership, is hereby authorized to execute the Bid Form dated _____, 20_____, between the City of Lauderhill, Florida, and this Partnership, and that the execution thereof, attested by the _____ of the Partnership be the official act and deed of this Partnership."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of _____, 20___.

_____
(Signature)

_____
(Title)

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me on this _____ day of _____, 20____ by _____ who □ is personally known to me or who □ has presented the following type of identification: _____ _____.

_____
Signature of Notary Public, State of Florida

_____
Notary seal (stamped in black ink)
OR
Printed, typed or stamped name of Notary and Commission Number

CERTIFICATE
(For Corporation)

I HEREBY CERTIFY that a meeting of the Board of Directors of _____, a corporation under the laws of the State of _____ held on _____, 20 ___, the following resolution was duly passed and adopted:

"RESOLVED, that _____, as _____ of the Corporation, is hereby authorized to execute the Bid Form dated _____, 20___, between the City of Lauderhill, Florida, and this Corporation, and that the execution thereof, attested by the Secretary of the Corporation and with corporate seal affixed, shall be the official act and deed of this Corporation".

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of _____, 20___.

_____
Secretary

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me on this _____ day of _____, 20_____ by _____ who □ is personally known to me or who □ has presented the following type of identification: _____ _____.

_____
Signature of Notary Public, State of Florida

_____
Notary seal (stamped in black ink)
OR
Printed, typed or stamped name of Notary and Commission Number

ATTACHMENT F
LIST OF SUBCONTRACTORS

The Proposal shall list below the names and business address of each subcontractor who will perform Work under this Proposal in excess of one-half of one percent of the Contractor's Total Proposal Price, and shall also list the portion of the Work that will be done by such subcontractor. The listing of more than one subcontractor for each item of Work to be performed with the words "and/or" will not be permitted. Failure to comply with this requirement will render the Proposal as non-responsive and may cause its rejection.

Work to Be Performed	% Total Contract	Contractor License No. if Applicable	Subcontractor Name/Address

ATTACHMENT G
PERFORMANCE REFERENCE
VERIFICATION SURVEY FORM

RFP # 2024-022

Vendors Name:
Agency Providing Reference:
Agency Contract:
Contact E-mail:
Contact Phone #:
Solicitation Name:

Please rate your experience with the vendor. The completed questionnaire form must be attached with your response. Thank you.

Please use the following rating scale to answer the questions:

Ratings: 1 Poor 2 Good 3 Exceptional 4 Not Applicable

1. Rate the level of commitment of the Contractor when performing the work. ___
2. Rate the competency and accessibility of the personnel performing the work. ___
3. Rate the vendor's success at keeping you updated and informed of problems and issues. ___
4. Rate the vendor's knowledge of procedures required by regulatory agencies. ___
5. Rate the vendor's ability to meet deadlines. ___
6. Rate the vendor's ability to complete punch list items. ___
7. Rate the vendor's commitment to safety. ___
8. Rate the level of comfort and confidence you had in the contractor during the project. ___
9. Rate the overall performance of the vendor. ___

Additional comments:
_____
_____

Vendor Name: _____ Title: _____
(Please print – Person completing survey)

Signature: _____ Date: _____
(Person completing survey)

Reference verified by City Employee: _____ Date: _____

ATTACHMENT H
ACKNOWLEDGEMENT OF ADDENDUM

RFP _____
TITLE_____

Acknowledgement is hereby made of the following Addenda received since issuance of Specifications:

Addendum No. _____-Dated _____

Addendum No. _____-Dated _____

Addendum No. _____-Dated _____

Name of Vendor's Service Contact: _____

Address: _____

_____

Signature_____ Date_____

This page must be submitted with RFP. Failure to provide the requested documents may result in your proposal being deemed Non-Responsive.

PERFORMANCE REFERENCE
VERIFICATION SURVEY FORM

RFP # _____

Reference for (Company Name):
Agency Name:
Agency Contract:
Contact E-mail:
Contact Phone #:
Solicitation Name:

Please rate your experience with the vendor. The completed questionnaire form must be attached with your response. Thank you.

Please use the following rating scale to answer the questions:

Ratings: 1 Poor 2 Good 3 Exceptional 4 Not Applicable

1. Rate the level of commitment of the Contractor when performing the work. ___
2. Rate the competency and accessibility of the personnel performing the work. ___
3. Rate the Contractor's success at keeping you updated and informed of problems and issues. ___
4. Rate the Contractor's knowledge of procedures required by regulatory agencies. ___
5. Rate the Contractor's ability to meet deadlines. ___
6. Rate the Contractor's ability to complete punch list items. ___
7. Rate the Contractor's commitment to safety. ___
8. Rate the level of comfort and confidence you had in the contractor during the project. ___
9. Rate the overall performance of the contractor. ___

Additional comments:
_____
_____

Vendor Name: _____ Title: _____
(Please print – Person completing survey)

Signature: _____ Date: _____
(Person completing survey)

Reference verified by City Employee: _____ Date: _____

PART III. SMALL BUSINESS ENTERPRISE PROGRAM.

Sec. 1. Objectives and Definitions.

(1)

Lauderhill small business development program or *program* means the city's initiatives to aid and assist the interests of small businesses in the City of Lauderhill to ensure that small businesses have a fair opportunity to participate in city contracts, preserve free competitive enterprise, and maintain and strengthen the overall economy of the City of Lauderhill.

(2)

Continuous operating presence means an entity with a current business tax receipt issued by the City of Lauderhill; that has a physical address located within the geographical limits of the City of Lauderhill (not a P.O. Box or address provided by a business service center); a business entity that has maintained a permanent place of business with full-time employees within the city limits prior to the date of issuance of this bid. The permanent place of business must be the primary place of business of the entity and may not be a post office box or a personal residence. A business occupying a co-working space, shall be deemed a permanent place of business if all other conditions are met. The business must actually distribute goods, supplies, materials, equipment or services from the permanent place of business. The business must have a current valid certificate of use from the City of Lauderhill and must not be publicly traded.

(3)

Good faith efforts means that the bidder, without an intent to defraud or to seek an unfair advantage, took all necessary steps to secure and maximize SBE participation to meet or exceed the established SBE goal for the project. The determination of good faith efforts shall be made by the purchasing director upon evaluation of the bidder's response to the solicitation.

(4)

Personal net worth means the value of the assets of an individual after total liabilities (not including contingent liabilities) are deducted. For purposes of SBE certification, an individual's personal net worth shall not include either the individual's ownership interest in any SBE applying for certification or certified by the city, or the individual's equity in his or her primary place of residence.

(5)

Prime contractor means an entity awarded a city contract.

(6)

Small business enterprise or SBE means an entity certified as an SBE by the city as provided herein.

(7)

Subcontractor means an entity that enters into a contract with a prime contractor to perform work required by a city contract.

Sec. 2. Certification Standards.

(a)

SBE *Eligibility Requirements.* An entity is eligible for certification as an SBE if it meets the following criteria:

(1)

The entity shall employ fifteen (15) or fewer permanent full-time employees. In addition, eligibility is subject to the following gross revenue limitations: Professional consultants, when combined with any and all affiliates, shall have less than five hundred thousand dollars ($500,000.00) in average annual gross revenue, calculated over the previous three (3) calendar years, unless that entity is a professional consultant providing architectural or engineering services. For professional consultants providing architectural or engineering services, the entity shall, when combined with any and all affiliates, have an average annual gross revenue less than five hundred thousand dollars ($500,000.00), calculated over the previous three (3) calendar years; however, the gross revenue calculation shall exclude amounts paid for work under an architectural or engineering services agreement with the city that the SBE professional consultant subcontracts to a nonaffiliated architectural or engineering firm and where no fee or other compensation for such subcontracted work is retained by the SBE professional consultant. Entities providing construction services shall, when combined with any and all affiliates, have less than three million dollars ($3,000,000.00) in average annual gross revenue calculated over the previous three (3) calendar years. Entities providing services other than professional consulting or construction shall, when combined with any and all affiliates, have less than one million dollars ($1,000,000.00) in average annual gross revenue calculated over the previous three (3) calendar years. Entities offering to sell commodities to the city shall be subject to the employee limitation above but are not subject to any gross revenue limitation with regard to certification as a commodities firm;

(2)

No person with a legal or beneficial ownership interest, direct or indirect, in the entity or any affiliate of the entity shall have a personal net worth exceeding one million three hundred twenty thousand dollars ($1,320,000.00);

(3)

The entity shall have a continuous operating presence in the City of Lauderhill and may only operate in areas zoned to permit its operations. The entity must allow the city to conduct site visits of its primary place of business and any other place of operation by the entity at any time during normal operating hours. The entity's obligation to allow site visits shall continue throughout its certification as an SBE, and its failure to allow such site visitation may constitute grounds for decertification; and

(4)

The entity must not be a joint venture, as joint ventures are not eligible for certification. However, an entity otherwise eligible for certification is not disqualified from certification by its participation in a joint venture.

(b)

Required disclosure and notification. During the application process, an applicant must disclose all of its affiliates and other entities that employ or share principals, management, or key personnel with the applicant entity. Once the applicant entity has become certified as a SBE, that entity must notify the city within thirty (30) calendar days after any changes in the ownership, affiliation, management, or key personnel. Failure to provide timely notice of any such changes shall constitute grounds for decertification.

(c)

Discriminatory actions forbidden. No person or entity shall be denied SBE certification on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, sexual orientation, pregnancy, or gender identity or expression.

(d)

Application for certification.

(1)

An entity seeking certification as a SBE shall submit an application demonstrating that the entity meets the eligibility requirements of paragraphs (b) or (c) above, as applicable. In addition, the entity must identify the general type(s) of goods or services it provides or sells in the ordinary course of its business to customers. An entity will only be certified to provide goods or services to the city that the entity also provides to other customers in the ordinary course of its business. Brokers are not eligible for certification.

(2)

Applications for certification must be submitted on the form provided by City of Lauderhill Division of Purchasing (DOP). Applications must be completed in their entirety, and entities applying for certification must supply all of the information requested therein, agree to supply any additional information requested by the DOP, and agree to be bound by the provisions and regulations of the program governing the certification and decertification process, as applicable.

(3)

The burden of establishing certification eligibility is on the entity seeking certification as a SBE. All required documentation must be provided before a certification decision will be rendered by DOP.

(4)

Entities seeking certification as a SBE must maintain compliance with the certification standards under the program throughout the duration of certification with the city. Failure to do so shall constitute grounds for decertification.

(e)

Continuing certification. In order to maintain its certification, a certified SBE shall submit a form affidavit of continuing eligibility, on an annual basis, on or before the anniversary date on which the entity was first certified as a SBE, and shall participate in periodic DOP certification eligibility reviews. Failure to fully complete the form affidavit on or before the anniversary date of the entity's SBE certification may result in suspension of certification or decertification, as applicable.

Sec. 3. SBE Goals and Reserves.

(a)

When the city issues a solicitation a goal of up to twenty-five (25) percent participation by SBEs is hereby established for contracts with a value of more than one hundred fifty thousand dollars ($150,000.00), except those contracts that are otherwise ineligible pursuant to state or federal law. A contract may be reserved for SBEs when the city commission, after consulting with the purchasing official, determines that establishing such reserves is appropriate to create opportunities for SBEs to gain experience as a prime contractor. However, no contract shall be reserved for SBEs if the purchasing department determines that there are fewer than two (2) certified SBEs available to perform the work required under the contract.

SBE contract requirements will be as follows:

$150,000—499,999 - 10%

$500,000—750,000 - 15%

$751,000—999,999 - 20%

$1,000,00—over - 25%

(b)

If an SBE reserve is established, only SBEs will be eligible to bid on the solicitation. In the event that no SBE responds or no SBE is responsive, the purchasing director shall cancel the solicitation.

(c)

Notwithstanding anything to the contrary in paragraphs (a) and (b) above, in the event that none of the responses to an SBE reserve solicitation would result in a contract with a value of less than one hundred thousand dollars ($100,000.00), the purchasing official may elect to either accept the response(s) and proceed to the award stage, or reject the response(s) and request that DOP determine whether a SBE reserve should be established for any new solicitation.

(d)

Prior to making any determination that an otherwise eligible contract shall not, under this section, be reserved for SBEs due to there being fewer than two (2) certified SBEs available to perform the applicable work under the contract, the purchasing official shall engage in all appropriate additional outreach efforts designed to increase the number of certified, available firms. The purchasing official, in consultation with the city attorney, may extend, by up to thirty (30) days, any procurement deadlines and any other applicable deadlines to provide sufficient time for these additional outreach efforts to be completed. If additional firms eligible for certification are identified through these outreach efforts, the purchasing director shall, to the greatest extent practicable, expedite the certification of those firms so as to minimize procurement delays.

Sec. 4. Participation Requirements and Enforcement.

(a)

Participation requirements. Entities may not participate in a city contract as a SBE unless they are certified as a SBE prior to bid submittal to perform the type of work required by the contract. However, if it becomes necessary to substitute a SBE in order to meet the contract's participation requirements, a SBE may be substituted, upon the approval of the purchasing director, provided that such SBE is certified at the time of the substitution.

(1)

Only the work actually performed by a SBE (whether as a prime contractor or subcontractor) shall be counted toward satisfaction of the applicable goal.

(2)

Contractors that use SBEs as subcontractors on a city contract must pay those subcontractors directly for all goods or services provided by the subcontractors within fifteen (15) days after receipt of payment from the city.

(b)

Fair dealing. It is the city's policy that all business activities related to this act shall be conducted in a fair and reasonable manner, free of fraud, coercion, collusion, intimidation, or bad faith. Violation of this policy by any prime contractor, subcontractor, bidder, or other individual or entity that seeks to engage in business with the city may result in a written determination by the director of purchasing, after consulting with the purchasing director and the office of the city attorney, that the city should consider termination of any or all business relationships between the violating individual(s) or entity(ies) and the city, including cancellation of solicitations, cessation of negotiations, revocation of SBE certification, and suspension or debarment for cause from consideration for award of future contracts. Such written determination shall state the reasons for the action taken and inform the individual(s) and entity(ies) involved of their right to administrative review in accordance with the procurement code. Any determination made by the director of purchasing pursuant to this paragraph may be appealed in accordance with the procurement code.

(c)

SBEs may participate in a city contract only if they are performing a commercially useful function in the contract and are not acting as brokers.

(d)

Enforcement. The provisions of this act, unless noted otherwise, are primarily enforced through the issuance of notices to cure and notices of violation by DOP. The DOP may issue such notices for any infraction of the SBE programs. Failure to respond timely and completely to such notices will place the alleged violator in a state of noncompliance.

(1)

Notice to cure. A notice to cure is formal notification to a SBE of an alleged violation of the act. A notice to cure may be issued if the entity fails to timely provide requested information or documentation, or if the entity:

a. Engages in a practice that contravenes the SBE program;

b. Fails to meet certified subcontractor participation;

c. Fails to meet prompt payment requirements;

d. Fails to supply required utilization reports;

e. Fails to utilize certified subcontractors as agreed or, without approval from the purchasing director, substitutes, deletes, or otherwise adjusts the certified subcontracting team; or

f. Fails to comply with any other program requirement, as determined by the purchasing director.

(2)

Notice of violation. A notice of violation results from a substantiated violation of the act. DOP may issue a notice of violation if a SBE fails to comply with a notice to cure after being given opportunity to do so through the notice to cure process. However, for willful or egregious violations of the act, as determined by the DOP, a notice of violation may issue without the prior issuance of a notice to cure.

(e) *Penalties for violations of the act.* The purchasing director may determine, upon reasonable notice to the person or entity involved and reasonable opportunity for that person or entity to be heard, that a person or entity has violated the act. Upon such a determination, the purchasing director may suspend or debar such entity for cause from consideration for award of future contracts for a period of up to three (3) years.

(1)

The city will maintain a public list of entities suspended or debarred from contracting with the city. The list will detail actions taken in response to the purchasing director's recommendations.

(2)

For all recommendations from the purchasing director for suspension or debarment due to violations of the act, the purchasing director will review the allegations and determine what action(s), if any, shall be taken against the alleged violator.

(3)

Any person or entity having a substantial interest in the alleged violation of the act who is dissatisfied or aggrieved with the purchasing director's determination regarding such violation may appeal said determination in accordance with the procedures contained in the procurement code.

(f) The administrative procedures adopted pursuant to this act shall include procedures by which the DOP will monitor SBE participation on city contracts for which SBE goals or reserves are set.

(g) Each contract setting a SBE goal shall provide that, prior to a prime contractor terminating its contract with a SBE subcontractor for any reason, including for cause, the prime contractor shall provide the Purchasing director with written notice of the proposed termination. Thereafter, when a SBE subcontractor is terminated by a prime contractor for any reason, including for cause, the prime contractor shall, with notice to and the concurrence of the purchasing director, substitute another SBE in order to meet the level of SBE participation provided in the prime contractor's contract with the city. The contract shall also provide that such substitution shall not be required in the event the termination results from the city changing the scope of work under the contract and there is no available SBE to perform the new scope of work.

(h) All entities that bid on or participate in city contracts subject to this act are responsible for meeting the requirements of this act and the requirements of any administrative procedures adopted pursuant to this act. If an entity fails to comply with these requirements, the city may exercise any administrative remedies it has under the city's procurement code, administrative procedures adopted pursuant to this act, or any other right or remedy provided in the contract or under applicable law, with all of such rights and remedies being cumulative.

Sec. 5. Administrative Requirements and Other Remedies.

(a)

Required contract language. The city shall require that each solicitation and contract that contains SBE requirements, and each subcontract a prime contractor executes with a SBE in connection with that city contract, shall include the following requirements:

(1)

The contractor (prime or SBE) shall comply with all applicable requirements of the City of Lauderhill Small Business Program in the award and administration of this contract. Failure by the prime contractor to carry out any of these requirements shall constitute a material breach of contract, which shall permit the city to terminate its contract with the prime contractor or to exercise any other remedy provided under the contract, under the City of Lauderhill Code of Ordinances or Administrative Code, or under applicable law, with all of such remedies being cumulative.

(2)

For solicitations and contracts where the prime contractor is required to satisfy a SBE goal or SBE reserve, as applicable, substantially the following language shall be included in the contract: "The parties stipulate that if the prime contractor fails to meet the SBE commitment, as applicable (the "commitment"), the damages to the city arising from such failure are not readily ascertainable at the time of contracting. Therefore, if the prime contractor fails to meet the

commitment and the city determines, in the sole discretion of the purchasing director, that the prime contractor failed to make good faith efforts to meet the commitment, the prime contractor shall pay the city liquidated damages in an amount equal to fifty (50) percent of the actual dollar amount by which the prime contractor failed to achieve the commitment, up to a maximum amount of ten (10) percent of the total contract amount (excluding costs and reimbursable). For example, if the contract amount (excluding costs and reimbursable) is one million dollars ($1,000,000.00), there is a twenty-five (25) percent SBE goal, and SBEs receive only twenty (20) percent of the amounts paid by the city (excluding costs and reimbursable), then the prime contractor would have fallen short of the commitment by fifty thousand dollars ($50,000.00), and the liquidated damages due the city would equal twenty-five thousand dollars ($25,000.00). Such liquidated damages amount shall be either credited against any amounts due from the city or paid to the city within thirty (30) days after written demand, as elected by the city. These liquidated damages shall be the city's sole contractual remedy for the prime contractor's breach of the commitment, but shall not affect the availability of administrative remedies under this act. Any failure to meet the commitment attributable solely due to force majeure, changes to the scope of work by the city, or inability to substitute a subcontractor under the act where the purchasing director has determined that such inability is due to no fault of the prime contractor, shall not be deemed a failure by the prime contractor to meet the commitment."

(b)

Establishment of SBE *directory.* The purchasing director shall maintain a directory listing all SBEs. The listing shall include each entity's address, phone number, and the type(s) of work the entity has been certified to perform as a SBE on a city contract. The directory shall be revised monthly, and shall be made available to contractors and the public through the city website. The purchasing director shall manage directory listings for the U.S. Department of Transportation certification programs in accordance with the requirements of those programs and the State of Florida Unified Certification Program.

Sec. 6. Small Business Development.

(a)

Program graduation. A SBE that exceeds the SBE gross revenue or personal net worth eligibility requirements of this act, as applicable, will be designated by the purchasing director as a graduate of the program. Program graduates may complete their work under all current city projects under their previous SBE status provided that the bid submission date of those projects occurred prior to the SBE's date of program graduation. SBEs decertified for cause shall not be considered program graduates under this ordinance.

(4)

Award to other than low price bidder. When the award is not given to the bidder who bids the lowest price, a full and complete written statement of the reasons for placing the other elsewhere shall be prepared and submitted with the other papers relating to the transaction.

(5)

Tie bids.

a.

Local vendors. If all bids received are for the same total amount or unit price, quality and service being equal, the contract shall be awarded to a local bidder, and in the event of a tie bid by local vendors, the contract may be split when it is to the city's advantage.

b.

Outside vendors. Where subsection (f)(5)a is not in effect, the city commission may award the contract to any one (1) tie bidder or divide the contract between tie bidders when it is in the city's best interest.

(6)

Payment and performance bond. The purchasing officer shall have the authority to require a performance bond, before entering into a contract, in such amount as he/she shall find reasonably necessary to protect the best interest of the city.

(7)

Minimum compensation. In order to be eligible to contract to conduct business with the city, all contractors and subcontractors must comply with the minimum compensation requirement that all persons hired by, working for, or on behalf of them, must be paid a minimum wage compensation of ten dollars and ten cents ($10.10) per hour. This minimum compensation requirement applies for all procurement activities issued or posted by the city after October 1, 2014.

(g)

Prohibition against subdivision. No contract of purchase shall be subdivided to intentionally avoid the requirements of this section or of section 2-140.

(h)

Bidders list. The purchasing officer shall also solicit sealed bids from all reasonable prospective suppliers who have requested their names to be added to a "bidders list" which the purchasing officer shall maintain, by sending them a copy of such newspaper notice or such other notice as will acquaint them with the proposed purchase. In any case, invitations sent to the vendors on the bidders list shall be limited to commodities that are similar in character and ordinarily handled by the trade group to which the invitations are sent.

(i)

No bids received. If no bids for contractual services or supplies are received, the mayor or any employee designated by him/her may negotiate with any companies or firms which provide the services or supplies sought.

ATTACHMENT I

CONCEPTUAL DRAWINGS

PLOT DATE: 8/14/2023 5:02 PM

WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

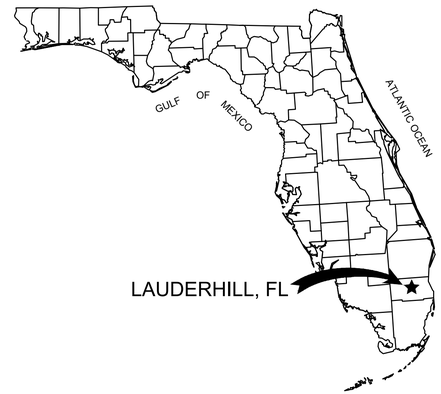
CONCEPTUAL DRAWINGS
AUGUST, 2023



SECTION 25 - TOWNSHIP 49S - RANGE 41E

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SCALE: 1"=500'



VICINITY MAP

CONSULTANT

6401 SW 87 AVE, SUITE 200
MIAMI, Florida 33173
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

NOTES:

1. ALL HORIZONTAL AND VERTICAL CONTROL UTILIZES THE FOLLOWING:
   - HORIZONTAL DATUM - NAD83
   - VERTICAL DATUM - NAVD1988
2. DRAWING SCALE SHOWN CORRESPONDS TO PLOT SIZE 11"X17".
3. FEMA FLOOD PANEL 12011C0361H, FLOOD ZONE AE=7.0 FT

DESIGN TICKET:
DATE:

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

SEAL
ALEX VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: 04/14/2023

DRAWING NO. G-01

FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_G01_COVR.DWG

PLOT DATE: 8/14/2023 5:03 PM

INDEX OF DRAWINGS

SEQUENCE No.	SHEET No.	SHEET TITLE
1	G-01	COVER SHEET
2	G-02	INDEX OF DRAWINGS, LEGEND & ABBREVIATIONS
3	G-03	EXISTING SITE AERIAL
4	Y-01	EXISTING SITE PIPING PLAN
5	Y-02	PROPOSED SITE PIPING PLAN – BULK & OSG
6	Y-03	PROPOSED SITE PIPING PLAN – UV & BULK
7	M-01	EXISTING WTP PROCESS FLOW DIAGRAM – CHLORAMINE & RECARBONATION SYSTEMS
8	M-02	PROPOSED WTP PROCESS FLOW DIAGRAM – BULK & OSG
9	M-03	PROPOSED WTP PROCESS FLOW DIAGRAM – UV & BULK
10	M-04	PROPOSED PROCESS FLOW DIAGRAM–SODIUM HYPOCHLORITE – BULK
11	M-05	PROPOSED PROCESS FLOW DIAGRAM–SODIUM HYPOCHLORITE – OSG
12	M-06	PROPOSED PROCESS FLOW DIAGRAM – UV & BULK

LEGEND

- PROPOSED PIPING
- EXISTING PIPING
- PIPING TO BE REMOVED
- TEE
- PUMP
- UV CHAMBER
- FLOW ARROW
- VENTURI FLOW METER
- [M] EQUIPMENT MOTOR

ABBREVIATIONS:

A/C	AIR CONDITIONER
A.D.F.	ALUMINUM DECORATIVE FENCE
AIT	ANALYZER INDICATING TRANSMITTER
BFP	BACKFLOW PREVENTOR
B.H.	BORING HOLE
BOL	BOLLARD
BP	BRICK PAVERS
(CALC.)	CALCULATED MEASUREMENT
C/S	CONCRETE SLAB
C.B.S.	CONCRETE BLOCK STUCCO
CBS	CONCRETE BLOCK STRUCTURE
CDD	COMMUNITY DEVELOPMENT DEPARTMENT
CL2	CHLORINE
CO2	CARBON DIOXIDE
C.L.F.	CHAIN LINK FENCE
CLF	CHAIN LINK FENCE
CLP	CONCRETE POLE W/LIGHT
CO	CLEANOUT
CONC	CONCRETE
DDCV	DOUBLE DETECTOR CHECK VALVE
D.I.P.	DUCTILE IRON PIPE
EB	ELECTRIC BOX
EL.	ELEVATION
ELEV.	ELEVATION
EP	ELECTRIC PANEL
EXIST.	EXISTING
FAC	FLORIDA ADMINISTRATIVE CODE
FW	FILTERED WATER
F/S	FIBERGLASS SHED
F.F.	FINISHED FLOOR
F.F.L.	FINISHED FLOOR
GA	GUYWIRE ANCHOR
H	HYDROGEN
H/C	HANDICAPPED
H.D.P.E.	HIGH DENSITY POLYETHYLENE
I.F.A.	IRON FENCE
INV.	INVERT
IP	INJECTION POINT
IRRI	IRRIGATION
L	LENGTH OF CURVE
LB	LICENSED BUSINESS
L.B.	LICENSED BUSINESS
M/C	MOTORCYCLE PARKING
MAS	MAINTENANCE OF ACCESS STRUCTURE
MAX.	MAXIMUM
MEG	MATCH EXISTING GRADE
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MLP	METAL POLE W/LIGHT
NAOCL	SODIUM HYPOCHLORITE
NH3	AMMONIA
N.T.S.	NOT TO SCALE
O/H	OVERHEAD WIRES
OHW	OVERHEAD WIRES
O.R.B.	OFFICIAL RECORDS BOOK
ORB.	OFFICIAL RECORDS BOOK
P.B.	PLAT BOOK
PB.	PLAT BOOK
PE	POLYETHYLENE
PG.	PAGE
P.O.B.	POINT OF BEGINNING
P.R.M.	PERMANENT REFERENCE MONUMENT
PROP.	PROPOSED
P.S.M.	PROFESSIONAL SURVEYOR AND MAPPER
PVC	POLYVINYLCHLORIDE
PW	POTABLE WATER
REST	RESTRAINT
R	RADIUS OF CURVE
RGE.	RANGE
R.P.M.	RAISED PAVEMENT MARKER
RW	RAW WATER
SA	SAMPLE
SAN	SANITARY
SBT&T	TELEPHONE AND TELECOMMUNICATIONS
SCC	SOLIDS CONTACT CLARIFIER
SEC.	SECTION
SIA	SIAMESE CONNECTION
SOLN	SOLUTION
SP	SPREAD
ST	STORMWATER
STM	STORMWATER
T.B.M.	TEMPORARY BENCHMARK
T.O.P.	TOP OF PIPE
TWP.	TOWNSHIP
TYP.	TYPICAL
VAC	VACUUM
W/	WITH
W.F.	WOOD FENCE
WF	WOOD FENCE
WLP	WOOD POLE W/LIGHT
WP	WOOD POLE
WTR	WATER
Δ	DELTA OF CURVE
⌀	DIAMETER
+9.99	SPOT ELEVATION

REVISIONS

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CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE
INDEX OF DRAWINGS, LEGEND, & ABBREVIATIONS

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ALEX VAZQUEZ
LICENSE
No. 42108
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

DATE: 08/2023

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EXISTING SITE AERIAL

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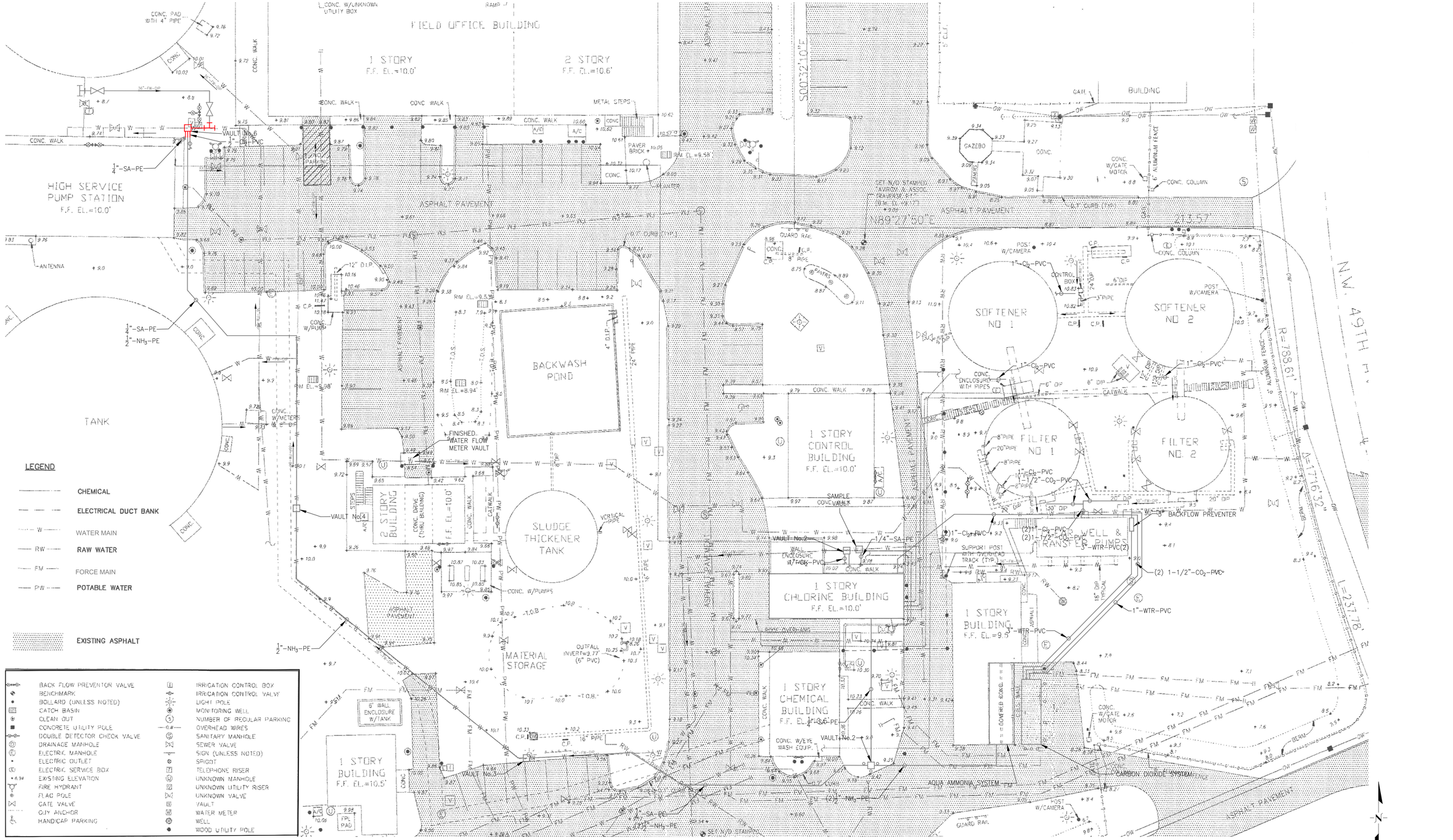
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CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
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SHEET TITLE

EXISTING SITE PIPING PLAN

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DATE: 08/2023

SHEET NO. Y-01

PLOT DATE: 8/14/2023 5:03 PM

FIELD OFFICE BUILDING
1 STORY
F.F. EL.=10.0'
2 STORY
F.F. EL.=10.6'
HIGH SERVICE PUMP STATION
F.F. EL.=10.0'
TANK
BACKWASH POND
SLUDGE THICKENER TANK
2 STORY BUILDING
F.F. EL.=10.0'
1 STORY BUILDING
F.F. EL.=10.5'
MATERIAL STORAGE
1 STORY CONTROL BUILDING
F.F. EL.=10.0'
1 STORY CHLORINE BUILDING
F.F. EL.=10.0'
1 STORY CHEMICAL BUILDING
F.F. EL.=10.0'
1 STORY BUILDING
F.F. EL.=9.5'
SOFTENER NO 1
SOFTENER NO 2
FILTER NO. 1
FILTER NO. 2
TRANSFER PUMP & WELL
GAZEBO
BUILDING
GATE
CONC. WALK
ASPHALT PAVEMENT
PAVER BRICK
CONC. W/PUMPS
CONC. W/METERS
CONC. W/GATE MOTOR
CONC. COLUMN
POST W/CAMERA
CONTROL BOX
CATWALK
GUARD RAIL
6' WALL ENCLOSURE W/TANK
WALL ENCLOSURE W/PIPES
SUPPORT POST W/OVERHEAD TRACK (TYP.)
CONCRETE BERM
6' ALUMINUM FENCE
SAMPLE CONC. VAULT
CONC. W/EYE WASH EQUIP.
FPL PAD
VAULT No.1
VAULT No.2
VAULT No.3
VAULT No.4
REMOVE EXIST. Cl_2 INJECTION POINT
$\frac{1}{4}$"-SA-PE
$\frac{1}{2}$"-NH_3-PE
1"-Cl_2-PVC
(2)1"-Cl_2-PVC
1"-Cl_2-PVC-W/1-1/2"-CO_2-PVC
(2)1"-Cl_2-PVC-(2)1-1/2"-CO_2-PVC
3" BACKFLOW PREVENTER
3"-WTR-PVC(2)
(2) 1-1/2"-CO_2-PVC
1"-WTR-PVC
3"-WTR-PVC
AQUA AMMONIA SYSTEM
CARBON DIOXIDE SYSTEM
S00°32'10"E
N89°27'50"E
N.W. 49TH ST.
R=738.61'
L=237.78'
Δ=18°27'32"
Δ=71°16'32"

LEGEND

- CHEMICAL
- ELECTRICAL DUCT BANK
- W — WATER MAIN
- RW — RAW WATER
- FM — FORCE MAIN
- PW — POTABLE WATER
- EXISTING ASPHALT

- BACK FLOW PREVENTOR VALVE
- BENCHMARK
- BOLLARD (UNLESS NOTED)
- CATCH BASIN
- CLEAN OUT
- CONCRETE UTILITY POLE
- DOUBLE DETECTOR CHECK VALVE
- DRAINAGE MANHOLE
- ELECTRIC MANHOLE
- ELECTRIC OUTLET
- ELECTRIC SERVICE BOX
- +8.94 EXISTING ELEVATION
- FIRE HYDRANT
- FLAG POLE
- GATE VALVE
- GUY ANCHOR
- HANDICAP PARKING
- IRRIGATION CONTROL BOX
- IRRIGATION CONTROL VALVE
- LIGHT POLE
- MONITORING WELL
- NUMBER OF REGULAR PARKING
- SANITARY MANHOLE
- SEWER VALVE
- SIGN (UNLESS NOTED)
- SPIGOT
- TELEPHONE RISER
- UNKNOWN MANHOLE
- UNKNOWN UTILITY RISER
- UNKNOWN VALVE
- VAULT
- WATER METER
- WELL
- WOOD UTILITY POLE

NOTE:
1. ALL EXISTING GAS CHLORINATION EQUIPMENT, PIPING & ANCILLARY COMPONENTS TO BE REMOVED.

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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LAUDERHILL, FL 33313

SHEET TITLE
PROPOSED SITE PIPING PLAN - BULK & OSG

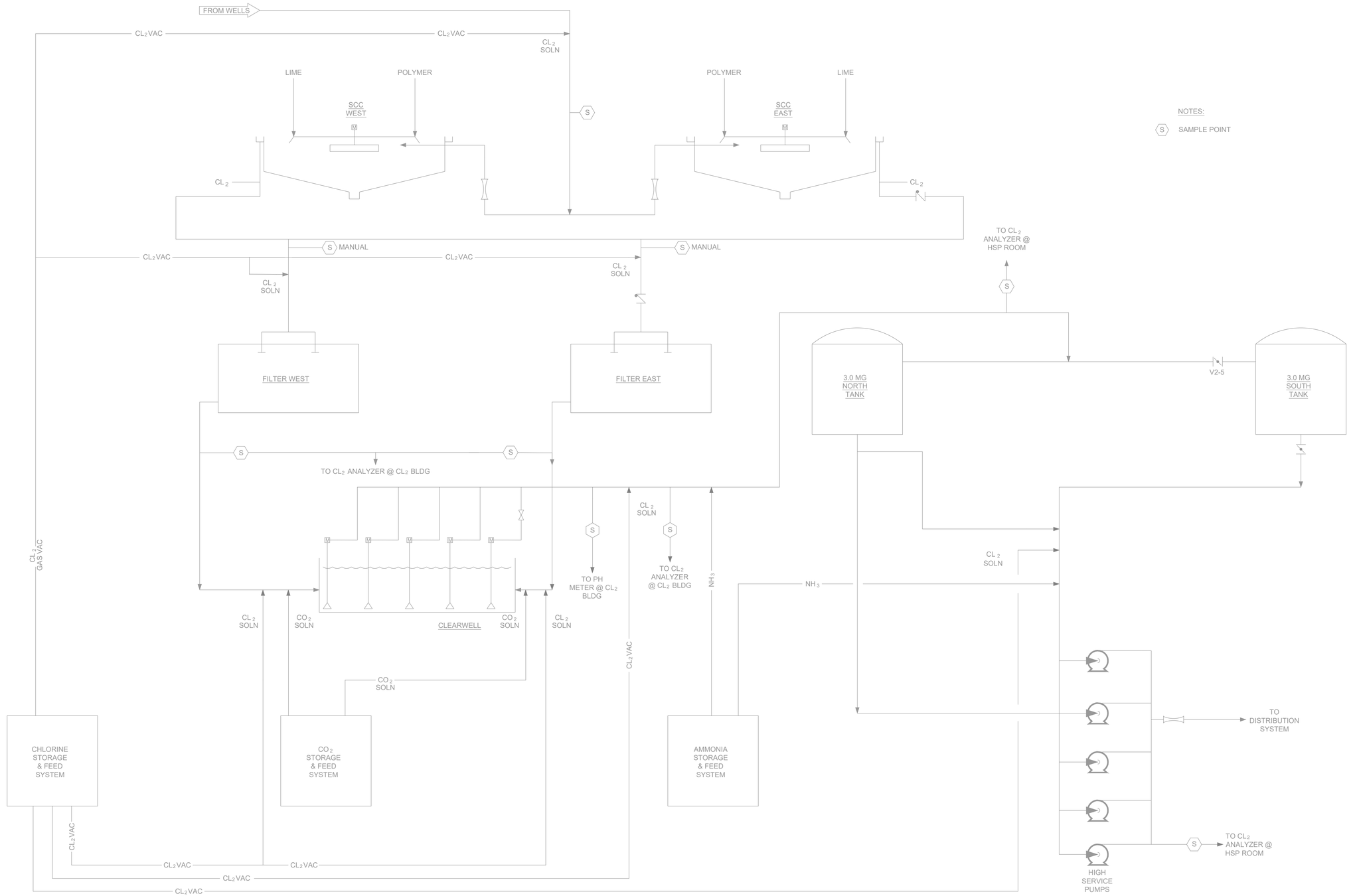
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CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE
EXISTING WTP PROCESS FLOW DIAGRAM - CHLORAMINE & RECARBONATION SYSTEMS

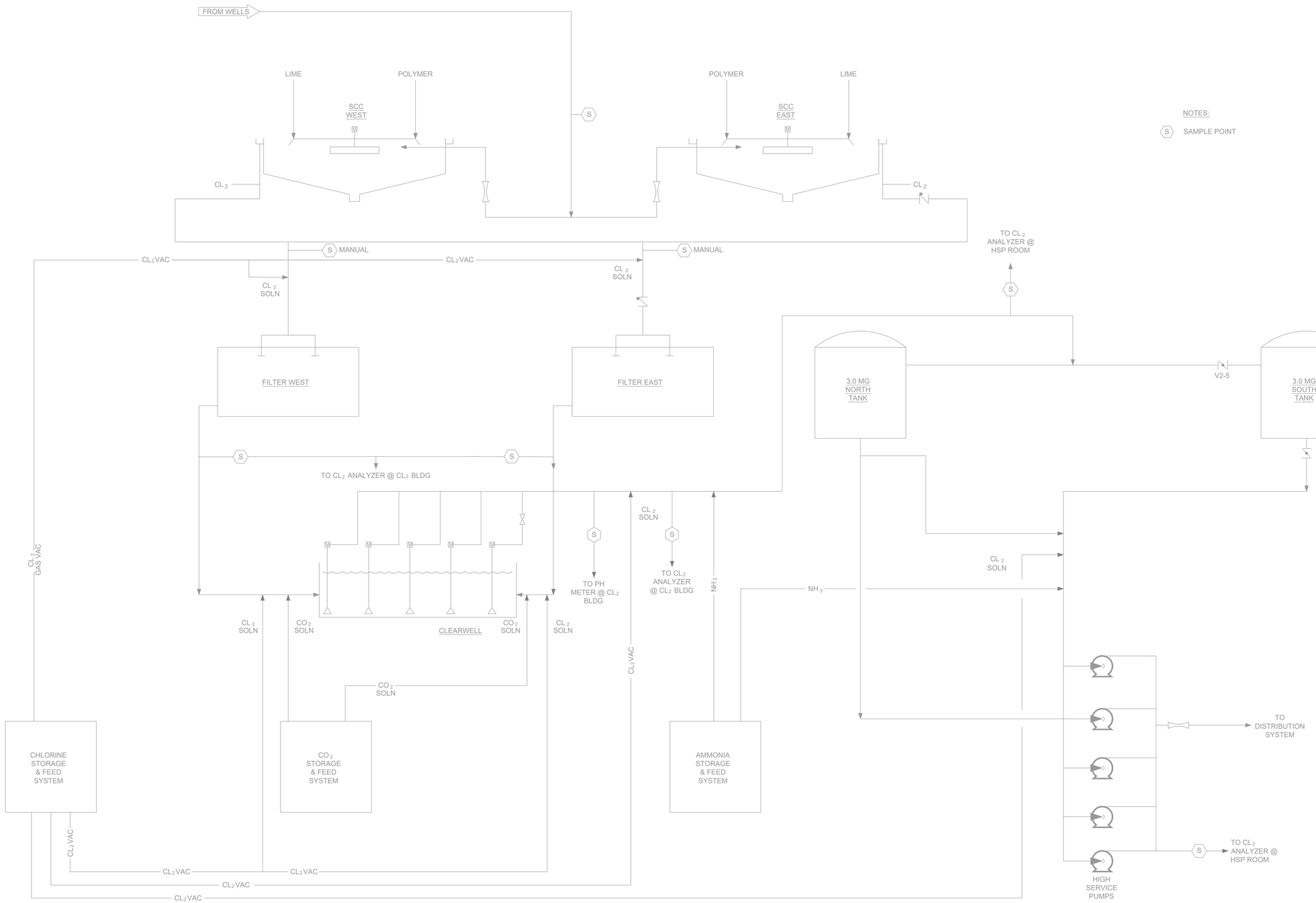
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WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

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SHEET TITLE
PROPOSED WTP PROCESS FLOW DIAGRAM - BULK & OSG

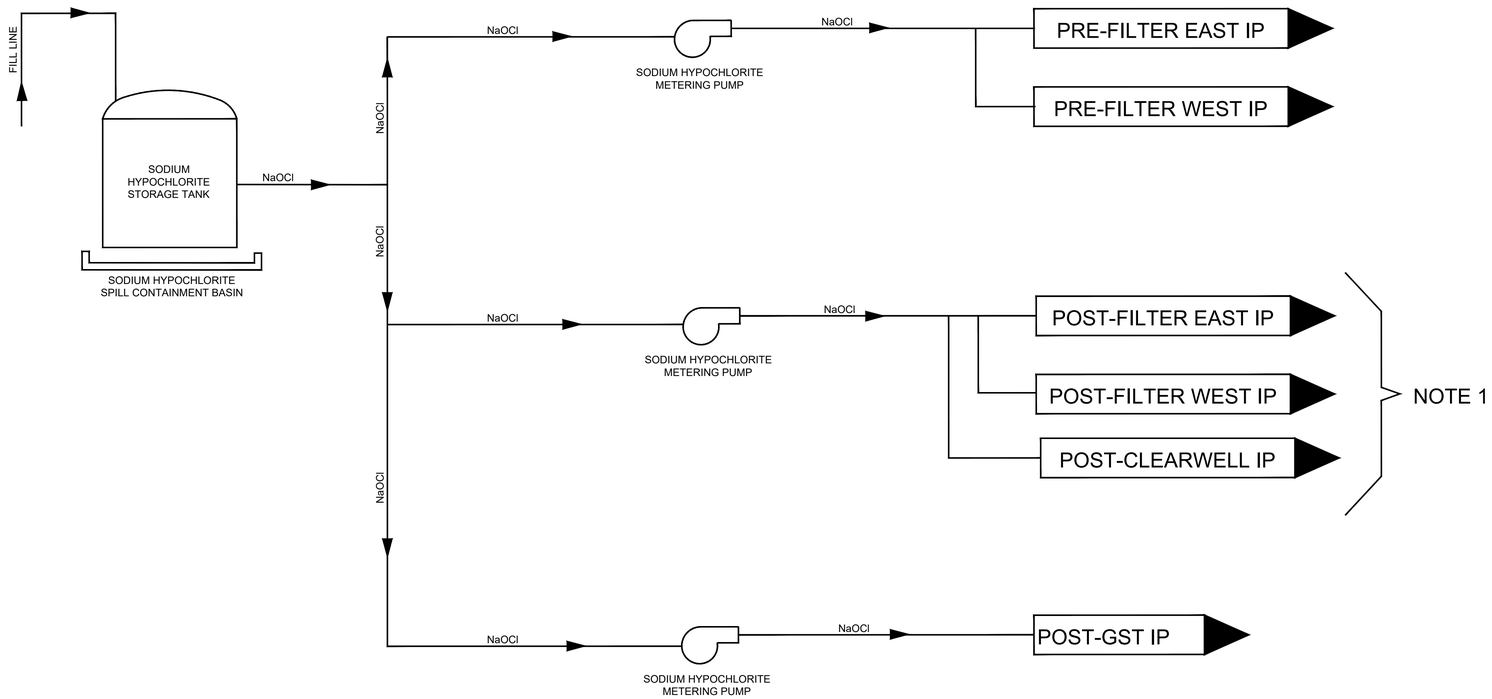
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NOTE:

1. DOSAGE WILL OCCUR ONLY POST–FILTER OR POST CLEARWELL.

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WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

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LAUDERHILL, FL 33313

SHEET TITLE
PROPOSED PROCESS FLOW DIAGRAM - SODIUM HYPOCHLORITE - BULK

SEAL
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DATE: 08/2023

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FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_M-04.DWG

ATTACHMENT J

FEASIBILITY REPORT

CITY OF LAUDERHILL

WATER TREATMENT PLANT CONVERSION FROM GAS TO LIQUID CHLORINE

FEASIBILITY STUDY

AUGUST 2023

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Section 1 - Background

1.1 Purpose

The City of Lauderhill (City) has retained BCC Engineering, LLC. (BCC) to develop a Feasibility Study (Study) related to converting their existing gas chlorination system to an alternate disinfection system at their water treatment plant (WTP). Once completed, this Study will be incorporated into a design-build request for proposal package that the City plans to advertise in order to retain a design-build team to implement the conversion utilizing this Study as a guide.

The WTP is located at 2101 NW 49th Avenue, Lauderhill, FL 33313. The site consists of approximately 7.4 acres (AC). The WTP is designed to provide up to 16million gallons per day (MGD) of treated water to the City; however, on average, it conveys approximately 6.6-MGD to its approximately 55,000 customers and 11,050 service connections, according to Florida Department of Environmental Protection (FDEP) historical records. The WTPs public water service (PWS) identification number is 4060787. Refer to Figure 1 below for an aerial of the existing WTP site. Appendix A shows the same site aerial with major components of the WTP labeled for reference.

Figure 1 - WTP Site Aerial



1.2 Overall Water Treatment Process

Raw water treated at the plant is supplied by six groundwater wells (not under the influence of any surface water) that extract water from the Biscayne Aquifer. Well discharge piping combines into a common raw water header pipe just upstream of the WTP's two lime-softening solids contact clarifiers (SCCs). At this point, raw water can be directed into either one of the SCCs, or flow can be split between the two clarifiers. Based on a discussion with City staff, the WTP plant normally operates one train for six months and then will switch over to the other train for the second half of the year. The two SCCs each have a treatment capacity of 8.0 MGD. Following the clarifiers, softened and settled water flows into one of two circular filtration basins. Each of these basins also has a capacity of 8.0 MGD. The filtered water then flows from each of the filters into a common clearwell which has a capacity of 53,000 gallons (GAL). The clearwell is equipped with five transfer pumps. These clearwell transfer pumps convey filtered water to the WTP's two ground storage tanks (GSTs) which each have a capacity of 3.0 MGD. Five high-service pumps (located in the high-service pump station [HSPS] building) draw water from the GSTs and convey finished water to the potable water distribution system.

1.3 Treatment Chemicals

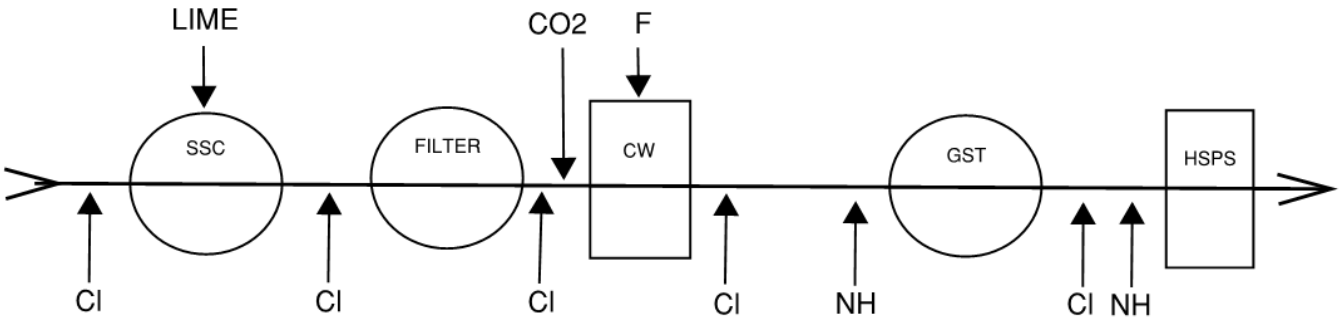
There are multiple chemicals utilized in the treatment process, each having its own unique purpose. These chemicals include lime, carbon dioxide (CO_2), fluoride (F), chlorine (Cl_2), and ammonia (NH_3). Lime is injected into each of the SCCs. The injection of lime into the raw water raises pH levels. As pH levels approach 9.5 to 10, calcium begins to precipitate (or fall out) out of solution. Precipitated calcium settles to the bottom of the SCCs, along with other settled constituents. These constituents are then expelled from the clarifiers via sludge wasting.

Following the addition of lime, pH levels can be lowered via a recarbonation process which includes the injection of CO_2. A primary reason for lowering pH is to prevent the scaling of downstream treatment components. If pH levels are maintained above 9.5 to 10, calcium will continue to precipitate out of solution and, as such, will cause scaling. Recarbonation is utilized to lower pH levels to a value of 8.3 to 8.5. Carbon Dioxide injection points are located on each of the filtered water lines situated between the filters and the clearwell; however, the City has stated that this system is not currently working. Fluoride is subsequently injected into the clearwell.

The WTP currently utilizes Cl_2 (gas) and NH_3 (aqueous) to disinfect treated water. There are multiple Cl_2 and NH_3 injection points located throughout the treatment process. The Cl_2 injection points are located on the raw water header pipe just upstream of the SCCs, on each of the settled water lines situated between the SCCs and the filter basins, on each of the filtered water lines between the filter basins and the clearwell, on the filtered water line between the clearwell and the GSTs, and lastly on the finished water line between the GSTs and the HSPS. Ammonia injection points are also located on the filtered water line between the

clearwell and the GSTs and on the finished water line between the GSTs and the HSPS. Figure 2 below shows the injection of chemicals through the water treatment process.

Figure 2 - WTP Chemical Injection Points



Section 2 - Existing Disinfection System

2.1 Chlorine Overview

The use of chlorine has transformed the treatment of water since its initial discovery in the late 18th century. “Today, chlorine is by far the most common method used globally to disinfect water. The US Centers for Disease Control and Prevention list water chlorination and treatment as one of the ten greatest public health achievements of the twentieth century, and in 1997, Life Magazine heralded water chlorination…as ‘probably the most significant public health advancement of the millennium’” [AWWA, 2015]. The use of chlorine as a disinfectant in water treatment virtually wiped-out waterborne pathogens such as typhoid, cholera, and many others that had been previously responsible for the death of thousands. When chlorine is injected into water, which is composed of hydrogen and oxygen, it produces hypochlorous acid and a hypochlorous ion. The acid reacts with pathogens in the water, such as bacteria, viruses, and protozoa, and deactivates them, preventing them from being able to reproduce or pose a risk to human health [Campbell, 2021].

However, chlorine, whether in its gas or dissolved form, does have its drawbacks. It is considered a hazardous substance. It is corrosive and, when exposed to the skin or inhaled, will create irritation. The use of free chlorine, when injected into water with organic matter present, will also promote the formation of disinfection byproducts (DBPs), which most notably include total trihalomethanes (TTHMs) and haloacetic acids (HAA5). These DBPs are considered carcinogenic and are subject to federal and state regulations.

2.2 Chlorine Gas

The majority of utilities in the United States use chlorine gas during treatment, although approximately one-third of all drinking water treatment plants (DWTPs) in the United States use bulk hypochlorite for disinfection, and around 8% of United States DWTPs use on-site generation (OSG) systems to produce

hypochlorite systems [AWWA, 2015]. There are multiple ways in which to produce chlorine gas. One of the most common ways is via the electrolysis of brine solution, which consists of water and sodium chloride (more commonly known as table salt). Chlorine off-gases from the process and is captured in pressurized containers such as one-ton cylinders. Within the pressured cylinders, chlorine exists as a liquid; however, if chlorine escapes from the cylinder, it will turn into a gas at room temperature. In its gaseous state, it has a greenish-yellow color and is approximately two times denser than air. As such, chlorine gas will occupy low-lying areas. There are several advantages of chorine gas when compared to alternative forms. It is pure chlorine (or 100% strength), unlike sodium hypochlorite. Since it forms an acid in an aqueous solution, it tends to cause a slight reduction in the pH of the treated, and it does not lose its strength (or degrade) while in storage. As such, it offers the most precise dosage control of all the forms of chlorination due to its consistent concentration [Specker, 2016]. Another significant attraction of chlorine gas is its lower operational cost than bulk sodium hypochlorite.

There are, however, multiple drawbacks to using this specific form of chlorine. If a gas leak were to occur and the gas was inhaled, it would cause minor to major respiratory irritation depending on its concentration. Airborne concentrations greater than three to five parts per million (PPM) by volume are detectable by smell, and exposure to 4 PPM for more than an hour can cause significant respiratory effects. The contents of a 1-ton cylinder can cause coughing and respiratory discomfort in an area of three-square miles [Veolia] and could be fatal. Chlorine gas itself is not flammable or combustible; however, when exposed to substances such as hydrogen gas or ammonia, such reactions may occur. Due to the potential dangers of chlorine gas, federal regulations limit the amount a single location can store at a time, resulting in special storage and handling considerations. A Risk Management Plan is required if more than 2,500 LBS of chlorine gas is stored onsite per EPA regulation.

Specific concerns that City staff have mentioned related to the use of chlorine gas are that over the years of plant operations, there have been several incidents related to chlorine gas leaks at the WTP as well as the close proximity of a magnet school located just south of the plant as well as numerous residential areas surrounding the WTP. An accidental (large) release of the gas could cause harm to those situated in close proximity to the WTP as well as those responding to such an emergency.

The major components of the gas chlorination system are housed in the existing chlorine building, which is located between the filter basins and the backwash basin/sludge thickener. The building is composed of concrete masonry units (CMU) and includes two separate areas. The larger area, which houses the chlorine cylinders, has internal dimensions of 51 FT by 18 FT, while the smaller area has internal dimensions of 6.5 FT by 18 FT. The internal building height is 18 FT; however, only 16 FT is available for open storage. Also, important to note are the double doors located on the west end of the building. The combined width of these two doors is approximately 10 FT 4 IN with a height of approximately 16 FT. The finished floor elevation of the building is 10.00 FT.

The system is made up of two (2) trains. Each train includes two load cells that accommodate two (2) one-ton cylinders. Each train is equipped with an automatic vacuum switchover module. This module allows for the system to switch trains when one becomes exhausted. These two trains supply seven (7) automatic gas feeders, which include the following quantities and sizes: three (3) – 1000 PPD, three (3) - 500 PPD, and one (1) – 200 PPD. In addition to the eight one-ton cylinders, the building is also large enough to store eight additional cylinders, according to City staff. Small diameter piping, ranging in size from 1 IN to 1.5 IN, conveys the chlorine to the aforementioned injection points.

2.3 Current Disinfection Strategy

The existing configuration of injection points at the WTP is set up based on recommendations laid out in the 2009 Basis of Design Report (BODR) developed by Malcolm Pirnie (MP) along with the subsequent Request for Proposal (RFP) Response that Globaltech submitted to the City in 2009 based on the MP BODR. The initial Cl_2 injection point, located upstream of the SCCs on the 24 IN ductile iron raw water header pipe, is provided to allow for the oxidation of both sulfide and iron present in the raw water. The oxidation of sulfide and iron prior to the SCCs is meant to satisfy chlorine demand and convert these constituents into their particulate form (precipitation) so that they can be removed by sedimentation in the SCCs. In addition, this injection of Cl_2 can also be used to prevent excess biological growth in the SCCs when needed. The MP BODR recommended that a Cl_2 residual of 0.1 to 0.2 MG/L be maintained in the SCCs for normal operations and up to a residual of 2 to 3 MG/L in order to occasionally control biological growth. It is important to note that based on a discussion with City staff, this Cl_2 injection point is not currently utilized.

The next chlorine injection point, located between the SCCs and the filters, is provided to establish chloramines via the free ammonia that is present in the raw water supply. These injection points are piped directly into the 30 IN aerial (ductile iron) settled water lines on each train. The MP BODR estimated the residual NH_3 present in the raw water at approximately 0.6 to 0.7 milligrams per liter (MG/L) but also stated that in nearby cities, also drawing from the Biscayne Aquifer, levels were in the range of 0.7 to 1.0 MG/L. The next two chlorine injection points, one point being located between the filters and the clearwell on each of the grade 30 IN ductile iron pipes and the other located downstream of the clearwell in front of the existing chlorine building on the below grade 36 IN ductile iron filtered water line (in Vault #1), are in place to establish a free chlorine zone. These two Cl_2 injection points are meant to provide the WTP with flexibility, i.e., either breakpoint chlorinating prior to the clearwell or breakpoint chlorinating following the clearwell. The use of the injection point upstream of the clearwell provides a longer free chlorine zone which could be beneficial; however, increased free chlorine exposure in the water stream can lead to the formation of increased amounts of DBPs, such as TTHMs and HAA5. Having these two different Cl_2 injection points provides the operators with flexibility based on plant operating conditions.

Development of the free chlorine zone following the filters allows the WTP to gain a 2-log virus inactivation credit, and when coupled with the 2-log virus inactivation credit that the filters provide, the WTP is able to provide a total of 4-log inactivation prior to the point of entry (POE). Achieving a 4-log removal is required by the Florida Department of Environmental Regulation (FDEP) per Florida Administrative Code (FAC) 62-555.320(12)(b.), which states that "suppliers of water using groundwater that is not under the direct influence of surface water but that is exposed during treatment to the open atmosphere and possible microbial contamination shall provide treatment that reliably achieves at least four-log inactivation or removal of viruses before or at the first customer at all flow rates…conventional filtration treatment and slow sand filtration are considered to be achieving two-log (99 percent) removal of viruses when properly operated. Chemical disinfection using free chlorine, chlorine dioxide, or ozone and chemical disinfection using chloramines with chlorine added prior to ammonia are considered to be achieving two-log, three-log (99.9 percent), or four-log inactivation of viruses when meeting the applicable CT value listed in Appendix E of the Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources as adopted in Rule 62-555.335, F.A.C."

The free chlorine zone is maintained for approximately 250 FT in the below grade 36 IN filtered water line up to the injection of NH_3 (in Vault #3). Following the injection of NH_3, the free chlorine zone transitions to a chloramine zone. One additional set of disinfectant injection points, located in Vault #6, situated between the GSTs and the HSPS, allows the operators to adjust Cl_2 and NH_3 injection one last time prior to the entry of finished water into the potable water distribution system. This ensures that proper chloramines levels are sent to the distribution system to maintain minimum (and maximum) disinfectant levels.

2.4 Sampling Points and Analyzers

Chlorine and Ammonia

A combined, filtered water sample is taken prior to the injection of chlorine on the filtered water line between the filters and the clearwell. This sample is used to measure the total chlorine residual via a Hach CL17 analyzer located on the north face of the chlorine building. A second Hach CL17 chlorine analyzer, also located on the north face of the chlorine building, is utilized to measure free chlorine residual just upstream of the first NH_3 injection point located in Vault #3.

There are two additional sampling points, one located in Vault #4, and one located on the finished water line downstream of the high service pump station, which are connected to a respective Chemscan (UV-2150S) process analyzer located inside the north face of the HSPS building. The Chemscan is meant to capture chloramination readings, including free ammonia, total ammonia, monochloramines, and total chlorine; however, based on a discussion with City staff, the two Chemscan units installed do not work.

2.5 Monthly Operating Report Review

Monthly operating reports (MORs) were reviewed to determine existing parameters such as pumped raw and finished water, amount of chlorine utilized and chlorine dosage, and water (raw, settled, and finished) constituent levels such as turbidity, pH, calcium hardness, etc. Specifically, five years' worth of data was analyzed, which ranged in date from 2017 to 2021. Refer to Appendix D for compiled MOR data. It is important to note that upon review of MORs there were some daily values not considered for the minimum, average, and maximum values reported below as they appeared to be erroneous or inconsistent with the general trend of data reviewed.

The first parameter reviewed was pumped raw and finished water (in MGD). Table 1 below reflects the lowest daily flow recorded in the five-year span from 2017 to 2021, while the maximum flow reflects the highest daily flow recorded in this same time period. Similarly, the average flow is also shown.

Table 1: Pumped Raw & Finished Water (MGD)

Flow	Minimum	Average	Maximum
Raw Water	3.72	5.69	8.65
Finished Water	4.28	5.97	8.81

It is important to note that in reviewing these flows, the finished water flows appear to be greater than the raw water flows, which is surprising as the opposite is normally expected. Finished water flows are generally less than raw water flows due to some loss of water through the treatment process. Losses typically range from 3 to 10%. The next two parameters analyzed were chlorine used (in pounds) and chlorine dosage (in MG/L). Table 2 below shows these values.

Table 2: Existing Pounds of Chlorine Utilized (PPD)

Injection Point Location	Minimum	Average	Maximum
Pre-Filter	150.00	283.30	431.00
Post Filter	100.00	198.44	540.00
Total	250.00	481.75	971.00

The amount of chlorine utilized is shown for the pre-filter injection point (located between the SCCs and the filter) as well as the post-filter point. The total amount of chlorine used is shown for the lowest daily amount used, as well as the average and maximum amounts used. Chlorine dosages are shown below in Table 3.

Table 3: Existing Chlorine Dosages (MG/L)

Injection Point Location	Minimum	Average	Maximum
Pre-Filter	2.83	6.01	8.52
Post Filter	1.90	4.21	10.07
Total	4.73	10.22	18.59

Similar to the chlorine amounts shown above, Table 3 shows the minimum, average, and maximum chlorine dosage injected into the water treatment process pre-filter and post-filter. It is also important to note that upon review of the raw water flows and chlorine amounts dosed, some inconsistencies were noticed. For instance, on May 2, 2021, the raw water flow was 6.29 MGD, and the pre-chlorine dose was reported as 5.7 MG/L, while on May 11, 2021, the raw water flow was 5.38 MGD, and the pre-chlorine dose was reported as 6.7 MG/L. Generally speaking, the amount of chlorine dosed should be consistently proportional to the amount of raw water being treated. This difference could be attributed partially to fluctuations in groundwater constituents; however, it could also be due to overdosing.

Next, the levels of certain water constituents, including pH, total hardness, calcium hardness, iron, color, and chlorides in the raw, settled, and finished water, were reviewed. The minimum, average, and maximum values are shown in Table 4, Table 5, and Table 6 below.

Table 4: Raw Water Constituent Levels

Constituent	Minimum	Average	Maximum
pH	7.00	7.22	7.60
Total Hardness (MG/L)	146.00	258.12	364.00
Calcium Hardness (MG/L)	170.00	239.87	270.00
Iron (as FE, MG/L)	0.11	0.29	0.80
Color (Units)	20.00	31.09	62.00
Chlorides (MG/L)	20.00	39.98	65.00

Table 5: Settled Water Constituent Levels

Constituent	Minimum	Average	Maximum
pH	9.00	10.02	10.50
Total Hardness (MG/L)	26.00	57.98	80.00
Calcium Hardness (MG/L)	39.00	47.72	68.00
Turbidity (NTU)	0.36	1.16	3.50

Table 6: Finished Water Constituent Levels

Constituent	Minimum	Average	Maximum
pH	7.30	9.21	10.00
Total Hardness (MG/L)	28.00	56.65	70.00
Calcium Hardness (MG/L)	35.00	46.48	65.00
Iron (as FE, MG/L))	0.02	0.12	0.80
Color (Units)	2.00	7.29	14.00
Turbidity (NTU)	0.09	0.32	0.79
Free Cl2 (MG/L)	0.00	0.05	8.00
Total Cl2 (MG/L)	0.40	3.43	5.20

Upon review of the finished water constituents, most notably, average pH levels were above secondary maximum containment levels, which range from 6.5 to 8.5 MG/L per FAC 62-550 Table 6. Average total chlorine values were found to be below 4.0 MG/L, the maximum disinfectant level for chloramines per FAC 62-550 Table 2.

Section 3 - Recommended Alternatives

As previously stated, the primary purpose of this study is to identify feasible liquid chlorine alternatives to that chlorine gas. Based on discussions with City staff, the main reasons for the migration away from the use of chlorine gas are based on operational cost, efficiency, and safety. Additional considerations that were also taken into account include initial installation cost and the level of operator involvement. The following sections will describe alternate chlorine sources and how they compare to the use of chlorine gas when it comes to these aforementioned aspects.

There are several alternatives available in lieu of chlorine gas to disinfect water. These alternatives include sodium hypochlorite, which can be delivered to the site in bulk quantity, or it can be generated on site. In addition to liquid chlorine alternatives, the City also requested that the use of ultraviolet light be considered as part of the Report.

3.1 Proposed Design Flows

The proposed design flows for the calculations performed as part of this Report are based on historical flow data taken from the previously discussed MORs in addition to the 10-Year Water Facility Plan (Plan) that BCC recently developed for the City. The minimum and average flows for finished water are taken

straight from Table 1 above. The corresponding raw water flows (minimum and average) were calculated by increasing these finished water flows by 3%. The maximum raw and finished water flows were taken straight from the Plan. Refer to Table 7 for the design flows utilized.

Table 7: Proposed Design Flows (MGD)

Flow	Minimum	Average	Maximum
Raw Water	4.41	6.15	11.04
Finished Water	4.28	5.97	10.72

3.2 Sodium Hypochlorite

3.2.1 Proposed Injection Points

This Study proposes to maintain each of the existing chlorine injection points except for one. Based on a discussion with City staff, the initial chlorine injection point located on the common raw water header piping prior to the SCCs is not utilized. It also does not appear that the WTP is having issues with elevated levels of iron or sulfide in the raw water or the need to control biological growth in the SCCs, which were two primary reasons this injection point was previously recommended. Its elimination will not affect the disinfection credit received by the plant. As such, the proposed sodium hypochlorite system will not include this point. Also important to note, there is an old chlorine injection point located on the North GST outlet piping that connects directly into the HSPS header piping. This injection point was utilized prior to the bypass line constructed in 2009 but has not been utilized since. The Study will also not consider this previous injection point when sizing the proposed sodium hypochlorite system. Following is a list of the sodium hypochlorite injection points proposed as part of this Study:

1.) On each of the two settled water lines between the SCCs and the filtration basins (pre-filter)
2.) On each of the two filtered water lines between the filtration basins and the clearwell (post-filter)
3.) On the filtered water line between the clearwell and the GSTs (post-clearwell)
4.) On the finished water line between the GSTs and the high service pumps (post-GST)

Based on discussions held with City staff, the chlorine injection points utilized on a consistent basis are the post-SCC, post-filter, and post-clearwell. As previously stated, the pre-SCC point is not currently utilized, and the post-GST is occasionally utilized as needed.

3.2.1 Proposed Dosages

Pre-filter injection point: As suggested in the MP BODR, the pre-filter injection point is meant to establish a chloramine residual through the filters. Establishing chloramines in this section of treatment is intended to prevent nitrification. Chlorine dosages for this injection point were calculated based on the estimated

levels of ammonia in the raw water. These levels, as previously mentioned, were estimated to range from 0.6 MG/L to 1.0 MG/L. The corresponding chlorine dosages were found to be 2.7 MG/L (minimum), 3.6 MG/L (average), and 4.5 MG/L (maximum). These values were found by multiplying ammonia residuals by 4.5. The value calculated for the minimum chlorine dosage is close to the actual amount reflected in the MORs; however, the average and maximum MOR chlorine dosages (6.01 and 8.52 MG/L) are quite a bit higher than the calculated chlorine dosages. Ultimately, the average and maximum dosages proposed were chosen to align more closely with those reflected in the MOR data. Choosing larger dosage values provides a more conservative design; however, this will entail a bit larger system, i.e., the need for greater bulk storage.

As previously mentioned, either the post-filter or post-clearwell may be utilized to achieve breakpoint chlorination. The chlorine dosages calculated for these injection points were determined by subtracting the calculated pre-filter chlorine dosages from the total chlorine dosages estimated to achieve breakpoint chlorination. Breakpoint chlorination is anticipated to be achieved when the chlorine dosage is approximately 10X greater than that of residual ammonia in the water stream. This equates to breakpoint chlorine dosage values of 6.0 MG/L (minimum), 8.0 MG/L (average), and 10.0 MG/L (maximum). As such, the chlorine dosages required for either of these two injection points were determined to be 3.30 MG/L (minimum), 4.40 MG/L (average), and 5.5 MG/L (maximum) based on the raw water ammonia values provided in MP BODR (0.6 MG/L minimum, 0.8 MG/L average, and 1.0 MG/L maximum).

The chlorine dosages chosen for the post-GST injection point are based on the proposed ammonia dosages recommended in the MP BODR, which were 0.1 MG/L (minimum), 0.4 MG/L (average), and 1.0 MG/L (maximum). These ammonia dosages were multiplied by 4.5 to calculate the required chlorine dosages such that the formation of chloramines would be achieved. The chlorine dosages were found to be 0.45 MG/L (minimum), 1.80 MG/L (average), and 4.50 MG/L (maximum). Regarding the maximum chlorine dosage, since the maximum value for total chlorine residual in the distribution is mandated to be no more than 4.00 MG/L, this was the ultimate value used for sizing.

Table 8 provides a summary of the proposed chlorine dosages. Refer to Appendix E for detailed dosage calculations.

Table 8: Proposed Chlorine Dosages (MG/L)

Injection Point Location	Minimum	Average	Maximum
Pre-filter	2.7	6.0	8.5
Post-Filter/Clearwell	3.3	4.4	5.5
Post-GST	0.45	1.8	4.0

Table 9 below shows how existing chlorine dosages (minimum, average, and maximum) compare to that of the proposed dosages. Overall, the proposed average dosage amount is recommended to be increased by 2.1 MG/L.

Table 9: Existing & Proposed Total Chlorine Dosages (MG/L)

	Existing	Proposed
Minimum	4.7	6.5
Average	10.2	12.2
Maximum	18.6	18.0

3.2.4 Purchased

Known more commonly as liquid bleach, this light-yellow liquid is a chlorine derivative. This liquid is manufactured by adding chlorine gas to caustic soda, producing sodium hypochlorite, water, and salt. Typically, a solution strength of approximately 12% is utilized for disinfection purposes in municipal water treatment. Approximately one gallon of industrial-strength sodium hypochlorite (10-12% available chlorine concentration) is required to replace one pound of chlorine gas.

Advantages and Disadvantages

There are some advantages to utilizing sodium hypochlorite over chlorine gas. Because sodium hypochlorite is produced, transported, and stored as a liquid, the potential danger of having large, pressurized chlorine gas cylinders, along with piped chlorine gas on site, is eliminated. However, there are some drawbacks to the use of sodium hypochlorite. Precautions should be taken when utilizing this substance to limit exposure, as it can cause skin, stomach, and throat irritation, depending on the extent or type of contact. The stability of the solution is also an issue, as it is affected by heat, light, pH, and metal contamination. Each factor promotes the breakdown of the solution, reducing effectiveness and relative shelf life more quickly than alternatives. Increases in any of these shorten the compound life. It is ideal for storing sodium hypochlorite in a cool room in an opaque container. If sodium hypochlorite is stored outdoors, the chemical degrades even more quickly due to elevated temperatures and UV rays. This breakdown can be slowed by using carbon black tanks. The black color blocks UV rays and doesn't significantly increase the temperature of the chemical. For certain climates, like Florida, it often makes sense to insulate the tank as well to mitigate its degradation. If bulk tanks are stored outside, dosing calculations should be based on a 10% solution strength versus a 12% strength.

It is also important to note that as sodium hypochlorite degrades, it off-gases. These gases include chlorine gas and oxygen. Off-gassing can cause certain dosing pumps, such as diaphragm pumps, to lock up.

Another important factor to consider when using sodium hypochlorite is that it has an approximate pH of 12 and could raise the pH in treated water. Increases in pH (to above 9.6) will lead to the precipitation of calcium.

Many sources state that the use of sodium hypochlorite is safer to use than chlorine gas; however, the solution does have a track record. There have been multiple incidents related to sodium hypochlorite that have caused harm to individuals handling it. Past mistakes have occurred when bulk deliveries were pumped into incorrect tanks, or vice versa, which caused less-than-desirable reactions such as the formation of chlorine gas itself. If the pH of sodium hypochlorite is lowed too much, this gas will form. According to Water Technologies, “commercial hypochlorite has a worse safety record than chlorine gas” [Kairouz, 2016]. It may be assumed that because chlorine is in a liquid form, it is much safer to handle than in its gas form; however, it still presents its own hazards.

Major System Components

Major components of a sodium hypochlorite system include a bulk tank(s), secondary containment, metering pumps, and piping. Refer to Appendix F for preliminary schematics. Based on the proposed design flows and dosages, the total amount of chlorine needed at the plant, considering average dosage at maximum flow conditions, was determined to be 1,003 GPD or 15,045 GAL for a 15-day supply. Refer to Appendix E for detailed sizing calculations. A 15-day supply is recommended in FAC 555.320 and is based on the Water Treatment Plant Design Book published by AWWA. This being the case, two tanks are proposed to hold this volume, each having an approximate capacity of 8,000 GAL. There are multiple reputable tank manufacturers to choose from, such as Polyprocessing, Assman, and Diamond. The tank considered for this Report was the Assman ICT 8,000. This tank is a single-walled, crosslinked polyethylene tank. This tank has an approximate diameter of 12 FT and a height of 12 FT.

Based on a preliminary review, the existing chlorine building will be able to house the two proposed tanks while also providing adequate secondary containment. This layout would require some modifications to the existing building, which would include the removal of the interior wall between the chlorine storage area and the chlorinator room, installation of a roll-up door on the building’s east face, replacement of the double door on the buildings west face with roll up door, construction of two tank pads for the bulks tanks to be housed upon, and construction of a secondary containment wall to include a protective chemically resistant coating. This is only one potential layout utilizing two storage tanks, and there are certainly others. Peristaltic dosing pumps are recommended to transfer chlorine from the bulk tanks to the injection points. Reputable manufacturers for this type of pump include Blue and White (ProSeries M) and Watson Marlow (Qdos). For this design, three duty dosing pumps are proposed, along with two spares.

Operation and Maintenance

The overall operation of a bulk sodium hypochlorite system is fairly straightforward. Operators should provide assistance when bulk deliveries arrive onsite and should supervise deliveries to ensure that the chemical is deposited into the correct tanks via appropriate fill lines. Deliveries are anticipated to occur on a bi-monthly basis since tank sizing is based on a 15-day supply; however, deliveries may occur less frequently depending on raw water flows. Care must also be taken to ensure that tanks are not overfilled when deliveries are made. If a tank is overfilled, operators must be prepared to mitigate such a spill. On the flip side, operators must monitor bulk tank levels and ensure that timely deliveries are made such that the bulk tanks have solutions to deliver to injection points. Operators will need to perform periodic inspections on bulk tanks and dosing pumps, and solution piping to ensure that no leaks are occurring, and that equipment is operational. Additional maintenance activities include periodic bulk tank inspections and replacement as well as metering pump internal parts replacement and full pump replacement.

3.2.5 Onsite generation

The onsite generation (or OSG) of NaOCl is an alternative to gaseous chlorination that is becoming more popular among municipalities in the United States. There are over 6,000 OSG systems operating in the United States [Kairouz, 2016]; one nearby facility in South Florida, which utilizes three 1,500 PPD units, includes the Boca Raton Glades WTP. This process involves dissolving salt in softened water to form a brine solution and passing that brine solution through electrolytic cells, which results in the production of a NaOCl solution with a chlorine strength of approximately 0.8% and a pH of approximately 9. Typically, an OSG system requires, per pound of chlorine, approximately 2.5 kilo-watt hour (kWH) of power, 3 pounds of salt, and 15 gallons of softened water.

Advantages and Disadvantages

Advantages of OSG systems include the elimination of sodium hypochlorite transport to the site and storage of the solution onsite in large quantities onsite. It also has a lower pH than bulk 12% NaOCl, lower than the pH in which calcium oxidizes, and as such, would not require potential downstream pH adjustment. Another advantage is that since it is generated onsite, the solution produced will not have the chance to degrade, unlike the bulk storage of NaOCl. Additional advantages include the formation of less DBPs and less detectable amounts of a chlorine smell and/or taste by end users due to its lower chlorine strength when compared to bulk NaOCl. It is important to note that the system does require specific inlet water quality standards as well as specific salt standards. Inlet water temperature must also be maintained between 65˚F and 80˚F. These standards are included in the Denora proposal attached as Appendix G. In addition to these specific requirements, inlet water must be free of polymer additives, flocculants, coagulants, and antiscalants. Salt must contain no organic binders, flow control agents, or resin cleaning materials. Also, 0.8% sodium hypo is just under the 1% threshold to be considered a hazardous material

by the Occupational Safety and Health Administration (OSHA). It is also important to note that the salt required for the system is cheaper than industrial-strength sodium hypochlorite.

One of the primary drawbacks associated with OSG systems include the generation of hydrogen gas as a byproduct of the electrolysis process. Hydrogen gas is highly flammable and explosive when mixed with air and is easily ignited by sparks or static electricity under certain conditions. In order to combat the hazards presented by hydrogen, systems are equipped with blowers that mix with and dilute the gas such that it becomes non-reactive and is vented to the open atmosphere. Another primary drawback of OSG systems is its initial installation cost when compared to that of 12% sodium hypochlorite. The cost to install an OSG system is quite a bit greater than that of bulk sodium hypochlorite systems.

Major System Components

The major components of an OSG system include a water softener, salt storage/brine tank, a brine pump, electrolytic cells, a NaOCl solution tank, NaOCl metering pumps, blowers, a DC power rectifier, a cell cleaning system, and a central control panel. A water supply line is piped to the brine tank, and salt, via bulk delivery, is emptied into the brine tank. The brine solution is then pumped into and through the electrolytic cells. This solution is then recombined with inlet water, in which the strength of the NaOCl solution is then reduced to approximately 0.8%. This is the solution used for injection into the water treatment process for disinfection. Refer to Appendix F for preliminary schematics in addition to the Denora proposal included in Appendix G. There are multiple manufacturers that produce OSG systems. Some of these systems include Chlortech by DeNora (horizontal configuration) and Microlor by PSI (vertical configuration).

Operations and Maintenance

The operation and maintenance of OSG systems require operators to be a bit more involved than that bulk NaOCl systems. Daily tasks include operators checking and recording rectifier amperages in addition to salt levels in the brine tanks. Weekly tasks include verifying water softener operation and recording inlet water hardness, checking for any plumbing leaks, and inspecting all strainers and filters, in addition to checking and recording inlet water salinity and chlorine concentration of the NaOCL solution. Monthly tasks include inspecting the brine tank, checking, cleaning, and calibrating the hydrogen gas transmitter, checking the electrodes for hardness deposits, replacement of water and brine tank filter cartridges, and backwashing the brine tank. Monthly tasks include inspection and cleaning of optical sensors, testing of cell level sensors, checking and torquing all terminals and cable connections on the rectifier and electrolytic cells, checking the operation of pressure switches, cleaning or replacing vent piping screens, and lubricating blower and blower motor. Annual tasks include inspection and cleaning of brine and NaOCl tanks, cleaning of brine and salt level sensors, cleaning rectifier vent fans, and inspection of all electrical connections. In addition, it is recommended that the electrolytic cells be cleaned every one to six months

with either hydrochloric acid or sulfamic acid. One study reviewed suggests up to annually. Electrode replacement is recommended every five to ten years.

3.3 Ultraviolet Light

Ultraviolent (UV) light is able to inactivate microorganisms and degrade organics and other chemical compounds. It is effective against bacteria, viruses & protozoan pathogens such as cryptosporidium and giardia lamblia. UV systems work by emitting a UVC light which causes the breakdown of DNA chains and other molecules, which causes inactivation. The UVC light is exposed to water via cylindrical chambers (or trains) installed inline on the filtered water line, and in the case of the existing WTP, configuration would most likely be installed between the clearwell and the GSTs. One nearby installation includes the West Palm Beach WTP and the largest UV disinfection system in the world is located at the Catskill-Delaware plant, which provides treated water to New York City. It delivers 2.24 billion gallons a day (BGD) to its customers.

Advantages and Disadvantages

There are several advantages that UV systems have over liquid chlorine systems. Primarily, UV systems do not require the injection of any chemical into the treatment process and, as such, greatly reduce the potential formation of DBPs. UV systems do not require the input of any raw substance, such as delivered NaOCl, salt, or inlet water. UV systems are not affected by pH or temperature. In addition, UV systems have a smaller overall footprint when compared to bulk or OSG chlorine systems, as UV systems themselves do not require large storage tanks.

The drawbacks to UV systems include irritation to the skin or eyes via exposure to UV light which should be limited. UV is not able to treat for taste, odor, color removal, heavy metals, salts, chlorine, or for legionella. UV systems are affected by turbidity and suspended solids. The increased presence of suspended solids in the water stream will lessen the effectiveness of UV. The presence of some organic and inorganic compounds like iron and calcium can also decrease the ability of UV to disinfect the water stream. One more primary drawback to the use of UV is that it does not provide disinfection residual that can be maintained in the water distribution system. As such, injection of chlorine or chloramines downstream of the UV system is required to provide disinfection residual in the distribution system. As such, a bulk NaOCl or OSG system will need to be installed downstream of the installed UV system. Based on discussions with the City, a bulk delivery system was considered for this Report. One more drawback to UV is its greater cost to both install and operate when compared to that of bulk sodium hypochlorite and OSG.

Major System Components

Major components of UV systems include the cylindrical chambers which house the UV lamps, lamp sleeves, UV sensors, and temperature sensors, automatic lamp cleaning mechanisms, flow meters, bulb light life monitors in addition to UV light intensity meters, pre- and post-filters, and control panel. There are multiple manufacturers that produce UV systems, some of which include Trojan, Evoqua, and Wedeco (Xylem).

As previously mentioned, liquid sodium hypochlorite would need to be injected downstream of the UV system prior to the POE. The existing post-GST injection point could be used for this. This bulk system would include all of the previous components discussed but to a lesser scale, i.e., fewer dosing pumps and smaller bulk tanks. A finished water maximum design flow of 8.0 MGD, as requested by the City, was utilized to design this system, along with chlorine dosages of 2.7 (minimum), 3.6 (average), and 4.00 (maximum) MG/L. The minimum and average dosages are based on the raw water ammonia levels provided in the MPBODR and the assumption of a 4.5:1 ratio of chlorine to ammonia (to form chloramines). The maximum dosage matches the maximum allowable chlorine residual set by FDEP. Based on the requested design flow and the maximum dosage, the 15-day supply was calculated to be 3,231 GAL. Two 1,850-GAL tanks (Assman ICT 1,850) are proposed to store this volume. These tanks have an approximate diameter of 8-FT and height of 6.5-FT. Refer to Appendix E for detailed dosing and tank sizing calculations. Preliminary schematics are included in Appendix F.

Operations and Maintenance

Typically, UV systems running in automatic mode need minimal daily operator input; however, it is imperative that operators keep a close eye on the UV system on a daily basis. Daily operator activity related to the UV system consists largely of visual checks, making sure that the system is indeed running properly in automatic mode. Daily checks include observation of the control panel display to verify the status of system components and the presence of any active alarms, verification that all online analyzers, flow meters, and recording equipment are properly functioning, and verification that the system is running within its operational set points. It is recommended that weekly operators manually run the wiper system to ensure it is working properly. Monthly checks include observation of lamp run times, and if operational run times exceed design life, lamp replacement is warranted. It is also recommended that operators extract and check one sleeve per reactor to see if fouling is present. If fouling is observed, then the remaining sleeves should be checked and manually cleaned. In addition to this, operators should check for any leaks in reactor housing, sleeves, or wiper seals. If any leaks are observed, respective replacements should be made. Quarterly checks include verification that the lowest intensity lamp is set next to UV sensors. Semi-annual checks include checking the operation of automatic and manual valves that are part of the UV system. In addition to this, operators should also check any cleaning solution reservoirs. Annually, the UV sensors should be sent to a qualified facility for calibration. Typical replacement items common to UV

systems include wipers, UVT meter crystal replacement, bulb replacement, bulb sleeve replacement, and lamp driver (or ballast) replacement.

Section 4 - Opinion of Probable Construction Costs & Net Present Values

4.1 Sodium Hypochlorite – Bulk

An opinion of probable construction cost (OPCC) was developed for the installation of a bulk hypochlorite system at the WTP. Major items included in this cost were the demolition/removal of the existing gas chlorination system, installation of two single-walled, 8,000 GAL bulk storage tanks, five peristaltic dosing pumps (three duty and two spares), chemical piping, four injection quills, a secondary containment wall around the bulk storage tanks, two bulk tank pads, protective coating of the secondary containment area and tank pads, structural modifications to the existing chlorination building (including installation of two rollup doors and demolition of the divider wall inside of the building), and modifications to the existing electrical/SCADA/controls system. The total OPCC cost is estimated to be approximately $371K. Refer to Appendix B for the detailed OPCC.

The following is a list of reoccurring operational costs, assuming a 20-year service life, that also need to be considered related to the bulk NaOCl system.

1. Delivery of NaOCl to the site – $1.00/GAL (or pound of chlorine). This cost is based on feedback received from the City of Sunrise and other suppliers. Assuming average flow and average dose, approximately 650 PPD will be required. This equates to an annual cost of $239K.
2. Replacement of peristaltic pumps - $8,000/pump. This cost is based on an assumed pump service life of five years. The preliminary design includes three duty pumps in addition to two spares. Assuming the use of the two spares within the first five years, the replacement of all three pumps is assumed at the 10-year mark and again at the 15-year mark. The cost of replacement at both the 10- and 15-year marks would total $24,000 each.
3. Maintenance of peristaltic pumps – $200/YR. This cost includes the replacement of the hose and lubricants performed two times per year for each of the three pumps which sums to a total annual cost of $600.
4. Bulk tank inspection - $2,000/tank. This cost is based on feedback received from the City of Sunrise. Tank inspection is recommended once every five years. The total cost of tank inspection at the 5-, 10-, and 15-year marks would be $4,000.00.
5. Bulk tank replacement - $30,000/tank. Since two tanks are included, the total cost of tank replacement equates to $60,000. This unit cost was provided by Assman Tanks. Bulk tank replacement is anticipated at the 10-year mark.

6. Delivery of NH_3 to the site – The City provided an annual cost of $50K for this item. This item was included in the overall net present value (NPV) of the bulk hypochlorite system as its continued use would be required unlike the UV alternative.
7. Maintenance of NH_3 system – The City provided an annual cost of $20K. This item was included in the overall NPV of the bulk hypochlorite system as its continued use would be required unlike the UV alternative.

A net present value analysis was performed, assuming a 6% interest rate, for the costs described above and was found to equate to approximately $4.0M. Refer to Appendix C for detailed calculations.

4.2 Sodium Hypochlorite – OSG

Moss Kelly Inc., who is the representative for Denora in South Florida, was able to provide a proposal for Denora's ClorTec system, specifically the ClorTec 900-C system. Their proposal is based on a system that can produce up to 1,800 PPD chlorine equivalent (at a design flow of 10.74 MGD). The major components included in their proposal consist of two steel frames that accommodate four electrode assemblies, two rectifiers, one master control panel, two hydrogen dilution systems (or blowers) for NaOCl vent stacks, two blowers for each of the NaOCl storage tanks, two water softeners, one acid cleaning system, one brine/salt tank, and two NaOCl storage tanks. The total proposed cost to supply this system is estimated to be approximately $1.2M. Please note that this proposal cost does not include installation costs. Refer to Appendix G for the proposal. In addition to the OSG system, new chemical piping, four injection quills, three tank pads, secondary containing and coating, structural modifications to the existing chlorination building (including installation of two roll-up doors and demolition of the divider wall inside of the building), and modifications to the existing electrical/SCADA/controls system are recommended. The OPCC developed for this work equated to approximately $1.6M.

The following is a list of reoccurring operational costs, assuming a 20-year service life, that also need to be considered related to the OSG NaOCl system.

1. Delivery of salt to the site – $210/TON. This cost is based on feedback received from Odyssey Manufacturing. Assuming average flow and average dose, approximately 650 PPD of chlorine would be needed (at a design flow of 10.72 MGD). This equates to approximately 2,000 PPD of salt (3 LBS of salt X 650 PPD) or 716,000 LBS per year (360 TONS). The annual cost for this amount of salt equals approximately $74K.
2. Replacement of brine and dosing pumps - $2,000/pump. This cost is based on feedback from Odyssey Manufacturing. One brine pump and three dosing pumps are assumed. The replacement of the pumps is assumed at the 5-, 10-, and 15-year mark. The total replacement cost of the pumps at these specified intervals sums to $8,000.

3. Maintenance of brine and dosing pumps - $200/year. This cost is for the replacement of the respective equipment related to the pump and is anticipated to occur annually. The total maintenance cost of the pumps sums to $800 per year.
4. Replacement of the rectifier diodes - $400/EA. The Denora proposals includes two rectifiers and based on discussion with Odyssey there are three diodes in the rectifier, so the total cost to replace all of the diodes would be $2,400. The estimated replacement would be every 5- to 10- years.
5. Replacement of the cells - $665K. This cost was provided by Denora. Replacement of the cells is anticipated to occur once at the 10-year mark.
6. Bulk tank inspection - $2,000/tank. This cost is based on feedback received from the City of Sunrise. Tank inspection is recommended once every five years. The total cost of tank inspection at the 5-, 10-, and 15-year marks would be $6,000.00 for three tanks.
7. Bulk tank replacement - $30,000/tank. Since three tanks are included, the total cost of tank replacement equates to $90,000. Bulk tank replacement is anticipated at the 10-year mark.
8. Blower replacement - $5,000/blower. The total cost of blower replacement would be $10,000 since there is one blower on each of the two sodium hypochlorite storage tanks. Replacement of these blowers is anticipated at the 10-year mark.
9. Electricity cost of system – $66K/year. This cost is based on the assumption that 2.5 kW-hr is used to create every one-pound-per-day chlorine equivalent. The total power of the system was found by multiplying the 2.5 kW-hr per day by 365 days times the average chlorine dose (at average flow), 654 PPD. The total power was found to be 596,775 kW-Hr per year. The electricity rate, $0.11/kW-Hr, was provided by the City. This total annual cost was found my multiplying the total power by the electricity rate.
10. Delivery of NH_3 to the site – The City provided an annual cost of $50K for this item. This item was included in the overall NPV of the bulk hypochlorite system as its continued use would be required unlike the UV alternative.
11. Maintenance of NH_3 system – The City provided an annual cost of $20K. This item was included in the overall NPV of the bulk hypochlorite system as its continued use would be required unlike the UV alternative.

A net present value analysis was performed for the costs described above and was found to equate to approximately $4.4M. Refer to Appendix C for detailed calculations.

4.3 Ultraviolent Light + Bulk Sodium Hypochlorite

TSC Jacobs, Inc., who is the representative for Trojan in South Florida, was able to provide two proposals, one for a UV transmittance of 65-67% and another for a 69% UV transmittance rate. Refer to Appendix G for these two proposals. The selected transmittance rates are based on water samples taken at the WTP and as requested by the City. Appendix H contains the water sampling results. The design flow rate used

in the two proposals was 8.0 MGD, which was the peak design flow requested by the City. Each of the proposals are based on the TrojanUVFlex 100 system, and both provide a 2-log virus removal. The major components of these two systems include two duty trains and one standby train (stainless steel chambers), a total of 288 (UVT = 65-67%) and 240 (UVT = 69%) lamps, three control power panels, one hydraulic system center panel, and one systems control center panel. The total proposed cost to supply the 65-67% UVT system is estimated to be approximately $2.1M, while the 69% UVT system is estimated to be approximately $2.0M. These two proposals costs include installation cost. In order to install the UV system, modifications to the existing filtered water piping would be required. Since there is little room to install the UV chambers between the filters and the clearwell, BCC proposes to install the chambers post-clearwell. The existing chlorine building could be repurposed to house the three chambers along with the respective UV control equipment.

Since UV cannot provide a chlorine residual which must be present in the water distribution system, some type of chlorine system must be installed downstream of the UV system. For purposes of this Report and based on discussions with the City, the installation of a bulk NaOCl system is proposed. In addition to the UV system, new chemical piping, one injection quill, two tank pads, structural modifications to the existing chlorination building (including installation of two roll-up doors and demolition of the divider wall inside of the building), and modifications to the existing electrical/SCADA/controls system are recommended. The OPCC developed for this work equated to approximately $2.6M.

It is also important to note that installation of a UV system at the Plant could eliminate (or significantly reduce) the need for the aqueous ammonia system that is currently installed. The UV system would provide the required 2-log removal and the existing residual ammonia in the source water could be used to form chloramines to maintain required residual in the distribution system.

The following is a list of reoccurring operational costs, assuming a 20-year service life, that also need to be considered related to the UV + Bulk NaOCl system.

1. Replacement of lamps - $675.50/lamp. The unit cost for lamp replacement was provided directly by Trojan. Trojan guarantees that the lamps will provide 15,000 hours (or 1.71 years) of service life. To be conservative, BCC assumed that 160 (80 lamps X 2 chambers) lamps would need to be replaced every three years per the 69% UVT proposal. This cost equates to $108K.
2. Replacement of lamp driver - $1,611.00/driver. The unit cost for lamp driver replacement was provided directly by Trojan. Per Trojan's website, it appears that one lamp driver (or ballast) controls one section of lamps. The 69% UVT proposal includes two duty chambers, each with five sections. This equates to a total of 10 sections or 10 drivers. The Trojan proposal also states that the warranty on the drivers is for 10 years. As such, replacement of the drivers is assumed at this point. The total cost to replace 10 drivers equates to $16K.

3. Replacement of sleeve kit - $270.00/kit. The unit cost for the lamp sleeve kit was also provided directly by Trojan. The Trojan proposal states that the warranty on the sleeves is for one year. As such, replacement of the sleeves is anticipated to occur annually. The number of lamp sleeves assumed is 160 sleeves (80 lamps X 2 chambers and one sleeve for each lamp). The total annual cost of the sleeve kits equates to $43,200; however, this amount was reduced by 50% to account for fluctuations in the flow below the peak design flow rate. The total for sleeve replacement was found to be approximately $22K per year.
4. Electricity cost of UV lamps – $39K/year. This cost is based on the UV lamps included in each of the two proposals, which are Trojan UV Solo lamps. These lamps are 500-watt (or 0.5 kW) bulbs. The total power consumption of these bulbs is based on two full chambers of lights in operation (160 bulbs). This equates to a total power consumption of 80 kW. The operational time of the bulbs was assumed to be 24 hours per day, 365 days per year which equates to 8,760 hours per year. The energy consumed by the bulbs was calculated by multiplying the total power by the operational time (80 kW X 8,760 Hr), which equals 700,800 kW-Hr. The electricity rate, $0.11/kW-Hr, was provided by the City. This total annual cost was then reduced by 50% to account for fluctuations in the flow rate below the peak design flow rate.
5. Delivery of NaOCl to the site – $1.00/GAL. This cost is based on feedback received from the City of Sunrise and other suppliers. Assuming average flow and average dose, approximately 160 PPD will be required. This equates to an annual cost of $59K.
6. Replacement of peristaltic pumps - $8,000/pump. This cost is based on an assumed pump service life of five years. The preliminary design includes one duty pump in addition to one spare. Assuming the use of the spare within the first five years, the replacement of the pump is assumed at the 10-year mark and again at the 15-year mark.
7. Maintenance of peristaltic pumps – $200/YR. This cost includes the replacement of the hose and lubricants performed two times per year.
8. Bulk tank inspection - $2,000/tank. This cost is based on feedback received from the City of Sunrise. Tank inspection is recommended once every five years. The total cost of tank inspection at the 5-, 10-, and 15-year marks would be $4,000.00.
9. Bulk tank replacement - $15,000/tank. Since two tanks are included, the total cost of tank replacement equates to $30,000. This unit cost was based on correspondence with Assman Tanks. Bulk tank replacement is anticipated at the 10-year mark.

A net present value analysis was performed for the costs described above and was found to equate to approximately $4.4M. Refer to Appendix C for detailed calculations.

Table 10 contains a summary of each of the OPCC, NPV, proposal and annual costs calculated for each of the alternatives described.

Table 10: Alternative Costs Summary

Alternative	OPCC	NPV	Proposal	Annual
Bulk NaOCl	$371K	$4.0M	-	$309K
OSG NaOCl	$1.6M	$4.4M	$1.2M	$211K
UV + Bulk	$2.6M	$4.4M	$2.0M/2.1M	$119K

Section 5 - Additional Considerations

All through this Report is specific to the WTP's conversion from its gas chlorination system to an alternate liquid chlorine system, there are a few additional items worth noting that are indirectly related to such a conversion.

1.) It would be beneficial for the WTP to monitor and record raw water ammonia levels (prior to entry into the SCCs). This data would be very beneficial to the Plant and would help optimize downstream chlorine dosages. Keeping track of the raw water ammonia levels was also an item recommended in the MP BODR.
2.) Levels of pH in both the settled and finished water appear to be on the high side. It would be beneficial for the WTP to operate the carbon dioxide system as this system is specifically designed to lower pH levels to combat the increase in pH that the upstream addition of lime creates. Getting this system up and running would also help mitigate the increase in pH due to the addition of 12% sodium hypochlorite to the treatment process.

Section 6 - Conclusion

There are several feasible alternatives to the use of chlorine gas at the City's WTP. These alternatives include:

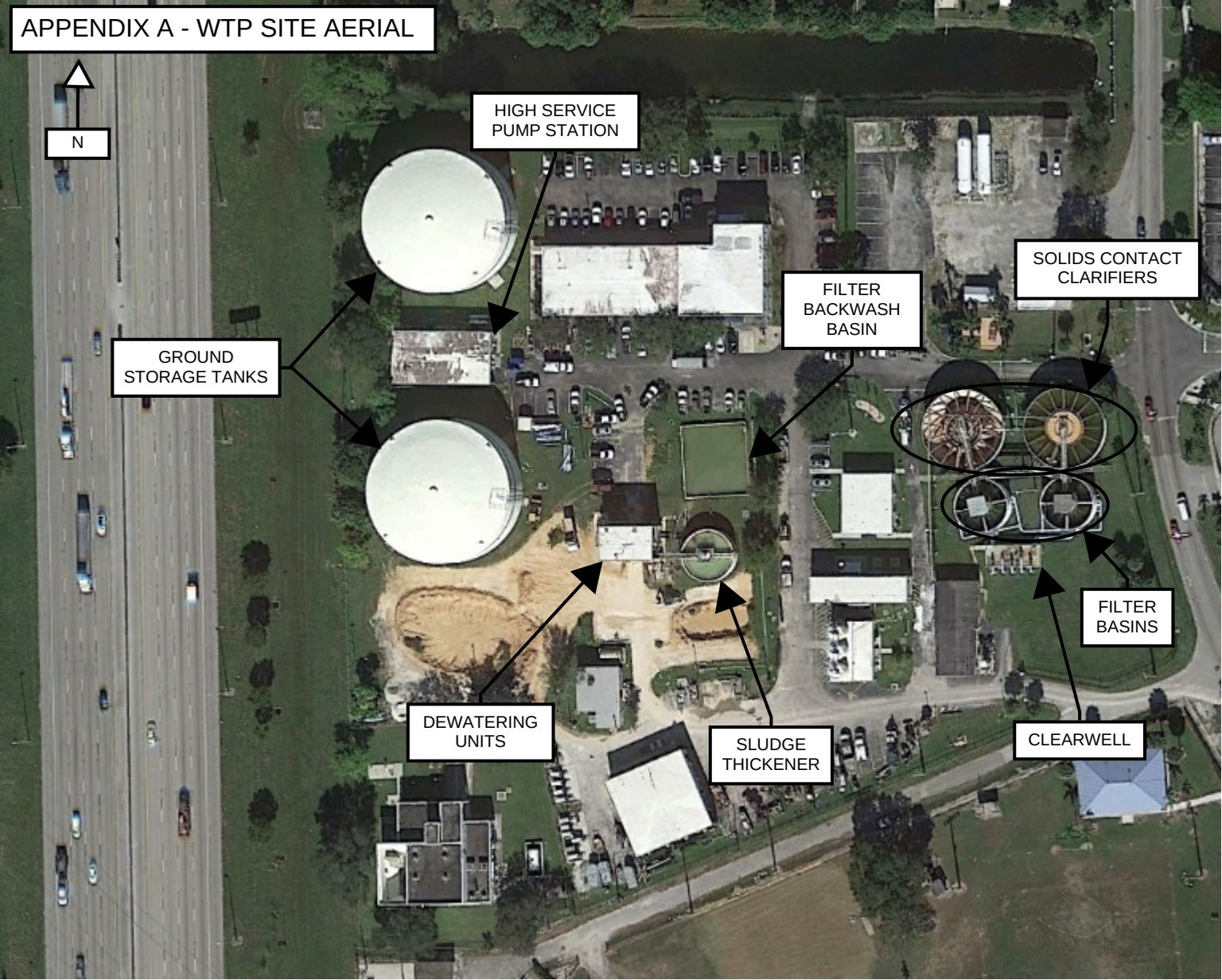
- Bulk delivery of industrial-strength sodium hypochlorite
- Generation of low-strength sodium hypochlorite on site
- Installation of ultraviolent light in addition to the use of sodium hypochlorite.

Each of the alternatives discussed in this Report has the capacity to deliver properly treated water to City customers; however, they each have their own unique advantages and disadvantages. Regarding safety,

each of these alternative systems presents its own risks and, as such, must be operated and maintained per manufacturer instructions. Regarding operator involvement, the bulk system is the least operator intensive as it is the most simplistic system of the three alternatives discussed. Both the OSG and UV systems will require greater attention and care by Plant operators. Regarding initial construction cost, again, the bulk sodium hypochlorite system has the least expensive initial cost, followed by onsite-generated sodium hypochlorite, with ultraviolent being the most expensive. The net present value costs reveal that over a 20-year life span the bulk sodium hypochlorite system has the lowest cost while the OSG and the UV systems have equivalent costs.

APPENDIX A
EXISTING SITE AERIAL

APPENDIX A - WTP SITE AERIAL



APPENDIX B
OPCC - BULK

PROJECT NAME: WTP CONVERSION FROM GAS TO LIQUID CHLORINE
PROJECT NO: 0200075.05
IMPROVEMENT: FEASIBILITY STUDY
PREPARED BY: BCC ENGINEERING
DATE: 07/12/2023

ESTIMATE OF PROBABLE CONSTRUCTION COST - BULK

ITEM	DESCRIPTION	UNIT COST	UNIT	QUANTITY	TOTAL COST
A - CONSTRUCTION ITEMS					
1	REMOVE/DEMOLISH EXISTING CHLORINATION EQUIPMENT	$15,000	LS	1	15,000.00
2	FURNISH & INSTALL NAOCL BULK TANKS	$60,000	EA	2	120,000.00
3	FURNISH & INSTALL NAOCL DOSING PUMPS	$12,000	EA	5	60,000.00
4	FURNISH & INSTALL 1-IN PVC PIPE	$25	LF	500	12,500.00
5	FURNISH & INSTALL INJECTION QUILLS	$765	EA	4	3,060.00
6	INSTALL SECONDARY CONTAINMENT WALL	$150	CY	5	750.00
7	INSTALL BULK TANK PADS	$150	CY	11	1,627.95
8	INSTALL SECONDARY CONTAINMENT COATING	$35	SF	1,132	39,616.15
9	PERFORM ELECTRICAL/SCADA/CONTROLS MODIFICATIONS	$20,000	EA	1	20,000.00
10	PERFORM STRUCTURAL MODIFICATIONS TO EXISTING CHLORINE BUILDING	$50,000	LS	1	50,000.00
				SUBTOTAL A - CONSTRUCTION COST =	*322,554.10*
B - DEDICATED ALLOWANCE					
11	FOR COST OF REQUIRED PERMITS, FEES, IMPACT FEES, INSPECTIONS, AS ORDERED BY THE ENGINEER	*5%*	-	*1*	*16,127.71*
				SUBTOTAL B - DEDICATED ALLOWANCE =	*16,127.71*
C - CONTINGENCY					
12	FOR UNFORSEEN CONDITIONS, MINOR CONSTRUCTION CHANGES, AND QUANTITY ADJUSTMENTS AS ORDERED BY THE ENGINEER	*10%*	-	*1*	*32,255.41*
				SUBTOTAL C - CONTINGENCY =	*32,255.41*
				TOTAL COST =	**370,937.22**

OPCC - OSG

PROJECT NAME: WTP CONVERSION FROM GAS TO LIQUID CHLORINE
PROJECT NO: 0200075.05
IMPROVEMENT: FEASIBILITY STUDY
PREPARED BY: BCC ENGINEERING
DATE: 08/16/2023

ESTIMATE OF PROBABLE CONSTRUCTION COST - OSG

ITEM	DESCRIPTION	UNIT COST	UNIT	QUANTITY	TOTAL COST
A - CONSTRUCTION ITEMS					
1	REMOVE/DEMOLISH EXISTING CHLORINATION EQUIPMENT	$15,000	LS	1	15,000.00
2	FURNISH & INSTALL OSG SYSTEM	$1,191,772	LS	1	1,191,772.00
3	FURNISH & INSTALL 1-IN PVC PIPE	$25	LF	500	12,500.00
4	FURNISH & INSTALL INJECTION QUILLS	$765	EA	4	3,060.00
5	INSTALL BULK TANK PADS	$150	CY	22	3,266.67
6	INSTALL SECONDARY CONTAINMENT WALL	$150	CY	5	750.00
7	INSTALL BULK TANK PADS	$150	CY	15	2,250.00
8	INSTALL SECONDARY CONTAINMENT COATING	$35	SF	1,500	52,500.00
6	PERFORM ELECTRICAL/SCADA/CONTROLS MODIFICATIONS	$30,000	EA	1	30,000.00
7	PERFORM STRUCTURAL MODIFICATIONS TO EXISTING CHLORINE BUILDING	$50,000	LS	1	50,000.00
				SUBTOTAL A - CONSTRUCTION COST =	*1,361,098.67*
B - DEDICATED ALLOWANCE					
8	FOR COST OF REQUIRED PERMITS, FEES, IMPACT FEES, INSPECTIONS, AS ORDERED BY THE ENGINEER	*5%*	-	*1*	*68,054.93*
				SUBTOTAL B - DEDICATED ALLOWANCE =	*68,054.93*
C - CONTINGENCY					
9	FOR UNFORSEEN CONDITIONS, MINOR CONSTRUCTION CHANGES, AND QUANTITY ADJUSTMENTS AS ORDERED BY THE ENGINEER	*10%*	-	*1*	*136,109.87*
				SUBTOTAL C - CONTINGENCY =	*136,109.87*
				TOTAL COST =	**1,565,263.47**

OPCC - UV + BULK

PROJECT NAME: WTP CONVERSION FROM GAS TO LIQUID CHLORINE
PROJECT NO: 0200075.05
IMPROVEMENT: FEASIBILITY STUDY
PREPARED BY: BCC ENGINEERING
DATE: 07/12/2023

ESTIMATE OF PROBABLE CONSTRUCTION COST - UV + BULK NAOCL					
ITEM	**DESCRIPTION**	**UNIT COST**	**UNIT**	**QUANTITY**	**TOTAL COST**
A - CONSTRUCTION ITEMS					
1	REMOVE/DEMOLISH EXISTING CHLORINATION EQUIPMENT	$15,000	LS	1	15,000.00
2	FURNISH & INSTALL UV SYSTEM	$2,010,000	LS	1	2,010,000.00
3	FURNISH & INSTALL NAOCL BULK TANKS	$30,000	EA	2	60,000.00
4	FURNISH & INSTALL NAOCL DOSING PUMPS	$12,000	EA	2	24,000.00
5	FURNISH & INSTALL 1-IN PVC PIPE	$25	LF	300	7,500.00
6	FURNISH & INSTALL INJECTION QUILLS	$765	EA	1	765.00
7	INSTALL SECONDARY CONTAINMENT WALL	$150	CY	3	450.00
8	INSTALL BULK TANK PADS	$150	CY	11	1,666.67
9	INSTALL SECONDARY CONTAINMENT COATING	$35	SF	800	28,000.00
10	PERFORM ELECTRICAL/SCADA/CONTROLS MODIFICATIONS	$30,000	EA	1	30,000.00
11	PERFORM STRUCTURAL MODIFICATIONS TO EXISTING CHLORINE BUILDING	$50,000	LS	1	50,000.00
12	PERFORM PIPING MODIFICATIONS TO FILTERED WATER LINE	$500	LF	100	50,000.00
				SUBTOTAL A - CONSTRUCTION COST =	*2,277,381.67*
B - DEDICATED ALLOWANCE					
13	FOR COST OF REQUIRED PERMITS, FEES, IMPACT FEES, INSPECTIONS, AS ORDERED BY THE ENGINEER	*5%*	-	*1*	*113,869.08*
				SUBTOTAL B - DEDICATED ALLOWANCE =	*113,869.08*
C - CONTINGENCY					
14	FOR UNFORSEEN CONDITIONS, MINOR CONSTRUCTION CHANGES, AND QUANTITY ADJUSTMENTS AS ORDERED BY THE ENGINEER	*10%*	-	*1*	*227,738.17*
				SUBTOTAL C - CONTINGENCY =	*227,738.17*
				TOTAL COST =	**2,618,988.92**

APPENDIX C
NPV - BULK

Net Present Value
Bulk NaOCl

Item	Interval Cost	Interval	n	i	Symbol	Factor Table Value	Net Present Value
Initial Cost	$ 370,937.22	Initial	-	-	-	-	$ 370,937.22
NaOCl Bulk Delivery	$ 238,710.00	Annual	20	6	(P/A)	11.4699	$ 2,737,979.83
Peristaltic Pump Maintenance	$ 600.00	Annual	20	6	(P/A)	11.4699	$ 6,881.94
Peristaltic Pump Replacement	$ 24,000.00	10 years	10	6	(P/F)	0.5584	$ 13,401.60
Peristaltic Pump Replacement	$ 24,000.00	15 years	15	6	(P/F)	0.4173	$ 10,015.20
Bulk Tank Inspection	$ 4,000.00	5 years	5	6	(P/F)	0.7473	$ 2,989.20
Bulk Tank Inspection	$ 4,000.00	10 years	10	6	(P/F)	0.5584	$ 2,233.60
Bulk Tank Inspection	$ 4,000.00	15 years	15	6	(P/F)	0.4173	$ 1,669.20
Bulk Tank Replacement	$ 60,000.00	10 years	10	6	(P/F)	0.5584	$ 33,504.00
Aqueous Ammonia Bulk Delivery	$ 50,000.00	Annual	20	6	(P/A)	11.4699	$ 573,495.00
Aqueous Ammonia Maintenance	$ 20,000.00	Annual	20	6	(P/A)	11.4699	$ 229,398.00
						Total NPV =	***$ 3,982,504.79***

NPV - OSG

Net Present Value
OSG

Item	Interval Cost	Interval	n	i	Symbol	Factor Table Value	Net Present Value
Initial Cost*	$ 1,565,263.47	Initial	-	-	-	-	$ 1,565,263.47
Salt Delivery	$ 74,163.60	Annual	20	6	(P/A)	11.4699	$ 850,649.08
Brine & Dosing Pump Maintenance	$ 800.00	Annual	20	6	(P/A)	11.4699	$ 9,175.92
Brine & Dosing Pump Replacement	$ 8,000.00	5 years	5	6	(P/F)	0.7473	$ 5,978.40
Brine & Dosing Pump Replacement	$ 8,000.00	10 years	10	6	(P/F)	0.5584	$ 4,467.20
Brine & Dosing Pump Replacement	$ 8,000.00	15 years	15	6	(P/F)	0.4173	$ 3,338.40
Brine Tank Replacement	$ 30,000.00	10 years	10	6	(P/F)	0.5584	$ 16,752.00
NaOCl Bulk Tank Replacement	$ 60,000.00	10 years	10	6	(P/F)	0.5584	$ 33,504.00
Bulk Tank Inspection	$ 6,000.00	5 years	5	6	(P/F)	0.7473	$ 4,483.80
Bulk Tank Inspection	$ 6,000.00	10 years	10	6	(P/F)	0.5584	$ 3,350.40
Bulk Tank Inspection	$ 6,000.00	15 years	15	6	(P/F)	0.4173	$ 2,503.80
Rectifier Diode Replacement	$ 2,400.00	10 years	10	6	(P/F)	0.5584	$ 1,340.16
Cell Replacement	$ 664,870.00	10 years	10	6	(P/F)	0.5584	$ 371,263.41
Blower Replacement	$ 10,000.00	10 years	10	6	(P/F)	0.5584	$ 5,584.00
OSG Electrical Costs	$ 65,645.25	Annual	20	6	(P/A)	11.4699	$ 752,944.45
Aqueous Ammonia Bulk Delivery	$ 50,000.00	Annual	20	6	(P/A)	11.4699	$ 573,495.00
Aqueous Ammonia Maintenance	$ 20,000.00	Annual	20	6	(P/A)	11.4699	$ 229,398.00
						Total NPV =	***$ 4,433,491.48***

*Initial cost does not include installation costs

NPV - UV + BULK

Net Present Value
UV + Bulk

Item	Interval Cost	Interval	n	i	Symbol	Factor Table Value	Net Present Value
Initial Cost	$ 2,618,988.92	Initial	-	-	-	-	$ 2,618,988.92
UV Lamp Replacement	$ 108,080.00	3 years	3	6	(P/F)	0.8396	$ 90,743.97
UV Lamp Replacement	$ 108,080.00	6 years	6	6	(P/F)	0.7050	$ 76,196.40
UV Lamp Replacement	$ 108,080.00	9 years	9	6	(P/F)	0.5919	$ 63,972.55
UV Lamp Replacement	$ 108,080.00	12 years	12	6	(P/F)	0.4970	$ 53,715.76
UV Lamp Replacement	$ 108,080.00	15 years	15	6	(P/F)	0.4173	$ 45,101.78
UV Lamp Replacement	$ 108,080.00	18 years	18	6	(P/F)	0.3505	$ 37,882.04
UV Lamp Electrical Costs	$ 38,544.00	Annual	20	6	(P/A)	11.4699	$ 442,095.83
UV Lamp Driver Replacement	$ 16,110.00	10 years	10	6	(P/F)	0.5584	$ 8,995.82
UV Lamp Sleeve Kits	$ 21,600.00	Annual	20	6	(P/A)	11.4699	$ 247,749.84
NaOCl Bulk Delivery	$ 58,765.00	Annual	20	6	(P/A)	11.4699	$ 674,028.67
Peristaltic Pump Maintenance	$ 200.00	Annual	20	6	(P/A)	11.4699	$ 2,293.98
Peristaltic Pump Replacement	$ 8,000.00	10 years	10	6	(P/F)	0.5584	$ 4,467.20
Peristaltic Pump Replacement	$ 8,000.00	15 years	15	6	(P/F)	0.4173	$ 3,338.40
Bulk Tank Inspection	$ 4,000.00	5 years	5	6	(P/F)	0.7473	$ 2,989.20
Bulk Tank Inspection	$ 4,000.00	10 years	10	6	(P/F)	0.5584	$ 2,233.60
Bulk Tank Inspection	$ 4,000.00	15 years	15	6	(P/F)	0.4173	$ 1,669.20
Bulk Tank Replacement	$ 30,000.00	10 years	10	6	(P/F)	0.5584	$ 16,752.00
						Total NPV =	***$ 4,393,215.16***

APPENDIX D
5-YEAR MONTHLY OPERATING REPORT SUMMARY

Date	Ave. Hours Plant Operation (day)	Ave. Raw Water Pumped, MGD	Ave. Finished Water Pumped, MGD	FILTER DATA				CHEMICALS															RAW W				
				Ave. Hours Filter Runs Between Washings			Ave. Wash Water, MGD	AVERAGE POUNDS USED							DOSAGES												
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness
2017																											
Max.	24	6.89	7.25	577.30	811.00	116.00	0.76	10,057.00	162.00	-	431.00	300.00	206.00	24.00	209.83	3.37	400.00	8.52	6.82	1.00	0.56		7.50	272.00	280.00	264.00
Min.	24	3.72	4.28	59.60	21.50	0.53	0.09	5,429.00	-	-	160.00	100.00	0.00	5.12	138.77	1.23	-	3.22	1.91	0.00	0.00		7.00	160.00	146.00	170.00
Avg.	24	5.68	6.00	284.57	64.97	20.68	0.45	8,286.86	91.59	-	290.56	165.64	119.63	13.70	174.85	2.12	1.08	6.15	3.53	0.58	0.29		7.21	222.33	247.94	233.52
2018																											
Max.	24	6.82	8.81	685.00	1265.00	58.00	26.50	9,954.00	100.00	-	350.00	356.00	214.00	25.60	191.31	2.56	-	7.10	7.39	1.05	0.49		7.50	250.00	264.00	250.00
Min.	24	4.68	5.16	5.34	21.00	3.00	0.00	990.00	0.00	-	150.00	120.00	28.00	6.99	19.27	0.00	-	2.83	2.39	0.00	0.00		7.10	180.00	210.00	185.00
Avg.	24	5.73	6.05	365.22	81.59	27.79	0.34	8,335.76	96.81	-	235.21	221.67	133.46	14.94	174.49	2.04	-	4.94	4.67	0.64	0.31		7.29	226.53	250.39	233.50
2019																											
Max.	24	8.65	7.94	681.00	124.00	79.00	36.50	12,624.00	100.00	-	327.00	540.00	240.00	25.70	220.51	2.75	-	8.26	10.07	1.06	0.50		7.30	256.00	364.00	270.00
Min.	24	4.36	4.47	210.00	17.50	6.00	0.02	1,017.00	100.00	-	230.00	100.00	80.00	0.18	0.00	1.39	-	4.16	1.90	0.00	0.00		7.00	204.00	170.00	240.00
Avg.	24	5.91	6.07	441.33	78.61	31.63	0.35	8,695.89	100.00	-	294.82	236.37	131.03	17.68	176.16	2.04	-	6.01	4.80	0.61	0.36		7.20	242.99	267.70	247.92
2020																											
Max.	24	6.81	6.87	558.00	109.50	74.00	0.37	9,846.00	188.24	-	400.00	360.00	195.00	20.90	230.84	2.82	-	8.46	7.48	1.01	0.51		7.20	260.00	284.00	265.00
Min.	24	4.25	4.64	171.00	27.00	12.00	0.09	6,224.00	0.00	-	280.00	112.00	85.00	10.80	118.83	0.00	-	5.28	2.34	0.41	0.24		7.00	228.00	250.00	200.00
Avg.	24	5.53	5.81	421.39	69.76	31.56	0.26	8,365.95	106.37	-	301.20	176.02	131.70	18.00	182.19	2.02	-	6.58	3.83	0.66	0.39		7.18	240.79	264.32	243.99
2021																											
Max.	24	7.00	6.82	3880.00	162.00	97.00	0.53	10,216.50	188.24	-	350.00	442.00	195.00	27.60	207.97	2.74	-	8.05	9.74	0.96	0.67		7.60	270.00	268.00	264.00
Min.	24	4.37	4.90	6.80	21.00	0.31	0.00	6,378.02	100.00	-	220.00	110.00	119.00	10.80	153.00	1.71	-	4.89	2.46	0.57	0.22		7.10	140.00	238.00	230.00
Avg.	24	5.59	5.90	404.10	70.39	29.49	0.29	8,350.31	107.35	-	294.73	192.50	151.06	18.04	179.07	2.15	-	6.34	4.14	0.75	0.39		7.20	239.88	260.24	240.42
Total																											
Max.	24.00	**8.65**	**8.81**	3880.00	1265.00	116.00	36.50	12624.00	188.24	0.00	**431.00**	**540.00**	240.00	27.60	230.84	3.37	400.00	**8.52**	**10.07**	1.06	0.67		**7.60**	272.00	**364.00**	**270.00**
Min.	24.00	**3.72**	**4.28**	5.34	17.50	0.31	0.00	990.00	0.00	0.00	**150.00**	**100.00**	0.00	0.18	0.00	0.00	0.00	**2.83**	**1.90**	0.00	0.00		**7.00**	140.00	**146.00**	**170.00**
Avg.	24.00	**5.69**	**5.97**	383.32	73.07	28.23	0.34	8406.95	100.43	0.00	**283.30**	**198.44**	133.37	16.47	177.35	2.08	0.22	**6.01**	**4.20**	0.65	0.35		**7.22**	234.50	**258.12**	**239.87**

Date	CHEMICAL AND PHYSICAL RESULTS																							
	WATER					SETTLED WATER						FINISHED WATER												
	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
2017																								
Max.	24.00	42.00	0.80	62.00	65.00	2.80	10.40	35.00	53.00	80.00	68.00	9.60	16.00	44.00	69.00	58.00	2.20	3.90	10.00	0.87	0.70	0.80	1.08	3.50
Min.	6.00	18.00	0.16	20.00	20.00	0.36	9.10	16.00	34.00	54.00	40.00	7.80	2.00	20.00	36.00	38.00	0.00	1.10	3.00	0.17	0.21	0.02	-0.56	0.00
Avg.	14.61	37.50	0.25	34.22	39.98	1.37	10.08	23.29	43.91	58.58	48.63	9.17	9.79	27.67	56.54	46.68	0.02	3.10	8.07	0.55	0.40	0.10	0.37	0.25
2018																								
Max.	36.00	40.00	0.40	40.00	44.00	2.48	10.40	33.00	54.00	64.00	54.00	9.70	19.00	41.00	63.00	56.00	4.30	5.20	11.00	0.72	0.59	0.80	1.43	2.00
Min.	10.00	16.00	0.11	24.00	30.00	0.70	9.50	17.00	33.00	26.00	40.00	7.50	3.00	19.00	44.00	35.00	0.00	0.40	5.00	0.05	0.15	0.06	0.00	0.00
Avg.	17.14	24.29	0.29	31.12	39.87	1.40	10.02	21.73	41.90	56.92	47.27	9.23	10.59	29.68	56.31	46.32	0.08	3.56	7.97	0.56	0.33	0.13	0.48	0.11
2019																								
Max.	40.00	24.00	0.34	36.00	40.00	2.90	10.30	28.00	48.00	66.00	56.00	9.70	24.00	40.00	67.00	56.00	0.00	4.10	14.00	0.83	0.65	0.23	1.81	2.50
Min.	10.00	18.00	0.26	25.00	36.00	0.44	9.00	13.00	28.00	26.00	42.00	8.00	0.00	14.00	36.00	39.00	0.00	1.00	2.00	0.34	0.11	0.04	0.00	0.00
Avg.	20.04	20.23	0.30	30.13	39.95	0.98	9.97	20.52	40.54	57.69	46.91	9.16	7.56	26.31	56.99	46.22	0.00	3.46	6.73	0.56	0.28	0.12	0.40	0.17
2020																								
Max.	40.00	32.00	0.73	32.00	40.00	3.50	10.50	29.00	57.00	68.00	58.00	9.80	18.00	43.00	70.00	65.00	8.00	4.30	12.00	0.89	0.56	0.30	1.48	4.40
Min.	10.00	18.00	0.26	28.00	36.00	0.40	9.10	10.00	20.00	29.00	39.00	7.30	0.00	18.00	54.00	39.00	0.00	1.50	2.00	0.50	0.09	0.04	0.02	0.00
Avg.	19.64	26.41	0.31	30.01	39.99	0.97	10.02	21.18	40.51	58.32	47.55	9.20	8.67	26.77	57.74	46.76	0.07	3.49	6.54	0.66	0.28	0.10	0.51	0.25
2021																								
Max.	30.00	32.00	0.36	32.00	48.00	2.50	10.50	35.00	58.00	74.00	63.00	10.00	20.00	40.00	67.00	57.00	3.20	4.40	14.00	0.80	0.79	0.70	1.30	3.00
Min.	10.00	20.00	0.26	28.00	36.00	0.44	9.10	12.00	25.00	29.00	39.00	8.70	3.00	13.00	28.00	39.00	0.00	1.60	2.00	0.07	0.12	0.03	-0.16	0.00
Avg.	19.93	29.05	0.29	29.99	40.13	1.09	10.00	20.09	37.53	58.40	48.25	9.30	8.45	22.63	55.67	46.42	0.07	3.56	7.12	0.69	0.33	0.13	0.47	0.24
Total																								
Max.	40.00	42.00	**0.80**	**62.00**	**65.00**	**3.50**	**10.50**	35.00	58.00	**80.00**	**68.00**	**10.00**	24.00	44.00	**70.00**	**65.00**	**8.00**	**5.20**	**14.00**	0.89	**0.79**	**0.80**	**1.81**	4.40
Min.	6.00	16.00	**0.11**	**20.00**	**20.00**	**0.36**	**9.00**	10.00	20.00	**26.00**	**39.00**	**7.30**	0.00	13.00	**28.00**	**35.00**	**0.00**	**0.40**	**2.00**	0.05	**0.09**	**0.02**	**-0.56**	0.00
Avg.	18.27	27.50	**0.29**	**31.09**	**39.98**	**1.16**	**10.02**	21.37	40.88	**57.98**	**47.72**	**9.21**	9.01	26.61	**56.65**	**46.48**	**0.05**	**3.43**	**7.29**	0.60	**0.32**	**0.12**	**0.44**	0.21

2017 MONTHLY OPERATING REPORT
YEAR SUMMARY

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS								
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
Jan-17																
Max.	24.00	6.47	6.61	489.80	67.00	28.00	0.71	9443.00	100.00	0.00	**280.00**	**160.00**	156.00	15.65	175.01	2.15
Min.	24.00	5.57	5.60	194.50	30.50	3.50	0.45	8129.00	100.00	0.00	**245.00**	**145.00**	110.00	9.12	174.99	1.85
Avg.	24.00	6.03	6.06	242.43	44.60	15.89	0.60	8795.94	100.00	0.00	**257.03**	**151.16**	122.74	12.80	175.00	1.99
Feb-17																
Max.	24.00	6.42	7.25	351.50	69.50	30.00	0.71	9367.00	0.00	0.00	**400.00**	**200.00**	136.00	22.94	175.01	2.14
Min.	24.00	5.60	5.64	175.80	32.50	3.50	0.36	8173.00	0.00	0.00	**160.00**	**130.00**	98.00	10.70	174.94	1.87
Avg.	24.00	6.05	6.34	253.99	48.33	18.76	0.53	8832.71	0.00	0.00	**289.29**	**159.89**	124.25	13.91	174.99	1.98
Mar-17																
Max.	24.00	6.69	6.90	410.00	85.00	116.00	0.62	9764.00	100.00	0.00	**370.00**	**300.00**	152.00	21.34	175.01	2.26
Min.	24.00	5.31	5.78	151.00	22.50	4.50	0.27	7750.00	100.00	0.00	**240.00**	**140.00**	100.00	9.69	173.19	1.79
Avg.	24.00	6.01	6.35	308.43	62.28	24.51	0.47	8762.13	100.00	0.00	**267.41**	**159.90**	125.60	15.17	174.92	2.00
Apr-17																
Max.	24.00	6.89	6.95	384.00	83.00	33.00	0.62	10057.00	100.00	0.00	**270.00**	**160.00**	133.00	21.44	175.21	2.17
Min.	24.00	5.52	5.73	215.00	33.80	10.00	0.18	8056.00	100.00	0.00	**230.00**	**127.00**	94.00	8.06	174.12	1.74
Avg.	24.00	6.20	6.36	295.05	55.54	21.23	0.46	9045.80	100.00	0.00	**248.40**	**145.73**	118.47	14.21	174.98	1.94
May-17																
Max.	24.00	6.80	6.92	398.50	98.00	39.00	0.62	9822.00	100.00	0.00	**330.00**	**235.00**	160.00	17.40	187.07	2.28
Min.	24.00	5.27	5.52	223.00	21.50	7.00	0.27	7692.00	100.00	0.00	**225.00**	**100.00**	112.00	9.00	139.72	1.76
Avg.	24.00	5.99	6.20	297.20	55.37	20.42	0.45	8698.87	100.00	0.00	**277.42**	**134.74**	130.45	13.61	174.15	2.01
Jun-17																
Max.	24.00	6.00	6.34	347.50	77.00	31.00	0.71	9363.00	100.00	0.00	**310.00**	**153.00**	148.00	19.92	195.93	2.68
Min.	24.00	4.47	5.26	177.00	27.00	6.00	0.36	6523.00	100.00	0.00	**250.00**	**125.00**	101.00	5.12	165.01	2.00
Avg.	24.00	5.39	5.83	279.48	55.14	20.67	0.51	7890.80	100.00	0.00	**285.20**	**136.63**	123.67	12.22	175.43	2.23
Jul-17																
Max.	24.00	6.16	6.61	382.00	71.50	41.00	0.71	8961.00	100.00	0.00	**345.00**	**165.00**	142.00	18.30	209.83	3.05
Min.	24.00	3.93	5.43	137.10	32.80	0.53	0.09	5590.00	100.00	0.00	**275.00**	**130.00**	85.00	8.25	138.77	1.95
Avg.	24.00	5.28	6.01	266.31	53.06	18.96	0.51	7700.87	100.00	0.00	**307.50**	**143.47**	119.87	12.69	174.93	2.29
Aug-17																
Max.	24.00	6.48	6.40	577.30	121.00	35.00	0.71	9457.00	100.00	0.00	**300.00**	**175.00**	184.00	18.60	178.17	3.22
Min.	24.00	3.72	4.28	177.00	44.50	7.00	0.18	5429.00	100.00	0.00	**255.00**	**135.00**	87.00	11.52	171.38	1.85
Avg.	24.00	5.46	5.79	298.68	71.32	19.77	0.42	7966.03	100.00	0.00	**283.80**	**157.06**	126.90	14.00	174.98	2.21
Sep-17																
Max.	24.00	5.77	6.26	512.00	135.00	42.50	0.76	8421.00	162.00	0.00	**325.00**	**178.00**	156.00	20.01	177.58	3.37
Min.	24.00	4.55	5.01	59.60	28.80	9.50	0.18	6640.00	54.00	0.00	**273.00**	**135.00**	85.00	5.84	165.50	1.23
Avg.	24.00	5.34	5.76	292.20	69.58	22.78	0.39	7782.67	99.13	0.00	**294.93**	**162.69**	120.30	14.47	174.72	2.23
Oct-17																
Max.	24.00	5.82	6.51	469.00	129.00	30.50	0.62	8494.00	100.00	0.00	**400.00**	**230.00**	158.00	24.00	175.01	2.73
Min.	24.00	4.40	4.92	151.50	37.50	4.00	0.18	6538.00	100.00	0.00	**185.00**	**150.00**	37.00	6.00	174.98	2.10
Avg.	24.00	5.17	5.63	267.38	65.06	20.31	0.43	7553.74	100.00	0.00	**302.64**	**178.84**	103.90	14.68	174.99	2.33
Nov-17																
Max.	24.00	6.47	6.55	441.50	811.00	34.00	0.53	9442.00	100.00	0.00	**431.00**	**290.00**	142.00	23.31	175.13	2.40
Min.	24.00	5.00	5.24	205.00	47.00	4.00	0.18	7297.00	100.00	0.00	**325.00**	**175.00**	0.00	9.40	146.48	1.85
Avg.	24.00	5.48	5.73	321.51	117.77	21.98	0.35	7956.17	100.00	0.00	**358.00**	**261.13**	94.33	13.47	174.05	2.19
Dec-17																
Max.	24.00	6.85	6.90	540.50	125.00	31.50	0.53	9997.00	100.00	0.00	**390.00**	**293.00**	206.00	18.00	175.76	2.34
Min.	24.00	5.13	5.15	146.00	43.00	11.80	0.09	7487.00	100.00	0.00	**275.00**	**135.00**	100.00	5.39	174.95	1.75
Avg.	24.00	5.79	5.93	292.14	81.63	22.93	0.32	8456.55	100.00	0.00	**315.12**	**196.45**	125.03	13.12	175.02	2.08
2017 Totals																
Max.	24.00	6.89	7.25	577.30	811.00	116.00	0.76	10057.00	162.00	0.00	**431.00**	**300.00**	206.00	24.00	209.83	3.37
Min.	24.00	3.72	4.28	59.60	21.50	0.53	0.09	5429.00	0.00	0.00	**160.00**	**100.00**	0.00	5.12	138.77	1.23
Avg.	24.00	5.68	6.00	284.57	64.97	20.68	0.45	8286.86	91.59	0.00	**290.56**	**165.64**	119.63	13.70	174.85	2.12

CHEMICAL AND PHYSICAL

DOSAGES					RAW WATER										SETTLED WATER					
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
400.00	**5.56**	**3.21**	0.74	0.31	0.00	7.40	220.00	256.00	236.00	24.00	40.00	0.21	62.00	44.00	1.70	10.10	27.00	49.00	61.00	50.00
0.00	**4.70**	**2.82**	0.53	0.17	0.00	7.00	182.00	210.00	190.00	10.00	34.00	0.16	32.00	36.00	1.20	9.90	21.00	36.00	57.00	47.00
12.90	**5.12**	**3.01**	0.61	0.25	#DIV/0!	7.23	207.03	239.74	223.26	16.52	37.94	0.20	39.48	39.81	1.41	10.02	23.13	44.19	58.81	48.90
0.00	**7.96**	**3.91**	0.67	0.44	Max	7.40	272.00	256.00	236.00	20.00	40.00	0.30	54.00	44.00	1.75	10.40	30.00	49.00	60.00	51.00
0.00	**3.22**	**2.51**	0.49	0.21	Min	7.10	200.00	220.00	200.00	10.00	30.00	0.20	28.00	30.00	1.40	9.72	21.00	41.00	58.00	46.00
0.00	**5.73**	**3.17**	0.62	0.28	Avg	7.21	211.61	242.86	229.36	13.50	37.86	0.22	37.57	37.71	1.54	10.09	24.64	45.32	58.96	48.86
0.00	**7.77**	**5.71**	0.77	0.42	0.00	7.50	238.00	260.00	240.00	20.00	40.00	0.30	40.00	46.00	1.90	10.40	28.00	51.00	61.00	51.00
0.00	**4.63**	**2.73**	0.00	0.00	0.00	7.00	216.00	220.00	200.00	10.00	30.00	0.17	30.00	38.00	1.30	10.00	20.00	41.00	57.00	47.00
0.00	**5.37**	**3.20**	0.61	0.29	#DIV/0!	7.21	225.81	246.32	231.06	15.26	36.06	0.22	34.97	40.45	1.57	10.13	23.65	44.26	58.97	48.94
0.00	**5.50**	**3.26**	0.10	0.39	0.00	7.30	240.00	260.00	248.00	20.00	42.00	0.30	46.00	42.00	2.60	10.40	35.00	53.00	67.00	57.00
0.00	**4.35**	**2.45**	0.04	0.14	0.00	7.00	180.00	240.00	220.00	10.00	28.00	0.17	26.00	34.00	1.00	9.90	19.00	41.00	56.00	47.00
0.00	**4.82**	**2.83**	0.07	0.28	#DIV/0!	7.19	226.80	253.47	237.50	15.97	36.53	0.21	35.87	38.93	1.65	10.06	22.73	44.10	59.03	48.97
0.00	**6.85**	**4.79**	0.81	0.35	0.00	7.20	260.00	272.00	264.00	20.00	42.00	0.30	30.00	65.00	0.68	10.10	26.00	50.00	80.00	68.00
0.00	**4.30**	**1.91**	0.58	0.18	0.00	7.00	160.00	180.00	170.00	6.00	18.00	0.20	20.00	20.00	0.36	9.70	16.00	34.00	58.00	48.00
0.00	**5.56**	**2.70**	0.65	0.27	#DIV/0!	7.15	242.32	263.48	253.94	9.55	39.48	0.21	21.94	44.13	0.51	9.92	21.35	41.65	61.39	51.65
0.00	**7.01**	**3.49**	0.86	0.45	0.00	7.30	222.00	258.00	240.00	20.00	42.00	0.30	46.00	46.00	1.60	10.40	30.00	48.00	60.00	50.00
0.00	**5.57**	**2.53**	0.56	0.14	0.00	7.00	200.00	146.00	170.00	10.00	28.00	0.20	26.00	38.00	1.10	9.60	20.00	39.00	55.00	47.00
0.00	**6.36**	**3.04**	0.69	0.27	#DIV/0!	7.21	210.66	241.93	229.53	15.40	37.40	0.23	35.33	40.27	1.25	10.07	23.83	44.07	58.57	48.67
0.00	**7.70**	**4.27**	0.99	0.43	0.00	7.30	218.00	254.00	236.00	20.00	42.00	0.80	44.00	46.00	1.71	10.20	26.00	48.00	61.00	51.00
0.00	**6.03**	**2.92**	0.48	0.19	0.00	7.00	180.00	220.00	200.00	10.00	28.00	0.20	30.00	28.00	1.20	9.90	19.00	41.00	54.00	46.00
0.00	**6.95**	**3.28**	0.68	0.29	#DIV/0!	7.19	206.90	236.16	221.74	14.42	37.42	0.27	35.23	40.55	1.42	10.06	23.00	44.45	58.13	48.26
0.00	**6.60**	**4.67**	1.00	0.41	0.00	7.40	226.00	254.00	240.00	24.00	42.00	0.70	40.00	48.00	2.80	10.30	29.00	49.00	62.00	52.00
0.00	**5.37**	**2.80**	0.48	0.24	0.00	7.10	188.00	210.00	200.00	10.00	30.00	0.20	30.00	32.00	1.17	10.00	20.00	41.00	56.00	46.00
0.00	**6.18**	**3.47**	0.70	0.31	#DIV/0!	7.21	211.94	239.29	223.10	16.19	37.16	0.27	35.42	38.97	1.45	10.16	24.00	44.68	58.13	48.06
0.00	**7.60**	**4.09**	0.91	0.45	0.00	7.40	240.00	280.00	248.00	20.00	42.00	0.54	40.00	44.00	2.02	10.40	29.00	50.00	60.00	49.00
0.00	**5.93**	**3.33**	0.49	0.13	0.00	7.20	220.00	244.00	226.00	8.00	30.00	0.21	30.00	36.00	1.20	10.00	20.00	38.00	56.00	45.00
0.00	**6.63**	**3.66**	0.68	0.32	#DIV/0!	7.21	229.87	253.63	237.67	14.63	38.55	0.29	34.93	40.07	1.40	10.18	23.67	43.63	57.87	47.80
0.00	**8.40**	**5.90**	0.96	0.56	0.00	7.30	236.00	256.00	246.00	20.00	42.00	0.48	38.00	42.00	1.62	10.40	27.00	50.00	63.00	52.00
0.00	**4.45**	**3.25**	0.21	0.15	0.00	7.00	196.00	220.00	204.00	10.00	30.00	0.20	28.00	30.00	1.30	9.90	17.00	34.00	56.00	46.00
0.00	**6.76**	**4.16**	0.61	0.34	#DIV/0!	7.20	224.39	247.00	232.84	14.16	36.84	0.27	32.67	39.35	1.44	10.12	23.39	43.61	58.19	48.52
0.00	**8.39**	**6.82**	0.77	0.55	0.00	7.40	244.00	268.00	250.00	20.00	42.00	0.40	40.00	45.00	1.62	10.30	26.00	49.00	60.00	50.00
0.00	**6.83**	**3.87**	0.00	0.21	0.00	7.00	228.00	246.00	230.00	12.00	34.00	0.20	24.00	30.00	1.26	9.10	19.00	40.00	55.00	40.00
0.00	**7.77**	**5.72**	0.47	0.30	#DIV/0!	7.23	236.60	257.20	241.53	15.73	38.20	0.30	33.67	39.76	1.39	10.09	22.77	44.17	57.30	47.10
0.00	**8.52**	**6.54**	0.94	0.36	0.00	7.30	240.00	264.00	246.00	20.00	40.00	0.38	40.00	42.00	2.70	10.30	27.00	48.00	59.00	50.00
0.00	**4.87**	**2.42**	0.49	0.12	0.00	7.20	210.00	225.00	215.00	10.00	26.00	0.24	28.00	34.00	1.12	9.90	20.00	36.00	55.00	45.00
0.00	**6.54**	**4.12**	0.60	0.27	#DIV/0!	7.25	234.00	254.23	240.74	14.00	36.58	0.28	33.52	39.74	1.39	10.10	23.35	42.84	57.58	47.87
400.00	**8.52**	**6.82**	1.00	0.56	Max	7.50	272.00	280.00	264.00	24.00	42.00	0.80	62.00	65.00	2.80	10.40	35.00	53.00	80.00	68.00
0.00	**3.22**	**1.91**	0.00	0.00	Min	7.00	160.00	146.00	170.00	6.00	18.00	0.16	20.00	20.00	0.36	9.10	16.00	34.00	54.00	40.00
1.08	**6.15**	**3.53**	0.58	0.29	Avg	7.21	222.33	247.94	233.52	14.61	37.50	0.25	34.22	39.98	1.37	10.08	23.29	43.91	58.58	48.63

RESULTS

FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
9.30	13.00	34.00	59.00	49.00	0.00	3.10	9.00	0.63	0.65	0.13	0.70	0.50
8.90	6.00	24.00	52.00	45.00	0.00	2.60	7.00	0.44	0.44	0.10	0.22	0.00
9.15	9.61	28.16	57.06	47.13	0.00	2.90	7.87	0.53	0.49	0.11	0.44	0.08
9.50	16.00	37.00	59.00	48.00	2.20	3.20	10.00	0.56	0.64	0.13	0.85	1.20
8.50	2.00	22.00	50.00	43.00	0.00	1.10	7.00	0.50	0.46	0.08	-0.28	0.00
9.19	9.57	28.61	56.93	46.96	0.19	2.60	8.46	0.53	0.54	0.11	0.40	0.09
9.60	16.00	36.00	59.00	49.00	1.70	3.20	10.00	0.56	0.70	0.80	1.00	2.10
7.80	5.00	20.00	50.00	45.00	0.00	1.70	6.00	0.45	0.50	0.06	-0.56	0.00
9.15	9.70	27.61	56.68	46.94	0.05	2.75	8.45	0.53	0.57	0.14	0.43	0.19
9.60	14.00	44.00	68.00	58.00	0.50	3.80	10.00	0.69	0.64	0.18	1.08	0.20
8.50	2.00	23.00	45.00	40.00	0.00	2.90	8.00	0.17	0.30	0.08	-0.27	0.00
9.18	9.77	28.70	56.97	47.37	0.02	3.17	8.60	0.57	0.51	0.12	0.48	0.02
9.20	14.00	37.00	69.00	57.00	0.00	3.80	5.00	0.71	0.43	0.04	0.43	1.20
8.80	7.00	20.00	52.00	42.00	0.00	2.90	3.00	0.48	0.21	0.02	-0.06	0.00
9.02	9.32	24.26	57.81	47.61	0.00	3.32	3.45	0.62	0.25	0.02	0.21	0.11
9.50	13.00	35.00	59.00	50.00	0.00	3.70	10.00	0.69	0.39	0.12	1.02	3.10
8.80	6.00	24.00	36.00	44.00	0.00	2.60	7.00	0.42	0.24	0.03	0.19	0.00
9.20	9.83	28.73	55.80	46.87	0.00	3.19	8.37	0.59	0.32	0.09	0.49	0.78
9.50	15.00	32.00	60.00	49.00	0.00	3.50	10.00	0.61	0.55	0.15	0.93	3.50
8.60	6.00	23.00	53.00	38.00	0.00	2.50	8.00	0.46	0.24	0.06	0.14	0.00
9.09	8.97	27.48	55.90	45.74	0.00	2.95	8.61	0.55	0.37	0.11	0.40	0.63
9.50	14.00	31.00	58.00	49.00	0.00	3.50	9.00	0.60	0.42	0.12	0.77	3.00
8.90	7.00	24.00	54.00	44.00	0.00	2.70	8.00	0.44	0.30	0.06	0.09	0.00
9.22	10.10	27.55	56.26	46.26	0.00	3.13	8.68	0.53	0.36	0.09	0.47	0.69
9.50	12.00	33.00	59.00	48.00	0.00	3.70	10.00	0.59	0.46	0.16	0.62	1.80
8.80	6.00	21.00	54.00	42.00	0.00	2.50	8.00	0.47	0.28	0.10	0.00	0.00
9.15	9.07	26.00	56.23	46.23	0.00	3.09	8.63	0.55	0.35	0.11	0.08	0.09
9.50	14.00	35.00	58.00	48.00	0.00	3.90	10.00	0.62	0.39	0.15	0.42	0.50
9.00	7.00	22.00	53.00	44.00	0.00	2.60	8.00	0.28	0.27	0.07	0.00	0.00
9.26	10.42	27.55	56.13	46.23	0.00	3.27	8.65	0.51	0.35	0.11	0.03	0.02
9.50	13.00	37.00	58.00	48.00	0.00	3.80	10.00	0.87	0.38	0.13	0.96	1.80
9.00	8.00	23.00	54.00	44.00	0.00	2.80	8.00	0.38	0.26	0.07	0.00	0.00
9.29	10.70	29.33	56.30	46.27	0.00	3.32	8.57	0.54	0.32	0.10	0.44	0.31
9.40	14.00	34.00	58.00	49.00	0.00	3.80	10.00	0.67	0.38	0.15	0.75	0.20
8.60	3.00	23.00	50.00	44.00	0.00	2.90	8.00	0.46	0.30	0.09	0.05	0.00
9.20	10.42	28.03	56.35	46.58	0.00	3.46	8.55	0.56	0.34	0.11	0.51	0.03
9.60	16.00	44.00	69.00	58.00	2.20	3.90	10.00	0.87	0.70	0.80	1.08	3.50
7.80	2.00	20.00	36.00	38.00	0.00	1.10	3.00	0.17	0.21	0.02	-0.56	0.00
9.17	9.79	27.67	56.54	46.68	0.02	3.10	8.07	0.55	0.40	0.10	0.37	0.25

2017 MONTHLY OPERATING REPORT DATA
RAW

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: _____ **Operator's Names & Cert. No.**

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
January 1, 2017	24	6.460	6.200	228	34	19	0.623	9428	100	0	264	156	119	9.1	175
January 2, 2017	24	6.470	6.610	206	43.5	11.5	0.623	9443	100	0	265	155	115	14.0	175
January 3, 2017	24	5.610	6.080	256	45	19	0.534	8188	100	0	260	150	120	13.3	175
January 4, 2017	24	5.850	6.120	255	46	22	0.623	8538	100	0	250	150	110	12.0	175
January 5, 2017	24	6.060	5.870	220	50.5	12.5	0.534	8844	100	0	260	150	125	12.0	175
January 6, 2017	24	5.730	6.110	236.5	57	17	0.712	8363	100	0	260	150	116	12.0	175
January 7, 2017	24	5.750	5.760	201	36.5	14	0.623	8392	100	0	260	150	110	11.7	175
January 8, 2017	24	5.960	6.200	197	34	12.3	0.623	8698	100	0	261	151	125	15.4	175
January 9, 2017	24	6.150	6.380	228	36.5	19.5	0.534	8976	100	0	260	150	120	12.3	175
January 10, 2017	24	5.970	5.820	286	54.5	22	0.534	8713	100	0	260	150	122	14.6	175
January 11, 2017	24	5.930	5.980	270	55	10	0.445	8655	100	0	250	150	118	12.0	175
January 12, 2017	24	5.810	5.780	275	61.5	10	0.445	8480	100	0	250	150	117	12.5	175
January 13, 2017	24	5.860	6.190	260.5	67	3.5	0.712	8552	100	0	250	150	120	12.0	175
January 14, 2017	24	5.690	5.600	208	31	19	0.534	8304	100	0	250	150	121	12.3	175
January 15, 2017	24	6.020	6.540	209	31.5	18.5	0.712	8786	100	0	250	155	125	14.1	175
January 16, 2017	24	6.380	5.880	194.5	40.5	3.8	0.712	9312	100	0	260	160	118	15.7	175
January 17, 2017	24	6.180	6.400	237	41	8	0.534	9020	100	0	271	157	120	12.0	175
January 18, 2017	24	6.070	6.090	232.5	39.5	22.5	0.623	8859	100	0	250	150	117	12.0	175
January 19, 2017	24	5.970	5.750	240	42	23.5	0.445	8713	100	0	250	150	125	12.0	175
January 20, 2017	24	6.100	6.240	252.5	49.5	18	0.712	8903	100	0	248	148	125	12.0	175
January 21, 2017	24	6.070	6.000	205	41	21	0.623	8859	100	0	251	151	146	11.5	175
January 22, 2017	24	6.340	6.240	198	47.3	6.5	0.712	9253	100	0	250	150	156	15.6	175
January 23, 2017	24	6.160	5.680	198	30.5	18.5	0.712	8990	100	0	250	150	120	14.9	175
January 24, 2017	24	6.380	6.380	244.5	40	15	0.534	9312	100	0	250	150	140	12.0	175
January 25, 2017	24	5.570	5.890	223	39.5	13	0.623	8129	100	0	245	145	120	12.0	175
January 26, 2017	24	5.960	5.860	238.5	45	23	0.445	8698	100	0	255	145	120	12.0	175
January 27, 2017	24	5.950	6.270	276.5	57	18	0.712	8684	100	0	250	150	121	12.0	175
January 28, 2017	24	6.160	6.190	489.8	47.8	11	0.534	8991	100	0	280	155	122	12.9	175
January 29, 2017	24	6.160	5.906	279	48.5	21	0.534	8990	100	0	280	155	123.0	14	175
January 30, 2017	24	6.260	5.940	253.5	48.5	28	0.623	9136	100	0	280	155	125	15.1	175
January 31, 2017	24	5.800	5.800	217	41.5	12	0.623	8465	100	0	248	148	124	12.0	175
Total	744.00	186.83	187.76	7515.30	1382.60	492.60	18.51	272674.00	3100.00	0.00	7968.00	4686.00	3805.00	396.92	5424.91
Max.	24.00	6.47	6.61	489.80	67.00	28.00	0.71	9443.00	100.00	0.00	280.00	160.00	156.00	15.65	175.01
Min.	24.00	5.57	5.60	194.50	30.50	3.50	0.45	8129.00	100.00	0.00	245.00	145.00	110.00	9.12	174.99
Avg.	24.00	6.03	6.06	242.43	44.60	15.89	0.60	8795.94	100.00	0.00	257.03	151.16	122.74	12.80	175.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : January
Telephone Number : (954) 730-2972

CHEMICAL AND

DOSAGES						RAW WATER										SETTLED WATE			
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
2	0	4.9	2.9	0.55	0.17	3,7	7.0	182	228	210	18	40	0.2	44	38	1.4	9.9	21	44
1.9	0.0	4.9	2.9	0.53	0.259	5,7	7.0	184	230	214	16	40	0.2	38	40	1.4	10.0	22	44
2.1	0.0	5.6	3.2	0.64	0.28	5,7	7.2	196	236	222	14	40	0.2	38	40	1.5	10.0	23	44
2.0	0.0	5.1	3.1	0.56	0.25	5,6	7.3	210	240	220	20	40	0.2	36	40	1.2	10.0	23	45
2.0	0.0	5.1	3.0	0.62	0.24	5,6	7.3	216	240	220	20	40	0.2	40	40	1.3	10.0	24	47
2.1	0.0	5.4	3.1	0.61	0.25	5,6	7.2	210	244	222	22	40	0.2	36	40	1.2	10.0	21	42
2.1	0.0	5.4	3.1	0.57	0.24	5,6	7.4	210	240	220	20	36	0.2	38	40	1.2	10.0	22	42
2.0	0.0	5.3	3.0	0.63	0.31	5,6	7.3	210	240	220	20	36	0.2	38	40	1.3	10.1	24	36
1.9	0.0	5.1	2.9	0.58	0.24	5,6	7.4	210	240	220	20	36	0.2	38	40	1.3	10.0	23	45
2.0	0.0	5.2	3.0	0.61	0.29	5,6	7.3	200	230	216	14	36	0.2	36	40	1.3	10.1	25	45
2	0	5.1	3.0	0.60	0.24	5,6	7.2	210	240	224	16	36	0.2	40	40	1.4	10.0	24	44
2.1	0.0	5.2	3.1	0.60	0.258	5,6	7.3	200	230	216	14	36	0.2	40	36	1.3	9.9	24	45
	400.0	5.1	3.1	0.61	0.25	3,6	7.3	200	230	216	14	36	0.2	36	40	1.3	10.0	23	43
2.1	0.0	5.3	3.2	0.64	0.26	5,6	7.3	200	230	216	14	36	0.2	40	40	1.3	9.9	21	44
2.0	0.0	5.0	3.1	0.62	0.28	5,6	7.2	200	230	216	14	36	0.2	40	40	1.7	10.0	23	44
1.9	0.0	4.9	3.0	0.55	0.29	5,6	7.2	200	228	216	12	36	0.2	40	40	1.6	10.0	23	46
1.9	0.0	5.3	3.0	0.58	0.23	5,6	7.2	210	242	228	14	36	0.2	40	40	1.3	10.0	25	43
2.0	0.0	4.9	3.0	0.58	0.24	5,6	7.2	210	240	230	10	34	0.2	40	40	1.4	10.1	24	44
2.0	0.0	5.0	3.0	0.63	0.24	5,6	7.2	210	240	230	10	34	0.2	40	40	1.3	10.1	27	46
2.0	0.0	4.9	2.9	0.61	0.24	5,6	7.3	216	244	232	12	36	0.2	40	40	1.7	10.0	23	43
2	0	5.0	3.0	0.72	0.23	3,4,7	7.3	220	256	233	24	38	0.2	40	36	1.4	10.1	23	45
1.9	0.0	4.7	2.8	0.74	0.295	3,4,7	7.2	220	256	232	24	38	0.2	40	36	1.6	10.0	24	44
1.9	0.0	4.9	2.9	0.58	0.29	3,4,7	7.2	220	256	232	24	40	0.2	40	38	1.7	10.0	22	43
1.9	0.0	4.7	2.8	0.66	0.23	3,4,7	7.2	216	244	230	14	40	0.2	40	44	1.4	10.0	25	46
2.2	0.0	5.3	3.1	0.65	0.26	3,4,7	7.3	208	246	236	10	40	0.2	40	42	1.4	10.1	22	43
2.0	0.0	5.1	2.9	0.60	0.24	3,4,7	7.2	216	250	232	18	40	0.2	40	44	1.4	10.0	23	45
2.0	0.0	5.0	3.0	0.61	0.24	3,4,7	7.2	202	244	230	14	40	0.2	36	40	1.5	10.1	24	45
1.9	0.0	5.5	3.0	0.59	0.25	3,4,7	7.2	212	250	234	16	40	0.2	40	40	1.6	10.0	21	45
1.9	0.0	5.5	3.0	0.60	0.27	3,4,7	7.1	196	210	190	20	40	0.2	62	40	1.6	10.1	22	44
1.9	0.0	5.4	3.0	0.60	0.29	3,4,7	7.2	214	254	234	20	40	0.2	32	40	1.3	10.1	23	45
2	0	5.1	3.1	0.64	0.25	3,4,7	7.2	210	244	230	14	40	0.2	36	40	1.5	10.1	23	49

59.72	400.00	158.68	93.32	18.94	7.90	0.00	224.10	6418.00	7432.00	6921.00	512.00	1176.00	6.14	1224.00	1234.00	43.83	310.70	717.00	1370.00
2.15	400.00	5.56	3.21	0.74	0.31	0.00	7.40	220.00	256.00	236.00	24.00	40.00	0.21	62.00	44.00	1.70	10.10	27.00	49.00
1.85	0.00	4.70	2.82	0.53	0.17	0.00	7.00	182.00	210.00	190.00	10.00	34.00	0.16	32.00	36.00	1.20	9.90	21.00	36.00
1.99	12.90	5.12	3.01	0.61	0.25	#DIV/0!	7.23	207.03	239.74	223.26	16.52	37.94	0.20	39.48	39.81	1.41	10.02	23.13	44.19

County : Broward
I.D. Number : 4060787
Year : 2018

PHYSICAL RESULTS

R		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
58	49	9.2	10	33	59	48	0.0	2.9	7	0.55	0.45	0.11	0.22	0.0
58	48	9.2	10	32	56	46	0.0	3.0	9	0.54	0.46	0.12	0.56	0.0
58	48	9.2	10	29	57	45	0.0	2.7	8	0.56	0.48	0.11	0.44	0.2
59	49	9.2	13	34	58	48	0.0	3.0	8	0.55	0.45	0.12	0.62	0.1
59	49	9.3	11	33	58	48	0.0	3.1	7	0.53	0.44	0.11	0.70	0.1
58	48	9.1	10	27	57	47	0.0	2.7	7	0.56	0.48	0.10	0.37	0.1
57	47	9.0	8	26	57	47	0.0	2.7	7	0.57	0.45	0.10	0.48	0.0
59	49	8.9	7	25	56	46	0.0	2.7	8	0.50	0.45	0.11	0.32	0.0
58	48	9.1	8	27	55	45	0.0	2.9	9	0.45	0.44	0.11	0.35	0.2
59	49	9.3	12	31	58	48	0.0	3.0	8	0.50	0.46	0.10	0.66	0.1
58	49	9.1	10	31	58	48	0.0	3.0	7	0.51	0.47	0.10	0.46	0.2
59	49	9.3	9	30	57	47	0.0	3.1	8	0.51	0.48	0.11	0.63	0.2
58	48	9.3	11	26	58	48	0.0	3.1	7	0.48	0.45	0.10	0.55	0.4
58	48	9.3	11	25	57	47	0.0	3.0	7	0.51	0.45	0.10	0.29	0.0
59	49	9.1	9	26	56	46	0.0	2.8	8	0.47	0.54	0.13	0.41	0.0
59	49	9.2	9	30	56	46	0.0	2.9	9	0.44	0.49	0.11	0.52	0.2
59	49	9.2	10	29	58	48	0.0	2.6	8	0.47	0.46	0.11	0.52	0.0
58	49	9.2	13	32	57	47	0.0	2.8	7	0.49	0.46	0.12	0.57	0.0
60	50	9.3	12	32	57	47	0.0	2.9	7	0.49	0.48	0.12	0.67	0.0
60	50	9.0	8	24	59	49	0.0	2.8	8	0.52	0.46	0.11	0.23	0.0
58	48	9.2	8	24	57	48	0.0	2.7	7	0.52	0.50	0.11	0.32	0.0
59	49	9.1	8	25	56	46	0.0	2.9	8	0.57	0.57	0.13	0.28	0.0
60	50	9.1	8	26	58	48	0.0	2.9	9	0.63	0.65	0.12	0.36	0.5
61	50	9.1	10	26	57	47	0.0	3.0	8	0.59	0.53	0.12	0.35	0.0
60	50	9.2	10	27	58	48	0.0	3.0	8	0.56	0.53	0.12	0.48	0.0
59	50	9.1	10	27	57	47	0.0	2.9	8	0.56	0.51	0.12	0.37	0.0
58	48	9.0	10	24	58	48	0.0	2.8	8	0.57	0.49	0.10	0.22	0.0
58	48	9.0	8	26	52	47	0.0	3.0	8	0.56	0.58	0.10	0.65	0.0
59	50	8.9	6	30	56	46	0.0	2.9	9	0.54	0.56	0.12	0.27	0.0
60	50	9.0	7	26	57	47	0.0	3.1	9	0.54	0.55	0.12	0.25	0.1
60	49	9.3	12	30	59	48	0.0	3.0	8	0.51	0.53	0.10	0.64	0.0

1823.00	1516.00	283.50	298.00	873.00	1769.00	1461.00	0.00	89.90	244.00	16.35	15.30	3.46	13.76	2.40
61.00	50.00	9.30	13.00	34.00	59.00	49.00	0.00	3.10	9.00	0.63	0.65	0.13	0.70	0.50
57.00	47.00	8.90	6.00	24.00	52.00	45.00	0.00	2.60	7.00	0.44	0.44	0.10	0.22	0.00
58.81	48.90	9.15	9.61	28.16	57.06	47.13	0.00	2.90	7.87	0.53	0.49	0.11	0.44	0.08

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282	LUIS ANI
C.HUTCHINSON	B17017	RODOLF
STNLEY E.BANKS	B17017	CARLTO
KERRY ROMAN	C7873	
R.RAMNARINE	C12091	
H.RODRIGUEZ	C19220	

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD RAW	Total Finished Water Pumped, MGD FINISH	FILTER DATA				CHEMICALS								
				Hours Filter			Total Wash Water, MGD	POUNDS USED								
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
				Total	Max	Min										
	1	2	3	4	5	6	7	8			9	10	11	12	13	
February 1, 2017	24	5.790	6.440	234.5	43	22.5	0.534	8450	0	0	250	150	122	12.0	175	2
February 2, 2017	24	6.040	5.640	230	45	13.5	0.623	8815	0	0	271	148	126	12.0	175	2.0
February 3, 2017	24	5.810	6.120	256	48	24	0.534	8480	0	0	250	150	125	10.7	175	2.1
February 4, 2017	24	5.970	6.170	230.5	42	8	0.623	8713	0	0	250	150	125	12.0	175	2.0
February 5, 2017	24	6.200	6.480	198	44.5	9	0.712	9048	0	0	240	130	136	13.8	175	1.9
February 6, 2017	24	6.340	6.280	185	36	14.3	0.712	9253	0	0	280	160	127	14.8	175	1.9
February 7, 2017	24	5.980	5.980	175.8	38	12	0.445	8727	0	0	280	160	126	18.2	175	2.0
February 8, 2017	24	5.890	6.740	213	50	23.7	0.534	8596	0	0	280	150	129	14.3	175	2.0
February 9, 2017	24	5.870	6.200	273	51	13.5	0.445	8567	0	0	270	150	108	11.0	175	2.0
February 10, 2017	24	5.960	6.150	281	48.5	22	0.445	8698	0	0	163	148	129	15.1	175	2.0
February 11, 2017	24	5.950	6.280	304.5	38.5	30	0.534	8684	0	0	160	145	126	18.0	175	2
February 12, 2017	24	6.360	6.880	322.6	69	29	0.534	9282	0	0	265	155	124	12.3	175	1.9
February 13, 2017	24	6.420	6.400	224.1	45.5	20.3	0.623	9367	0	0	277	157	131	13.5	175	1.9
February 14, 2017	24	5.980	6.130	285	55.6	26	0.445	8728	0	0	270	150	128	16.6	175	2.0
February 15, 2017	24	6.030	6.200	246	41	10	0.445	8800	0	0	270	150	98	15.1	175	2.0
February 16, 2017	24	5.790	6.460	287	69.5	3.5	0.445	8450	0	0	280	140	122	12.0	175	2.1
February 17, 2017	24	5.910	6.410	351.5	68	26	0.356	8626	0	0	250	150	126	18.0	175	2.0
February 18, 2017	24	5.910	6.000	294	52	14	0.534	8625	0	0	250	150	122	12.0	175	2.0
February 19, 2017	24	6.370	7.010	240	55	20.5	0.623	9297	0	0	275	155	128	14.1	175	1.9
February 20, 2017	24	6.410	6.640	223	32.5	20	0.712	9355	0	0	280	160	122	15.9	175	1.9
February 21, 2017	24	6.280	6.390	233	44.5	20	0.534	9165	0	0	282	162	120	12.0	175	2
February 22, 2017	24	5.990	6.070	242	48	20	0.534	8742	0	0	374	174	125	12.0	175	2.0
February 23, 2017	24	5.600	6.040	253.5	40	26.5	0.534	8173	0	0	360	160	125	12.0	175	2.1
February 24, 2017	24	5.620	6.180	225.5	40	19.5	0.623	8202	0	0	373	173	120	10.7	175	2.1
February 25, 2017	24	6.130	7.250	222	37.5	21	0.534	8947	0	0	400	200	126	10.7	175	2.0
February 26, 2017	24	6.320	6.080	250.3	52	15	0.534	9224	0	0	400	200	134	22.9	175	1.9
February 27, 2017	24	6.290	6.410	294.5	53	27.5	0.356	9180	0	0	400	200	124	13.0	175	1.9
February 28, 2017	24	6.250	6.450	336.5	65.5	14	0.445	9122	0	0	400	200	125	14.6	175	1.9
Total	672.00	169.46	177.48	7111.80	1353.10	525.30	14.95	247316.00	0.00	0.00	8100.00	4477.00	3479.00	389.34	4899.79	55.56
Max.	24.00	6.42	7.25	351.50	69.50	30.00	0.71	9367.00	0.00	0.00	400.00	200.00	136.00	22.94	175.01	2.14
Min.	24.00	5.60	5.64	175.80	32.50	3.50	0.36	8173.00	0.00	0.00	160.00	130.00	98.00	10.70	174.94	1.87
Avg.	24.00	6.05	6.34	253.99	48.33	18.76	0.53	8832.71	0.00	0.00	289.29	159.89	124.25	13.91	174.99	1.98

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

DINO A22919
O PEREZ A15983
N CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : February
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

DOSAGES					RAW WATER										SETTLED WATER			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	5.2	3.1	0.63	0.25	3,4,6	7.2	210	244	230	14	40	0.2	36	40	1.5	10.1	23	44
0.0	5.4	2.9	0.63	0.238	3,4,6	7.3	200	236	220	16	40	0.2	40	36	1.6	10.1	22	44
0.0	5.2	3.1	0.64	0.22	3,4,6	7.2	210	244	230	14	40	0.2	40	40	1.5	10.1	23	44
0.0	5.0	3.0	0.63	0.24	3,4,6	7.2	212	248	232	16	40	0.2	36	40	1.5	10.0	21	41
0.0	4.6	2.5	0.66	0.27	3,4,6	7.2	200	240	230	10	40	0.2	40	36	1.6	10.2	25	47
0.0	5.3	3.0	0.60	0.28	3,4,6	7.2	200	240	230	10	40	0.2	40	36	1.5	10.1	26	47
0.0	5.6	3.2	0.63	0.37	3,4,6	7.2	204	242	230	12	40	0.3	40	36	1.4	10.0	25	45
0.0	5.7	3.1	0.66	0.29	3,4,6	7.2	206	246	234	12	40	0.3	40	34	1.5	10.0	24	43
0.0	5.5	3.1	0.55	0.22	3,4,6	7.2	208	240	230	10	40	0.3	40	36	1.5	10.1	26	45
0.0	3.3	3.0	0.65	0.30	3,4,6	7.2	210	242	232	10	40	0.3	40	36	1.7	10.0	23	45
0	3.2	2.9	0.63	0.36	3,4,6	7.2	210	240	230	10	40	0.3	40	36	1.4	10.0	25	46
0.0	5.0	2.9	0.58	0.232	3,4,6	7.1	205	220	200	20	40	0.2	54	38	1.6	9.9	21	45
0.0	5.2	2.9	0.61	0.25	3,4,6	7.1	210	240	230	10	40	0.2	44	36	1.75	10.0	22	43
0.0	5.4	3.0	0.64	0.33	3,4,6	7.2	210	240	230	10	40	0.3	40	38	1.4	10.0	24	45
0.0	5.4	3.0	0.49	0.30	3,4,6	7.2	210	240	230	10	40	0.3	28	38	1.5	10.1	30	47
0.0	5.8	2.9	0.63	0.25	5,7	7.2	216	248	234	14	40	0.2	30	40	1.5	9.7	22	43
0.0	5.1	3.0	0.64	0.37	5,7	7.2	272	248	234	14	40	0.2	28	36	1.6	10.0	24	45
0.0	5.1	3.0	0.62	0.24	5,7	7.2	216	244	230	14	40	0.2	36	40	1.5	10.1	23	44
0.0	5.2	2.9	0.60	0.27	5,7	7.1	208	240	226	14	40	0.2	36	40	1.7	10.0	22	49
0.0	5.2	3.0	0.57	0.30	5,7	7.1	210	240	224	16	40	0.2	38	40	1.6	10.1	24	47
0	5.4	3.1	0.57	0.23	5,7	7.3	218	248	230	18	40	0.2	36	40	1.5	10.1	25	46
0.0	7.5	3.5	0.63	0.240	5,6	7.3	200	240	230	10	30	0.2	36	30	1.5	10.2	26	46
0.0	7.7	3.4	0.67	0.26	5,6	7.2	210	244	232	12	30	0.2	36	30	1.4	10.2	28	47
0.0	8.0	3.7	0.64	0.23	5,6	7.2	200	240	230	10	30	0.2	34	36	1.5	10.1	28	48
0.0	7.8	3.9	0.62	0.21	3,4,6	7.4	216	254	234	20	30	0.2	36	40	1.6	10.2	26	47
0.0	7.6	3.8	0.64	0.44	3,4,6	7.3	216	252	234	18	30	0.2	44	44	1.6	10.3	26	43
0.0	7.6	3.8	0.59	0.25	3,4,6	7.2	218	256	236	20	34	0.2	34	44	1.5	10.4	30	47
0.0	7.7	3.8	0.60	0.28	3,4,5	7.2	220	244	230	14	36	0.2	30	40	1.6	10.3	26	46
0.00	160.56	88.71	17.25	7.71	0.00	201.80	5925.00	6800.00	6422.00	378.00	1060.00	6.28	1052.00	1056.00	43.02	282.42	690.00	1269.00
0.00	7.96	3.91	0.67	0.44	0.00	7.40	272.00	256.00	236.00	20.00	40.00	0.30	54.00	44.00	1.75	10.40	30.00	49.00
0.00	3.22	2.51	0.49	0.21	0.00	7.10	200.00	220.00	200.00	10.00	30.00	0.20	28.00	30.00	1.40	9.72	21.00	41.00
0.00	5.73	3.17	0.62	0.28	#DIV/0!	7.21	211.61	242.86	229.36	13.50	37.86	0.22	37.57	37.71	1.54	10.09	24.64	45.32

County : Broward
I.D. Number : ######
Year : 2018

		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
58	48	9.2	10	29	58	48	0.0	2.9	8	0.53	0.52	0.09	0.52	0.0
58	48	9.2	10	29	57	47	0.0	3.0	8	0.53	0.58	0.08	0.51	0.0
59	49	9.3	11	33	57	48	0.0	3.1	8	0.53	0.49	0.09	0.70	0.0
58	48	9.0	9	26	57	47	0.0	2.8	8	0.53	0.46	0.08	0.35	0.1
59	49	9.3	10	30	56	46	0.0	3.1	9	0.55	0.54	0.10	0.42	0.0
58	48	9.1	8	28	58	48	0.0	3.0	9	0.55	0.50	0.12	0.38	0.0
60	50	9.2	8	26	58	47	0.0	3.0	9	0.55	0.55	0.11	0.45	0.0
60	50	9.2	8	30	58	48	0.0	2.8	8	0.54	0.54	0.13	0.42	0.0
60	50	9.3	11	31	58	48	0.0	3.0	8	0.53	0.53	0.12	0.36	0.0
59	49	9.1	9	26	58	48	0.0	2.7	8	0.53	0.53	0.11	0.45	0.0
59	49	9.3	9	25	57	47	0.0	3.1	8	0.54	0.56	0.10	0.24	0.0
58	48	9.3	11	27	55	45	0.0	3.2	9	0.52	0.53	0.09	0.34	0.0
59	49	9.1	8	30	56	46	0.0	3.0	10	0.52	0.57	0.10	0.39	0.0
58	46	9.1	8	22	50	43	0.0	2.9	9	0.50	0.56	0.12	0.48	0.0
60	51	9.4	10	26	57	47	0.0	3.2	9	0.52	0.54	0.11	0.65	0.0
59	49	9.5	16	37	58	48	0.0	2.8	8	0.52	0.51	0.10	0.34	0.0
58	49	9.2	12	30	59	48	0.0	2.4	8	0.52	0.50	0.13	0.54	0.0
59	49	9.1	10	31	58	48	0.0	2.8	8	0.53	0.55	0.10	0.42	0.0
59	48	9.1	8	30	56	46	0.0	2.9	9	0.54	0.61	0.12	0.49	0.0
60	50	9.1	7	30	58	48	0.0	2.9	10	0.56	0.56	0.12	0.44	0.0
59	49	8.9	8	28	56	46	0.0	2.4	9	0.53	0.54	0.12	0.18	0.0
59	49	8.5	2	25	56	46	0.0	1.8	9	0.53	0.54	0.11	-0.28	1.2
60	49	9.0	8	22	55	45	0.0	1.4	8	0.55	0.64	0.09	0.15	0.4
59	49	9.1	10	23	56	46	0.0	1.1	7	0.54	0.56	0.11	0.28	0.4
58	48	9.5	15	34	58	48	0.0	1.8	8	0.54	0.59	0.10	0.27	0.0
59	48	9.3	10	27	59	48	1.3	1.8	9	0.54	0.53	0.09	0.11	0.0
59	49	9.5	11	33	58	48	2.2	2.2	8	0.53	0.51	0.10	0.85	0.4
60	50	9.3	11	33	57	47	1.8	1.8	8	0.53	0.53	0.11	0.69	0.0

1651.00	1368.00	257.20	268.00	801.00	1594.00	1315.00	5.30	72.90	237.00	14.93	15.17	2.95	11.14	2.50
60.00	51.00	9.50	16.00	37.00	59.00	48.00	2.20	3.20	10.00	0.56	0.64	0.13	0.85	1.20
58.00	46.00	8.50	2.00	22.00	50.00	43.00	0.00	1.10	7.00	0.50	0.46	0.08	-0.28	0.00
58.96	48.86	9.19	9.57	28.61	56.93	46.96	0.19	2.60	8.46	0.53	0.54	0.11	0.40	0.09

ENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:

Operator's Names & Cert. No.

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			FILTER DATA: Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
March 1, 2017	24	6.080	6.280	326.5	66.5	20.5	0.623	8874	100	0		233	120	18.0	175
March 2, 2017	24	6.300	6.580	224	22.5	22.4	0.445	9195	100	0		300	120	12.0	175
March 3, 2017	24	5.710	6.340	301	65.5	21.5	0.445	8334	100	0	370	195	124	12.0	175
March 4, 2017	24	5.700	6.100	292.5	69	116	0.445	8319	100	0	310	150	109	9.7	175
March 5, 2017	24	5.780	6.300	300	70	18	0.623	8436	100	0	250	150	125	20.0	175
March 6, 2017	24	6.360	6.670	279	51	22.5	0.445	9282	100	0	250	150	120	12.2	175
March 7, 2017	24	6.200	6.650	294	52	23	0.623	9049	100	0	250	150	126	13.3	175
March 8, 2017	24	5.950	5.980	402	76	33.5	0.445	8684	100	0	250	150	122	16.7	175
March 9, 2017	24	6.480	6.900	391	79	33.5	0.534	9457	100	0	250	150	120	12.0	175
March 10, 2017	24	5.770	5.950	266.5	58	4.5	0.445	8421	100	0	266	150	123	18.0	175
March 11, 2017	24	6.580	6.900	305.5	61	17	0.534	9504	100	0	300	150	146	16.3	173
March 12, 2017	24	6.380	6.630	264	56	16.5	0.356	9312	100	0	300	150	146	16.6	175
March 13, 2017	24	6.300	6.520	269.5	53.8	15.5	0.623	9195	100	0	280	150	124	15.1	175
March 14, 2017	24	5.870	6.100	284	47	20.5	0.356	8567	100	0	250	150	114	18.0	175
March 15, 2017	24	5.540	5.960	300	50	23	0.445	8085	100	0	240	140	129	12.0	175
March 16, 2017	24	5.660	6.420	327	66.5	29	0.445	8261	100	0	250	150	123	16.7	175
March 17, 2017	24	5.820	6.500	304	68	19	0.445	8494	100	0	250	150	126	20.6	175
March 18, 2017	24	5.800	6.520	379	77.5	28.5	0.267	8465	100	0	300	150	131	10.7	175
March 19, 2017	24	6.690	6.380	367.3	74	31	0.534	9764	100	0	305	155	134	21.3	175
March 20, 2017	24	5.700	6.660	322.5	74.5	14.5	0.534	8319	100	0	310	160	122	14.6	175
March 21, 2017	24	5.600	6.660	285.5	56	21	0.534	8173	100	0	260	160	119	18.0	175
March 22, 2017	24	6.460	6.280	238.4	38.5	13.5	0.356	9428	100	0	260	160	119	15.4	175
March 23, 2017	24	6.410	6.610	334.5	62.5	22	0.356	9355	100	0	250	150	124	20.6	175
March 24, 2017	24	5.310	5.780	395	83	24	0.445	7750	100	0	255	155	120	12.0	175
March 25, 2017	24	5.850	5.820	367	85	25	0.534	8538	100	0	255	155	150	13.9	175
March 26, 2017	24	6.110	6.550	151	78	12	0.534	8917	100	0	255	155	152	18.5	175
March 27, 2017	24	6.030	6.080	233.5	45	20.5	0.534	8801	100	0	252	152	120	16.1	175
March 28, 2017	24	5.800	6.160	277	46.5	26	0.356	8465	100	0	247	147	138	10.7	175
March 29, 2017	24	5.850	5.850	332	52.5	14.5	0.267	8508	100	0	245	145	122.0	12	174
March 30, 2017	24	6.110	6.260	410	73.5	32	0.445	8917	100	0	250	150	100	12.0	175
March 31, 2017	24	6.000	6.470	338	72.5	19.5	0.623	8757	100	0	245	145			175
Total	744.00	186.20	196.86	9561.20	1930.80	759.90	14.60	271626.00	3100.00	0.00	7755.00	4957.00	3768.00	454.98	5422.50
Max.	24.00	6.69	6.90	410.00	85.00	116.00	0.62	9764.00	100.00	0.00	370.00	300.00	152.00	21.34	175.01
Min.	24.00	5.31	5.78	151.00	22.50	4.50	0.27	7750.00	100.00	0.00	240.00	140.00	100.00	9.69	173.19
Avg.	24.00	6.01	6.35	308.43	62.28	24.51	0.47	8762.13	100.00	0.00	267.41	159.90	125.60	15.17	174.92

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : March
Telephone Number : (954) 730-2972

																		CHEMICAL AND
DOSAGES						RAW WATER										SETTLED		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
2	0		4.6	0.59	0.35	3,4,5	7.2	220	240	230	10	36	0.2	30	40	1.4	10.3	21
1.9	0.0		5.7	0.57	0.228	3,4,6	7.2	220	240	230	10	34	0.2	36	40	1.3	10.4	28
2.1	0.0	7.8	4.1	0.65	0.25	3,4,6	7.2	220	240	230	10	34	0.2	36	40	1.6	10.3	27
2.1	0.0	6.5	3.2	0.57	0.20	3,4,6	7.3	216	238	220	18	36	0.2	36	40	1.4	10.0	21
2.1	0.0	5.2	3.1	0.65	0.41	3,4,6	7.2	216	240	220	20	36	0.2	36	40	1.5	10.0	21
1.9	0.0	4.7	2.8	0.57	0.23	3,4,6	7.2	218	242	232	10	38	0.2	32	40	1.5	10.2	24
1.9	0.0	4.8	2.9	0.61	0.26	3,4,6	7.2	218	244	230	14	36	0.2	32	40	1.4	10.0	22
2.0	0.0	5.0	3.0	0.61	0.34	3,4,6	7.2	224	248	230	18	36	0.2	32	40	1.5	10.1	24
1.9	0.0	4.6	2.8	0.56	0.22	3,4,6	7.2	224	248	232	16	36	0.2	32	40	1.45	10.1	28
2.1	0.0	5.5	3.1	0.64	0.37	3,4,6	7.2	224	248	232	16	36	0.2	32	40	1.47	10.1	23
1.8	0.0	5.5	2.7	0.67	0.30	3,4,6	7.1	220	250	234	16	36	0.2	34	40	1.6	10.0	21
1.9	0.0	5.6	2.8	0.69	0.31	3,4,6	7.0	232	220	200	20	38	0.2	32	46	1.6	10.0	21
1.9	0.0	5.3	2.9	0.59	0.29	3,4,6	7.0	238	230	220	10	36	0.3	30	44	1.59	10.3	25
2.0	0.0	5.1	3.1	0.58	0.37	3,4,6	7.1	224	244	230	14	36	0.2	30	40	1.5	10.1	24
2.2	0.0	5.2	3.0	0.70	0.26	3,4,6	7.3	230	250	236	14	36	0.2	36	40	1.5	10.1	24
2.1	0.0	5.3	3.2	0.65	0.35	3,4,6	7.3	230	250	236	14	36	0.2	36	40	1.4	10.2	20
2.1	0.0	5.2	3.1	0.65	0.42	3,4,6	7.3	226	244	230	14	36	0.2	36	40	1.5	10.2	22
2.1	0.0	6.2	3.1	0.68	0.22	3,4,6	7.3	226	246	230	16	36	0.3	36	40	1.9	10.2	22
1.8	0.0	5.5	2.8	0.60	0.38	3,4,6	7.2	228	244	232	12	32	0.3	34	40	1.6	10.1	25
2.1	0.0	6.5	3.4	0.64	0.31	3,4,6	7.2	226	246	232	14	36	0.3	36	40	1.7	10.0	21
2.1	0.0	5.6	3.4	0.64	0.39	3,4,6	7.2	230	250	236	14	36	0.3	40	40	1.6	10.3	25
1.9	0.0	4.8	3.0	0.55	0.29	3,4,6	7.2	236	254	240	14	36	0.2	36	40	1.6	10.1	25
1.9	0.0	4.7	2.8	0.58	0.39	3,4,6	7.2	236	254	240	14	36	0.2	36	40	1.7	10.0	23
2.3	0.0	5.8	3.5	0.68	0.27	3,4,6	7.3	228	248	230	18	36	0.2	36	40	1.6	10.2	23
2.0	0.0	5.2	3.2	0.77	0.28	3,4,6	7.2	230	250	230	20	36	0.2	36	40	1.7	10.1	22
2.0	0.0	5.0	3.0	0.75	0.36	3,4,6	7.0	220	260	240	20	40	0.2	38	46	1.7	10.1	24
2.0	0.0	5.0	3.0	0.60	0.32	3,4,6	7.1	222	260	240	20	40	0.3	36	38	1.5	10.1	26
2.1	0.0	5.1	3.0	0.71	0.22	3,4,6	7.3	230	256	240	16	40	0.2	36	40	1.6	10.2	28
2.0	0.0	5.0	3.0	0.63	0.25	3,4,6	7.5	230	250	230	20	36	0.2	40	40	1.8	10.1	26
2.0	0.0	4.9	2.9	0.49	0.24	3,4,6	7.3	230	250	235	15	36	0.2	40	40	1.8	10.1	25
2.0	0.0	4.9	2.9	0.00	0.00	3,4,6	7.2	228	252	236	16	30	0.2	36	40	1.7	10.1	22
62.07	0.00	155.59	99.12	18.85	9.08	0.00	223.41	7000.00	7636.00	7163.00	473.00	1118.00	6.69	1084.00	1254.00	48.71	314.10	733.00
2.26	0.00	7.77	5.71	0.77	0.42	0.00	7.50	238.00	260.00	240.00	20.00	40.00	0.30	40.00	46.00	1.90	10.40	28.00
1.79	0.00	4.63	2.73	0.00	0.00	0.00	7.00	216.00	220.00	200.00	10.00	30.00	0.17	30.00	38.00	1.30	10.00	20.00
2.00	0.00	5.37	3.20	0.61	0.29	#DIV/0!	7.21	225.81	246.32	231.06	15.26	36.06	0.22	34.97	40.45	1.57	10.13	23.65

County : Broward
I.D. Number : ######
Year : 2018

PHYSICAL RESULTS

) WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
42	57	47	8.8	5	26	58	47	0.0	2.2	6	0.53	0.51	0.80	0.05	0.0
48	60	49	8.7	6	23	57	47	0.0	2.6	8	0.52	0.50	0.06	0.11	0.0
47	59	49	7.8		20	50	47	1.7	1.7	8	0.53	0.52	0.07	-0.56	0.2
44	58	48	8.9	6	23	57	47	0.0	1.8	8	0.54	0.52	0.07	0.11	0.0
41	58	47	9.1	6	21	57	46	0.0	2.6	9	0.52	0.54	0.10	0.21	0.0
45	58	48	9.3	9	26	57	47	0.0	2.8	8	0.54	0.52	0.10	0.55	0.5
42	59	49	9.2	10	26	56	46	0.0	2.5	8	0.53	0.53	0.10	0.44	0.4
46	59	49	9.3	10	27	57	47	0.0	2.6	9	0.53	0.54	0.11	0.57	0.3
51	60	51	9.3	16	33	59	49	0.0	2.7	10	0.53	0.55	0.11	0.71	0.1
43	59	49	9.4	14	32	58	48	0.0	2.7	9	0.54	0.54	0.15	0.24	0.0
44	59	49	9.5	13	36	58	48	0.0	2.8	8	0.52	0.61	0.13	0.78	0.0
42	60	50	9.2	9	32	58	48	0.0	2.6	9	0.55	0.60	0.16	0.41	0.0
45	61	51	9.3	8	28	58	48	0.0	2.8	9	0.55	0.60	0.17	0.55	0.5
45	58	49	9.3	12	28	57	47	0.0	2.7	8	0.56	0.55	0.11	0.59	2.1
44	59	49	9.1	12	28	57	47	0.0	2.6	9	0.55	0.54	0.11	0.39	0.2
43	58	48	9.2	10	26	57	47	0.0	2.7	8	0.54	0.59	0.11	0.45	0.0
43	60	50	9.1	10	24	58	48	0.0	2.7	8	0.54	0.58	0.12	0.38	0.0
42	59	49	9.2	8	26	57	47	0.0	2.6	8	0.54	0.62	0.16	0.34	0.0
47	61	51	9.1	6	32	55	45	0.0	2.5	9	0.50	0.62	0.17	0.41	0.0
43	60	50	9.1	9	32	58	48	0.0	2.9	9	0.45	0.57	0.13	0.48	0.0
44	58	49	9.6	13	34	56	46	0.0	3.2	9	0.52	0.54	0.12	1.00	0.0
44	59	49	9.4	12	34	56	48	0.0	3.0	9	0.49	0.55	0.11	0.82	0.0
42	58	47	9.4	10	25	55	46	0.0	3.0	8	0.53	0.61	0.14	0.62	1.0
42	59	49	9.2	12	28	56	46	0.0	3.1	8	0.52	0.57	0.11	0.48	0.2
45	58	48	9.1	8	26	56	46	0.0	3.0	8	0.55	0.63	0.14	0.34	0.0
43	59	49	8.9	6	27	55	45	0.0	3.1	9	0.56	0.61	0.16	0.41	0.0
45	60	50	9.1	8	27	55	45	0.0	3.2	10	0.52	0.59	0.16	0.35	0.2
45	59	49	9.3	10	27	57	47	0.0	3.1	8	0.50	0.57	0.11	0.57	0.0
46	60	50	9.2	11	27	57	47	0.0	3.2	9	0.55	0.58	0.14	0.47	0.1
45	59	48	9.3	11	25	57	47	0.0	3.2	8	0.55	0.70	0.14	0.53	0.0
44	57	47	9.3	11	27	58	48	0.0	3.2	8	..54	0.64	0.11	0.58	0.0

######	1828.00	1517.00	283.74	291.00	856.00	1757.00	1455.00	1.70	85.40	262.00	15.90	17.74	4.48	13.38	5.84
51.00	61.00	51.00	9.60	16.00	36.00	59.00	49.00	1.70	3.20	10.00	0.56	0.70	0.80	1.00	2.10
41.00	57.00	47.00	7.80	5.00	20.00	50.00	45.00	0.00	1.70	6.00	0.45	0.50	0.06	-0.56	0.00
44.26	58.97	48.94	9.15	9.70	27.61	56.68	46.94	0.05	2.75	8.45	0.53	0.57	0.14	0.43	0.19

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
April 1, 2017	24	6.310	6.530	215	39	10	0.445	9209	100	0	248	148	110	9.7	175
April 2, 2017	24	6.060	6.350	251	54.5	20.5	0.534	8855	100	0	240	140	100	16.7	175
April 3, 2017	24	6.470	6.620	241	47	18	0.534	9443	100	0	240	140	100	17.2	175
April 4, 2017	24	6.340	6.380	301	60	21	0.356	9253	100	0	250	150	100	13.3	175
April 5, 2017	24	6.370	6.300	298	63	12	0.534	9297	100	0	250	150	100	12.0	175
April 6, 2017	24	6.210	6.320	297	51.5	13	0.445	9063	100	0	250	150	100	12.0	175
April 7, 2017	24	6.220	6.590	296	59.5	23	0.534	9078	100	0	240	140	130	12.0	175
April 8, 2017	24	6.230	6.260	220	50.5	19	0.445	9095	100	0	245	145	94	16.9	175
April 9, 2017	24	6.530	6.940	285	62.5	12	0.445	9530	100	0	250	150	130	21.4	175
April 10, 2017	24	6.510	6.240	246	48	10	0.623	9501	100	0	247	147	130	13.1	175
April 11, 2017	24	5.960	6.150	266	41	25.5	0.356	8699	100	0	240	140	114	11.7	175
April 12, 2017	24	5.700	5.960	283	49.5	11	0.445	8319	100	0	243	143	120	12.0	175
April 13, 2017	24	5.900	6.280	367.5	73.5	20.5	0.356	8611	100	0	245	145	125	12.0	175
April 14, 2017	24	6.150	6.490	339.5	74.5	26	0.445	8976	100	0	245	145	125	12.0	175
April 15, 2017	24	6.480	6.370	291	47.5	22.5	0.534	9457	100	0	250	150	126	14.4	175
April 16, 2017	24	6.891	6.830	307	78.8	16	0.534	10057	100	0	250	150	133	8.1	175
April 17, 2017	24	6.130	6.230	240	33.8	24	0.534	8902	100	0	250	150	129	12.8	174
April 18, 2017	24	6.020	6.160	309.5	53	27.5	0.267	8786	100	0	240	140	120	16.0	175
April 19, 2017	24	6.240	6.150	364	53.5	26	0.356	9107	100	0	240	140	122	15.1	175
April 20, 2017	24	6.480	6.660	381.5	74	22	0.445	9457	100	0	245	145	125	18.0	175
April 21, 2017	24	6.500	6.950	358.5	83	23	0.534	9486	100	0	270	145	130	14.9	175
April 22, 2017	24	6.600	6.450	233.5	34.5	25	0.534	9634	100	0	270	145	120	16.9	175
April 23, 2017	24	5.890	6.250	248	39.5	21	0.534	8596	100	0	270	145	130	12.3	175
April 24, 2017	24	5.520	5.860	292	52	30	0.445	8056	100	0	250	150	131	13.0	175
April 25, 2017	24	6.060	5.990	300.5	53.5	25.5	0.178	8844	100	0	250	150	116	14.8	175
April 26, 2017	24	6.290	6.490	366	60	24.5	0.445	9180	100	0	260	160	125	14.9	175
April 27, 2017	24	5.570	5.730	384	70.5	33	0.356	8129	100	0	250	150	119	18.0	175
April 28, 2017	24	5.920	6.310	333.5	59.5	26.5	0.445	8640	100	0	247	147	126	12.0	175
April 29, 2017	24	6.190	6.080	281.5	54	26	0.534	9036	100	0	247	145	109.0	19	175
April 30, 2017	24	6.220	6.740	255	45	23	0.534	9078	100	0	230	127	115	14.5	175
1285215	720.00	185.96	190.66	8851.50	1666.10	637.00	13.71	271374.00	3000.00	0.00	7452.00	4372.00	3554.00	426.29	5249.30
42855	24.00	6.89	6.95	384.00	83.00	33.00	0.62	10057.00	100.00	0.00	270.00	160.00	133.00	21.44	175.21
42826	24.00	5.52	5.73	215.00	33.80	10.00	0.18	8056.00	100.00	0.00	230.00	127.00	94.00	8.06	174.12
42840.5	24.00	6.20	6.36	295.05	55.54	21.23	0.46	9045.80	100.00	0.00	248.40	145.73	118.47	14.21	174.98

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : April
Telephone Number : (954) 730-2972

																		CHEMICAL AND
DOSAGES						RAW WATER										SETTLED		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
2	0	4.7	2.8	0.05	0.18	3,4,6	7.2	228	252	236	16	30	0.2	36	40	2.2	10.0	20
2.0	0.0	4.7	2.8	0.08	0.330	3,4,6	7.2	226	248	234	14	28	0.2	34	40	1.8	9.9	21
1.9	0.0	4.4	2.6	0.08	0.32	3,4,6	7.2	228	254	238	16	32	0.2	34	40	2.3	10.0	21
1.9	0.0	4.7	2.8	0.06	0.25	3,4,6	7.2	230	256	236	20	36	0.2	34	40	1.7	10.1	24
1.9	0.0	4.7	2.8	0.06	0.23	3,4,6	7.3	230	256	236	20	36	0.2	34	40	1.9	10.1	26
1.9	0.0	4.8	2.9	0.06	0.23	3,4,6	7.3	236	260	240	20	36	0.2	36	40	1.8	10.0	22
1.9	0.0	4.6	2.7	0.06	0.23	3,4,5	7.3	236	260	240	20	36	0.2	46	40	1.7	10.0	24
1.9	0.0	4.7	2.8	0.08	0.33	3,4,5	7.2	236	260	245	15	36	0.2	36	40	1.7	10.0	20
1.8	0.0	4.6	2.8	0.10	0.39	3,4,5	7.0	230	240	220	20	40	0.2	44	34	1.6	10.0	21
1.8	0.0	4.5	2.7	0.06	0.24	3,4,5	7.0	236	244	224	20	42	0.2	40	36	1.6	10.1	22
2.0	0.0	4.8	2.8	0.06	0.24	3,4,5	7.0	234	244	224	20	40	0.2	40	36	1.7	10.3	25
2.1	0.0	5.1	3.0	0.06	0.25	4,5,7	7.3	236	250	240	10	40	0.2	40	40	1.55	10.0	23
2.0	0.0	5.0	2.9	0.06	0.24	4,5,7	7.3	230	250	236	14	40	0.2	36	40	1.73	10.1	23
1.9	0.0	4.8	2.8	0.06	0.23	4,5,7	7.3	230	250	236	14	40	0.2	36	40	1.7	10.0	22
1.9	0.0	4.6	2.8	0.07	0.27	4,5,7	7.1	236	258	240	18	36	0.2	40	36	1.7	10.0	20
1.7	0.0	4.4	2.6	0.04	0.14	4,5,7	7.2	238	256	242	14	36	0.2	40	36	2.0	10.0	24
2.0	0.0	4.9	2.9	0.06	0.25	4,5,7	7.2	238	258	246	12	36	0.2	40	38	2.6	10.1	23
2.0	0.0	4.8	2.8	0.08	0.32	4,5,7	7.2	236	258	248	10	38	0.2	40	38	1.85	10.3	26
1.9	0.0	4.6	2.7	0.07	0.29	4,5,7	7.2	230	260	240	20	38	0.2	36	38	1.5	10.4	35
1.9	0.0	4.5	2.7	0.08	0.33	4,5,7	7.1	236	258	240	18	38	0.2	36	38	1.5	10.0	22
1.8	0.0	5.0	2.7	0.07	0.27	3,6,7	7.2	236	258	240	18	38	0.2	36	40	1.4	10.1	21
1.8	0.0	4.9	2.6	0.08	0.31	3,4,6	7.2	240	260	244	16	38	0.2	40	36	1.5	10.0	20
2.0	0.0	5.5	3.0	0.06	0.25	3,4,6	7.2	180	240	230	10	40	0.2	40	40	1.9	10.1	19
2.2	0.0	5.4	3.3	0.07	0.28	3,4,6	7.2	182	244	234	10	40	0.3	30	40	1.4	10.2	22
2.0	0.0	4.9	3.0	0.07	0.29	3,4,6	7.2	184	246	236	10	38	0.3	26	40	1.4	10.0	23
1.9	0.0	5.0	3.1	0.07	0.28	3,4,6	7.2	220	254	240	14	38	0.2	30	40	1.2	10.0	22
2.2	0.0	5.4	3.2	0.10	0.39	3,4,6	7.2	220	254	240	14	38	0.2	30	42	1.0	10.1	24
2.0	0.0	5.0	3.0	0.06	0.24	3,4,6	7.2	228	256	240	16	36	0.2	30	40	1.3	10.0	23
1.9	0.0	4.8	2.8	0.09	0.36	3,4,6	7.2	228	260	240	20	28	0.2	28	40	1.4	10.0	22
1.9	0.0	4.4	2.4	0.07	0.28	3,4,6	7.2	226	260	240	20	28	0.2	28	40	1.0	9.9	22
58.17	0.00	144.46	84.76	2.07	8.26	0.00	215.80	6804.00	7604.00	7125.00	479.00	1096.00	6.17	1076.00	1168.00	49.57	301.75	682.00
2.17	0.00	5.50	3.26	0.10	0.39	0.00	7.30	240.00	260.00	248.00	20.00	42.00	0.30	46.00	42.00	2.60	10.40	35.00
1.74	0.00	4.35	2.45	0.04	0.14	0.00	7.00	180.00	240.00	220.00	10.00	28.00	0.17	26.00	34.00	1.00	9.90	19.00
1.94	0.00	4.82	2.83	0.07	0.28	#DIV/0!	7.19	226.80	253.47	237.50	15.97	36.53	0.21	35.87	38.93	1.65	10.06	22.73

County : Broward
I.D. Number : ######
Year : 2018

PHYSICAL RESULTS

) WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
44	58	48	9.0	8	24	45	47	0.0	3.1	8	0.60	0.59	0.18	0.44	0.0
43	58	47	9.3	8	29	55	45	0.0	3.5	9	0.62	0.60	0.13	0.50	0.0
42	59	49	9.3	10	31	56	46	0.0	3.4	10	0.60	0.62	0.16	0.64	0.2
43	60	50	9.4	11	35	58	48	0.0	3.0	8	0.60	0.57	0.12	0.84	0.0
44	59	50	9.2	12	27	57	47	0.0	3.1	9	0.17	0.58	0.11	0.47	0.0
43	58	47	9.2	10	24	57	46	0.0	3.0	8	0.51	0.58	0.14	0.58	0.0
46	60	50	9.1	12	25	59	49	0.0	3.4	8	0.56	0.62	0.12	0.35	0.0
42	58	48	9.2	9	27	56	47	0.0	3.2	8	0.59	0.64	0.13	0.45	0.0
46	58	48	9.0	8	28	55	45	0.0	3.2	9	0.56	0.63	0.16	0.25	0.0
44	58	48	9.0	8	30	56	40	0.0	3.1	10	0.53	0.58	0.14	0.24	0.0
46	58	49	9.4	10	29	57	47	0.0	3.2	9	0.54	0.57	0.13	0.71	0.0
44	59	49	9.2	10	26	56	46	0.0	3.2	8	0.55	0.56	0.10	0.53	0.0
47	60	49	9.2	10	26	55	46	0.0	3.1	8	0.55	0.57	0.11	0.43	0.0
43	59	49	9.0	8	25	56	46	0.0	2.9	8	0.58	0.58	0.10	0.21	0.0
42	56	47	9.2	10	26	56	47	0.0	3.0	8	0.55	0.64	0.11	0.42	0.0
44	57	47	9.0	7	25	55	45	0.0	2.9	10	0.55	0.64	0.12	0.20	0.0
46	59	49	9.0	8	31	56	46	0.0	3.1	10	0.56	0.60	0.12	0.31	0.0
49	59	49	9.3	12	31	58	48	0.0	3.3	9	0.55	0.56	0.12	0.66	0.0
53	63	53	9.6	14	35	58	48	0.0	3.4	9	0.55	0.54	0.11	0.84	0.0
42	58	47	9.5	14	35	57	47	0.0	3.2	8	0.52	0.54	0.09	0.93	0.1
43	59	48	9.3	10	26	58	48	0.0	3.0	8	0.55	0.52	0.10	0.56	0.2
42	58	48	9.2	12	28	56	48	0.0	3.0	8	0.54	0.46	0.10	0.48	0.0
41	67	57	8.5	2	23	63	53	0.0	2.9	9	0.56	0.34	0.12	-0.27	0.0
43	60	50	9.0	9	29	68	58	0.0	2.9	9	0.68	0.33	0.10	0.38	0.0
45	60	51	9.6	14	44	61	54	0.0	3.1	8	0.58	0.30	0.09	1.08	0.0
43	58	48	9.2	10	35	58	48	0.0	3.2	9	0.69	0.32	0.12	0.64	0.0
45	58	48	8.9	8	26	57	47	0.0	3.2	8	0.68	0.40	0.11	0.15	0.0
42	59	49	9.1	8	25	56	46	0.0	3.3	8	0.66	0.31	0.11	0.32	0.0
43	59	48	9.3	10	26	58	47	0.0	3.5	8	0.60	0.31	0.10	0.54	0.0
43	59	49	9.3	11	30	56	46	0.5	3.8	9	0.62	0.32	0.08	0.60	0.0
######	1771.00	1469.00	275.50	293.00	861.00	1709.00	1421.00	0.50	95.20	258.00	17.00	15.42	3.53	14.48	0.50
53.00	67.00	57.00	9.60	14.00	44.00	68.00	58.00	0.50	3.80	10.00	0.69	0.64	0.18	1.08	0.20
41.00	56.00	47.00	8.50	2.00	23.00	45.00	40.00	0.00	2.90	8.00	0.17	0.30	0.08	-0.27	0.00
44.10	59.03	48.97	9.18	9.77	28.70	56.97	47.37	0.02	3.17	8.60	0.57	0.51	0.12	0.48	0.02

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD ***A8226***

M HUTCHINSON***A17010***

Lead Operator Signature: **Operator's Names & Cert. No.** C HUTCHINSO **A17011**

INDRAJ SAMLA **A7282**

How Many Other Operators? 9 STNLEY E.BAN **A17017**

Total Metered Services at End of Month: 11,050

KERRY ROMAI **C7873**

Design Flow: 16MGD R.RAMNARINE **C12091**

H.RODRIGUEZ **C19220** RAJIV SAMLA

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
May 1, 2017	24	6.280	6.270	250.5	42.5	28.5	0.534	9166	100	0	225	100	122	12.0	175	2
May 2, 2017	24	6.110	6.100	284	47	23	0.445	8918	100	0	242	142	127	13.5	175	2.0
May 3, 2017	24	5.880	5.900	262.5	50	13.5	0.534	8582	100	0	235	235	129	12.0	175	2.0
May 4, 2017	24	5.840	6.190	306.5	52.5	19	0.356	8523	100	0	282	107	131	16.4	175	2.1
May 5, 2017	24	5.320	5.520	328	72.5	17.5	0.534	7764	100	0	240	116	130	14.9	175	2.3
May 6, 2017	24	5.720	5.810	282	62.5	19	0.267	8348	100	0	265	115	112	9.0	175	2.1
May 7, 2017	24	5.940	6.380	358	71	14	0.534	8669	100	0	240	117	133	9.3	175	2.0
May 8, 2017	24	5.870	6.140	285	53.5	18	0.445	8567	100	0	250	120	122	14.6	175	2.0
May 9, 2017	24	6.270	6.230	290	50	25	0.623	9151	100	0	255	115	126	15.1	175	1.9
May 10, 2017	24	6.050	6.060	254	44	16.5	0.267	8830	100	0	255	115	125	12.3	175	2.0
May 11, 2017	24	6.050	6.150	333	48	28.5	0.445	8830	100	0	252	115	130	11.7	175	2.0
May 12, 2017	24	6.090	6.490	309	62.5	23.5	0.534	8888	100	0	245	115	121	14.9	175	2.0
May 13, 2017	24	5.960	6.100	242	38	23	0.534	8698	100	0	265	125	142	12.3	175	2.0
May 14, 2017	24	6.230	6.380	247	48	21	0.534	9092	100	0	265	125	140	15.1	175	1.9
May 15, 2017	24	5.920	6.290	224	34.5	14.3	0.534	8640	100	0	270	130	160	15.3	175	2.0
May 16, 2017	24	6.230	6.090	277.7	21.5	21.5	0.356	9238	100	0	280	130	137	9.4	178	1.9
May 17, 2017	24	6.290	6.460	348	78.5	8	0.356	9180	100	0	295	150	138	15.3	175	1.9
May 18, 2017	24	5.810	5.910	396.5	81	39	0.445	8480	100	0	311	140	135	13.8	175	2.1
May 19, 2017	24	5.770	6.070	301	50	26.5	0.445	8431	100	0	300	130	128	13.6	175	2.1
May 20, 2017	24	5.270	6.020	393	44	28.5	0.356	7692	100	0	298	128	124	11.4	175	2.3
May 21, 2017	24	6.800	6.560	293	50.5	21.8	0.534	7924	100	0	315	145	147	17.4	140	1.8
May 22, 2017	24	6.730	6.410	257	41.5	25.5	0.445	9822	100	0	330	150	130	13.6	175	1.8
May 23, 2017	24	5.820	5.830	333	49.5	29	0.356	8494	100	0	265	135	122	12.0	175	2.1
May 24, 2017	24	6.070	6.230	223	53	18.5	0.356	8859	100	0	300	150	125	16.4	175	2.0
May 25, 2017	24	5.760	6.130	368	77	17	0.356	8406	100	0	307	145	130	14.9	175	2.1
May 26, 2017	24	5.760	5.910	398.5	98	22.5	0.534	8406	100	0	290	140	121	14.9	175	2.1
May 27, 2017	24	5.790	6.300	239	51	14	0.267	8165	100	0	290	140	132	16.7	169	2.1
May 28, 2017	24	6.040	6.320	317	63	28	0.445	8815	100	0	300	145	144	14.2	175	2.0
May 29, 2017	24	6.220	6.850	294.5	70	14	0.534	9078	100	0	310	150	120.0	13	175	1.9
May 30, 2017	24	5.650	6.080	269.5	52	7	0.356	8815	100	0	323	157	129	12.0	187	2.1
May 31, 2017	24	6.300	6.920	249	59.5	8	0.623	9194	100	0	300	150	132	15.1	175	1.9
Total	744.00	185.84	192.10	9213.20	1716.50	633.10	13.88	269665.00	3100.00	0.00	8600.00	4177.00	4044.00	422.05	5398.76	62.18
Max.	24.00	6.80	6.92	398.50	98.00	39.00	0.62	9822.00	100.00	0.00	330.00	235.00	160.00	17.40	187.07	2.28
Min.	24.00	5.27	5.52	223.00	21.50	7.00	0.27	7692.00	100.00	0.00	225.00	100.00	112.00	9.00	139.72	1.76
Avg.	24.00	5.99	6.20	297.20	55.37	20.42	0.45	8698.87	100.00	0.00	277.42	134.74	130.45	13.61	174.15	2.01

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : October

Telephone Number : (954) 730-2972

C22878

CHEMICAL AND PHYSICAL RESULTS

DOSAGES					RAW WATER										SETTLED WATER						
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
0	4.3	1.9	0.58	0.23	5,7	7.2	250	270	250	20	40	0.2	20	20	0.6	9.9	20	44	60	50	8.9
0.0	4.7	2.8	0.62	0.265	5,7	7.1	252	270	260	10	40	0.2	25	38	0.7	9.9	21	50	80	68	9.0
0.0	4.8	4.8	0.66	0.24	4,6,8	7.0	260	272	262	10	40	0.2	20	36	0.5	9.7	18	45	65	56	9.1
0.0	5.8	2.2	0.67	0.34	5,7,8	7.2	250	270	260	10	40	0.2	20	40	0.4	10.1	26	44	66	56	8.9
0.0	5.4	2.6	0.73	0.34	4,8	7.2	246	260	252	8	40	0.2	20	40	0.4	9.9	23	41	59	50	8.8
0.0	5.6	2.4	0.59	0.19	4,8	7.2	250	268	260	8	40	0.2	20	40	0.4	9.9	19	37	62	52	9.1
0.0	4.8	2.4	0.67	0.19	4,8	7.2	250	268	260	8	40	0.2	20	40	0.4	9.9	18	40	60	50	9.0
0.0	5.1	2.5	0.62	0.30	3,6	7.1	160	260	248	12	42	0.3	22	56	0.5	9.9	16	34	60	50	8.9
0.0	4.9	2.2	0.60	0.29	4,8	7.0	182	254	240	14	40	0.2	23	52	0.49	9.9	19	36	60	49	8.9
0.0	5.1	2.3	0.62	0.24	3,6,8	7.2	250	270	260	10	40	0.2	20	40	0.48	10.0	26	44	59	50	9.1
0.0	5.0	2.3	0.64	0.23	6,8	7.2	250	270	260	10	40	0.2	20	40	0.6	9.9	21	40	61	51	8.9
0.0	4.8	2.3	0.60	0.29	6,8	7.2	250	270	262	8	40	0.2	20	40	0.51	10.0	23	43	60	51	8.9
0.0	5.3	2.5	0.71	0.25	6,8	7.2	250	270	262	8	40	0.2	20	40	0.49	10.0	23	41	62	53	9.1
0.0	5.1	2.4	0.67	0.29	6,8	7.0	254	270	264	6	40	0.2	20	42	0.5	9.9	20	40	60	50	9.0
0.0	5.5	2.6	0.81	0.31	5,7	7.2	250	270	258	12	40	0.2	20	48	0.5	10.0	20	42	60	52	9.1
0.0	5.4	2.5	0.66	0.18	5,7	7.0	258	272	260	12	40	0.2	22	49	0.5	10.0	22	41	72	59	8.9
0.0	5.6	2.9	0.66	0.29	3,4,8	7.2	250	270	262	8	40	0.2	20	43	0.5	9.9	22	43	64	54	9.0
0.0	6.4	2.9	0.70	0.28	4,8	7.2	250	270	262	8	40	0.2	20	40	0.48	10.0	23	42	60	51	9.1
0.0	6.2	2.7	0.66	0.28	3,6	7.2	250	270	262	8	40	0.2	20	49	0.5	10.0	24	44	60	51	9.2
0.0	6.8	2.9	0.71	0.26	3,6	7.2	252	272	262	10	40	0.2	20	52	0.5	9.9	24	43	58	48	9.1
0.0	5.6	2.6	0.65	0.31	3,8,5	7.2	252	272	262	10	40	0.2	20	40	0.5	9.8	22	40	59	49	9.1
0.0	5.9	2.7	0.58	0.24	3,6	7.1	238	242	236	6	40	0.2	23	46	0.5	9.9	23	40	58	48	9.0
0.0	5.5	2.8	0.63	0.25	3,6	7.1	248	260	248	12	40	0.2	23	52	0.5	9.9	19	40	59	49	9.1
0.0	5.9	3.0	0.62	0.32	3,5	7.2	250	268	260	8	40	0.2	25	40	0.6	9.9	21	43	62	52	9.1
0.0	6.4	3.0	0.68	0.31	3,8	7.2	250	268	260	8	40	0.2	28	40	0.6	9.8	23	44	60	51	9.1
0.0	6.0	2.9	0.63	0.31	3,8	7.2	250	268	260	8	40	0.2	24	40	0.6	9.9	21	42	59	51	8.9
0.0	6.0	2.9	0.68	0.35	3,8	7.1	250	270	260	10	40	0.2	30	65	0.6	9.9	20	40	61	50	8.9
0.0	6.0	2.9	0.71	0.28	4,7	7.2	170	180	170	10	18	0.3	28		0.5	9.8	20	44	60	50	9.1
0.0	6.0	2.9	0.58	0.25	3,8	7.2	240	266	260	6	40	0.2	20	48	0.4	9.9	22	42	58	49	9.1
0.0	6.9	3.3	0.68	0.25	3,8	7.0	250	242	230	12	42	0.2	23	56	0.5	9.9	20	41	60	51	9.0
0.0	5.7	2.9	0.63	0.29	6,8	7.2	250	266	260	6	42	0.2	24	52	0.5	10.0	23	41	59	50	9.2

0.00	172.38	83.72	20.26	8.45	0.00	221.70	7512.00	8168.00	7872.00	296.00	1224.00	6.40	680.00	1324.00	15.67	307.37	662.00	1291.00	1903.00	1601.00	279.60
0.00	6.85	4.79	0.81	0.35	0.00	7.20	260.00	272.00	264.00	20.00	42.00	0.30	30.00	65.00	0.68	10.10	26.00	50.00	80.00	68.00	9.20
0.00	4.30	1.91	0.58	0.18	0.00	7.00	160.00	180.00	170.00	6.00	18.00	0.20	20.00	20.00	0.36	9.70	16.00	34.00	58.00	48.00	8.80
0.00	5.56	2.70	0.65	0.27	#DIV/0!	7.15	242.32	263.48	253.94	9.55	39.48	0.21	21.94	44.13	0.51	9.92	21.35	41.65	61.39	51.65	9.02

County : Broward

I.D. Number : 4E+06

Year : 2017

FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
34	35	36	37	38	39	40	41	42	43	44	45
9	26	58	47	0.0	3.0	5	0.62	0.21	0.02	0.12	0.0
14	37	69	57	0.0	3.1	4	0.66	0.30	0.04	0.16	0.0
11	20	57	47	0.0	2.9	4	0.60	0.28	0.03	0.08	0.0
11	27	59	49	0.0	2.9	4	0.63	0.27	0.02	0.19	1.0.
8	20	56	47	0.0	2.9	4	0.69	0.23	0.02	-0.06	0.1
10	22	59	47	0.0	3.2	3	0.69	0.24	0.02	0.27	0.1
10	21	59	49	0.0	3.4	3	0.65	0.28	0.02	0.12	0.0
9	22	58	48	0.0	3.4	3	0.68	0.27	0.02	0.15	0.0
7	27	58	49	0.0	3.0	4	0.60	0.25	0.03	0.19	0.0
10	23	58	48	0.0	3.1	3	0.71	0.23	0.02	0.30	0.0
9	22	58	47	0.0	3.0	3	0.65	0.23	0.02	0.07	0.0
9	21	57	47	0.0	3.0	3	0.56	0.25	0.02	0.05	0.0
9	22	57	47	0.0	3.2	3	0.65	0.24	0.02	0.27	0.0
8	24	57	47	0.0	3.2	4	0.60	0.28	0.03	0.19	0.0
8	24	60	50	0.0	3.2	3	0.60	0.25	0.02	0.17	0.0
10	25	61	50	0.0	3.1	4	0.61	0.26	0.02	0.13	0.0
9	22	57	47	0.0	3.3	3	0.58	0.23	0.02	0.21	0.0
11	20	56	47	0.0	3.2	3	0.64	0.23	0.02	0.24	1.2
12	23	56	47	0.0	3.5	3	0.63	0.22	0.02	0.39	0.1
10	24	56	46	0.0	3.8	3	0.64	0.22	0.02	0.30	0.3
10	22	58	49	0.0	3.8	3	0.61	0.23	0.02	0.18	0.1
9	26	57	46	0.0	3.7	4	0.63	0.23	0.02	0.35	0.0
8	32	59	49	0.0	3.7	4	0.59	0.25	0.02	0.39	0.3
10	26	58	47	0.0	3.5	3	0.57	0.25	0.02	0.35	0.3
9	23	58	48	0.0	3.5	3	0.48	0.25	0.02	0.30	0.1
10	22	57	47	0.0	3.5	3	0.56	0.24	0.02	0.07	0.2
8	25	59	48	0.0	3.5	3	0.67	0.27	0.03	0.16	0.1
8	26	52	42	0.0	3.6	4	0.60	0.25	0.03	0.23	0.0
7	26	55	44	0.0	3.6	4	0.63	0.25	0.03	0.21	0.0
7	27	56	46	0.0	3.6	4	0.52	0.24	0.02	0.26	0.3
9	25	57	47	0.0	3.5	3	0.64	0.43	0.02	0.43	0.2

289.00	752.00	1792.00	1476.00	0.00	102.90	107.00	19.19	7.86	0.70	6.47	3.40
14.00	37.00	69.00	57.00	0.00	3.80	5.00	0.71	0.43	0.04	0.43	1.20
7.00	20.00	52.00	42.00	0.00	2.90	3.00	0.48	0.21	0.02	-0.06	0.00
9.32	24.26	57.81	47.61	0.00	3.32	3.45	0.62	0.25	0.02	0.21	0.11

ENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282	LUIS AN
C.HUTCHINSON	B17017	RODOL
STNLEY E.BANKS	B17017	CARLTO
KERRY ROMAN	C7873	
R.RAMNARINE	C12091	
H.RODRIGUEZ	C19220	

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
June 1, 2017	24	5.730	5.920	292	62	24	0.445	9363	100	0	300	150	126	12.0	196	2
June 2, 2017	24	5.780	6.100	281	45	24.5	0.623	8436	100	0	303	153	126	12.0	175	2.1
June 3, 2017	24	5.670	6.130	177	27	6	0.623	8275	100	0	287	140	126	12.0	175	2.1
June 4, 2017	24	5.330	6.000	225	44	18.5	0.534	7779	100	0	295	145	115	19.9	175	2.2
June 5, 2017	24	5.550	5.820	277	50.5	17.5	0.445	8100	100	0	295	145	115	8.3	175	2.2
June 6, 2017	24	4.470	5.350	324	60	28.5	0.445	6523	100	0	250	130	124	5.1	175	2.7
June 7, 2017	24	5.570	5.580	293	61	24.5	0.445	8129	100	0	280	140	148	16.0	175	2.2
June 8, 2017	24	5.530	6.040	303	50.5	22.5	0.445	8071	100	0	285	145	125	8.6	175	2.2
June 9, 2017	24	5.060	5.550	309.5	74.5	17	0.534	7385	100	0	281	141	128	12.0	175	2.4
June 10, 2017	24	5.240	5.580	277	77	22	0.534	7667	100	0	270	130	101	12.0	175	2.3
June 11, 2017	24	5.150	5.850	250	58.2	19.5	0.623	7516	100	0	265	125	114	14.8	175	2.3
June 12, 2017	24	5.460	5.570	287.5	59	27	0.445	7969	100	0	265	125	111	17.0	175	2.2
June 13, 2017	24	5.110	6.030	319	60	20.5	0.356	7443	100	0	290	140	146	10.2	175	2.3
June 14, 2017	24	5.520	5.840	328.5	65	14	0.534	8056	100	0	295	145	120	16.9	175	2.2
June 15, 2017	24	5.070	5.260	281.5	68	17	0.445	7400	100	0	277	127	128	12.0	175	2.4
June 16, 2017	24	5.730	5.860	273.5	49	23	0.712	8363	100	0	278	128	125	10.2	175	2.1
June 17, 2017	24	4.800	5.420	219.5	40	14	0.534	7006	100	0	275	125	128	9.8	175	2.5
June 18, 2017	24	5.920	6.340	198	45	21	0.623	8640	100	0	275	125	123	9.8	175	2.0
June 19, 2017	24	5.090	5.760	227	42.5	15.5	0.623	7429	100	0	275	125	107	8.3	175	2.4
June 20, 2017	24	5.240	5.670	266	49	19	0.445	7647	100	0	284	134	125	11.4	175	2.3
June 21, 2017	24	5.350	5.710	332.5	62	31	0.445	7808	100	0	285	135	130	12.7	175	2.2
June 22, 2017	24	5.320	5.770	310	65	22	0.356	7765	100	0	280	130	128	12.0	175	2.3
June 23, 2017	24	5.350	6.060	336.5	59	28.5	0.445	7808	100	0	280	130	130	14.0	175	2.2
June 24, 2017	24	5.560	5.810	301	52.5	10	0.445	8115	100	0	280	130	107	14.8	175	2.2
June 25, 2017	24	6.000	6.280	248	55	23	0.712	8257	100	0	295	145	113	14.4	165	2.0
June 26, 2017	24	5.790	6.160	242.5	44.5	18	0.534	8542	100	0	310	150	120	12.0	177	2.1
June 27, 2017	24	5.530	6.010	287.5	49.5	22.5	0.445	8071	100	0	300	140	140	12.5	175	2.2
June 28, 2017	24	5.130	5.540	309	61.5	24.5	0.356	7487	100	0	300	140	130	10.7	175	2.3
June 29, 2017	24	5.170	6.070	347.5	64	26.5	0.445	7545	100	0	300	140	124.0	10	175	2.3
June 30, 2017	24	5.570	5.930	261	54	18.5	0.712	8129	100	0	301	141	127	14.9	175	2.2
	24															
Total	720.00	161.79	175.01	8384.50	1654.20	620.00	15.31	236724.00	3000.00	0.00	8556.00	4099.00	3710.00	366.57	5262.82	66.96
Max.	24.00	6.00	6.34	347.50	77.00	31.00	0.71	9363.00	100.00	0.00	310.00	153.00	148.00	19.92	195.93	2.68
Min.	24.00	4.47	5.26	177.00	27.00	6.00	0.36	6523.00	100.00	0.00	250.00	125.00	101.00	5.12	165.01	2.00
Avg.	24.00	5.39	5.83	279.48	55.14	20.67	0.51	7890.80	100.00	0.00	285.20	136.63	123.67	12.22	175.43	2.23

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

NDINO A22919
FO PEREZ A15983
ON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : June
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSIC

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	6.3	3.1	0.66	0.25	7,8	7.3	216	250	230	20	36	0.3	36	40	1.2	10.4	28	48	60
0.0	6.3	3.2	0.65	0.249	7,8	7.3	220	250	240	10	36	0.3	36	40	1.1	9.6	22	42	58
0.0	6.1	3.0	0.67	0.25	6,8	7.3	220	146	230	16	36	0.3	36	40	1.3	9.7	22	42	58
0.0	6.6	3.3	0.65	0.45	6,7,8	7.2	210	240	220	10	40	0.2	46	46	1.5	10.0	23	45	60
0.0	6.4	3.1	0.62	0.18	6,7,8,	7.2	210	242	232	10	40	0.3	30	38	1.2	10.1	24	44	60
0.0	6.7	3.5	0.83	0.14	3,6,8	7.3	200	244	230	14	40	0.2	36	40	1.1	10.1	23	43	59
0.0	6.0	3.0	0.80	0.34	3,8	7.2	202	246	230	16	42	0.3	34	40	1.6	10.0	30	48	58
0.0	6.2	3.1	0.68	0.19	3,8	7.2	200	246	226	20	40	0.3	30	40	1.2	10.0	28	45	59
0.0	6.7	3.3	0.76	0.28	3,8	7.3		248	230	18	40	0.2	36	40	1.3	10.1	22	43	59
0.0	6.2	3.0	0.58	0.27	3,8	7.3	216	248	230	18	40	0.2	38	40	1.2	10.0	22	42	58
0.0	6.2	2.9	0.66	0.34	3,8	7.3	218	248	230	18	40	0.2	38	40	1.2	10.0	22	45	59
0.0	5.8	2.7	0.61	0.37	3,8	7.3	220	250	230	20	40	0.3	30	40	1.3	10.1	24	45	57
0.0	6.8	3.3	0.86	0.24	3,8	7.2	210	246	230	16	40	0.2	36	40	1.2	10.0	25	45	55
0.0	6.4	3.1	0.65	0.37	3,8	7.2	200	244	230	14	40	0.2	26	40	1.2	10.1	24	43	58
0.0	6.6	3.0	0.76	0.28	3,8	7.2	200	250	236	14	40	0.2	30	40	1.6	10.2	23	44	58
0.0	5.8	2.7	0.65	0.21	5,6	7.2	212	248	230	18	40	0.2	40	40	1.2	10.2	23	43	58
0.0	6.9	3.1	0.80	0.24	5,6	7.2	212	248	230	18	40	0.2	40	40	1.1	10.0	23	43	58
0.0	5.6	2.5	0.62	0.20	5,6	7.1	205	190	170	20	40	0.2	36	42	1.38	10.0	20	46	59
0.0	6.5	2.9	0.63	0.19	5,6	7.1	210	250	234	16	42	0.2	34	40	1.5	10.1	26	48	59
0.0	6.5	3.1	0.72	0.26	5,6	7.2	214	246	230	16	40	0.2	30	40	1.1	10.1	24	43	59
0.0	6.4	3.0	0.73	0.28	5,6	7.2	214	246	232	14	40	0.2	36	40	1.2	10.2	26	44	60
0.0	6.3	2.9	0.72	0.27	5,6	7.0	206	240	230	10	36	0.2	40	40	1.1	10.2	24	46	59
0.0	6.3	2.9	0.73	0.31	5,6	7.0	206	240	230	10	36	0.2	40	40	1.1	10.0	22	39	59
0.0	6.0	2.8	0.58	0.32	5,6	7.2	212	248	232	16	30	0.2	36	40	1.1	10.0	20	39	57
0.0	5.9	2.9	0.56	0.29	5,6	7.2	212	244	232	12	28	0.2	34	40	1.2	10.0	22	44	58
0.0	6.4	3.1	0.62	0.25	5,6	7.2	214	254	240	14	32	0.2	32	42	1.4	10.1	24	48	57
0.0	6.5	3.0	0.76	0.27	4,8	7.3	222	258	240	18	32	0.3	36	40	1.2	10.2	24	43	59
0.0	7.0	3.3	0.76	0.25	4,8	7.2	212	250	236	14	30	0.2	36	40	1.2	10.2	24	43	59
0.0	7.0	3.2	0.72	0.24	4,8	7.2	212	250	236	14	30	0.2	36	40	1.2	10.3	26	46	60
0.0	6.5	3.0	0.68	0.32	4,8	7.1	204	248	230	18	36	0.2	36	40	1.2	10.1	25	43	60
0.00	190.66	91.33	20.71	8.13	0.00	216.20	6109.00	7258.00	6886.00	462.00	1122.00	6.84	1060.00	1208.00	37.52	302.06	715.00	1322.00	1757.00
0.00	7.01	3.49	0.86	0.45	0.00	7.30	222.00	258.00	240.00	20.00	42.00	0.30	46.00	46.00	1.60	10.40	30.00	48.00	60.00
0.00	5.57	2.53	0.56	0.14	0.00	7.00	200.00	146.00	170.00	10.00	28.00	0.20	26.00	38.00	1.10	9.60	20.00	39.00	55.00
0.00	6.36	3.04	0.69	0.27	#DIV/0!	7.21	210.66	241.93	229.53	15.40	37.40	0.23	35.33	40.27	1.25	10.07	23.83	44.07	58.57

County : Broward
I.D. Number : ######
Year : 2018

CAL RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
50	9.4	12	28	58	48	0.0	2.6	8	0.57	0.39	0.10	0.35	0.2
48	8.8	8	24	36	46	0.0	2.8	8	0.58	0.37	0.11	0.36	0.2
48	9.0	7	26	58	49	0.0	3.2	8	0.46	0.38	0.08	0.23	0.1
50	9.1	10	35	59	49	0.0	3.7	9	0.42	0.36	0.08	0.26	0.0
50	9.2	10	32	57	47	0.0	3.6	9	0.59	0.26	0.07	1.02	2.6
49	9.3	11	31	58	47	0.0	3.6	7	0.59	0.39	0.10	0.61	1.3
50	9.2	10	30	58	48	0.0	3.6	9	0.54	0.28	0.08	0.55	1.2
49	9.2	9	30	57	48	0.0	3.6	9	0.60	0.26	0.09	0.54	3.1
48	9.3	11	29	58	48	0.0	3.4	8	0.69	0.32	0.09	0.62	1.2
48	9.0	8	24	52	46	0.0	3.3	8	0.69	0.28	0.09	0.19	0.1
48	9.0	9	29	52	44	0.0	3.0	9	0.66	0.24	0.08	0.64	0.3
47	9.2	9	31	55	45	0.0	3.1	9	0.54	0.27	0.08	0.53	1.4
49	9.1	9	27	56	46	0.0	3.5	8	0.55	0.31	0.03	0.35	0.0
47	9.1	6	26	56	45	0.0	3.1	8	0.56	0.31	0.10	0.28	1.9
47	9.1	7	25	56	46	0.0	3.1	8	0.58	0.35	0.09	0.31	1.1
48	9.5	12	32	58	48	0.0	3.5	8	0.58	0.32	0.10	0.68	2.0
48	9.4	12	32	56	47	0.0	3.5	8	0.63	0.34	0.10	0.73	0.0
50	9.3	9	30	53	44	0.0	3.3	9	0.63	0.29	0.09	0.58	0.0
49	9.2	10	32	55	45	0.0	3.1	9	0.57	0.27	0.09	0.54	2.1
49	9.2	11	27	57	47	0.0	3.2	9	0.59	0.29	0.07	0.46	0.8
50	9.4	12	29	58	48	0.0	3.4	8	0.64	0.29	0.10	0.66	1.1
49	9.4	13	29	58	48	0.0	3.2	8	0.61	0.39	0.10	0.66	0.0
49	9.2	11	27	57	47	0.0	3.1	8	0.59	0.29	0.08	0.46	0.8
47	9.4	9	28	57	50	0.0	2.9	8	0.57	0.30	0.09	0.67	0.0
48	9.4	9	31	55	45	0.0	2.8	9	0.56	0.37	0.10	0.42	0.0
47	9.0	8	31	54	44	0.0	2.7	10	0.50	0.34	0.12	0.31	0.2
49	9.2	9	26	57	47	0.0	3.0	8	0.58	0.30	0.10	0.44	1.4
49	9.1	11	26	57	47	0.0	2.9	8	0.61	0.32	0.10	0.34	0.2
50	9.2	11	27	57	47	0.0	3.0	8	0.66	0.36	0.10	0.46	0.3
50	9.2	12	28	59	50	0.0	3.0	8	0.62	0.33	0.10	0.46	0.0
1460.00	276.06	295.00	862.00	1674.00	1406.00	0.00	95.80	251.00	17.56	9.57	2.71	14.71	23.51
50.00	9.50	13.00	35.00	59.00	50.00	0.00	3.70	10.00	0.69	0.39	0.12	1.02	3.10
47.00	8.80	6.00	24.00	36.00	44.00	0.00	2.60	7.00	0.42	0.24	0.03	0.19	0.00
48.67	9.20	9.83	28.73	55.80	46.87	0.00	3.19	8.37	0.59	0.32	0.09	0.49	0.78

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226

M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.** INDRAJ SAMLAL A7282

C.HUTCHINSON A17011

How Many Other Operators? 6 STNLEY E.BANKS A17017

Total Metered Services at End of Month: 11,050 KERRY ROMAN C7873

Design Flow: 16MGD R.RAMNARINE C12091

H.RODRIGUEZ C19220 RAJIV SAMLAL C22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	fbs108 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
July 1, 2017	24	5.490	5.760	200	40	6	0.534	8013	100	0	300	140	130	13.9	175	2	0
July 2, 2017	24	5.940	6.400	218	41	16.5	0.712	8669	100	0	305	145	140	12.7	175	2.0	0.0
July 3, 2017	24	6.160	6.410	216	47	0.534	0.534	8961	100	0	310	150	140	13.9	174	1.9	0.0
July 4, 2017	24	5.770	6.210	300.5	48	9	0.267	8421	100	0	305	145	120	10.5	175	2.1	0.0
July 5, 2017	24	4.830	5.930	378	63	41	0.534	7049	100	0	301	141	133	14.9	175	2.5	0.0
July 6, 2017	24	5.630	6.380	334.5	67	28.5	0.089	8217	100	0	305	145	130	10.7	175	2.1	0.0
July 7, 2017	24	5.160	6.030	382	70	38	0.712	7531	100	0	305	145	126	16.7	175	2.3	0.0
July 8, 2017	24	5.560	6.610	219	45	16	0.534	8115	100	0	305	145	134	11.7	175	2.2	0.0
July 9, 2017	24	5.540	6.200	254	54.5	12.8	0.534	8085	100	0	305	145	122	10.3	175	2.2	0.0
July 10, 2017	24	5.010	5.770	280	55	17	0.534	7312	100	0	299	143	120	10.6	175	2.4	0.0
July 11, 2017	24	5.210	5.870	320	63	20	0.445	7604	100	0	305	145	135	12.0	175	2.3	0.0
July 12, 2017	24	5.170	6.010	265.5	53	19	0.534	7545	100	0	320	145	125	10.7	175	2.3	0.0
July 13, 2017	24	5.260	5.980	289.5	48.5	27.5	0.356	7677	100	0	320	145	126	16.4	175	2.3	0.0
July 14, 2017	24	5.230	6.070	308.5	60	24	0.445	7633	100	0	320	145	140	8.3	175	2.3	0.0
July 15, 2017	24	5.460	5.910	299.5	41	24	0.534	7969	100	0	325	145	142	12.5	175	2.2	0.0
July 16, 2017	24	5.690	6.450	225	49.5	12	0.534	8304	100	0	335	145	141	13.6	175	2.1	0.0
July 17, 2017	24	5.390	6.110	253	46	16.5	0.445	7866	100	0	320	140	122	10.6	175	2.2	0.0
July 18, 2017	24	4.830	5.720	290	58	28	0.445	5590	100	0	310	140	120	12.0	139	2.5	0.0
July 19, 2017	24	5.240	5.430	250.5	61	9	0.445	7648	100	0	280	130	126	15.1	175	2.3	0.0
July 20, 2017	24	3.930	6.140	327	64	20.5	0.534	5736	100	0		140	130	13.6	175	3.1	0.0
July 21, 2017	24	4.920	5.550	254	54.5	12	0.712	7181	100	0	288	138	127	13.3	175	2.4	0.0
July 22, 2017	24	4.840	5.660	218.5	45	9	0.623	7064	100	0	285	135	101	13.9	175	2.5	0.0
July 23, 2017	24	5.190	6.170	210	67	4.5	0.712	7574	100	0	317	137	94	13.2	175	2.3	0.0
July 24, 2017	24	5.320	6.090	217	40.5	18	0.534	7764	100	0	315	135	90	12.0	175	2.3	0.0
July 25, 2017	24	5.050	5.680	290.5	53	25	0.445	7370	100	0	290	140	97	18.3	175	2.4	0.0
July 26, 2017	24	4.960	5.780	234	71.5	3	0.623	7239	100	0	295	145	94	12.6	175	2.4	0.0
July 27, 2017	24	5.340	6.170	275	54	29	0.445	7793	100	0	275		85	11.0	175	2.2	0.0
July 28, 2017	24	5.020	5.760	268	61	36	0.534	7327	100	0	317	152	85	12.0	175	2.4	0.0
July 29, 2017	24	5.870	6.000	137.1	32.8	22.5	0.534	8567	100	0	323	153	121.0	13	175	2.0	0.0
July 30, 2017	24	5.610	6.220	278	52	23	0.623	8188	100	0	345	165	110	13.0	175	2.1	0.0
July 31, 2017	24	4.980	5.860	263	39	20	0.445	8715	100	0	300	140	110	10.8	210	2.4	0.0
Total	744.00	163.60	186.33	8255.60	1644.80	587.83	15.93	238727.00	3100.00	0.00	9225.00	4304.00	3716.00	393.48	5422.92	70.91	0.00
Max.	24.00	6.16	6.61	382.00	71.50	41.00	0.71	8961.00	100.00	0.00	345.00	165.00	142.00	18.30	209.83	3.05	0.00
Min.	24.00	3.93	5.43	137.10	32.80	0.53	0.09	5590.00	100.00	0.00	275.00	130.00	85.00	8.25	138.77	1.95	0.00
Avg.	24.00	5.28	6.01	266.31	53.06	18.96	0.51	7700.87	100.00	0.00	307.50	143.47	119.87	12.69	174.93	2.29	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : October

Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL R

DOSAGES				RAW WATER										SETTLED WATER				
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
6.6	3.1	0.71	0.30	4,8	7.3	212	254	236	18	30	0.2	36	40	1.2	10.1	23	42	59
6.2	2.9	0.71	0.257	4,8	7.1	210	220	210	10	40	0.2	38	45	1.2	10.1	24	46	58
6.0	2.9	0.68	0.27	4,8	7.1	214	224	210	14	42	0.2	34	42	1.3	10.2	24	42	58
6.3	3.0	0.62	0.22	4,8	7.1	216	230	220	10	42	0.2	42	40	1.3	10.2	25	44	58
7.5	3.5	0.83	0.37	4,8	7.3	212	244	230	14	36	0.2	30	40	1.2	10.0	22	42	59
6.5	3.1	0.69	0.23	4,6,8	7.1	206	240	230	10	30	0.2	30	36	1.3	10.1	25	45	58
7.1	3.4	0.73	0.39	4,6	7.1	206	240	230	10	30	0.2	30	36	1.5	10.1	24	45	59
6.6	3.1	0.72	0.25	4,6	7.1	210	242	230	12	30	0.2	30	40	1.3	10.0	21	43	55
6.6	3.1	0.66	0.22	3,4,6	7.0	216	230	220	10	40	0.2	38	28	1.7	9.9	24	46	56
7.2	3.4	0.72	0.25	3,4,6	7.1	218	238	222	16	42	0.2	30	32	1.38	9.9	26	43	59
7.0	3.3	0.78	0.28	3,4,6	7.2	212	244	230	14	40	0.2	30	40	1.5	9.9	24	43	58
7.4	3.4	0.72	0.25	3,6	7.2	210	240	226	14	40	0.2	36	40	1.2	10.1	22	44	57
7.3	3.3	0.72	0.37	3,6	7.2	218	248	230	18	40	0.2	36	40	1.22	10.1	22	42	56
7.3	3.3	0.80	0.19	3,6	7.2	212	244	230	14	40	0.2	36	40	1.3	10.0	23	42	59
7.1	3.2	0.78	0.27	3,6	7.2	200	240	228	12	40	0.2	36	40	1.3	10.0	19	41	54
7.1	3.1	0.74	0.29	3,4,6	7.2	200	240	228	12	40	0.2	38	40	1.5	10.0	22	46	58
7.1	3.1	0.68	0.24	3,4,6	7.2	210	250	234	16	42	0.2	36	42	1.4	10.0	23	46	58
7.7	3.5	0.74	0.30	3,5,6	7.2	216	248	230	18	40	0.2	40	40	1.4	9.9	25	48	61
6.4	3.0	0.72	0.35	5,8	7.3	206	244	230	14	40	0.2	44	40	1.5	10.1	25	46	61
	4.3	0.99	0.41	5,8	7.2	212	240	228	12	40	0.2	40	40	1.3	10.2	21	43	58
7.0	3.4	0.77	0.32	5,8	7.3	218	248	230	18	40	0.2	40	40	1.5	10.0	20	42	59
7.1	3.3	0.63	0.34	3,8	7.3	218	248	230	18	40	0.2	40	40	1.6	10.2	24	46	59
7.3	3.2	0.54	0.30	3,8	7.2	180	225	210	15	40	0.2	40	44	1.6	10.1	24	46	58
7.1	3.0	0.51	0.27	3,8	7.2	198	230	210	20	40	0.2	40	42	1.7	10.1	21	43	56
6.9	3.3	0.58	0.43	3,8	7.2	208	236	220	16	40	0.2	36	40	1.5	10.1	21	45	56
7.1	3.5	0.57	0.30	4,5	7.2	200	224	210	14	40	0.2	36	40	1.3	10.1	24	45	58
6.2		0.48	0.25	4,5	7.2	188	230	212	18	40	0.2	30	46	1.4	10.1	23	48	60
7.6	3.6	0.51	0.29	4,5	7.2	200	220	210	10	28	0.8	30	46	1.6	10.1	22	46	59
6.6	3.1	0.62	0.26	4,5	7.2	198	220	210	10	30	0.7	30	46	1.5	10.0	26	47	60
7.4	3.5	0.59	0.28	4,5	7.2	194	220	200	20	30	0.7	30	46	1.7	10.1	22	46	59
7.2	3.4	0.66	0.26	4,5	7.2	196	220	200	20	28	0.7	30	46	1.7	10.1	22	45	59

208.42	98.37	21.20	9.02	0.00	222.80	6414.00	7321.00	6874.00	447.00	1160.00	8.36	1092.00	1257.00	43.90	311.90	713.00	1378.00	1802.00
7.70	4.27	0.99	0.43	0.00	7.30	218.00	254.00	236.00	20.00	42.00	0.80	44.00	46.00	1.71	10.20	26.00	48.00	61.00
6.03	2.92	0.48	0.19	0.00	7.00	180.00	220.00	200.00	10.00	28.00	0.20	30.00	28.00	1.20	9.90	19.00	41.00	54.00
6.95	3.28	0.68	0.29	#DIV/0!	7.19	206.90	236.16	221.74	14.42	37.42	0.27	35.23	40.55	1.42	10.06	23.00	44.45	58.13

County : Broward

I.D. Number : ######

Year : 2017

RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
49	9.0	8	24	56	46	0.0	2.6	8	0.61	0.32	0.10	0.38	0.0
48	8.9	6	28	53	43	0.0	2.5	9	0.61	0.43	0.15	0.44	0.0
48	9.2	8	30	60	49	0.0	3.0	10	0.57	0.36	0.12	0.36	0.0
48	9.2	11	32	57	47	0.0	3.0	8	0.56	0.33	0.11	0.56	0.0
49	9.1	10	29	57	47	0.0	3.0	8	0.55	0.28	0.10	0.40	0.0
49	9.2	11	27	57	47	0.0	3.1	8	0.58	0.31	0.08	0.46	0.0
49	9.3	11	28	55	46	0.0	3.4	8	0.57	0.30	0.09	0.57	0.1
46	9.3	8	26	55	46	0.0	3.3	8	0.56	0.32	0.10	0.45	0.0
46	9.5	15	30	55	45	0.0	3.5	9	0.57	0.30	0.10	0.34	0.0
49	9.2	9	31	57	47	0.0	3.1	9	0.54	0.33	0.09	0.54	2.2
48	8.6	7	27	57	47	0.0	2.8	8	0.57	0.32	0.09	0.14	0.5
47	9.0	7	28	55	46	0.0	2.9	8	0.59	0.41	0.08	0.27	3.5
46	9.2	9	29	55	45	0.0	3.1	8	0.59	0.33	0.07	0.48	2.0
49	9.3	11	28	58	48	0.0	3.0	8	0.59	0.32	0.06	0.59	0.5
47	9.2	9	27	55	38	0.0	2.9	8	0.59	0.24	0.07	0.37	0.0
47	9.1	8	28	55	44	0.0	3.0	9	0.59	0.38	0.11	0.42	0.0
48	9.0	9	28	56	46	0.0	2.8	10	0.58	0.40	0.11	0.27	2.6
51	9.1	8	28	57	47	0.0	2.6	9	0.56	0.34	0.10	0.33	1.6
51	8.9	9	25	57	47	0.0	2.7	9	0.58	0.47	0.11	0.93	2.6
47	9.0	9	23	55	46	0.0	2.8	8	0.59	0.35	0.12	0.27	3.0
49	9.1	10	25	56	46	0.0	2.8	8	0.56	0.34	0.10	0.34	0.0
46	9.1	8	27	55	45	0.0	2.8	10	0.53	0.47	0.14	0.35	0.8
49	8.9	8	30	54	44	0.0	2.7	9	0.50	0.41	0.14	0.34	0.0
47	9.1	9	29	56	46	0.0	3.2	8	0.52	0.55	0.13	0.39	0.2
47	9.0	9	26	56	46	0.0	3.0	8	0.56	0.38	0.10	0.23	0.0
48	9.1	9	24	56	46	0.0	3.0	9	0.49	0.42	0.13	0.34	0.0
51	9.1	8	23	56	46	0.0	3.2	10	0.50	0.38	0.12	0.38	0.0
49	9.0	9	24	56	46	0.0	2.9	8	0.50	0.37	0.12	0.41	0.0
50	9.1	9	29	55	45	0.0	3.0	9	0.46	0.40	0.11	0.37	0.0
49	9.0	8	31	57	46	0.0	2.9	9	0.50	0.43	0.11	0.41	0.0
49	9.0	8	28	54	45	0.0	2.9	9	0.52	0.39	0.11	0.37	0.0

1496.00	281.75	278.00	852.00	1733.00	1418.00	0.00	91.45	267.00	17.19	11.38	3.27	12.50	19.60
51.00	9.50	15.00	32.00	60.00	49.00	0.00	3.50	10.00	0.61	0.55	0.15	0.93	3.50
46.00	8.60	6.00	23.00	53.00	38.00	0.00	2.50	8.00	0.46	0.24	0.06	0.14	0.00
48.26	9.09	8.97	27.48	55.90	45.74	0.00	2.95	8.61	0.55	0.37	0.11	0.40	0.63

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.**

C HUTCHINSON	A17011
INDRAJ SAMLAL	A7282
STNLEY E.BANKS	A17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 1' 13,141

Design Flow: 16MGD

RAJIV SAM

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
August 1, 2017	24	5.800	5.760	287	54	12.5	0.534	8465	100	0	285	152	118	11.5	175
August 2, 2017	24	5.990	6.080	297	78	16	0.356	8742	100	0	280	140	120	12.0	175
August 3, 2017	24	5.518	5.900	385.5	98.5	23.5	0.356	8053	100	0	275	150	120	12.0	175
August 4, 2017	24	5.270	5.710	357	75	26.5	0.356	7691	100	0	285	160	124	12.0	175
August 5, 2017	24	5.470	5.870	316.3	78	25	0.712	7983	100	0	280	153	131	13.2	175
August 6, 2017	24	5.710	6.340	226	45	14.3	0.356	8334	100	0	300	160	130	15.0	175
August 7, 2017	24	5.810	6.030	305	56	24	0.534	8480	100	0	290	160	126	16.5	175
August 8, 2017	24	5.820	5.990	279	51.5	25	0.445	8494	100	0	285	160	122	14.6	175
August 9, 2017	24	5.850	5.930	275.5	58.5	14.5	0.356	8538	100	0	300	175	125	16.7	175
August 10, 2017	24	5.970	6.240	354.5	82.5	26	0.445	8713	100	0	285	160	130	16.4	175
August 11, 2017	24	3.720	4.280	355.5	99.5	14	0.445	5429	100	0		145	124	12.0	175
August 12, 2017	24	5.510	5.710	326	82	13.5	0.534	8041	100	0	285	160	118	11.6	175
August 13, 2017	24	5.660	5.900	267	57.3	14.5	0.534	8260	100	0	285	160	131	14.2	175
August 14, 2017	24	5.350	5.870	284	46	31	0.356	7808	100	0	285	160	120	13.1	175
August 15, 2017	24	5.270	5.790	340.5	65	15	0.534	7692	100	0	285	160	125	15.1	175
August 16, 2017	24	5.230	5.850	317.5	89	11	0.267	7633	100	0	285	160	135	13.4	175
August 17, 2017	24	5.430	5.500	306	69	24	0.445	7925	100	0	285	160	130	13.8	175
August 18, 2017	24	5.460	6.020	265	71.5	15	0.534	7969	100	0	285	160	135	15.4	175
August 19, 2017	24	5.690	5.840	179.6	50.5	19.5	0.356	8305	100	0	290	163	184	13.2	175
August 20, 2017	24	6.480	6.400	257	51	16	0.534	9457	100	0	290	160	145	18.6	175
August 21, 2017	24	5.270	5.860	221	45	19.5	0.445	7692	100	0	290	160	140	18.0	175
August 22, 2017	24	5.250	5.430	267.5	71	21	0.445	7662	100	0	285	160	130	12.6	175
August 23, 2017	24	5.370	5.870	310.5	92	7	0.356	7838	100	0	285	160	130	12.0	175
August 24, 2017	24	5.420	5.420	298.5	73	24	0.178	7910	100	0	285	160	127	13.3	175
August 25, 2017	24	5.120	5.620	357.5	94	21	0.445	7475	100	0	279	156	115	13.8	175
August 26, 2017	24	5.220	5.380	577.3	121	28.5	0.356	7619	100	0	255	135	102	14.3	175
August 27, 2017	24	5.430	6.000	181	51	28.5	0.534	7761	100	0	270	150	87	15.8	171
August 28, 2017	24	5.370	5.740	177	44.5	16	0.356	7837	100	0	270	150	120	12.0	175
August 29, 2017	24	5.260	5.830	231	68.5	17	0.356	7816	100	0	285	160	100.0	14	178
August 30, 2017	24	5.310	5.460	293	92.5	14.5	0.267	7750	100	0	285	160	150	13.9	175
August 31, 2017	24	5.190	5.750	364	100.5	35	0.356	7575	100	0	285	160	140	13.8	175
Total	744.00	169.22	179.37	9259.20	2210.80	612.80	13.08	246947.00	3100.00	0.00	8514.00	4869.00	3934.00	433.97	5424.51
Max.	24.00	6.48	6.40	577.30	121.00	35.00	0.71	9457.00	100.00	0.00	300.00	175.00	184.00	18.60	178.17
Min.	24.00	3.72	4.28	177.00	44.50	7.00	0.18	5429.00	100.00	0.00	255.00	135.00	87.00	11.52	171.38
Avg.	24.00	5.46	5.79	298.68	71.32	19.77	0.42	7966.03	100.00	0.00	283.80	157.06	126.90	14.00	174.98

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

vILAL C22878

CHEMICAL AND

DOSAGES						RAW WATER										SETTLE		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
2	0	5.9	3.1	0.61	0.24	3,8	7.2	200	224	200	24	30	0.7	30	48	1.8	10.2	26
2.0	0.0	5.6	2.8	0.60	0.240	3,8	7.3	210	236	220	16	30	0.2	30	40	1.6	10.3	29
2.2	0.0	6.0	3.3	0.65	0.26	3,8	7.3	200	230	220	10	30	0.2	30	40	1.5	10.1	23
2.3	0.0	6.5	3.6	0.71	0.27	3,4,6	7.2	200	236	220	16	30	0.2	30	36	1.6	10.1	25
2.2	0.0	6.1	3.4	0.72	0.29	3,8	7.2	210	240	220	20	30	0.2	30	40	1.7	10.2	22
2.1	0.0	6.3	3.4	0.68	0.31	3,8	7.2	188	220	210	10	40	0.2	36	32	2.8	10.0	20
2.1	0.0	6.0	3.3	0.65	0.34	3,8	7.2	190	210	200	10	42	0.6	34	36	1.9	10.1	23
2.1	0.0	5.9	3.3	0.63	0.30	3,8	7.2	210	236	220	16	40	0.2	36	40	1.6	10.2	27
2.0	0.0	6.1	3.6	0.64	0.34	3,8	7.2	200	230	220	10	40	0.2	40	40	1.8	10.1	23
2.0	0.0	5.7	3.2	0.65	0.33	3,8	7.2	210	236	220	16	40	0.2	40	40	1.3	10.1	22
3.2	0.0		4.7	1.00	0.39	3,8	7.2	210	236	220	16	40	0.2	40	36	1.3	10.2	25
2.2	0.0	6.2	3.5	0.64	0.25	4,5	7.2	218	240	220	20	40	0.2	40	40	1.3	10.0	21
2.1	0.0	6.0	3.4	0.69	0.30	4,5	7.2	218	236	220	16	40	0.3	38	40	1.3	10.2	24
2.2	0.0	6.4	3.6	0.67	0.29	4,5	7.2	220	238	220	18	40	0.6	34	40	1.3	10.1	23
2.3	0.0	6.5	3.6	0.71	0.34	4,5	7.2	212	240	220	20	40	0.2	36	40	1.3	10.1	23
2.3	0.0	6.5	3.7	0.77	0.31	3,5	7.2	202	236	220	16	40	0.2	36	40	1.2	10.2	24
2.2	0.0	6.3	3.5	0.72	0.30	3,5	7.2	212	240	224	16	40	0.2	40	36	1.2	10.2	22
2.2	0.0	6.3	3.5	0.74	0.34	3,5	7.2	212	240	224	16	40	0.2	40	36	1.4	10.3	25
2.1	0.0	6.1	3.4	0.97	0.28	3,5	7.4	220	246	230	16	40	0.2	36	40	1.3	10.2	24
1.9	0.0	5.4	3.0	0.67	0.34	3,4,5	7.1	210	240	228	12	40	0.2	38	36	1.3	10.2	25
2.3	0.0	6.6	3.6	0.80	0.41	3,4,5	7.2	216	248	230	18	42	0.5	36	38	1.3	10.2	23
2.3	0.0	6.5	3.7	0.74	0.29	6,7	7.2	222	254	240	14	36	0.3	36	40	1.4	10.2	25
2.2	0.0	6.4	3.6	0.73	0.27	6,7	7.2	220	250	230	20	36	0.2	36	40	1.3	10.1	25
2.2	0.0	6.3	3.5	0.70	0.29	6,8	7.2	226	254	236	18	36	0.2	36	40	1.4	10.3	25
2.3	0.0	6.5	3.7	0.67	0.32	6,8	7.2	220	250	230	20	36	0.2	36	40	1.3	10.2	23
2.3	0.0	5.9	3.1	0.59	0.33	6,8	7.2	220	250	230	20	32	0.2	38	36	1.3	10.0	21
2.2	0.0	6.0	3.3	0.48	0.35	6,8	7.2	220	240	224	16	36	0.2	34	38	1.2	10.0	21
2.2	0.0	6.0	3.3	0.67	0.27	6,8	7.2	222	248	230	18	38	0.5	30	40	1.4	10.1	28
2.3	0.0	6.5	3.6	0.57	0.32	6,8	7.2	216	244	230	14	36	0.2	36	40	1.4	10.3	26
2.3	0.0	6.4	3.6	0.85	0.31	6,8	7.2	216	244	230	14	36	0.2	30	40	1.4	10.2	27
2.3	0.0	6.6	3.7	0.81	0.32	6,8	7.2	220	246	230	16	36	0.2	36	40	1.2	10.2	24

68.61	0.00	185.47	107.62	21.73	9.56	0.00	223.50	6570.00	7418.00	6916.00	502.00	1152.00	8.39	1098.00	1208.00	44.87	314.90	744.00
3.22	0.00	6.60	4.67	1.00	0.41	0.00	7.40	226.00	254.00	240.00	24.00	42.00	0.70	40.00	48.00	2.80	10.30	29.00
1.85	0.00	5.37	2.80	0.48	0.24	0.00	7.10	188.00	210.00	200.00	10.00	30.00	0.20	30.00	32.00	1.17	10.00	20.00
2.21	0.00	6.18	3.47	0.70	0.31	#DIV/0!	7.21	211.94	239.29	223.10	16.19	37.16	0.27	35.42	38.97	1.45	10.16	24.00

County : Broward
I.D. Number : ######
Year : 2017

PHYSICAL RESULTS

:D WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	57	48	9.2	11	28	56	46	0.0	3.2	9	0.54	0.35	0.11	0.47	1.4
49	60	50	9.4	13	29	58	48	0.0	3.3	9	0.56	0.36	0.10	0.71	0.8
44	57	47	9.4	10	27	56	45	0.0	3.2	9	0.55	0.36	0.09	0.44	0.0
48	58	48	9.3	10	26	57	47	0.0	3.2	9	0.55	0.40	0.08	0.54	0.2
43	58	48	9.2	10	26	56	46	0.0	3.2	9	0.54	0.31	0.06	0.34	0.0
42	62	52	9.0	10	28	58	49	0.0	3.3	9	0.52	0.42	0.08	0.26	0.0
43	57	47	9.2	9	28	56	46	0.0	3.5	8	0.54	0.38	0.07	0.47	1.0
44	59	49	9.4	11	27	57	47	0.0	3.4	8	0.57	0.36	0.08	0.77	0.0
43	58	48	9.3	12	27	56	46	0.0	3.5	9	0.54	0.39	0.07	0.58	0.2
41	58	47	9.3	11	25	56	45	0.0	3.2	8	0.55	0.36	0.06	0.52	1.1
47	59	49	9.5	14	27	57	47	0.0	3.2	8	0.54	0.34	0.07	0.76	1.8
45	58	48	9.1	9	27	56	46	0.0	2.9	9	0.48	0.35	0.08	0.45	0.0
46	57	47	9.2	7	31	57	47	0.0	3.1	9	0.47	0.39	0.09	0.35	0.0
48	58	47	9.2	8	31	55	45	0.0	3.1	8	0.50	0.40	0.09	0.52	1.4
44	58	48	9.0	9	26	56	46	0.0	2.8	9	0.50	0.34	0.10	0.23	2.2
45	58	49	9.2	11	26	57	47	0.0	3.0	9	0.52	0.35	0.10	0.44	0.6
44	58	47	8.9	8	24	54	46	0.0	2.9	8	0.53	0.35	0.10	0.09	0.2
43	58	48	8.9	7	24	56	46	0.0	2.7	8	0.53	0.33	0.09	0.09	0.0
44	59	49	9.2	10	29	56	46	0.0	2.8	9	0.49	0.42	0.12	0.29	0.0
44	58	48	9.2	9	30	55	46	0.0	3.0	9	0.57	0.35	0.10	0.50	0.0
46	58	47	9.2	9	29	55	44	0.0	3.1	8	0.60	0.32	0.07	0.47	1.2
47	59	49	9.3	12	30	56	46	0.0	3.2	8	0.56	0.33	0.09	0.60	0.0
45	57	47	8.9	9	28	56	46	0.0	2.9	9	0.55	0.34	0.10	0.17	1.3
47	58	49	9.4	12	28	58	48	0.0	3.1	9	0.54	0.34	0.09	0.69	1.8
45	59	49	9.3	12	30	57	47	0.0	3.1	8	0.52	0.32	0.10	0.62	3.0
41	56	46	9.3	11	30	55	45	0.0	3.3	9	0.48	0.39	0.11	0.59	0.0
41	56	46	9.1	8	28	55	45	0.0	3.2	9	0.49	0.41	0.11	0.42	1.2
43	57	47	9.1	9	27	57	47	0.0	2.9	9	0.49	0.30	0.10	0.36	1.2
45	58	48	9.3	11	26	56	46	0.0	3.3	9	0.47	0.33	0.10	0.53	0.4
48	60	50	9.5	11	26	57	47	0.0	3.3	9	0.44	0.32	0.09	0.74	0.4
44	59	48	9.3	10	26	57	46	0.0	3.2	9	0.60	0.35	0.10	0.53	0.0

1385.00	1802.00	1490.00	285.80	313.00	854.00	1744.00	1434.00	0.00	97.10	269.00	16.33	11.06	2.80	14.54	21.40
49.00	62.00	52.00	9.50	14.00	31.00	58.00	49.00	0.00	3.50	9.00	0.60	0.42	0.12	0.77	3.00
41.00	56.00	46.00	8.90	7.00	24.00	54.00	44.00	0.00	2.70	8.00	0.44	0.30	0.06	0.09	0.00
44.68	58.13	48.06	9.22	10.10	27.55	56.26	46.26	0.00	3.13	8.68	0.53	0.36	0.09	0.47	0.69

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.**

C HUTCHINSON	A17011
INDRAJ SAMLAL	A7282
STNLEY E.BANKS	A17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

RAJIV SAM

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
September 1, 2017	24	5.260	5.650	340	104	26.5	0.356	7676	54	0	280	155	126	16.2	175
September 2, 2017	24	5.450	5.790	207	41	14	0.534	7954	100	0	290	165	150	5.8	175
September 3, 2017	24	5.770	6.090	211	44.5	16.3	0.445	8421	162	0	290	165	148	20.0	175
September 4, 2017	24	5.400	5.860	246	42	31	0.445	7851	100	0	290	165	125	13.6	174
September 5, 2017	24	5.720	5.840	284	51.5	29	0.178	7895	100	0	285	160	140	13.3	165
September 6, 2017	24	5.500	5.890	341	65.5	28.5	0.267	8027	100	0	285		135	15.1	175
September 7, 2017	24	5.310	5.810	313.5	74	24.5	0.445	7750	100	0	285	160	130	13.6	175
September 8, 2017	24	5.360	5.760	255	78.5	24	0.356	7823	100	0	293	163	130	12.0	175
September 9, 2017	24	5.280	5.570	295	80	24	0.267	7706	100	0	317	167	140	12.8	175
September 10, 2017	24	4.550	5.360	372	76	26.5	0.712	6640	100	0	273	135	110	11.0	175
September 11, 2017	24	5.420	5.820	512	100	42.5	0.267	8027	100	0	285	160	130	16.4	178
September 12, 2017	24	5.760	5.700	484	116	31.5	0.356	8406	100	0	285	160	108	14.1	175
September 13, 2017	24	5.150	5.590	296	118	9.5	0.267	7516	100	0	285	160	85	13.3	175
September 14, 2017	24	5.400	5.900	388	135	31	0.267	7881	100	0	285	160	110	12.0	175
September 15,2017	24	5.270	5.700	298	73.5	23	0.445	7692	100	0	285	160	92	12.0	175
September 16,2017	24	5.320	6.070	237	55	17	0.356	7764	100	0	285	160	91	17.4	175
September 17,2017	24	5.750	6.260	243	56	17	0.534	8392	100	0	285	160	117	19.2	175
September 18,2017	24	5.670	5.520	255.5	51	10	0.356	8275	58	0	300	160	100	12.6	175
September 19,2017	24	5.530	5.850	267	60	10	0.756	8071	100	0	300	160	134	18.0	175
September 20,2017	24	5.300	5.800	322.5	67.5	26.5	0.356	7735	100	0	300	160	105	13.3	175
September 21,2017	24	5.450	5.790	281.5	68	18.5	0.356	7954	100	0	318	178	120	13.8	175
September 22,2017	24	5.390	5.860	307.8	59.5	25	0.445	7866	100	0	325	175	100	18.0	175
September 23,2017	24	5.130	5.680	59.6	28.8	25	0.267	7487	100	0	325	175	156	19.3	175
September 24, 2017	24	5.390	6.110	313	61	24	0.534	7866	100	0	325	175	115	16.2	175
September 25, 2017	24	5.470	5.540	242.5	46	17.5	0.356	7954	100	0	325	175	111	12.5	174
September 26, 2017	24	5.250	5.510	301	65	26.5	0.267	7662	100	0	307	165	114	18.0	175
September 27, 2017	24	5.040	5.590	286	70.5	11.5	0.267	7356	100	0	285	160	120	12.0	175
September 28,2017	24	5.220	5.010	357	75	36	0.534	7618	100	0	285	160	119	13.6	175
September 29, 2017	24	4.780	5.990	204	56.5	19	0.356	6976	100	0	285	160	122.0	13	175
September 30, 2017	24	4.960	5.840	246	68	18	0.356	7239	100	0	285	160	126	15.5	175
Total	720.00	160.25	172.75	8765.90	2087.30	683.30	11.70	233480.00	2974.00	0.00	8848.00	4718.00	3609.00	433.99	5241.57
Max.	24.00	5.77	6.26	512.00	135.00	42.50	0.76	8421.00	162.00	0.00	325.00	178.00	156.00	20.01	177.58
Min.	24.00	4.55	5.01	59.60	28.80	9.50	0.18	6640.00	54.00	0.00	273.00	135.00	85.00	5.84	165.50
Avg.	24.00	5.34	5.76	292.20	69.58	22.78	0.39	7782.67	99.13	0.00	294.93	162.69	120.30	14.47	174.72

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

MLAL C22878

CHEMICAL A

DOSAGES						RAW WATER										SETTL		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
1	0	6.4	3.5	0.72	0.37	6,8	7.4	222	250	230	20	38	0.2	40	40	1.3	10.1	22
2.2	0.0	6.4	3.6	0.83	0.128	6,8	7.2	220	244	230	14	36	0.2	36	40	1.3	10.2	24
3.4	0.0	6.0	3.4	0.77	0.42	6,8	7.2	222	246	230	16	38	0.5	32	40	1.4	10.2	29
2.2	0.0	6.4	3.7	0.69	0.30	6,8	7.2	224	248	232	16	40	0.5	30	40	1.3	10.1	23
2.1	0.0	6.0	3.4	0.73	0.28	6,8	7.2	220	248	230	18	40	0.2	36	40	1.4	10.1	24
2.2	0.0	6.2		0.74	0.33	6,8	7.2	228	254	240	14	40	0.2	40	40	1.2	10.1	20
2.3	0.0	6.4	3.6	0.73	0.31	6'8	7.2	224	250	234	16	40	0.2	36	40	1.3	10.1	24
2.2	0.0	6.6	3.6	0.73	0.27	6,8	7.2	220	246	230	16	40	0.2	36	40	1.4	10.0	23
2.3	0.0	7.2	3.8	0.79	0.29	6,8	7.2	228	250	236	14		0.2	30	40	1.38	10.2	26
2.6	0.0	7.2	3.6	0.72	0.29	3,6,8	7.2	230	256	240	16	40	0.4	30	42	1.3	10.2	26
2.2	0.0	6.3	3.5	0.72	0.36	3,8	7.2	232	258	240	18	42	0.4	30	42	1.4	10.2	24
2.1	0.0	5.9	3.3	0.56	0.29	3,8	7.2	228	250	236	14	40	0.2	30	40	1.36	10.2	23
2.3	0.0	6.6	3.7	0.49	0.31	3,5	7.2	236	254	240	14	40	0.3	34	40	1.28	10.1	23
2.2	0.0	6.3	3.6	0.61	0.27	3,5	7.2	230	280	236	14	40	0.2	34	36	1.3	10.1	21
2.3	0.0	6.5	3.6	0.52	0.27	3,5	7.2	230	250	226	14	40	0.2	30	40	1.5	10.2	22
2.3	0.0	6.4	3.6	0.51	0.39	3,5	7.2	230	250	236	14	40	0.2	36	40	1.4	10.4	22
2.1	0.0	5.9	3.3	0.61	0.40	3,5	7.2	234	256	246	10	42	0.5	30	42	1.4	10.3	29
1.2	0.0	6.3	3.4	0.53	0.27	3,5	7.2	236	258	248	10	42	0.5	30	44	1.52	10.3	24
2.2	0.0	6.5	3.5	0.73	0.39	3,4,5,8	7.2	230	255	240	15	40	0.2	30	40	1.4	10.2	22
2.3	0.0	6.8	3.6	0.59	0.30	4,8	7.2	236	260	240	20	40	0.2	36	40	1.5	10.2	26
2.2	0.0	7.0	3.9	0.66	0.30	4,8	7.2	232	260	240	20	40	0.2	40	40	1.4	10.3	24
2.2	0.0	7.2	3.9	0.56	0.40	4,8	7.2	236	260	240	20	40	0.2	40	40	1.5	10.1	20
2.3	0.0	7.6	4.1	0.91	0.45	4,8	7.2	230	250	240	10	36	0.2	40	40	1.8	10.2	24
2.2	0.0	7.2	3.9	0.64	0.36	4,8	7.2	230	250	242	8	30	0.2	40	40	2.0	10.2	26
2.2	0.0	7.1	3.8	0.61	0.27	4,8	7.2	230	256	246	10	30	0.5	34	40	1.5	10.1	22
2.3	0.0	7.0	3.8	0.65	0.41	4,8	7.3	236	254	240	14	36	0.2	36	40	1.4	10.1	22
2.4	0.0	6.8	3.8	0.71	0.29	4,8	7.2	230	252	240	12	36	0.3	40	40	1.3	10.2	25
2.3	0.0	6.5	3.7	0.68	0.31	4,8	7.2	236	254	240	14	36	0.2	36	40	1.3	10.2	22
2.5	0.0	7.1	4.0	0.77	0.33	4,8	7.2	240	256	242	14	36	0.2	36	40	1.3	10.1	21
2.4	0.0	6.9	3.9	0.76	0.37	4,8	7.2	236	254	240	14	40	0.2	40	36	1.3	10.3	27
66.87	0.00	199.04	106.18	20.29	9.74	0.00	216.30	6896.00	7609.00	7130.00	439.00	1118.00	8.56	1048.00	1202.00	42.02	305.27	710.00
3.37	0.00	7.60	4.09	0.91	0.45	0.00	7.40	240.00	280.00	248.00	20.00	42.00	0.54	40.00	44.00	2.02	10.40	29.00
1.23	0.00	5.93	3.33	0.49	0.13	0.00	7.20	220.00	244.00	226.00	8.00	30.00	0.21	30.00	36.00	1.20	10.00	20.00
2.23	0.00	6.63	3.66	0.68	0.32	#DIV/0!	7.21	229.87	253.63	237.67	14.63	38.55	0.29	34.93	40.07	1.40	10.18	23.67

County : Broward
I.D. Number : 4060787
Year : 2017

ND PHYSICAL RESULTS

.ED WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
42	58	48	9.3	11	30	57	47	0.0	3.2	8	0.55	0.35	0.10	0.62	0.3
44	59	49	9.2	10	27	56	46	0.0	3.3	9	0.57	0.36	0.11	0.00	0.0
50	59	49	9.1	10	30	59	47	0.0	3.2	9	0.57	0.35	0.11	0.00	0.0
45	56	45	9.2	8	26	56	45	0.0	3.1	8	0.57	0.32	0.10	0.42	0.0
43	57	47	9.2	9	25	56	46	0.0	3.2	9	0.56	0.30	0.10	0.41	0.3
42	58	48	9.5	11	25	56	47	0.0	3.2	9	0.57	0.30	0.10	0.00	0.0
45	58	48	9.4	11	24	58	48	0.0	3.1	9	0.57	0.33	0.10	0.61	0.3
42	59	49	8.8	12	30	58	48	0.0	2.9	9	0.58	0.32	0.10	0.13	1.8
46	59	49	8.9	7	21	55	46	0.0	2.6	9	0.57	0.32	0.10	0.00	0.0
47	60	49	9.1	10	24	57	47	0.0	3.2	8	0.57	0.31	0.10	0.00	0.0
44	57	47	9.2	10	27	57	47	0.0	3.1	9	0.57	0.31	0.10	0.00	0.0
43	56	46	9.3	10	26	56	46	0.0	2.9	8	0.59	0.28	0.10	0.00	0.0
42	57	47	9.3	11	28	56	46	0.0	3.0	9	0.50	0.33	0.10	0.00	0.0
40	57	47	9.0	9	21	54	45	0.0	2.8	9	0.50	0.28	0.10	0.00	0.0
44	56	46	8.9	7	23	55	45	0.0	2.5	8	0.50	0.36	0.10	0.00	0.0
44	57	47	9.0	8	25	55	45	0.0	2.8	9	0.47	0.34	0.10	0.00	0.0
47	57	47	9.0	9	29	56	46	0.0	2.8	9	0.50	0.35	0.10	0.00	0.0
47	56	45	9.2	7	30	56	45	0.0	2.9	9	0.50	0.35	0.12	0.00	0.0
41	58	48	9.1	8	24	55	46	0.0	2.9	8	0.51	0.40	0.10	0.00	0.0
46	58	48	9.0	9	24	57	47	0.0	2.8	8	0.53	0.36	0.11	0.00	0.0
41	57	49	9.2	8	24	56	46	0.0	3.0	8	0.54	0.40	0.11	0.00	0.0
42	59	49	8.9	6	22	56	46	0.0	3.0	8	0.54	0.34	0.10	0.00	0.0
44	59	49	8.8	6	22	56	46	0.0	2.9	9	0.53	0.41	0.12	0.00	0.0
46	59	49	9.1	7	27	56	47	0.0	3.3	9	0.58	0.45	0.16	0.00	0.0
44	56	47	9.3	8	27	55	42	0.0	3.7	8	0.58	0.46	0.14	0.00	0.0
40	59	47	9.2	10	25	56	46	0.0	3.7	9	0.54	0.39	0.11	0.00	0.0
42	59	49	9.3	9	25	56	46	0.0	3.4	9	0.55	0.39	0.10	0.00	0.0
42	59	49	9.4	10	28	57	48	0.0	3.5	8	0.56	0.37	0.10	0.00	0.0
38	58	48	9.4	11	33	58	48	0.0	3.3	8	0.56	0.36	0.10	0.00	0.0
46	59	49	9.3	10	28	56	47	0.0	3.4	10	0.56	0.36	0.12	0.12	0.0
1309.00	1736.00	1434.00	274.60	272.00	780.00	1687.00	1387.00	0.00	92.65	259.00	16.39	10.55	3.21	2.31	2.70
50.00	60.00	49.00	9.50	12.00	33.00	59.00	48.00	0.00	3.70	10.00	0.59	0.46	0.16	0.62	1.80
38.00	56.00	45.00	8.80	6.00	21.00	54.00	42.00	0.00	2.50	8.00	0.47	0.28	0.10	0.00	0.00
43.63	57.87	47.80	9.15	9.07	26.00	56.23	46.23	0.00	3.09	8.63	0.55	0.35	0.11	0.08	0.09

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

		Z BECKFORD	A8226
		M HUTCHINSON	A17010
Lead Operator Signature:	**Operator's Names & Cert. No.**	C HUTCHINSON	A17011
		INDRAJ SAMLAL	A7282
How Many Other Operators?	6	STNLEY E.BANKS	A17017
Total Metered Services at End of Month:	**13,141**	KERRY ROMAN	C7873
Design Flow:	16MGD	R.RAMNARINE	C12091
		H.RODRIGUEZ	C19220

RAJIV SAMLAL

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
October 1, 2017	24	5.560	5.950	289	69	21	0.534	8114	100	0	290	165	106	17.5	175	2
October 2, 2017	24	5.520	5.450	270	70	19.5	0.445	8056	100	0	290	165	122	14.9	175	2.2
October 3, 2017	24	5.320	6.070	294.5	73	23.5	0.356	7764	100	0	282	160	112	12.0	175	2.3
October 4, 2017	24	5.010	5.520	269	60	22.5	0.445	7312	100	0	274	161	113	16.7	175	2.4
October 5, 2017	24	4.400	5.070	259.5	74.5	17.5	0.356	6538	100	0	275	150	100	16.4	175	2.7
October 6, 2017	24	5.530	5.810	280.5	91.5	22	0.534	8071	100	0	282	150	98	18.0	175	2.2
October 7, 2017	24	4.920	5.480	151.5	39.5	15	0.445	7180	100	0	285	160	96	6.0	175	2.4
October 8, 2017	24	5.170	6.030	255	52	26	0.356	7545	100	0	285	160	94	24.0	175	2.3
October 9, 2017	24	5.390	5.520	234	50.5	21	0.534	7866	100	0	288	163	110	16.2	175	2.2
October 10, 2017	24	5.480	6.070	201.5	47	13	0.445	7998	100	0	288	163	98	13.8	175	2.2
October 11, 2017	24	4.980	5.160	191	50.5	13	0.356	7268	100	0	185	160	104	13.6	175	2.4
October 12, 2017	24	5.617	5.560	283.5	61.5	27.5	0.445	8198	100	0	285	160	100	12.0	175	2.1
October 13, 2017	24	5.370	5.580	220.5	64.5	9	0.623	7837	100	0	260	160	100	13.3	175	2.2
October 14, 2017	24	5.160	5.330	469	44.5	17	0.534	7531	100	0	293	168	158	15.1	175	2.3
October 15, 2017	24	5.460	6.510	309	58	26	0.445	7969	100	0	297	172	60	23.2	175	2.2
October 16, 2017	24	5.190	5.490	330.5	82	14	0.356	7575	100	0	295	170	100	10.0	175	2.3
October 17, 2017	24	5.020	5.820	393.5	93.5	30.5	0.455	7327	100	0		170	108	16.7	175	2.4
October 18, 2017	24	4.970	5.250	264	55	29	0.178	7254	100	0	326	170	54	10.4	175	2.4
October 19, 2017	24	4.880	5.430	336.5	60	28.5	0.356	7122	100	0	320	170	130	12.0	175	2.5
October 20, 2017	24	4.690	5.400	298.5	70	27	0.445	6845	100	0	300	160	100	14.9	175	2.6
October 21, 2017	24	5.320	5.740	235.4	45.8	18.6	0.534	7765	100	0	308	180	88	22.5	175	2.3
October 22, 2017	24	5.350	6.310	190	40	17	0.534	7808	100	0	310	175	37	18.0	175	2.2
October 23, 2017	24	5.150	5.450	177.5	42.5	21	0.356	7516	100	0	318	183	110	15.1	175	2.3
October 24, 2017	24	4.990	5.570	234.5	55.5	27.5	0.356	7283	100	0	325	200	100	14.9	175	2.4
October 25, 2017	24	5.090	4.920	184.4	71	13	0.356	7429	100	0	350	225	125	9.1	175	2.4
October 26, 2017	24	4.990	5.580	284	72	24	0.356	7282	100	0	350	200	100	14.9	175	2.4
October 27, 2017	24	5.130	5.770	362	129	24	0.534	7487	100	0	358	208	122	15.1	175	2.3
October 28, 2017	24	4.660	5.110	154.5	37.5	4	0.534	6801	100	0		230	150	11.0	175	2.6
October 29, 2017	24	5.820	5.970	244	62	22	0.445	8494	100	0	400	230	120.0	17	175	2.1
October 30, 2017	24	5.160	6.000	302	85.5	21	0.356	7531	100	0		226	116	9.1	175	2.3
October 31, 2017	24	5.070	5.460	320	109.5	15	0.267	7400	100	0	355	230	90	12.0	175	2.4
Total	744.00	160.37	174.38	8288.80	2016.80	629.60	13.27	234166.00	3100.00	0.00	8474.00	5544.00	3221.00	455.20	5424.83	72.18
Max.	24.00	5.82	6.51	469.00	129.00	30.50	0.62	8494.00	100.00	0.00	400.00	230.00	158.00	24.00	175.01	2.73
Min.	24.00	4.40	4.92	151.50	37.50	4.00	0.18	6538.00	100.00	0.00	185.00	150.00	37.00	6.00	174.98	2.10
Avg.	24.00	5.17	5.63	267.38	65.06	20.31	0.43	7553.74	100.00	0.00	302.64	178.84	103.90	14.68	174.99	2.33

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

C22878

CHEMICAL AND PHYSIC

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	6.3	3.6	0.67	0.38	3.4.5	7.1	230	250	240	10	40	0.2	30	38	1.5	10.2	27	47	59
0.0	6.3	3.6	0.66	0.324	3.4.5	7.1	232	254	244	10	42	0.5	30	38	1.5	10.1	24	47	58
0.0	6.4	3.6	0.63	0.27	3.4.5	7.2	230	256	240	16	40	0.2	36	40	1.5	10.1	22	43	58
0.0	6.6	3.9	0.68	0.40	3.4.5	7.2	230	256	240	16	40	0.2	36	40	1.6	10.3	25	44	56
0.0	7.5	4.1	0.68	0.45	3.4.5	7.2	230	256	240	16	40	0.2	36	40	1.4	10.4	22	44	57
0.0	6.1	3.3	0.53	0.39	3,4,5	7.2	236	254	240	14	36	0.2	30	40	1.4	10.1	24	44	57
0.0	6.9	3.9	0.58	0.15	3,4,5	7.2	236	254	240	14	36	0.2	30	40	1.4	10.0	22	41	58
0.0	6.6	3.7	0.55	0.56	3,4,5	7.2	232	254	236	18	34	0.2	28	40	1.3	10.3	26	50	60
0.0	6.4	3.6	0.61	0.36	3,4,5	7.2	234	256	246	10	34	0.4	30	42	1.4	10.1	22	48	59
0.0	6.3	3.6	0.54	0.30	3,4,5	7.2	230	250	236	14	36	0.3	34	40	1.4	10.2	24	45	58
0.0	4.5	3.9	0.63	0.33	3,4,5	7.2	230	250	236	14	36	0.3	34	40	1.4	10.2	24	44	58
0.0	6.1	3.4	0.53	0.26	3,4,5	7.2	230	250	236	14	36	0.3	34	40	1.4	10.1	24	43	57
0.0	5.8	3.6	0.56	0.30	3,8	7.2	224	240	230	10	30	0.2	28	36	1.6	10.0	21	41	57
0.0	6.8	3.9	0.92	0.35	3,8	7.2	224	240	230	10	30	0.2	28	36	1.3	10.1	26	42	59
0.0	6.5	3.8	0.33	0.51	3,8	7.0	196	220	204	16	30	0.2	28	30	1.3	10.0	25	42	59
0.0	6.8	3.9	0.58	0.23	3,8	7.0	198	226	206	20	34	0.4	30	36	1.5	10.0	19	40	56
0.0		4.1	0.64	0.40	3,8	7.2	210	246	230	16	34	0.3	36	40	1.4	10.0	22	43	58
0.0	7.9	4.1	0.33	0.25	3,8	7.3	216	244	230	14	40	0.3	36	40	1.38	10.0	20	42	58
0.0	7.9	4.2	0.80	0.29	3,8	7.3	220	248	232	16	42	0.4	32	42	1.5	9.9	23	44	58
0.0	7.7	4.1	0.64	0.38	3,8	7.2	216	240	230	10	40	0.3	30	40	1.6	10.2	23	43	59
0.0	6.9	4.1	0.50	0.51	3,8	7.2	216	240	230	10	40	0.3	30	40	1.3	9.9	25	34	58
0.0	6.9	3.9	0.21	0.40	3,8	7.2	216	240	230	10	40	0.3	30	40	1.4	10.1	22	45	59
0.0	7.4	4.3	0.64	0.35	3,8	7.2	220	244	234	10	42	0.4	30	40	1.5	10.1	25	45	58
0.0	7.8	4.8	0.60	0.36	3,8	7.3	228	254	240	14	36	0.3	36	40	1.4	10.2	26	42	57
0.0	8.2	5.3	0.70	0.21	3,8	7.2	230	250	236	14	36	0.2	36	40	1.6	10.1	25	44	59
0.0	8.4	4.8		0.36	3,8	7.3	224	246	230	16	36	0.2	36	40	1.5	10.1	23	42	57
0.0	8.4	4.9	0.71	0.35	3,8	7.3	224	246	230	16	36	0.2		40	1.4	10.2	24	45	57
0.0		5.9	0.96	0.28	3,8	7.3	224	246	230	16	36	0.2	36	40	1.4	10.2	25	48	60
0.0	8.2	4.7	0.62	0.35	3,8	7.1	230	245	230	15	36	0.2	38	40	1.4	10.2	26	45	59
0.0		5.3	0.67	0.21	3,8	7.2	230	250	230	20	38	0.4	36	42	1.4	10.1	17	49	63
0.0	8.4	5.4	0.53	0.28	3,8	7.2	230	252	232	20	36	0.2	36	40	1.5	10.2	22	36	58

0.00	195.92	128.96	18.22	10.54	0.00	223.13	6956.00	7657.00	7218.00	439.00	1142.00	8.27	980.00	1220.00	44.56	313.65	725.00	######	1804.00
0.00	8.40	5.90	0.96	0.56	0.00	7.30	236.00	256.00	246.00	20.00	42.00	0.48	38.00	42.00	1.62	10.40	27.00	50.00	63.00
0.00	4.45	3.25	0.21	0.15	0.00	7.00	196.00	220.00	204.00	10.00	30.00	0.20	28.00	30.00	1.30	9.90	17.00	34.00	56.00
0.00	6.76	4.16	0.61	0.34	#DIV/0!	7.20	224.39	247.00	232.84	14.16	36.84	0.27	32.67	39.35	1.44	10.12	23.39	43.61	58.19

County : Broward
I.D. Number : ######
Year : 2017

A L R E S U L T S

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
49	9.4	10	30	54	46	0.0	3.9	9	0.60	0.39	0.15	0.00	0.0
49	9.4	10	25	57	47	0.0	3.7	8	0.59	0.36	0.12	0.00	0.0
48	9.4	11	27	57	47	0.0	3.6	8	0.55	0.38	0.11	0.00	0.0
47	9.4	12	29	57	47	0.0	3.6	9	0.53	0.35	0.10	0.00	0.0
52	9.2	14	35	57	46	0.0	3.2	9	0.55	0.35	0.11	0.00	0.0
47	9.2	10	26	57	47	0.0	3.2	8	0.53	0.37	0.11	0.00	0.0
48	9.1	8	27	56	45	0.0	3.2	9	0.48	0.38	0.14	0.40	0.0
49	9.4	14	33	58	48	0.0	3.4	8	0.48	0.38	0.11	0.00	0.0
50	9.3	10	29	57	46	0.0	3.5	8	0.45	0.35	0.11	0.00	0.0
48	9.2	10	23	55	46	0.0	3.3	8	0.50	0.32	0.15	0.00	0.0
48	9.2	11	27	56	47	0.0	3.3	10	0.50	0.35	0.11	0.00	0.0
48	9.1	9	24	55	45	0.0	3.3	9	0.50	0.37	0.12	0.00	0.0
47	9.0	7	23	56	46	0.0	2.9	8	0.50	0.38	0.10	0.00	0.0
49	9.2	10	27	55	45	0.0	3.0	9	0.45	0.36	0.11	0.42	0.0
49	9.3	10	28	54	44	0.0	3.4	9	0.60	0.32	0.11	0.00	0.0
46	9.4	10	29	57	47	0.0	3.6	8	0.54	0.39	0.11	0.00	0.0
48	9.3	12	26	57	47	0.0	3.1	8	0.54	0.34	0.10	0.00	0.0
48	9.3	11	26	57	47	0.0	3.3	8	0.53	0.32	0.12	0.00	0.0
50	9.1	9	27	56	46	0.0	2.9	10	0.42	0.37	0.12	0.00	0.0
49	9.1	8	22	58	48	0.0	2.6	8	0.54	0.34	0.12	0.00	0.0
48	9.4	10	28	57	47	0.0	3.0	9	0.53	0.37	0.10	0.00	0.0
49	9.5	12	30	55	45	0.0	3.0	10	0.47	0.36	0.12	0.00	0.0
48	9.3	11	31	57	47	0.0	2.9	10	0.41	0.33	0.12	0.00	0.0
47	9.2	10	26	56	47	0.0	3.0	8	0.51	0.33	0.10	0.00	0.0
49	9.3	12	28	57	47	0.0	3.1	9	0.52	0.36	0.11	0.00	0.0
48	9.3	9	26	55	45	0.0	3.1	9	0.28	0.35	0.11	0.00	0.0
48	9.3	11	26	56	46	0.0	3.1	8	0.28	0.33	0.10	0.00	0.0
49	9.2	11	30	56	46	0.0	3.4	9	0.62	0.34	0.10	0.24	0.5
49	9.2	10	30	56	45	0.0	3.7	9	0.59	0.33	0.10	0.00	0.0
48	9.1	9	27	53	45	0.0	3.4	8	0.55	0.27	0.07	0.00	0.0
52	9.4	12	29	56	46	0.0	3.6	8	0.55	0.32	0.08	0.00	0.0

1504.00	286.99	323.00	854.00	1740.00	1433.00	0.00	101.25	268.00	15.69	10.86	3.44	1.06	0.50
52.00	9.50	14.00	35.00	58.00	48.00	0.00	3.90	10.00	0.62	0.39	0.15	0.42	0.50
46.00	9.00	7.00	22.00	53.00	44.00	0.00	2.60	8.00	0.28	0.27	0.07	0.00	0.00
48.52	9.26	10.42	27.55	56.13	46.23	0.00	3.27	8.65	0.51	0.35	0.11	0.03	0.02

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:

How Many Other Operators? 6

Total Metered Services at End of Month: 11, 13,141

Design Flow: 16MGD

Operator's Names & Cert. No.	
Z BECKFORD	A8226
M HUTCHINSON	A17010
C HUTCHINSON	A17011
INDRAJ SAMLAL	A7282
STNLEY E.BANKS	A17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMI: POUNDS USED						
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G
	1	2	3	4	5	6	7	8			9	10	11	12
November 1, 2017	24	5.050	5.650	400.5	133.5	18	0.267	7376	100	0	352	227	80	12.0
November 2, 2017	24	5.180	5.600	394	157.5	4	0.445	7560	100	0	350	225	66	12.0
November 3, 2017	24	5.000	5.660	360	181.5	21	0.445	7297	100	0	350	225	55	12.0
November 4, 2017	24	6.140	5.470	370.5	199.5	16	0.445	7501	100	0	350	225	75	14.0
November 5, 2017	24	5.630	6.550	248	53	20	0.356	8217	100	0	376	238	69	12.7
November 6, 2017	24	5.110	5.570	287.5	53.5	34	0.356	7458	100	0		260	55	9.4
November 7, 2017	24	5.130	5.440	321	69.5	28.5	0.356	7487	100	0		275	53	12.0
November 8, 2017	24	5.090	5.520	244	70.5	24	0.356	7429	100	0		275	132	10.7
November 9, 2017	24	5.420	5.960	302	73	30	0.445	7910	100	0	325	175	0	13.3
November 10, 2017	24	5.430	5.460	252	54	24	0.445	7925	100	0	330	180	69	12.0
November 11, 2017	24	5.570	5.740	228	63	10	0.445	8129	100	0		285	60	15.1
November 12, 2017	24	5.870	6.060	278	64	24	0.445	8567	100	0		280	100	15.1
November 13, 2017	24	5.540	5.570	254.5	47	27	0.445	8085	100	0		280	100	14.9
November 14, 2017	24	5.180	5.610	330	70.5	24.5	0.178	7560	100	0		260	90	14.9
November 15, 2017	24	5.690	5.770	441.5	87.5	20	0.534	8304	100	0		260	90	12.0
November 16, 2017	24	5.560	5.460	397.5	96	28.5	0.178	8115	100	0		259	100	12.0
November 17, 2017	24	5.310	5.830	305.5	120	10	0.356	7750	100	0		260	100	10.7
November 18, 2017	24	6.470	5.500	334	144	24	0.356	9442	100	0	431	285	114	11.3
November 19, 2017	24	5.100	6.400	346	146	24	0.356	7443	100	0		290	142	23.3
November 20, 2017	24	5.570	5.790	286	86	18	0.356	8129	100	0		280	100	15.6
November 21, 2017	24	5.560	5.740	382	110	18	0.267	8115	100	0		280	125	18.0
November 22, 2017	24	5.560	5.350	388	118	16.5	0.356	8115	100	0		280	118	13.3
November 23, 2017	24	5.570	6.160	371	109.5	29.5	0.267	8129	100	0		280	120	15.4
November 24, 2017	24	5.890	5.960	370	93.5	30.5	0.178	8596	100	0		280	126	13.3
November 25, 2017	24	5.220	5.240	353.3	811	12	0.445	7619	100	0		280	131	17.1
November 26, 2017	24	5.930	6.520	205	60	13	0.445	8654	100	0		290	118	10.4
November 27, 2017	24	5.780	5.900	266	47	24.5	0.267	8436	100	0		280	112	14.4
November 28, 2017	24	5.570	5.640	356.5	70.5	29.5	0.267	8129	100	0		280	110	12.0
November 29, 2017	24	5.310	5.460	292	83.5	30.5	0.178	7750	100	0		280	110.0	12
November 30, 2017	24	5.110	5.300	281	60.5	26	0.267	7458	100	0		260	110	13.3
Total	720.00	164.54	171.88	9645.30	3533.00	659.50	10.50	238685.00	3000.00	0.00	2864.00	7834.00	2830.00	404.16
Max.	24.00	6.47	6.55	441.50	811.00	34.00	0.53	9442.00	100.00	0.00	431.00	290.00	142.00	23.31
Min.	24.00	5.00	5.24	205.00	47.00	4.00	0.18	7297.00	100.00	0.00	325.00	175.00	0.00	9.40
Avg.	24.00	5.48	5.73	321.51	117.77	21.98	0.35	7956.17	100.00	0.00	358.00	261.13	94.33	13.47

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

RAJIV SAMLAL C22878

CALS

DOSAGES							RAW WATER										
Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU
13			14	15	16	17		18	19	20	21	22	23	24	25	26	27
175	2	0	8.4	5.4	0.44	0.28	3,8	7.2	230	252	232	20	36	0.2	36	40	1.4
175	2.3	0.0	8.1	5.2	0.35	0.278	3,8	7.2	236	254	240	14	36	0.3	36	40	1.3
175	2.4	0.0	8.4	5.4	0.30	0.29	3,8	7.2	230	252	240	12	40	0.2	40	38	1.5
146	2.0	0.0	6.8	4.4	0.34	0.27	3,8	7.2	236	256	240	16	40	0.3	36	40	1.5
175	2.1	0.0	8.0	5.1	0.34	0.27	3,8	7.2	236	254	240	16	40	0.3	26		1.3
175	2.3	0.0		6.1	0.30	0.22	3,8	7.2	236	258	240	18	42	0.4	30	42	1.3
175	2.3	0.0		6.4	0.28	0.28	3,8	7.4	230	248	234	14	42	0.3	36	40	1.4
175	2.4	0.0		6.5	0.72	0.25	3,8	7.3	236	254	240	14	40	0.3	30	40	1.4
175	2.2	0.0	7.2	3.9	0.00	0.29	4,5	7.4	244	262	250	12	40	0.3	36	42	1.4
175	2.2	0.0	7.3	4.0	0.35	0.26	4,5	7.4	244	262	250	12	40	0.3	36	40	1.4
175	2.2	0.0		6.1	0.30	0.33	4,5	7.3	240	260	246	14	40	0.3	36	40	1.3
175	2.0	0.0		5.7	0.47	0.31	4,5	7.3	240	262	248	14	42	0.4	24	40	1.36
175	2.2	0.0		6.1	0.50	0.32	4,5	7.2	238	260	246	14	40	0.3	28	40	1.44
175	2.3	0.0		6.0	0.48	0.34	4,5	7.2	240	258	244	14	40	0.3	30	36	1.6
175	2.1	0.0		5.5	0.44	0.25	3,8	7.3	236	260	242	18	40	0.3	30	40	1.6
175	2.2	0.0		5.6	0.50	0.26	3,8	7.3	232	260	242	18	40	0.4	32	30	1.3
175	2.3	0.0		5.9	0.52	0.24	3,8	7.2	240	264	244	20	36	0.3	30	40	1.4
175	1.9	0.0	8.0	5.3	0.49	0.21	3,8	7.2	240	264	244	20	36	0.3	36	40	1.27
175	2.4	0.0		6.8	0.77	0.55	3,8	7.2	240	264	244	20	36		36	40	1.4
175	2.2	0.0		6.0	0.50	0.34	3,8	7.2	242	260	240	20	38	0.4	34	40	1.3
175	2.2	0.0		6.0	0.62	0.39	3,8	7.2	236	254	240	14	36	0.3	36	40	1.3
175	2.2	0.0		6.0	0.59	0.29	3,6	7.2	240	260	244	16	36	0.3	40	40	1.3
175	2.2	0.0		6.0	0.59	0.33	3,6	7.2	244	268	250	18	36	0.3	40	38	1.4
175	2.0	0.0		5.7	0.59	0.27	3,6	7.2	240	260	246	14	36	0.3	40	40	1.5
175	2.3	0.0		6.4	0.69	0.39	3,6	7.2	234	256	240	16	36	0.3	30	40	1.4
175	2.0	0.0		5.9	0.55	0.21	3,6	7.0	228	246	230	16	40	0.2	36	45	1.5
175	2.1	0.0		5.8	0.53	0.30	5,6	7.1	228	250	234	16	34	0.4	28	42	1.3
175	2.2	0.0		6.0	0.54	0.26	3,6	7.3	230	250	236	14	36	0.3	30	40	1.5
175	2.3	0.0		6.3	0.57	0.27	3,6	7.2	236	254	240	14	36	0.3	36	40	1.4
175	2.3	0.0		6.1	0.59	0.31	3,6	7.2	236	254	240	14	36	0.3	36	40	1.4
5221.48	65.84	0.00	62.16	171.66	14.23	8.87	0.00	216.90	7098.00	7716.00	7246.00	472.00	1146.00	8.67	1010.00	1153.00	41.66
175.13	2.40	0.00	8.39	6.82	0.77	0.55	0.00	7.40	244.00	268.00	250.00	20.00	42.00	0.40	40.00	45.00	1.62
146.48	1.85	0.00	6.83	3.87	0.00	0.21	0.00	7.00	228.00	246.00	230.00	12.00	34.00	0.20	24.00	30.00	1.26
174.05	2.19	0.00	7.77	5.72	0.47	0.30	#DIV/0!	7.23	236.60	257.20	241.53	15.73	38.20	0.30	33.67	39.76	1.39

County : Broward
I.D. Number : ######
Year : 2017

CHEMICAL AND PHYSICAL RESULTS

SETTLED WATER					FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
10.2	23	43	57	48	9.4	11	26	56	47	0.0	3.6	8	0.53	0.34	0.08	0.00	0.0
10.1	22	40	57	46	9.3	12	27	56	46	0.0	3.6	8	0.44	0.31	0.08	0.00	0.0
10.1	22	42	57	48	9.3	11	27	58	48	0.0	3.5	8	0.41	0.29	0.08	0.00	0.0
10.1	20		56	45	9.1	10	27	56	46	0.0	3.1	9	0.41	0.33	0.08	0.00	0.0
10.2	26	49	58	46	9.4	9	29	54	45	0.0	3.2	9	0.40	0.30	0.10	0.00	0.0
10.3	26	48	56	46	9.2	9	31	57	46	0.0	3.1	9	0.45	0.26	0.07	0.00	0.0
10.1	24	43	58	48	9.4	12	29	56	46	0.0	3.3	9	0.43	0.30	0.11	0.68	0.0
10.2	23	43	57	47	9.3	10	29	56	46	0.0	3.3	9	0.38	0.30	0.10	0.58	0.0
10.1	25	43	58	49	9.2	11	27	55	46	0.0	3.1	8	0.39	0.33	0.09	0.00	0.0
10.1	24	44	58	48	9.5	13	33	58	48	0.0	2.8	8	0.41	0.30	0.09	0.88	0.5
10.2	25	47	59	48	9.5	12	35	56	46	0.0	3.4	9	0.87	0.37	0.13	0.18	0.0
10.0	21	47	58	48	9.5	13	34	56	46	0.0	3.8	9	0.73	0.32	0.11	0.21	0.0
10.0	20	45	56	46	9.3	9	33	58	47	0.0	3.4	8	0.62	0.33	0.11	0.74	0.0
10.0	19	44	57	48	9.3	11	23	57	47	0.0	3.6	8	0.56	0.31	0.10	0.24	0.1
9.1	21	40	57	47	9.2	10	25	56	46	0.0	3.4	9	0.56	0.32	0.10	0.92	0.8
10.1	24	46	56	48	9.2	11	28	56	46	0.0	3.2	9	0.58	0.35	0.10	0.52	0.7
10.1	24	43	58	48	9.5	13	32	57	48	0.0	3.4	9	0.58	0.30	0.10	0.84	0.1
10.1	23	47	57	47	9.5	12	37	57	47	0.0	3.6	9	0.56	0.32	0.10	0.96	0.0
10.0	20	45	55	46	9.2	9	32	54	44	0.0	3.2	9	0.58	0.32	0.10	0.78	0.0
10.2	23	44	58	47	9.2	9	29	55	45	0.0	3.2	8	0.57	0.35	0.10	0.47	0.6
10.2	23	42	56	40	9.2	11	28	58	48	0.0	3.3	8	0.57	0.34	0.10	0.60	1.5
10.2	25	47	60	48	9.2	10	28	56	46	0.0	3.1	9	0.58	0.38	0.10	0.47	1.2
10.1	23	43	57	47	9.3	10	29	56	45	0.0	3.4	8	0.57	0.32	0.10	0.57	0.4
10.2	21	41	56	46	9.3	12	29	56	46	0.0	3.5	8	0.57	0.32	0.10	0.53	0.3
10.2	24	44	58	48	9.0	8	32	56	46	0.0	3.0	10	0.61	0.36	0.12	0.34	0.0
10.0	24	46	60	50	9.2	10	30	57	47	0.0	3.2	9	0.62	0.36	0.11	0.51	0.0
10.1	22	48	59	49	9.3	11	32	57	46	0.0	3.6	8	0.58	0.34	0.11	0.63	0.0
10.0	21	41	57	47	9.2	11	28	57	47	0.0	3.2	8	0.58	0.31	0.10	0.48	1.2
10.2	22	43	56	47	9.2	11	26	56	46	0.0	3.3	9	0.58	0.31	0.10	0.43	1.8
10.1	23	43	57	47	9.3	10	25	56	45	0.0	3.2	8	0.58	0.32	0.10	0.50	0.2
302.60	683.00	1281.00	1719.00	1413.00	278.60	321.00	880.00	1689.00	1388.00	0.00	99.60	257.00	16.30	9.71	2.97	13.06	9.40
10.30	26.00	49.00	60.00	50.00	9.50	13.00	37.00	58.00	48.00	0.00	3.80	10.00	0.87	0.38	0.13	0.96	1.80
9.10	19.00	40.00	55.00	40.00	9.00	8.00	23.00	54.00	44.00	0.00	2.80	8.00	0.38	0.26	0.07	0.00	0.00
10.09	22.77	44.17	57.30	47.10	9.29	10.70	29.33	56.30	46.27	0.00	3.32	8.57	0.54	0.32	0.10	0.44	0.31

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

		Z BECKFORD	A8226
		M HUTCHINSON	A17010
Lead Operator Signature:	**Operator's Names & Cert. No.**	C HUTCHINSON	A17011
		INDRAJ SAMLAL	A7282
How Many Other Operators?	6	STNLEY E.BANKS	A17017
	Total Metered Services at End of Month: 13,141	KERRY ROMAN	C7873
Design Flow:	16MGD	R.RAMNARINE	C12091
		H.RODRIGUEZ	C19220

RAJIV SAM

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
December 1, 2017	24	5.130	5.920	265	81.5	18	0.356	7487	100	0		280	100	12.0	175
December 2, 2017	24	5.650	5.150	146	79	13	0.356	8246	100	0		280	114	12.6	175
December 3, 2017	24	5.820	6.460	253	94	22	0.356	8494	100	0		290	150	12.7	175
December 4, 2017	24	6.050	5.920	263	60	31.5	0.267	8830	100	0		293	206	15.8	175
December 5, 2017	24	5.730	5.660	286.5	84	28	0.178	8363	100	0		291	112	12.0	175
December 6, 2017	24	5.520	5.690	325.5	108	31.5	0.267	8056	100	0		280	108	10.7	175
December 7, 2017	24	5.560	5.540	362	118	30	0.356	8150	100	0	390	250	111	16.4	176
December 8, 2017	24	5.540	5.800	200.5	46	21	0.356	8085	100	0	390	250	116	12.0	175
December 9, 2017	24	5.430	5.570	191.5	60	25.5	0.356	7925	100	0	380	240	128	5.4	175
December 10, 2017	24	5.410	6.200	209	54	15	0.356	7896	100	0	345	205	118	14.2	175
December 11, 2017	24	5.600	5.730	231.5	50.5	26	0.267	8173	100	0	343	203	118	13.2	175
December 12, 2017	24	5.550	5.830	289	74.5	30.5	0.178	8100	100	0	350	210	120	12.0	175
December 13, 2017	24	5.560	5.730	361	98.5	26.5	0.178	8115	100	0	357	217	120	13.3	175
December 14, 2017	24	5.210	5.580	440	118	23	0.267	7604	100	0	370	230	116	13.8	175
December 15, 2017	24	5.950	5.950	303.5	123	17.5	0.534	8684	100	0	380	240	120	14.9	175
December 16, 2017	24	5.640	5.350	161.3	43	11.8	0.356	8232	100	0	380	240	125	13.9	175
December 17, 2017	24	6.200	6.900	171	44	16	0.445	9048	100	0	290	150	140	13.7	175
December 18, 2017	24	5.910	5.840	231.5	62	19	0.267	8625	100	0	280	140	104	12.0	175
December 19, 2017	24	5.970	6.160	287	66.5	28.5	0.267	8713	100	0	280	140	109	11.7	175
December 20, 2017	24	5.980	5.930	277	95	24.5	0.267	8728	100	0	280	140	113	14.6	175
December 21, 2017	24	5.800	6.120	307	116.5	14	0.445	8465	100	0	290	150	125	12.0	175
December 22, 2017	24	5.990	6.000	261.5	85	14	0.356	8742	100	0	285	138	120	18.0	175
December 23, 2017	24	6.100	6.340	285	74	14	0.445	8903	100	0	275	135	140	13.3	175
December 24, 2017	24	5.800	6.040	327	79	27	0.267	8465	100	0	280	140	155	12.6	175
December 25, 2017	24	6.150	6.070	308.5	63	31	0.178	8976	100	0	275	140	110	12.0	175
December 26, 2017	24	5.860	5.720	422.5	87	22.5	0.089	8550	100	0	275	135	122	12.0	175
December 27, 2017	24	5.970	6.300	540.5	105	31.5	0.267	8713	100	0	275	135	114	16.0	175
December 28, 2017	24	5.970	5.960	455.5	122.5	28.5	0.356	8713	100	0	275	135	120	12.0	175
December 29, 2017	24	5.940	6.140	402	125	26.5	0.356	8669	100	0	275	135	133.0	15	175
December 30, 2017	24	6.850	5.840	262	59	29	0.445	9997	100	0	278	138	139	12.4	175
December 31, 2017	24	5.760	6.540	230	55	14	0.356	8406	100	0	280	140	150	14.6	175
Total	744.00	179.60	183.98	9056.30	2530.50	710.80	9.79	262153.00	3100.00	0.00	7878.00	6090.00	3876.00	406.83	5425.59
Max.	24.00	6.85	6.90	540.50	125.00	31.50	0.53	9997.00	100.00	0.00	390.00	293.00	206.00	18.00	175.76
Min.	24.00	5.13	5.15	146.00	43.00	11.80	0.09	7487.00	100.00	0.00	275.00	135.00	100.00	5.39	174.95
Avg.	24.00	5.79	5.93	292.14	81.63	22.93	0.32	8456.55	100.00	0.00	315.12	196.45	125.03	13.12	175.02

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

MLAL C22878

CHEMICAL AND PHYSIC

DOSAGES						RAW WATER										SETTLED WATER				
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	0		6.5	0.54	0.28	3,6	7.2	230	250	236	14	36	0.3	30	40	2.7	10.1	26	43	58
2.1	0.0		5.9	0.56	0.267	3,6	7.2	236	254	238	16	36	0.3	36	40	1.6	9.9	22	41	58
2.1	0.0		6.0	0.71	0.26	3,6	7.2	238	258	240	18	38	0.4	28	42	1.4	10.2	24	41	58
2.0	0.0		5.8	0.94	0.31	3,6	7.2	236	258	242	16	38	0.4	28	42	1.4	10.2	26	43	58
2.1	0.0		6.1	0.54	0.25	3,6	7.2	236	258	246	12	38	0.3	36	40	1.4	10.2	25	43	58
2.2	0.0		6.1	0.54	0.23	3,6	7.2	236	248	246	12	38	0.3	36	40	1.4	10.1	25	46	58
2.2	0.0	8.4	5.4	0.55	0.35	6,8	7.3	240	260	244	16	40	0.3	36	40	1.1	10.0	23	42	58
2.2	0.0	8.4	5.4	0.58	0.26	6,8	7.3	240	260	244	16	40	0.3	36	40	1.4	10.3	25	46	58
2.2	0.0	8.4	5.3	0.65	0.12	6,8	7.2	240	260	244	16	40	0.3	36	40	1.4	10.1	23	46	57
2.2	0.0	7.6	4.5	0.60	0.32	6,8	7.2	240	260	244	16	26	0.3	32	40	1.2	10.1	23	44	58
2.1	0.0	7.3	4.3	0.58	0.28	6,8	7.2	240	264	244	20	28	0.3	30	42	1.4	10.1	20	43	57
2.2	0.0	7.6	4.5	0.60	0.26	6,8	7.2	234	256	240	16	36	0.3	30	40	1.4	10.1	22	38	58
2.2	0.0	7.7	4.7	0.60	0.29	6,8	7.3	240		246	14	36	0.2	36	40	1.3	10.0	22	38	57
2.3	0.0	8.5	5.3	0.61	0.32	4,8	7.3	240	260	246	14	36	0.3	36	40	1.2	9.9	22	39	58
2.0	0.0	7.7	4.8	0.56	0.30	4,8	7.3	236	260	246	14	36	0.3	36	40	1.4	10.0	21	43	59
2.1	0.0	8.1	5.1	0.61	0.30	4,8	7.2	240	260	246	14	36	0.3	40	40	1.2	10.1	26	48	59
1.9	0.0	5.6	2.9	0.62	0.26	4,8	7.3	210	225	215	10	40	0.2	37	34	1.3	10.3	26	48	59
2.0	0.0	5.7	2.8	0.49	0.24	3,4,5	7.3	212	240	230	10	40	0.3	30	36	1.4	10.1	24	45	58
2.0	0.0	5.6	2.8	0.50	0.23	3,4,5	7.3	220	244	230	14	38	0.3	30	36	1.3	10.0	22	41	55
2.0	0.0	5.6	2.8	0.52	0.29	3,4,5	7.3	220	244	230	14	38	0.3	30	36	1.3	10.3	24	45	57
2.1	0.0	6.0	3.1	0.59	0.25	4,6	7.3	232	254	240	14	36	0.3	30	40	1.3	10.2	22	45	59
2.0	0.0	5.7	2.8	0.55	0.36	4,6	7.2	230	250	236	14	36	0.2	34	40	1.4	10.1	26	47	58
2.0	0.0	5.4	2.7	0.63	0.26	4,6	7.2	230	250	236	14	36	0.2	34	40	1.4	10.0	22	42	56
2.1	0.0	5.8	2.9	0.74	0.26	4,6	7.2	230	250	236	14	36	0.2	34	40	1.4	10.0	22	39	57
1.9	0.0	5.4	2.7	0.49	0.23	4,6	7.2	234	258	244	14	38	0.3	30	42	1.4	10.0	23	36	58
2.0	0.0	5.6	2.8	0.57	0.25	4,6	7.2	234	258	244	14	38	0.3	30	42	1.4	10.2	27	44	57
2.0	0.0	5.5	2.7	0.53	0.32	4,6	7.3	240	258	246	12	36	0.3	36	40	1.5	10.2	24	43	58
2.0	0.0	5.5	2.7	0.55	0.24	4,6	7.3	240	258	246	12	36	0.3	36	40	1.2	10.1	22	42	55
2.0	0.0	5.6	2.7	0.62	0.30	4,6	7.3	240	258	246	12	36	0.3	36	40	1.4	10.1	22	43	56
1.8	0.0	4.9	2.4	0.56	0.22	4,6	7.3	240	258	246	12	36	0.3	36	40	1.4	10.1	22	43	57
2.1	0.0	6.0	2.9	0.72	0.30	4,6	7.2	240	256	246	10	36	0.3	34	40	1.3	10.1	21	41	58

64.35	0.00	163.62	127.62	18.45	8.43	0.00	224.60	7254.00	7627.00	7463.00	434.00	1134.00	8.78	1039.00	1232.00	43.16	313.17	724.00	1328.00	1785.00
2.34	0.00	8.52	6.54	0.94	0.36	0.00	7.30	240.00	264.00	246.00	20.00	40.00	0.38	40.00	42.00	2.70	10.30	27.00	48.00	59.00
1.75	0.00	4.87	2.42	0.49	0.12	0.00	7.20	210.00	225.00	215.00	10.00	26.00	0.24	28.00	34.00	1.12	9.90	20.00	36.00	55.00
2.08	0.00	6.54	4.12	0.60	0.27	#DIV/0!	7.25	234.00	254.23	240.74	14.00	36.58	0.28	33.52	39.74	1.39	10.10	23.35	42.84	57.58

County : Broward
I.D. Number : ######
Year : 2017

CAL RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
49	9.3	11	28	56	46	0.0	3.1	8	0.58	0.32	0.10	0.64	0.2
48	9.0	11	33	57	47	0.0	3.2	9	0.59	0.38	0.10	0.35	0.0
48	9.3	11	31	58	48	0.0	3.4	9	0.51	0.35	0.12	0.63	0.0
48	9.2	11	32	57	47	0.0	3.3	8	0.65	0.32	0.11	0.54	0.0
49	9.2	12	31	58	47	0.0	3.5	8	0.61	0.33	0.10	0.43	0.1
48	8.6	6	24	55	45	0.0	3.0	9	0.61	0.37	0.11	0.21	0.2
50	8.9	6	23	55	44	0.0	2.9	9	0.59	0.31	0.10	0.05	0.0
48	9.4	12	30	57	47	0.0	3.2	8	0.58	0.34	0.10	0.71	0.0
49	9.3	11	31	58	49	0.0	3.5	9	0.61	0.34	0.09	0.70	0.0
48	9.3	10	29	55	46	0.0	3.8	9	0.67	0.35	0.12	0.58	0.0
47	9.2	8	29	55	45	0.0	3.7	8	0.56	0.35	0.11	0.48	0.0
48	9.1	10	24	57	47	0.0	3.6	8	0.56	0.34	0.11	0.30	0.0
48	9.3	11	25	57	47	0.0	3.6	8	0.63	0.32	0.10	0.52	0.0
48	8.8	8	23	54	44	0.0	3.1	9	0.61	0.32	0.11	0.05	0.0
49	9.3	12	29	58	48	0.0	3.3	9	0.60	0.33	0.15	0.61	0.0
50	9.1	10	29	55	46	0.0	3.0	10	0.56	0.35	0.12	0.34	0.0
47	8.6	3	23	50	46	0.0	3.1	9	0.52	0.36	0.12	0.23	0.0
49	9.4	11	24	57	47	0.0	3.8	9	0.54	0.31	0.11	0.60	0.0
46	9.3	11	23	57	47	0.0	3.5	9	0.56	0.32	0.10	0.58	0.0
47	9.4	12	30	57	46	0.0	3.8	9	0.53	0.32	0.11	0.70	0.0
49	9.4	11	29	57	46	0.0	3.8	9	0.54	0.34	0.10	0.69	0.0
48	9.3	13	29	58	48	0.0	3.7	8	0.52	0.32	0.10	0.61	0.0
46	9.2	10	24	56	47	0.0	3.4	8	0.53	0.32	0.10	0.40	0.0
47	9.2	10	29	58	48	0.0	3.6	9	0.49	0.35	0.11	0.50	0.0
50	9.2	11	28	57	47	0.0	3.7	8	0.46	0.31	0.10	0.48	0.1
47	9.2	11	25	56	46	0.0	3.5	9	0.48	0.30	0.10	0.41	0.1
48	9.4	14	34	57	47	0.0	3.4	8	0.54	0.34	0.10	0.75	0.0
45	9.3	12	29	56	46	0.0	3.7	8	0.55	0.35	0.10	0.59	0.1
46	9.4	13	31	58	48	0.0	3.7	8	0.55	0.34	0.10	0.70	0.1
46	9.3	11	29	55	45	0.0	3.6	8	0.57	0.35	0.12	0.64	0.0
48	9.4	10	31	56	47	0.0	3.8	8	0.56	0.35	0.11	0.75	0.0

1484.00	285.25	323.00	869.00	1747.00	1444.00	0.00	107.25	265.00	17.46	10.40	3.33	15.77	0.90
50.00	9.40	14.00	34.00	58.00	49.00	0.00	3.80	10.00	0.67	0.38	0.15	0.75	0.20
45.00	8.60	3.00	23.00	50.00	44.00	0.00	2.90	8.00	0.46	0.30	0.09	0.05	0.00
47.87	9.20	10.42	28.03	56.35	46.58	0.00	3.46	8.55	0.56	0.34	0.11	0.51	0.03

2018 MONTHLY OPERATING REPORT
YEAR SUMMARY

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS									
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED									
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
				Total	Max	Min											
Jan-18																	
Max.	24.00	6.12	6.71	587.50	1265.00	51.50	0.89	8932.00	100.00	0.00	314.00	160.00	214.00	18.38	175.60	2.31	0.00
Min.	24.00	5.20	5.18	79.00	32.00	5.00	0.18	7589.00	100.00	0.00	150.00	120.00	100.00	9.10	174.98	1.96	0.00
Avg.	24.00	5.65	5.84	265.78	111.55	24.81	0.30	8247.26	100.00	0.00	290.32	146.81	120.35	12.77	175.01	2.13	0.00
Feb-18																	
Max.	24.00	6.43	6.81	270.00	311.00	43.00	0.36	9384.00	100.00	0.00	340.00	300.00	186.00	18.72	175.01	2.19	0.00
Min.	24.00	5.32	5.62	74.30	24.00	13.00	0.09	7764.00	0.00	0.00	280.00	150.00	100.00	6.99	174.98	0.00	0.00
Avg.	24.00	5.78	6.09	150.32	65.36	23.96	0.24	8438.82	71.43	0.00	303.90	182.93	120.64	13.08	175.00	1.49	0.00
Mar-18																	
Max.	24.00	6.42	7.28	203.50	92.50	42.00	0.36	9370.00	100.00	0.00	300.00	200.00	150.00	16.80	175.29	2.11	0.00
Min.	24.00	5.69	5.51	54.00	21.00	5.00	0.09	8304.00	0.00	0.00	200.00	150.00	60.00	8.10	169.71	0.00	0.00
Avg.	24.00	6.07	6.27	146.08	54.45	21.80	0.25	8851.84	90.32	0.00	225.93	164.68	115.35	13.83	174.83	1.79	0.00
Apr-18																	
Max.	24.00	6.82	6.85	685.00	162.00	57.50	0.45	9954.00	100.00	0.00	250.00	220.00	156.00	18.00	177.24	2.31	0.00
Min.	24.00	5.18	5.79	99.00	36.00	13.00	0.00	7560.00	100.00	0.00	150.00	140.00	28.00	9.60	174.98	1.76	0.00
Avg.	24.00	6.15	6.26	305.76	85.73	26.19	0.24	8976.83	100.00	0.00	210.87	195.20	103.57	13.59	175.11	1.97	0.00
May-18																	
Max.	24.00	5.90	8.81	514.00	93.00	39.50	0.45	8611.00	100.00	0.00	260.00	230.00	190.00	18.00	175.01	2.53	0.00
Min.	24.00	4.74	5.18	310.00	50.50	19.50	0.09	6918.00	100.00	0.00	200.00	130.00	112.00	10.40	174.17	2.03	0.00
Avg.	24.00	5.51	5.99	420.48	72.24	30.23	0.27	8039.97	100.00	0.00	225.06	204.71	129.20	14.74	174.97	2.18	0.00
Jun-18																	
Max.	24.00	6.09	6.84	559.50	102.00	44.00	0.45	8888.00	100.00	0.00	275.00	280.00	150.00	21.10	191.31	2.56	0.00
Min.	24.00	4.68	5.16	336.00	57.00	25.00	0.06	6830.00	100.00	0.00	200.00	220.00	100.00	8.90	174.98	1.97	0.00
Avg.	24.00	5.47	5.86	439.86	80.03	31.83	0.25	8015.13	100.00	0.00	226.83	245.53	128.67	15.24	175.59	2.20	0.00
Jul-18																	
Max.	24.00	6.17	6.60	563.00	116.00	41.00	0.37	9005.00	100.00	0.00	240.00	356.00	150.00	19.60	175.02	2.34	0.00
Min.	24.00	5.13	5.45	361.50	58.50	20.00	0.09	7339.00	100.00	0.00	200.00	240.00	120.00	10.30	170.21	1.94	0.00
Avg.	24.00	5.52	5.91	447.76	80.27	30.29	0.26	8042.48	100.00	0.00	223.77	281.61	132.23	15.04	174.84	2.18	0.00
Aug-18																	
Max.	24.00	5.97	6.86	664.00	116.00	55.00	0.45	8713.00	100.00	0.00	220.00	332.00	150.00	19.60	175.01	2.46	0.00
Min.	24.00	4.87	5.42	298.00	49.00	10.00	0.08	7108.00	100.00	0.00	200.00	268.00	120.00	12.48	167.28	2.01	0.00
Avg.	24.00	5.55	5.96	442.35	83.14	28.47	0.27	8076.29	100.00	0.00	215.32	304.81	131.48	15.70	174.45	2.16	0.00
Sep-18																	
Max.	24.00	6.01	6.75	567.00	144.00	45.00	0.45	8772.00	100.00	0.00	210.00	280.00	170.00	18.00	191.01	2.42	0.00
Min.	24.00	4.95	5.47	323.50	36.00	13.00	0.09	7268.00	100.00	0.00	190.00	230.00	128.00	10.10	169.98	2.00	0.00
Avg.	24.00	5.37	5.82	427.79	80.67	28.62	0.27	7862.27	100.00	0.00	200.57	249.47	146.37	14.78	175.44	2.24	0.00
Oct-18																	
Max.	24.00	6.41	7.00	621.00	125.00	36.00	26.50	9355.00	100.00	0.00	210.00	308.00	200.00	25.60	175.04	2.27	0.00
Min.	24.00	5.28	5.34	5.34	44.00	19.00	0.17	990.00	100.00	0.00	190.00	220.00	130.00	12.00	19.27	1.87	0.00
Avg.	24.00	5.90	6.22	410.69	83.39	26.85	1.16	8307.58	100.00	0.00	197.97	263.42	156.58	16.66	169.18	2.04	0.00
Nov-18																	
Max.	24.00	6.65	6.80	637.00	138.00	58.00	0.45	9706.00	100.00	0.00	260.00	300.00	200.00	22.56	175.21	2.21	0.00
Min.	24.00	5.43	5.67	218.00	53.00	3.00	0.09	7925.00	100.00	0.00	180.00	220.00	120.00	9.12	174.98	1.80	0.00
Avg.	24.00	5.86	6.16	451.40	89.98	29.35	0.27	8557.77	100.00	0.00	214.60	255.23	163.83	16.85	175.00	2.05	0.00
Dec-18																	
Max.	24.00	6.52	6.90	683.30	132.00	54.50	0.45	9180.00	100.00	0.00	350.00	272.00	190.00	21.00	175.01	2.24	0.00
Min.	24.00	5.36	5.62	355.00	65.50	23.50	0.18	7822.00	100.00	0.00	250.00	140.00	130.00	12.00	159.52	1.84	0.00
Avg.	24.00	5.92	6.25	474.39	92.28	31.08	0.26	8612.84	100.00	0.00	287.39	165.68	153.29	16.95	174.50	2.03	0.00
2018 Totals																	
Max.	24.00	6.82	8.81	685.00	1265.00	58.00	26.50	9954.00	100.00	0.00	350.00	356.00	214.00	25.60	191.31	2.56	0.00
Min.	24.00	4.68	5.16	5.34	21.00	3.00	0.00	990.00	0.00	0.00	150.00	120.00	28.00	6.99	19.27	0.00	0.00
Avg.	24.00	5.73	6.05	365.22	81.59	27.79	0.34	8335.76	96.81	0.00	235.21	221.67	133.46	14.94	174.49	2.04	0.00

CHEMICAL AND PHYSICAL RESULT

DOSAGES				RAW WATER										SETTLED WATER						
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
6.92	3.61	1.05	0.38	0.00	7.30	244.00	264.00	250.00	22.00	40.00	0.35	38.00	42.00	1.48	10.30	28.00	48.00	60.00	50.00	9.55
3.09	2.39	0.48	0.21	0.00	7.10	220.00	234.00	216.00	10.00	30.00	0.20	24.00	38.00	1.24	9.90	20.00	34.00	53.00	43.00	9.00
6.17	3.12	0.59	0.27	#DIV/0!	7.21	234.90	253.55	239.03	14.52	36.13	0.27	33.23	40.00	1.36	10.08	22.87	42.23	57.19	47.61	9.25
7.10	6.46	0.88	0.38	0.00	7.40	242.00	262.00	246.00	18.00	40.00	0.36	40.00	42.00	1.78	10.40	33.00	48.00	60.00	50.00	9.70
5.52	2.96	0.45	0.14	0.00	7.20	184.00	220.00	210.00	10.00	28.00	0.11	30.00	36.00	1.30	9.80	20.00	38.00	47.00	45.00	7.50
6.37	3.79	0.58	0.27	#DIV/0!	7.26	230.68	254.57	239.21	15.07	34.25	0.26	34.39	39.93	1.44	10.10	23.21	42.43	56.75	47.14	8.95
6.32	4.04	0.70	0.34	0.00	7.40	234.00	260.00	240.00	25.00	38.00	0.30	36.00	44.00	1.50	10.40	27.00	48.00	59.00	50.00	9.50
3.74	2.80	0.27	0.17	0.00	7.10	180.00	210.00	185.00	10.00	30.00	0.26	28.00	34.00	1.28	9.80	19.00	37.00	53.00	42.00	9.10
4.47	3.25	0.53	0.27	#DIV/0!	7.23	221.42	246.77	229.84	16.94	33.74	0.28	30.45	39.68	1.36	10.02	21.68	42.13	55.90	46.23	9.37
4.82	5.09	0.75	0.37	0.00	7.40	240.00	260.00	240.00	36.00	38.00	0.40	40.00	42.00	1.98	10.10	24.00	46.00	64.00	54.00	9.50
2.83	2.71	0.14	0.20	0.00	7.10	180.00	210.00	190.00	10.00	18.00	0.19	26.00	36.00	1.34	9.90	17.00	38.00	26.00	45.00	9.00
4.12	3.83	0.47	0.27	#DIV/0!	7.29	213.27	242.48	223.87	18.47	28.80	0.29	32.60	39.67	1.54	9.99	20.93	42.57	57.03	47.90	9.32
6.19	5.57	0.91	0.43	0.00	7.50	230.00	250.00	230.00	20.00	30.00	0.38	36.00	42.00	1.95	10.20	25.00	54.00	60.00	51.00	9.50
4.23	3.09	0.00	0.00	0.00	7.20	218.00	236.00	218.00	10.00	18.00	0.26	28.00	36.00	1.30	9.90	19.00	39.00	55.00	45.00	8.80
4.92	4.47	0.63	0.31	#DIV/0!	7.32	224.52	243.42	228.00	15.42	22.06	0.31	30.26	39.94	1.50	10.06	21.61	43.61	57.77	47.97	9.23
6.15	6.15	0.80	0.44	0.00	7.40	226.00	250.00	236.00	30.00	30.00	0.40	36.00	40.00	2.10	10.30	27.00	54.00	59.00	49.00	9.50
4.06	4.73	0.52	0.20	0.00	7.20	208.00	234.00	220.00	14.00	16.00	0.26	28.00	30.00	1.40	10.00	22.00	38.00	53.00	45.00	8.60
4.99	5.39	0.65	0.33	#DIV/0!	7.34	221.07	242.93	225.60	17.73	23.27	0.30	30.33	39.53	1.62	10.15	23.20	44.17	57.00	47.30	9.16
5.35	7.27	0.75	0.43	0.00	7.40	224.00	248.00	234.00	18.00	20.00	0.40	36.00	40.00	2.10	10.20	27.00	50.00	61.00	51.00	9.60
4.17	5.07	0.58	0.23	0.00	7.20	216.00	230.00	220.00	14.00	18.00	0.26	30.00	40.00	1.38	9.80	18.00	37.00	56.00	45.00	9.00
4.87	6.13	0.66	0.33	#DIV/0!	7.33	219.29	242.19	227.29	15.29	19.61	0.32	31.10	40.00	1.68	10.02	21.74	42.06	57.48	47.68	9.30
5.42	7.39	0.84	0.42	0.00	7.40	250.00	260.00	240.00	20.00	20.00	0.38	36.00	40.00	2.48	10.20	28.00	47.00	59.00	50.00	9.50
4.23	5.90	0.60	0.27	0.00	7.30	224.00	226.00	232.00	14.00	18.00	0.26	30.00	40.00	1.50	9.80	18.00	37.00	56.00	46.00	8.90
4.66	6.59	0.66	0.34	#DIV/0!	7.35	227.48	250.39	235.55	15.42	19.55	0.31	30.84	40.00	1.77	9.98	21.74	41.74	57.35	47.58	9.21
5.01	6.74	0.87	0.43	0.00	7.40	236.00	254.00	250.00	20.00	20.00	0.34	36.00	40.00	2.40	10.40	25.00	49.00	64.00	54.00	9.40
3.99	4.94	0.64	0.24	0.00	7.20	218.00	224.00	220.00	14.00	18.00	0.27	30.00	40.00	0.90	9.80	18.00	33.00	26.00	44.00	8.90
4.48	5.58	0.75	0.33	#DIV/0!	7.30	226.53	247.33	231.73	17.00	18.40	0.30	31.07	40.00	1.49	10.02	21.53	41.30	56.27	47.30	9.22
4.54	6.09	0.93	0.49	0.00	7.50	232.00	262.00	244.00	20.00	22.00	0.30	30.00	40.00	1.27	10.20	24.00	45.00	58.00	51.00	9.40
3.70	4.76	0.64	0.24	0.00	7.20	228.00	256.00	238.00	16.00	18.00	0.27	25.00	40.00	0.70	9.70	19.00	37.00	54.00	44.00	9.10
4.03	5.35	0.73	0.34	#DIV/0!	7.25	230.19	259.94	240.06	19.81	18.84	0.29	29.42	40.00	1.03	9.97	20.94	39.97	56.61	46.84	9.27
5.43	6.32	1.02	0.41	0.00	7.40	232.00	262.00	240.00	22.00	20.00	0.30	32.00	40.00	1.33	10.10	26.00	48.00	60.00	51.00	9.50
3.71	4.33	0.58	0.18	0.00	7.30	228.00	230.00	230.00	20.00	18.00	0.27	28.00	40.00	0.80	9.50	17.00	37.00	55.00	45.00	9.00
4.39	5.22	0.77	0.34	#DIV/0!	7.30	230.00	258.93	239.67	20.07	18.27	0.29	29.93	40.00	1.00	9.92	20.77	40.30	57.03	47.03	9.26
6.80	5.63	0.84	0.41	0.00	7.30	244.00	264.00	244.00	22.00	20.00	0.30	30.00	42.00	2.30	10.10	23.00	45.00	60.00	49.00	9.50
4.96	2.69	0.63	0.24	0.00	7.20	230.00	258.00	240.00	18.00	18.00	0.27	28.00	36.00	0.70	9.70	18.00	36.00	48.00	40.00	8.90
5.83	3.35	0.71	0.34	#DIV/0!	7.26	239.03	262.13	242.19	20.00	18.52	0.29	29.81	39.68	0.96	9.90	20.58	40.29	56.68	46.68	9.25
7.10	7.39	1.05	0.49	Max	7.50	250.00	264.00	250.00	36.00	40.00	0.40	40.00	44.00	2.48	10.40	33.00	54.00	64.00	54.00	9.70
2.83	2.39	0.00	0.00	Min	7.10	180.00	210.00	185.00	10.00	16.00	0.11	24.00	30.00	0.70	9.50	17.00	33.00	26.00	40.00	7.50
4.94	4.67	0.64	0.31	Avg	7.29	226.53	250.39	233.50	17.14	24.29	0.29	31.12	39.87	1.40	10.02	21.73	41.90	56.92	47.27	9.23

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FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
13.00	34.00	59.00	49.00	0.00	3.75	10.00	0.61	0.40	0.25	0.92	1.00
9.00	21.00	44.00	35.00	0.00	2.50	8.00	0.49	0.28	0.08	0.00	0.00
10.65	27.26	55.81	46.00	0.00	3.40	8.48	0.55	0.33	0.12	0.49	0.13
17.00	35.00	59.00	49.00	4.30	5.20	10.00	0.58	0.40	0.18	1.43	0.90
5.00	19.00	54.00	36.00	0.00	0.40	5.00	0.48	0.25	0.09	0.00	0.00
9.46	27.04	55.96	45.25	0.99	3.50	8.21	0.53	0.34	0.12	0.40	0.11
16.00	38.00	57.00	47.00	0.00	4.00	9.00	0.59	0.41	0.25	0.81	0.20
10.00	23.00	52.00	41.00	0.00	2.45	5.00	0.05	0.24	0.10	0.02	0.00
12.03	31.55	55.03	45.06	0.00	3.66	7.29	0.50	0.34	0.13	0.59	0.02
13.00	41.00	59.00	49.00	0.00	3.80	10.00	0.65	0.49	0.23	0.91	0.40
9.00	22.00	55.00	45.00	0.00	3.00	5.00	0.36	0.32	0.11	0.18	0.00
11.10	31.17	56.83	46.83	0.00	3.58	7.83	0.50	0.37	0.15	0.61	0.04
13.00	40.00	60.00	56.00	0.00	3.80	10.00	0.64	0.46	0.21	0.93	0.00
5.00	25.00	56.00	45.00	0.00	2.80	8.00	0.49	0.33	0.06	0.14	0.00
10.74	32.68	57.00	47.26	0.00	3.40	8.16	0.58	0.37	0.12	0.51	0.00
15.00	36.00	60.00	50.00	0.00	4.00	11.00	0.65	0.59	0.80	0.74	0.00
3.00	21.00	46.00	37.00	0.00	2.90	8.00	0.54	0.33	0.10	0.11	0.00
9.67	29.53	55.87	45.77	0.00	3.51	8.27	0.59	0.39	0.15	0.41	0.00
19.00	40.00	60.00	50.00	0.00	3.90	10.00	0.72	0.49	0.18	0.94	2.00
8.00	23.00	55.00	45.00	0.00	3.20	8.00	0.51	0.33	0.10	0.24	0.00
11.10	29.81	57.26	47.29	0.00	3.63	8.55	0.60	0.38	0.13	0.53	0.39
18.00	35.00	62.00	50.00	0.00	3.80	11.00	0.72	0.49	0.20	0.83	1.10
6.00	24.00	56.00	45.00	0.00	2.80	8.00	0.49	0.35	0.12	0.10	0.00
10.39	29.58	57.23	47.03	0.00	3.49	8.35	0.59	0.40	0.14	0.42	0.24
12.00	35.00	58.00	48.00	0.00	4.00	9.00	0.68	0.49	0.21	0.61	1.40
8.00	25.00	53.00	44.00	0.00	3.40	6.00	0.52	0.20	0.09	0.10	0.00
10.47	29.53	56.03	46.13	0.00	3.64	7.73	0.59	0.33	0.13	0.41	0.22
12.00	36.00	58.00	48.00	0.00	3.90	9.00	0.59	0.28	0.13	0.73	0.20
8.00	25.00	53.00	44.00	0.00	3.40	7.00	0.44	0.18	0.07	0.23	0.00
10.39	29.68	55.90	46.23	0.00	3.67	7.68	0.54	0.23	0.10	0.45	0.05
13.00	41.00	63.00	55.00	0.00	4.00	8.00	0.69	0.29	0.14	1.00	1.10
8.00	23.00	53.00	43.00	0.00	3.40	5.00	0.48	0.15	0.07	0.12	0.00
10.60	30.17	56.60	46.63	0.00	3.70	7.30	0.60	0.23	0.11	0.45	0.13
15.00	36.00	59.00	49.00	0.00	3.90	11.00	0.71	0.35	0.18	0.71	0.40
7.00	22.00	53.00	44.00	0.00	3.00	6.00	0.45	0.16	0.08	0.12	0.00
10.52	28.23	56.19	46.32	0.00	3.58	7.74	0.58	0.24	0.12	0.45	0.04
19.00	41.00	63.00	56.00	4.30	5.20	11.00	0.72	0.59	0.80	1.43	2.00
3.00	19.00	44.00	35.00	0.00	0.40	5.00	0.05	0.15	0.06	0.00	0.00
10.59	29.68	56.31	46.32	0.08	3.56	7.97	0.56	0.33	0.13	0.48	0.11

2018 MONTHLY OPERATING REPORT DATA
RAW

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
January 1,2018	24	5.940	6.050	311	78.5	22.5	0.267	8669	100	0	280	140	120	12.0	175
January 2,2018	24	5.740	5.910	383.5	102.5	30	0.267	8377	100	0	265	125	112	12.0	175
January 3,2018	24	5.200	5.240	463	1265	30.5	0.267	7589	100	0	260	125	120	12.0	175
January 4,2018	24	5.340	5.860	587.5	150	49	0.356	7794	100	0	260	125	128	12.0	175
January 5,2018	24	5.410	5.930	440.5	167.5	24	0.356	7895	100	0	300	150	120	12.0	175
January 6,2018	24	5.430	5.180	248.8	41.5	27	0.356	7925	100	0	300	150	139	12.7	175
January 7,2018	24	6.120	6.710	254	54	17	0.445	8932	100	0	300	150	130	14.2	175
January 8,2018	24	5.920	5.930	314.5	77.5	19.5	0.178	8640	100	0	300	150	130	15.4	175
January 9,2018	24	5.830	5.740	440.5	94.5	30.5	0.178	8508	100	0	286	153	129	12.0	175
January 10,2018	24	5.320	5.870	444.5	109.5	30.5	0.178	7764	100	0	300	160	105	12.0	175
January 11,2018	24	5.220	5.600	438.5	99.5	28.5	0.267	7618	100	0	280	140	115	9.1	175
January 12,2018	24	5.570	5.390	394	98	26	0.356	8129	100	0	300	150	120	14.9	175
January 13,2018	24	5.630	5.700	293.8	86	20.5	0.665	8216	100	0	300	150	214	10.4	175
January 14,2018	24	5.790	6.430	241	51	5	0.267	8451	100	0	300	150	100	12.0	175
January 15,2018	24	5.940	5.590	334.5	64	31.5	0.267	8669	100	0	300	150	110	12.0	175
January 16,2018	24	5.650	6.080	277.5	82	15	0.358	8246	100	0	300	150	122	12.0	175
January 17,2018	24	5.520	5.590	270.5	78	28.5	0.178	8056	100	0	300	150	120	12.0	175
January 18,2018	24	5.370	5.660	257	67	26	0.89	7837	100	0	300	150	124	12.0	175
January 19,2018	24	5.610	5.990	218.5	76	40	0.267	8188	100	0	300	150	123	13.3	175
January 20,2018	24	5.640	5.670	141	64	21	0.178	8231	100	0	300	150	112	11.1	175
January 21,2018	24	5.850	5.920	160	70	18.3	0.356	8538	100	0	300	150	104	18.4	175
January 22,2018	24	5.980	6.190	145	44	23.5	0.178	8727	100	0	300	150	109	12.5	175
January 23,2018	24	5.750	5.880	140	48	19.5	0.356	8392	100	0	314	150	116	18.0	175
January 24,2018	24	5.630	5.680	122.5	44	12	0.178	8217	100	0	300	150	108	12.0	175
January 25,2018	24	6.020	5.870	114	62.5	51.5	0.178	8786	100	0	300	120	120	12.0	175
January 26,2018	24	5.200	5.740	152	53.5	13	0.267	7589	100	0	300	150	120	12.0	175
January 27,2018	24	5.580	5.830	79	41	18.5	0.267	8144	100	0	305	155	115	17.5	175
January 28,2018	24	5.830	6.350	112	32	17.3	0.356	8538	100	0	150	150	108	10.8	176
January 29,2018	24	5.700	5.680	133.5	46	24	0.178	8319	100	0	295	150	118.0	14	175
January 30,2018	24	5.860	6.250	177.5	58	28.5	0.178	8552	100	0	300	153	120	12.0	175
January 31,2018	24	5.570	5.460	149.5	53	20.5	0.267	8129	100	0	305	155	100	12.0	175
Total	744.00	175.16	180.97	8239.10	3458.00	769.10	9.30	255665.00	#####	0.00	9000.00	######	3731.00	396.02	5425.38
Max.	24.00	6.12	6.71	587.50	1265.00	51.50	0.89	8932.00	100.00	0.00	314.00	160.00	214.00	18.38	175.60
Min.	24.00	5.20	5.18	79.00	32.00	5.00	0.18	7589.00	100.00	0.00	150.00	120.00	100.00	9.10	174.98
Avg.	24.00	5.65	5.84	265.78	111.55	24.81	0.30	8247.26	100.00	0.00	290.32	146.81	120.35	12.77	175.01

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : January
Telephone Number : (954) 730-2972

																		CHEMICA
DOSAGES						RAW WATER												
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	
2	0	5.7	2.8	0.56	0.24	3,5	7.2	244	260	250	10	38	0.4	30	42	1.4	10.0	
2.1	0.0	5.5	2.6	0.54	0.251	3,5	7.2	244	260	248	12	36	0.3	36	40	1.4	10.0	
2.3	0.0	6.0	2.9	0.64	0.28	3,5	7.3	240	262	246	16	36	0.3	26	40	1.4	10.1	
2.2	0.0	5.8	2.8	0.66	0.27	3,5	7.2	244	264	248	16	36	0.3	26	40	1.3	10.1	
2.2	0.0	6.6	3.3	0.61	0.27	3,5	7.3	244	264	248	16	36	0.3	26	40	1.3	10.1	
2.2	0.0	6.6	3.3	0.71	0.28	3,5	7.3	244	264	248	16	36	0.3	26	40	1.2	10.2	
2.0	0.0	5.9	2.9	0.59	0.28	3,5	7.1	220	234	220	14	36	0.2	24	38	1.3	10.1	
2.0	0.0	6.1	3.0	0.61	0.31	3,5	7.1	222	238	216	22	36	0.3	28	38	1.4	10.1	
2.1	0.0	5.9	3.1	0.61	0.25	3,5	7.3	230	250	236	14	36	0.2	30	40	1.3	10.1	
2.3	0.0	6.8	3.6	0.54	0.27	3,5	7.3	230	250	236	14	36	0.2	30	40	1.4	10.1	
2	0	6.4	3.2	0.61	0.21	3,5	7.2	228	246	230	16	40	0.3	36	40	1.4	10.3	
2.2	0.0	6.5	3.2	0.59	0.321	3,5	7.2	228	246	230	16	40	0.3	36	40	1.4	10.1	
2.2	0.0	6.4	3.2	1.05	0.22	3,5	7.2	228	246	230	16	40	0.3	36	40	1.3	10.0	
2.1	0.0	6.2	3.1	0.48	0.25	3,5	7.2	228	246	230	16	40	0.3	38	40	1.2	10.0	
2.0	0.0	6.1	3.0	0.51	0.24	4,6	7.2	230	248	230	18	40	0.3	30	40	1.4	10.3	
2.1	0.0	6.4	3.2	0.60	0.25	4,6	7.2	230	248	234	14	36	0.3	36	40	1.4	10.1	
2.2	0.0	6.5	3.3	0.60	0.26	4,6	7.2	230	250	236	14	36	0.3	38	40	1.4	10.1	
2.2	0.0	6.7	3.3	0.64	0.27	4,6	7.2	230	250	236	14	36	0.3	38	40	1.3	10.2	
2.1	0.0	6.4	3.2	0.60	0.28	4,6	7.2	230	250	236	14	36	0.3	38	40	1.4	10.1	
2.1	0.0	6.4	3.2	0.55	0.24	4,6	7.2	236	254	240	14	36	0.2	36	40	1.4	10.0	
2	0	6.1	3.1	0.49	0.38	4,6	7.2	234	256	240	16	38	0.2	38	42	1.4	10.0	
2.0	0.0	6.0	3.0	0.50	0.251	4,6	7.2	236	256	242	14	40	0.2	32	40	1.4	10.1	
2.1	0.0	6.5	3.1	0.56	0.38	7,8	7.2	240	260	246	14	36	0.3	36	40	1.4	9.9	
2.1	0.0	6.4	3.2	0.53	0.26	3,8	7.2	240	260	246	14	36	0.3	36	40	1.4	10.0	
2.0	0.0	6.0	2.4	0.55	0.24	3,8	7.2	240	260	246	14	36	0.3	36	40	1.4	10.0	
2.3	0.0	6.9	3.5	0.64	0.28	3,8	7.2	240	260	246	14	36	0.3	36	40	1.3	10.1	
2.1	0.0	6.6	3.3	0.57	0.38	3,8	7.2	240	260	246	14	36	0.3	36	40	1.3	10.0	
2.1	0.0	3.1	3.1	0.51	0.22	3,8	7.2	242	258	244	14	30	0.3	32	40	1.5	10.0	
2.1	0.0	6.2	3.2	0.57	0.29	3,8	7.2	242	260	246	14	30	0.3	32	40	1.5	10.2	
2.0	0.0	6.1	3.1	0.56	0.25	3,8	7.2	234	250	240	10	30	0.3	36	40	1.4	10.1	
2	0	6.6	3.3	0.50	0.26	3,8	7.2	234	250	240	10	30	0.3	36	40	1.3	10.1	

65.94	0.00	191.35	96.74	18.25	8.40	0.00	223.50	7282.00	7860.00	7410.00	450.00	1120.00	8.32	1030.00	1240.00	42.14	312.55
2.31	0.00	6.92	3.61	1.05	0.38	0.00	7.30	244.00	264.00	250.00	22.00	40.00	0.35	38.00	42.00	1.48	10.30
1.96	0.00	3.09	2.39	0.48	0.21	0.00	7.10	220.00	234.00	216.00	10.00	30.00	0.20	24.00	38.00	1.24	9.90
2.13	0.00	6.17	3.12	0.59	0.27	#DIV/0!	7.21	234.90	253.55	239.03	14.52	36.13	0.27	33.23	40.00	1.36	10.08

County : Broward
I.D. Number : 4060787
Year : 2018

L AND PHYSICAL RESULTS

SETTLED WATER				FINISHED WATER												
P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
22	45	60	49	9.3	10	26	55	45	0.0	3.8	8	0.56	0.37	0.13	0.52	0.0
21	38	57	47	9.3	10	24	56	46	0.0	3.6	8	0.56	0.33	0.10	0.49	0.2
24	45	59	49	9.3	11	29	57	47	0.0	3.4	8	0.56	0.37	0.12	0.60	1.0
22	41	57	48	9.4	11	27	56	47	0.0	3.3	9	0.59	0.32	0.12	0.66	0.2
25	43	58	48	9.3	11	26	58	48	0.0	2.5	10	0.57	0.34	0.10	0.61	0.0
26	48	60	48	9.2	11	28	58	47	0.0	3.0	8	0.58	0.31	0.17	0.66	0.0
28	48	60	50	9.2	10	30	55	45	0.0	3.7	9	0.61	0.35	0.16	0.49	0.0
22	40	60	50	9.1	10	28	57	47	0.0	3.5	9	0.58	0.31	0.11	0.38	0.1
22	41	58	49	9.2	10	23	56	46	0.0	3.6	9	0.56	0.32	0.11	0.38	0.2
24	45	57	47	9.3	11	24	57	47	0.0	3.3	9	0.56	0.32	0.11	0.50	0.2
21	41	57	48	9.2	10	22	56	47	0.0	3.1	9	0.57	0.34	0.10	0.36	0.2
22	43	57	48	9.6	12	34	59	49	0.0	3.5	9	0.57	0.35	0.11	0.92	0.2
21	42	56	46	9.5	13	33	55	46	0.0	3.5	8	0.55	0.33	0.08	0.86	0.0
20	34	56	46	9.2	10	26	55	45	0.0	3.5	8	0.57	0.34	0.09	0.45	0.0
27	43	57	49	9.1	9	28	56	46	0.0	3.5	9	0.54	0.31	0.09	0.40	0.2
24	43	57	48	9.3	12	28	58	48	0.0	3.2	8	0.54	0.32	0.08	0.00	0.0
25	40	57	48	9.0	10	21	55	44	0.0	3.2	9	0.55	0.35	0.10	0.12	0.0
23	41	57	47	9.1	10	24	55	45	0.0	3.3	9	0.55	0.34	0.10	0.28	0.0
20	45	57	48	9.3	11	28	55	46	0.0	3.5	8	0.50	0.32	0.11	0.57	0.0
21	41	53	43	9.1	10	28	51	42	0.0	3.3	8	0.55	0.35	0.14	0.40	0.0
21	43	54	43	9.1	9	29	44	35	0.0	3.7	8	0.54	0.35	0.16	0.26	0.0
23	41	57	48	9.1	10	27	56	46	0.0	3.6	8	0.54	0.31	0.11	0.35	0.0
26	41	58	50	9.2	11	24	56	46	0.0	3.3	9	0.53	0.32	0.11	0.39	0.3
24	42	58	50	9.3	11	28	56	47	0.0	3.4	8	0.53	0.31	0.10	0.58	0.6
21	38	54	46	9.3	10	25	56	46	0.0	3.4	8	0.55	0.40	0.12	0.51	0.2
20	41	57	47	9.4	12	28	59	49	0.0	3.6	8	0.60	0.37	0.11	0.74	0.2
24	46	57	47	9.3	12	32	56	46	0.0	3.3	8	0.57	0.28	0.14	0.38	0.0
21	42	56	46	9.3	11	31	56	46	0.0	3.5	8	0.53	0.35	0.14	0.61	0.0
24	42	57	48	9.2	10	28	57	48	0.0	3.5	9	0.56	0.31	0.25	0.49	0.1
22	41	57	47	9.3	11	27	57	47	0.0	3.5	9	0.54	0.31	0.11	0.56	0.0
23	45	58	48	9.3	11	29	57	47	0.0	3.5	8	0.49	0.36	0.12	0.60	0.0

709.00	######	1773.00	1476.00	286.71	330.00	845.00	1730.00	1426.00	0.00	105.45	263.00	17.20	10.36	3.70	15.12	3.90
28.00	48.00	60.00	50.00	9.55	13.00	34.00	59.00	49.00	0.00	3.75	10.00	0.61	0.40	0.25	0.92	1.00
20.00	34.00	53.00	43.00	9.00	9.00	21.00	44.00	35.00	0.00	2.50	8.00	0.49	0.28	0.08	0.00	0.00
22.87	42.23	57.19	47.61	9.25	10.65	27.26	55.81	46.00	0.00	3.40	8.48	0.55	0.33	0.12	0.49	0.13

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282	LUIS ANDINO	A2
C.HUTCHINSON	B17017	RODOLFO PERE	
STNLEY E.BANKS	B17017	CARLTON CORIN	
KERRY ROMAN	C7873		
R.RAMNARINE	C12091		
H.RODRIGUEZ	C19220		

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant	Total Raw RAW	Total FINISH	FILTER				CHEMICA									
				Hours Filter			Total Wash Water, MGD	POUNDS USED							DOSAGES		
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
				Total	Max	Min											
	1	2	3	4	5	6	7	8			9	10	11	12	13		
February 1,2018	24	5.530	6.200	142	57	22	0.267	8071	100	0	310	150	122	13.3	175	2	0
February 2,2018	24	5.630	5.980	164.5	58	43	0.178	8217	100	0	310	150	116	18.2	175	2.1	0.0
February 3,2018	24	5.800	5.890	139	51	17.8	0.356	8465	100	0	310	150	186	11.0	175	2.1	0.0
February 4,2018	24	6.010	6.140	88.5	24	20.5	0.356	8772	100	0	290	150	104	18.5	175	2.0	0.0
February 5,2018	24	5.550	5.940	153	47	28.5	0.089	8100	100	0	290	150	112	11.5	175	2.2	0.0
February 6,2018	24	5.610	6.000	212.5	68.5	30.5	0.178	8188	100	0	300	160	100	14.6	175	2.1	0.0
February 7,2018	24	5.510	5.850	165	73	13	0.267	8041	100	0	300	160	120	13.3	175	2.2	0.0
February 8,2018	24	5.520	5.810	143.5	43	29.5	0.178	8056	100	0	300	160	120	12.0	175	2.2	0.0
February 9,2018	24	5.850	6.180	140	36.5	26.5	0.267	8538	100	0	304	153	124	13.3	175	2.0	0.0
February 10,2018	24	5.470	6.090	123.5	311	26	0.267	7983	100	0	324	162	116	12.0	175	2.2	0.0
February 11,2018	24	6.090	6.810	97	33	13	0.356	8888	100	0	340	160	100	13.3	175	2	0
February 12,2018	24	5.680	6.070	145.5	42.5	26	0.178	8290	100	0	300	160	110	8.1	175	2.1	0.0
February 13,2018	24	5.320	5.620	196.5	66.5	30.5	0.089	7764	100	0	300	160	120	13.3	175	2.2	0.0
February 14,2018	24	5.700	5.910	224.5	77	27	0.267	8319	100	0	300	160	109	18.0	175	2.1	0.0
February 15,2018	24	5.800	5.790	139	76	14	0.267	8465	100	0	300	160	112	12.0	175	2.1	0.0
February 16,2018	24	5.590	6.341	96.5	31	19	0.356	8158	100	0	310	160	120	12.0	175	2.1	0.0
February 17,2018	24	5.900	5.790	79	27.6	18	0.356	8611	100	0	330	150	106	9.4	175	2.0	0.0
February 18,2018	24	6.080	6.570	74.3	38	15	0.267	8873	100	0	280	150	100	7.0	175	2.0	0.0
February 19,2018	24	5.950	6.210	134	45	18	0.267	8684	100	0	280	150	110	9.9	175	2.0	0.0
February 20,2018	24	5.960	6.080	168	69	22.5	0.089	8698	100	0	300	150	120	12.0	175	2.0	0.0
February 21,2018	24	5.780	5.860	220	73	30.5	0.178	8436	0	0		218	109	12.0	175	0	0
February 22,2018	24	6.430	6.500	178	68	27	0.267	9384	0	0		300	120	13.3	175	0.0	0.0
February 23,2018	24	5.460	6.040	160	65	22.5	0.178	7969	0	0		294	118	12.0	175	0.0	0.0
February 24,2018	24	5.960	5.830	153.6	47	24	0.267	8699	0	0		280	170	12.1	175	0.0	0.0
February 25,2018	24	5.990	6.780	109	39	21.5	0.356	8742	0	0		240	140	18.7	175	0.0	0.0
February 26,2018	24	5.940	6.230	122.5	40	23	0.178	8669	0	0		260	135	16.6	175	0.0	0.0
February 27,2018	24	5.940	5.840	170	53.5	31.5	0.267	8669	0	0		200	130	12.0	175	0.0	0.0
February 28,2018	24	5.850	6.120	270	170	30.5	0.178	8538	0	0		225	129	16.7	175	0.0	0.0
Total	672.00	161.90	170.47	4208.90	1830.10	670.80	6.76	236287.00	#####	0.00	6078.00	######	3378.00	366.15	4899.87	41.83	0.00
Max.	24.00	6.43	6.81	270.00	311.00	43.00	0.36	9384.00	100.00	0.00	340.00	300.00	186.00	18.72	175.01	2.19	0.00
Min.	24.00	5.32	5.62	74.30	24.00	13.00	0.09	7764.00	0.00	0.00	280.00	150.00	100.00	6.99	174.98	0.00	0.00
Avg.	24.00	5.78	6.09	150.32	65.36	23.96	0.24	8438.82	71.43	0.00	303.90	182.93	120.64	13.08	175.00	1.49	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

2919
Z A15983
THIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : February
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

				RAW WATER										SETTLED						FINISHED WATER
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
6.7	3.3	0.61	0.29	3,6	7.4	240	262	246	16	36	0.3	40	36	1.4	10.2	22	42	57	48	9.1
6.6	3.2	0.57	0.380	3,6	7.3	236	258	244	14	34	0.2	30	40	1.4	10.1	23	42	57	47	9.2
6.4	3.1	0.88	0.23	5,6	7.4	240	260	246	14	36	0.3	36	40	1.3	10.3	21	45	57	47	9.2
5.8	3.0	0.48	0.37	5,6	7.4	242	260	244	16	36	0.3	36	40	1.4	10.1	23	44	57	46	9.2
6.3	3.2	0.56	0.25	3,8	7.4	240	260	242	18	35	0.4	37	42	1.4	10.1	25	42	58	48	9.1
6.4	3.4	0.49	0.31	3,8	7.3	232	256	240	16	36	0.3	34	40	1.6	10.2	24	38	57	48	9.1
6.5	3.5	0.60	0.29	3,8	7.2	240	260	244	16	36	0.3	36	40	1.5	10.1	24	44	57	48	9.7
6.5	3.5	0.60	0.26	3,8	7.2	240	260	244	16	36	0.3	36	40	1.4	9.9	20	40	56	46	9.4
6.2	3.1	0.58	0.27	3,8	7.2	240	260	244	16	36	0.3	36	40	1.6	10.0	21	41	56	46	8.9
7.1	3.6	0.58	0.26	3,8	7.2	240	260	244	16	36	0.3	36	40	1.7	9.8	22	42	57	47	8.8
6.7	3.2	0.45	0.26	3,8	7.2	228	250	240	10	28	0.2	40	38	1.5	10.0	22	45	60	50	8.9
6.3	3.4	0.53	0.171	3,8	7.2	230	252	242	10	28	0.3	30	40	1.4	10.3	22	44	59	49	9.4
6.8	3.6	0.62	0.30	4,5	7.2	230	252	242	10	28	0.3	30	40	1.4	9.9	22	39	57	48	9.5
6.3	3.4	0.53	0.38	4,5	7.2	230	252	242	10	28	0.3	36	40	1.3	10.0	22	40	57	48	9.2
6.2	3.3	0.53	0.25	4,5	7.4	236	260	242	18	34	0.3	36	40	1.4	10.0	22	39	56	47	9.1
6.6	3.4	0.59	0.26	4,5	7.4	236	260	242	10	34	0.3	36	40	1.4	9.8	23	39	58	48	9.1
6.7	3.0	0.50	0.19	6,8	7.3	230	256	240	16	30	0.2	36	40	1.4	10.1	21	41	58	48	9.2
5.5	3.0	0.45	0.14	6,8	7.3	230	256	240	16	30	0.2	36	40	1.4	10.0	22	40	57	46	9.3
5.6	3.0	0.51	0.20	6,8	7.3	230	256	240	16	32	0.3	30	40	1.4	10.0	22	42	58	48	9.1
6.0	3.0	0.56	0.24	6,8	7.2	236	260	242	18	36	0.3	34	40	1.4	10.1	22	42	57	47	9.0
	4.5	0.52	0.25	6,8	7.2	236	260	242	18	36	0.3	34	40	1.4	10.4	23	41	57	47	8.9
	5.6	0.51	0.248	6,8	7.2	236	260	242	18	36	0.3	34	40	1.6	10.4	33	45	58	49	8.7
	6.5	0.60	0.26	6,8	7.2	236	260	242	18	36	0.3	34	40	1.6	10.3	28	48	56	45	8.6
	5.6	0.79	0.24	6,8	7.2	236	260	242	18	36	0.3	34	40	1.8	10.0	26	45	55	45	7.8
	4.8	0.64	0.37	6,8	7.2	185	220	210	10	40	0.1	36	42	1.3	10.2	26	44	47	45	7.5
	5.2	0.63	0.34	6,8	7.2	184	226	210	16	38	0.2	30	40	1.4	10.3	24	44	57	47	8.5
	4.0	0.60	0.24	6,8	7.2	220	246	230	16	36	0.3	30	40	1.4	10.2	24	46	57	47	8.5
	4.6	0.61	0.34	6,8	7.2	220	246	230	16	36	0.3	30	40	1.4	10.1	21	44	56	45	8.6
127.43	106.04	16.13	7.60	0.00	203.30	6459.00	7128.00	6698.00	422.00	959.00	7.17	963.00	1118.00	40.41	282.90	650.00	######	1589.00	1320.00	250.56
7.10	6.46	0.88	0.38	0.00	7.40	242.00	262.00	246.00	18.00	40.00	0.36	40.00	42.00	1.78	10.40	33.00	48.00	60.00	50.00	9.70
5.52	2.96	0.45	0.14	0.00	7.20	184.00	220.00	210.00	10.00	28.00	0.11	30.00	36.00	1.30	9.80	20.00	38.00	47.00	45.00	7.50
6.37	3.79	0.58	0.27	#DIV/0!	7.26	230.68	254.57	239.21	15.07	34.25	0.26	34.39	39.93	1.44	10.10	23.21	42.43	56.75	47.14	8.95

County : Broward
I.D. Number : ######
Year : 2018

P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
34	35	36	37	38	39	40	41	42	43	44	45
9	25	56	45	0.0	3.3	9	0.49	0.38	0.12	0.30	0.0
12	28	56	40	0.0	3.6	8	0.48	0.25	0.11	0.00	0.0
10	29	56	45	0.0	3.6	9	0.53	0.36	0.17	0.54	0.9
9	32	56	46	0.0	3.8	9	0.57	0.40	0.18	0.52	0.0
10	27	59	49	0.0	3.6	9	0.56	0.32	0.12	0.38	0.2
17	28	55	48	0.0	2.9	9	0.54	0.36	0.11	0.39	0.1
15	32	57	47	0.0	3.6	8	0.53	0.35	0.10	0.95	0.1
11	31	56	45	0.0	3.4	9	0.53	0.35	0.10	0.62	0.1
6	25	56	46	0.0	2.9	8	0.54	0.35	0.10	0.11	0.1
6	32	57	47	0.0	2.7	8	0.53	0.35	0.12	0.08	0.0
6	31	56	46	0.0	2.9	8	0.54	0.38	0.14	0.68	0.2
13	33	57	47	0.0	3.6	9	0.52	0.32	0.12	0.68	0.2
13	33	57	47	0.0	3.5	8	0.54	0.34	0.11	0.88	0.0
11	26	56	45	0.0	3.6	9	0.52	0.33	0.12	0.42	0.0
10	26	56	45	0.0	3.5	10	0.54	0.35	0.11	0.00	0.0
10	29	56	46	0.0	3.5	9	0.52	0.35	0.12	0.39	0.0
10	30	56	46	0.0	3.7	8	0.57	0.39	0.16	0.50	0.0
10	35	54	44	0.0	4.0	8	0.58	0.39	0.16	0.64	0.0
10	35	57	45	0.0	3.8	10	0.53	0.31	0.12	0.50	0.1
9	21	56	46	0.0	3.4	8	0.51	0.33	0.11	0.13	0.1
6	19	56	46	1.0	3.6	8	0.51	0.31	0.10	0.02	0.2
6	23	56	36	3.4	0.4	8	0.50	0.33	0.11	0.13	0.2
7	22	54	44	4.3	5.2	8	0.52	0.34	0.10	0.28	0.3
	22	55	45	4.0	4.0	7	0.55	0.31	0.09	0.08	0.0
	19	54	44	4.0	4.2	5	0.56	0.31	0.09	1.43	0.0
7	20	56	46	4.2	4.2	5	0.53	0.30	0.10	0.36	0.1
8	21	56	46	3.6	4.2	8	0.56	0.32	0.10	0.07	0.1
5	23	55	45	3.3	3.2	8	0.51	0.35	0.12	0.24	0.1

246.00	757.00	1567.00	1267.00	27.80	97.90	230.00	14.91	9.53	3.31	11.32	3.10
17.00	35.00	59.00	49.00	4.30	5.20	10.00	0.58	0.40	0.18	1.43	0.90
5.00	19.00	54.00	36.00	0.00	0.40	5.00	0.48	0.25	0.09	0.00	0.00
9.46	27.04	55.96	45.25	0.99	3.50	8.21	0.53	0.34	0.12	0.40	0.11

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: _____ **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
March 1, 2018	24	5.940	6.180	203.5	60	42	0.267	8669	0	0		200	126	16.4	175
March 2,2018	24	5.970	6.340	140.5	61	16	0.267	8450	0	0		200	130	15.0	170
March 3,2018	24	5.890	6.210	76.5	34.5	21	0.267	8596	100	0	300	150	143	16.6	175
March 4,2018	24	5.869	6.100	108.5	32	24	0.356	8566	100	0	300	150	150	15.2	175
March 5,2018	24	6.010	6.180	143.5	45.5	24.5	0.178	8772	100	0	300	150	128	16.7	175
March 6,2018	24	5.690	6.090	194	69.5	26	0.178	8304	100	0	300	150	130	12.0	175
March 7,2018	24	5.910	6.150	193.5	73	25.5	0.267	8625	100	0	300	150	130	13.3	175
March 8,2018	24	5.900	5.960	127	52	23	0.178	8611	100	0	300	150	120	13.3	175
March 9,2018	24	6.000	6.060	164.5	60	23	0.356	8757	100	0	244	200	130	16.7	175
March 10,2018	24	6.340	6.290	54	21	17	0.267	9253	100	0	200	150	140	14.7	175
March 11,2018	24	5.950	6.000	91	32	5	0.356	8684	100	0	220	175	130	12.0	175
March 12,2018	24	6.420	6.370	126.5	38.5	22.5	0.267	9370	100	0	220	150	130	12.3	175
March 13,2018	24	6.050	5.960	127	38.5	23.5	0.356	8830	100	0	220	150	100	13.3	175
March 14,2018	24	6.080	5.510	119	34.5	25.5	0.089	8874	100	0	200	150	100	16.5	175
March 15,2018	24	6.020	6.530	179.5	54.5	34.5	0.178	8786	100	0	200	150	108	14.9	175
March 16,2018	24	5.990	6.180	170.3	76.8	12	0.267	8742	100	0	200	150	110	15.1	175
March 17,2018	24	5.840	5.820	157.5	85.5	19	0.356	8523	100	0	200	150	112	8.1	175
March 18,2018	24	6.230	7.280	127	39	24	0.267	9093	100	0	200	150	150	15.6	175
March 19,2018	24	6.050	6.230	149	46.5	30.5	0.178	8830	100	0	200	150	60	13.6	175
March 20,2018	24	5.990	6.190	193	70.5	28.5	0.178	8742	100	0	200	150	100	12.0	175
March 21,2018	24	6.100	6.480	195	72	26.5	0.178	8903	100	0	200	150	100	13.3	175
March 22,2018	24	6.100	6.480	166.5	53.8	21	0.178	8903	100	0	200	150	104	15.1	175
March 23,2018	24	6.210	6.610	169	72.5	8	0.267	9063	100	0	224	150	109	14.9	175
March 24,2018	24	5.930	6.170	137.8	44	23	0.178	8655	100	0	224	150	112	10.5	175
March 25,2018	24	6.420	6.330	138	61	16	0.356	9369	100	0	200	200	100	16.8	175
March 26,2018	24	6.210	6.520	123	48	16	0.267	9063	100	0	200	200	100	13.2	175
March 27,2018	24	6.170	6.230	143.5	48.5	27	0.267	9020	100	0	200	200	100	13.7	175
March 28,2018	24	6.290	6.550	128.5	52.5	14.5	0.178	9180	100	0	200	200	100	12.0	175
March 29,2018	24	6.350	6.660	178	76.5	18.5	0.267	9267	100	0	200	200	100.0	12	175
March 30,2018	24	5.990	6.310	195	92.5	25.5	0.267	8742	100	0	200	180	100	12.0	175
March 31,2018	24	6.280	6.530	109	42	12.8	0.356	9165	0	0	200	150	124	12.0	175
Total	744.00	188.19	194.50	4528.60	1688.10	675.80	7.83	274407.00	#####	0.00	6552.00	######	3576.00	428.80	5419.87
Max.	24.00	6.42	7.28	203.50	92.50	42.00	0.36	9370.00	100.00	0.00	300.00	200.00	150.00	16.80	175.29
Min.	24.00	5.69	5.51	54.00	21.00	5.00	0.09	8304.00	0.00	0.00	200.00	150.00	60.00	8.10	169.71
Avg.	24.00	6.07	6.27	146.08	54.45	21.80	0.25	8851.84	90.32	0.00	225.93	164.68	115.35	13.83	174.83

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : March
Telephone Number : (954) 730-2972

CHEMICA

DOSAGES						RAW WATER											
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28
0	0		4.0	0.58	0.33	6,8	7.2	220	246	230	16	36	0.3	30	40	1.4	10.4
0.0	0.0		4.0	0.60	0.301	6,8	7.2	220	246	230	16	36	0.3	30	40	1.3	10.2
2.0	0.0	6.1	3.1	0.67	0.34	6,8	7.2	220	246	230	16	36	0.3	30	40	1.3	10.0
2.0	0.0	6.1	3.1	0.70	0.31	6,8	7.2	220	248	230	18	36	0.3	30	40	1.4	10.0
2.0	0.0	6.0	3.0	0.59	0.33	6,8	7.2	220	248	230	18	38	0.3	30	40	1.5	10.1
2.1	0.0	6.3	3.2	0.63	0.25	6,8	7.2	224	250	230	20	36	0.3	30	40	1.4	10.2
2.0	0.0	6.1	3.0	0.61	0.27	6,8	7.2	224	250	234	16	36	0.3	30	40	1.4	10.1
2.0	0.0	6.1	3.0	0.56	0.27	6,8	7.2	224	250	234	16	36	0.3	30	40	1.4	10.1
2.0	0.0	4.9	4.0	0.60	0.33	6,8	7.2	224	250	234	16	36	0.3	30	40	1.4	10.1
1.9	0.0	3.8	2.8	0.61	0.28	6,8	7.2	224	250	234	16	36	0.3	30	40	1.5	9.9
2.0	0.0	4.4	3.5	0.60	0.24	6,8	7.2	226	250	234	16	38	0.3	30	42	1.4	10.1
1.9	0.0	4.1	2.8	0.56	0.23	6,8	7.2	228	254	234	20	36	0.3	30	44	1.4	10.0
2.0	0.0	4.4	3.0	0.46	0.26	3,4,6,8	7.2	228	254	234	20	36	0.3	30	40	1.4	10.2
2.0	0.0	3.9	3.0	0.45	0.33	3,4,6,8	7.3	234	260	240	20	36	0.3	30	40	1.4	10.0
2.0	0.0	4.0	3.0	0.49	0.30	3,4	7.3	230	256	240	16	36	0.3	30	40	1.3	9.9
2.0	0.0	4.0	3.0	0.51	0.30	3,5	7.3	230	256	240	16	36	0.3	30	40	1.3	10.0
2.1	0.0	4.1	3.1	0.53	0.17	3,5	7.3	230	256	240	16	36	0.3	30	40	1.3	9.8
1.9	0.0	3.8	2.9	0.66	0.30	3,5	7.1	228	250	240	10	38	0.3	30	36	1.3	9.9
2.0	0.0	4.0	3.0	0.27	0.27	3,5	7.1	230	250	240	10	30	0.3	28	36	1.3	9.9
2.0	0.0	4.0	3.0	0.46	0.24	3,5	7.2	230	258	240	18	30	0.3	30	40	1.3	10.1
2.0	0.0	3.9	2.9	0.45	0.26	4,5	7.2	230	258	240	18	30	0.3	30	40	1.4	10.1
2.0	0.0	3.9	2.9	0.47	0.30	4,5	7.4	234	260	240	20	30	0.3	36	44	1.4	9.9
1.9	0.0	4.3	2.9	0.48	0.29	4,5	7.3	234	260	240	20	30	0.3	30	40	1.4	9.9
2.0	0.0	4.5	3.0	0.52	0.21	4,5	7.3	234	260	240	20	30	0.3	34	40	1.4	9.9
1.9	0.0	3.7	3.7	0.43	0.31	4,5	7.1	180	210	185	25	30	0.3	30	34	1.3	10.0
1.9	0.0	3.9	3.9	0.44	0.25	4,5	7.1	186	220	196	24	30	0.3	30	36	1.4	9.8
1.9	0.0	3.9	3.9	0.45	0.27	4,5,6,8,	7.1	190	224	200	24	32	0.3	30	38	1.5	9.9
1.9	0.0	3.8	3.8	0.44	0.23	6,8	7.4	210	230	220	10	30	0.3	30	40	1.4	10.1
1.9	0.0	3.8	3.8	0.43	0.23	6,8	7.4	216	230	220	10	30	0.3	30	40	1.3	10.0
2.0	0.0	4.0	3.6	0.46	0.24	6,8	7.4	216	230	220	10	30	0.3	30	40	1.3	10.0
0.0	0.0	3.8	2.9	0.54	0.23	6,8	7.2	220	240	226	14	30	0.3	36	40	1.3	9.9

55.35	0.00	129.75	100.81	16.28	8.47	0.00	224.10	6864.00	7650.00	7125.00	525.00	1046.00	8.70	944.00	1230.00	42.27	310.48
2.11	0.00	6.32	4.04	0.70	0.34	0.00	7.40	234.00	260.00	240.00	25.00	38.00	0.30	36.00	44.00	1.50	10.40
0.00	0.00	3.74	2.80	0.27	0.17	0.00	7.10	180.00	210.00	185.00	10.00	30.00	0.26	28.00	34.00	1.28	9.80
1.79	0.00	4.47	3.25	0.53	0.27	#DIV/0!	7.23	221.42	246.77	229.84	16.94	33.74	0.28	30.45	39.68	1.36	10.02

County : Broward
I.D. Number : ######
Year : 2018

L AND PHYSICAL RESULTS

SETTLED WATER				FINISHED WATER												
P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
27	48	57	50	9.1	10	23	55	44	0.0	3.5	8	0.52	0.35	0.11	0.25	0.0
23	42	56	45	9.4	13	27	57	47	0.0	3.2	8	0.53	0.33	0.10	0.66	0.0
23	46	55	44	9.4	11	31	53	43	0.0	2.5	6	0.53	0.36	0.14	0.74	0.0
20	45	55	44	9.4	10	33	54	44	0.0	3.4	6	0.59	0.38	0.15	0.72	0.0
24	42	57	47	9.3	11	34	56	46	0.0	3.5	6	0.55	0.31	0.12	0.55	0.0
23	42	56	46	9.2	16	30	56	46	0.0	3.7	7	0.53	0.31	0.10	0.51	0.0
23	43	57	48	9.5	12	30	56	46	0.0	3.6	8	0.54	0.32	0.10	0.81	0.0
21	41	54	48	9.5	13	33	56	45	0.0	4.0	9	0.53	0.24	0.12	0.76	0.0
20	41	57	47	9.4	13	32	56	46	0.0	3.8	8	0.55	0.34	0.13	0.65	0.0
20	42	54	44	9.4	11	38	53	44	0.0	3.8	7	0.55	0.39	0.15	0.78	0.2
22	42	55	45	9.2	10	33	54	44	0.0	3.8	5	0.51	0.36	0.13	0.52	0.0
23	41	57	47	9.4	13	34	55	45	0.0	3.8	7	0.53	0.32	0.12	0.68	0.0
23	41	56	47	9.5	14	33	56	46	0.0	3.7	8	0.53	0.32	0.10	0.77	0.0
22	42	56	47	9.5	13	34	55	45	0.0	3.8	9	0.46	0.35	0.11	0.78	0.0
22	38	56	45	9.4	11	31	54	46	0.0	3.7	9	0.51	0.37	0.13	0.68	0.0
22	42	57	47	9.5	12	32	56	46	0.0	3.8	9	0.52	0.33	0.12	0.75	0.0
19	44	53	44	9.4	12	26	53	43	0.0	3.8	6	0.55	0.38	0.15	0.12	0.0
20	44	54	44	9.3	11	34	52	44	0.0	4.0	6	0.55	0.38	0.15	0.63	0.0
22	42	57	47	9.4	12	33	56	46	0.0	3.8	7	0.54	0.33	0.11	0.67	0.2
23	43	57	47	9.4	13	32	56	46	0.0	3.7	8	0.51	0.31	0.11	0.51	0.1
21	42	57	47	9.5	13	33	56	46	0.0	3.7	9	0.51	0.32	0.11	0.77	0.0
21	40	56	46	9.5	12	31	55	45	0.0	3.6	9	0.52	0.35	0.12	0.72	0.0
19	37	56	46	9.3	14	24	56	46	0.0	3.6	8	0.52	0.34	0.10	0.59	0.0
19	43	54	44	9.3	10	30	52	42	0.0	3.6	6	0.54	0.41	0.24	0.08	0.0
22	44	53	42	9.3	12	36	53	41	0.0	3.9	6	0.05	0.38	0.25	0.62	0.0
19	40	58	48	9.3	14	34	56	46	0.0	3.7	7	0.36	0.34	0.13	0.65	0.0
21	39	59	49	9.2	12	29	57	47	0.0	3.7	7	0.48	0.32	0.13	0.50	0.1
23	43	54	47	9.2	11	33	54	44	0.0	3.6	6	0.49	0.34	0.14	0.45	0.0
22	41	56	47	9.4	11	28	55	45	0.0	3.6	8	0.48	0.35	0.15	0.66	0.0
23	44	57	48	9.5	12	30	56	46	0.0	3.7	7	0.50	0.32	0.13	0.76	0.0
20	42	57	46	9.3	11	37	57	47	0.0	3.8	6	0.46	0.40	0.17	0.02	0.0

672.00	######	1733.00	1433.00	290.35	373.00	978.00	1706.00	1397.00	0.00	113.35	226.00	15.54	10.65	4.12	18.36	0.60
27.00	48.00	59.00	50.00	9.50	16.00	38.00	57.00	47.00	0.00	4.00	9.00	0.59	0.41	0.25	0.81	0.20
19.00	37.00	53.00	42.00	9.10	10.00	23.00	52.00	41.00	0.00	2.45	5.00	0.05	0.24	0.10	0.02	0.00
21.68	42.13	55.90	46.23	9.37	12.03	31.55	55.03	45.06	0.00	3.66	7.29	0.50	0.34	0.13	0.59	0.02

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282
C.HUTCHINSON	B17017
STNLEY E.BANKS	B17017
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
April 1,2018	24	6.250	6.550	99	39	16	0.356	9122	100	0	150	200	100	14.6	175
April 2,2018	24	6.430	6.610	119.5	39	21	0.178	9384	100	0	152	200	112	15.6	175
April 3,2018	24	6.360	6.660	170	58.5	29.5	0.178	9282	100	0	250	170	98	12.0	175
April 4,2018	24	6.390	6.160	183.5	60	28.5	0.089	9326	100	0	250	170	96	12.0	175
April 5,2018	24	6.540	6.390	204.5	77.5	30.5	0.089	9545	100	0	250	170	101	18.0	175
April 6,2018	24	6.380	6.110	232	79	44	0.267	9311	100	0	250	170	103	16.7	175
April 7,2018	24	6.220	6.680	133.6	48	23.8	0.356	9078	100	0	250	170	78	11.6	175
April 8,2018	24	6.540	6.850	105	36	21	0.267	9545	100	0	250	160	100	10.8	175
April 9,2018	24	6.570	6.100	144	60	15	0.178	9589	100	0	240	160	100	12.0	175
April 10,2018	24	6.200	6.070	205.3	77.8	30.5	0.178	9049	100	0	200	140	100	14.9	175
April 11,2018	24	6.350	6.050	155	52.5	18	0.267	9268	100	0	224	200	100	12.0	175
April 12,2018	24	6.270	6.290	140	47	15	0.267	9268	100	0	200	200	96	12.0	177
April 13,2018	24	6.190	6.530	172	55	23	0.267	9034	100	0	200	200	96	12.0	175
April 14,2018	24	5.680	6.260	137	49	24	0.267	8289	100	0	200	200	64	17.8	175
April 15,2018	24	6.260	6.650	114	38	14	0.267	9136	100	0	200	200	52	12.7	175
April 16,2018	24	6.620	6.290	285	104	39	0.178	9662	100	0	200	200	98	18.0	175
April 17,2018	24	5.710	6.040	345	128	16	0.18	8334	100	0	200	206	28	12.0	175
April 18,2018	24	6.820	6.550	459.5	152	24	0.178	9954	100	0	200	220	100	12.0	175
April 19,2018	24	6.350	6.240	571.5	162	29	0.267	9268	100	0	200	220	100	12.0	175
April 20,2018	24	5.780	6.000	338	112	22	0.356	8436	100	0	210	220	148	9.6	175
April 21,2018	24	5.860	6.630	458	136	13	0.267	8553	100	0	220	220	150	17.0	175
April 22,2018	24	6.370	6.030	546	139	25	0.445	9297	100	0	210	200	150	16.0	175
April 23,2018	24	5.720	5.930	437	110	29	0.089	8348	100	0	200	200	156	12.0	175
April 24,2018	24	5.180	5.790	504.5	124	29	0.356	7560	100	0	200	220	90	12.0	175
April 25,2018	24	5.790	5.890	521	112	33.5	0	8450	100	0	200	220	104	12.0	175
April 26,2018	24	6.300	6.200	685	125.5	57.5	0.267	9194	100	0	200	200	103	13.3	175
April 27,2018	24	5.690	5.910	577	129	26	0.445	8305	100	0	200	220	100	16.6	175
April 28,2018	24	5.760	5.940	3.42.5	89	27	0.267	8467	100	0	200	200	93	13.3	176
April 29,2018	24	6.080	6.250	363	58	24	0.267	8873	100	0	200	200	141.0	15	175
April 30,2018	24	5.740	6.080	462	75	38	0.178	8378	100	0	220	200	150	12.0	175
Total	720.00	184.40	187.73	8866.90	2571.80	785.80	7.21	269305.00	#####	0.00	6326.00	######	3107.00	407.63	5253.41
Max.	24.00	6.82	6.85	685.00	162.00	57.50	0.45	9954.00	100.00	0.00	250.00	220.00	156.00	18.00	177.24
Min.	24.00	5.18	5.79	99.00	36.00	13.00	0.00	7560.00	100.00	0.00	150.00	140.00	28.00	9.60	174.98
Avg.	24.00	6.15	6.26	305.76	85.73	26.19	0.24	8976.83	100.00	0.00	210.87	195.20	103.57	13.59	175.11

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

LUIS ANDINO A22919
RODOLFO PEREZ A15983
CARLTON CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : April
Telephone Number : (954) 730-2972

CHEMICA

DOSAGES						RAW WATER											
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28
2	0	2.9	3.8	0.44	0.28	6,8	7.2	240	260	224	36	34	0.3	34	40	1.5	9.9
1.9	0.0	2.8	3.7	0.48	0.291	6,8	7.2	240	260	224	36	34	0.3	30	40	1.7	9.9
1.9	0.0	4.7	3.2	0.42	0.23	6,8	7.2	230	260	240	20	30	0.3	30	40	1.5	9.9
1.9	0.0	4.7	3.2	0.41	0.23	6,8	7.2	230	260	240	20	30	0.3	30	40	1.3	10.0
1.8	0.0	4.6	3.1	0.43	0.33	6,8	7.2	230	260	240	20	30	0.3	30	40	1.5	10.0
1.9	0.0	4.7	3.2	0.45	0.31	6,8	7.3	230	260	240	20	30	0.3	30	40	1.4	10.0
1.9	0.0	4.8	3.3	0.35	0.22	6,8	7.3	230	260	240	20	30	0.3	30	40	1.5	10.0
1.8	0.0	4.6	2.9	0.42	0.20	6,8	7.1	180	210	190	20	38	0.2	38	38	1.6	10.0
1.8	0.0	4.4	2.9	0.42	0.22	6,8	7.1	182	214	192	22	38	0.2	32	40	1.4	10.0
1.9	0.0	3.9	2.7	0.44	0.29	6,8	7.2	190	220	200	20	30	0.3	36	40	1.4	10.1
1.9	0.0	4.2	3.8	0.43	0.23	4,5,6	7.4	206	236	220	16	30	0.2	40	40	1.4	9.9
1.9	0.0	3.8	3.8	0.42	0.23	4,5,6	7.4	206	236	220	16	30	0.2	40	40	1.4	10.1
2.2	0.0	3.9	3.9	0.43	0.23	4,5,6	7.3	206	236	220	16	30	0.3	26	40	1.36	10.0
2.1	0.0	4.2	4.2	0.31	0.37	4,5,6	7.3	206	236	220	16	30	0.3	36	40	1.6	9.9
1.9	0.0	3.8	3.8	0.23	0.24	4,5,6	7.2	206	236	220	16	30	0.3	34	40	1.5	9.9
1.8	0.0	3.6	3.6	0.41	0.33	4,5,6	7.4	218	234	210	18	30	0.3	30	36	1.5	9.9
2.1	0.0	4.2	4.3	0.14	0.25	4,5,6	7.4	210	240	220	20	26	0.3	36	40	1.6	10.0
1.8	0.0	3.5	3.9	0.40	0.21	4,5,6	7.4	210	240	220	20	26	0.3	36	40	1.4	10.0
1.9	0.0	3.8	4.2	0.43	0.23	4,5,6	7.4	210	240	220	20	26	0.3	36	40	1.5	10.0
2.1	0.0	4.4	4.6	0.71	0.20	4,5,5	7.4	210	240	220	20	26	0.3	36	40	1.4	10.1
2.0	0.0	4.5	4.5	0.71	0.35	4,5,6	7.3	212	246	230	16	28	0.4	30	38	1.7	10.0
1.9	0.0	4.0	3.8	0.65	0.30	4,5,6	7.3	212		230	14	30	0.4	30	38	2.0	10.0
2.1	0.0	4.2	4.2	0.75	0.25	4,5,6	7.3	212	244	230	14	30	0.4	28	38	1.7	10.1
2.3	0.0	4.6	5.1	0.48	0.28	4,5,6	7.3	210	246	230	16	30	0.3	36	40	1.7	10.0
2.1	0.0	4.1	4.6	0.50	0.25	4,6	7.3	210	246	230	16	30	0.3	36	40	1.6	9.9
1.9	0.0	3.8	3.8	0.45	0.25	4,5,6	7.4	210	240	230	10	30	0.3	30	40	1.8	10.0
2.1	0.0	4.2	4.6	0.48	0.35	4,5	7.3	214	246	232	14	20	0.4	30	40	1.7	10.1
2.1	0.0	4.2	4.2	0.45	0.28	4,5	7.3	214	246	232	14	20	0.4	30	40	1.6	10.0
2.0	0.0	3.9	3.9	0.64	0.30	4,5	7.3	216	244	232	12	20	0.4	30	40	1.7	10.0
2.1	0.0	4.6	4.2	0.72	0.25	4,6	7.4	218	236	220	16	18	0.4	28	42	1.5	10.1
58.96	0.00	123.64	115.01	14.00	7.97	0.00	218.80	6398.00	7032.00	6716.00	554.00	864.00	8.68	978.00	1190.00	46.33	299.80
2.31	0.00	4.82	5.09	0.75	0.37	0.00	7.40	240.00	260.00	240.00	36.00	38.00	0.40	40.00	42.00	1.98	10.10
1.76	0.00	2.83	2.71	0.14	0.20	0.00	7.10	180.00	210.00	190.00	10.00	18.00	0.19	26.00	36.00	1.34	9.90
1.97	0.00	4.12	3.83	0.47	0.27	#DIV/0!	7.29	213.27	242.48	223.87	18.47	28.80	0.29	32.60	39.67	1.54	9.99

County : Broward
I.D. Number : ######
Year : 2018

L AND PHYSICAL RESULTS

SETTLED WATER				FINISHED WATER												
P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
20	45	58	48	9.3	9	36	58	48	0.0	3.8	7	0.45	0.39	0.20	0.69	0.0
21	44	60	49	9.4	10	34	58	49	0.0	3.8	5	0.47	0.34	0.14	0.72	0.0
18	39	56	46	9.0	11	23	56	46	0.0	3.5	5	0.48	0.33	0.12	0.27	0.1
20	39	57	47	9.3	10	24	56	46	0.0	3.7	5	0.51	0.33	0.12	0.55	0.2
17	39	55	45	9.3	12	34	57	46	0.0	3.8	9	0.48	0.35	0.12	0.59	0.1
20	38	57	47	9.4	13	32	56	46	0.0	3.8	8	0.57	0.32	0.11	0.65	0.0
18	41	58	48	9.4	12	34	58	48	0.0	3.8	8	0.58	0.38	0.15	0.18	0.0
22	43	58	48	9.3	11	35	57	47	0.0	3.8	8	0.40	0.38	0.16	0.63	0.4
23	41	61	50	9.5	12	36	57	47	0.0	3.7	8	0.39	0.34	0.12	0.74	0.3
23	40	57	47	9.5	13	32	57	46	0.0	3.6	9	0.42	0.34	0.12	0.75	0.2
22	45	58	48	9.4	12	34	57	47	0.0	3.5	9	0.48	0.36	0.15	0.70	0.0
20	41	56	46	9.3	10	28	56	46	0.0	3.6	10	0.55	0.35	0.14	0.52	0.0
20	41	57	47	9.3	11	30	57	47	0.0	3.7	9	0.36	0.34	0.12	0.53	0.0
21	44	58	48	9.3	10	33	57	47	0.0	3.4	6	0.55	0.41	0.19	0.74	0.0
21	44	59	50	9.4	10	34	57	47	0.0	3.6	6	0.36	0.42	0.22	0.76	0.0
20	45	63	52	9.4	11	35	57	47	0.0	3.8	8	0.37	0.36	0.17	0.72	0.0
22	42	56	45	9.4	11	29	56	46	0.0	3.5	8	0.38	0.32	0.12	0.64	0.0
22	43	57	47	9.4	13	34	57	46	0.0	3.6	8	0.37	0.36	0.12	0.70	0.0
21	43	26	45	9.3	11	33	57	46	0.0	3.5	8	0.55	0.37	0.18	0.57	0.0
21	41	56	47	9.3	10	23	56	46	0.0	3.4	8	0.53	0.33	0.12	0.63	0.0
22	45	59	48	9.3	10	22	56	46	0.0	3.6	8	0.63	0.41	0.20	0.46	0.0
22	45	58	49	9.4	12	24	58	48	0.0	3.5	8	0.65	0.39	0.22	0.61	0.0
24	44	58	48	9.4	12	28	56	47	0.0	3.6	8	0.60	0.34	0.13	0.64	0.0
20	43	59	49	9.2	11	25	57	49	0.0	3.0	9	0.60	0.36	0.17	0.44	0.0
19	39	56	45	9.1	10	26	55	45	0.0	3.2	8	0.60	0.37	0.16	0.32	0.0
22	43	64	54	9.2	12	28	56	46	0.0	3.5	8	0.61	0.40	0.15	0.46	0.0
22	45	58	48	9.1	11	29	56	46	0.0	3.5	10	0.60	0.36	0.15	0.58	0.0
22	46	59	49	9.4	11	40	59	49	0.0	3.7	8	0.53	0.40	0.18	0.91	0.0
21	44	59	49	9.3	11	39	58	48	0.0	3.6	8	0.46	0.49	0.23	0.73	0.0
22	45	58	48	9.3	11	41	57	47	0.0	3.3	8	0.50	0.35	0.12	0.74	0.0
628.00	######	1711.00	1437.00	279.55	333.00	935.00	1705.00	1405.00	0.00	107.40	235.00	15.03	10.99	4.60	18.17	1.30
24.00	46.00	64.00	54.00	9.50	13.00	41.00	59.00	49.00	0.00	3.80	10.00	0.65	0.49	0.23	0.91	0.40
17.00	38.00	26.00	45.00	9.00	9.00	22.00	55.00	45.00	0.00	3.00	5.00	0.36	0.32	0.11	0.18	0.00
20.93	42.57	57.03	47.90	9.32	11.10	31.17	56.83	46.83	0.00	3.58	7.83	0.50	0.37	0.15	0.61	0.04

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD ***A8226***

I HUTCHINSO ***A17010***

Lead Operator Signature: **Operator's Names & Cert. No.** C HUTCHINS(**A17011**

INDRAJ SAMI **A7282**

How Many Other Operators? 9 STNLEY E.BA **A17017**

Total Metered Services at End of Month: 11,050

KERRY ROM/ **C7873**

Design Flow: 16MGD R.RAMNARIN **C12091**

H.RODRIGUE **C19220** RAJIV SAML/ ***C228***

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
May I, 2018	24	5.670	5.950	512	93	34	0.178	8275	100	0	200	200		12.0	175	2	0
May 2, 2018	24	5.730	5.980	489	80.5	25	0.356	8363	100	0	220	200	190	12.0	175	2.1	0.0
May 3,2018	24	5.870	6.580	405	80.5	34	0.178	8567	100	0	220	200	140		175	2.0	0.0
May 4, 2018	24	5.600	5.790	492	83	34	0.267	8173	100	0	220	200	120	14.9	175	2.1	0.0
May 5, 2018	24	5.750	6.290	422	76	31	0.445	8392	100	0	220	200	150	13.4	175	2.1	0.0
May 6, 2018	24	5.850	6.090	358	58	30	0.178	8538	100	0	220	200	120	12.0	175	2.0	0.0
May 7,2018	24	5.810	5.960	411	70	28.5	0.267	8480	100	0	220	200	114	16.7	175	2.1	0.0
May 8, 2018	24	5.830	6.250	428.5	71.5	27.5	0.356	8508	100	0	220	200	120	18.0	175	2.1	0.0
May 9, 2018	24	5.900	6.320	362.5	62	26.5	0.267	8611	100	0	220	200	130	18.0	175	2.0	0.0
May 10, 2018	24	5.380	5.640	353.5	50.5	36.5	0.267	7852	100	0	220	200	119	15.1	175	2.2	0.0
May 11,2018	24	5.850	6.290	368.5	60.5	34.5	0.267	8538	100	0	240	200	120	14.9	175	2.0	0.0
May 12, 2018	24	5.870	6.200	310	63	26	0.178	8567	100	0	240	200	130	13.2	175	2.0	0.0
May 13, 2018	24	5.450	5.950	444	75	38	0.267	7954	100	0	240	200	149	13.9	175	2.2	0.0
May 14, 2018	24	5.780	6.150	438	73	30.5	0.356	8436	100	0	240	200	129	12.3	175	2.1	0.0
May 15, 2018	24	5.350	5.620	367.5	64	30.5	0.356	7808	100	0	240	200	120	18.0	175	2.2	0.0
May 16, 2018	24	4.840	5.520	366	62	30.5	0.267	7064	100	0	240	200	125	12.0	175	2.5	0.0
May 17, 2018	24	5.510	5.770	468.5	78.5	27	0.267	8042	100	0	220	200	130	13.6	175	2.2	0.0
May 18, 2018	24	4.910	5.520	414.5	69	29.5	0.089	7166	100	0	200	200	130	17.7	175	2.4	0.0
May 19, 2018	24	5.700	6.160	461	80	30	0.267	8319	100	0	240	200	140	10.4	175	2.1	0.0
May 20, 2018	24	5.670	6.120	416	71	31	0.356	8275	100	0	220	220	144	18.0	175	2.1	0.0
May 21, 2018	24	5.570	5.580	374	61	25.5	0.267	8129	100	0	220	220	130	13.6	175	2.2	0.0
May 22, 2018	24	5.470	5.920	375	57	29.5	0.267	7983	100	0	220	220	120	18.0	175	2.2	0.0
May 23, 2018	24	4.740	5.510	405	66.5	39.5	0.326	6918	100	0	210	220	121	16.4	175	2.5	0.0
May 24, 2018	24	5.170	5.660	401.5	71.5	19.5	0.267	7545	100	0	220	226	125	14.9	175	2.3	0.0
May 25, 2018	24	5.690	5.630	420.5	74	26	0.267	8304	100	0	240	230	128	16.7	175	2.1	0.0
May 26, 2018	24	5.280	5.910	423	67.5	29	0.089	7706	100	0	220	220	112	11.9	175	2.3	0.0
May 27, 2018	24	5.460	5.760	514	88	38	0.356	7931	100	0	220	220	140	14.8	174	2.2	0.0
May 28, 2018	24	4.970	5.320	451.5	91.5	25.5	0.255	7254	100	0	227	200	120	10.6	175	2.4	0.0
May 29,2018	24	5.290	8.810	453	84.5	29.5	0.178	7720	100	0	220	220	120.0	18	175	2.3	0.0
May 30,2018	24	5.800	6.210	491.5	85	35.5	0.267	8465	100	0	220	220	120	18.0	175	2.1	0.0
May 31,2018	24	5.040	5.180	438.5	72	25	0.356	7356	100	0	260	130	120	13.3	175	2.4	0.0
Total	744.00	170.80	185.64	13035.00	2239.50	937.00	8.32	249239.00	3100.00	0.00	6977.00	6346.00	3876.00	442.33	5424.04	67.72	0.00
Max.	24.00	5.90	8.81	514.00	93.00	39.50	0.45	8611.00	100.00	0.00	260.00	230.00	190.00	18.00	175.01	2.53	0.00
Min.	24.00	4.74	5.18	310.00	50.50	19.50	0.09	6918.00	100.00	0.00	200.00	130.00	112.00	10.40	174.17	2.03	0.00
Avg.	24.00	5.51	5.99	420.48	72.24	30.23	0.27	8039.97	100.00	0.00	225.06	204.71	129.20	14.74	174.97	2.18	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : October

Telephone Number : (954) 730-2972

78

				CHEMICAL AND PHYSICAL RESULTS																		
DOSAGES				RAW WATER										SETTLED WATER								
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
4.2	4.2	0.00	0.25	4,6	7.4	218	236	220	16	18	0.4	28	42	1.5	10.0	22	43	58	49	9.4	11	40
4.6	4.2	0.91	0.251	3,6	7.4	220	238	218	20	20	0.4	28	40	1.5	10.0	23	45	58	48	9.2	11	39
4.5	4.1	0.66	0.00	5,8	7.3	230	240	230	10	30	0.3	30	40	1.5	9.9	19	42	57	48	9.2	11	29
4.7	4.3	0.59	0.32	5,8	7.3	224	244	230	14	30	0.3	30	40	1.6	10.0	19	40	57	47	9.0	9	26
4.6	4.2	0.72	0.28	5,8	7.3	224	244	230	14	30	0.3	30	40	1.3	10.0	22	46	58	48	9.5	13	38
4.5	4.1	0.57	0.25	5,8	7.4	218	236	220	16	18	0.4	28	40	1.8	10.2	20	45	59	50	9.2	12	38
4.5	4.1	0.54	0.34	5,8	7.3	220	240	230	10	20	0.3	30	40	1.4	10.0	22	40	57	47	9.2	11	29
4.5	4.1	0.57	0.37	5,8	7.5	226	248	230	18	20	0.3	36	40	1.4	10.0	23	40	57	48	9.4	13	33
4.5	4.1	0.61	0.37	5,8	7.4	226	248	230	18	20	0.3	36	40	1.4	10.0	21	42	56	47	9.0	13	33
4.9	4.5	0.61	0.34	5,8	7.4	226	248	230	18	20	0.3	30	40	1.4	10.2	25	49	60	49	9.3	12	32
4.9	4.1	0.57	0.31	5,8	7.4	226	248	230	18	20	0.3	30	40	1.4	10.1	21	42	57	47	9.3	12	33
4.9	4.1	0.61	0.27	5,8	7.4	226	248	230	18	20	0.3	30	40	1.6	10.0	21	42	57	47	9.1	10	30
5.3	4.4	0.75	0.31	5,8	7.4	226	248	230	18	20	0.3	34	40	1.6	10.1	22	50	60	49	9.2	11	39
5.0	4.1	0.62	0.26	5,8	7.4	218	236	220	16	18	0.4	28	40	1.4	10.1	23	46	58	48	9.3	11	35
5.4	4.5	0.62	0.40	5,6	7.3	226	244	230	14	26	0.3	30	40	1.4	10.0	24	42	58	50	9.4	13	37
5.9	5.0	0.71	0.30	5,6,3	7.3	226	244	230	14	26	0.3	30	40	1.4	10.0	19	39	60	50	9.3	11	32
4.8	4.4	0.65	0.30	3,6	7.4	226	244	230	14	26	0.3	30	40	1.5	10.1	21	40	58	48	9.2	11	25
4.9	4.9	0.73	0.43	3,6	7.4	226	244	230	14	26	0.3	30	40	1.3	10.1	21	42	57	46	9.2	11	30
5.0	4.2	0.68	0.22	3,6	7.4	226	244	230	14	26	0.3	30	36	1.6	10.0	22	50	59	49	9.1	9	30
4.7	4.7	0.70	0.38	3,6	7.3	218	236	220	16	18	0.4	30	40	1.7	10.1	24	48	58	47	8.9	5	28
4.7	4.7	0.64	0.29	3,6	7.4	220	236	220	16	18	0.4	30	40	1.5	10.2	23	45	59	49	9.3	11	32
4.8	4.8	0.61	0.39	3,6	7.2	226	244	230	14	22	0.3	30	40	1.4	10.0	20	39	56	46	9.4	12	36
5.3	5.6	0.70	0.41	3,6	7.2	226	244	230	14	22	0.3	30	40	1.4	10.1	20	40	55	45	9.4	10	27
5.1	5.2	0.67	0.35	3,6	7.2	226	244	230	14	22	0.3	30	40	1.5	10.2	21	41	57	48	9.4	12	35
5.1	4.8	0.62	0.35	3,6	7.2	226	244	230	14	22	0.3	30	40	1.4	10.1	21	41	56	47	9.3	12	36
5.0	5.0	0.58	0.27	3,6	7.2	226	244	230	14	22	0.3	30	40	2.0	10.1	21	46	58	48	9.2	10	31
4.8	4.8	0.71	0.33	3,6	7.2	226	244	230	14	22	0.3	30	40	1.9	10.1	23	54	60	51	9.4	9	32
5.5	4.8	0.67	0.26	3,6	7.2	228	246	230	16	22	0.3	30	40	1.5	10.1	22	42	57	48	9.2	10	30
5.0	5.0	0.63	0.41	3,6	7.2	228	246	230	16	20	0.3	30	40	1.7	10.1	23	42	58	48	8.8	5	30
4.5	4.5	0.57	0.37	4,6	7.2	228	246	230	16	20	0.3	30	40	1.4	10.1	23	43	57	47	9.3	11	33
6.2	3.1	0.66	0.32	3,4,6	7.3	224	250	230	20	20	0.3	30	40	1.4	9.9	19	46	59	48	8.9	11	35
152.41	138.57	19.46	9.68	0.00	226.90	6960.00	7546.00	7068.00	478.00	684.00	9.58	938.00	1238.00	46.35	311.82	670.00	1352.00	1791.00	1487.00	285.99	333.00	1013.00
6.19	5.57	0.91	0.43	0.00	7.50	230.00	250.00	230.00	20.00	30.00	0.38	36.00	42.00	1.95	10.20	25.00	54.00	60.00	51.00	9.50	13.00	40.00
4.23	3.09	0.00	0.00	0.00	7.20	218.00	236.00	218.00	10.00	18.00	0.26	28.00	36.00	1.30	9.90	19.00	39.00	55.00	45.00	8.80	5.00	25.00
4.92	4.47	0.63	0.31	#DIV/0!	7.32	224.52	243.42	228.00	15.42	22.06	0.31	30.26	39.94	1.50	10.06	21.61	43.61	57.77	47.97	9.23	10.74	32.68

County : Broward

I.D. Number : 4E+06

Year : 2017

FINISHED WATER									
Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
36	37	38	39	40	41	42	43	44	45
58	47	0.0	3.6	8	0.49	0.34	0.12	0.73	0.0
57	47	0.0	3.5	8	0.63	0.34	0.11	0.50	0.0
56	46	0.0	3.5	8	0.62	0.40	0.11	0.49	0.0
56	46	0.0	3.6	8	0.59	0.35	0.10	0.23	0.0
59	49	0.0	3.7	8	0.59	0.42	0.06	0.93	0.0
59	49	0.0	3.7	8	0.59	0.38	0.08	0.50	0.0
56	46	0.0	3.2	8	0.58	0.35	0.11	0.40	0.0
56	46	0.0	3.6	8	0.59	0.34	0.11	0.77	0.0
56	47	0.0	3.8	8	0.60	0.33	0.11	0.28	0.0
57	46	0.0	3.4	10	0.58	0.38	0.13	0.55	0.0
56	47	0.0	3.7	9	0.58	0.36	0.12	0.58	0.0
57	46	0.0	3.6	9	0.55	0.43	0.21	0.46	0.0
60	50	0.0	3.8	8	0.57	0.46	0.21	0.65	0.0
57	47	0.0	3.7	8	0.55	0.34	0.13	0.67	0.0
57	47	0.0	3.6	9	0.54	0.33	0.12	0.66	0.0
56	46	0.0	3.5	8	0.55	0.34	0.10	0.55	0.0
56	46	0.0	3.5	8	0.54	0.36	0.13	0.41	0.0
56	45	0.0	3.4	8	0.55	0.37	0.12	0.41	0.0
57	47	0.0	3.3	8	0.58	0.43	0.15	0.14	0.0
59	48	0.0	3.4	8	0.64	0.40	0.16	0.18	0.0
56	56	0.0	3.5	8	0.61	0.36	0.12	0.55	0.0
57	47	0.0	3.4	8	0.57	0.37	0.11	0.64	0.0
56	46	0.0	3.0	8	0.60	0.35	0.12	0.60	0.0
57	47	0.0	3.4	8	0.61	0.39	0.11	0.67	0.0
57	47	0.0	2.8	8	0.62	0.34	0.10	0.54	0.0
56	46	0.0	2.8	8	0.59	0.43	0.13	0.56	0.0
58	48	0.0	3.4	8	0.62	0.45	0.15	0.74	0.0
57	48	0.0	3.0	8	0.63	0.33	0.12	0.44	0.0
58	48	0.0	2.8	8	0.56	0.35	0.10	0.16	0.0
57	47	0.0	3.3	8	0.56	0.33	0.10	0.58	0.0
57	47	0.0	2.8	8	0.59	0.39	0.11	0.22	0.0

1767.00	1465.00	0.00	105.30	253.00	18.07	11.54	3.76	15.79	0.00
60.00	56.00	0.00	3.80	10.00	0.64	0.46	0.21	0.93	0.00
56.00	45.00	0.00	2.80	8.00	0.49	0.33	0.06	0.14	0.00
57.00	47.26	0.00	3.40	8.16	0.58	0.37	0.12	0.51	0.00

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: _____ **Operator's Names & Cert. No.**

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

INDRAJ SAMLAL	A7282		LUIS AND
C.HUTCHINSON	B17017		RODOLFO
STNLEY E.BANKS	B17017		CARLTON
KERRY ROMAN	C7873		
R.RAMNARINE	C12091		
H.RODRIGUEZ	C19220		

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
June 1, 2018	24	5.410	5.910	357.5	72	26.5	0.267	7895	100	0	210	220	124	15.4	175	2
June 2, 2018	24	5.130	5.500	397	67	38	0.178	7487	100	0	220	260	120	12.8	175	2.3
June 3, 2018	24	5.810	6.350	477	73	39	0.267	8480	100	0	220	260	130	15.6	175	2.1
June 4, 2018	24	5.910	6.390	466.5	81.5	30	0.267	8625	100	0	200	260	130	13.6	175	2.0
June 5, 2018	24	5.350	5.890	448	84	27.5	0.178	7808	100	0	220	240	130	18.0	175	2.2
June 6, 2018	24	5.670	5.860	499.5	83	39	0.27	8275	100	0	220	240	120	19.3	175	2.1
June 7, 2018	24	5.760	5.540	477.5	87	33.5	0.27	8406	100	0	220	240	120	15.1	175	2.1
June 8, 2018	24	4.940	5.550	375.5	67	28	0.267	7210	100	0	220	240	122	14.9	175	2.4
June 9, 2018	24	5.040	5.850	417	78.5	30.5	0.178	7355	100	0	220	240	135	11.6	175	2.4
June 10, 2018	24	5.400	5.740	458	82	39	0.267	7881	100	0	210	240	148	15.5	175	2.2
June 11, 2018	24	6.090	5.500	475.5	98.5	31	0.267	8888	100	0	210	240	122	15.0	175	2.0
June 12, 2018	24	5.050	5.610	407.5	80	30	0.267	7370	100	0	240	250	122	16.7	175	2.4
June 13, 2018	24	5.340	5.830	426.3	72	30.5	0.178	8520	100	0	240	240	124	13.3	191	2.2
June 14, 2018	24	6.050	6.370	444.5	75	34.5	0.356	8830	100	0	240	240	120	12.0	175	2.0
June 15, 2018	24	4.680	5.160	387	71.5	25.5	0.267	6830	100	0	240	240	120	15.1	175	2.6
June 16, 2018	24	5.320	5.730	435	86	37	0.267	7765	100	0	240	250	150	12.5	175	2.3
June 17, 2018	24	5.500	5.970	473	90	27	0.267	8027	100	0	220	220	150	15.6	175	2.2
June 18, 2018	24	5.160	5.640	434	90	25	0.267	7531	100	0	215	226	150	12.0	175	2.3
June 19, 2018	24	5.350	5.980	408	88	27	0.178	7808	100	0	250	250	100	8.9	175	2.2
June 20, 2018	24	5.890	5.710	509.5	102	38.5	0.059	8596	100	0	275	260	120	15.1	175	2.0
June 21, 2018	24	5.590	6.060	559.5	98.5	33.5	0.445	8158	100	0	260	280	120	15.1	175	2.1
June 22, 2018	24	5.490	5.910	392.5	94	25.5	0.356	8012	100	0	220	220	120	18.0	175	2.2
June 23, 2018	24	5.610	5.930	336	57	27.5	0.178	8233	100	0	260	260	133	20.0	176	2.1
June 24, 2018	24	5.840	6.840	439	69	39	0.267	8523	100	0	215	260	145	17.0	175	2.1
June 25, 2018	24	5.450	5.550	469	72	30.5	0.267	7954	100	0	220	250	130	16.6	175	2.2
June 26, 2018	24	5.590	6.290	446	89	26.5	0.267	8185	100	0	220	250	130	13.3	176	2.1
June 27, 2018	24	5.570	5.900	431.5	79.5	29.5	0.267	8129	100	0	220	240	121	18.0	175	2.2
June 28, 2018	24	5.350	5.730	4.17.5	71	30	0.267	7808	100	0	220	250	130	12.0	175	2.2
June 29, 2018	24	5.180	5.620	425.5	68	32	0.178	7560	100	0	220	250	124.0	18	175	2.3
June 30, 2018	24	5.690	5.780	483	75	44	0.267	8305	100	0	220	250	150	21.1	175	2.1
Total	720.00	164.21	175.69	12755.80	2401.00	955.00	7.54	240454.00	#####	0.00	6805.00	######	3860.00	457.09	5267.66	65.96
Max.	24.00	6.09	6.84	559.50	102.00	44.00	0.45	8888.00	100.00	0.00	275.00	280.00	150.00	21.10	191.31	2.56
Min.	24.00	4.68	5.16	336.00	57.00	25.00	0.06	6830.00	100.00	0.00	200.00	220.00	100.00	8.90	174.98	1.97
Avg.	24.00	5.47	5.86	439.86	80.03	31.83	0.25	8015.13	100.00	0.00	226.83	245.53	128.67	15.24	175.59	2.20

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

)INO A22919
) PEREZ A15983
N CORINTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : June
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICA

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	4.7	4.9	0.63	0.34	3,6	7.3	222	248	230	18	20	0.3	30	40	1.4	10.2	24	44	57
0.0	5.1	6.1	0.65	0.299	3,6	7.3	222	248	230	18	20	0.4	28	40	1.9	10.1	22	44	58
0.0	4.5	5.4	0.62	0.32	3,6	7.3	224	246	230	16	24	0.3	30	40	1.9	10.1	23	46	59
0.0	4.1	5.3	0.61	0.28	3,6,4	7.3	224	248	230	18	26	0.3	30	40	1.5	10.2	25	44	57
0.0	4.9	5.4	0.67	0.40	3,4,6	7.3	224	250	234	16	26	0.3	30	40	1.4	10.1	22	41	57
0.0	4.7	5.1	0.58	0.41	3,8	7.4	226	250	236	14	24	0.3	28	40	1.4	10.1	23	43	57
0.0	4.6	5.0	0.57	0.31	5,8	7.3	224	248	230	18	24	0.3	30	40	1.4	10.2	22	43	53
0.0	5.3	5.8	0.68	0.36	5,8	7.3	224	248	230	18	24	0.3	36	40	1.5	10.2	23	43	57
0.0	5.2	5.7	0.74	0.28	5,8	7.3	224	248	230	18	24	0.3	36	40	1.95	10.2	22	46	56
0.0	4.7	5.3	0.76	0.34	5,8	7.3	224	248	226	22	24	0.3	30	40	1.9	10.2	23	43	53
0.0	4.1	4.7	0.55	0.30	5,8	7.3	224	248	228	20	30	0.3	30	40	1.5	10.2	24	43	57
0.0	5.7	5.9	0.67	0.40	5,8	7.3	224	248	228	30	30	0.3	30	40	1.4	10.2	22	38	56
0.0	5.4	5.4	0.64	0.30	5,8	7.3	224	248	228	20	30	0.3	34	40	1.4	10.2	23	42	57
0.0	4.8	4.8	0.55	0.24	5,6,8	7.3	224	248	228	20	30	0.3	28	40	1.4	10.1	23	43	57
0.0	6.1	6.1	0.71	0.39	6,8	7.4	224	248	228	20	30	0.3	30	40	1.5	10.2	22	44	57
0.0	5.4	5.6	0.78	0.28	6,8	7.4	224	248	228	20	30	0.3	30	40	2.1	10.2	24	54	55
0.0	4.8	4.8	0.75	0.34	6,8	7.4	224	248	228	20	30	0.3	30	30	2.0	10.2	27	51	58
0.0	5.0	5.3	0.80	0.28	6,8	7.4	218	236	220	16	20	0.3	30	40	1.58	10.2	25	44	57
0.0	5.6	5.6	0.52	0.20	6,8	7.4	218	236	220	16	20	0.3	30	36	1.5	10.1	23	44	58
0.0	5.6	5.3	0.56	0.31	3,8	7.4	218	236	220	16	20	0.3	30	40	1.6	10.3	24	44	57
0.0	5.6	6.0	0.59	0.32	3,8	7.4	208	236	220	16	20	0.3	30	40	1.5	10.2	23	45	58
0.0	4.8	4.8	0.60	0.39	3,8	7.4	218	236	220	16	20	0.3	30	40	1.5	10.2	23	44	57
0.0	5.6	5.6	0.65	0.43	3,8	7.3	220	240	226	16	20	0.3	30	40	1.9	10.1	23	49	58
0.0	4.4	5.3	0.68	0.35	3,8	7.2	218	234	220	14	20	0.3	30	40	2.0	10.1	23	45	58
0.0	4.8	5.5	0.66	0.37	3,8,6	7.4	218	236	220	16	18	0.4	30	40	1.4	10.0	25	43	58
0.0	4.7	5.4	0.64	0.29	3,6	7.4	218	236	220	16	18	0.3	30	40	1.5	10.1	23	44	57
0.0	4.7	5.2	0.60	0.39	3,6	7.4	218	236	220	16	16	0.3	30	40	1.6	10.0	22	40	58
0.0	4.9	5.6	0.67	0.27	3,6	7.3	218	236	220	16	20	0.3	30	40	1.6	10.1	24	44	58
0.0	5.1	5.8	0.66	0.42	3,6	7.3	218	236	220	16	20	0.3	30	40	1.6	10.0	22	40	57
0.0	4.6	5.3	0.73	0.44	3,6	7.3	218	236	220	16	20	0.3	30	40	1.8	10.1	22	47	58
0.00	149.63	161.83	19.52	10.03	0.00	220.10	6632.00	7288.00	6768.00	532.00	698.00	9.11	910.00	1186.00	48.48	304.40	696.00	######	1710.00
0.00	6.15	6.15	0.80	0.44	0.00	7.40	226.00	250.00	236.00	30.00	30.00	0.40	36.00	40.00	2.10	10.30	27.00	54.00	59.00
0.00	4.06	4.73	0.52	0.20	0.00	7.20	208.00	234.00	220.00	14.00	16.00	0.26	28.00	30.00	1.40	10.00	22.00	38.00	53.00
0.00	4.99	5.39	0.65	0.33	#DIV/0!	7.34	221.07	242.93	225.60	17.73	23.27	0.30	30.33	39.53	1.62	10.15	23.20	44.17	57.00

County : Broward
I.D. Number : ######
Year : 2018

L RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
47	8.6	3	21	54	44	0.0	2.9	8	0.62	0.34	0.11	0.72	0.0
48	9.2	10	33	57	47	0.0	3.3	8	0.57	0.42	0.13	0.55	0.0
49	9.1	9	35	58	48	0.0	3.4	8	0.57	0.42	0.16	0.48	0.0
48	9.2	10	36	57	48	0.0	3.5	8	0.54	0.33	0.12	0.44	0.0
48	9.3	12	29	56	46	0.0	3.4	8	0.57	0.34	0.12	0.49	0.0
47	9.2	10	32	55	46	0.0	3.5	8	0.54	0.34	0.10	0.45	0.0
45	9.4	11	31	55	45	0.0	3.4	8	0.55	0.38	0.13	0.62	0.0
47	9.5	13	36	57	47	0.0	3.7	8	0.55	0.35	0.10	0.74	0.0
46	9.1	8	28	51	44	0.0	3.5	8	0.59	0.59	0.17	0.42	0.0
45	9.1	3	30	46	37	0.0	3.6	9	0.65	0.49	0.19	0.20	0.0
48	9.1	8	26	55	46	0.0	3.6	8	0.62	0.33	0.12	0.27	0.0
47	9.1	9	24	56	46	0.0	3.2	8	0.58	0.33	0.10	0.29	0.0
47	9.2	11	29	57	47	0.0	3.5	9	0.59	0.33	0.10	0.40	0.0
46	9.2	10	29	55	44	0.0	3.7	8	0.60	0.37	0.13	0.17	0.0
47	8.9	8	25	56	46	0.0	3.4	8	0.60	0.36	0.10	0.11	0.0
45	8.9	6	26	54	44	0.0	3.3	8	0.63	0.49	0.15	0.11	0.0
48	9.2	10	30	60	50	0.0	3.8	8	0.61	0.47	0.16	0.54	0.0
48	9.0	8	26	58	40	0.0	3.5	8	0.55	0.33	0.12	0.44	0.0
48	9.4	15	36	57	47	0.0	3.7	8	0.58	0.33	0.11	0.64	0.0
48	9.3	13	36	58	48	0.0	3.3	9	0.55	0.36	0.10	0.40	0.0
48	9.2	12	29	57	47	0.0	3.5	11	0.57	0.34	0.80	0.40	0.0
47	9.2	11	27	56	46	0.0	3.5	8	0.58	0.34	0.10	0.35	0.0
47	9.0	9	29	56	45	0.0	3.5	8	0.60	0.45	0.17	0.34	0.0
47	9.2	11	29	55	45	0.0	4.0	8	0.62	0.56	0.20	0.47	0.0
49	9.0	7	28	58	48	0.0	3.5	8	0.64	0.35	0.12	0.19	0.0
47	9.3	11	27	56	46	0.0	3.6	8	0.62	0.34	0.11	0.45	0.0
48	9.3	10	28	56	47	0.0	3.5	8	0.61	0.35	0.11	0.48	0.0
48	9.3	11	30	56	46	0.0	3.6	9	0.60	0.40	0.11	0.30	0.0
48	9.3	11	33	58	47	0.0	3.7	8	0.62	0.38	0.11	0.60	0.0
48	9.1	10	28	56	46	0.0	3.6	9	0.62	0.47	0.12	0.36	0.0

1419.00	274.90	290.00	886.00	1676.00	1373.00	0.00	105.20	248.00	17.74	11.68	4.47	12.42	0.00
49.00	9.50	15.00	36.00	60.00	50.00	0.00	4.00	11.00	0.65	0.59	0.80	0.74	0.00
45.00	8.60	3.00	21.00	46.00	37.00	0.00	2.90	8.00	0.54	0.33	0.10	0.11	0.00
47.30	9.16	9.67	29.53	55.87	45.77	0.00	3.51	8.27	0.59	0.39	0.15	0.41	0.00

ENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226

M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.** INDRAJ SAMLAL A7282

C.HUTCHINSON A17011

How Many Other Operators? 6 STNLEY E.BANKS A17017

Total Metered Services at End of Month: 11,050 KERRY ROMAN C7873

Design Flow: 16MGD R.RAMNARINE C12091

H.RODRIGUEZ C19220 RAJIV SAMLAL C22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							DOSAGE			
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	fbs108 2154G	Lime	NH3	CO2	Chlorine Pre
	1	2	3	4	5	6	7	8			9	10	11	12	13			14
July 1, 2018	24	5.130	5.900	453	80	27	0.267	7487	100	0	200	250	140	18.2	175	2	0	4.7
July 2, 2018	24	5.640	5.880	448	82	29	0.178	8231	100	0	226	250	130	15.6	175	2.1	0.0	4.8
July 3, 2018	24	5.380	5.470	490.5	74.5	41	0.178	7852	100	0	240	240	124	18.0	175	2.2	0.0	5.3
July 4, 2018	24	5.570	6.320	543.5	88	37	0.178	8129	100	0	240	246	130	12.0	175	2.2	0.0	5.2
July 5, 2018	24	5.910	6.040	561	93.5	30	0.178	8625	100	0	240	250	126	12.0	175	2.0	0.0	4.9
July 6, 2018	24	5.570	6.060	563	102	37	0.267	8129	100	0	240	300	128	12.0	175	2.2	0.0	5.2
July 7, 2018	24	5.590	5.690	471.5	91	37.5	0.267	8158	100	0	240	300	126	12.0	175	2.1	0.0	5.1
July 8, 2018	24	5.900	6.600	475	91	34	0.356	8611	100	0	205	356	140	15.1	175	2.0	0.0	4.2
July 9, 2018	24	6.170	6.280	428.5	81	24.5	0.237	9005	100	0	240	290	130	14.9	175	1.9	0.0	4.7
July 10, 2018	24	6.050	6.140	387	73	28	0.356	8830	100	0	240	280	130	18.0	175	2.0	0.0	4.8
July 11, 2018	24	5.150	5.980	407.5	80	26	0.178	7516	100	0	226	272	140	18.0	175	2.3	0.0	5.3
July 12, 2018	24	5.200	5.510	447	71.5	28	0.178	7589	100	0	200	260	130	12.0	175	2.3	0.0	4.6
July 13, 2018	24	6.010	6.360	512	84.5	34.5	0.356	8771	100	0	214	272	130	12.0	175	2.0	0.0	4.3
July 14, 2018	24	5.680	5.760	372	67	30	0.178	8290	100	0	240	300	150	15.1	175	2.1	0.0	5.1
July 15, 2018	24	5.500	6.190	422	83	27	0.356	8027	100	0	226	300	140	15.4	175	2.2	0.0	4.9
July 16, 2018	24	5.470	5.690	396.5	88	30.5	0.089	7983	100	0	220	290	130	18.0	175	2.2	0.0	4.8
July 17, 2018	24	5.430	5.770	465.5	71	38	0.366	7925	100	0	220	272	130	18.0	175	2.2	0.0	4.9
July 18, 2018	24	5.350	6.010	397	74	27	0.356	7808	100	0	220	270	130	12.0	175	2.2	0.0	4.9
July 19, 2018	24	5.430	5.650	361.5	68	23.5	0.267	7925	100	0	220	270	131	15.1	175	2.2	0.0	4.9
July 20, 2018	24	5.340	5.680	396	72	28.5	0.356	7793	100	0	220	270	130	14.9	175	2.2	0.0	4.9
July 21, 2018	24	5.550	6.210	368.5	58.5	27.5	0.178	8100	100	0	220	270	126	13.3	175	2.2	0.0	4.8
July 22, 2018	24	5.590	6.140	442	68	28	0.267	8159	100	0	220	270	140	19.6	175	2.1	0.0	4.7
July 23, 2018	24	5.440	5.670	429	76.5	20	0.356	7940	100	0	220	270	120	15.1	175	2.2	0.0	4.8
July 24, 2018	24	5.620	5.650	366	60.5	26.5		8202	100	0	220	282	131	12.0	175	2.1	0.0	4.7
July 25, 2018	24	5.420	6.040	494.5	79	37.5	0.178	7910	100	0	220	300	130	18.0	175	2.2	0.0	4.9
July 26, 2018	24	5.410	5.700	519	88.5	27	0.356	7897	100	0	220	328	130	12.0	175	2.2	0.0	4.9
July 27, 2018	24	5.270	5.450	426.5	85.5	26	0.089	7691	100	0	220	300	130	18.0	175	2.3	0.0	5.0
July 28, 2018	24	5.330	6.320	502	93	37	0.267	7779	100	0	220	306	140	10.3	175	2.2	0.0	4.9
July 29, 2018	24	5.170	5.710	510	116	31	0.356	7339	100	0	220	290	140.0	14	170	2.3	0.0	5.1
July 30, 2018	24	5.440	5.840	385.5	70	24.5	0.178	7940	100	0	220	290	140	18.0	175	2.2	0.0	4.8
July 31, 2018	24	5.260	5.540	439.5	78	36	0.356	7676	100	0	220	286	127	18.0	175	2.3	0.0	5.0
Total	744.00	170.97	183.25	13880.50	2488.50	939.00	7.72	249317.00	#####	0.00	6937.00	######	4099.00	466.24	5420.05	67.54	0.00	150.99
Max.	24.00	6.17	6.60	563.00	116.00	41.00	0.37	9005.00	100.00	0.00	240.00	356.00	150.00	19.60	175.02	2.34	0.00	5.35
Min.	24.00	5.13	5.45	361.50	58.50	20.00	0.09	7339.00	100.00	0.00	200.00	240.00	120.00	10.30	170.21	1.94	0.00	4.17
Avg.	24.00	5.52	5.91	447.76	80.27	30.29	0.26	8042.48	100.00	0.00	223.77	281.61	132.23	15.04	174.84	2.18	0.00	4.87

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : October

Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

S			RAW WATER										SETTLED WATER						
Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
5.8	0.75	0.43	3,6	7.3	220	238	220	18	20	0.3	30	40	1.8	10.1	22	45	60	50	9.0
5.3	0.64	0.332	3,6	7.4	218	236	220	16	18	0.3	30	40	1.5	10.2	23	44	58	49	9.3
5.3	0.64	0.40	3,4,6	7.4	220	240	224	16	20	0.3	30	40	1.6	10.0	21	41	56	46	9.4
5.3	0.64	0.26	5,8	7.3	220	244	226	18	20	0.3	30	40	1.4	10.1	21	41	57	45	9.4
5.1	0.59	0.24	5,8	7.3	220	244	226	18	20	0.3	30	40	1.4	10.2	25	44	58	49	9.4
6.5	0.63	0.26	4,5,6	7.3	220	244	226	18	20	0.3	30	40	1.7	9.9	23	43	58	49	9.6
6.4	0.62	0.26	4,6	7.4	216	240	226	14	20	0.3	30	40	1.8	10.1	23	43	57	47	9.2
7.2	0.65	0.31	4,6	7.4	216	240	226	14	20	0.3	30	40	1.8	10.1	22	47	58	48	9.3
5.6	0.58	0.29	3,4,6	7.4	218	244	226	16	20	0.3	30	40	1.58	10.1	22	44	57	48	9.2
5.5	0.59	0.36	3,4,6	7.4	218	244	228	16	20	0.3	30	40	1.57	10.0	24	40	57	48	9.2
6.3	0.75	0.42	3,4,6	7.4	218	244	228	16	20	0.3	30	40	1.6	10.1	22	40	57	48	9.4
6.0	0.69	0.28	3,4,6	7.4	218	244	228	16	20	0.3	30	40	1.66	10.0	27	42	57	47	9.5
5.4	0.60	0.24	3,4,6	7.4	218	244	228	16	20	0.3	30	40	1.56	10.0	21	41	57	47	9.3
6.3	0.73	0.32	3,4,6	7.4	218	244	228	16	20	0.3	30	40	2.0	10.0	21	45	58	48	9.3
6.5	0.70	0.34	3,4,6	7.4	218	246	230	16	18	0.4	30	40	2.1	10.0	22	50	61	51	9.2
6.4	0.66	0.39	3,4,6	7.4	220	246	232	14	18	0.4	30	40	1.7	10.1	24	45	59	49	9.2
6.0	0.66	0.40	3,4,6	7.3	220	248	230	18	20	0.3	30	40	1.7	10.0	21	40	57	47	9.3
6.1	0.67	0.27	3,6	7.2	218	240	226	14	20	0.3	36	40	1.68	10.0	21	41	57	47	9.3
6.0	0.67	0.33	3,6	7.2	218	240	226	14	20	0.3	36	40	1.7	10.0	23	40	58	48	9.4
6.1	0.67	0.33	3,6	7.2	218	240	226	14	20	0.3	36	40	1.7	10.0	20	40	58	48	9.5
5.8	0.63	0.29	3,6	7.2	218	240	226	14	20	0.3	36	40	1.7	9.8	18	37	57	47	9.5
5.8	0.69	0.42	3,6	7.2	218	240	226	14	20	0.3	36	40	1.7	9.9	20	40	57	47	9.4
6.0	0.61	0.33	3,6	7.4	220	240	226	14	20	0.4	34	40	1.7	9.9	20	42	57	48	9.3
6.0	0.64	0.26	3,6		220	240	226	14	20	0.3	30	40	1.7	9.9	20	41	57	47	9.3
6.6	0.66	0.40	3,6	7.4	220	240	226	14	20	0.4	30	40	1.7	10.0	21	41	56	46	9.3
7.3	0.66	0.27	3,6	7.2	220	240	226	14	20	0.4	30	40	1.7	10.0	20	40	56	47	9.1
6.8	0.68	0.41	3,6	7.3	220	244	230	14	20	0.3	30	40	1.7	10.1	25	44	59	49	9.2
6.9	0.72	0.23	3,6	7.3	220	230	230	14	20	0.3	30	40	1.6	10.0	21	42	57	47	9.1
6.7	0.75	0.32	3,6	7.3	224	248	232	16	18	0.4	30	40	1.7	10.1	20	43	56	46	9.4
6.4	0.71	0.40	3,6,4	7.3	224	248	234	14	18	0.4	30	40	1.7	10.0	19	38	58	48	9.3
6.5	0.67	0.41	4,6	7.3	224	248	234	14	18	0.3	30	40	1.6	10.0	22	40	57	47	9.1

190.10	20.55	10.17	0.00	219.80	6798.00	7508.00	7046.00	474.00	608.00	9.90	964.00	1240.00	51.94	310.70	674.00	######	1782.00	1478.00	288.40
7.27	0.75	0.43	0.00	7.40	224.00	248.00	234.00	18.00	20.00	0.40	36.00	40.00	2.10	10.20	27.00	50.00	61.00	51.00	9.60
5.07	0.58	0.23	0.00	7.20	216.00	230.00	220.00	14.00	18.00	0.26	30.00	40.00	1.38	9.80	18.00	37.00	56.00	45.00	9.00
6.13	0.66	0.33	#DIV/0!	7.33	219.29	242.19	227.29	15.29	19.61	0.32	31.10	40.00	1.68	10.02	21.74	42.06	57.48	47.68	9.30

County : Broward

I.D. Number : ######

Year : 2017

FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
34	35	36	37	38	39	40	41	42	43	44	45
9	30	60	50	0.0	3.8	9	0.60	0.47	0.15	0.35	0.0
11	32	58	48	0.0	3.7	8	0.67	0.41	0.15	0.58	0.1
12	31	58	48	0.0	3.6	8	0.62	0.36	0.11	0.65	0.0
10	31	56	46	0.0	3.4	8	0.61	0.38	0.13	0.58	0.2
12	36	58	47	0.0	3.5	8	0.63	0.40	0.13	0.64	0.0
19	40	60	50	0.0	3.8	9	0.63	0.38	0.13	0.94	0.0
10	26	57	47	0.0	3.5	9	0.61	0.43	0.15	0.30	0.0
11	28	57	47	0.0	3.9	9	0.61	0.46	0.17	0.57	0.0
10	30	58	48	0.0	3.6	8	0.60	0.36	0.12	0.39	0.0
11	25	56	46	0.0	3.6	9	0.59	0.33	0.12	0.41	2.0
12	28	57	47	0.0	3.7	8	0.54	0.34	0.12	0.68	1.5
13	31	57	47	0.0	3.6	9	0.57	0.36	0.12	0.74	1.6
11	28	57	47	0.0	3.5	8	0.61	0.35	0.11	0.48	0.0
11	30	58	47	0.0	3.7	9	0.58	0.49	0.16	0.61	0.2
11	34	60	50	0.0	3.8	9	0.56	0.47	0.18	0.59	0.0
10	29	58	49	0.0	3.8	8	0.55	0.34	0.12	0.35	1.1
10	25	55	46	0.0	3.8	9	0.66	0.34	0.15	0.36	1.0
10	24	56	46	0.0	3.7	9	0.54	0.34	0.13	0.40	1.5
12	30	56	48	0.0	3.7	10	0.52	0.40	0.14	0.52	0.2
13	34	57	47	0.0	3.9	9	0.52	0.36	0.13	0.80	0.1
13	36	58	48	0.0	3.7	8	0.54	0.40	0.13	0.75	0.1
12	31	58	48	0.0	3.5	9	0.56	0.39	0.13	0.73	0.0
10	30	58	48	0.0	3.5	9	0.51	0.35	0.15	0.54	0.1
10	30	56	46	0.0	3.4	8	0.60	0.36	0.13	0.42	0.2
11	29	57	47	0.0	3.2	8	0.56	0.38	0.12	0.53	1.0
10	23	56	46	0.0	3.4	8	0.61	0.36	0.10	0.45	0.2
10	28	57	47	0.0	3.6	8	0.63	0.36	0.10	0.38	0.2
10	29	56	46	0.0	3.6	8	0.61	0.37	0.11	0.30	0.1
12	33	57	47	0.0	3.8	8	0.60	0.39	0.12	0.75	0.2
8	27	56	45	0.0	3.8	9	0.72	0.38	0.14	0.44	0.5
10	26	57	47	0.0	3.5	9	0.71	0.36	0.13	0.24	0.0

344.00	924.00	1775.00	1466.00	0.00	112.60	265.00	18.47	11.87	4.08	16.47	12.10
19.00	40.00	60.00	50.00	0.00	3.90	10.00	0.72	0.49	0.18	0.94	2.00
8.00	23.00	55.00	45.00	0.00	3.20	8.00	0.51	0.33	0.10	0.24	0.00
11.10	29.81	57.26	47.29	0.00	3.63	8.55	0.60	0.38	0.13	0.53	0.39

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.**

C HUTCHINSON A17011
INDRAJ SAMLAL A7282
STNLEY E.BANKS A17017
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 1 13,141

Design Flow: 16MGD

RAJIV SAMLAL

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			FILTER DATA: Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
August 1, 2018	24	5.380	5.760	385.5	66.5	28	0.267	7852	100	0	220	280	130	18.0	175	2
August 2, 2018	24	5.460	6.040	487.5	68	30.5	0.267	7969	100	0	220	300	132	13.3	175	2.2
August 3, 2018	24	5.480	5.650	402	73	26	0.267	7998	100	0	220	304	125	16.7	175	2.2
August 4, 2018	24	5.710	6.190	348	106	30	0.078	7990	100	0	220	326	140	14.5	168	2.1
August 5, 2018	24	5.730	5.970	434.5	82	32.5	0.089	7994	100	0	220	300	130	12.7	167	2.1
August 6, 2018	24	5.460	5.620	664	112.5	27	0.445	7969	100	0	220	314	120	18.0	175	2.2
August 7, 2018	24	5.600	6.090	459.5	107	20.5	0.356	8173	100	0	220	300	124	19.6	175	2.1
August 8, 2018	24	5.640	6.010	354.5	71.5	22	0.356	8232	100	0	220	312	125	16.4	175	2.1
August 9, 2018	24	5.750	5.820	436	79	27.5	0.267	8392	100	0	220	322	128	18.0	175	2.1
August 10, 2018	24	5.840	6.100	387	77	25	0.356	8523	100	0	220	320	126	13.6	175	2.1
August 11, 2018	24	5.970	6.410	412	72	27	0.178	8713	100	0	220	332	130	15.7	175	2.0
August 12, 2018	24	5.470	6.860	467	88	27	0.178	7983	100	0	220	320	130	12.7	175	2.2
August 13, 2018	24	5.510	5.630	513	93.5	29	0.356	8042	100	0	213	320	125	15.0	175	2.2
August 14, 2018	24	5.510	6.000	461	97	28.5	0.356	8042	100	0	210	320	125	18.0	175	2.2
August 15, 2018	24	5.460	5.820	390	64.5	27.5	0.178	7969	100	0	210	320	140	18.0	175	2.2
August 16, 2018	24	5.570	5.950	432	70.5	27.5	0.267	8129	100	0	210	300	130	15.1	175	2.2
August 17, 2018	24	5.810	6.120	444	80.5	27	0.267	8480	100	0	210	294	130	15.0	175	2.1
August 18, 2018	24	5.780	6.270	415.3	66.3	30.5	0.267	8435	100	0	210	293	130	14.4	175	2.1
August 19, 2018	24	5.590	6.120	558	82	55	0.267	8159	100	0	210	284	131	16.6	175	2.1
August 20, 2018	24	5.810	5.930	527	93	30.5	0.356	8480	100	0	210	286	130	16.2	175	2.1
August 21, 2018	24	5.670	5.820	420.5	83	26	0.334	8275	100	0	200	310	130	18.0	175	2.1
August 22, 2018	24	5.470	6.150	314	63	26.5	0.089	7884	100	0	220	310	140	18.0	173	2.2
August 23, 2018	24	5.740	5.900	456	76	34.5	0.267	8377	100	0	220	310	140	13.3	175	2.1
August 24, 2018	24	5.740	6.060	466.5	80	28.5	0.267	8377	100	0	220	310	140	18.0	175	2.1
August 25, 2018	24	4.900	5.500	466	113	30	0.089	7152	100	0	220	300	150	14.6	175	2.4
August 26, 2018	24	5.050	5.990	582	116	44	0.326	7370	100	0	205	268	140	12.5	175	2.4
August 27, 2018	24	5.480	5.870	438.5	99.5	31	0.445	7998	100	0	210	300	140	14.9	175	2.2
August 28, 2018	24	5.670	5.780	298	49	22	0.356	8275	100	0	210	300	130	13.3	175	2.1
August 29, 2018	24	5.580	5.710	320	59	15	0.356	8144	100	0	220	320	130.0	17	175	2.1
August 30, 2018	24	4.870	5.420	435.5	83.5	10	0.178	7108	100	0	220	300	130	13.3	175	2.5
August 31, 2018	24	5.400	6.090	538	105.5	36.5	0.356	7881	100	0	207	274	125	16.7	175	2.2
Total	744.00	172.10	184.65	13712.80	2577.30	882.50	8.48	250365.00	#####	0.00	6675.00	######	4076.00	486.72	5407.82	67.10
Max.	24.00	5.97	6.86	664.00	116.00	55.00	0.45	8713.00	100.00	0.00	220.00	332.00	150.00	19.60	175.01	2.46
Min.	24.00	4.87	5.42	298.00	49.00	10.00	0.08	7108.00	100.00	0.00	200.00	268.00	120.00	12.48	167.28	2.01
Avg.	24.00	5.55	5.96	442.35	83.14	28.47	0.27	8076.29	100.00	0.00	215.32	304.81	131.48	15.70	174.45	2.16

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

C22878

CHEMICAL AND P

DOSAGES					RAW WATER										SETTLED WATE			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	4.9	6.2	0.67	0.40	4,6	7.3	224	248	234	14	18	0.3	30	40	1.7	10.1	25	43
0.0	4.8	6.6	0.67	0.292	4,6	7.3	224	248	234	14	18	0.3	30	40	1.7	9.9	22	40
0.0	4.8	6.7	0.63	0.37	4.,6	7.3	224	248	234	14	18	0.3	30	40	1.6	10.1	22	41
0.0	4.6	6.8	0.68	0.30	4,6	7.4	224	248	234	14	18	0.3	30	40	2.5	9.8	19	44
0.0	4.6	6.3	0.63	0.27	4,6	7.3	224	248	234	14	18	0.3	30	40	2.2	9.9	28	42
0.0	4.8	6.9	0.61	0.40	4,6	7.3	226	248	234	14	18	0.3	30	40	1.7	10.1	25	43
0.0	4.7	6.4	0.61	0.42	4,6,3	7.3	226	248	234	14	20	0.4	30	40	1.7	10.2	23	40
0.0	4.7	6.6	0.61	0.35	4,6,8	7.3	226	248	234	14	20	0.3	30	40	1.6	9.9	22	40
0.0	4.6	6.7	0.61	0.38	3,8	7.4	226	248	234	14	20	0.3	30	40	1.5	10.0	21	43
0.0	4.5	6.6	0.60	0.28	3,8	7.4	226	248	234	14	20	0.3	30	40	1.66	9.8	18	37
0.0	4.4	6.7	0.60	0.31	3,8	7.4	226	248	234	14	20	0.3	30	40	2.1	10.0	20	47
0.0	4.8	7.0	0.66	0.28	3,8	7.3	228	248	232	16	20	0.4	30	40	2.3	9.9	20	45
0.0	4.6	7.0	0.63	0.33	3,8	7.4	228	248	232	16	20	0.3	30	40	1.66	10.0	21	42
0.0	4.6	7.0	0.63	0.39	3,5,8	7.4	228	248	232	16	20	0.3	30	40	1.7	10.0	22	40
0.0	4.6	7.0	0.71	0.40	8,5	7.3	250	226	236	14	20	0.4	30	40	1.7	10.1	19	39
0.0	4.5	6.5	0.64	0.33	5,8	7.3	226	250	236	14	20	0.4	30	40	1.6	10.0	22	39
0.0	4.3	6.1	0.62	0.31	5,8	7.3	226	250	236	14	20	0.3	30	40	1.7	10.0	21	42
0.0	4.4	6.1	0.62	0.30	5,8	7.3	226	250	236	14	20	0.3	30	40	1.9	9.9	19	44
0.0	4.5	6.1	0.65	0.36	5,8	7.3	226	250	234	16	20	0.3	30	40	1.9	9.9	21	46
0.0	4.3	5.9	0.62	0.33	5,8	7.3	228	254	234	16	20	0.3	30	40	1.9	9.9	21	40
0.0	4.2	6.6	0.63	0.38	5,8	7.4	230	254	238	16	20	0.3	36	40	1.7	9.9	21	39
0.0	4.8	6.8	0.71	0.39	5,8,3	7.4	230	254	238	16	20	0.3	36	40	1.8	10.1	23	42
0.0	4.6	6.5	0.67	0.28	3,8	7.4	228	254	238	16	20	0.3	36	40	1.5	10.0	24	41
0.0	4.6	6.5	0.67	0.38	3,8	7.4	228	254	238	16	20	0.3	36	40	1.6	9.9	20	40
0.0	5.4	7.3	0.84	0.36	3,8	7.4	228	254	238	16	20	0.3	30	40	1.9	10.0	22	45
0.0	4.9	6.4	0.76	0.30	3,8	7.4	228	256	238	18	18	0.3	32	40	2.1	9.9	23	44
0.0	4.6	6.6	0.70	0.33	3,8	7.4	230	258	238	18	20	0.3	30	40	1.6	10.1	22	46
0.0	4.4	6.3	0.63	0.28	3,8	7.4	228	260	240	20	20	0.3	30	40	1.7	9.9	23	39
0.0	4.7	6.9	0.64	0.36	3,8	7.4	228	260	240	20	20	0.3	30	40	1.7	10.1	23	40
0.0	5.4	7.4	0.74	0.33	3,8	7.4	228	256	240	16	20	0.3	30	40	1.7	10.1	22	41
0.0	4.6	6.1	0.64	0.37	3,6	7.3	224	250	234	16	20	0.3	30	40	1.7	10.0	20	40

0.00	144.47	204.34	20.31	10.52	0.00	227.90	7052.00	7762.00	7302.00	478.00	606.00	9.67	956.00	1240.00	55.00	309.50	674.00	######
0.00	5.42	7.39	0.84	0.42	0.00	7.40	250.00	260.00	240.00	20.00	20.00	0.38	36.00	40.00	2.48	10.20	28.00	47.00
0.00	4.23	5.90	0.60	0.27	0.00	7.30	224.00	226.00	232.00	14.00	18.00	0.26	30.00	40.00	1.50	9.80	18.00	37.00
0.00	4.66	6.59	0.66	0.34	#DIV/0!	7.35	227.48	250.39	235.55	15.42	19.55	0.31	30.84	40.00	1.77	9.98	21.74	41.74

County : Broward
I.D. Number : ######
Year : 2017

HYSICAL RESULTS

R		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
56	46	9.3	11	26	56	46	0.0	3.7	9	0.71	0.36	0.13	0.43	0.1
57	47	9.3	13	32	57	47	0.0	3.4	8	0.70	0.35	0.13	0.46	0.1
56	46	9.3	13	29	56	46	0.0	3.5	9	0.71	0.36	0.12	0.49	0.0
58	48	9.0	6	30	57	47	0.0	2.8	8	0.56	0.46	0.18	0.31	0.2
58	48	9.3	18	29	56	46	0.0	3.3	8	0.61	0.46	0.16	0.54	0.2
58	49	9.3	11	29	57	47	0.0	3.5	8	0.59	0.35	0.14	0.50	1.1
57	47	9.5	13	35	58	48	0.0	3.5	8	0.59	0.35	0.13	0.83	0.4
58	48	9.4	12	32	58	48	0.0	3.5	10	0.59	0.36	0.12	0.40	0.2
56	46	9.0	8	27	58	47	0.0	3.0	9	0.70	0.42	0.12	0.16	0.2
57	47	9.0	9	26	57	47	0.0	3.3	9	0.72	0.38	0.12	0.14	0.1
59	50	8.9	7	24	56	47	0.0	3.2	8	0.60	0.47	0.16	0.10	0.5
59	49	9.0	8	29	58	48	0.0	3.5	8	0.53	0.45	0.15	0.28	0.2
58	49	9.0	8	28	58	48	0.0	3.3	8	0.57	0.37	0.13	0.19	0.4
56	47	9.2	9	28	56	46	0.0	3.7	8	0.55	0.35	0.12	0.37	0.0
57	47	9.4	12	29	57	48	0.0	3.8	8	0.57	0.35	0.12	0.56	0.4
57	46	9.4	11	29	56	46	0.0	3.8	8	0.54	0.40	0.14	0.49	0.2
57	47	9.4	12	33	57	47	0.0	3.8	8	0.61	0.38	0.13	0.68	0.2
57	47	9.1	8	32	62	46	0.0	3.6	8	0.53	0.45	0.20	0.47	0.2
59	49	9.3	9	30	58	48	0.0	3.7	8	0.51	0.49	0.17	0.62	0.0
59	49	9.3	11	32	58	48	0.0	3.4	8	0.49	0.38	0.13	0.47	0.2
57	47	9.3	11	31	56	46	0.0	3.3	9	0.51	0.35	0.12	0.39	0.1
58	48	9.1	10	28	56	46	0.0	3.5	8	0.49	0.35	0.12	0.27	0.2
58	47	9.1	8	28	57	45	0.0	3.3	8	0.51	0.49	0.12	0.21	0.2
57	47	9.3	11	29	56	46	0.0	3.3	8	0.56	0.38	0.12	0.50	0.3
58	49	9.2	11	30	58	48	0.0	3.7	8	0.61	0.48	0.14	0.52	0.1
58	48	9.1	9	32	60	50	0.0	3.8	8	0.62	0.45	0.13	0.46	0.0
58	48	9.2	9	32	58	49	0.0	3.7	11	0.58	0.37	0.14	0.43	0.4
56	48	9.3	11	31	57	47	0.0	3.7	9	0.57	0.35	0.12	0.43	0.0
56	46	9.1	10	29	56	46	0.0	3.5	8	0.58	0.38	0.12	0.29	0.2
56	48	9.3	12	29	57	47	0.0	3.5	8	0.61	0.40	0.13	0.50	0.4
57	47	9.3	11	29	57	47	0.0	3.7	8	0.69	0.36	0.13	0.50	0.7

1778.00	1475.00	285.60	322.00	917.00	1774.00	1458.00	0.00	108.30	259.00	18.31	12.30	4.19	12.99	7.47
59.00	50.00	9.50	18.00	35.00	62.00	50.00	0.00	3.80	11.00	0.72	0.49	0.20	0.83	1.10
56.00	46.00	8.90	6.00	24.00	56.00	45.00	0.00	2.80	8.00	0.49	0.35	0.12	0.10	0.00
57.35	47.58	9.21	10.39	29.58	57.23	47.03	0.00	3.49	8.35	0.59	0.40	0.14	0.42	0.24

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.**

C HUTCHINSON A17011
INDRAJ SAMLAL A7282
STNLEY E.BANKS A17017
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
RAJIV SAMLAL C22878

How Many Other Operators? 6

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
September 1, 2018	24	5.320	5.530	494	126.5	27.5	0.089	8475	100	0	200	260	142	15.4	191	2	0
September 2, 2018	24	5.500	5.910	567	144	37	0.089	8077	100	0	200	256	139	16.5	176	2.2	0.0
September 3, 2018	24	4.950	5.770	563.5	108.5	30.5	0.356	7276	100	0	200	254	132	10.1	176	2.4	0.0
September 4, 2018	24	5.260	5.660	516.5	117	30	0.356	7676	100	0	207	280	130	18.0	175	2.3	0.0
September 5, 2018	24	5.030	5.780	356.5	58	30	0.267	7341	100	0	210	280	140	12.0	175	2.4	0.0
September 6, 2018	24	5.060	5.470	340.5	59	45	0.267	7385	100	0	210	280	140	12.0	175	2.4	0.0
September 7, 2018	24	4.980	5.710	416	75.5	28	0.267	7268	100	0	200	280	140	18.0	175	2.4	0.0
September 8, 2018	24	5.120	5.590	409	77	26	0.267	7473	100	0	200	280	160	15.1	175	2.3	0.0
September 9, 2018	24	5.290	5.710	400	82	25	0.356	7720	100	0	190	250	160	13.2	175	2.3	0.0
September 10, 2018	24	5.320	5.790	489.5	131	29	0.356	7764	100	0	200	240	130	13.7	175	2.3	0.0
September 11, 2018	24	5.330	5.730	342.5	64	26.5	0.445	7779	100	0	200	240	130	18.0	175	2.2	0.0
September 12, 2018	24	5.380	5.540	348.5	63.5	26.5	0.089	7852	100	0	200	240	128	18.0	175	2.2	0.0
September 13, 2018	24	5.380	5.890	458.5	71.5	26.5	0.178	7852	100	0	200	240	130	12.0	175	2.2	0.0
September 14, 2018	24	5.240	5.630	511	83	38	0.326	7648	100	0	200	240	150	12.0	175	2.3	0.0
September 15, 2018	24	5.390	5.900	404	80	27	0.267	7641	100	0	200	240	170	12.0	170	2.2	0.0
September 16, 2018	24	5.340	5.780	395	68	27	0.356	7794	100	0	200	236	140	18.0	175	2.2	0.0
September 17, 2018	24	5.270	5.860	375.5	70	13	0.356	7691	100	0	200	240	160	14.9	175	2.3	0.0
September 18, 2018	24	5.260	5.580	394.5	80	26.5	0.326	7677	100	0	200	240	140	12.0	175	2.3	0.0
September 19, 2018	24	5.360	5.760	372.5	57.5	27	0.178	7823	100	0	200	240	150	12.0	175	2.2	0.0
September 20, 2018	24	5.550	5.810	404.5	67.5	26	0.356	8100	100	0	200	240	150	14.9	175	2.2	0.0
September 21, 2018	24	5.440	5.480	3.89.5	75.5	26	0.267	7940	100	0	200	232	150	14.9	175	2.2	0.0
September 22, 2018	24	5.580	6.390	416	77	27	0.178	8144	100	0	200	230	170	14.1	175	2.1	0.0
September 23, 2018	24	5.400	5.950	477	97	27	0.267	7881	100	0	200	230	170	12.2	175	2.2	0.0
September 24, 2018	24	5.290	5.720	516.5	109.5	26	0.445	7720	100	0	200	236	130	15.8	175	2.3	0.0
September 25, 2018	24	5.640	5.970	323.5	36	28	0.267	8232	100	0	200	250	150	18.0	175	2.1	0.0
September 26, 2018	24	5.600	5.950	378.5	61.5	27.5	0.178	8173	100	0	200	250	160	18.0	175	2.1	0.0
September 27, 2018	24	6.010	6.240	451.5	72	26.5	0.267	8772	100	0	200	250	140	15.1	175	2.0	0.0
September 28, 2018	24	5.370	5.840	421.5	72	27.5	0.356	7837	100	0	200	250	160	14.5	175	2.2	0.0
September 29, 2018	24	5.820	5.860	379.5	67	28	0.089	8494	100	0	200	250	150.0	18	175	2.1	0.0
September 30, 2018	24	5.730	6.750	483	69	43	0.356	8363	100	0	200	250	150	14.9	175	2.1	0.0
9/31/2018	24																
Total	720.00	161.21	174.55	12406.00	2420.00	858.50	8.22	235868.00	#####	0.00	6017.00	######	4391.00	443.34	5263.23	67.06	0.00
Max.	24.00	6.01	6.75	567.00	144.00	45.00	0.45	8772.00	100.00	0.00	210.00	280.00	170.00	18.00	191.01	2.42	0.00
Min.	24.00	4.95	5.47	323.50	36.00	13.00	0.09	7268.00	100.00	0.00	190.00	230.00	128.00	10.10	169.98	2.00	0.00
Avg.	24.00	5.37	5.82	427.79	80.67	28.62	0.27	7862.27	100.00	0.00	200.57	249.47	146.37	14.78	175.44	2.24	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RE

DOSAGES				RAW WATER										SETTLED WATER					
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
4.5	5.9	0.74	0.35	3,6	7.3	224	224	250	16	20	0.3	30	40	1.6	10.0	20	40	55	46
4.4	5.6	0.70	0.360	3,6	7.4	218	236	220	16	18	0.3	32	40	2.1	10.0	21	43	57	46
4.8	6.2	0.74	0.24	3,6	7.4	218	236	220	16	18	0.3	32	40	1.8	10.4	23	41	58	48
4.7	6.4	0.68	0.41	3,6	7.4	218	236	220	16	18	0.3	32	40	1.7	10.0	20	37	57	48
5.0	6.7	0.77	0.29	3,6	7.4	218	236	220	16	18	0.3	32	40	1.6	10.1	24	39	57	47
5.0	6.6	0.76	0.28	4,8	7.2	222	240	226	14	18	0.3	36	40	1.5	10.1	22	41	59	47
4.8	6.7	0.78	0.43	4,5	7.2	222	240	226	14	18	0.3	36	40	1.6	10.0	20	40	56	46
4.7	6.6	0.86	0.35	4,5	7.2	222	240	226	14	18	0.3	36	40	2.0	10.0	22	46	56	47
4.3	5.7	0.83	0.30	4,5	7.2	224	248	228	20	18	0.3	34	40	2.3	10.0	23	46	58	48
4.5	5.4	0.67	0.31	4,5,6	7.3	226	246	230	16	18	0.3	32	40	1.8	10.0	24	43	58	48
4.5	5.4	0.67	0.40	4,6	7.3	226	250	232	18	20	0.3	30	40	1.7	10.0	22	40	56	46
4.5	5.3	0.66	0.40	4,6	7.3	226	250	232	18	20	0.3	30	40	1.59	10.1	25	40	57	47
4.5	5.3	0.67	0.27	4,6	7.3	226	250	232	18	20	0.3	30	40	1.4	10.0	23	42	56	46
4.6	5.5	0.79	0.27	4,6	7.3	226	250	232	18	20	0.3	30	40	1.4	10.0	20	40	26	46
4.4	5.3	0.87	0.27	4,6	7.3	226	250	232	18	20	0.3	30	40	1.4	10.0	22	44	57	47
4.5	5.3	0.72	0.40	4,6	7.3	228	254	234	20	18	0.3	30	40	2.4	10.0	21	46	60	50
4.6	5.5	0.84	0.34	4,6	7.3	230	254	234	20	18	0.3	30	40	1.2	10.0	23	44	58	48
4.6	5.5	0.73	0.27	4,6	7.3	230	250	236	14	18	0.3	30	40	1.8	10.1	21	38	54	44
4.5	5.4	0.77	0.27	4,6	7.3	230	250	236	14	18	0.3	30	40	1.3	10.1	21	40	57	47
4.3	5.2	0.75	0.32	4,6	7.3	230	250	236	14	18	0.3	30	40	1.1	10.1	21	41	57	47
4.4	5.1	0.76	0.33	4,6	7.3	230	250	236	14	18	0.3	30	40	1.1	10.0	20	40	57	47
4.3	4.9	0.84	0.30	4,6	7.3	230	250	236	14	18	0.3	30	40	1.8	10.1	24	44	57	49
4.4	5.1	0.87	0.27	4,6	7.3	230	252	236	16	18	0.3	30	40	1.1	10.0	22	46	58	48
4.5	5.3	0.68	0.36	4,6	7.3	230	254	238	16	18	0.3	30	40	1.2	10.0	18	49	64	54
4.3	5.3	0.73	0.38	4,6	7.3	230	254	234	20	18	0.3	30	40	1.1	9.8	19	33	57	47
4.3	5.4	0.79	0.39	4,6	7.3	236	254	234	20	18	0.3	30	40	1.0	10.0	22	39	57	47
4.0	5.0	0.64	0.30	4,6	7.3	230	254	234	20	18	0.3	30	40	0.9	9.9	22	40	57	46
4.5	5.6	0.82	0.32	4,6	7.3	230	254	234	20	18	0.3	30	40	0.9	9.9	19	39	57	47
4.1	5.2	0.71	0.37	4,6	7.3	230	254	234	20	18	0.3	30	40	1.2	10.0	20	35	57	47
4.2	5.2	0.72	0.31	4,6	7.3	230	254	234	20	18	0.3	30	40	1.3	10.0	22	43	58	48
134.54	167.50	22.56	9.89	0.00	219.00	6796.00	7420.00	6952.00	510.00	552.00	9.03	932.00	1200.00	44.78	300.72	646.00	######	1688.00	1419.00
5.01	6.74	0.87	0.43	0.00	7.40	236.00	254.00	250.00	20.00	20.00	0.34	36.00	40.00	2.40	10.40	25.00	49.00	64.00	54.00
3.99	4.94	0.64	0.24	0.00	7.20	218.00	224.00	220.00	14.00	18.00	0.27	30.00	40.00	0.90	9.80	18.00	33.00	26.00	44.00
4.48	5.58	0.75	0.33	#DIV/0!	7.30	226.53	247.33	231.73	17.00	18.40	0.30	31.07	40.00	1.49	10.02	21.53	41.30	56.27	47.30

County : Broward
I.D. Number : 4060787
Year : 2017

ESULTS

FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
33	34	35	36	37	38	39	40	41	42	43	44	45
9.1	10	27	55	45	0.0	3.7	8	0.68	0.37	0.10	0.44	0.0
9.1	8	31	56	46	0.0	3.8	8	0.60	0.48	0.21	0.41	0.2
9.1	10	28	57	47	0.0	3.4	9	0.52	0.37	0.12	0.28	1.4
9.1	10	26	56	46	0.0	3.4	8	0.55	0.35	0.11	0.27	1.0
9.1	10	28	57	47	0.0	3.5	8	0.55	0.35	0.11	0.28	0.6
8.9	9	25	55	45	0.0	3.4	8	0.58	0.40	0.13	0.10	0.4
9.2	11	30	58	48	0.0	3.4	8	0.54	0.37	0.09	0.34	0.3
9.2	11	29	54	45	0.0	3.9	8	0.59	0.44	0.19	0.47	0.2
9.2	10	29	54	44	0.0	4.0	8	0.64	0.44	0.19	0.48	0.1
9.2	11	32	55	45	0.0	3.7	8	0.63	0.35	0.14	0.34	0.5
9.2	12	30	57	47	0.0	3.7	8	0.61	0.35	0.11	0.33	0.2
9.3	12	30	57	47	0.0	3.7	8	0.61	0.25	0.11	0.46	0.2
9.3	10	29	56	46	0.0	3.4	8	0.59	0.35	0.15	0.51	0.2
9.3	10	28	57	46	0.0	3.6	8	0.60	0.41	0.11	0.47	0.3
9.3	9	30	57	47	0.0	3.7	8	0.61	0.40	0.19	0.61	0.0
9.2	10	31	57	47	0.0	3.6	8	0.62	0.49	0.19	0.52	0.0
9.2	11	30	56	46	0.0	3.7	8	0.62	0.40	0.16	0.32	0.4
9.4	12	31	53	45	0.0	3.6	8	0.59	0.28	0.14	0.52	0.0
9.3	12	30	56	46	0.0	3.6	8	0.60	0.30	0.12	0.22	0.1
9.1	10	35	57	48	0.0	3.5	8	0.61	0.30	0.14	0.33	0.2
9.2	11	29	56	46	0.0	3.7	8	0.56	0.27	0.13	0.39	0.1
9.1	9	29	56	46	0.0	3.6	7	0.59	0.29	0.14	0.38	0.0
9.3	11	30	56	46	0.0	3.7	8	0.60	0.33	0.16	0.60	0.0
9.4	11	31	55	45	0.0	3.6	7	0.60	0.24	0.14	0.53	0.0
9.4	12	33	57	47	0.0	3.7	7	0.60	0.28	0.13	0.58	0.0
9.1	10	27	56	46	0.0	3.5	7	0.59	0.27	0.12	0.20	0.0
9.3	10	29	56	46	0.0	3.7	7	0.57	0.24	0.11	0.49	0.0
9.4	11	29	57	47	0.0	3.8	7	0.58	0.22	0.10	0.48	0.1
9.2	10	29	56	46	0.0	3.7	6	0.56	0.20	0.09	0.39	0.1
9.3	11	31	56	46	0.0	3.8	7	0.58	0.22	0.10	0.61	0.0

276.50	314.00	886.00	1681.00	1384.00	0.00	109.10	232.00	17.77	10.01	4.03	12.35	6.60
9.40	12.00	35.00	58.00	48.00	0.00	4.00	9.00	0.68	0.49	0.21	0.61	1.40
8.90	8.00	25.00	53.00	44.00	0.00	3.40	6.00	0.52	0.20	0.09	0.10	0.00
9.22	10.47	29.53	56.03	46.13	0.00	3.64	7.73	0.59	0.33	0.13	0.41	0.22

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD	A8226
M HUTCHINSON	A17010
C HUTCHINSON	A17011
INDRAJ SAMLAL	A7282
STNLEY E.BANKS	A17017
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H.RODRIGUEZ	C19220

Lead Operator Signature: **Operator's Names & Cert. No.**

How Many Other Operators? 6

Total Metered Services at End of Month: **11,050** **13,141**

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED					
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride
	1	2	3	4	5	6	7	8			9	10	11
October 1, 2018	24	6.100	6.070	388.5	68	27.5	0.445	8772	100	0	200	250	150
October 2, 2018	24	5.970	6.040	350	71	26	0.178	8713	100	0	200	250	140
October 3, 2018	24	5.280	6.130	439.5	70.5	34	0.178	7706	100	0	200	220	150
October 4, 2018	24	5.330	5.340	469.5	74	26	0.356	7779	100	0	200	220	160
October 5, 2018	24	5.790	6.310	372	71	19	0.445	8450	100	0	200	230	152
October 6, 2018	24	6.210	6.190	397	65	28	0.178	8410	100	0	200	250	170
October 7, 2018	24	5.940	6.250	431	68	27	0.356	8669	100	0	200	242	170
October 8, 2018	24	5.630	6.170	473.5	83	30.5	0.325	8219	100	0	200	240	130
October 9, 2018	24	5.350	5.780	411	99.5	27	0.356	7808	100	0	200	232	142
October 10, 2018	24	5.340	5.900	409.5	118	25	0.445	7793	100	0	200	234	160
October 11, 2018	24	5.600	5.730	288.5	44	26	0.356	8173	100	0	190	230	160
October 12, 2018	24	5.670	5.790	359	63	21	0.17	8275	100	0	190	236	160
October 13, 2018	24	5.720	6.040	493	84	23	0.178	8348	100	0	190	244	160
October 14, 2018	24	5.630	6.620	526	101	26	0.356	8217	100	0	190	240	150
October 15, 2018	24	5.900	6.040	419	110.5	26	0.256	8611	100	0	190	246	140
October 16, 2018	24	6.160	5.970	340.5	60	26.5	0.267	8990	100	0	190	260	150
October 17, 2018	24	5.900	6.450	384	58	29.5	0.267	8611	100	0	190	260	150
October 18, 2018	24	6.070	6.160	411.5	67	26	0.356	8859	100	0	190	300	170
October 19, 2018	24	6.020	6.670	394	68	24.5	0.356	8786	100	0	190	300	150
October 20, 2018	24	5.890	5.890	390.5	72	26.5	0.689	8596	100	0	190	280	150
October 21, 2018	24	5.970	6.950	565	96	33	0.178	8713	100	0	190	280	150
October 22, 2018	24	5.940	6.000	621	120	31	0.356	8669	100	0	190	280	150
October 23, 2018	24	6.110	6.500	394.5	125	24.5	0.267	8917	100	0	190	280	150
October 24, 2018	24	6.000	6.550	471.5	114	26.5	26.5	8757	100	0	197	280	160
October 25, 2018	24	5.910	6.020	397.5	76	30.5	0.267	8625	100	0	210	300	160
October 26, 2018	24	5.960	5.950	420	93	26.5	0.356	8698	100	0	210	300	200
October 27, 2018	24	6.290	6.910	458	108	29	0.178	8696	100	0	210	308	160
October 28, 2018	24	6.300	7.000	426	85	27	0.178	9194	100	0	210	300	160
October 29, 2018	24	6.410	6.540	5.34	92	36	0.445	9355	100	0	210	300	180.0
October 30, 2018	24	6.160	6.170	416	82.5	23.5	0.267	990	100	0	210	294	160
October 31, 2018	24	6.260	6.780	409	78	20	0.356	9136	100	0	210	280	160
Total	744.00	182.81	192.91	12731.34	2585.00	832.50	35.86	257535.00	3100.00	0.00	6137.00	8166.00	#######
Max.	24.00	6.41	7.00	621.00	125.00	36.00	26.50	9355.00	100.00	0.00	210.00	308.00	200.00
Min.	24.00	5.28	5.34	5.34	44.00	19.00	0.17	990.00	100.00	0.00	190.00	220.00	130.00
Avg.	24.00	5.90	6.22	410.69	83.39	26.85	1.16	8307.58	100.00	0.00	197.97	263.42	156.58

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION RE

Name of Plant : Lauderhill
Utility Company : City of La
Month : October
Telephone Number : (954) 730

RAJIV SAMLAL C22878

CHEMICALS

	DOSAGES							RAW WATER							
Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE
12	13			14	15	16	17		18	19	20	21	22	23	24
15.1	172	2	0	3.9	4.9	0.68	0.30	4,6	7.3	230	258	238	20	18	0.3
16.7	175	2.0	0.0	4.0	5.0	0.65	0.335	3,4,6	7.3	230	260	240	20	22	0.3
14.6	175	2.3	0.0	4.5	5.0	0.78	0.33	3,4,6	7.3	230	260	240	20	22	0.3
12.0	175	2.2	0.0	4.5	4.9	0.83	0.27	3,6	7.3	230	260	240	20	22	0.3
18.0	175	2.1	0.0	4.1	4.8	0.72	0.37	3,6	7.3	230	260	240	20	22	0.3
12.6	162	1.9	0.0	3.9	4.8	0.75	0.24	3,4,6	7.3	230	260	240	20	22	0.3
13.7	175	2.0	0.0	4.0	4.9	0.79	0.28	3,4,6	7.3	232	262	240	20	22	0.3
17.5	175	2.1	0.0	4.3	5.1	0.64	0.37	3,4,6	7.3	232	260	240	20	20	0.3
19.6	175	2.2	0.0	4.5	5.2	0.73	0.44	4,6	7.5	228	256	240	16	18	0.3
18.0	175	2.2	0.0	4.5	5.3	0.83	0.40	4,6	7.2	230	260	240	20	18	0.3
16.4	175	2.1	0.0	4.1	4.9	0.79	0.35	4,6	7.2	230	260	240	20	18	0.3
20.9	175	2.1	0.0	4.0	5.0	0.78	0.44	4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.1	0.0	4.0	5.1	0.77	0.38	4,6	7.2	230	260	240	20	18	0.3
14.4	175	2.1	0.0	4.0	5.1	0.73	0.31	4,6	7.2	230	260	240	20	18	0.3
15.6	175	2.0	0.0	3.9	5.0	0.65	0.32	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	1.9	0.0	3.7	5.1	0.67	0.35	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	3.9	5.3	0.70	0.37	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	3.8	5.9	0.77	0.36	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	3.8	6.0	0.69	0.36	3,4,6	7.2	230	260	240	20	18	0.3
15.1	175	2.0	0.0	3.9	5.7	0.70	0.31	3,4,6	7.2	230	260	240	20	18	0.3
13.7	175	2.0	0.0	3.8	5.6	0.69	0.28	3,4,6	7.2	230	260	240	20	18	0.3
13.6	175	2.0	0.0	3.8	5.7	0.70	0.27	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	3.7	5.5	0.68	0.35	3,4,6	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	3.9	5.6	0.74	0.36	3,4,6,8	7.2	230	260	240	20	18	0.3
16.7	175	2.0	0.0	4.3	6.1	0.75	0.34	3,8	7.2	230	260	240	20	18	0.3
18.0	175	2.0	0.0	4.2	6.0	0.93	0.36	3,8	7.2	230	260	240	20	18	0.3
13.4	166	1.9	0.0	4.0	5.9	0.70	0.26	3,8	7.3	230	262	244	18	18	0.3
25.6	175	1.9	0.0	4.0	5.7	0.70	0.49	3,8	7.3	232	260	240	20	18	0.3
16	175	1.9	0.0	3.9	5.6	0.77	0.30	3,8	7.3	232	260	240	20	18	0.3
16.7	19	1.9	0.0	4.1	5.7	0.72	0.33	3,8	7.3	230	260	240	20	18	0.3
16.3	175	1.9	0.0	4.0	5.4	0.70	0.31	3,8	7.3	230	260	240	20	18	0.3

516.40	5244.71	63.20	0.00	125.04	165.77	22.73	10.52	0.00	224.80	7136.00	8058.00	7442.00	614.00	584.00	9.08
25.60	175.04	2.27	0.00	4.54	6.09	0.93	0.49	0.00	7.50	232.00	262.00	244.00	20.00	22.00	0.30
12.00	19.27	1.87	0.00	3.70	4.76	0.64	0.24	0.00	7.20	228.00	256.00	238.00	16.00	18.00	0.27
16.66	169.18	2.04	0.00	4.03	5.35	0.73	0.34	#######	7.25	230.19	259.94	240.06	19.81	18.84	0.29

'PORT

l Water Treatment Plant
uderhill

-2972

County : Broward
I.D. Number : ######
Year : 2017

C H E M I C A L A N D P H Y S I C A L R E S U L T S

		SETTLED WATER						FINISHED WATER							
Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
30	40	1.1	9.9	19	41	58	48	9.3	11	30	57	47	0.0	3.8	7
30	40	1.2	10.1	23	39	56	46	9.3	11	26	56	46	0.0	3.6	7
30	40	1.0	9.9	20	37	57	46	9.2	10	27	57	47	0.0	3.6	8
30	40	1.2	10.0	21	41	57	47	9.2	10	28	56	47	0.0	3.7	8
30	40	1.1	9.9	20	39	58	48	9.3	11	31	56	46	0.0	3.7	8
30	40	1.3	10.0	19	42	56	46	9.4	11	32	56	46	0.0	3.8	7
30	40	1.2	9.9	20	42	56	46	9.4	12	32	56	46	0.0	3.7	7
30	40	1.1	9.9	21	40	58	48	9.3	11	32	57	47	0.0	3.7	8
30	40	1.1	10.0	23	41	57	47	9.1	10	29	57	47	0.0	3.5	8
30	40	1.26	10.1	24	39	57	47	9.1	10	27	56	46	0.0	3.6	7
30	40	1.2	10.0	19	38	58	48	9.4	11	33	57	47	0.0	3.6	8
30	40	1	10.0	20	40	57	47	9.4	12	31	57	47	0.0	3.6	8
30	40	1	9.9	22	42	57	47	9.3	11	34	57	47	0.0	3.7	8
30	40	1.0	9.9	21	42	56	47	9.4	12	32	57	47	0.0	3.7	8
30	40	1.0	10.2	22	40	56	46	9.4	12	34	54	47	0.0	3.7	9
30	40	1.0	10.0	21	39	56	46	9.3	10	28	54	45	0.0	3.7	8
30	40	0.9	9.7	20	39	57	46	9.3	12	30	56	45	0.0	3.7	8
30	40	1.2	10.0	21	42	57	47	9.2	9	27	54	46	0.0	3.6	7
30	40	1.1	10.0	21	40	57	45	9.3	10	29	54	46	0.0	3.7	8
30	40	0.8	9.9	19	37	55	46	9.3	11	29	55	46	0.0	3.7	7
28	40	0.9	9.9	20	38	56	47	9.1	8	28	55	45	0.0	3.6	8
30	40	0.9	10.0	24	37	57	47	9.2	10	28	57	47	0.0	3.7	7
30	40	0.9	10.0	22	39	54	44	9.2	9	27	55	45	0.0	3.7	7
30	40	1.3	10.0	20	40	56	46	9.3	9	29	56	46	0.0	3.4	7
25	40	1.1	10.0	20	43	57	47	9.1	9	29	58	48	0.0	3.4	8
25	40	1.0	10.2	22	41	56	46	9.2	9	25	56	46	0.0	3.5	8
30	40	1.1	10.0	23	45	58	50	9.3	10	33	58	48	0.0	3.8	7
30	40	0.8	10.0	21	41	57	47	9.3	12	36	56	46	0.0	3.8	9
28	40	0.7	9.7	20	38	56	46	9.2	10	29	54	44	0.0	3.8	7
28	40	0.7	10.0	21	38	56	51	9.3	10	28	53	44	0.0	3.9	8
28	40	0.8	9.9	20	39	56	47	9.2	9	27	56	46	0.0	3.7	8
													0.0		
912.00	1240.00	#####	309.00	649.00	######	1755.00	1452.00	287.30	322.00	######	1733.00	1433.00	0.00	######	238.00
30.00	40.00	1.27	10.20	24.00	45.00	58.00	51.00	9.40	12.00	36.00	58.00	48.00	0.00	3.90	9.00
25.00	40.00	0.70	9.70	19.00	37.00	54.00	44.00	9.10	8.00	25.00	53.00	44.00	0.00	3.40	7.00
29.42	40.00	1.03	9.97	20.94	39.97	56.61	46.84	9.27	10.39	29.68	55.90	46.23	0.00	3.67	7.68

Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
41	42	43	44	45
0.58	0.22	0.11	0.43	0.1
0.59	0.21	0.11	0.38	0.1
0.58	0.26	0.11	0.33	0.1
0.59	0.21	0.10	0.38	0.2
0.58	0.19	0.08	0.39	0.1
0.57	0.24	0.07	0.73	0.0
0.57	0.18	0.08	0.73	0.0
0.59	0.18	0.08	0.46	0.0
0.59	0.22	0.10	0.23	0.1
0.59	0.21	0.11	0.25	0.0
0.58	0.23	0.08	0.58	0.2
0.59	0.24	0.10	0.54	0.2
0.56	0.28	0.12	0.50	0.0
0.58	0.23	0.11	0.72	0.0
0.53	0.23	0.10	0.57	0.0
0.58	0.23	0.12	0.46	0.0
0.49	0.22	0.11	0.41	0.0
0.48	0.21	0.10	0.35	0.1
0.53	0.20	0.10	0.42	0.0
0.54	0.21	0.10	0.44	0.0
0.49	0.27	0.13	0.35	0.0
0.57	0.21	0.11	0.38	0.0
0.48	0.22	0.11	0.29	0.1
0.50	0.24	0.11	0.49	0.0
0.47	0.22	0.10	0.31	0.0
0.51	0.22	0.11	0.40	0.1
0.45	0.25	0.12	0.66	0.0
0.45	0.26	0.13	0.67	0.0
0.44	0.26	0.13	0.30	0.0
0.56	0.22	0.10	0.45	0.0
0.57	0.22	0.10	0.45	0.0

16.78	6.99	3.24	14.05	1.40
0.59	0.28	0.13	0.73	0.20
0.44	0.18	0.07	0.23	0.00
0.54	0.23	0.10	0.45	0.05

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: _____ **Operator's Names & Cert. No.**

C HUTCHINSON A17011
INDRAJ SAMLAL A7282
STNLEY E.BANKS A17017
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 11 13,141

Design Flow: 16MGD

RAJIV SAMLAL

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
November 1, 2018	24	6.320	6.730	407	75	29	0.267	9224	100	0	210	290	180	19.8	175	2
November 2, 2018	24	5.970	6.050	368	92.5	30	0.445	8713	100	0	210	280	196	9.1	175	2.0
November 3, 2018	24	6.250	6.350	420	72	35	0.267	9122	100	0	210	282	180	14.4	175	1.9
November 4, 2018	24	6.650	6.800	577	103	58	0.267	9706	100	0	210	280	180	22.6	175	1.8
November 5, 2018	24	5.650	5.820	515.5	110	17	0.445	8246	100	0	210	264	167	14.6	175	2.1
November 6, 2018	24	5.430	5.670	462.5	112	27	0.178	7925	100	0	210	250	200	14.6	175	2.2
November 7, 2018	24	5.540	6.200	415	69	36	0.356	8085	100	0	210	250	200	16.7	175	2.2
November 8, 2018	24	5.460	5.960	379	66	27	0.356	7969	100	0	210	230	200	15.1	175	2.2
November 9, 2018	24	5.470	6.220	404	84	27	0.267	7983	100	0	210	226	200	15.0	175	2.2
November 10, 2018	24	5.610	5.770	471	86.5	30	0.178	8188	100	0	206	240	180	18.0	175	2.1
November 11, 2018	24	6.130	6.680	532	111	34	0.178	8947	100	0	200	240	180	16.8	175	2.0
November 12, 2018	24	5.710	6.030	433	120	29	0.445	8333	100	0	200	220	120	18.0	175	2.1
November 13, 2018	24	5.750	6.030	364	72	28	0.178	8392	100	0	200	240	120	18.0	175	2.1
November 14, 2018	24	5.750	6.090	442	92	25	0.267	8392	100	0	200	242	150	19.3	175	2.1
November 15, 2018	24	5.690	5.920	475	84	30	0.267	8304	100	0	220	300	150	18.0	175	2.1
November 16, 2018	24	5.700	5.830	448	92	27	0.267	8319	100	0	220	290	150	18.0	175	2.1
November 17, 2018	24	6.100	6.360	482	96	32	0.178	8903	100	0	220	290	160	14.4	175	2.0
November 18, 2018	24	5.990	6.390	477	80	28	0.267	8742	100	0	210	280	150	13.2	175	2.0
November 19, 2018	24	5.900	6.100	439	80	35	0.356	8611	100	0	227	254	160	14.4	175	2.0
November 20, 2018	24	5.450	5.670	393	72	31	0.267	7954	100	0	247	236	155	18.0	175	2.2
November 21, 2018	24	6.140	6.170	396	64	29	0.356	8972	100	0	250	260	150	18.0	175	2.0
November 22, 2018	24	6.030	5.920	218	53	3	0.356	8801	100	0	260	300	150	18.0	175	2.0
November 23, 2018	24	6.170	6.380	389	68	27	0.178	9005	100	0	260	294	152	18.0	175	1.9
November 24, 2018	24	6.190	6.280	437	81.5	30	0.356	9034	100	0	250	280	155	17.5	175	1.9
November 25, 2018	24	5.840	6.560	547.5	93.5	31	0.089	8523	100	0	238	232	150	17.5	175	2.1
November 26, 2018	24	5.680	6.240	637	121	31	0.356	8290	100	0	187	223	160	13.8	175	2.1
November 27, 2018	24	5.680	5.970	511	138	27	0.178	8290	100	0	180	220	160	19.3	175	2.1
November 28, 2018	24	5.620	6.190	476.5	103	31	0.178	8202	100	0	180	220	160	18.0	175	2.1
November 29, 2018	24	5.820	6.030	538	115.5	29.5	0.267	8494	100	0	180	220	150.0	19	175	2.1
November 30, 2018	24	6.210	6.520	488	93	27	0.178	9064	100	0	213	224	150	18.0	175	1.9
	24															
Total	720.00	175.90	184.93	13542.00	2699.50	880.50	8.19	256733.00	#####	0.00	6438.00	######	4915.00	505.36	5250.13	61.51
Max.	24.00	6.65	6.80	637.00	138.00	58.00	0.45	9706.00	100.00	0.00	260.00	300.00	200.00	22.56	175.21	2.21
Min.	24.00	5.43	5.67	218.00	53.00	3.00	0.09	7925.00	100.00	0.00	180.00	220.00	120.00	9.12	174.98	1.80
Avg.	24.00	5.86	6.16	451.40	89.98	29.35	0.27	8557.77	100.00	0.00	214.60	255.23	163.83	16.85	175.00	2.05

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

C22878

CHEMICAL AND PH

DOSAGES					RAW WATER										SETTLED WATER			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	4.0	5.5	0.79	0.38	3,8	7.3	232	260	240	20	18	0.3	30	40	1.0	10.0	23	43
0.0	4.2	5.6	0.91	0.183	3,8	7.3	230	260	240	20	18	0.3	30	40	0.9	10.0	21	42
0.0	4.0	5.4	0.79	0.28	3,8	7.3	230	260	240	20	18	0.3	30	40	1.3	9.9	26	48
0.0	3.8	5.0	0.75	0.41	3,8	7.3	230	262	240	22	18	0.3	30	40	1.0	9.7	22	47
0.0	4.5	5.6	0.82	0.31	3,8	7.3	230	260	240	20	18	0.3	30	40	0.9	10.0	21	42
0.0	4.6	5.5	1.02	0.32	3,8	7.3	230	260	240	20	18	0.3	30	40	1.1	10.1	24	43
0.0	4.5	5.4	1.00	0.36	3,8	7.3	230	230	240	20	18	0.3	32	40	0.8	9.9	20	39
0.0	4.6	5.1	1.01	0.33	3,8	7.3	230	260	240	20	18	0.3	30	40	1.1	10.0	21	40
0.0	4.6	5.0	1.01	0.33	3,8	7.3	230	260	240	20	18	0.3	30	40	0.91	9.9	19	38
0.0	4.4	5.1	0.88	0.38	3,8	7.3	230	260	240	20	18	0.3	30	40	0.9	9.9	20	37
0.0	3.9	4.7	0.81	0.33	3,8	7.3	230	260	240	20	18	0.3	30	40	1.0	9.8	18	39
0.0	4.2	4.6	0.58	0.38	3,8,6	7.3	228	260	240	20	18	0.3	30	40	1.1	9.8	20	37
0.0	4.2	5.0	0.58	0.38	6,8	7.3	230	260	240	20	18	0.3	30	40	1.2	10.0	20	38
0.0	4.2	5.0	0.72	0.40	6,8	7.3	230	260	240	20	18	0.3	30	40	1.2	9.8	23	39
0.0	4.6	6.3	0.73	0.38	6,8	7.3	230	260	240	20	18	0.3	30	40	0.9	9.9	21	40
0.0	4.6	6.1	0.73	0.38	6,8	7.3	230	260	240	20	18	0.3	30	40	1.2	10.0	20	40
0.0	4.3	5.7	0.72	0.28	6,8	7.3	230	260	240	20	18	0.3	30	40	1.1	10.0	21	45
0.0	4.2	5.6	0.69	0.26	6,8	7.3	230	260	240	20	18	0.3	30	40	0.97	9.9	20	42
0.0	4.6	5.2	0.75	0.29	6,8	7.3	230	260	240	20	18	0.3	30	40	1.0	9.9	23	39
0.0	5.4	5.2	0.78	0.40	6,8,5,3	7.3	230	260	240	20	18	0.3	30	40	0.8	10.0	22	39
0.0	4.9	5.1	0.67	0.35	3,6	7.3	230	260	240	20	18	0.3	28	40	0.8	10.0	22	40
0.0	5.2	6.0	0.69	0.36	3,6,8,6	7.4	230	260	240	20	18	0.3	30	40	0.9	10.1	18	38
0.0	5.1	5.7	0.68	0.35	6,8	7.3	230	260	240	20	18	0.3	30	40	1.0	10.0	20	39
0.0	4.8	5.4	0.69	0.34	6,8	7.3	230	260	240	20	20	0.3	30	40	1.0	9.9	21	40
0.0	4.9	4.8	0.71	0.36	6,8	7.3	230	256	230	20	18	0.3	28	40	1.0	9.9	21	42
0.0	3.9	4.7	0.78	0.29	5,6	7.3	230	260	240	20	18	0.3	30	40	1.0	9.9	17	39
0.0	3.8	4.6	0.78	0.41	5,6	7.3	230	260	240	20	20	0.3	30	40	1.1	9.9	21	37
0.0	3.8	4.7	0.79	0.38	5,6	7.3	230	260	240	20	20	0.3	30	40	0.8	10.0	20	39
0.0	3.7	4.5	0.71	0.40	5,6	7.3	230	260	240	20	20	0.3	30	40	1.0	9.5	19	41
0.0	4.1	4.3	0.67	0.35	5,6	7.3	230	260	240	20	18	0.3	30	40	1.0	9.9	19	37
0.00	131.81	156.55	23.20	10.34	0.00	219.10	6900.00	7768.00	7190.00	602.00	548.00	8.73	898.00	1200.00	29.94	297.55	623.00	######
0.00	5.43	6.32	1.02	0.41	0.00	7.40	232.00	262.00	240.00	22.00	20.00	0.30	32.00	40.00	1.33	10.10	26.00	48.00
0.00	3.71	4.33	0.58	0.18	0.00	7.30	228.00	230.00	230.00	20.00	18.00	0.27	28.00	40.00	0.80	9.50	17.00	37.00
0.00	4.39	5.22	0.77	0.34	#DIV/0!	7.30	230.00	258.93	239.67	20.07	18.27	0.29	29.93	40.00	1.00	9.92	20.77	40.30

County : Broward
I.D. Number : ######
Year : 2017

YSICAL RESULTS

		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
57	47	9.0	8	23	57	48	0.0	3.5	7	0.66	0.21	0.11	0.19	0.0
57	47	9.3	12	30	57	47	0.0	3.8	7	0.62	0.20	0.11	0.54	0.0
60	51	9.4	10	37	59	50	0.0	3.9	7	0.55	0.15	0.08	0.61	0.0
57	49	9.5	13	41	63	55	0.0	3.9	5	0.52	0.19	0.07	1.00	0.0
57	47	9.3	10	36	56	46	0.0	3.8	8	0.50	0.21	0.10	0.43	0.0
57	47	9.4	11	28	56	46	0.0	3.7	8	0.49	0.20	0.10	0.57	0.4
57	46	9.5	13	35	57	47	0.0	3.8	8	0.49	0.20	0.11	0.14	0.2
57	47	9.4	12	34	57	46	0.0	4.0	8	0.48	0.20	0.10	0.59	0.0
57	47	9.5	12	33	56	46	0.0	3.8	8	0.49	0.21	0.10	0.57	0.1
57	47	9.3	11	32	57	47	0.0	3.9	8	0.60	0.23	0.12	0.41	0.1
56	46	9.3	11	33	56	46	0.0	3.6	8	0.63	0.24	0.14	0.70	0.0
57	47	9.3	10	31	56	46	0.0	3.7	8	0.65	0.26	0.10	0.43	0.3
56	46	9.3	11	29	56	46	0.0	3.8	8	0.66	0.24	0.11	0.42	1.1
57	47	9.2	11	27	56	46	0.0	3.4	8	0.68	0.23	0.11	0.35	0.4
57	47	9.0	9	26	56	45	0.0	3.5	7	0.69	0.22	0.11	0.12	0.6
56	46	9.3	11	28	56	46	0.0	3.7	7	0.64	0.22	0.11	0.50	0.4
58	48	9.1	10	32	57	46	0.0	3.6	8	0.62	0.28	0.14	0.42	0.0
58	48	9.2	9	30	57	47	0.0	3.7	7	0.59	0.29	0.14	0.58	0.1
57	47	9.2	11	28	57	47	0.0	3.7	7	0.60	0.29	0.14	0.40	0.0
57	47	9.3	11	29	56	46	0.0	3.5	7	0.62	0.23	0.10	0.42	0.0
57	47	9.3	11	28	56	46	0.0	3.6	6	0.61	0.25	0.12	0.47	0.2
59	47	9.0	9	28	57	47	0.0	3.4	6	0.63	0.25	0.11	0.40	0.0
56	46	9.1	10	28	56	46	0.0	3.6	7	0.63	0.25	0.12	0.29	0.0
56	46	9.2	10	28	56	46	0.0	3.6	7	0.63	0.25	0.10	0.46	0.1
57	47	9.3	10	31	57	47	0.0	3.8	7	0.61	0.25	0.11	0.62	0.0
56	46	9.3	10	29	53	43	0.0	4.0	7	0.60	0.24	0.11	0.46	0.0
55	45	9.1	10	27	57	47	0.0	3.6	7	0.58	0.22	0.10	0.26	0.0
57	47	9.2	11	27	56	46	0.0	3.7	7	0.58	0.25	0.10	0.35	0.0
59	49	9.3	11	28	56	46	0.0	3.8	8	0.63	0.25	0.11	0.49	0.0
57	47	9.1	10	29	56	46	0.0	3.6	8	0.59	0.26	0.12	0.29	0.0
							0.0							
							0.0							
1711.00	1411.00	277.65	318.00	905.00	1698.00	1399.00	0.00	111.00	219.00	17.87	6.97	3.30	13.48	4.00
60.00	51.00	9.50	13.00	41.00	63.00	55.00	0.00	4.00	8.00	0.69	0.29	0.14	1.00	1.10
55.00	45.00	9.00	8.00	23.00	53.00	43.00	0.00	3.40	5.00	0.48	0.15	0.07	0.12	0.00
57.03	47.03	9.26	10.60	30.17	56.60	46.63	0.00	3.70	7.30	0.60	0.23	0.11	0.45	0.13

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD A8226
M HUTCHINSON A17010

Lead Operator Signature: **Operator's Names & Cert. No.**

C HUTCHINSON A17011
INDRAJ SAMLAL A7282
STNLEY E.BANKS A17017
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220

How Many Other Operators? 6

Total Metered Services at End of Month: 1 13,141

Design Flow: 16MGD

RAJIV SAMLAL

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
December 1, 2018	24	6.150	6.160	509.6	103	26	0.267	8975	100	0	266	200	188	14.8	175	2
December 2, 2018	24	6.290	6.900	683.3	127.5	50	0.267	9180	100	0	260	200	190	17.5	175	1.9
December 3, 2018	24	6.060	6.250	522.5	99	30	0.356	8844	100	0	253	160	150	16.2	175	2.0
December 4, 2018	24	5.800	6.300	476	111	30	0.267	8465	100	0	250	170	150	18.1	175	2.1
December 5, 2018	24	6.020	5.940	423	80	30.5	0.178	8786	100	0	273	166	150	18.0	175	2.0
December 6, 2018	24	5.930	6.020	469	70	39	0.267	8654	100	0	300	150	180	18.0	175	2.0
December 7, 2018	24	5.960	6.730	448.5	83.5	27	0.267	8698	100	0	300	150	150	18.0	175	2.0
December 8, 2018	24	5.780	6.280					8436	100	0	300	150	150	13.3	175	2.1
December 9, 2018	24	6.230	6.830	457.5	104	36	0.178	9093	100	0	280	140	150	16.8	175	1.9
December 10, 2018	24	6.020	5.620	448.5	99.5	23.5	0.267	8786	100	0	300	160	152	17.9	175	2.0
December 11, 2018	24	6.130	6.550	492	113	32	0.356	8946	100	0	300	160	148	18.0	175	2.0
December 12, 2018	24	5.840	6.300	427	97	26	0.356	8523	100	0	280	140	155	18.0	175	2.1
December 13, 2018	24	5.610	5.970	399	76	28	0.178	8188	100	0	280	146	150	13.3	175	2.1
December 14, 2018	24	5.720	6.230	460	88	28	0.178	8348	100	0	287	166	140	18.0	175	2.1
December 15, 2018	24	6.080	6.090	567.5	101.5	30.5	0.267	8874	100	0	300	160	151	16.7	175	2.0
December 16, 2018	24	6.100	6.610	506	106	25	0.267	8903	100	0	280	140	170	12.0	175	2.0
December 17, 2018	24	5.500	5.960	434	109	31	0.267	8027	100	0	280	140	160	16.2	175	2.2
December 18, 2018	24	5.710	6.050	434	72	30	0.267	8334	100	0	280	140	130	16.7	175	2.1
December 19, 2018	24	5.680	6.190	433.5	79	26.5	0.267	8290	100	0	280	144	140	18.0	175	2.1
December 20, 2018	24	5.360	6.200	439	82	28.5	0.267	7822	100	0	280	150	150	18.0	175	2.2
December 21, 2018	24	6.210	5.850	436.5	80	27.5	0.178	9063	100	0	287	166	144	18.0	175	1.9
December 22, 2018	24	6.520	6.430	481	92	30.5	0.267	8674	100	0	300	190	154	14.5	160	1.8
December 23, 2018	24	5.880	6.290	652	103	54.5	0.178	8582	100	0	280	140	150	17.9	175	2.0
December 24, 2018	24	5.640	6.190	623	132	30	0.445	8232	100	0	290	160	140	13.9	175	2.1
December 25, 2018	24	6.190	6.610	355	83.5	29	0.267	9034	100	0	300	166	150	21.0	175	1.9
December 26, 2018	24	5.650	6.340	413	65.5	31.5	0.178	8246	100	0	290	144	150	18.0	175	2.1
December 27, 2018	24	5.640	5.900	498.5	84.5	29.5	0.178	8231	100	0	290	160	150	16.7	175	2.1
December 28, 2018	24	5.720	6.100	515.6	87.5	38	0.445	8348	100	0	293	166	150	18.0	175	2.1
December 29, 2018	24	6.140	6.390	423	92	28	0.267	8961	100	0	300	220	150.0	16	175	2.0
December 30, 2018	24	6.170	6.460	365.8	68.5	26	0.267	9005	100	0	350	220	160	18.0	175	1.9
December 31, 2018	24	5.790	6.120	438.5	79	30.5	0.267	8450	100	0	300	272	150	19.7	175	2.1
Total	744.00	183.52	193.86	14231.80	2768.50	932.50	7.92	266998.00	#####	0.00	8909.00	######	4752.00	525.46	5409.36	62.91
Max.	24.00	6.52	6.90	683.30	132.00	54.50	0.45	9180.00	100.00	0.00	350.00	272.00	190.00	21.00	175.01	2.24
Min.	24.00	5.36	5.62	355.00	65.50	23.50	0.18	7822.00	100.00	0.00	250.00	140.00	130.00	12.00	159.52	1.84
Avg.	24.00	5.92	6.25	474.39	92.28	31.08	0.26	8612.84	100.00	0.00	287.39	165.68	153.29	16.95	174.50	2.03

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : October
Telephone Number : (954) 730-2972

C22878

CHEMICAL AND PHYSICAI

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	5.2	3.9	0.84	0.29	5,6	7.3	230	260	240	20	18	0.3	30	40	0.9	9.9	20	44	57
0.0	5.0	3.8	0.83	0.334	5,6	7.2	230	258	240	18	18	0.3	28	40	0.8	9.8	19	41	59
0.0	5.0	3.2	0.68	0.32	5,6	7.2	234	260	240	20	18	0.3	30	40	1.2	9.9	19	38	59
0.0	5.2	3.5	0.71	0.37	5,6	7.2	234	260	240	20	18	0.3	30	40	1.0	9.9	19	36	56
0.0	5.4	3.3	0.69	0.36	5,6	7.2	236	260	240	20	18	0.3	30	40	1.1	9.9	21	38	57
0.0	6.1	3.0	0.84	0.36	5,6	7.2	236	260	240	20	18	0.3	30	40	0.8	9.8	19	41	56
0.0	6.0	3.0	0.69	0.36	5,6	7.2	236	260	240	20	18	0.3	30	40	0.9	9.9	19	40	56
0.0	6.2	3.1	0.72	0.28	5,6	7.2	236	260	240	20	18	0.3	30	40	1.1	9.9	21	39	58
0.0	5.4	2.7	0.66	0.32	5,6	7.2	238	260	240	20	18	0.3	30	40	2.3	9.9	20	44	58
0.0	6.0	3.2	0.70	0.36	5,6	7.2	238	260	240	20	18	0.3	30	40	1.2	9.8	20	41	59
0.0	5.9	3.1	0.67	0.35	5,6,8,	7.3	240	264	244	20	18	0.3	30	36	1.2	10.0	22	40	57
0.0	5.7	2.9	0.73	0.37	5,6,8	7.3	240	264	244	20	18	0.3	30	40		10.0	22	39	57
0.0	6.0	3.1	0.74	0.28	5,6,8	7.3	240	264	244	20	18	0.3	30	36	0.9	9.7	19	38	56
0.0	6.0	3.5	0.67	0.38	5,6	7.3	240	264	244	20	18	0.3	30	36	0.8	9.9	20	39	56
0.0	5.9	3.2	0.68	0.33	6,8	7.3	240	264	244	20	18	0.3	30	40	0.7	9.9	19	41	55
0.0	5.5	2.8	0.77	0.24	6,8	7.3	240	264	244	20	18	0.3	30	40	0.8	9.8	22	42	56
0.0	6.1	3.1	0.80	0.35	6,8,5	7.3	242	264	244	20	18	0.3	30	40	0.9	9.9	22	39	56
0.0	5.9	2.9	0.63	0.35	6,8,5	7.3	240	264	244	20	18	0.3	30	40	0.8	9.9	23	39	55
0.0	5.9	3.0	0.68	0.38	6,8,5	7.3	242	264	244	20	18	0.3	30	40	0.9	9.9	21	41	57
0.0	6.3	3.4	0.77	0.40	6,8,8	7.3	242	264	244	20	18	0.3	30	40	0.8	9.9	21	40	57
0.0	5.5	3.2	0.64	0.35	5,6	7.3	242	264	244	20	18	0.3	28	40	0.9	9.8	20	39	57
0.0	5.5	3.5	0.65	0.27	6,8	7.3	242	264	244	20	18	0.3	30	40	0.9	9.8	23	45	48
0.0	5.7	2.9	0.70	0.36	6,8	7.3	242	262	244	20	18	0.3	30	40	0.8	9.9	20	40	56
0.0	6.2	3.4	0.68	0.30	6,8	7.2	242	260	240	20	20	0.3	30	40	0.9	10.0	22	41	57
0.0	5.8	3.2	0.67	0.41	6,8	7.2	240	262	240	22	20	0.3	30	42	0.9	10.1	22	39	56
0.0	6.2	3.1	0.73	0.38	6,5,8	7.2	244	264	244	20	20	0.3	30	40	1.0	9.9	21	39	57
0.0	6.2	3.4	0.73	0.36	5,6	7.2	244	264	244	20	20	0.3	30	40	0.8	10.1	22	43	60
0.0	6.1	3.5	0.72	0.38	5,6	7.3	240	264	244	20	20	0.3	30	40	1.1	9.8	18	36	58
0.0	5.9	4.3	0.67	0.32	8,6	7.3	240	264	244	20	20	0.3	30	40	0.9	9.9	21	44	57
0.0	6.8	4.3	0.72	0.35	8,6	7.3	240	260	240	20	20	0.3	30	40	0.7	9.9	20	44	58
0.0	6.2	5.6	0.71	0.41	8,6	7.3	240	260	240	20	20	0.3	28	40	0.9	10.0	21	39	56

0.00	180.72	103.95	22.15	10.66	0.00	225.00	7410.00	8126.00	7508.00	620.00	574.00	9.08	924.00	1230.00	28.85	306.80	638.00	######	1757.00
0.00	6.80	5.63	0.84	0.41	0.00	7.30	244.00	264.00	244.00	22.00	20.00	0.30	30.00	42.00	2.30	10.10	23.00	45.00	60.00
0.00	4.96	2.69	0.63	0.24	0.00	7.20	230.00	258.00	240.00	18.00	18.00	0.27	28.00	36.00	0.70	9.70	18.00	36.00	48.00
0.00	5.83	3.35	0.71	0.34	#DIV/0!	7.26	239.03	262.13	242.19	20.00	18.52	0.29	29.81	39.68	0.96	9.90	20.58	40.29	56.68

County : Broward
I.D. Number : ######
Year : 2017

L **RESULTS**

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
40	9.3	11	30	58	48	0.0	3.8	9	0.65	0.25	0.12	0.67	0.0
49	9.2	10	30	58	48	0.0	3.8	11	0.71	0.23	0.13	0.50	0.0
49	9.2	10	28	56	46	0.0	3.7	8	0.66	0.23	0.13	0.37	0.2
46	9.3	10	29	56	46	0.0	3.5	8	0.61	0.24	0.11	0.58	0.0
47	9.3	11	25	56	46	0.0	3.7	10	0.60	0.25	0.13	0.67	0.0
46	9.2	10	27	53	44	0.0	3.4	9	0.60	0.26	0.12	0.40	0.0
46	9.1	10	28	57	47	0.0	3.5	8	0.65	0.26	0.16	0.28	0.0
48	9.2	11	29	56	46	0.0	3.7	8	0.64	0.26	0.14	0.48	0.0
48	9.2	10	28	56	46	0.0	3.8	8	0.60	0.29	0.17	0.46	0.0
49	9.3	11	26	57	47	0.0	3.7	9	0.59	0.35	0.18	0.19	0.0
46	9.3	11	27	56	46	0.0	3.6	8	0.59	0.24	0.12	0.45	0.0
47	9.3	10	26	56	46	0.0	3.5	7	0.58	0.22	0.11	0.40	0.0
46	9.3	10	31	57	47	0.0	3.3	7	0.60	0.18	0.10	0.46	0.0
46	8.9	7	22	56	46	0.0	3.2	6	0.59	0.20	0.09	0.35	0.0
46	9.2	10	29	55	46	0.0	3.5	6	0.62	0.18	0.09	0.31	0.0
46	9.2	11	29	55	47	0.0	3.7	9	0.62	0.18	0.09	0.49	0.0
46	9.2	10	26	56	46	0.0	3.6	7	0.59	0.16	0.09	0.12	0.0
45	9.3	9	26	54	44	0.0	3.7	8	0.57	0.22	0.08	0.41	0.0
47	9.3	10	28	56	46	0.0	3.6	8	0.55	0.25	0.13	0.42	0.0
46	9.2	10	28	56	46	0.0	3.4	8	0.59	0.24	0.11	0.37	0.4
47	9.5	10	31	57	47	0.0	3.5	7	0.59	0.24	0.14	0.39	0.0
47	9.2	11	30	55	46	0.0	3.8	7	0.57	0.26	0.13	0.44	0.0
46	9.2	10	29	56	46	0.0	3.9	7	0.57	0.31	0.16	0.48	0.0
47	9.1	9	27	56	46	0.0	3.6	8	0.58	0.33	0.14	0.35	0.0
46	9.1	11	26	56	46	0.0	3.7	8	0.48	0.30	0.15	0.33	0.0
47	9.4	11	26	56	46	0.0	3.7	7	0.51	0.26	0.12	0.53	0.1
49	9.5	12	31	57	46	0.0	3.6	8	0.56	0.25	0.11	0.64	0.0
48	9.5	15	36	59	49	0.0	3.6	7	0.45	0.25	0.10	0.66	0.1
47	9.4	12	30	57	47	0.0	3.0	7	0.52	0.24	0.10	0.71	0.0
48	9.3	12	30	57	47	0.0	3.3	6	0.56	0.23	0.14	0.61	0.2
46	9.2	11	27	56	46	0.0	3.7	6	0.53	0.23	0.13	0.35	0.2
						0.0							
1447.00	286.90	326.00	875.00	1742.00	1436.00	0.00	111.10	240.00	18.13	7.59	3.82	13.87	1.21
49.00	9.50	15.00	36.00	59.00	49.00	0.00	3.90	11.00	0.71	0.35	0.18	0.71	0.40
40.00	8.90	7.00	22.00	53.00	44.00	0.00	3.00	6.00	0.45	0.16	0.08	0.12	0.00
46.68	9.25	10.52	28.23	56.19	46.32	0.00	3.58	7.74	0.58	0.24	0.12	0.45	0.04

2019 MONTHLY OPERATING REPORT
YEAR SUMMARY

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS									
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
Jan-19																	
Max.	24.00	6.37	6.88	545.50	115.00	36.50	0.36	9780.00	100.00	0.00	300.00	200.00	200.00	18.50	186.43	2.17	0.00
Min.	24.00	5.52	5.35	385.00	66.00	25.50	0.18	8056.00	100.00	0.00	250.00	100.00	110.00	14.90	173.98	1.88	0.00
Avg.	24.00	5.93	6.19	448.51	83.17	29.58	0.26	8675.90	100.00	0.00	290.10	147.74	170.29	17.37	175.43	2.02	0.00
Feb-19																	
Max.	24.00	6.85	7.24	681.00	112.00	50.70	0.36	9997.00	100.00	0.00	300.00	540.00	222.00	21.10	186.19	2.21	0.00
Min.	24.00	5.43	5.63	378.00	64.00	26.00	0.17	7925.00	100.00	0.00	230.00	100.00	85.00	13.20	0.00	1.75	0.00
Avg.	24.00	6.00	6.19	460.92	81.48	30.13	0.26	8780.48	100.00	0.00	271.71	219.41	140.50	17.70	169.36	2.01	0.00
Mar-19																	
Max.	24.00	6.97	6.97	520.00	86.00	74.00	0.45	9604.00	100.00	0.00	327.00	260.00	200.00	25.70	181.57	2.31	0.00
Min.	24.00	5.20	5.52	254.00	60.50	6.00	0.09	1017.00	100.00	0.00	240.00	100.00	100.00	0.18	17.50	1.72	0.00
Avg.	24.00	6.09	6.23	420.69	71.21	30.97	0.27	8560.84	100.00	0.00	298.94	212.26	129.74	17.34	169.41	1.98	0.00
Apr-19																	
Max.	24.00	6.75	6.98	524.50	95.50	79.00	36.50	9852.00	100.00	0.00	300.00	300.00	240.00	20.75	175.01	2.25	0.00
Min.	24.00	5.32	5.77	339.00	67.00	25.50	0.09	7765.00	100.00	0.00	300.00	220.00	100.00	14.90	174.98	1.78	0.00
Avg.	24.00	6.32	6.43	431.28	77.98	32.85	1.47	9218.47	100.00	0.00	300.00	243.67	140.10	17.67	175.00	1.90	0.00
May-19																	
Max.	24.00	8.65	7.94	540.50	93.00	39.50	0.36	12624.00	100.00	0.00	300.00	300.00	160.00	24.00	176.66	2.26	0.00
Min.	24.00	5.30	5.41	324.00	57.50	17.50	0.18	6889.00	100.00	0.00	290.00	220.00	100.00	13.60	139.06	1.39	0.00
Avg.	24.00	6.11	6.21	428.08	74.89	30.58	0.27	8808.19	100.00	0.00	299.68	267.42	124.13	17.67	172.78	1.98	0.00
Jun-19																	
Max.	24.00	6.74	6.79	514.50	108.00	43.50	0.36	9749.00	100.00	0.00	300.00	280.00	178.00	19.70	175.01	2.25	0.00
Min.	24.00	5.33	5.47	354.00	65.50	25.50	0.18	7779.00	100.00	0.00	265.00	150.00	90.00	9.10	153.95	1.78	0.00
Avg.	24.00	6.02	6.16	447.11	80.25	31.17	0.25	8741.27	100.00	0.00	291.43	216.70	126.07	16.66	174.28	2.00	0.00
Jul-19																	
Max.	24.00	6.37	6.48	538.50	110.00	44.00	0.36	9297.00	100.00	0.00	300.00	244.00	167.00	20.50	175.01	2.25	0.00
Min.	24.00	5.32	5.44	306.00	62.00	26.50	0.18	7764.00	100.00	0.00	280.00	140.00	108.00	14.90	163.44	1.88	0.00
Avg.	24.00	5.94	6.07	436.58	80.44	32.16	0.26	8629.26	100.00	0.00	291.39	201.52	132.65	17.57	174.23	2.02	0.00
Aug-19																	
Max.	24.00	6.22	6.49	577.50	103.00	59.50	0.36	9247.00	100.00	0.00	320.00	394.00	150.00	22.30	200.79	2.75	0.00
Min.	24.00	4.36	4.47	381.50	62.00	25.00	0.02	6523.00	100.00	0.00	280.00	150.00	110.00	13.20	161.20	1.93	0.00
Avg.	24.00	5.59	5.75	457.00	77.65	32.87	0.22	8288.97	100.00	0.00	296.58	266.77	129.23	18.23	177.88	2.15	0.00
Sep-19																	
Max.	24.00	7.06	6.87	556.00	110.00	45.50	0.37	10245.00	100.00	0.00	300.00	470.00	160.00	24.70	195.56	2.62	0.00
Min.	24.00	4.57	5.02	237.50	48.50	13.00	0.18	6673.00	100.00	0.00	300.00	350.00	100.00	15.34	143.26	1.70	0.00
Avg.	24.00	5.99	5.89	432.03	75.07	29.83	0.26	8586.90	100.00	0.00	300.00	403.31	122.10	18.25	172.56	2.03	0.00
Oct-19																	
Max.	24.00	6.19	6.46	570.00	100.00	71.00	0.36	9614.00	100.00	0.00	300.00	254.00	150.00	21.20	202.90	2.37	0.00
Min.	24.00	5.05	5.32	210.00	17.50	16.00	0.09	7375.00	100.00	0.00	280.00	140.00	100.00	13.90	161.84	1.94	0.00
Avg.	24.00	5.64	5.89	439.11	77.10	33.79	0.24	8570.55	100.00	0.00	298.06	208.26	123.19	17.95	182.22	2.13	0.00
Nov-19																	
Max.	24.00	6.73	6.91	538.00	94.00	72.00	0.36	10009.00	100.00	0.00	300.00	244.00	140.00	18.70	199.13	2.32	0.00
Min.	24.00	5.16	5.40	312.00	60.00	25.00	0.09	7835.00	100.00	0.00	300.00	216.00	100.00	15.60	139.55	1.78	0.00
Avg.	24.00	5.69	5.93	441.42	78.32	33.40	0.23	8718.60	100.00	0.00	300.00	233.47	121.43	17.85	184.08	2.11	0.00
Dec-19																	
Max.	24.00	6.12	6.39	607.00	124.00	71.00	0.36	9715.00	100.00	0.00	300.00	290.00	190.00	19.90	220.51	2.44	0.00
Min.	24.00	4.92	5.19	341.50	64.00	27.00	0.09	7185.00	100.00	0.00	300.00	180.00	80.00	12.00	174.99	1.96	0.00
Avg.	24.00	5.64	5.88	453.25	85.81	32.18	0.24	8771.26	100.00	0.00	300.00	215.97	112.87	17.87	186.69	2.13	0.00
2019 Totals																	
Max.	24.00	8.65	7.94	681.00	124.00	79.00	36.50	12624.00	100.00	0.00	327.00	540.00	240.00	25.70	220.51	2.75	0.00
Min.	24.00	4.36	4.47	210.00	17.50	6.00	0.02	1017.00	100.00	0.00	230.00	100.00	80.00	0.18	0.00	1.39	0.00
Avg.	24.00	5.91	6.07	441.33	78.61	31.63	0.35	8695.89	100.00	0.00	294.82	236.37	131.03	17.68	176.16	2.04	0.00

CHEMICAL AND PHYSICAL RESULT

DOSAGES				RAW WATER										SETTLED WATER						
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
6.43	4.06	0.95	0.39	0.00	7.30	242.00	272.00	252.00	20.00	20.00	0.34	36.00	40.00	1.40	10.00	24.00	45.00	58.00	48.00	9.50
5.20	2.08	0.51	0.29	0.00	7.20	236.00	170.00	240.00	18.00	18.00	0.26	25.00	40.00	0.70	9.60	16.00	35.00	55.00	46.00	8.90
5.87	2.99	0.79	0.35	#DIV/0!	7.25	240.00	260.39	244.06	19.87	19.81	0.30	29.84	40.00	0.95	9.84	20.06	39.77	57.13	47.03	9.16
6.39	10.07	1.01	0.46	0.00	7.30	242.00	277.00	252.00	24.00	20.00	0.34	36.00	40.00	1.58	10.30	25.00	48.00	60.00	51.00	9.50
4.46	1.91	0.40	0.27	0.00	7.20	240.00	260.00	240.00	18.00	18.00	0.26	25.00	40.00	0.64	9.50	14.00	31.00	54.00	45.00	8.00
5.44	4.28	0.65	0.36	#DIV/0!	7.28	241.14	265.04	245.00	20.00	19.79	0.30	29.96	40.00	0.98	9.93	19.70	39.43	57.04	47.25	8.93
6.92	5.65	0.88	0.48	0.00	7.30	242.00	364.00	264.00	24.00	24.00	0.34	36.00	40.00	1.20	10.20	24.00	45.00	60.00	50.00	9.60
4.56	1.90	0.46	0.00	0.00	7.20	204.00	258.00	240.00	18.00	20.00	0.27	28.00	40.00	0.70	9.80	15.00	28.00	54.00	44.00	8.60
5.91	4.20	0.59	0.34	#DIV/0!	7.24	238.65	266.45	243.48	20.45	21.42	0.30	31.20	40.00	0.89	9.94	19.61	38.71	56.68	46.77	9.20
6.76	5.64	1.06	0.42	0.00	7.20	240.00	267.00	244.00	20.00	20.00	0.34	36.00	40.00	1.90	10.20	25.00	45.00	59.00	49.00	9.50
5.33	4.06	0.42	0.28	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.80	9.80	17.00	36.00	54.00	44.00	8.80
5.71	4.63	0.61	0.34	#DIV/0!	7.20	240.00	260.90	240.93	19.80	20.00	0.30	30.28	40.00	1.19	9.98	19.80	39.47	56.83	46.77	9.23
6.79	6.06	0.67	0.44	0.00	7.20	246.00	266.00	246.00	20.00	20.00	0.34	32.00	40.00	1.70	10.20	25.00	46.00	59.00	49.00	9.50
4.16	4.02	0.41	0.25	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.55	9.90	15.00	38.00	55.00	45.00	8.50
5.93	5.27	0.56	0.35	#DIV/0!	7.20	241.74	261.77	242.10	19.74	20.00	0.30	30.06	40.00	1.04	10.03	19.94	40.84	56.74	46.74	9.11
6.75	5.42	0.83	0.42	0.00	7.20	244.00	266.00	246.00	20.00	20.00	0.34	32.00	40.00	2.00	10.10	22.00	44.00	63.00	51.00	9.40
5.23	3.16	0.45	0.19	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.60	9.00	15.00	37.00	55.00	43.00	8.70
5.82	4.30	0.58	0.33	#DIV/0!	7.20	240.80	261.70	241.60	19.73	20.00	0.30	30.07	40.00	1.07	9.92	18.87	40.77	58.30	46.53	9.08
6.76	4.99	0.77	0.41	0.00	7.20	246.00	266.00	246.00	22.00	20.00	0.34	32.00	40.00	2.90	10.20	23.00	44.00	62.00	50.00	9.50
5.27	2.77	0.53	0.30	0.00	7.20	240.00	260.00	240.00	14.90	20.00	0.26	30.00	40.00	0.70	9.60	13.00	39.00	56.00	43.00	9.10
5.90	4.07	0.62	0.36	#DIV/0!	7.20	241.35	261.94	240.90	20.55	20.00	0.30	30.06	40.00	1.06	9.92	19.87	40.68	58.55	46.77	9.27
8.26	8.77	0.79	0.50	0.00	7.20	250.00	276.00	256.00	22.00	22.00	0.30	32.00	40.00	1.30	10.20	24.00	44.00	60.00	55.00	9.50
5.62	3.29	0.55	0.29	0.00	7.10	240.00	260.00	240.00	20.00	20.00	0.26	30.00	36.00	0.48	9.80	18.00	28.00	26.00	44.00	8.70
6.39	5.76	0.64	0.39	#DIV/0!	7.16	244.71	265.74	245.81	20.06	20.84	0.30	30.06	39.74	0.84	10.00	20.68	40.71	57.45	46.71	9.18
7.87	9.45	0.78	0.46	0.00	7.20	250.00	280.00	260.00	40.00	22.00	0.30	32.00	40.00	1.80	10.10	26.00	46.00	66.00	56.00	9.70
5.10	6.59	0.00	0.27	0.00	7.00	244.00	264.00	240.00	15.00	20.00	0.26	30.00	36.00	0.50	9.60	18.00	39.00	50.00	42.00	8.80
6.08	8.11	0.55	0.37	#DIV/0!	7.15	247.33	275.20	254.67	20.60	20.40	0.30	30.07	39.73	0.91	10.01	21.47	41.97	58.43	47.17	9.30
6.81	5.38	0.75	0.44	0.00	7.20	250.00	280.00	260.00	25.00	24.00	0.30	30.00	40.00	1.40	10.20	28.00	47.00	61.00	52.00	9.60
5.55	2.94	0.49	0.28	0.00	7.10	240.00	270.00	250.00	15.00	20.00	0.26	30.00	36.00	0.44	9.70	17.00	36.00	52.00	42.00	8.90
6.35	4.43	0.60	0.38	#DIV/0!	7.17	244.90	275.00	255.48	20.58	20.26	0.30	30.00	39.87	0.95	9.95	21.74	41.19	57.55	46.42	9.23
6.97	5.42	0.67	0.42	0.00	7.20	256.00	284.00	270.00	24.00	22.00	0.30	30.00	40.00	1.20	10.30	28.00	46.00	62.00	51.00	9.50
5.34	4.10	0.48	0.29	0.00	7.10	244.00	260.00	250.00	10.00	20.00	0.26	30.00	40.00	0.60	9.90	18.00	38.00	54.00	43.00	8.50
6.34	4.94	0.59	0.38	#DIV/0!	7.19	248.60	277.23	260.33	19.20	20.07	0.30	30.00	40.00	0.93	10.06	22.00	41.03	58.83	47.33	9.10
7.31	5.76	0.87	0.46	0.00	7.20	250.00	286.00	264.00	22.00	24.00	0.30	30.00	40.00	1.50	10.30	26.00	47.00	66.00	55.00	9.50
5.87	3.75	0.39	0.27	0.00	7.10	240.00	278.00	258.00	18.00	20.00	0.26	30.00	40.00	0.64	9.70	19.00	35.00	56.00	44.00	8.80
6.40	4.60	0.55	0.38	#DIV/0!	7.18	246.65	281.03	260.71	19.87	20.19	0.30	30.00	40.00	0.94	10.05	22.55	41.87	58.81	47.39	9.18
8.26	10.07	1.06	0.50	#DIV/0!	7.30	256.00	364.00	270.00	40.00	24.00	0.34	36.00	40.00	2.90	10.30	28.00	48.00	66.00	56.00	9.70
4.16	1.90	0.00	0.00	#DIV/0!	7.00	204.00	170.00	240.00	10.00	18.00	0.26	25.00	36.00	0.44	9.00	13.00	28.00	26.00	42.00	8.00
6.01	4.80	0.61	0.36	#DIV/0!	7.20	242.99	267.70	247.92	20.04	20.23	0.30	30.13	39.95	0.98	9.97	20.52	40.54	57.69	46.91	9.16

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FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
12.00	36.00	58.00	48.00	0.00	3.80	9.00	0.64	0.36	0.21	0.76	1.40
8.00	20.00	54.00	44.00	0.00	3.40	4.00	0.43	0.20	0.08	0.02	0.00
9.68	27.35	56.32	46.26	0.00	3.58	6.87	0.53	0.27	0.12	0.33	0.17
13.00	37.00	62.00	52.00	0.00	3.50	11.00	0.72	0.39	0.17	1.81	1.50
2.00	14.00	54.00	43.00	0.00	1.00	4.00	0.43	0.11	0.08	0.10	0.00
7.50	26.11	56.68	46.75	0.00	2.99	7.96	0.55	0.26	0.12	0.46	0.11
15.00	37.00	59.00	51.00	0.00	3.90	11.00	0.63	0.45	0.21	0.81	1.30
5.00	15.00	36.00	45.00	0.00	1.90	5.00	0.49	0.14	0.07	0.00	0.00
8.65	28.03	55.58	46.48	0.00	3.34	8.13	0.54	0.26	0.11	0.37	0.09
19.00	38.00	57.00	47.00	0.00	3.90	8.00	0.69	0.36	0.15	0.71	0.30
4.00	21.00	55.00	45.00	0.00	3.10	5.00	0.34	0.12	0.05	0.07	0.00
8.37	28.30	56.13	46.10	0.00	3.48	6.50	0.55	0.22	0.09	0.37	0.05
12.00	38.00	57.00	47.00	0.00	3.80	10.00	0.72	0.38	0.20	0.75	1.20
2.00	19.00	54.00	43.00	0.00	2.50	5.00	0.46	0.12	0.08	0.03	0.00
5.77	24.29	56.06	46.10	0.00	3.45	6.77	0.55	0.27	0.13	0.35	0.13
6.00	31.00	64.00	54.00	0.00	4.00	12.00	0.60	0.38	0.18	0.58	1.80
0.00	18.00	56.00	39.00	0.00	3.20	5.00	0.42	0.25	0.09	0.01	0.00
2.70	21.53	57.60	45.50	0.00	3.60	6.60	0.52	0.30	0.13	0.25	0.18
10.00	31.00	61.00	49.00	0.00	4.10	11.00	0.66	0.65	0.23	0.72	1.00
1.00	19.00	55.00	44.00	0.00	3.10	6.00	0.41	0.27	0.08	0.18	0.00
4.77	24.61	57.84	46.06	0.00	3.68	7.23	0.59	0.40	0.14	0.43	0.12
12.00	29.00	60.00	48.00	0.00	4.00	14.00	0.65	0.38	0.15	0.68	2.50
4.00	19.00	54.00	44.00	0.00	2.70	3.00	0.41	0.14	0.04	0.06	0.00
7.48	24.55	57.68	45.87	0.00	3.35	6.23	0.53	0.27	0.10	0.42	0.42
13.00	40.00	61.00	48.00	0.00	4.10	9.60	0.81	0.52	0.21	0.97	2.10
3.00	24.00	50.00	40.00	0.00	3.10	3.00	0.46	0.21	0.06	0.01	0.00
7.99	28.77	57.37	45.83	0.00	3.55	6.35	0.56	0.34	0.13	0.55	0.22
24.00	34.00	60.00	49.00	0.00	3.90	8.00	0.58	0.36	0.14	0.98	1.30
7.00	20.00	52.00	41.00	0.00	2.90	2.00	0.49	0.14	0.06	0.02	0.00
10.32	28.61	56.61	45.55	0.00	3.55	6.68	0.55	0.27	0.11	0.48	0.12
11.00	30.00	67.00	56.00	0.00	3.80	8.00	0.83	0.33	0.14	0.64	1.00
4.00	18.00	54.00	43.00	0.00	2.90	5.00	0.47	0.22	0.07	0.05	0.00
8.17	25.90	58.33	47.47	0.00	3.38	5.63	0.52	0.27	0.10	0.33	0.17
15.00	34.00	61.00	50.00	0.00	3.90	7.00	0.83	0.34	0.15	0.99	1.60
6.00	24.00	52.00	43.00	0.00	2.90	4.00	0.60	0.19	0.07	0.15	0.00
9.26	27.71	57.71	46.65	0.00	3.50	5.77	0.71	0.26	0.11	0.44	0.23
24.00	40.00	67.00	56.00	0.00	4.10	14.00	0.83	0.65	0.23	1.81	2.50
0.00	14.00	36.00	39.00	0.00	1.00	2.00	0.34	0.11	0.04	0.00	0.00
7.56	26.31	56.99	46.22	0.00	3.46	6.73	0.56	0.28	0.12	0.40	0.17

2019 MONTHLY OPERATING REPORT DATA
RAW

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z. BECKFORD A8226
M. HUTCHINSON A17010

Lead Operator Signature: Z Beckford, C Hutchinson, M Hutchinson **Operator's Names & Cert. No.**

C.HUTCHINSON A17011
STANLEY EBANK A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
RAJIV SAMLAL C22878

How Many Other Operators? 9

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
January 1, 2019	24	6.120	6.610	434	71	31	0.267	8932	100	0	300	180	150	18.0	175	2	0
January 2, 2019	24	5.960	6.380	438	75	28.5	0.267	8698	100	0	300	168	144	18.0	175	2.0	0.0
January 3, 2019	24	5.720	5.800	444	80	27	0.178	8348	100	0	300	140	145	18.0	175	2.1	0.0
January 4, 2019	24	5.960	5.800	500.5	87	28.5	0.178	8698	100	0	300	152	140	18.0	175	2.0	0.0
January 5, 2019	24	5.900	6.850	545.5	111	28.5	0.267	8611	100	0	300	200	140	18.0	175	2.0	0.0
January 6, 2019	24	5.940	6.810	506.5	115	25.5	0.267	8669	100	0	300	200	110	17.5	175	2.0	0.0
January 7, 2019	24	5.950	6.100	432.5	75.5	30.5	0.356	8684	100	0	300	150	150	18.0	175	2.0	0.0
January 8, 2019	24	5.790	6.410	398.5	72	26.5	0.178	8450	100	0	300	150	160	18.5	175	2.1	0.0
January 9, 2019	24	5.970	6.260	475	79	36.5	0.356	8713	100	0	300	140	110	18.0	175	2.0	0.0
January 10, 2019	24	5.990	5.830	420	95.5	26.5	0.267	8742	100	0	300	140	170	18.0	175	2.0	0.0
January 11, 2019	24	5.970	6.540	414.5	91	30.5	0.267	8713	100	0	300	156	170	18.0	175	2	0
January 12, 2019	24	5.800	6.160	433.5	78.5	31.5	0.267	8416	100	0	300	136	200	15.6	174	2.1	0.0
January 13, 2019	24	6.030	6.880	434.5	71	29.5	0.178	8801	100	0	300	140	190	15.4	175	2.0	0.0
January 14, 2019	24	5.920	6.300	479	73	31	0.267	8640	100	0	300	136	200	15.6	175	2.0	0.0
January 15, 2019	24	6.030	6.300	473	93	31	0.267	8800	100	0	300	150	200	16.8	175	2.0	0.0
January 16, 2019	24	5.920	6.110	426.5	92	30	0.356	8640	100	0	300	146	180	14.9	175	2.0	0.0
January 17, 2019	24	5.590	6.150	392.5	67	29	0.178	8158	100	0	300	160	170	15.1	175	2.1	0.0
January 18, 2019	24	5.990	6.530	453	87.5	27.5	0.178	8742	100	0	300	146	180	18.0	175	2.0	0.0
January 19, 2019	24	6.370	6.250	522	92	32	0.267	9297	100	0	300	150	200	15.6	175	1.9	0.0
January 20, 2019	24	6.360	6.750	450.8	86	28.5	0.356	9287	100	0	300	120	190	16.8	175	1.9	0.0
January 21, 2019	24	5.900	5.790	385	q	31	0.267	8611	100	0	300	140	180	18.5	175	2	0
January 22, 2019	24	6.290	5.350	421	66.5	30.5	0.267	9780	100	0	300	150	180	18.0	186	1.9	0.0
January 23, 2019	24	6.120	6.390	424.5	71	27.5	0.267	8932	100	0	293	160	180	18.0	175	2.0	0.0
January 24, 2019	24	6.120	5.850	410	66	28.5	0.267	8932	100	0	280	180	180	18.0	175	2.0	0.0
January 25, 2019	24	6.030	6.340	415.5	66	27.5	0.267	8800	100	0	280	170	180	18.0	175	2.0	0.0
January 26, 2019	24	5.850	5.880	428	72.5	29	0.178	8538	100	0	280	160	180	18.0	175	2.0	0.0
January 27, 2019	24	5.760	6.510	465	72.5	27.5	0.267	8407	100	0	250	100	180	15.5	175	2.1	0.0
January 28, 2019	24	5.670	5.670	457.5	91.5	31	0.178	8410	100	0	250	120	180	18.5	178	2.1	0.0
January 29, 2019	24	5.520	5.350	504	100	35	0.356	8056	100	0	250	120	180.0	18	175	2.2	0.0
January 30, 2019	24	5.580	5.910	423	92	30	0.178	8144	100	0	250	100	180	18.0	175	2.1	0.0
January 31, 2019	24	5.690	5.930	496.5	105	30	0.267	8304	100	0	260	120	180	18.0	175	2	0
Total	744.00	183.81	191.79	13903.80	2495.00	917.00	7.92	268953.00	3100.00	0.00	8993.00	######	5279.00	538.33	5438.20	62.76	0.00
Max.	24.00	6.37	6.88	545.50	115.00	36.50	0.36	9780.00	100.00	0.00	300.00	200.00	200.00	18.50	186.43	2.17	0.00
Min.	24.00	5.52	5.35	385.00	66.00	25.50	0.18	8056.00	100.00	0.00	250.00	100.00	110.00	14.90	173.98	1.88	0.00
Avg.	24.00	5.93	6.19	448.51	83.17	29.58	0.26	8675.90	100.00	0.00	290.10	147.74	170.29	17.37	175.43	2.02	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jan-19
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL R

DOSAGES				RAW WATER										SETTLED WATER					
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
5.9	3.5	0.68	0.35	6,8	7.3	240	260	240	20	20	0.3	30	40	1.2	9.9	19	36	56	46
6.0	3.4	0.67	0.362	6,5,8	7.3	240	260	240	20	20	0.3	30	40	1.0	10.0	24	45	57	47
6.3	2.9	0.70	0.38	6,8	7.3	242	254	244	20	20	0.3	30	40	0.7	9.9	20	37	56	46
6.0	3.1	0.65	0.36	6,8	7.3	242	264	244	20	20	0.3	30	40	0.9	9.9	19	38	57	47
6.1	4.1	0.65	0.37	6,8	7.3	242	264	244	20	20	0.3	30	40	0.9	9.9	20	42	57	47
6.1	4.0	0.51	0.35	6,8	7.3	242	264	244	20	20	0.3	30	40	0.9	9.9	20	40	57	47
6.0	3.0	0.70	0.36	6,8	7.3	242	264	244	20	20	0.3	30	40	1.2	9.9	22	39	58	48
6.2	3.1	0.76	0.38	6,8	7.3	242	264	244	20	20	0.3	30	40	1.1	10.0	22	39	57	47
6.0	2.8	0.51	0.36	6,7,5	7.3	242	264	244	20	18	0.3	30	40	1.4	9.9	21	39	57	47
6.0	2.8	0.78	0.36	5,6	7.2	236	260	240	20	18	0.3	30	40	0.8	9.9	23	43	58	47
6.0	3.1	0.79	0.36	5,6	7.2	236	260	240	20	18	0.3	30	40	1.1	9.9	20	39	56	46
6.2	2.8	0.95	0.323	5,6	7.2	236	260	242	18	20	0.3	30	40	0.71	9.9	19	44	55	46
6.0	2.8	0.87	0.31	5,6	7.2	236	260	242	18	20	0.3	30	40	0.76	9.8	19	41	58	47
6.1	2.8	0.93	0.32	5,6	7.2	238	260	240	20	20	0.3	30	40	0.8	9.9	23	42	57	47
6.0	3.0	0.91	0.33	5,6	7.2	240	260	240	20	20	0.3	30	40	0.9	9.9	19	42	58	48
6.1	3.0	0.84	0.30	5,6	7.2	240	262	242	20	20	0.3	30	40	0.8	9.9	23	42	57	47
6.4	3.4	0.84	0.32	5,6	7.2	240	262	242	20	20	0.3	30	40	1.0	10.0	23	43	58	47
6.0	2.9	0.83	0.36	5,6	7.2	240	262	242	20	20	0.3	30	40	1.1	10.0	21	41	57	47
5.6	2.8	0.87	0.29	5,6	7.2	240	262	242	20	20	0.3	30	40	0.9	9.9	19	43	57	47
5.7	2.3	0.82	0.32	5,6	7.2	242	260	240	20	20	0.3	30	40	1.1	9.8	19	41	57	47
6.1	2.8	0.84	0.38	5,6	7.2	242	260	240	20	20	0.3	30	40	1.2	9.8	18	40	57	47
5.7	2.9	0.79	0.343	5,6	7.2	236	260	240	20	20	0.3	30	40	1.1	9.8	16	37	57	47
5.7	3.1	0.81	0.35	5,63,4	7.2	236	260	240	20	20	0.3	30	40	0.9	9.7	18	37	58	47
5.5	3.5	0.81	0.35	3,4,6	7.3	242	170	250	20	20	0.3	30	40	0.9	9.8	20	37	57	47
5.6	3.4	0.82	0.36	3,4,6	7.3	242	270	250	20	20	0.3	36	40	1.1	9.8	19	38	57	47
5.7	3.3	0.85	0.37	3,4,6	7.3	240	270	250	20	20	0.3	25	40	0.8	9.6	21	38	58	48
5.2	2.1	0.86	0.32	3,4,6	7.3	242	270	250	20	20	0.3	30	40	0.9	9.7	18	39	57	47
5.3	2.5	0.88	0.39	3,4,6	7.3	242	270	250	20	20	0.3	30	40	0.8	9.6	21	38	58	48
5.4	2.6	0.90	0.39	3,4,6	7.3	240	272	252	20	20	0.3	28	40	0.9	9.7	20	40	57	47
5.4	2.1	0.89	0.39	3,4,6	7.3	240	272	252	20	20	0.3	28	40	0.9	9.9	19	38	58	48
5.5	2.5	0.87	0.38	3,46	7.3	240	272	252	20	20	0.3	28	40	0.9	9.6	17	35	57	47
181.85	92.54	24.57	10.90	0.00	224.90	7440.00	8072.00	7566.00	616.00	614.00	9.22	925.00	1240.00	29.54	305.15	622.00	######	1771.00	1458.00
6.43	4.06	0.95	0.39	0.00	7.30	242.00	272.00	252.00	20.00	20.00	0.34	36.00	40.00	1.40	10.00	24.00	45.00	58.00	48.00
5.20	2.08	0.51	0.29	0.00	7.20	236.00	170.00	240.00	18.00	18.00	0.26	25.00	40.00	0.70	9.60	16.00	35.00	55.00	46.00
5.87	2.99	0.79	0.35	#DIV/0!	7.25	240.00	260.39	244.06	19.87	19.81	0.30	29.84	40.00	0.95	9.84	20.06	39.77	57.13	47.03

County : Broward
I.D. Number : 4060787
Year : 2019

RESULTS

FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
33	34	35	36	37	38	39	40	41	42	43	44	45
9.1	10	26	56	45	0.0	3.6	6	0.57	0.20	0.11	0.22	0.0
9.3	11	28	56	46	0.0	3.7	7	0.59	0.24	0.12	0.47	0.0
9.4	11	28	57	47	0.0	3.6	7	0.57	0.22	0.08	0.53	0.0
9.3	10	28	56	46	0.0	3.5	7	0.57	0.22	0.08	0.37	0.0
9.2	9	28	57	46	0.0	3.6	7	0.59	0.24	0.11	0.38	0.1
9.2	9	30	56	46	0.0	3.7	7	0.57	0.28	0.15	0.50	0.0
9.2	10	28	56	46	0.0	3.6	6	0.58	0.30	0.15	.37.	0.1
9.5	11	29	55	46	0.0	3.7	7	0.57	0.32	0.15	0.69	0.0
9.4	12	30	57	47	0.0	3.6	7	0.52	0.31	0.13	0.53	0.0
9.3	10	23	57	47	0.0	3.5	7	0.56	0.29	0.12	0.48	0.0
9.1	9	27	58	48	0.0	3.4	6	0.64	0.31	0.13	0.17	0.0
9.1	9	29	57	47	0.0	3.7	6	0.58	0.25	0.12	0.42	0.0
9.0	8	21	55	45	0.0	3.5	5	0.58	0.21	0.21	0.30	0.0
9.1	10	23	56	46	0.0	3.7	6	0.53	0.30	0.14	0.27	0.0
9.1	9	24	54	44	0.0	3.7	7	0.51	0.34	0.16	0.27	0.0
9.2	8	22	55	45	0.0	3.5	8	0.50	0.30	0.13	0.29	0.5
9.0	9	20	55	46	0.0	3.4	7	0.51	0.29	0.13	0.12	0.0
9.3	12	31	57	47	0.0	3.5	7	0.49	0.31	0.14	0.44	0.0
9.3	12	36	58	48	0.0	3.6	4	0.47	0.27	0.12	0.76	0.0
9.2	11	35	57	47	0.0	3.8	7	0.43	0.26	0.13	0.57	0.0
9.0	10	30	57	47	0.0	3.6	4	0.48	0.34	0.12	0.12	0.0
9.0	9	24	56	46	0.0	3.7	6	0.44	0.34	0.14	0.19	0.0
9.0	9	29	57	46	0.0	3.6	9	0.47	0.36	0.13	0.12	0.1
9.1	9	27	56	46	0.0	3.6	9	0.46	0.32	0.14	0.25	0.4
9.2	10	29	56	46	0.0	3.6	8	0.49	0.20	0.12	0.32	0.1
9.0	8	27	57	47	0.0	3.4	7	0.46	0.20	0.08	0.26	1.1
8.9	9	29	56	47	0.0	3.6	8	0.45	0.24	0.11	0.02	1.4
9.0	8	27	57	47	0.0	3.4	7	0.46	0.20	0.08	0.26	1.1
9.0	9	26	57	45	0.0	3.5	8	0.61	0.24	0.11	0.02	0.1
9.2	9	26	56	46	0.0	3.6	8	0.61	0.21	0.09	0.23	0.0
9.2	10	28	56	46	0.0	3.4	8	0.64	0.24	0.08	0.37	0.2
					0.0							
283.90	300.00	848.00	1746.00	1434.00	0.00	110.90	213.00	16.50	8.35	3.81	9.94	5.15
9.50	12.00	36.00	58.00	48.00	0.00	3.80	9.00	0.64	0.36	0.21	0.76	1.40
8.90	8.00	20.00	54.00	44.00	0.00	3.40	4.00	0.43	0.20	0.08	0.02	0.00
9.16	9.68	27.35	56.32	46.26	0.00	3.58	6.87	0.53	0.27	0.12	0.33	0.17

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z. BECKFORD A8226
M. HUTCHINSON A17010

Lead Operator Signature: Z Beckford, C Hutchinson, M Hutchinson **Operator's Names & Cert. No.**

C.HUTCHINSON	A17011
STANLEY EBANKS	A17017
INDRAL SAMLAL	A7282
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

RAJIV SAMLAL

How Many Other Operators? 9

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant	Total Raw RAW	Total FINISH	FILTER DATA				CHEMICA								
				Hours Filter Runs Between			Total Wash Water, MGD	POUNDS USED							DOSAGES	
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
February 1, 2019	24	5.700	6.120	433.5	74	26	0.267	8319	100	0	300	180	150	18.0	175	2
February 2, 2019	24	6.100	6.030	405.8	72	27.5	0.17		100	0	240	100	222	14.2	0	2.0
February 3, 2019	24	6.180	6.450	460	82.5	28	0.267	9020	100	0	230	100	180	16.5	175	1.9
February 4, 2019	24	5.860	6.030	5.3.5	106.5	29	0.178	8552	100	0	235	100	200	18.0	175	2.0
February 5, 2019	24	5.980	5.700	607	112	31.5	0.267	8724	100	0	240	100	200	18.0	175	2.0
February 6, 2019	24	5.430	5.920	540	109	29.5	0.267	7925	100	0	240	100	198	18.0	175	2.2
February 7, 2019	24	5.800	6.180	458	98	29	0.267	8465	100	0	250	106	190	18.0	175	2.1
February 8, 2019	24	6.260	6.340	416.5	68.5	26.5	0.267	9136	100	0	260	106	190	18.0	175	1.9
February 9, 2019	24	6.140	6.670	404	68	30	0.267	8961	100	0	260	120	220	16.3	175	2.0
February 10, 2019	24	5.830	6.620	391	84.5	26.5	0.267	8509	100	0	260	116	180	13.2	175	2.1
February 11, 2019	24	5.840	5.870	473.5	87	27	0.356	8874	100	0	260	100	85	18.5	182	2
February 12, 2019	24	5.830	5.820	431	91	30	0.178	8453	100	0	260	100	88	18.0	174	2.1
February 13, 2019	24	5.900	6.180	397.5	64	29	0.267	8611	100	0	260	100	90	18.0	175	2.0
February 14, 2019	24	5.820	5.630	430.5	69	30	0.267	8494	100	0	260	100	100	18.0	175	2.1
February 15, 2019	24	5.630	6.300	410.5	68	27.5	0.356	8216	100	0	260	100	100	18.0	175	2.1
February 16, 2019	24	5.520	5.730	378.5	72	26.5	0.178	8056	100	0	260	100	104	21.1	175	2.2
February 17, 2019	24	5.520	6.460	681	68	39.5	0.178	8056	100	0	260	130	110	15.6	175	2.2
February 18, 2019	24	6.280	6.360	470.5	79.5	31	0.356	9166	100	0	273	100	90	18.0	175	1.9
February 19, 2019	24	6.250	6.370	421.5	75	31	0.267	9705	100	0	300	200	106	18.0	186	1.9
February 20, 2019	24	6.370	6.390	415.5	71	31.5	0.359	9297	100	0	300	334	112	18.0	175	1.9
February 21, 2019	24	5.720	5.720	378	67	29	0.267	8348	100	0	300	400	120	18.0	175	2
February 22, 2019	24	6.080	6.770	402	68	26.5	0.178	8874	100	0	300	432	120	18.0	175	2.0
February 23, 2019	24	6.440	6.090	485.5	79	31.5	0.178	9399	100	0	300	500	166	18.0	175	1.9
February 24, 2019	24	5.630	7.240	645	103	50.7	0.178	8216	100	0	300		133	20.1	175	2.1
February 25, 2019	24	6.850	5.760	591	105.5	31	0.356	9997	100	0	300	540	120	18.0	175	1.8
February 26, 2019	24	6.400	6.410	441.5	103	30	0.267	9340	100	0	300	520	125	18.0	175	1.9
February 27, 2019	24	6.190	6.120	414.5	65.5	28.5	0.178	9034	100	0	300	520	120	18.0	175	1.9
February 28, 2019	24	6.390	6.170	461.5	71	30	0.356	9326	100	0	300	520	115	18.0	175	1.9
Total	672.00	167.94	173.45	12444.80	2281.50	843.70	7.20	237073.00	2800.00	0.00	7608.00	5924.00	3934.00	495.50	4742.03	56.14
Max.	24.00	6.85	7.24	681.00	112.00	50.70	0.36	9997.00	100.00	0.00	300.00	540.00	222.00	21.10	186.19	2.21
Min.	24.00	5.43	5.63	378.00	64.00	26.00	0.17	7925.00	100.00	0.00	230.00	100.00	85.00	13.20	0.00	1.75
Avg.	24.00	6.00	6.19	460.92	81.48	30.13	0.26	8780.48	100.00	0.00	271.71	219.41	140.50	17.70	169.36	2.01

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Feb-19
Telephone Number : (954) 730-2972

C22878

CHEMICAL AND PHYSICAL RESULTS

					RAW WATER										SETTLED			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	6.3	3.8	0.73	0.38	3,4,6	7.3	240	272	252	20	20	0.3	30	40	0.9	9.6	17	35
0.0	4.7	2.0	1.00	0.280	3,4,6	7.3	240	272	250	20	20	0.3	30	40	0.8	9.7	19	38
0.0	4.5	1.9	0.80	0.32	3,4,6	7.2	240	274	250	24	20	0.3	28	40	1.4	9.8	18	36
0.0	4.8	2.0	0.94	0.37	3,4,6	7.2	242	277	252	20	20	0.3	30	40	1.0	9.9	18	31
0.0	4.8	2.0	0.92	0.36	3,4,6	7.2	242	272	252	20	20	0.3	30	40	1.1	9.5	14	34
0.0	5.3	2.2	1.01	0.40	3,4,6	7.2	242	272	252	20	20	0.3	30	40	1.5	10.0	21	39
0.0	5.2	2.2	0.90	0.37	3,4,6	7.2	242	272	252	20	20	0.3	30	40	0.9	9.8	22	42
0.0	5.0	2.0	0.84	0.34	3,4,6	7.2	242	272	252	20	20	0.3	30	40	0.9	9.9	20	40
0.0	5.1	2.3	0.99	0.32	3,4,6	7.3	240	260	242	20	18	0.3	30	40	1.1	9.8	20	41
0.0	5.3	2.4	0.85	0.27	3,4,6	7.3	240	262	242	20	18	0.3	30	40	1.58	9.9	20	41
0	5.3	2.1	0.40	0.38	3,4,6	7.3	242	260	240	20	18	0.3	30	40	1.3	9.9	21	40
0.0	5.3	2.1	0.42	0.370	3,4,6	7.3	242	260	240	18	20	0.3	30	40	0.96	9.8	18	38
0.0	5.3	2.0	0.42	0.37	3,4,6	7.3	242	260	240	18	20	0.3	30	40	1.21	9.9		42
0.0	5.4	2.1	0.47	0.37	3,,4,6	7.3	242	260	240	20	20	0.3	30	40	0.9	9.6	19	42
0.0	5.5	2.1	0.49	0.38	3,4,6	7.3	242	260	240	20	20	0.3	30	40	0.9	9.8	19	37
0.0	5.6	2.2	0.52	0.46	3,4,6	7.3	242	260	240	20	20	0.3	30	40	1.0	9.7	15	39
0.0	5.6	2.8	0.55	0.34	3,4,6	7.3	242	260	240	20	20	0.3	30	40	0.9	9.7	16	38
0.0	5.2	1.9	0.40	0.34	3,4,6	7.3	240	264	244	20	20	0.3	30	40	1.1	10.0	21	40
0.0	5.8	3.8	0.47	0.35	3,4,8	7.3	240	264	244	20	20	0.3	30	40	0.8	10.0	23	41
0.0	5.6	6.3	0.48	0.34	3,4,8	7.3	240	264	244	20	20	0.3	30	40	1.0	10.1	22	39
0	6.3	8.4	0.58	0.38	3,4,8	7.3	240	264	244	20	20	0.3	30	40	0.7	10.0	19	39
0.0	5.9	8.5	0.54	0.355	3,4,8	7.3	240	264	244	20	20	0.3	30	40	0.8	10.2	21	40
0.0	5.6	9.3	0.71	0.34	3,4,8	7.3	240	260	244	20	20	0.3	30	40	0.6	10.3	25	43
0.0	6.4		0.65	0.43	3,4,8	7.3	240	260	244	20	20	0.3	30	40	0.7	10.2	22	48
0.0	5.3	9.5	0.48	0.32	3,4,8	7.3	242	264	244	20	20	0.3	36	40	0.8	10.3	21	41
0.0	5.6	9.7	0.54	0.34	3,4,8	7.3	242	264	244	20	20	0.3	25	40	0.8	10.2	21	40
0.0	5.8	10.1	0.53	0.35	3,4,8	7.3	242	264	244	20	20	0.3	30	40	1.0	10.2	21	39
0.0	5.6	9.8	0.50	0.34	3,4,8	7.3	242	264	244	20	20	0.3	30	40	0.7	10.2	19	41
0.00	152.25	115.50	18.14	9.94	0.00	203.80	6752.00	7421.00	6860.00	560.00	554.00	8.34	839.00	1120.00	27.44	278.00	532.00	1104.00
0.00	6.39	10.07	1.01	0.46	0.00	7.30	242.00	277.00	252.00	24.00	20.00	0.34	36.00	40.00	1.58	10.30	25.00	48.00
0.00	4.46	1.91	0.40	0.27	0.00	7.20	240.00	260.00	240.00	18.00	18.00	0.26	25.00	40.00	0.64	9.50	14.00	31.00
0.00	5.44	4.28	0.65	0.36	#DIV/0!	7.28	241.14	265.04	245.00	20.00	19.79	0.30	29.96	40.00	0.98	9.93	19.70	39.43

County : Broward
I.D. Number : ######
Year : 2019

		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
58	48	9.0	10	28	57	47	0.0	3.5	6	0.57	0.26	0.10	0.78	0.2
56	46	8.8	7	20	55	47	0.0	3.5	8	0.57	0.24	0.11	0.10	0.4
56	46	9.5	9	30	59	48	0.0	3.4	8	0.59	0.20	0.10		0.0
57	47	9.2	10	29	57	47	0.0	3.4	9	0.60	0.26	0.10	0.82	0.0
58	48	9.2	10	30	58	48	0.0	3.3	9	0.63	0.29	0.12	0.34	0.1
58	48	9.3	11	29	56	46	0.0	3.3	9	0.71	0.29	0.11	0.42	0.0
57	48	9.3	11	29	56	47	0.0	3.4	9	0.72	0.29	0.11	0.43	0.0
56	46	9.1	10	28	56	46	0.0	3.3	9	0.68	0.28	0.12	0.17	0.0
57	47	8.9	8	30	56	47	0.0	3.2	8	0.68	0.28	0.14	0.21	0.0
60	51	8.6	7	36	62	52	0.0	2.8	8	0.66	0.30	0.12	0.30	0.0
58	48	9.4	13	35	57	47	0.0	3.5	9	0.56	0.24	0.13	0.62	0.1
57	47	9.2	10	31	58	48	0.0	3.2	9	0.52	0.29	0.12	0.35	0.0
57	47	9.2	12	29	56	46	0.0	3.4	9	0.53	0.31	0.12	0.32	1.5
60	51	9.2	10	28	56	46	0.0	3.4	9	0.54	0.30	0.14	0.32	0.2
56	46	9.1	10	28	56	46	0.0	3.1	11	0.56	0.32	0.15	0.22	0.2
57	47	9.5	8	37	57	47	0.0	3.3	10	0.51	0.35	0.15	0.41	0.0
58	48	9.4	9	28	58	48	0.0	3.2	11	0.46	0.39	0.17	0.68	0.0
58	48	9.0	9	27	57	47	0.0	2.9	10	0.46	0.37	0.17	0.13	0.0
57	47	9.2	8	25	57	47	0.0	2.5	10	0.43	0.33	0.15	0.28	0.0
57	47	8.7	4	22	56	46	0.0	1.4	7	0.44	0.26	0.11	0.65	0.1
56	48	8.0	3	15	54	45	0.0	1.0	8	0.46	0.22	0.11	1.81	0.0
56	46	8.2	3	16	56	46	0.0	1.8	6	0.47	0.24	0.11	0.80	0.1
59	49	8.7	3	22	56	46	0.0	2.4/2.9	6	0.51	0.22	0.12	0.32	0.0
54	46	8.7	2	28	60	50	0.0	2.4/2.8	4	0.55	0.18	0.12	0.21	0.0
56	46	8.7	2	22	57	46	0.0	3.1/1.1	4	0.53	0.20	0.11	0.22	0.0
56	46	8.4	6	18	56	46	0.0	2.7/3.1	6	0.51	0.22	0.10	0.54	0.1
55	45	8.2	2	17	54	44	0.0	2.7/3.1	4	0.52	0.17	0.08	0.39	0.1
57	46	8.4	3	14	54	43	0.0	2.7/3.1	7	0.55	0.11	0.09	0.51	0.1
							0.0							
							0.0							
							0.0							
							0.0							
1597.00	1323.00	250.10	210.00	731.00	1587.00	1309.00	0.00	65.80	223.00	15.52	7.41	3.38	12.35	3.20
60.00	51.00	9.50	13.00	37.00	62.00	52.00	0.00	3.50	11.00	0.72	0.39	0.17	1.81	1.50
54.00	45.00	8.00	2.00	14.00	54.00	43.00	0.00	1.00	4.00	0.43	0.11	0.08	0.10	0.00
57.04	47.25	8.93	7.50	26.11	56.68	46.75	0.00	2.99	7.96	0.55	0.26	0.12	0.46	0.11

ENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: **Operator's Names & Cert. No.**

INDRAJ SAMLAL	A7282	LUIS ANDINO	A
C.HUTCHINSON	B17017	RODOLFO PER	
STNLEY E.BANKS	B17017	CARLTON CORI	
KERRY ROMAN	C7873		
R.RAMNARINE	C12091		
H.RODRIGUEZ	C19220		

How Many Other Operators? 9

Total Metered Services at End of Month: 11,050

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
March 1, 2019	24	5.520	6.200	372.5	65	25	0.356	8056	100	0	300	260	110	18.0	175	2	0
March 2, 2019	24	6.310	6.370	376	63	31	0.089	9209	100	0	240	100	200	18.7	175	1.9	0.0
March 3, 2019	24	6.040	6.880	468	79	38	0.178	8214	100	0	300	200	120	18.0	163	2.0	0.0
March 4, 2019	24	6.490	6.000	520	85.5	31	0.356	9472	100	0	300	200	120	18.0	175	1.8	0.0
March 5, 2019	24	6.000	6.040	433	86	31	0.178	8757	100	0	300	200	100	18.0	175	2.0	0.0
March 6, 2019	24	5.880	6.210	453.5	80	28.5	0.267	8582	100	0	300	120	108	18.0	175	2.0	0.0
March 7, 2019	24	5.460	5.770	444.5	75	33	0.267	7967	100	0	300	120	112	18.0	175	2.2	0.0
March 8, 2019	24	6.700	6.400	425.5	72	27.5	0.267	8859	100	0	300	154	200	18.0	159	1.8	0.0
March 9, 2019	24	6.300	5.960	438	78	29	0.267	9195	100	0	300	220	200	16.3	175	1.9	0.0
March 10, 2019	24	6.130	6.540	443	73.5	38	0.445	8947	100	0	300	220	130	18.2	175	2.0	0.0
March 11, 2019	24	6.380	6.380	333.5	64	27	0.178	9312	100	0	327	210	120	19.4	175	1.9	0.0
March 12, 2019	24	6.230	5.780	484.5	65.5	27	0.178	9092	100	0	300	220	121	0.2	175	1.9	0.0
March 13, 2019	24	6.200	6.380	416	78	74	0.356	9049	100	0	300	220	125	18.0	175	1.9	0.0
March 14, 2019	24	6.090	6.570	426	72	34	0.445	8888	100	0	300	220	120	18.0	175	2.0	0.0
March 15, 2019	24	6.090	6.670	254	63	6	0.178	8888	100	0	300	230	120	18.0	175	2.0	0.0
March 16, 2019	24	6.970	5.750	399.5	83	30	0.356	1017	100	0	300	230	124	12.0	17	1.7	0.0
March 17, 2019	24	6.380	6.970	372.5	60.5	35	0.267	9604	100	0	300	230	130	25.7	180	1.9	0.0
March 18, 2019	24	6.250	6.170	383	62	28.5	0.356	9121	100	0	300	230	112	16.7	175	1.9	0.0
March 19, 2019	24	5.870	5.620	390	70.5	26.5	0.089	8567	100	0	300	230	124	18.0	175	2.0	0.0
March 20, 2019	24	5.330	5.910	457	71	35	0.178	8071	100	0	300	230	140	18.0	182	2.2	0.0
March 21, 2019	24	5.450	5.940	433.5	68.5	36	0.356	7954	100	0	300	230	124	18.0	175	2.2	0.0
March 22, 2019	24	5.710	6.320	386	67.5	26.5	0.178	8333	100	0	300	230	100	18.0	175	2.1	0.0
March 23, 2019	24	6.450	6.370	443	66	32	0.356	9414	100	0	300	230	150	16.3	175	1.9	0.0
March 24, 2019	24	6.190	6.440	383	63	27	0.267	9034	100	0	300	240	160	19.2	175	1.9	0.0
March 25, 2019	24	6.210	6.130	485	66.5	30.5	0.178	9063	100	0	300	226	110	18.5	175	1.9	0.0
March 26, 2019	24	6.280	6.430	474	77	28	0.267	9199	100	0	300	230	120	18.0	176	1.9	0.0
March 27, 2019	24	5.900	6.210	432.5	71	29.5	0.356	8611	100	0	300	230	120	18.0	175	2.0	0.0
March 28, 2019	24	5.200	5.520	381.5	63	30.5	0.267	7589	100	0	300	230	120	18.0	175	2.3	0.0
March 29, 2019	24	6.120	6.460	487.5	68	27	0.178	8932	100	0	300	230	120.0	18	175	2.0	0.0
March 30, 2019	24	6.270	5.920	456	82.5	29.5	0.356	9151	100	0	300	230	124	18.0	175	1.9	0.0
March 31, 2019	24	6.330	6.910	389.5	68	28.5	0.267	9239	100	0	300	230	138	14.4	175	1.9	0.0
Total	744.00	188.73	193.22	13041.50	2207.50	960.00	8.28	265386.00	3100.00	0.00	9267.00	6580.00	4022.00	537.56	5251.66	61.31	0.00
Max.	24.00	6.97	6.97	520.00	86.00	74.00	0.45	9604.00	100.00	0.00	327.00	260.00	200.00	25.70	181.57	2.31	0.00
Min.	24.00	5.20	5.52	254.00	60.50	6.00	0.09	1017.00	100.00	0.00	240.00	100.00	100.00	0.18	17.50	1.72	0.00
Avg.	24.00	6.09	6.23	420.69	71.21	30.97	0.27	8560.84	100.00	0.00	298.94	212.26	129.74	17.34	169.41	1.98	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

A22919
REZ A15983
INTHIAN A7879

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : March
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULT

DOSAGES				RAW WATER										SETTLED WATER						
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
6.5	5.6	0.55	0.39	3,4,8	7.3	242	264	264	20	24	0.3	30	40	0.7	10.0	20	40	57	47	8.6
4.6	1.9	0.87	0.355	3,4,8	7.3	242	264	244	20	20	0.3	30	40	0.7	10.0	18	39	57	47	8.6
6.0	4.0	0.55	0.36	3,4,8	7.3	242	264	244	20	24		30	40	0.9	10.0	18	39	56	46	9.0
5.5	3.7	0.51	0.33	3,4,8	7.3	240	264	244	20	24		30	40	1.2	10.0	22	40	57	47	9.2
6.0	4.0	0.46	0.36	3,4,6	7.3	240	264	244	20	24	0.3	30	40	0.8	10.0	21	28	56	46	9.3
6.1	2.4	0.51	0.37	3,4,6	7.3	240	264	244	20	24	0.3	30	40	0.8	9.8	19	40	57	47	9.2
6.6	2.6	0.57	0.40	3,4,6	7.3	240	264	244	20	24	0.3	30	40	0.7	9.9	22	38	57	47	9.5
5.4	2.8	0.82	0.32	4,5,6	7.3	204	364	244	20	20	0.3	30	40	0.8	10.2	23	39	57	47	9.6
5.7	4.2	0.88	0.31	4,5,6	7.3	236	258	240	18	24	0.3	36	40	0.9	9.8	18	37	55	46	9.4
5.9	4.3	0.58	0.36	4,5,6	7.2	238	260	240	20	24	0.3	36	40	1.02	9.9	19	39	57	47	9.3
6.1	3.9	0.52	0.36	4,5,6	7.2	238	260	240	20	24	0.3	34	40	1.2	10.1	24	43	57	47	9.0
5.8	4.2	0.54	0.00	4,5	7.2	238	260	240	20	24	0.3	34	40	0.94	10.0	23	39	57	47	9.1
5.8	4.3	0.56	0.35	3,4,6	7.2	238	260	240	20	24	0.3	34	40	0.9	9.8	19	37	56	46	9.2
5.9	4.3	0.54	0.35	3,4,6	7.3	240	266	242	24	20	0.3	36	40	0.8	10.0	24	41	57	48	9.2
5.9	4.5	0.54	0.35	3,4,6	7.3	240	266	242	24	20	0.3	30	40	1.0	10.1	20	41	57	47	9.6
5.2	4.0	0.49	0.21	3,4,6	7.3	240	266	242	24	20	0.3	36	40	0.8	9.8	19	39	56	46	9.3
5.6	4.3	0.56	0.48	3,4,6	7.3	240	264	242	24	20	0.3		40	1.0	9.9	18	40	57	48	9.2
5.8	4.4	0.49	0.32	3,4,6	7.2	240	264	244	20	20	0.3	30	40	1.15	9.9	18	39	57	47	9.3
6.1	4.7	0.58	0.37	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.9	9.8	21	36	57	47	9.0
6.7	5.2	0.72	0.40	3,4,6	7.2	240	264	244	20	20	0.3	30	40		9.9	19	40	57	47	9.1
6.6	5.1	0.63	0.40	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.7	9.9	18	38	56	47	9.3
6.3	4.8	0.48	0.38	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.8	10.0	19	38	56	46	9.0
5.6	4.3	0.64	0.30	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.9	9.8	19	40	56	46	9.2
5.8	4.6	0.71	0.37	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.9	10.0	15	38	58	48	9.0
5.8	4.4	0.49	0.36	3,4,6	7.2	240	260	240	20	20	0.3	36	40	0.9	9.9	20	37	57	47	9.3
5.7	4.4	0.53	0.34	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9	10.0	21	42	57	47	9.4
6.1	4.7	0.56	0.37	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.8	10.0	19	36	54	44	9.0
6.9	5.3	0.64	0.42	3,4,6	7.2	240	264	244	20	20	0.3	30	40	1.1	9.9	18	45	60	50	9.5
5.9	4.5	0.54	0.35	3,4,6	7.2	240	264	244	20	20	0.3	28	40	0.9	9.9	20	40	56	46	9.1
5.7	4.4	0.55	0.34	3,4,6	7.2	240	264	244	20	20	0.3	28	40	0.8	9.9	18	38	57	46	9.3
5.7	4.4	0.60	0.27	3.4.6	7.2	240	264	244	20	20	0.3	28	40		9.8	16	34	56	46	9.3
183.31	130.21	18.21	10.65	0.00	224.50	7398.00	8260.00	7548.00	634.00	664.00	8.70	936.00	1240.00	25.75	308.00	608.00	1200.00	1757.00	1450.00	285.10
6.92	5.65	0.88	0.48	0.00	7.30	242.00	364.00	264.00	24.00	24.00	0.34	36.00	40.00	1.20	10.20	24.00	45.00	60.00	50.00	9.60
4.56	1.90	0.46	0.00	0.00	7.20	204.00	258.00	240.00	18.00	20.00	0.27	28.00	40.00	0.70	9.80	15.00	28.00	54.00	44.00	8.60
5.91	4.20	0.59	0.34	#DIV/0!	7.24	238.65	266.45	243.48	20.45	21.42	0.30	31.20	40.00	0.89	9.94	19.61	38.71	56.68	46.77	9.20

County : Broward
I.D. Number : ######
Year : 2018

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FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
34	35	36	37	38	39	40	41	42	43	44	45
5	15	55	45	0.0	3.4	5	0.56	0.14	0.08	0.29	0.1
5	21	56	46	0.0	2.3	5	0.59	0.21	0.08	0.20	0.0
5	28	55	45	0.0	1.9	5	0.58	0.21	0.10	0.00	0.0
8	24	56	46	0.0	3.1	7	0.51	0.23	0.12	0.39	0.1
8	25	56	46	0.0	3.9	8	0.51	0.25	0.10	0.49	0.1
8	29	55	46	0.0	3.7	8	0.56	0.25	0.11	0.32	0.0
11	25	55	45	0.0	3.3	8	0.60	0.25	0.10	0.36	0.0
11	27	55	51	0.0	3.3	8	0.59	0.28	0.10	0.11	0.2
10	37	59	49	0.0	2.8	8	0.58	0.42	0.15	0.81	0.0
8	37	57	47	0.0	3.3	8	0.55	0.45	0.18	0.69	0.0
7	36	57	47	0.0	3.1	10	0.53	0.36	0.21	0.13	0.0
8	29	57	47	0.0	3.0	11	0.54	0.41	0.20	0.23	0.0
8	25	56	46	0.0	3.4	8	0.54	0.36	0.18	0.27	0.0
8	30	56	47	0.0	3.1	9	0.56	0.34	0.18	0.33	0.0
15	37	58	48	0.0	3.4	9	0.56	0.32	0.10	0.77	0.0
11	33	56	46	0.0	3.5	8	0.54	0.30	0.13	0.70	0.0
8	33	56	46	0.0	3.6	9	0.52	0.28	0.15	0.54	0.0
8	28	56	46	0.0	3.7	9	0.51	0.23	0.11	0.42	0.0
10	27	36	46	0.0	3.4	9	0.52	0.22	0.11	0.26	1.3
8	24	56	46	0.0	3.5	10	0.55	0.25	0.10	0.30	0.2
10	29	56	46	0.0	3.7	9	0.52	0.22	0.10	0.37	0.1
9	26	56	46	0.0	3.6	9	0.54	0.24	0.10	0.12	0.1
9	28	56	46	0.0	3.6	8	0.53	0.22	0.11	0.46	0.0
7	26	57	47	0.0	3.3	7	0.49	0.20	0.10	0.24	0.0
8	26	56	46	0.0	3.5	8	0.49	0.18	0.09	0.41	0.0
11	30	57	47	0.0	3.7	8	0.50	0.18	0.07	0.48	0.3
6	22	57	47	0.0	3.5	9	0.63	0.17	0.07	0.11	0.0
8	24	56	46	0.0	3.4	9	0.52	0.19	0.07	0.37	0.2
8	24	56	46	0.0	3.4	8	0.58	0.20	0.08	0.22	0.1
12	36	57	47	0.0	3.6	8	0.56	0.19	0.07	0.44	0.1
10	28	56	46	0.0	3.5	7	0.51	0.18	0.07	0.56	0.0
				0.0							
268.00	869.00	1723.00	1441.00	0.00	103.50	252.00	16.87	7.93	3.52	11.39	2.92
15.00	37.00	59.00	51.00	0.00	3.90	11.00	0.63	0.45	0.21	0.81	1.30
5.00	15.00	36.00	45.00	0.00	1.90	5.00	0.49	0.14	0.07	0.00	0.00
8.65	28.03	55.58	46.48	0.00	3.34	8.13	0.54	0.26	0.11	0.37	0.09

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z. BECKFORD A8226
M. HUTCHINSON A17010

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson **Operator's Names & Cert. No.**

C.HUTCHINSON A17011
STANLEY EBANK A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220 RAJIV SAMLAL B22878

How Many Other Operators? 9

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							CHEMICALS		
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
				Total	Max	Min											
	1	2	3	4	5	6	7	8			9	10	11	12	13		
April 1, 2019	24	6.340	6.480	397.5	71	36.5	0.267	9253	100	0	300	230	108	18.0	175	2	0
April 2, 2019	24	6.270	5.770	426.5	76.5	30.5	0.178	9151	100	0	300	230	100	18.0	175	1.9	0.0
April 3, 2019	24	6.500	6.330	455.5	81	27	0.267	9486	100	0	300	220	100	15.1	175	1.8	0.0
April 4, 2019	24	6.220	6.480	415.5	74.5	33.5	0.356	9078	100	0	300	220	104	14.9	175	1.9	0.0
April 5, 2019	24	6.000	6.330	400.5	72	28	0.178	8757	100	0	300	220	114	18.0	175	2.0	0.0
April 6, 2019	24	6.100	6.520	439	82	27	0.356	8902	100	0	300	220	133	18.0	175	2.0	0.0
April 7, 2019	24	5.320	6.760	396	71	28	0.267	7765	100	0	300	230	140	18.7	175	2.3	0.0
April 8, 2019	24	6.370	6.420	378.5	67.5	31	0.267	9297	100	0	300	240	120	15.6	175	1.9	0.0
April 9, 2019	24	6.470	5.900	436.5	72	30	0.178	9443	100	0	300	240	120	18.0	175	1.9	0.0
April 10, 2019	24	6.680	6.430	484	75.5	39	0.262	9749	100	0	300	230	120	18.0	175	1.8	0.0
April 11, 2019	24	6.240	6.540	465.5	84	34	0.356	9107	100	0	300	230	140	18.0	175	1.9	0.0
April 12, 2019	24	6.260	6.530	407	67	28.5	0.178	9136	100	0	300	240	240	18.0	175	1.9	0.0
April 13, 2019	24	6.750	6.680	460	71	32	0.267	9852	100	0	300	240	200	18.7	175	1.8	0.0
April 14, 2019	24	6.730	6.980	434.5	78.5	25.5	0.356	9822	100	0	300	240	200	16.8	175	1.8	0.0
April 15, 2019	24	6.340	6.300	372	76.5	29	0.267	9253	100	0	300	234	110	18.5	175	1.9	0.0
April 16, 2019	24	6.480	6.060	421	73.5	29	0.178	9457	100	0	300	220	120	14.9	175	1.9	0.0
April 17, 2019	24	6.050	6.640	470.5	77	37.5	0.089	8830	100	0	300	230	120	15.0	175	2.0	0.0
April 18, 2019	24	6.290	6.050	509.5	87.5	41	0.178	9180	100	0	300	220	124	18.0	175	1.9	0.0
April 19, 2019	24	6.400	6.740	484	79	79	36.5	9340	100	0	300	226	135	18.0	175	1.9	0.0
April 20, 2019	24	6.380	6.380	431	85	26	0.267	9312	100	0	300	240	140	18.7	175	1.9	0.0
April 21, 2019	24	6.040	6.350	339	69.5	27.5	0.267	8815	100	0	300	250	150	18.0	175	2.0	0.0
April 22, 2019	24	6.040	6.330	447	95.5	25.5	0.261	8815	100	0	300	260	170	18.0	175	2.0	0.0
April 23, 2019	24	6.530	6.340	457.5	83	29.5	0.178	9530	100	0	300	260	140	18.0	175	1.8	0.0
April 24, 2019	24	6.170	6.370	503	80	37.5	0.178	9005	100	0	300	260	140	18.0	175	1.9	0.0
April 25, 2019	24	6.380	6.670	524.5	87.5	40	0.356	9311	100	0	300	260	140	18.0	175	1.9	0.0
April 26, 2019	24	6.270	6.290	421.5	91	28.5	0.356	9151	100	0	300	250	140	18.0	175	1.9	0.0
April 27, 2019	24	6.460	6.690	385.5	80.5	28.5	0.267	9428	100	0	300	270	195	18.0	175	1.9	0.0
April 28, 2019	24	6.380	6.940	404.5	82	39.5	0.356	9312	100	0	300	300	160	20.8	175	1.9	0.0
April 29, 2019	24	6.480	6.370	392	77	31.5	0.356	9457	100	0	300	300	150.0	19	175	1.9	0.0
April 30, 2019	24	6.550	6.220	379.5	71.5	25.5	0.178	9560	100	0	300	300	130	18.0	175	1.8	0.0
	24																
Total	720.00	189.49	192.89	12938.50	2339.50	985.50	43.97	276554.00	3000.00	0.00	9000.00	######	4203.00	530.17	5249.88	57.06	0.00
Max.	24.00	6.75	6.98	524.50	95.50	79.00	36.50	9852.00	100.00	0.00	300.00	300.00	240.00	20.75	175.01	2.25	0.00
Min.	24.00	5.32	5.77	339.00	67.00	25.50	0.09	7765.00	100.00	0.00	300.00	220.00	100.00	14.90	174.98	1.78	0.00
Avg.	24.00	6.32	6.43	431.28	77.98	32.85	1.47	9218.47	100.00	0.00	300.00	243.67	140.10	17.67	175.00	1.90	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Apr-19
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULT

DOSAGES				RAW WATER										SETTLED WATER						
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
5.7	4.3	0.47	0.34	3,4,6	7.2	240	267	242	20	20	0.3	30	40	0.9	9.8	17	36	57	47	9.5
5.7	4.4	0.44	0.344	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.8	10.0	19	41	58	47	9.3
5.5	4.1	0.42	0.28	3.4.6	7.2	240	264	244	20	20	0.3	30	40	0.8	10.1	20	40	57	47	9.4
5.8	4.2	0.46	0.29	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.9	9.8	19	36	56	46	9.2
6.0	4.4	0.52	0.36	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.9	9.9	19	37	56	46	9.2
5.9	4.3	0.60	0.35	3,4,6	7.2	240	264	244	20	20	0.3	30	40	1.4	9.8	18	39	55	45	9.3
6.8	5.2	0.73	0.42	3,4,6	7.2	240	260	242	18	20	0.3		40	1.6	10.0	20	40	54	44	9.2
5.6	4.5	0.52	0.29	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.3	10.0	20	38	57	47	9.2
5.6	4.4	0.51	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	9.9	20	39	58	48	9.1
5.4	4.1	0.50	0.32	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.23	9.9	21	39	58	48	9.2
5.8	4.4	0.62	0.35	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	10.2	25	45	58	48	9.4
5.7	4.6	1.06	0.34	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	10.0	18	38	56	46	9.3
5.3	4.3	0.82	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.6	10.1	20	40	57	46	9.0
5.3	4.3	0.82	0.30	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	18	39	57	47	9.2
5.7	4.4	0.48	0.35	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	20	38	58	47	9.3
5.6	4.1	0.51	0.28	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	10.0	21	40	57	47	9.2
5.9	4.6	0.55	0.30	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	18	38	56	46	8.8
5.7	4.2	0.54	0.34	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1	10.0	22	41	57	48	9.4
5.6	4.2	0.58	0.34	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.9	10.0	22	39	57	47	9.4
5.6	4.5	0.61	0.35	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9	10.0	21	41	56	46	9.2
6.0	5.0	0.68	0.36	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.1	9.9	20	41	57	46	9.2
6.0	5.2	0.78	0.36	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.3	10.0	20	41	57	47	9.1
5.5	4.8	0.59	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	10.1	21	40	57	47	9.3
5.8	5.1	0.63	0.35	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	22	39	58	48	8.8
5.6	4.9	0.61	0.34	3,4,6	7.2	240	260	240	20	20	0.3	36	40	1.1	10.0	22	40	55	45	9.3
5.7	4.8	0.62	0.34	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.3	9.8	19	37	56	46	9.2
5.6	5.0	0.83	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.2	10.0	18	42	59	49	9.5
5.6	5.6	0.69	0.39	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.1	18	42	58	48	9.3
5.6	5.6	0.64	0.34	3,4,6	7.2	240	260	242	18	20	0.3	32	40	0.8	10.0	17	40	57	47	9.3
5.5	5.5	0.55	0.33	3,46	7.2	240	260	242	18	20	0.3	30	40	1.4	10.0	19	38	56	47	9.1
171.18	138.91	18.36	10.09	0.00	216.00	7200.00	7827.00	7228.00	594.00	600.00	9.00	878.00	1200.00	35.79	299.40	594.00	######	1705.00	1403.00	276.90
6.76	5.64	1.06	0.42	0.00	7.20	240.00	267.00	244.00	20.00	20.00	0.34	36.00	40.00	1.90	10.20	25.00	45.00	59.00	49.00	9.50
5.33	4.06	0.42	0.28	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.80	9.80	17.00	36.00	54.00	44.00	8.80
5.71	4.63	0.61	0.34	#DIV/0!	7.20	240.00	260.90	240.93	19.80	20.00	0.30	30.28	40.00	1.19	9.98	19.80	39.47	56.83	46.77	9.23

County : Broward
I.D. Number : ######
Year APRIL 2019

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FINISHED WATER											
P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
34	35	36	37	38	39	40	41	42	43	44	45
8	25	56	45	0.0	3.4	7	0.53	0.12	0.05	0.27	0.1
10	29	57	47	0.0	3.4	7	0.50	0.18	0.07	0.43	0.0
10	29	56	46	0.0	3.7	6	0.51	0.24	0.08	0.47	0.0
9	28	55	46	0.0	3.4	5	0.53	0.20	0.07	0.27	0.1
7	23	56	46	0.0	3.5	8	0.57	0.22	0.08	0.27	0.0
13	38	56	46	0.0	3.4	7	0.56	0.19	0.07	0.29	0.0
5	25	57	46	0.0	3.5	5	0.55	0.13	0.07	0.41	0.0
6	26	57	47	0.0	3.7	6	0.56	0.14	0.07	0.24	0.0
8	25	56	46	0.0	3.4	7	0.41	0.22	0.09	0.22	0.2
8	26	56	46	0.0	3.2	6	0.34	0.24	0.09	0.27	0.0
19	35	57	47	0.0	3.3	8	0.44	0.21	0.09	0.54	0.0
8	28	56	46	0.0	3.5	7	0.50	0.21	0.09	0.42	0.0
7	24	56	46	0.0	3.5	6	0.41	0.20	0.08	0.19	0.0
7	27	56	46	0.0	3.6	6	0.46	0.14	0.06	0.45	0.0
10	29	57	47	0.0	3.7	6	0.69	0.15	0.06	0.43	0.1
11	28	56	47	0.0	3.5	6	0.67	0.22	0.09	0.33	0.0
4	24	55	45	0.0	3.3	6	0.64	0.24	0.10	0.09	0.0
8	26	56	46	0.0	3.5	7	0.45	0.22	0.09	0.52	0.0
12	33	56	46	0.0	3.4	6	0.62	0.22	0.08	0.53	0.2
8	27	56	46	0.0	3.6	6	0.58	0.17	0.08	0.45	0.0
8	29	56	46	0.0	3.6	5	0.52	0.19	0.09	0.48	0.1
6	24	55	45	0.0	3.6	7	0.54	0.28	0.10	0.21	0.2
9	28	56	46	0.0	3.7	6	0.53	0.26	0.11	0.42	0.1
5	21	55	45	0.0	3.1	6	0.52	0.28	0.10	0.07	0.0
9	29	56	46	0.0	3.6	7	0.60	0.26	0.11	0.43	0.0
9	26	56	46	0.0	3.3	7	0.64	0.36	0.12	0.32	0.3
7	36	57	46	0.0	3.3	7	0.63	0.33	0.12	0.68	0.0
5	38	56	47	0.0	3.3	7	0.64	0.32	0.15	0.71	0.0
8	38	57	47	0.0	3.9	7	0.60	0.33	0.15	0.47	0.1
7	25	57	46	0.0	3.6	8	0.62	0.25	0.12	0.20	0.1
				0.0							
251.00	849.00	1684.00	1383.00	0.00	104.50	195.00	16.36	6.72	2.73	11.08	1.62
19.00	38.00	57.00	47.00	0.00	3.90	8.00	0.69	0.36	0.15	0.71	0.30
4.00	21.00	55.00	45.00	0.00	3.10	5.00	0.34	0.12	0.05	0.07	0.00
8.37	28.30	56.13	46.10	0.00	3.48	6.50	0.55	0.22	0.09	0.37	0.05

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z BECKFORD ***A8226***

HUTCHINSO***A17010***

Lead Operator Signature: **Operator's Names & Cert. No.** C HUTCHINS **A17011**

INDRAJ SAM **A7282**

How Many Other Operators? 9 STNLEY E.B **A17017**

Total Metered Services at End of Month: **13.141**

KERRY ROM **C7873**

Design Flow: 16MGD R.RAMNARIN **C12091**

H.RODRIGUE **C19220** RAJIV SAML ***C228***

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
May 1, 2019	24	6.630	6.270	458	75	39.5	0.178	9676	100	0	300	300	160	18.0	175	2	0
May 2, 2019	24	6.440	6.540	518.5	86.5	38	0.178	9399	100	0	300	300	130	18.0	175	1.9	0.0
May 3, 2019	24	5.960	6.160	492	86.5	29.5	0.356	8698	100	0	300	300	100	18.0	175	2.0	0.0
May 4, 2019	24	5.770	6.120	377	66	31	0.356	8421	100	0	300	280	130	17.5	175	2.1	0.0
May 5, 2019	24	5.840	6.210	361.5	57.5	28.5	0.267	8523	100	0	300	260	120	14.4	175	2.1	0.0
May 6, 2019	24	5.480	5.770	399	68	31	0.267	7998	100	0	300	250	102	19.9	175	2.2	0.0
May 7, 2019	24	5.660	5.600	433.5	76.5	29	0.178	7840	100	0	300	250	104	18.0	166	2.1	0.0
May 8, 2019	24	5.960	6.390	450	74	39.5	0.178	8698	100	0	300	250	114	18.0	175	2.0	0.0
May 9, 2019	24	5.340	5.550	411	75	27	0.356	7794	100	0	300	250	120	18.0	175	2.2	0.0
May 10, 2019	24	5.820	6.220	352.5	59	26.5	0.267	8498	100	0	300	280	110	18.0	175	2.1	0.0
May 11, 2019	24	6.440	6.220	324	63	28	0.356	9399	100	0	300	280	140	17.5	175	1.9	0.0
May 12, 2019	24	6.160	6.310	362.5	67.5	27	0.267	8991	100	0	300	240	110	21.6	175	1.9	0.0
May 13, 2019	24	5.790	6.120	395	75.5	31.5	0.267	8496	100	0	300	240	120	14.9	176	2.1	0.0
May 14, 2019	24	5.360	5.720	443.5	77.5	29.5	0.178	7823	100	0	290	220	116	18.0	175	2.2	0.0
May 15, 2019	24	5.300	5.410	485.5	79.5	28.5	0.178	7735	100	0	300	220	112	18.0	175	2.3	0.0
May 16, 2019	24	6.220	6.410	430	83	17.5	0.356	9078	100	0	300	220	120	18.0	175	1.9	0.0
May 17, 2019	24	5.900	6.050	396	68	29	0.267	8611	100	0	300	280	140	15.1	175	2.0	0.0
May 18, 2019	24	6.720	6.360	408	73.5	20.5	0.267	9807	100	0	300	250	128	24.0	175	1.8	0.0
May 19, 2019	24	5.630	6.350	398.5	77	34	0.356	8217	100	0	300	250	119	18.4	175	2.1	0.0
May 20, 2019	24	6.060	6.090	368.5	67	31	0.178	8845	100	0	300	260	120	18.5	175	2.0	0.0
May 21, 2019	24	6.120	6.320	461.5	73.5	30	0.178	8896	100	0	300	280	120	14.9	174	2.0	0.0
May 22, 2019	24	6.060	5.760	512	82	29	0.178	8844	100	0	300	280	125	14.9	175	2.0	0.0
May 23, 2019	24	6.040	6.190	540.5	91.5	38.5	0.267	8815	100	0	300	280	120	14.9	175	2.0	0.0
May 24, 2019	24	6.230	6.680	483.5	93	36.5	0.356	9092	100	0	300	290	128	14.9	175	1.9	0.0
May 25, 2019	24	6.400	6.320	482	71	33	0.267	9341	100	0	300	250	150	13.6	175	1.9	0.0
May 26, 2019	24	6.480	6.810	357.5	66.5	27.5	0.356	9458	100	0	300	260	120	22.8	175	1.9	0.0
May 27, 2019	24	6.380	6.440	350	75.5	27	0.267	9400	100	0	300	280	140	18.0	177	1.9	0.0
May 28, 2019	24	6.790	5.900	431.5	79	30.5	0.178	8450	100	0	300	300	140	18.0	149	1.8	0.0
May 29, 2019	24	5.960	6.220	457	79	36.5	0.356	8698	100	0	300	300	130.0	18	175	2.0	0.0
May 30, 2019	24	5.940	6.200	445	83	35	0.267	6889	100	0	300	300	130	18.0	139	2.0	0.0
May 31, 2019	24	8.650	7.940	485.5	72	28.5	0.356	12624	100	0	300	290	130	18.0	175	1.4	0.0
Total	744.00	189.53	192.65	13270.50	2321.50	948.00	8.28	273054.00	3100.00	0.00	9290.00	######	3848.00	547.80	5356.24	61.30	0.00
Max.	24.00	8.65	7.94	540.50	93.00	39.50	0.36	12624.00	100.00	0.00	300.00	300.00	160.00	24.00	176.66	2.26	0.00
Min.	24.00	5.30	5.41	324.00	57.50	17.50	0.18	6889.00	100.00	0.00	290.00	220.00	100.00	13.60	139.06	1.39	0.00
Avg.	24.00	6.11	6.21	428.08	74.89	30.58	0.27	8808.19	100.00	0.00	299.68	267.42	124.13	17.67	172.78	1.98	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : May

Telephone Number : (954) 730-2972

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CHEMICAL AND PHYSICAL RESULTS

DOSAGES				RAW WATER										SETTLED WATER							
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
5.4	5.4	0.67	0.33	3,4,6	7.2	240	260	242	18	20	0.3	30	40	1.3	9.9	18	41	55	45	9.1	6
5.6	5.6	0.56	0.335	3,4,6	7.2	240	260	242	18	20	0.3	30	40	1.1	10.0	18	39	55	45	9.3	8
6.0	6.0	0.46	0.36	3,4,6	7.2	240	260	242	18	20	0.3	30	40	0.9	10.1	21	42	57	47	9.5	12
6.2	5.8	0.62	0.36	3,4,6	7.2	240	260	242	18	20	0.3	30	40	0.8	10.0	20	40	58	48	9.1	9
6.2	5.3	0.57	0.30	3,4,6	7.2	242	260	240	20	20	0.3	30	40	0.9	10.0	19	39	57	47	9.0	6
6.6	5.5	0.51	0.44	3,4,6	7.2	240	260	242	20	20	0.3	30	40	1.0	10.0	22	41	57	47	9.1	6
6.4	5.3	0.51	0.38	3,4,6	7.2	240	260	242	20	20	0.3	30	40	0.9	10.2	21	42	57	47	9.1	6
6.0	5.0	0.53	0.36	3,4,6	7.2	240	262	242	20	20	0.3	30	40	1.3	10.0	22	44	59	48	9.1	3
6.7	5.6	0.62	0.40	3,4,6	7.2	244	265	245	20	20	0.3	30	40	1.15	9.9	19	40	57	47	9.0	6
6.2	5.8	0.52	0.37	3,4,6	7.2	244	264	244	20	20	0.3	30	40	0.95	9.9	19	39	57	47	8.5	5
5.6	5.2	0.60	0.33	3,4,6	7.2	244	264	244	20	20	0.3	30	40	1.0	10.0	20	39	56	47	9.1	7
5.8	4.7	0.49	0.42	3,4,6	7.2	246	266	246	20	20	0.3	30	40	1.09	10.1	22	42	56	46	9.2	9
6.2	5.0	0.57	0.31	3,4,6	7.2	244	266	244	20	20	0.3	30	40	1.2	10.1	20	43	57	47	9.3	9
6.5	4.9	0.60	0.40	3,4,6	7.2	244	266	246	20	20	0.3	30	40	1.1	9.9	20	41	56	46	8.8	5
6.8	5.0	0.58	0.41	3,4,6	7.2	244	266	246	20	20	0.3	30	40	1.4	10.1	19	42	58	48	8.9	3
5.8	4.2	0.53	0.35	3,4,6	7.2	244	266	246	20	20	0.3	30	40	1.0	10.2	19	42	57	49	8.9	2
6.1	5.7	0.65	0.31	3,4,6	7.2	244	266	246	20	20	0.3	30	40	0.9	10.1	20	41	56	46	9.4	4
5.4	4.5	0.53	0.43	3,4,6	7.2	242	262	242	20	20	0.3	30	40	1	10.1	20	40	57	47	9.2	3
6.4	5.3	0.58	0.39	3,4,6	7.2	242	262	242	20	20	0.3	30	40	1.7	10.1	20	41	58	48	9.1	2
5.9	5.1	0.55	0.37	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.2	10.1	22	42	58	47	9.1	3
5.9	5.5	0.54	0.29	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9		25	46	57	47	9.2	9
5.9	5.5	0.57	0.29	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9	10.1	20	43	55	45	9.3	7
6.0	5.6	0.55	0.30	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.1	9.9	20	39	57	47	9.2	7
5.8	5.6	0.57	0.29	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.5	10.0	19	39	55	45	8.9	5
5.6	4.7	0.65	0.25	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9	10.1	22	40	56	46	9.0	4
5.6	4.8	0.51	0.42	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	9.9	20	40	57	47	9.5	6
5.6	5.3	0.61	0.34	3,4,6	7.2	242	260	240	20	20	0.3	30	40	1.2	10.1	15	42	58	48	9.5	5
5.3	5.3	0.57	0.32	3,4,6	7.2	242	260	240	20	20	0.3	30	40	1.1	10.0	19	38	57	47	9.2	7
6.0	6.0	0.60	0.36	3,4,6	7.2	242	260	240	20	20	0.3	32	40	0.6	10.0	20	40	55	46	8.9	3
6.1	6.1	0.60	0.36	3,4,6	7.2	242	260	240	20	20	0.3	30	40	0.6	9.9	18	38	57	46	8.8	6
4.2	4.0	0.41	0.25	3,4,6	7.2	242	260	240	20	20	0.3	30	40	1.1	10.0	19	41	57	46	9.1	6
183.68	163.33	17.42	10.82	0.00	223.20	7494.00	8115.00	7505.00	612.00	620.00	9.36	932.00	1240.00	32.39	300.84	618.00	######	1759.00	1449.00	282.40	179.00
6.79	6.06	0.67	0.44	0.00	7.20	246.00	266.00	246.00	20.00	20.00	0.34	32.00	40.00	1.70	10.20	25.00	46.00	59.00	49.00	9.50	12.00
4.16	4.02	0.41	0.25	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.55	9.90	15.00	38.00	55.00	45.00	8.50	2.00
5.93	5.27	0.56	0.35	#DIV/0!	7.20	241.74	261.77	242.10	19.74	20.00	0.30	30.06	40.00	1.04	10.03	19.94	40.84	56.74	46.74	9.11	5.77

County : Broward

I.D. Number : 4060787

Year : 2019

FINISHED WATER										
M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
35	36	37	38	39	40	41	42	43	44	45
25	54	44	0.0	3.5	7	0.69	0.12	0.10	0.20	0.1
26	54	43	0.0	3.5	7	0.72	0.19	0.08	0.39	1.2
38	57	47	0.0	3.6	7	0.51	0.20	0.09	0.61	0.6
23	56	46	0.0	3.5	6	0.46	0.18	0.09	0.67	0.1
21	57	47	0.0	3.6	7	0.47	0.18	0.09	0.32	0.3
21	56	47	0.0	3.7	5	0.54	0.19	0.09	0.32	0.3
23	55	45	0.0	3.7	6	0.57	0.20	0.09	0.26	0.0
23	55	44	0.0	3.6	5	0.57	0.20	0.11	0.22	0.0
26	57	47	0.0	3.4	7	0.58	0.29	0.12	0.14	0.0
20	57	47	0.0	3.2	7	0.60	0.38	0.18	0.63	0.1
22	56	46	0.0	3.3	6	0.58	0.37	0.17	0.26	0.0
22	56	46	0.0	3.4	6	0.59	0.28	0.15	0.36	0.0
23	57	47	0.0	3.8	6	0.56	0.20	0.09	0.43	0.4
24	55	46	0.0	3.0	6	0.54	0.28	0.12	0.30	0.0
21	57	47	0.0	3.3	7	0.53	0.36	0.16	0.03	0.4
23	55	47	0.0	3.4	7	0.54	0.36	0.20	0.07	0.0
34	56	46	0.0	3.8	8	0.56	0.37	0.17	0.75	0.0
30	56	46	0.0	3.5	6	0.54	0.36	0.15	0.56	0.0
27	57	46	0.0	3.3	7	0.55	0.37	0.17	0.36	0.2
26	55	46	0.0	3.2	7	0.54	0.34	0.16	0.40	0.0
26	56	46	0.0	2.5	6	0.54	0.25	0.12	0.32	0.1
26	55	45	0.0	3.3	6	0.53	0.22	0.09	0.34	0.2
20	56	46	0.0	3.2	7	0.54	0.28	0.12	0.07	0.1
20	57	47	0.0	3.2	8	0.54	0.30	0.12	0.03	0.0
21	57	47	0.0	3.4	7	0.56	0.23	0.09	0.32	0.0
26	56	46	0.0	3.7	9	0.56	0.27	0.11	0.73	0.0
25	56	46	0.0	3.6	8	0.54	0.26	0.13		0.0
28	56	46	0.0	3.8	6	0.53	0.25	0.12	0.40	0.0
25	57	47	0.0	3.5	10	0.54	0.27	0.13	0.34	0.0
19	57	47	0.0	3.6	6	0.53	0.31	0.16	0.46	0.0
19	57	46	0.0	3.8	7	0.54	0.33	0.16	0.19	0.0
			0.0							
753.00	1738.00	1429.00	0.00	106.90	210.00	17.19	8.39	3.93	10.48	4.14
38.00	57.00	47.00	0.00	3.80	10.00	0.72	0.38	0.20	0.75	1.20
19.00	54.00	43.00	0.00	2.50	5.00	0.46	0.12	0.08	0.03	0.00
24.29	56.06	46.10	0.00	3.45	6.77	0.55	0.27	0.13	0.35	0.13

:NT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Z. BECKFORD A8226
M. HUTCHINSON A17010

Lead Operator Signature: Z Beckford, C Hutchinson, M Hutchinson **Operator's Names & Cert. No.**

C.HUTCHINSON A17011
STANLEY EBANK A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220

How Many Other Operators? 9

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
June 1, 2019	24	6.650	6.710	389	71	29	0.356	9706	100	0	300	280	120	16.3	175
June 2, 2019	24	6.480	6.790	395.8	65.5	32.5	0.267	9458	100	0	300	260	120	18.0	175
June 3, 2019	24	6.680	6.580	463	108	31	0.267	9749	100	0	300	280	128	19.7	175
June 4, 2019	24	6.430	6.040	465	81	28.5	0.267	9384	100	0	300	280	128	18.0	175
June 5, 2019	24	6.520	6.600	435	70	34	0.178	9515	100	0	300	270	120	18.0	175
June 6, 2019	24	5.820	6.200	439	68	32.5	0.178	8494	100	0	300	240	120	18.0	175
June 7, 2019	24	6.250	6.410	492.5	86.5	28.5	0.267	9121	100	0	300	240	110	18.0	175
June 8, 2019	24	6.030	6.080	467.5	91	30	0.356	8800	100	0	300	226	178	18.0	175
June 9, 2019	24	5.700	6.150	354	71.5	25.5	0.267	8319	100	0	300	200	135	16.3	175
June 10, 2019	24	5.330	5.680	401	67.5	31	0.178	7779	100	0	300	200	130	18.7	175
June 11, 2019	24	5.520	5.470	479	73	29.5	0.178	8056	100	0	270	200	90	15.1	175
June 12, 2019	24	5.630	6.020	513	79	38.5	0.267	8216	100	0	270	200	99	15.0	175
June 13, 2019	24	5.950	6.260	412	83	32	0.356	8684	100	0	270	200	120	15.0	175
June 14, 2019	24	6.070	6.300	386.5	69.5	26.5	0.178	8859	100	0	290	220	125	15.0	175
June 15, 2019	24	6.330	6.180	457	85	31	0.267	9239	100	0	300	230	160	15.5	175
June 16, 2019	24	6.080	6.080	488	77	28	0.267	8873	100	0	265	203	130	18.5	175
June 17, 2019	24	5.720	5.840	423	83.5	31	0.267	8348	100	0	278	180	125	9.1	175
June 18, 2019	24	5.800	5.790	437.5	74	29.5	0.178	8465	100	0	280	180	126	18.0	175
June 19, 2019	24	5.690	5.900	514.5	79.5	43.5	0.356	8304	100	0	280	180	130	14.9	175
June 20, 2019	24	5.700	5.860	419	75	35	0.178	8303	100	0	280	150	110	15.1	175
June 21, 2019	24	5.880	5.790	461	91.5	25.5	0.267	8582	100	0	280	240	110	18.0	175
June 22, 2019	24	6.290	6.680	479	94	27	0.267	9180	100	0	300	200	140	16.3	175
June 23, 2019	24	6.190	6.290	402.5	76.5	27	0.267	9034	100	0	300	280	120	18.8	175
June 24, 2019	24	6.050	6.200	418	75	31	0.178	8830	100	0	280	180	120	15.0	175
June 25, 2019	24	5.750	5.580	508	85	31	0.178	8392	100	0	300	180	120	18.0	175
June 26, 2019	24	5.810	6.230	488	89	26.5	0.267	8480	100	0	300	180	130	15.1	175
June 27, 2019	24	5.970	6.250	437	87	35	0.267	8703	100	0	300	180	130	18.0	175
June 28, 2019	24	5.800	5.760	439	68	34.5	0.178	8465	100	0	300	202	120	15.0	175
June 29, 2019	24	6.740	6.780	474	85.5	34	0.267	8654	100	0	300	220	118.0	18	154
June 30, 2019	24	5.650	6.220	475.5	97.5	36.5	0.356	8246	100	0	300	220	170	17.5	175
Total	720.00	180.51	184.72	13413.30	2407.50	935.00	7.57	262238.00	3000.00	0.00	8743.00	######	3782.00	499.86	5228.27
Max.	24.00	6.74	6.79	514.50	108.00	43.50	0.36	9749.00	100.00	0.00	300.00	280.00	178.00	19.70	175.01
Min.	24.00	5.33	5.47	354.00	65.50	25.50	0.18	7779.00	100.00	0.00	265.00	150.00	90.00	9.10	153.95
Avg.	24.00	6.02	6.16	447.11	80.25	31.17	0.25	8741.27	100.00	0.00	291.43	216.70	126.07	16.66	174.28

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jun-19
Telephone Number : (954) 730-2972

PBELL C24707
MLAL B22878

CHEMICA

DOSAGES						RAW WATER											
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28
2	0	5.4	5.0	0.50	0.29	3,4,6	7.2	240	260	244	18	20	0.3	30	40	1.1	9.9
1.9	0.0	5.6	4.8	0.51	0.333	3,4,6	7.2	240	260	242	18	20	0.3	30	40	1.4	10.0
1.8	0.0	5.4	5.0	0.53	0.35	3,4,6	7.2	240	260	242	18	20	0.3	30	40	1.6	9.9
1.9	0.0	5.6	5.2	0.55	0.34	3,4,6	7.2	240	260	242	18	20	0.3	30	40	0.9	10.0
1.8	0.0	5.5	5.0	0.51	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0
2.1	0.0	6.2	4.9	0.57	0.37	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0
1.9	0.0	5.8	4.6	0.49	0.35	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0
2.0	0.0	6.0	4.5	0.81	0.36	3,4,6	7.2	240	262	240	20	20	0.3	30	40	1.5	9.8
2.1	0.0	6.3	4.2	0.65	0.34	3,4,6	7.2	240	265	240	20	20	0.3	30	40	0.74	10.0
2.2	0.0	6.7	4.5	0.67	0.42	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.96	10.0
2.2	0.0	5.9	4.3	0.45	0.33	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.8	10.1
2.1	0.0	5.8	4.3	0.48	0.32	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.76	10.0
2.0	0.0	5.4	4.0	0.56	0.30	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.9	9.9
2.0	0.0	5.7	4.3	0.57	0.30	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.8	9.9
1.9	0.0	5.7	4.4	0.70	0.29	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0
2.0	0.0	5.2	4.0	0.59	0.36	3,4,6	7.2	240	260	240	20	20	0.3	30	40	0.7	10.0
2.1	0.0	5.8	3.8	0.60	0.19	3,4,6	7.2	240	260	240	20	20	0.3	30	40	1.0	9.9
2.1	0.0	5.8	3.7	0.60	0.37	3,4,6	7.2	242	262	240	20	20	0.3	30	40	1.1	9.9
2.1	0.0	5.9	3.8	0.63	0.31	3,4,6	7.2	242	266	246	20	20	0.3	30	40	0.6	9.9
2.1	0.0	5.9	3.2	0.53	0.32	3,4,6	7.2	242	266	246	20	20	0.3	30	40	0.8	9.8
2.0	0.0	5.7	4.9	0.52	0.37	3,4,6	7.2	242	266	246	20	20	0.3	30	40	1.0	9.9
1.9	0.0	5.7	3.8	0.61	0.31	3,4,8	7.2	242	266	240	20	20	0.3	30	40	1.0	10.0
1.9	0.0	5.8	5.4	0.53	0.36	3,4,8	7.2	240	260	240	20	20	0.3	30	40	1.3	10.0
2.0	0.0	5.5	3.6	0.55	0.30	3,4,8	7.2	242	264	244	20	20	0.3	30	40	1.1	9.9
2.1	0.0	6.3	3.8	0.58	0.38	4,8	7.2	242	262	244	20	20	0.3	30	40	0.7	10.1
2.1	0.0	6.2	3.7	0.62	0.31	4,8	7.2	242	264	244	20	20	0.3	30	40	1.1	9.9
2.0	0.0	6.0	3.6	0.60	0.36	4,8	7.2	242	264	244	20	20	0.3	30	40	0.8	10.0
2.1	0.0	6.2	4.2	0.57	0.31	4,8	7.2	242	264	244	20	20	0.3	30	40	2.0	9.0
1.8	0.0	5.3	3.9	0.48	0.32	4,8	7.2	240	260	240	20	20	0.3	32	40	2.0	9.9
2.1	0.0	6.4	4.7	0.83	0.37	4,8	7.2	244	260	240	20	20	0.3	30	40	0.8	9.9
60.00	0.00	174.68	129.14	17.38	9.97	0.00	216.00	7224.00	7851.00	7248.00	592.00	600.00	9.03	902.00	1200.00	32.01	297.60
2.25	0.00	6.75	5.42	0.83	0.42	0.00	7.20	244.00	266.00	246.00	20.00	20.00	0.34	32.00	40.00	2.00	10.10
1.78	0.00	5.23	3.16	0.45	0.19	0.00	7.20	240.00	260.00	240.00	18.00	20.00	0.26	30.00	40.00	0.60	9.00
2.00	0.00	5.82	4.30	0.58	0.33	#DIV/0!	7.20	240.80	261.70	241.60	19.73	20.00	0.30	30.07	40.00	1.07	9.92

County : Broward
I.D. Number : ######
Year JUNE 2019

L AND PHYSICAL RESULTS

SETTLED WATER				FINISHED WATER												
P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
16	42	57	46	9.0	5	23	56	44	0.0	3.4	6	0.53	0.35	0.17	0.15	0.0
19	42	58	46	9.2	2	22	59	39	0.0	3.5	6	0.54	0.33	0.14	0.29	0.0
15	41	61	45	9.0	2	22	57	41	0.0	3.2	5	0.56	0.29	0.11	0.07	0.1
20	41	58	47	9.2	5	23	57	47	0.0	3.9	6	0.56	0.27	0.14	0.30	0.0
21	42	58	48	9.2	6	21	56	46	0.0	3.9	5	0.45	0.27	0.11	0.31	0.1
21	40	57	47	9.2	6	22	56	46	0.0	3.9	5	0.56	0.26	0.09	0.32	0.1
18	40	58	43	9.3	6	22	56	43	0.0	4.0	6	0.46	0.25	0.11	0.39	0.3
16	39	58	44	9.2	4	22	57	42	0.0	3.5	7	0.42	0.38	0.10	0.38	1.8
15	42	59	49	9.1	2	25	59	46	0.0	3.4	6	0.44	0.31	0.13	0.31	0.0
21	41	59	49	9.0	2	22	58	47	0.0	3.5	6	0.58	0.28	0.11	0.30	0.2
21	43	58	48	9.0	4	22	56	46	0.0	3.2	7	0.58	0.31	0.16	0.30	0.0
20	41	57	47	9.2	0	23	57	46	0.0	3.4	6	0.56	0.28	0.12	0.32	0.0
19	40	55	46	9.0	0	21	56	45	0.0	3.5	6	0.48	0.32	0.14	0.13	0.0
19	39	57	45	8.9	1	19	58	47	0.0	3.3	6	0.49	0.30	0.12	0.30	0.1
19	40	57	45	9.1	2	19	58	45	0.0	3.5	8	0.48	0.26	0.10	0.18	0.0
19	42	59	46	9.1	2	19	59	42	0.0	3.4	7	0.49	0.29	0.13	0.15	0.0
18	39	59	49	9.0	0	21	59	45	0.0	3.4	6	0.57	0.32	0.14	0.11	0.5
18	37	57	47	8.7	0	22	57	46	0.0	3.4	8	0.56	0.25	0.15	0.14	1.2
20	42	59	47	9.2	5	24	56	46	0.0	3.8	8	0.51	0.25	0.10	0.32	0.4
17	42	63	48	9.4	6	23	59	47	0.0	3.9	7	0.49	0.32	0.12	0.53	0.2
18	40	57	47	9.1	3	21	57	45	0.0	3.6	8	0.47	0.38	0.16	0.21	0.0
20	40	60	45	8.9	2	20	58	45	0.0	3.6	6	0.48	0.35	0.17	0.05	0.0
18	40	62	45	8.9	2	19	59	46	0.0	3.7	6	0.50	0.31	0.14	0.01	0.0
20	41	59	45	8.9	1	18	58	45	0.0	3.7	6	0.55	0.26	0.11	0.05	0.0
20	42	58	47	9.1	2	19	57	48	0.0	3.8	6	0.51	0.28	0.11	0.14	0.0
19	38	56	46	9.1	2	20	56	47	0.0	3.6	6	0.54	0.28	0.17	0.18	0.0
20	39	56	46	9.0	2	20	57	47	0.0	4.0	7	0.54	0.30	0.14	0.30	0.0
22	40	57	46	9.1	3	20	58	46	0.0	3.7	12	0.53	0.31	0.18	0.22	0.3
19	44	58	46	9.2	2	21	58	46	0.0	3.9	6	0.60	0.31	0.10	0.32	0.2
18	44	62	51	9.2	2	31	64	54	0.0	3.4	8	0.59	0.31	0.12	0.58	0.0
566.00	######	1749.00	1396.00	272.50	81.00	646.00	1728.00	1365.00	0.00	108.00	198.00	15.62	8.98	3.89	7.36	5.50
22.00	44.00	63.00	51.00	9.40	6.00	31.00	64.00	54.00	0.00	4.00	12.00	0.60	0.38	0.18	0.58	1.80
15.00	37.00	55.00	43.00	8.70	0.00	18.00	56.00	39.00	0.00	3.20	5.00	0.42	0.25	0.09	0.01	0.00
18.87	40.77	58.30	46.53	9.08	2.70	21.53	57.60	45.50	0.00	3.60	6.60	0.52	0.30	0.13	0.25	0.18

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS											
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES				
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	fbs108 2154G	Lime	NH3	CO2	Chlorine Pre
	1	2	3	4	5	6	7	8			9	10	11	12	13			14
July 1, 2019	24	5.860	5.840	381	77	29	0.356	8552	100	0	300	244	120	15.0	175	2	0	6.1
July 2, 2019	24	5.590	5.690	395	73	29	0.178	8158	100	0	300	230	120	18.0	175	2.1	0.0	6.4
July 3, 2019	24	5.610	5.760	465	71	37	0.178	8188	100	0	300	230	120	18.0	175	2.1	0.0	6.4
July 4, 2019	24	5.840	6.160	514	90.5	34	0.267	8523	100	0	300	230	120	14.9	175	2.1	0.0	6.2
July 5, 2019	24	6.250	6.470	404	78	35	0.267	9122	100	0	300	230	140	20.4	175	1.9	0.0	5.8
July 6, 2019	24	6.150	6.130	450	88	28	0.267	8976	100	0	300	240	130	19.2	175	1.9	0.0	5.8
July 7, 2019	24	5.910	5.990	405	82	29	0.267	8626	100	0	300	220	130	19.2	175	2.0	0.0	6.1
July 8, 2019	24	5.580	5.930	410.5	62.5	31	0.267	8144	100	0	300	200	108	16.2	175	2.1	0.0	6.4
July 9, 2019	24	5.600	5.570	427	71.5	30.5	0.178	8173	100	0	293	183	120	15.0	175	2.1	0.0	6.3
July 10, 2019	24	5.320	6.080	429	66.5	36	0.178	7764	100	0	300	160	120	18.0	175	2.3	0.0	6.8
July 11, 2019	24	5.780	6.030	306	80.5	36.5	0.267	8436	100	0	300	140	120	15.0	175	2.1	0.0	6.2
July 12, 2019	24	6.060	6.230	451	84.5	28.5	0.267	8845	100	0	300	140	120	18.0	175	2.0	0.0	5.9
July 13, 2019	24	6.160	6.200	441	86	36	0.356	8990	100	0	300	220	160	20.5	175	1.9	0.0	5.8
July 14, 2019	24	6.230	6.440	485	76.5	28.5	0.267	9093	100	0	300	220	150	17.3	175	1.9	0.0	5.8
July 15, 2019	24	6.030	6.170	475.5	92	31	0.267	8800	100	0	300	220	120	16.0	175	2.0	0.0	6.0
July 16, 2019	24	6.090	5.810	477	96	30.5	0.178	8888	100	0	300	220	122	18.0	175	2.0	0.0	5.9
July 17, 2019	24	6.240	6.330	464	78	42	0.356	9107	100	0	280	200	125	18.0	175	1.9	0.0	5.4
July 18, 2019	24	6.370	6.480	421.5	71.5	34	0.267	9297	100	0	280	200	125	18.0	175	1.9	0.0	5.3
July 19, 2019	24	5.900	6.150	416	87	38	0.267	8611	100	0	280	200	130	18.0	175	2.0	0.0	5.7
July 20, 2019	24	6.250	6.250	538.5	93.5	34.5	0.356	9122	100	0	280	200	167	18.0	175	1.9	0.0	5.4
July 21, 2019	24	5.640	6.370	431.5	110	29.5	0.267	8232	100	0	280	160	130	17.0	175	2.1	0.0	6.0
July 22, 2019	24	6.000	6.300	418.5	86	31	0.267	8757	100	0	280	200	140	15.0	175	2.0	0.0	5.6
July 23, 2019	24	5.720	5.440	434	72	27	0.267	8348	100	0	280	200	140	18.0	175	2.1	0.0	5.9
July 24, 2019	24	5.970	6.320	452	79	38	0.178	8713	100	0	280	200	150	18.0	175	2.0	0.0	5.6
July 25, 2019	24	5.920	6.170	498.5	72	44	0.267	8640	100	0	280	200	140	18.0	175	2.0	0.0	5.7
July 26, 2019	24	6.080	6.350	502	86	30.5	0.267	8874	100	0	280	200	140	18.0	175	2.0	0.0	5.5
July 27, 2019	24	6.150	6.040	432	94	27	0.356	8947	100	0	280	200	160	17.5	174	1.9	0.0	5.5
July 28, 2019	24	5.700	5.990	350	62	27.5	0.267	8319	100	0	280	160	160	19.2	175	2.1	0.0	5.9
July 29, 2019	24	6.156	5.850	397.5	68	29	0.178	8391	100	0	280	160	125.0	17	163	1.9	0.0	5.5
July 30, 2019	24	6.120	5.960	462	79	29	0.356	8698	100	0	300	220	130	18.0	170	2.0	0.0	5.9
July 31, 2019	24	5.836	5.600	400	80	26.5	0.267	8173	100	0	300	220	130	18.0	168	2.1	0.0	6.2
Total	744.00	184.11	188.10	13534.00	2493.50	997.00	8.19	267507.00	3100.00	0.00	9033.00	######	4112.00	544.70	5401.14	62.70	0.00	182.75
Max.	24.00	6.37	6.48	538.50	110.00	44.00	0.36	9297.00	100.00	0.00	300.00	244.00	167.00	20.50	175.01	2.25	0.00	6.76
Min.	24.00	5.32	5.44	306.00	62.00	26.50	0.18	7764.00	100.00	0.00	280.00	140.00	108.00	14.90	163.44	1.88	0.00	5.27
Avg.	24.00	5.94	6.07	436.58	80.44	32.16	0.26	8629.26	100.00	0.00	291.39	201.52	132.65	17.57	174.23	2.02	0.00	5.90

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant

Utility Company : City of Lauderhill

Month : Jul-19

Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULT

			RAW WATER										SETTLED WATER					
Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
5.0	0.56	0.31	3,4,6	7.2	246	262	242	20	20	0.3	30	40	1.1	10.0	19	40	57	49
4.9	0.59	0.386	4,8	7.2	246	266	246	20	20	0.3	30	40	1.3	10.0	21	41	56	47
4.9	0.59	0.38	4,8	7.2	246	266	246	20	20	0.3	30	40	1.2	9.8	19	42	57	47
4.7	0.57	0.31	4,8	4,8	246	266	246	14.9	20	0.3	30	40	1.2	9.6	19	39	58	50
4.4	0.62	0.39	4,8	7.2	240	260	240	20	20	0.3	30	40	1.2	9.9	20	40	60	50
4.7	0.58	0.37	4,8	7.2	246	264	244	20	20	0.3	30	40	0.7	9.9	19	41	59	48
4.5	0.61	0.39	4,8	7.2	246	264	244	20	20	0.3	30	40	0.8	10.0	19	41	59	45
4.3	0.53	0.35	4,8	7.2	244	260	240	20	20	0.3	30	40	1.1	10.0	19	39	59	47
3.9	0.59	0.32	3,4,6,8	7.2	240	262	240	20	20	0.3	30	40	0.81	10.0	19	39	58	47
3.6	0.62	0.41	4,8	7.2	240	262	240	20	20	0.3	30	40	0.9	9.9	21	42	56	43
2.9	0.57	0.31	3,4,6	7.2	240	260	240	22	20	0.3	30	40	2.2	9.7	13	41	60	49
2.8	0.55	0.36	3,8	7.2	240	262	240	22	20	0.3	30	40	0.82	10.0	20	40	58	47
4.3	0.72	0.40	3,8	7.2	240	262	240	22	20	0.3	30	40	0.81	9.9	19	40	59	46
4.2	0.66	0.33	3,8	7.2	240	260	240	20	20	0.3	30	40	0.9	9.9	19	41	61	45
4.4	0.55	0.32	3,8	7.2	240	262	240	22	20	0.3	30	40	0.9	9.9	23	43	60	46
4.3	0.55	0.35	3,8	7.2	240	260	240	22	20	0.3	30	40	1.0	10.0	23	41	58	47
3.8	0.55	0.35	3,8	7.2	240	262	240	22	20	0.3	30	40	1.1	9.8	20	41	57	46
3.8	0.54	0.34	3,8	7.2	240	262	240	22	20	0.3	30	40	2.9	10.0	23	44	58	47
4.1	0.61	0.37	3,8	7.2	240	262	240	20	20	0.3	30	40	0.8	9.9	22	44	58	46
3.8	0.74	0.35	3,8	7.2	240	262	240	22	20	0.3	30	40	0.8	9.8	19	40	58	44
3.4	0.64	0.36	3,8	7.2	240	260	240	20	20	0.3	30	40	0.9	9.8	18	40	60	46
4.0	0.64	0.30	3,8	7.2	240	262	240	22	20	0.3	30	40	0.8	10.0	20	41	61	46
4.2	0.67	0.38	3,8	7.2	240	262	240	22	20	0.3	30	40	0.8	9.8	19	40	57	47
4.0	0.69	0.36	3,8	7.2	240	262	240	22	20	0.3	30	40	1.2	9.9	21	41	59	48
4.1	0.65	0.36	3,4,8	7.2	240	262	240	20	20	0.3	30	40	0.7	10.2	21	39	58	47
3.9	0.64	0.35	4,8	7.2	240	262	240	20	20	0.3	30	40	0.8	9.9	20	41	58	46
3.9	0.72	0.34	4,8	7.2	240	264	240	20	20	0.3	30	40	1.1	9.9	20	40	59	48
3.4	0.77	0.40	4,8	7.2	242	260	240	20	20	0.3	30	40	0.9	9.9	20	40	60	46
3.1	0.56	0.34	4,8	7.2	240	260	240	20	20	0.3	32	40	1.2	10.0	20	42	62	47
4.3	0.59	0.35	4,8	7.2	240	260	240	20	20	0.3	30	40	1.2	9.9	21	39	58	48
4.5	0.61	0.37	4,8	7.2	240	260	240	20	20	0.3	30	40	0.9	10.1	20	39	57	45
126.16	19.09	11.01	0.00	216.00	7482.00	8120.00	7468.00	636.90	620.00	9.33	932.00	1240.00	32.90	307.40	616.00	######	1815.00	1450.00
4.99	0.77	0.41	0.00	7.20	246.00	266.00	246.00	22.00	20.00	0.34	32.00	40.00	2.90	10.20	23.00	44.00	62.00	50.00
2.77	0.53	0.30	0.00	7.20	240.00	260.00	240.00	14.90	20.00	0.26	30.00	40.00	0.70	9.60	13.00	39.00	56.00	43.00
4.07	0.62	0.36	#DIV/0!	7.20	241.35	261.94	240.90	20.55	20.00	0.30	30.06	40.00	1.06	9.92	19.87	40.68	58.55	46.77

County : Broward

I.D. Number : ######

Year JULY 2019

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FINISHED WATER												Inches of Rain
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	
33	34	35	36	37	38	39	40	41	42	43	44	45
9.3	3	31	60	49	0.0	3.5	7	0.57	0.36	0.10	0.64	0.1
9.4	2	22	56	47	0.0	4.0	8	0.60	0.38	0.14	0.52	0.0
9.5	5	24	56	47	0.0	3.8	7	0.58	0.48	0.18	0.63	0.0
9.2	3	25	57	47	0.0	3.6	11	0.41	0.51	0.20	0.40	0.0
9.1	2	20	58	46	0.0	3.9	6	0.42	0.65	0.23	0.32	0.0
9.2	4	22	59	47	0.0	3.6	8	0.55	0.46	0.16	0.37	0.0
9.3	2	22	59	48	0.0	3.7	7	0.55	0.40	0.18	0.48	0.0
9.3	1	19	59	45	0.0	3.8	8	0.62	0.41	0.13	0.18	0.2
9.3	5	22	56	46	0.0	4.0	6	0.64	0.36	0.14	0.40	0.0
9.5	4	24	55	46	0.0	4.1	6	0.66	0.37	0.12	0.62	0.0
9.3	10	30	56	47	0.0	3.1	8	0.65	0.32	0.11	0.40	0.1
9.3	5	28	59	46	0.0	3.7	7	0.60	0.27	0.08	0.42	0.1
9.3	3	25	59	45	0.0	3.8	6	0.60	0.30	0.09	0.50	0.0
9.2	3	24	61	45	0.0	3.6	6	0.61	0.35	0.12	0.38	0.0
9.1	3	23	59	44	0.0	3.6	6	0.50	0.37	0.10	0.20	0.0
9.3	3	22	56	46	0.0	3.6	7	0.62	0.36	0.13	0.34	0.1
9.1	3	22	56	46	0.0	3.8	8	0.62	0.38	0.14	0.26	0.1
9.3	6	27	57	46	0.0	3.9	7	0.61	0.38	0.12	0.43	0.0
9.2	3	25	58	47	0.0	3.9	6	0.53	0.39	0.12	0.36	0.0
9.1	2	26	57	45	0.0	3.7	7	0.55	0.39	0.13	0.38	0.0
9.1	2	27	59	44	0.0	3.6	7	0.61	0.42	0.15	0.33	0.0
9.2	3	24	60	44	0.0	3.7	7	0.63	0.41	0.14	0.32	0.3
9.3	4	24	57	47	0.0	3.8	8	0.65	0.40	0.14	0.45	0.0
9.1	4	22	57	46	0.0	3.4	9	0.59	0.50	0.15	0.36	0.2
9.5	8	24	57	46	0.0	4.0	7	0.61	0.40	0.13	0.66	0.4
9.5	9	28	58	46	0.0	3.8	9	0.61	0.40	0.13	0.72	1.0
9.3	10	29	59	47	0.0	3.6	8	0.61	0.40	0.13	0.47	0.4
9.3	8	26	58	46	0.0	3.5	7	0.62	0.33	0.11	0.53	.0.
9.2	8	28	59	45	0.0	3.4	7	0.61	0.40	0.12	0.36	0.4
9.3	10	25	58	45	0.0	3.3	6	0.62	0.46	0.15	0.25	0.1
9.4	10	23	58	47	0.0	3.4	7	0.61	0.39	0.15	0.53	0.0

287.50	148.00	763.00	1793.00	1428.00	0.00	114.20	224.00	18.26	12.40	4.22	13.21	3.50
9.50	10.00	31.00	61.00	49.00	0.00	4.10	11.00	0.66	0.65	0.23	0.72	1.00
9.10	1.00	19.00	55.00	44.00	0.00	3.10	6.00	0.41	0.27	0.08	0.18	0.00
9.27	4.77	24.61	57.84	46.06	0.00	3.68	7.23	0.59	0.40	0.14	0.43	0.12

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
August 1, 2019	24	6.221	6.180	413.5	84	28.5	0.267	9019	100	0	300	220	125	18.0	174
August 2, 2019	24	5.680	5.750	426.5	79.5	28.5	0.178	8392	100	0	300	220	125	18.0	177
August 3, 2019	24	5.120	5.350	506	81.5	30.5	0.267	7808	100	0	300	320	125	18.0	183
August 4, 2019	24	5.980	6.360	437.5	72	27	0.267	9247	100	0	300	320	150	18.0	185
August 5, 2019	24	5.780	5.780	434	75	31	0.178	9247	100	0	300	320	150	19.2	192
August 6, 2019	24	5.234	5.390	435	76	59.5	0.178	8465	100	0	300	320	125	19.2	194
August 7, 2019	24	5.463	5.640	440	80	25	0.178	8231	100	0	280	226	125	18.0	181
August 8, 2019	24	5.856	6.000	425	84	34	0.267	8757	100	0	294	224	120	18.0	179
August 9, 2019	24	5.852	6.070	423	73	26.5	0.178	8646	100	0	300	220	124	18.0	177
August 10, 2019	24	5.330	5.400	479	77	28.5	0.356	8024	100	0	300	260	125	18.0	181
August 11, 2019	24	5.443	6.060	446.5	83	26.5	0.267	7944	100	0	300	256	150	20.0	175
August 12, 2019	24	5.440	5.410	410	72	31	0.178	7944	100	0	300	150	150	18.0	175
August 13, 2019	24	5.443	5.560	459	76	29	0.178	7944	100	0	300	220	150	13.2	175
August 14, 2019	24	5.968	5.650	526	79.5	30	0.178	8246	100	0	300	240	125	18.0	166
August 15, 2019	24	5.965	5.700	534.5	86	34.5	0.356	8319	100	0	300	240	140	18.0	167
August 16, 2019	24	5.864	6.040	381.5	71	29	0.178	8815	100	0	300	240	144	18.0	180
August 17, 2019	24	5.472	5.920	456	78	31	0.178	8723	100	0	300	150	143	18.6	191
August 18, 2019	24	5.974	6.290	435.5	71.5	27	0.267	8719	100	0	280	180	130	20.4	175
August 19, 2019	24	5.860	6.180	452	74	28	0.178	8721	100	0	280	200	130	18.0	178
August 20, 2019	24	5.890	6.320	436	76	28	0.0178	8801	100	0	300	220	125	18.0	179
August 21, 2019	24	4.357	4.470	500	79	33	0.267	6523	100	0	300	220	125	18.0	180
August 22, 2019	24	5.530	5.730	480.5	82	40	0.262	8363	100	0	280	200	110	18.0	181
August 23, 2019	24	5.730	5.800	459	74.5	31	0.178	8465	100	0	280	250	125	18.1	177
August 24, 2019	24	5.470	5.450	441.5	74	32	0.267	7983	100	0	280	310	120	18.0	175
August 25, 2019	24	5.607	6.490	422.5	73	26.5	0.267	8176	100	0	280	340	120	22.3	175
August 26, 2019	24	5.340	5.430	421	72	57	0.267	7652	100	0	300	360	125	18.0	172
August 27, 2019	24	5.265	5.630	413	62	52	0.178	7563	100	0	300	380	125	18.0	172
August 28, 2019	24	5.194	5.090	439.5	74.5	31	0.178	6983	100	0	320	380	125	18.0	161
August 29, 2019	24	5.116	5.870	490	78	34	0.178	8567	100	0	320	330	110.0	18	201
August 30, 2019	24	5.959	5.740	577.5	86	38	0.178	8377	100	0	300	360	120	18.0	169
August 31, 2019	24	5.941	5.500	566	103	31.5	0.178	8294	100	0	300	394	120	18.0	167
Total	744.00	173.34	178.25	14167.00	2407.00	1019.00	6.69	256958.00	3100.00	0.00	9194.00	######	4006.00	564.98	5514.40
Max.	24.00	6.22	6.49	577.50	103.00	59.50	0.36	9247.00	100.00	0.00	320.00	394.00	150.00	22.30	200.79
Min.	24.00	4.36	4.47	381.50	62.00	25.00	0.02	6523.00	100.00	0.00	280.00	150.00	110.00	13.20	161.20
Avg.	24.00	5.59	5.75	457.00	77.65	32.87	0.22	8288.97	100.00	0.00	296.58	266.77	129.23	18.23	177.88

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Aug-19
Telephone Number : (954) 730-2972

																		CHEMICAL AND
DOSAGES						RAW WATER										SETTLEI		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
2	0	5.8	4.2	0.55	0.35	4,8	7.2	240	260	240	20	20	0.3	30	40	1.1	10.2	21
2.1	0.0	6.3	4.6	0.61	0.380	4,8	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	20
2.3	0.0	7.0	7.5	0.67	0.42	4,8	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0	20
2.0	0.0	6.0	6.4	0.69	0.36	4,8	7.2	240	260	240	20	20	0.3	30	40	1.0	10.0	19
2.1	0.0	6.2	6.6	0.72	0.40	4,8	7.2	242	260	240	20	20	0.3	30	40	0.7	10.0	20
2.3	0.0	6.9	7.3	0.66	0.44	4,8	7.2	240	262	240	22	20	0.3	30	40	0.6	10.1	20
2.2	0.0	6.1	5.0	0.63	0.40	4,8	7.1	240	260	240	20	20	0.3	30	40	0.9	10.0	20
2.0	0.0	6.0	4.6	0.57	0.37	4,8	7.1	240	260	240	20	20	0.3	30	40	1.3	9.8	20
2.0	0.0	6.1	4.5	0.58	0.37	3,4,6	7.2	242	264	244	20	20	0.3	30	40	0.97	10.0	21
2.2	0.0	6.7	5.8	0.65	0.40	3,4,6	7.2	242	264	244	20	20	0.3	30	40	0.96	10.0	20
2.2	0.0	6.6	5.6	0.76	0.44	3,4,6	7.2	244	262	242	20	20	0.3	30	40	1.0	10.0	18
2.2	0.0	6.6	3.3	0.76	0.40	3,4,6	7.2	246	260	240	20	20	0.3	30	40	0.69	10.0	20
2.2	0.0	6.6	4.8	0.76	0.29	3,4,6	7.2	244	260	240	20	20	0.3	30	40	0.89	10.0	21
2.0	0.0	6.0	4.8	0.58	0.36	3,4,6	7.2	246	264	240	20	20	0.3	30	40	0.9	9.9	19
2.0	0.0	6.0	4.8	0.65	0.36	3,4,6	7.2	246	264	244	20	20	0.3	30	40	0.7	10.1	21
2.0	0.0	6.1	4.9	0.68	0.37	3,4,6	7.2	246	264	244	20	20	0.3	30	40	0.7	10.0	22
2.2	0.0	6.6	3.3	0.72	0.41	3,4,6	7.1	248	270	250	20	22	0.3	32	40	0.7	10.0	20
2.0	0.0	5.6	3.6	0.60	0.41	3,4,6	7.1	248	272	252	20	22	0.3	30	36	0.88	10.1	21
2.0	0.0	5.7	4.1	0.61	0.37	3,46	7.1	248	270	250	20	22	0.3	30	40	1.0	10.0	22
2.0	0.0	6.1	4.5	0.59	0.37	3,4,6	7.1	248	270	250	20	22	0.3	30	40	1.1	10.0	20
2.8	0.0	8.3	6.1	0.79	0.50	3,4,6	7.1	248	270	250	20	22	0.3	30	40	0.7	10.0	19
2.2	0.0	6.1	4.3	0.55	0.39	3,4,6	7.1	248	270	250	20	22	0.3	30	36	1.0	9.9	20
2.1	0.0	5.9	5.2	0.60	0.38	3,46	7.1	248	270	254	20	22	0.3	30	40	0.9	10.0	22
2.2	0.0	6.1	6.8	0.61	0.39	3,4,6	7.1	248	270	250	20	22	0.3	30	40	0.9	9.9	20
2.1	0.0	6.0	7.3	0.59	0.48	3,4,6	7.1	248	270	250	20	22	0.3	30	40	0.9	10.0	21
2.2	0.0	6.7	8.1	0.65	0.40	3,4,6	7.2	250	274	254	20	22	0.3	30	40	0.8	10.0	24
2.3	0.0	6.8	8.7	0.65	0.41	3,4,6	7.2	250	274	254	20	22	0.3	30	40	0.7	10.1	24
2.3	0.0	7.4	8.8	0.66	0.42	3,4,6	7.2	250	276	256	20	22	0.3	30	40	0.6	10.0	21
2.3	0.0	7.5	7.7	0.59	0.42	3,46	7.2	246	274	254	20	22	0.3	30	40	0.5	10.0	21
2.0	0.0	6.0	7.2	0.56	0.36	3,4,6	7.2	240	260	244	20	20	0.3	30	40	0.6	10.0	22
2.0	0.0	6.1	8.0	0.56	0.36	3,4,6	7.2	240	264	244	20	20	0.3	30	40	0.6	10.0	22

66.79	0.00	198.22	178.61	19.83	12.17	0.00	222.10	7586.00	8238.00	7620.00	622.00	646.00	9.21	932.00	1232.00	26.11	310.10	641.00
2.75	0.00	8.26	8.77	0.79	0.50	0.00	7.20	250.00	276.00	256.00	22.00	22.00	0.30	32.00	40.00	1.30	10.20	24.00
1.93	0.00	5.62	3.29	0.55	0.29	0.00	7.10	240.00	260.00	240.00	20.00	20.00	0.26	30.00	36.00	0.48	9.80	18.00
2.15	0.00	6.39	5.76	0.64	0.39	#DIV/0!	7.16	244.71	265.74	245.81	20.06	20.84	0.30	30.06	39.74	0.84	10.00	20.68

County : Broward
I.D. Number : ######
Year AUGUST 2019

PHYSICAL RESULTS

D WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
41	59	47	9.4	9	27	58	48	0.0	3.4	6	0.65	0.38	0.15	0.56	0.2
42	60	46	9.2	10	28	60	44	0.0	3.3	6	0.63	0.37	0.13	0.36	0.2
40	59	46	9.2	10	29	59	46	0.0	3.2	7	0.64	0.34	0.14	0.48	0.2
39	58	45	9.2	11	27	58	46	0.0	3.5	7	0.65	0.29	0.11	0.38	0.0
39	59	46	9.2	10	24	58	46	0.0	3.4	6	0.47	0.20	0.07	0.39	0.0
40	59	46	9.1	6	22	56	46	0.0	3.7	6	0.64	0.14	0.07	0.54	0.1
41	58	47	9.3	7	23	58	47	0.0	4.0	4	0.62	0.24	0.05	0.45	0.4
41	58	47	9.3	6	23	57	46	0.0	3.2	5	0.50	0.18	0.04	0.43	0.2
40	58	45	9.0	6	22	58	45	0.0	2.7	5	0.45	0.20	0.06	0.27	0.0
39	58	47	9.3	7	27	58	46	0.0	2.7	5	0.45	0.19	0.06	0.57	2.5
28	26	45	9.4	12	27	58	45	0.0	3.3	5	0.52	0.17	0.06	0.64	0.0
41	59	46	9.2	9	24	58	45	0.0	3.1	6	0.41	0.24	0.08	0.38	0.0
38	58	47	9.3	8	24	57	46	0.0	3.4	7	0.48	0.23	0.08	0.49	0.0
43	59	47	9.1	7	25	58	47	0.0	3.0	5	0.49	0.25	0.08	0.32	1.8
43	57	46	9.2	6	25	58	48	0.0	3.4	7	0.43	0.28	0.11	0.36	0.0
41	58	47	9.3	7	26	58	47	0.0	3.6	7	0.50	0.34	0.08	0.41	1.1
40	57	45	9.2	7	27	59	46	0.0	3.7	6	0.56	0.27	0.12	0.47	0.0
41	59	45	9.2	8	29	59	44	0.0	3.6	5	0.50	0.25	0.09	0.48	0.0
40	58	44	9.2	9	25	58	44	0.0	3.6	5	0.65	0.24	0.08	0.46	0.0
42	58	46	9.2	7	20	56	46	0.0	3.4	6	0.53	0.26	0.09	0.43	0.0
41	60	48	9.1	7	19	56	45	0.0	3.1	6	0.51	0.32	0.10	0.13	0.0
44	57	49	9.4	6	23	57	47	0.0	3.6	10	0.55	0.29	0.08	0.53	0.6
41	58	45	9.5	8	26	58	47	0.0	3.5	10	0.57	0.30	0.08	0.68	0.4
40	58	46	9.3	7	26	59	47	0.0	3.3	14	0.56	0.28	0.10	0.54	1.2
42	58	45	9.2	8	27	59	46	0.0	3.2	7	0.53	0.28	0.10	0.45	0.0
42	60	48	9.0	6	28	60	46	0.0	3.1	6	0.51	0.29	0.10	0.52	0.0
44	60	53	8.8	5	20	54	45	0.0	3.3	6	0.51	0.36	0.15	0.53	0.0
43	60	55	8.7	4	22	55	45	0.0	3.4	3	0.49	0.30	0.13	0.21	0.0
42	60	48	8.9	5	23	57	45	0.0	3.5	4	0.50	0.29	0.13	0.06	1.1
43	58	45	9.1	7	22	57	45	0.0	3.4	5	0.50	0.30	0.12	0.26	1.1
41	57	46	9.1	7	21	57	46	0.0	3.3	6	0.46	0.32	0.12	0.24	2.0

######	1781.00	1448.00	284.60	232.00	761.00	1788.00	1422.00	0.00	103.90	193.00	16.46	8.39	2.96	13.02	13.10
44.00	60.00	55.00	9.50	12.00	29.00	60.00	48.00	0.00	4.00	14.00	0.65	0.38	0.15	0.68	2.50
28.00	26.00	44.00	8.70	4.00	19.00	54.00	44.00	0.00	2.70	3.00	0.41	0.14	0.04	0.06	0.00
40.71	57.45	46.71	9.18	7.48	24.55	57.68	45.87	0.00	3.35	6.23	0.53	0.27	0.10	0.42	0.42

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
September 1, 2019	24	5.540	5.790	556	110	27	0.326	8089	100	0	300	360	150	21.4	175
September 2, 2019	24	5.000	5.160	390	70	26	0.267	7531	100	0	300	360	110	16.0	181
September 3, 2019	24	4.570	5.560	389	61	33	0.178	6673	100	0	300	360	130	15.3	175
September 4, 2019	24	5.630	5.020	447	67	36.5	0.267	7326	100	0	300	360	100	18.0	156
September 5, 2019	24	5.460	5.670	493.5	87	38.5	0.267	8275	100	0	300	400	120	18.0	182
September 6, 2019	24	5.760	6.100	429	70	26.5	0.267	8902	100	0	300	380	120	18.0	185
September 7, 2019	24	5.500	5.860	349	66	30	0.267	8021	100	0	300	380	120	17.5	175
September 8, 2019	24	5.330	6.150	385	63.5	28.5	0.267	7779	100	0	300	400	100	18.0	175
September 9, 2019	24	5.976	6.140	437	73	31	0.178	8722	100	0	300	430	100	18.0	175
September 10, 2019	24	5.980	5.950	475	93	28	0.267	8758	100	0	300	430	120	20.9	176
September 11, 2019	24	5.482	5.500	450	76.5	34.5	0.178	8837	100	0	300	430		18.0	193
September 12, 2019	24	5.934	6.020	485.5	76	38	0.267	8786	100	0	300	430	120	18.0	178
September 13, 2019	24	5.765	5.890	473	82.5	28.5	0.178	8596	100	0	300	400	140	18.0	179
September 14, 2019	24	5.793	5.810	501	81	30	0.267	8463	100	0	300	420	125	18.0	175
September 15, 2019	24	6.250	6.870	446.5	75	28.5	0.267	9121	100	0	300	440	160	17.5	175
September 16, 2019	24	6.250	5.850	419	75	31	0.267	9122	100	0	300	470	120	18.0	175
September 17, 2019	24	6.825	5.750	427	77	27	0.178	9961	100	0	300	470	100	15.6	175
September 18, 2019	24	5.420	5.590	486.5	80.5	38	0.178	8158	100	0	300		120	18.0	180
September 19, 2019	24	5.460	5.620	525.5	89	37	0.267	8013	100	0	300	400	100	18.0	176
September 20, 2019	24	5.136	5.250	480	86	26.5	0.267	7662	100	0	300	390	110	18.0	179
September 21, 2019	24	6.979	6.140	476	80.5	25.5	0.267	8961	100	0	300	396	116	18.0	154
September 22, 2019	24	6.968	6.480	392	70	30	0.356	10245	100	0	300	400	100	24.7	176
September 23, 2019	24	6.975	6.040	371.5	68.5	13	0.267	8815	100	0	300	400	120	18.0	152
September 24, 2019	24	6.792	5.560	409.5	78	27	0.366	8115	100	0	300	400	120	18.0	143
September 25, 2019	24	6.366	6.490	384	67	28	0.27	8102	100	0	300	350	120	18.0	153
September 26, 2019	24	6.394	6.090	459	59	23	0.178	9332	100	0	300	400	150	18.0	175
September 27, 2019	24	6.623	5.510	237.5	48.5	45.5	0.336	8625	100	0	300	400	150	18.0	156
September 28, 2019	24	6.696	6.270	381	70	27	0.267	9773	100	0	300	400	140	19.7	175
September 29, 2019	24	7.056	6.410	380.8	66.5	27	0.267	9298	100	0	300	440	120.0	18	158
September 30, 2019	24	5.853	6.120	425	85	25	0.267	9546	100	0	300	400	140	18.2	196
Total	720.00	179.76	176.66	12960.80	2252.00	895.00	7.71	257607.00	3000.00	0.00	9000.00	11696.00	3541.00	547.36	5176.71
Max.	24.00	7.06	6.87	556.00	110.00	45.50	0.37	10245.00	100.00	0.00	300.00	470.00	160.00	24.70	195.56
Min.	24.00	4.57	5.02	237.50	48.50	13.00	0.18	6673.00	100.00	0.00	300.00	350.00	100.00	15.34	143.26
Avg.	24.00	5.99	5.89	432.03	75.07	29.83	0.26	8586.90	100.00	0.00	300.00	403.31	122.10	18.25	172.56

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Sep-19
Telephone Number : (954) 730-2972

CHEMICAL AND

DOSAGES						RAW WATER										SETTLED		
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29
2	0	6.5	7.8	0.75	0.46	3,4,6	7.2	246	264	244	20	20	0.3	30	40	0.6	10.0	21
2.4	0.0	7.2	8.6	0.61	0.384	3,46	7.2	250	266	244	22	20	0.3	30	40	0.6	10.1	24
2.6	0.0	7.9	9.4	0.78	0.40	3,4,6	7.2	250	266	244	22	20	0.3	30	40	0.5	10.1	22
2.1	0.0	6.4	7.7	0.49	0.38	3,6	7.2	248	264	244	20	20	0.3	30	40	1.4	10.0	20
2.2	0.0	6.6	8.8	0.61	0.40	3,4,6	7.2	246	266	250	16	20	0.3	30	40	1.8	9.8	18
2.1	0.0	6.2	7.9	0.57	0.37	3,4,6	7.2	246	270	255	15	20	0.3	30	40	0.8	10.1	23
2.2	0.0	6.5	8.3	0.60	0.38	3,4,6	7.2	246	270	255	15	20	0.3	30	40	1.0	10.1	20
2.2	0.0	6.7	9.0	0.52	0.40	3,4,6	7.2	248	276	256	20	20	0.3	30	40	1.1	10.1	22
2.0	0.0	6.0	8.6	0.46	0.36	3,4,6	7.2	248	274	254	20	20	0.3	30	40	1.1	10.1	24
2.0	0.0	6.0	8.6	0.55	0.42	3,4,6	7.2	250	276	256	20	20	0.3	30	40	0.86	10.1	22
2.2	0.0	6.6	9.4	0.00	0.39	3,8	7.2	248	278	256	22	20	0.3	30	40	1.8	10.1	23
2.0	0.0	6.1	8.7	0.56	0.36	3,8	7.2	248	278	256	22	20	0.3	30	40	1.2	10.0	18
2.1	0.0	6.2	8.3	0.67	0.37	3,8	7.0	248	278	256	22	20	0.3	30	40	0.75	10.0	21
2.1	0.0	6.2	8.7	0.60	0.37	3,8	7.2	248	278	256	22	20	0.3	30	40	1.0	9.9	20
1.9	0.0	5.8	8.4	0.71	0.34	3,8	7.2	248	278	256	22	20	0.3	30	40	0.8	10.1	21
1.9	0.0	5.8	9.0	0.53	0.35	3,8	7.2	250	278	260	18	20	0.3	30	40	0.7	10.1	24
1.8	0.0	5.3	8.3	0.40	0.27	3,8	7.2	250	278	260	18	22	0.3	32	40	0.5	10.1	26
2.2	0.0	6.6		0.61	0.40	3,8	7.2	248	280	260	20	22	0.3	30	36	0.7	10.0	24
2.2	0.0	6.6	8.8	0.51	0.40	3,8	7.1	244	280	260	20	22	0.3	30	40	1.1	10.1	19
2.3	0.0	7.0	9.1	0.59	0.42	3,8	7.1	244	280	260	20	22	0.3	30	40	1.2	9.8	19
1.7	0.0	5.2	6.8	0.46	0.31	3,8	7.1	244	280	260	20	20	0.3	30	40	0.8	10.1	21
1.7	0.0	5.2	6.9	0.40	0.43	3,8	7.1	244	280	240	40	20	0.3	30	36	0.7	10.0	21
1.7	0.0	5.2	6.9	0.47	0.31	3,8	7.1	246	276	256	20	20	0.3	30	40	0.8	9.9	20
1.8	0.0	5.3	7.1	0.49	0.32	3,8	7.1	246	276	256	20	22	0.3	30	40	0.8	10.0	21
1.9	0.0	5.7	6.6	0.52	0.34	3,8	7.1	246	276	256	20	20	0.3	30	40	0.9	10.0	22
1.9	0.0	5.6	7.5	0.65	0.34	3,8	7.1	246	276	258	20	20	0.3	30	40	1.1	9.6	22
1.8	0.0	5.4	7.2	0.62	0.33	3,8	7.1	248	278	258	20	20	0.3	30	40	0.8	10.0	23
1.8	0.0	5.4	7.2	0.58	0.35	3,8	7.1	248	278	258	20	20	0.3	30	40	0.8	9.9	19
1.7	0.0	5.1	7.5	0.47	0.31	3,8	7.1	250	278	256	22	20	0.3	30	40	0.7	10.0	20
2.0	0.0	6.1	8.2	0.66	0.37	3,4,8	7.1	248	280	260	20	22	0.3	30	40	0.7	10.1	24
60.76	0.00	182.28	235.27	16.42	11.05	0.00	214.60	7420.00	8256.00	7640.00	618.00	612.00	8.91	902.00	1192.00	27.42	300.25	644.00
2.62	0.00	7.87	9.45	0.78	0.46	0.00	7.20	250.00	280.00	260.00	40.00	22.00	0.30	32.00	40.00	1.80	10.10	26.00
1.70	0.00	5.10	6.59	0.00	0.27	0.00	7.00	244.00	264.00	240.00	15.00	20.00	0.26	30.00	36.00	0.50	9.60	18.00
2.03	0.00	6.08	8.11	0.55	0.37	#DIV/0!	7.15	247.33	275.20	254.67	20.60	20.40	0.30	30.07	39.73	0.91	10.01	21.47

County : Broward
I.D. Number : 4060787
Year SEPT 2019

PHYSICAL RESULTS

) WATER			FINISHED WATER												
M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
42	60	48	9.1	6	36	60	48	0.0	3.1	5	0.48	0.28	0.13	0.24	0.0
44	58	47	9.2	7	25	58	46	0.0	3.4	5	0.51	0.26	0.10	0.56	2.1
43	58	49	9.2	5	28	54	43	0.0	3.5	8	0.51	0.24	0.09	0.73	0.0
41	59	48	9.2	7	28	57	45	0.0	3.2	5	0.52	0.21	0.08	0.45	0.4
43	60	50	8.8	3	24	58	48	0.0	3.2	4	0.52	0.24	0.08	0.01	0.4
43	58	47	9.1	4	24	58	46	0.0	3.1	5	0.49	0.29	0.09	0.29	0.2
40	58	45	9.3	6	27	59	47	0.0	3.3	5	0.49	0.24	0.08	0.55	0.0
42	59	45	9.4	10	31	58	45	0.0	3.7	6	0.49	0.31	0.10	0.70	0.0
41	59	46	9.2	8	26	58	46	0.0	3.3	6	0.46	0.33	0.11	0.43	0.0
44	58	47	9.2	6	26	57	46	0.0	3.7	7	0.47	0.39	0.13	0.40	0.0
43	58	47	9.3	7	28	57	46	0.0	3.8	7	0.81	0.42	0.17	0.56	0.6
41	53	42	9.3	7	26	50	40	0.0	3.6	4	0.60	0.40	0.18	0.47	0.2
41	57	46	9.5	8	28	58	47	0.0	4.0	7	0.55	0.38	0.16	0.77	1.0
40	58	42	9.4	7	28	60	47	0.0	3.5	7	0.65	0.34	0.14	0.67	0.4
41	58	45	9.2	6	28	58	44	0.0	3.2	7	0.77	0.32	0.12	0.44	0.0
42	58	46	9.3	8	30	58	45	0.0	3.5	6	0.69	0.21	0.07	0.59	0.0
43	61	50	9.2	8	28	57	47	0.0	3.6	5	0.65	0.23	0.06	0.47	0.0
41	62	56	9.4	11	31	56	46	0.0	4.1	7	0.67	0.23	0.09	0.71	0.0
43	61	46	9.6	11	28	57	48	0.0	4.1	7	0.77	0.25	0.13	0.88	0.3
39	58	45	9.7	13	29	56	45	0.0	3.6	3	0.49	0.35	0.12	0.97	0.6
42	61	47	9.4	10	29	58	46	0.0	3.6	3	0.49	0.39	0.15	0.43	0.2
46	66	54	9.4	8	26	58	46	0.0	3.6	7	0.48	0.37	0.16	0.58	0.0
42	59	45	9.3	11	32	57	44	0.0	3.7	7	0.48	0.38	0.15	0.60	0.3
42	56	46	9.3	9	30	55	45	0.0	3.6	8	0.51	0.43	0.20	0.59	0.0
43	57	48	9.7	10	40	57	48	0.0	3.8	8	0.53	0.35	0.17	0.62	0.0
45	60	56	9.5	8	30	57	46	0.0	3.3	9	0.54	0.42	0.19	0.80	0.0
41	57	46	9.3	8.8	29	58	48	0.0	3.4	9.6		0.52	0.21	0.42	0.0
40	60	46	9.3	9	30	58	46	0.0	3.8	7	0.54	0.41	0.17	0.59	0.0
40	50	45	9.1	7	29	61	45	0.0	3.4	8	0.53	0.45	0.18	0.37	0.0
41	56	45	9.2	11	29	58	46	0.0	3.9	8	0.54	0.41	0.18	0.48	0.0

######	1753.00	1415.00	279.10	239.80	863.00	1721.00	1375.00	0.00	106.58	190.60	16.23	10.05	3.99	16.37	6.70
46.00	66.00	56.00	9.70	13.00	40.00	61.00	48.00	0.00	4.10	9.60	0.81	0.52	0.21	0.97	2.10
39.00	50.00	42.00	8.80	3.00	24.00	50.00	40.00	0.00	3.10	3.00	0.46	0.21	0.06	0.01	0.00
41.97	58.43	47.17	9.30	7.99	28.77	57.37	45.83	0.00	3.55	6.35	0.56	0.34	0.13	0.55	0.22

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
October 1, 2019	24	5.563	6.040	428	76	26	0.178	8136	100	0	300	220	140	15.4	175	2	0
October 2, 2019	24	5.762	5.940	486	79	39.5	0.178	8669	100	0	300	220	140	18.0	180	2.1	0.0
October 3, 2019	24	6.062	6.240	535	86.5	36.5	0.178	9107	100	0	300	220	116	18.0	180	2.0	0.0
October 4, 2019	24	5.702	5.880	505	83	27.5	0.178	8582	100	0	300	224	125	18.0	180	2.1	0.0
October 5, 2019	24	5.884	6.240	443	81.5	30	0.356	9107	100	0	300	220	125	18.0	186	2.0	0.0
October 6, 2019	24	5.882	6.060	396.3	17.5	21	0.178	8456	100	0	300	210	130	13.9	172	2.0	0.0
October 7, 2019	24	5.833	6.100	454	81	31	0.356	8974	100	0	300	220	140	18.0	184	2.1	0.0
October 8, 2019	24	5.433	5.700	427	96	29	0.267	8887	100	0	300	220	140	19.2	196	2.2	0.0
October 9, 2019	24	5.702	5.880	378	75	27.5	0.178	8582	100	0	300	140	130	18.0	180	2.1	0.0
October 10, 2019	24	5.502	5.680	459.5	84	36.5	0.178	8289	100	0	300	140	120	18.0	181	2.2	0.0
October 11, 2019	24	5.542	5.720	467	78	27.5	0.178	8348	100	0	293	183	124	18.0	181	2.2	0.0
October 12, 2019	24	5.334	5.690	494	83.5	32	0.356	8304	100	0	300	206	110	18.0	187	2.2	0.0
October 13, 2019	24	5.913	6.180	386.5	68	27.5	0.267	8126	100	0	300	160	120	19.9	165	2.0	0.0
October 14, 2019	24	5.761	5.850	411	69	16	0.089	7776	100	0	300	180	150	17.3	162	2.1	0.0
October 15, 2019	24	5.283	5.550	210	75	63.5	0.267	7634	100	0	300	140	120	18.0	173	2.3	0.0
October 16, 2019	24	5.053	5.320	394.5	77.5	27	0.267	7375	100	0	280	166	120	18.0	175	2.4	0.0
October 17, 2019	24	6.053	6.320	400	64	41	0.267	9614	100	0	280	150	126	18.0	190	2.0	0.0
October 18, 2019	24	5.333	5.600	426	70	29.5	0.267	8562	100	0	287	169	120	18.0	193	2.2	0.0
October 19, 2019	24	6.193	6.460	469	83	30	0.267	9037	100	0	300	240	120	18.7	175	1.9	0.0
October 20, 2019	24	5.353	5.620	421.5	72.5	28.5	0.267	9037	100	0	300	240	120	15.6	202	2.2	0.0
October 21, 2019	24	5.773	6.040	421	75	31	0.267	8421	100	0	300	240	120	21.2	175	2.1	0.0
October 22, 2019	24	5.482	5.660	460	79	28	0.178	8000	100	0	300	240	150	17.5	175	2.2	0.0
October 23, 2019	24	5.393	5.660	483	81	36.5	0.267	9126	100	0	300	240	100	18.0	203	2.2	0.0
October 24, 2019	24	5.922	6.100	407	72	26	0.178	9162	100	0	300	240	118	18.0	186	2.0	0.0
October 25, 2019	24	5.812	5.990	504	72	43	0.178	9002	100	0	300	226	115	18.0	186	2.1	0.0
October 26, 2019	24	5.833	6.100	480.5	83.5	31	0.267	8902	100	0	300	254	120	18.0	183	2.1	0.0
October 27, 2019	24	5.583	5.850	570	100	31	0.267	8148	100	0	300	220	100	19.8	175	2.1	0.0
October 28, 2019	24	5.513	5.780	496	98.5	71	0.267	8312	100	0	300	240	120	18.0	181	2.2	0.0
October 29, 2019	24	5.443	5.710	446	67	48.5	0.267	8564	100	0	300	240	120.0	18	189	2.2	0.0
October 30, 2019	24	5.761	5.850	449	79	31	0.089	8668	100	0	300	220	120	18.0	180	2.1	0.0
October 31, 2019	24	5.304	5.660	304.5	83	43.5	0.356	8780	100	0	300	228	100	18.0	198	2.3	0.0
Total	744.00	174.96	182.47	13612.30	2390.00	1047.50	7.30	265687.00	3100.00	0.00	9240.00	######	3819.00	556.52	5648.85	66.00	0.00
Max.	24.00	6.19	6.46	570.00	100.00	71.00	0.36	9614.00	100.00	0.00	300.00	254.00	150.00	21.20	202.90	2.37	0.00
Min.	24.00	5.05	5.32	210.00	17.50	16.00	0.09	7375.00	100.00	0.00	280.00	140.00	100.00	13.90	161.84	1.94	0.00
Avg.	24.00	5.64	5.89	439.11	77.10	33.79	0.24	8570.55	100.00	0.00	298.06	208.26	123.19	17.95	182.22	2.13	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Oct-19
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL R

DOSAGES				RAW WATER										SETTLED WATER					
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
6.5	4.7	0.69	0.33	3,4,8	7.1	248	278	258	20	22	0.3	30	40	1.1	9.9	23	41	56	48
6.2	4.6	0.67	0.375	3,4,6	7.1	246	278	258	20	20	0.3	30	40	1.1	10.0	20	44	58	45
5.9	4.4	0.53	0.36	3,6	7.1	244	270	258	20	20	0.3	30	40	1.1	9.9	21	37	52	44
6.3	4.7	0.60	0.38	3,6	7.1	246	270	256	20	20	0.3	30	40	1.0	10.1	22	40	58	46
6.1	4.5	0.59	0.37	3,4,6	7.1	246	270	256	20	20	0.3	30	40	1.2	9.9	20	41	58	46
6.1	4.3	0.61	0.28	3,4,,6	7.1	246	270	256	20	20	0.3	30	40	1.4	10.2	26	47	56	46
6.2	4.5	0.66	0.37	3,4,6	7.1	246	274	260	20	20	0.3	30	40	1.3	10.0	22	43	57	43
6.6	4.9	0.71	0.42	3,4,6	7.1	248	276	256	20	20	0.3	30	40	1.1	10.0	21	42	56	47
6.3	2.9	0.63	0.38	3,4,6	7.1	250	278	258	20	20	0.3	30	40	0.6	9.9	21	43	59	47
6.5	3.1	0.60	0.39	3,4,6	7.2	250	278	258	20	20	0.3	30	40	0.44	10.0	22	40	58	52
6.3	4.0	0.62	0.39	3,4,6	7.2	250	278	258	20	20	0.3	30	40	0.8	9.9	20	40	57	46
6.7	4.6	0.57	0.40	3,4,6	7.2	250	278	258	20	20	0.3	30	40	0.8	9.9	21	40	58	46
6.1	3.2	0.56	0.40	3,4,6	7.2	250	278	258	20	20	0.3	30	40	1.2	9.8	18	38	60	45
6.2	3.7	0.72	0.36	3,4,6	7.2	248	278	258	20	20	0.3	30	40	1.0	9.9	21	40	55	42
6.8	3.2	0.63	0.41	3,4,6	7.2	250	278	258	20	20	0.3	30	40	0.8	10.0	27	45	57	48
6.6	3.9	0.65	0.43	3,4,6,8	7.2	250	278	258	20	20	0.3	30	40	0.9	9.9	28	40	58	46
5.5	3.0	0.57	0.36	3,8	7.2	240	275	250	25	20	0.3	30	40	1.1	9.8	20	42	57	48
6.5	3.8	0.62	0.40	3,8	7.2	240	275	250	25	20	0.3	30	40	0.68	9.9	21	40	57	46
5.8	4.6	0.53	0.36	3,8	7.2	240	275	250	25	20	0.3	30	40	0.9	10.0	21	40	58	47
6.7	5.4	0.62	0.35	3,8	7.2	240	280	260	20	20	0.3	30	40	0.8	10.0	20	41	59	45
6.2	5.0	0.57	0.44	3,8	7.2	240	280	260	20	20	0.3	30	40	1.3	10.0	22	43	60	48
6.6	5.2	0.75	0.38	3,8	7.2	242	278	258	20	20	0.3	30	36	1.1	9.9	23	42	57	46
6.7	5.3	0.51	0.40	3,8	7.2	240	278	260	20	20	0.3	30	40	0.8	10.1	21	42	58	47
6.1	4.9	0.55	0.36	8,3	7.2	240	275	260	15	22	0.3	30	40	0.9	9.9	22	41	61	47
6.2	4.7	0.55	0.37	8,3	7.2	242	275	250	24	24	0.3	30	40	0.8	10.0	22	41	56	46
6.2	5.2	0.57	0.37	8,3	7.2	242	274	250	24	20	0.3	30	40	0.9	10.1	22	41	57	44
6.4	4.7	0.49	0.43	8,3	7.2	242	270	250	20	20	0.3	30	40	0.8	10.1	21	44	60	46
6.5	5.2	0.60	0.39	3,8	7.2	244	270	250	20	20	0.3	30	40	0.9	10.1	27	45	58	49
6.6	5.3	0.61	0.40	3,8	7.2	244	270	250	20	20	0.3	30	40	1.1	9.8	22	40	55	47
6.2	4.6	0.57	0.37	3,8	7.2	244	270	250	20	20	0.3	30	40	0.7	9.9	20	38	58	46
6.8	5.2	0.52	0.41	3,8	7.2	244	270	250	20	20	0.3	30	40	1.1	9.7	17	36	60	50
196.70	137.29	18.68	11.85	0.00	222.30	7592.00	8525.00	7920.00	638.00	628.00	9.20	930.00	1236.00	29.51	308.60	674.00	######	1784.00	1439.00
6.81	5.38	0.75	0.44	0.00	7.20	250.00	280.00	260.00	25.00	24.00	0.30	30.00	40.00	1.40	10.20	28.00	47.00	61.00	52.00
5.55	2.94	0.49	0.28	0.00	7.10	240.00	270.00	250.00	15.00	20.00	0.26	30.00	36.00	0.44	9.70	17.00	36.00	52.00	42.00
6.35	4.43	0.60	0.38	#DIV/0!	7.17	244.90	275.00	255.48	20.58	20.26	0.30	30.00	39.87	0.95	9.95	21.74	41.19	57.55	46.42

County : Broward
I.D. Number : ######
Year OCT 2019

E S U L T S

FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
33	34	35	36	37	38	39	40	41	42	43	44	45
9.4	11	30	55	45	0.0	3.8	7	0.53	0.24	0.11	0.69	0.0
9.3	10	30	57	47	0.0	3.2	6	0.52	0.14	0.11	0.54	0.2
9.4	13	29	58	46	0.0	3.0	6	0.56	0.22	0.06	0.68	0.0
9.4	11	27	56	43	0.0	3.7	6	0.54	0.18	0.08	0.69	0.0
9.2	9	27	59	45	0.0	3.6	6	0.54	0.17	0.07	0.39	0.2
9.2	10	28	57	47	0.0	3.7	7	0.58	0.24	0.07	0.26	0.0
9.3	10	28	57	48	0.0	3.8	7	0.57	0.26	0.09	0.62	0.0
9.1	10	32	58	44	0.0	3.6	8	0.56	0.29	0.12	0.40	0.0
9.2	10	31	58	46	0.0	3.8	8	0.58	0.23	0.11	0.51	0.2
9.3	9	29	52	45	0.0	3.8	8	0.58	0.28	0.11	0.57	0.2
9.3	10	29	55	44	0.0	3.8	8	0.56	0.27	0.10	0.55	0.2
9.2	10	29	57	46	0.0	3.8	8	0.54	0.25	0.10	0.42	0.2
9.4	12	32	58	47	0.0	3.9	8	0.53	0.25	0.09	0.42	0.0
9.2	10	28	53	41	0.0	3.5	8	0.56	0.25	0.08	0.41	0.0
9.2	10	30	52	48	0.0	3.7	7	0.54	0.27	0.11	0.43	0.0
9.5	9	22	56	47	0.0	3.9	7	0.55	0.23	0.12	0.67	0.0
9.6	13	34	58	49	0.0	3.3	8	0.56	0.33	0.11	0.98	0.1
9.1	10	29	57	47	0.0	3.3	8	0.55	0.31	0.12	0.40	0.0
9.1	8	29	57	48	0.0	3.4	6	0.56	0.32	0.13	0.40	0.0
9.3	10	32	57	46	0.0	3.8	6	0.54	0.29	0.11	0.62	0.0
9.4	13	30	55	44	0.0	3.7	7	0.51	0.29	0.13	0.68	0.0
9.3	11	30	56	46	0.0	3.7	7	0.53	0.31	0.13	0.48	0.0
9.1	8	30	57	46	0.0	3.5	6	0.57	0.32	0.14	0.40	0.3
9.0	8	27	55	45	0.0	3.3	6	0.57	0.36	0.14	0.24	0.1
8.9	7	28	56	45	0.0	3.3	4	0.54	0.33	0.13	0.15	0.3
9.2	11	30	57	45	0.0	3.7	2	0.53	0.29	0.10	0.46	1.3
9.3	7	28	60	43	0.0	3.8	5	0.54	0.24	0.11	0.49	0.0
9.3	9	26	58	42	0.0	3.4	8	0.56	0.33	0.12	0.46	0.0
9.0	24	24	56	43	0.0	3.3	7	0.49	0.34	0.14	0.32	0.0
8.9	9	20	58	46	0.0	3.2	6	0.51	0.24	0.12	0.02	0.2
8.9	8	29	60	48	0.0	2.9	6	0.50	0.29	0.10	0.40	0.2

286.00	320.00	887.00	1755.00	1412.00	0.00	110.20	207.00	16.90	8.36	3.36	14.75	3.70
9.60	24.00	34.00	60.00	49.00	0.00	3.90	8.00	0.58	0.36	0.14	0.98	1.30
8.90	7.00	20.00	52.00	41.00	0.00	2.90	2.00	0.49	0.14	0.06	0.02	0.00
9.23	10.32	28.61	56.61	45.55	0.00	3.55	6.68	0.55	0.27	0.11	0.48	0.12

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature:Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
November 1, 2019	24	5.744	6.100	423.5	74	25.5	0.356	9422	100	0	300	220	110	18.0	197	2
November 2, 2019	24	5.802	5.980	416	83	26	0.178	8727	100	0	300	240	110	18.0	180	2.1
November 3, 2019	24	6.173	6.440	427.5	84	25.5	0.267	9009	100	0	300	240	140	18.2	175	1.9
November 4, 2019	24	5.464	5.730	438	88	72	0.267	8842	100	0	300	240	130	18.0	194	2.2
November 5, 2019	24	5.472	5.650	426	60	28	0.178	8673	100	0	300	240	130	18.0	190	2.2
November 6, 2019	24	5.782	5.960	430	68	27	0.178	8958	100	0	300	232	100	18.0	186	2.1
November 7, 2019	24	5.933	6.200	483	76	41.5	0.267	8754	100	0	300	232	114	18.0	177	2.0
November 8, 2019	24	5.663	5.930	464	75	29.5	0.267	8657	100	0	300	232	110	18.0	183	2.1
November 9, 2019	24	5.763	6.030	445	79	29.5	0.267	8411	100	0	300	232	120	18.7	175	2.1
November 10, 2019	24	5.372	5.550	440.5	87.6	28.5	0.178	7840	100	0	300	232	120	18.0	175	2.2
November 11, 2019	24	5.684	6.040	469.5	92.5	31	0.356	9335	100	0	300	232	110	18.0	197	2.1
November 12, 2019	24	5.432	5.580	390	68	29	0.178	8404	100	0	300	232	114	18.0	186	2.2
November 13, 2019	24	5.582	5.760	453	66.5	39.5	0.178	8667	100	0	300	232	120	18.0	186	2.1
November 14, 2019	24	5.753	6.020	491.5	79.5	39.5	0.267	9176	100	0	300	238	120	18.0	191	2.1
November 15, 2019	24	5.513	5.780	470.5	87.5	26.5	0.267	8465	100	0	300	236	121	18.0	184	2.2
November 16, 2019	24	5.363	5.630	468.5	81.5	26.5	0.267	8432	100	0	300	216	120	18.0	189	2.2
November 17, 2019	24	5.723	5.990	434.5	68	28	0.267	8353	100	0	300	230	140	16.8	175	2.1
November 18, 2019	24	5.544	5.900	381.5	76.5	31	0.356	8533	100	0	300	240	110	18.0	185	2.2
November 19, 2019	24	5.222	5.400	380.5	88	29	0.178	8141	100	0	300	236	120	18.0	187	2.3
November 20, 2019	24	5.632	5.810	496	93.5	35.5	0.178	8480	100	0	300	236	130	18.0	181	2.1
November 21, 2019	24	5.643	5.910	312	62.5	55	0.267	9015	100	0	300	242	130	18.0	192	2.1
November 22, 2019	24	6.502	6.680	395	67	29.5	0.178	10009	100	0	300	236	120	18.0	185	1.8
November 23, 2019	24	5.801	5.890	481	79.5	28.5	0.089	9576	100	0	300	232	130	15.6	198	2.1
November 24, 2019	24	6.563	6.830	538	90.5	45	0.267	9578	100	0	300	232	130	15.6	175	1.8
November 25, 2019	24	5.164	5.520	427.5	72	31	0.356	8576	100	0	300	230	120	18.0	199	2.3
November 26, 2019	24	5.482	5.660	362.5	70	25	0.178	8520	100	0	300	230	129	18.0	186	2.2
November 27, 2019	24	5.362	5.540	457	79	35.5	0.178	8345	100	0	300	230	131	18.0	187	2.2
November 28, 2019	24	5.422	5.600	481.5	83	40	0.178	8433	100	0	300	244	120	18.0	186	2.2
November 29, 2019	24	6.732	6.910	460	76	34	0.178	7835	100	0	300	230	124.0	19	140	1.8
November 30, 2019	24	5.483	5.750	499	94	30	0.267	8392	100	0	300	230	120	18.0	184	2.2
Total	720.00	170.77	177.77	13242.50	2349.60	1002.00	7.03	261558.00	3000.00	0.00	9000.00	######	3643.00	535.64	5522.26	63.44
Max.	24.00	6.73	6.91	538.00	94.00	72.00	0.36	10009.00	100.00	0.00	300.00	244.00	140.00	18.70	199.13	2.32
Min.	24.00	5.16	5.40	312.00	60.00	25.00	0.09	7835.00	100.00	0.00	300.00	216.00	100.00	15.60	139.55	1.78
Avg.	24.00	5.69	5.93	441.42	78.32	33.40	0.23	8718.60	100.00	0.00	300.00	233.47	121.43	17.85	184.08	2.11

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Nov-19
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSIC

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	6.3	4.6	0.53	0.38	3,8	7.2	244	270	258	20	22	0.3	30	40	0.8	10.0	20	40	59
0.0	6.2	5.0	0.52	0.372	3,8	7.2	250	270	256	20	20	0.3	30	40	1.0	10.1	23	42	58
0.0	5.8	4.7	0.63	0.35	3,8	7.2	244	274	250	24	20	0.3	30	40	1.1	10.2	18	42	62
0.0	6.6	5.3	0.66	0.39	3,8	7.2	246	280	258	20	20	0.3	30	40	1.0	10.0	21	39	58
0.0	6.6	5.3	0.66	0.39	3,8	7.2	246	280	260	20	20	0.3	30	40	0.8	10.1	26	41	57
0.0	6.2	4.8	0.48	0.37	3,8	7.2	246	270	256	20	20	0.3	30	40	0.6	10.2	22	41	60
0.0	6.1	4.7	0.53	0.36	3,8	7.2	246	274	260	20	20	0.3	30	40	0.7	9.9	23	41	57
0.0	6.4	4.9	0.54	0.38	3,8	7.2	246	280	270	20	20	0.3	30	40	1.0	10.2	22	42	59
0.0	6.2	4.8	0.57	0.39	3,8	7.1	246	280	270	20	20	0.3	30	40	0.82	10.1	19	40	59
0.0	6.7	5.2	0.62	0.40	3,8	7.2	246	280	268	12	20	0.3	30	40	0.81	10.0	20	40	60
0.0	6.3	4.9	0.53	0.38	3,8	7.2	248	278	268	10	20	0.3	30	40	0.8	10.1	21	39	57
0.0	6.6	5.1	0.58	0.40	3,8	7.2	248	278	260	18	20	0.3	30	40	1.1	10.0	22	46	54
0.0	6.4	5.0	0.59	0.39	3,8	7.2	248	278	260	18	20	0.3	30	40	1.2	10.0	21	42	57
0.0	6.3	5.0	0.58	0.38	3,8	7.2	248	278	260	18	20	0.3	30	40	0.9	10.0	20	42	60
0.0	6.5	5.1	0.61	0.39	3,8	7.2	248	278	260	18	20	0.3	30	40	1.1	10.3	22	43	57
0.0	6.7	4.8	0.62	0.40	3,8	7.2	248	278	260	18	20	0.3	30	40	0.8	10.1	20	41	60
0.0	6.3	4.8	0.67	0.35	3,8	7.2	248	278	260	16	20	0.3	30	40	1.2	10.1	20	41	57
0.0	6.5	5.2	0.55	0.39	3,8	7.2	250	275	258	20	20	0.3	30	40	0.95	10.2	25	43	61
0.0	6.9	5.4	0.63	0.41	3,8	7.2	250	278	258	20	20	0.3	30	40	0.9	10.1	25	43	60
0.0	6.4	5.0	0.64	0.38	3,8	7.2	250	278	258	20	20	0.3	30	40	0.9	9.9	20	38	58
0.0	6.4	5.1	0.64	0.38	3,4,8	7.2	250	278	258	20	20	0.3	30	40	1.2	10.0	25	39	60
0.0	5.5	4.4	0.51	0.33	3,4,6	7.1	252	280	260	20	20	0.3	30	40	1.1	10.1	22	41	61
0.0	6.2	4.8	0.62	0.32	3,4,6	7.1	252	280	260	20	20	0.3	30	40	1.0	10.0	20	40	57
0.0	5.5	4.2	0.55	0.29	3,4,6	7.2	252	284	264	24	20	0.3	30	40	0.7	10.1	18	40	62
0.0	7.0	5.3	0.64	0.42	3,4,6	7.2	256	260	260	20	20	0.3	30	40	1.2	10.0	27	40	61
0.0	6.6	5.0	0.65	0.39	3,4,6	7.2	250	280	260	20	20	0.3	30	40	1.1	10.1	28	40	60
0.0	6.7	5.1	0.67	0.40	3,4,6	7.2	250	280	260	20	20	0.3	30	40	0.9	9.9	24	42	59
0.0	6.6	5.4	0.61	0.40	3,4,6	7.2	250	280	260	20	20	0.3	30	40	0.8	10.1	23	42	57
0.0	5.3	4.1	0.51	0.33	3,4,6	7.2	250	280	260	20	20	0.3	30	40	0.9	10.0	22	41	58
0.0	6.6	5.0	0.60	0.39	3,4,6	7.2	250	280	260	20	20	0.3	30	40	0.8	10.0	21	40	60

0.00	190.31	148.10	17.71	11.33	0.00	215.70	7458.00	8317.00	7810.00	576.00	602.00	8.90	900.00	1200.00	27.98	301.94	660.00	######	1765.00
0.00	6.97	5.42	0.67	0.42	0.00	7.20	256.00	284.00	270.00	24.00	22.00	0.30	30.00	40.00	1.20	10.30	28.00	46.00	62.00
0.00	5.34	4.10	0.48	0.29	0.00	7.10	244.00	260.00	250.00	10.00	20.00	0.26	30.00	40.00	0.60	9.90	18.00	38.00	54.00
0.00	6.34	4.94	0.59	0.38	#DIV/0!	7.19	248.60	277.23	260.33	19.20	20.07	0.30	30.00	40.00	0.93	10.06	22.00	41.03	58.83

County : Broward
I.D. Number : ######
Year NOV 2019

:AL RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
47	8.8	6	29	59	49	0.0	3.0	5	0.50	0.32	0.10	0.11	0.2
47	9.2	10	26	58	49	0.0	3.5	6	0.49	0.27	0.10	0.46	0.5
48	9.5	11	30	59	56	0.0	3.5	5	0.50	0.23	0.10	0.64	0.0
45	9.2	8	27	62	51	0.0	3.7	6	0.48	0.33	0.12	0.43	0.1
49	9.3	10	27	54	46	0.0	3.8	5	0.48	0.33	0.14	0.63	0.0
50	9.4	11	24	57	47	0.0	3.6	6	0.48	0.26	0.13	0.60	0.2
47	9.2	9	24	57	50	0.0	3.4	5	0.48	0.27	0.12	0.38	0.1
47	9.0	9	26	57	46	0.0	3.2	5	0.49	0.29	0.11	0.23	0.2
46	9.3	9	29	56	46	0.0	3.7	5	0.48	0.25	0.11	0.36	0.0
46	9.3	8	27	58	45	0.0	3.6	7	0.47	0.24	0.09	0.44	0.0
46	9.2	8	25	59	45	0.0	3.6	6	0.50	0.27	0.09	0.40	0.2
43	8.9	6	22	54	45	0.0	3.2	5	0.49	0.26	0.13	0.05	0.0
47	8.8	5	18	54	45	0.0	3.1	6	0.49	0.27	0.14	0.15	0.2
50	8.8	6	23	58	48	0.0	3.1	5	0.49	0.27	0.11	0.10	1.0
47	9.0	8	25	57	46	0.0	3.4	7	0.49	0.24	0.09	0.21	1.0
46	9.2	9	30	57	47	0.0	3.7	5	0.49	0.22	0.09	0.20	0.1
46	9.1	9	26	56	43	0.0	3.6	6	0.52	0.23	0.10	0.30	0.0
47	9.3	9	26	61	46	0.0	3.8	6	0.58	0.27	0.07	0.53	0.1
49	9.1	8	27	59	49	0.0	3.5	7	0.52	0.25	0.11	0.38	0.0
47	8.5	7	26	56	46	0.0	3.0	7	0.54	0.28	0.11	0.27	0.0
51	8.6	4	24	65	53	0.0	3.0	8	0.54	0.30	0.12	0.15	0.2
46	8.9	7	23	58	46	0.0	2.9	5	0.54	0.27	0.10	0.08	0.4
46	9.2	9	27	59	47	0.0	3.0	5	0.51	0.23	0.07	0.24	0.0
50	9.0	8	26	67	48	0.0	3.0	5	0.52	0.29	0.09	0.25	0.0
48	9.3	10	29	61	47	0.0	3.1	5	0.51	0.26	0.08	0.59	0.4
50	9.1	8	30	59	49	0.0	3.3	5	0.55	0.24	0.11	0.43	0.2
50	9.2	9	26	58	49	0.0	3.6	6	0.57	0.25	0.12	0.46	0.0
47	8.9	6	21	59	48	0.0	3.2	5	0.61	0.30	0.11	0.06	0.0
46	9.3	8	26	57	46	0.0	3.8	5	0.60	0.30	0.10	0.28	0.0
46	9.3	10	28	59	46	0.0	3.6	5	0.83	0.28	0.07	0.46	0.0

1420.00	272.90	245.00	777.00	1750.00	1424.00	0.00	101.50	169.00	15.74	8.07	3.13	9.87	5.10
51.00	9.50	11.00	30.00	67.00	56.00	0.00	3.80	8.00	0.83	0.33	0.14	0.64	1.00
43.00	8.50	4.00	18.00	54.00	43.00	0.00	2.90	5.00	0.47	0.22	0.07	0.05	0.00
47.33	9.10	8.17	25.90	58.33	47.47	0.00	3.38	5.63	0.52	0.27	0.10	0.33	0.17

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Operator's Names & Cert. No.

Z. BECKFORD A8226
M. HUTCHINSON A17010
C.HUTCHINSON A17011
STANLEY EBANKS A17017
INDRAL SAMLAL A7282
KERRY ROMAN C7873
R.RAMNARINE C12091
H.RODRIGUEZ C19220
DAWN CAMPBELL C24707
RAJIV SAMLAL B22878

Lead Operator Signature: Z Beckford, C Hutchinson, M Hutchinson

How Many Other Operators? 10

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
December 1, 2019	24	6.093	6.360	589.5	118	47	0.267	8893	100	0	300	230	160	18.0	175	2	0
December 2, 2019	24	5.762	5.940	490	89	31	0.178	8929	100	0	300	230	122	18.0	186	2.1	0.0
December 3, 2019	24	5.204	5.560	446	81	27.5	0.356	8634	100	0	300	224	105	18.0	199	2.3	0.0
December 4, 2019	24	5.752	5.930	420.5	75	35	0.178	8915	100	0	300	224	88	18.0	186	2.1	0.0
December 5, 2019	24	5.642	5.820	418.5	69	30	0.178	8494	100	0	300	224	80	18.0	181	2.1	0.0
December 6, 2019	24	5.713	5.980	473.5	79	27.5	0.267	9117	100	0	300	228	80	18.0	191	2.1	0.0
December 7, 2019	24	5.843	6.110	451	78	27.5	0.267	9307	100	0	300	230	90	18.0	191	2.1	0.0
December 8, 2019	24	6.041	6.130	482.5	102	29	0.089	8817	100	0	300	290	190	19.9	175	2.0	0.0
December 9, 2019	24	5.952	6.130	607	118	28	0.178	9206	100	0	300	230	100	18.0	185	2.0	0.0
December 10, 2019	24	5.596	5.860	485	117.5	27	0.267	8942	100	0	300	232	90	18.0	192	2.1	0.0
December 11, 2019	24	5.773	6.040	521	124	29	0.267	9205	100	0	300	234	92	18.0	191	2.1	0.0
December 12, 2019	24	6.123	6.390	424	77	35	0.267	9715	100	0	300	230	99	18.0	190	2.0	0.0
December 13, 2019	24	5.662	5.840	435	77	28.5	0.178	8783	100	0	300	210	88	18.0	186	2.1	0.0
December 14, 2019	24	5.243	5.510	479	83	29	0.267	9642	100	0	300	190	125	12.0	221	2.3	0.0
December 15, 2019	24	5.493	5.760	510.9	107	31.5	0.267	8017	100	0	300	190	130	19.2	175	2.2	0.0
December 16, 2019	24	5.373	5.640	468	112	28.5	0.267	8476	100	0	300	191	92	18.0	189	2.2	0.0
December 17, 2019	24	5.482	5.660	411.5	65	35.5	0.178	8520	100	0	300	190	88	18.0	186	2.2	0.0
December 18, 2019	24	5.344	5.700	469	75	35	0.356	8838	100	0	300	222	98	18.0	198	2.2	0.0
December 19, 2019	24	5.383	5.650	404	68	27.5	0.267	8636	100	0	300	220	88	18.0	192	2.2	0.0
December 20, 2019	24	5.433	5.700	393	64	39	0.267	7929	100	0	300	236	160	18.9	175	2.2	0.0
December 21, 2019	24	5.972	6.150	444	83	30	0.178	8716	100	0	300	190	160	16.6	175	2.0	0.0
December 22, 2019	24	5.623	5.890	469	77	29	0.267	8207	100	0	300	190	160	18.0	175	2.1	0.0
December 23, 2019	24	5.763	5.940	460.5	84.5	27	0.267	9059	100	0	300	180	99	18.0	188	2.1	0.0
December 24, 2019	24	4.923	5.190	407	70	28	0.267	7185	100	0	300	190	150	18.7	175	2.4	0.0
December 25, 2019	24	5.643	5.910	423	70.5	38	0.267	8432	100	0	300	200	110	18.0	179	2.1	0.0
December 26, 2019	24	6.033	6.300	422.5	69	27.5	0.267	9585	100	0	300	196	96	18.0	190	2.0	0.0
December 27, 2019	24	5.892	6.070	453	86	27.5	0.178	9119	100	0	300	196	89	18.0	186	2.0	0.0
December 28, 2019	24	5.193	5.460	341.5	91	71	0.267	8645	100	0	300	228	120	18.0	200	2.3	0.0
December 29, 2019	24	5.133	5.400	424	86	36	0.267	7492	100	0	300	228	150.0	17	175	2.3	0.0
December 30, 2019	24	5.833	6.100	412.5	94.5	27	0.178	9162	100	0	300	222	100	18.0	188	2.1	0.0
December 31, 2019	24	5.833	6.100	415	70	28.5	0.267	9292	100	0	300	220	100	18.0	191	2.1	0.0
Total	744.00	174.75	182.22	14050.90	2660.00	997.50	7.48	271909.00	3100.00	0.00	9300.00	######	3499.00	554.10	5787.26	66.14	0.00
Max.	24.00	6.12	6.39	607.00	124.00	71.00	0.36	9715.00	100.00	0.00	300.00	290.00	190.00	19.90	220.51	2.44	0.00
Min.	24.00	4.92	5.19	341.50	64.00	27.00	0.09	7185.00	100.00	0.00	300.00	180.00	80.00	12.00	174.99	1.96	0.00
Avg.	24.00	5.64	5.88	453.25	85.81	32.18	0.24	8771.26	100.00	0.00	300.00	215.97	112.87	17.87	186.69	2.13	0.00

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Dec-19
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RE

DOSAGES				RAW WATER										SETTLED WATER					
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
5.9	4.5	0.72	0.35	3,4,6	7.2	246	280	258	20	22	0.3	30	40	0.6	10.1	21	41	62	48
6.2	4.8	0.58	0.375	3,4,6	7.2	244	280	260	20	20	0.3	30	40	0.8	10.1	23	45	59	47
6.9	5.2	0.56	0.41	3,4,6	7.2	244	280	260	20	20	0.3	30	40	1.1	10.0	24	44	59	50
6.3	4.7	0.42	0.38	3,4,6,8	7.2	244	280	260	20	20	0.3	30	40	0.9	10.0	24	44	59	48
6.4	4.8	0.39	0.38	3,4,6	7.2	244	280	260	20	20	0.3	30	40	0.8	10.0	24	45	60	47
6.3	4.8	0.39	0.38	3,4,6	7.2	244	280	260	20	20	0.3	30	40	1.1	10.2	24	43	56	46
6.2	4.7	0.42	0.37	3,4,6	7.2	245	280	262	20	20	0.3	30	40	0.7	10.1	21	42	60	46
6.0	5.8	0.87	0.39	3,4,6	7.2	245	280	262	20	20	0.3	30	40	0.8	10.1	19	42	60	48
6.0	4.6	0.46	0.36	3,4,6	7.2	250	284	264	20	20	0.3	30	40	1.1	10.0	23	41	62	47
6.4	5.0	0.44	0.39	3,4,6	7.2	250	284	264	20	20	0.3	30	40	0.7	10.1	26	47	62	51
6.2	4.9	0.44	0.37	3,4,6	7.2	250	284	264	20	20	0.3	30	40	1.1	9.9	23	40	58	48
5.9	4.5	0.45	0.35	3,4,6	7.2	250	284	264	18	20	0.3	30	40	0.68	10.0	23	40	56	46
6.4	4.4	0.43	0.38	3,4,6	7.2	250	284	264	20	20	0.3	30	40	0.8	10.1	22	39	60	50
6.9	4.3	0.66	0.27	3,8	7.1	250	284	264	18	20	0.3	30	40	0.7	10.3	22	45	66	55
6.5	4.1	0.65	0.42	3,8	7.1	240	284	260	18	20	0.3	30	40	1.5	10.0	21	35	60	50
6.7	4.3	0.47	0.40	3,8	7.1	248	284	262	22	24	0.3	30	40	0.9	9.9	23	43	61	47
6.6	4.2	0.44	0.39	3,8	7.2	244	280	260	20	20	0.3	30	40	1.5	9.7	21	41	58	48
6.7	5.0	0.51	0.40	3,8	7.2	244	280	260	20	20	0.3	30	40	0.8	10.0	23	42	60	48
6.7	4.9	0.45	0.40	3,4,8	7.2	244	280	260	20	20	0.3	30	40	1.4	10.0	22	43	56	47
6.6	5.2	0.81	0.42	3,6	7.1	244	280	260	20	20	0.3	30	40	0.8	10.1	24	40	57	45
6.0	3.8	0.74	0.33	3,4,6	7.1	246	278	258	20	20	0.3	30	40	0.7	10.0	21	38	58	47
6.4	4.1	0.78	0.38	3,4,6	7.2	246	286	260	20	20	0.3	30	40	0.8	10.0	21	42	59	47
6.2	3.7	0.47	0.37	3,4,6	7.2	246	278	258	20	20	0.3	30	40	1.0	10.0	23	41	57	45
7.3	4.6	0.84	0.46	3,4,6	7.2	246	278	258	20	20	0.3	30	40	1.3	10.2	26	47	58	50
6.4	4.2	0.54	0.38	3,4,6	7.2	248	280	260	20	20	0.3	30	40	0.9	10.0	21	43	57	44
6.0	3.9	0.44	0.36	3,4,6	7.2	248	280	260	20	20	0.3	30	40	1.2	10.0	23	40	57	47
6.1	4.0	0.42	0.37	3,8	7.1	250	280	260	20	20	0.3	30	40	1.1	10.2	22	40	59	47
6.9	5.3	0.64	0.42	3,8	7.1	250	280	260	20	20	0.3	30	40	0.9	10.0	21	41	58	45
7.0	5.3	0.81	0.39	3,8	7.2	250	280	260	20	20	0.3	30	40	0.7	10.1	22	42	56	44
6.2	4.6	0.47	0.37	3,8	7.2	248	280	260	20	20	0.3	30	40	0.9	10.2	24	41	57	45
6.2	4.5	0.47	0.37	3,8	7.2	248	280	260	20	20	0.3	30	40	1.0	10.0	22	41	56	46
198.41	142.63	17.19	11.81	0.00	222.53	7646.00	8712.00	8082.00	616.00	626.00	9.16	930.00	1240.00	29.05	311.40	699.00	######	1823.00	1469.00
7.31	5.76	0.87	0.46	0.00	7.20	250.00	286.00	264.00	22.00	24.00	0.30	30.00	40.00	1.50	10.30	26.00	47.00	66.00	55.00
5.87	3.75	0.39	0.27	0.00	7.10	240.00	278.00	258.00	18.00	20.00	0.26	30.00	40.00	0.64	9.70	19.00	35.00	56.00	44.00
6.40	4.60	0.55	0.38	#DIV/0!	7.18	246.65	281.03	260.71	19.87	20.19	0.30	30.00	40.00	0.94	10.05	22.55	41.87	58.81	47.39

County : Broward
I.D. Number : ######
YEAR DEC 2019

S U L T S

FINISHED WATER												Inches of Rain
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	
33	34	35	36	37	38	39	40	41	42	43	44	45
9.1	7	28	61	48	0.0	3.5	4	0.83	0.21	0.09	0.38	0.0
9.3	9	25	59	46	0.0	3.8	6	0.80	0.24	0.09	0.51	0.2
9.1	8	27	59	47	0.0	3.7	5	0.77	0.26	0.13	0.36	0.0
9.3	9	27	58	47	0.0	3.7	6	0.70	0.23	0.13	0.56	0.0
9.0	7	29	61	47	0.0	3.2	5	0.76	0.30	0.13	0.31	0.0
8.8	6	25	59	48	0.0	3.0	4	0.73	0.30	0.12	..03	0.0
9.4	10	29	57	46	0.0	3.7	5	0.80	0.25	0.09	0.69	0.0
9.4	12	30	57	46	0.0	3.8	5	0.76	0.29	0.10	0.60	0.0
9.4	9	30	59	47	0.0	3.3	6	0.61	0.33	0.13	0.41	0.0
9.5	15	34	58	50	0.0	3.7	5	0.68	0.29	0.15	0.99	0.2
8.9	8	27	58	49	0.0	2.9	6	0.71	0.34	0.14	0.18	0.0
8.9	8	27	58	50	0.0	3.8	6	0.63	0.29	0.14	0.25	1.6
9.5	13	34	58	50	0.0	3.7	5	0.67	0.30	0.09	0.79	0.4
9.3	11	31	59	48	0.0	3.7	6	0.70	0.20	0.09	0.68	0.0
9.5	11	31	58	47	0.0	3.9	5	0.73	0.22	0.07	0.63	0.0
9.2	12	27	59	46	0.0	3.5	6	0.74	0.30	0.10	0.50	0.4
9.0	8	24	56	45	0.0	3.5	6	0.69	0.33	0.14	0.24	0.0
9.2	8	27	58	47	0.0	3.4	7	0.60	0.30	0.13	0.41	0.2
8.9	8	28	56	46	0.0	3.3	6	0.73	0.28	0.12	0.16	0.2
8.9	8	27	58	46	0.0	3.3	5	0.70	0.24	0.10	0.15	0.0
9.1	9	27	58	46	0.0	3.5	7	0.75	0.27	0.08	0.16	0.1
9.2	10	27	59	46	0.0	3.7	6	0.74	0.26	0.09	0.45	0.0
9.2	9	26	58	46	0.0	3.5	6	0.71	0.27	0.10	0.43	0.2
9.1	7	24	55	46	0.0	3.4	6	0.65	0.24	0.11	0.27	0.0
9.2	10	26	58	45	0.0	3.4	6	0.65	0.29	0.09	0.42	0.2
9.3	10	27	52	43	0.0	3.6	7	0.68	0.24	0.09	0.52	1.2
9.3	10	29	58	46	0.0	3.4	7	0.68	0.19	0.07	0.53	1.2
9.3	9	27	57	47	0.0	3.4	7	0.66	0.19	0.10	0.54	0.4
9.1	9	28	58	45	0.0	3.5	7	0.65	0.24	0.10	0.30	0.0
9.2	8	26	56	45	0.0	3.3	6	0.66	0.24	0.07	0.42	0.4
9.1	9	25	54	45	0.0	3.5	5	0.70	0.20	0.08	0.31	0.2
284.70	287.00	859.00	1789.00	1446.00	0.00	108.60	179.00	21.87	8.13	3.26	13.15	7.14
9.50	15.00	34.00	61.00	50.00	0.00	3.90	7.00	0.83	0.34	0.15	0.99	1.60
8.80	6.00	24.00	52.00	43.00	0.00	2.90	4.00	0.60	0.19	0.07	0.15	0.00
9.18	9.26	27.71	57.71	46.65	0.00	3.50	5.77	0.71	0.26	0.11	0.44	0.23

2020 MONTHLY OPERATING REPORT
YEAR SUMMARY

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS									
				Hours Filter Runs Between Washings			Total Wash	POUNDS USED									
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
Jan-20																	
Max.	24.00	6.71	6.87	553.50	95.00	44.00	0.33	9637.00	100.00	0.00	300.00	212.00	150.00	19.80	209.82	2.26	0.00
Min.	24.00	5.31	5.43	343.00	62.00	12.00	0.18	7983.00	100.00	0.00	290.00	160.00	85.00	15.00	151.26	1.79	0.00
Avg.	24.00	5.87	5.97	447.19	75.02	31.26	0.24	8731.81	188.24	0.00	299.03	178.90	108.13	17.96	178.69	2.05	0.00
Feb-20																	
Max.	24.00	6.05	6.44	558.00	96.00	52.00	0.36	9092.00	100.00	0.00	400.00	360.00	150.00	20.90	210.27	2.39	0.00
Min.	24.00	5.01	5.21	386.00	63.00	26.00	0.09	8056.00	100.00	0.00	280.00	112.00	112.00	15.60	168.98	1.98	0.00
Avg.	24.00	5.73	5.88	438.22	73.64	32.45	0.25	8525.10	100.00	0.00	315.00	185.31	125.45	18.28	178.64	2.10	0.00
Mar-20																	
Max.	24.00	6.76	6.82	474.50	88.00	52.50	0.36	9846.00	0.00	0.00	300.00	300.00	160.00	19.20	205.32	0.00	0.00
Min.	24.00	5.50	5.64	347.00	59.00	26.00	0.09	6224.00	0.00	0.00	300.00	160.00	115.00	16.80	118.83	0.00	0.00
Avg.	24.00	6.11	6.27	421.66	69.89	31.84	0.26	8913.77	0.00	0.00	300.00	188.58	127.35	18.03	175.35	0.00	0.00
Apr-20																	
Max.	24.00	6.81	6.83	481.00	84.50	38.50	0.36	9808.00	100.00	0.00	300.00	190.00	154.00	18.00	199.25	2.28	0.00
Min.	24.00	5.26	5.26	365.50	38.50	26.00	0.18	7676.00	100.00	0.00	300.00	150.00	105.00	18.00	155.24	1.76	0.00
Avg.	24.00	5.82	6.00	424.66	70.40	31.47	0.25	8646.10	100.00	0.00	300.00	176.69	121.55	18.00	178.71	2.07	0.00
May-20																	
Max.	24.00	6.08	6.52	486.00	86.50	38.50	0.36	9515.00	100.00	0.00	300.00	202.00	100.00	19.80	196.70	2.56	0.00
Min.	24.00	4.68	4.97	171.00	57.00	14.00	0.09	7253.00	100.00	0.00	300.00	150.00	100.00	16.30	153.22	1.97	0.00
Avg.	24.00	5.50	5.77	410.60	69.95	29.79	0.25	8281.65	100.00	0.00	300.00	174.68	100.00	18.04	180.77	2.19	0.00
Jun-20																	
Max.	24.00	6.63	6.50	507.50	82.50	74.00	0.36	9486.00	100.00	0.00	300.00	190.00	195.00	19.80	230.84	2.68	0.00
Min.	24.00	4.48	5.31	382.00	27.00	24.00	0.18	7360.00	100.00	0.00	300.00	168.00	118.00	10.80	147.54	1.81	0.00
Avg.	24.00	5.41	5.77	422.70	66.37	32.99	0.26	8306.87	100.00	0.00	300.00	177.80	135.43	17.76	185.13	2.23	0.00
Jul-20																	
Max.	24.00	6.63	6.32	530.50	88.00	40.00	0.36	8975.00	100.00	0.00	310.00	196.00	180.00	18.60	200.94	2.54	0.00
Min.	24.00	4.72	5.20	342.00	59.00	26.00	0.09	7299.00	100.00	0.00	300.00	150.00	100.00	17.40	154.87	1.81	0.00
Avg.	24.00	5.58	5.86	420.36	71.23	31.45	0.24	8371.71	100.00	0.00	300.32	177.61	138.06	18.02	180.22	2.16	0.00
Aug-20																	
Max.	24.00	6.30	6.75	466.00	109.50	64.00	0.37	9462.00	100.00	0.00	300.00	194.00	163.00	18.00	215.26	2.46	0.00
Min.	24.00	4.87	5.31	320.00	58.00	24.50	0.09	7662.00	100.00	0.00	300.00	160.00	112.00	18.00	163.16	1.90	0.00
Avg.	24.00	5.62	5.98	405.11	68.95	30.84	0.26	8599.84	188.24	0.00	300.00	180.52	140.55	18.00	183.87	2.14	0.00
Sep-20																	
Max.	24.00	5.81	6.51	462.00	79.00	49.00	0.36	9112.00	100.00	0.00	300.00	192.00	174.00	18.10	228.10	2.82	0.00
Min.	24.00	4.25	5.05	347.00	59.00	19.00	0.18	6859.00	100.00	0.00	300.00	148.00	125.00	16.20	172.16	2.06	0.00
Avg.	24.00	5.05	5.59	409.39	66.38	30.17	0.26	7983.67	100.00	0.00	300.00	163.67	147.33	17.94	190.16	2.39	0.00
Oct-20																	
Max.	24.00	5.58	6.13	493.00	83.00	61.50	0.36	8687.00	100.00	0.00	300.00	186.00	160.00	18.00	206.90	2.74	0.00
Min.	24.00	4.37	4.64	337.50	58.00	25.50	0.18	6742.00	100.00	0.00	300.00	148.00	127.00	16.80	169.61	2.15	0.00
Avg.	24.00	4.87	5.36	417.88	67.95	33.29	0.27	7679.90	100.00	0.00	300.00	165.55	142.42	17.96	190.25	2.47	0.00
Nov-20																	
Max.	24.00	6.22	6.20	501.50	82.00	52.00	0.36	9048.00	100.00	0.00	300.00	184.00	160.00	18.00	209.15	2.82	0.00
Min.	24.00	4.25	4.70	358.00	59.00	25.00	0.18	6750.00	100.00	0.00	300.00	160.00	135.00	17.40	158.71	1.93	0.00
Avg.	24.00	5.29	5.52	419.98	69.43	32.08	0.26	7978.63	100.00	0.00	300.00	168.80	145.10	17.98	181.69	2.28	0.00
Dec-20																	
Max.	24.00	6.25	6.52	493.00	78.50	40.50	0.37	9715.00	100.00	0.00	300.00	190.00	160.00	18.00	208.72	2.41	0.00
Min.	24.00	4.98	5.25	377.00	56.00	22.00	0.09	7866.00	100.00	0.00	300.00	160.00	140.00	18.00	163.98	1.92	0.00
Avg.	24.00	5.49	5.72	418.92	67.95	31.15	0.26	8372.39	100.00	0.00	300.00	174.10	148.97	18.00	182.85	2.19	0.00
2020 Totals																	
Max.	24.00	6.81	6.87	558.00	109.50	74.00	0.37	9846.00	188.24	0.00	400.00	360.00	195.00	20.90	230.84	2.82	0.00
Min.	24.00	4.25	4.64	171.00	27.00	12.00	0.09	6224.00	0.00	0.00	280.00	112.00	85.00	10.80	118.83	0.00	0.00
Avg.	24.00	5.53	5.81	421.39	69.76	31.56	0.26	8365.95	106.37	0.00	301.20	176.02	131.70	18.00	182.19	2.02	0.00

CHEMICAL AND PHYSICAL

DOSAGES				RAW WATER										SETTLED WATER					
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness
6.77	4.47	0.72	0.41	Max	7.20	260.00	284.00	264.00	24.00	20.00	0.32	30.00	40.00	1.60	10.20	25.00	46.00	62.00	50.00
5.36	2.86	0.41	0.30	Min	7.10	240.00	280.00	256.00	18.00	20.00	0.26	30.00	40.00	0.60	9.60	16.00	32.00	29.00	44.00
6.13	3.66	0.51	0.37	Avg	7.19	249.23	281.29	260.97	20.19	20.00	0.30	30.00	40.00	0.97	10.02	21.48	41.26	56.97	47.13
8.44	7.48	0.72	0.45	0.00	7.20	250.00	282.00	260.00	40.00	23.00	0.36	30.00	40.00	1.45	10.30	27.00	50.00	64.00	55.00
5.84	2.34	0.54	0.32	0.00	7.10	236.00	260.00	200.00	20.00	20.00	0.27	28.00	36.00	0.48	9.80	17.00	36.00	43.00	46.00
6.60	3.89	0.60	0.38	#DIV/0!	7.12	244.07	275.86	251.66	22.07	20.10	0.30	29.86	39.86	0.87	10.03	21.17	41.45	58.79	48.52
6.54	5.84	0.73	0.39	Max	7.20	242.00	266.00	250.00	20.00	28.00	0.30	30.00	40.00	1.20	10.20	26.00	57.00	63.00	54.00
5.32	2.89	0.52	0.32	Min	7.10	230.00	260.00	230.00	10.00	20.00	0.30	30.00	40.00	0.40	9.80	19.00	20.00	56.00	39.00
5.91	3.70	0.58	0.35	Avg	7.20	237.48	261.48	244.90	12.26	20.39	0.30	30.00	40.00	0.76	10.01	21.58	40.45	58.23	46.32
6.84	4.22	0.73	0.41	0.00	7.20	242.00	264.00	244.00	22.00	32.00	0.32	32.00	40.00	1.10	10.20	28.00	47.00	64.00	52.00
5.28	3.10	0.44	0.32	0.00	7.20	238.00	260.00	238.00	20.00	28.00	0.30	30.00	40.00	0.50	9.70	18.00	37.00	54.00	43.00
6.21	3.65	0.58	0.37	#DIV/0!	7.20	240.55	260.41	240.14	20.28	29.86	0.30	30.07	40.00	0.74	10.02	21.31	40.24	58.48	46.76
7.69	4.45	0.59	0.46	3.80	7.20	243.00	266.00	244.00	22.00	30.00	0.73	30.00	40.00	1.80	10.20	25.00	46.00	63.00	51.00
5.92	3.35	0.45	0.34	3.80	7.10	228.00	250.00	230.00	20.00	28.00	0.27	30.00	40.00	0.64	9.40	16.00	30.00	56.00	44.00
6.57	3.82	0.50	0.40	3.80	7.16	238.48	259.87	238.39	20.39	29.94	0.49	30.00	40.00	0.93	10.04	20.90	39.48	58.23	46.61
8.03	4.55	0.98	0.48	0.00	7.20	242.00	268.00	246.00	22.00	30.00	0.30	30.00	40.00	1.40	10.40	25.00	44.00	61.00	52.00
5.43	3.44	0.54	0.24	0.00	7.10	240.00	260.00	240.00	20.00	28.00	0.27	30.00	40.00	0.70	9.90	18.00	37.00	56.00	40.00
6.69	3.96	0.69	0.40	#DIV/0!	7.18	240.60	263.07	242.60	21.20	29.60	0.30	30.00	40.00	0.98	10.06	20.93	40.23	57.87	46.43
7.62	4.34	0.96	0.46	0.00	7.20	244.00	264.00	244.00	22.00	32.00	0.32	30.00	40.00	3.50	10.50	27.00	51.00	63.00	58.00
5.43	3.28	0.55	0.33	0.00	7.20	240.00	260.00	240.00	20.00	30.00	0.29	30.00	40.00	0.60	9.80	17.00	36.00	56.00	44.00
6.48	3.82	0.68	0.39	#DIV/0!	7.20	240.52	260.97	240.97	20.26	30.06	0.30	30.00	40.00	1.13	10.05	20.87	41.03	58.32	48.35
7.39	4.43	0.87	0.44	Max	7.20	246.00	268.00	248.00	22.00	20.00	0.32	30.00	40.00	2.20	10.40	27.00	47.00	61.00	51.00
5.71	3.31	0.55	0.34	Min	7.20	240.00	260.00	240.00	20.00	18.00	0.27	30.00	40.00	0.59	9.10	10.00	30.00	48.00	44.00
6.42	3.86	0.69	0.39	Avg	7.20	241.55	261.55	241.29	20.06	19.94	0.29	30.00	40.00	1.10	9.93	20.32	39.61	57.74	47.42
8.46	5.25	0.96	0.51	0.00	7.20	244.00	268.00	246.00	22.00	30.00	0.27	30.00	40.00	2.90	10.30	25.00	45.00	65.00	53.00
6.19	3.23	0.68	0.37	0.00	7.10	240.00	260.00	220.00	18.00	30.00	0.27	30.00	40.00	0.70	9.80	17.00	38.00	55.00	44.00
7.17	3.90	0.81	0.43	#DIV/0!	7.19	241.20	263.93	241.27	20.13	30.00	0.27	30.00	40.00	1.20	10.02	21.03	40.53	58.70	48.23
8.23	4.68	1.01	0.49	0.00	7.20	242.00	270.00	265.00	24.00	32.00	0.34	32.00	40.00	1.80	10.20	25.00	54.00	62.00	51.00
6.45	3.66	0.68	0.39	0.00	7.00	230.00	260.00	230.00	16.00	20.00	0.27	28.00	40.00	0.66	9.80	16.00	36.00	57.00	45.00
7.41	4.08	0.81	0.44	#DIV/0!	7.16	235.68	262.52	243.58	18.97	26.58	0.30	30.13	40.00	0.98	9.99	21.35	40.97	58.81	47.81
8.46	4.63	0.97	0.51	0.00	7.20	244.00	268.00	248.00	22.00	32.00	0.29	30.00	40.00	1.60	10.20	23.00	44.00	64.00	56.00
5.78	3.14	0.63	0.35	0.00	7.20	240.00	258.00	232.00	14.00	28.00	0.27	30.00	40.00	0.70	9.90	19.00	33.00	56.00	44.00
6.85	3.85	0.76	0.41	#DIV/0!	7.20	240.40	260.13	240.60	19.77	30.00	0.27	30.00	40.00	1.01	10.01	21.40	40.20	58.73	47.83
7.22	4.33	0.84	0.43	0.00	7.20	242.00	266.00	264.00	22.00	32.00	0.30	30.00	40.00	2.20	10.20	29.00	50.00	68.00	58.00
5.75	3.26	0.62	0.35	0.00	7.20	236.00	258.00	238.00	20.00	30.00	0.27	30.00	40.00	0.55	9.60	16.00	36.00	56.00	45.00
6.56	3.81	0.75	0.39	#DIV/0!	7.20	239.74	260.71	241.55	20.13	30.45	0.30	30.00	40.00	0.93	10.02	21.81	40.68	59.03	49.16
8.46	7.48	1.01	0.51	Max	7.20	260.00	284.00	265.00	40.00	32.00	0.73	32.00	40.00	3.50	10.50	29.00	57.00	68.00	58.00
5.28	2.34	0.41	0.24	Min	7.00	228.00	250.00	200.00	10.00	18.00	0.26	28.00	36.00	0.40	9.10	10.00	20.00	29.00	39.00
6.58	3.83	0.66	0.39	Avg	7.18	240.79	264.32	243.99	19.64	26.41	0.31	30.01	39.99	0.97	10.02	21.18	40.51	58.32	47.55

RESULTS

FINISHED WATER												
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
9.50	10.00	31.00	62.00	52.00	0.00	4.00	7.00	0.76	0.40	0.15	0.76	1.50
8.70	6.00	21.00	55.00	44.00	0.00	2.90	5.00	0.52	0.19	0.06	0.07	0.00
9.17	8.23	26.42	57.61	46.71	0.00	3.42	5.94	0.66	0.27	0.10	0.42	0.18
9.60	12.00	38.00	62.00	51.00	3.40	3.90	8.00	0.75	0.40	0.14	1.48	0.75
7.30	0.00	18.00	55.00	45.00	0.00	1.66	2.00	0.61	0.11	0.04	0.14	0.00
8.88	6.72	25.90	58.66	47.72	0.56	3.21	5.76	0.65	0.27	0.10	0.70	0.11
9.60	16.00	40.00	66.00	52.00	1.20	4.00	9.00	0.71	0.46	0.30	1.05	0.30
8.10	3.00	21.00	55.00	45.00	0.00	1.50	4.00	0.60	0.22	0.10	0.14	0.00
9.18	9.65	27.29	57.84	46.74	0.07	3.45	6.87	0.65	0.34	0.13	0.48	0.07
9.50	13.00	34.00	62.00	49.00	0.00	3.80	8.00	0.76	0.36	0.12	0.87	0.60
9.00	6.00	22.00	55.00	43.00	0.00	3.00	5.00	0.52	0.15	0.04	0.22	0.00
9.25	8.66	26.79	57.69	45.90	0.00	3.50	6.14	0.63	0.26	0.08	0.48	0.04
9.60	12.00	37.00	64.00	49.00	0.00	3.90	9.00	0.71	0.43	0.14	1.04	4.40
8.50	3.00	22.00	55.00	43.00	0.00	2.40	5.00	0.50	0.17	0.06	0.21	0.00
9.21	8.77	27.16	57.71	46.26	0.00	3.38	6.58	0.59	0.26	0.09	0.47	0.68
9.50	11.00	32.00	59.00	48.00	0.00	3.90	9.00	0.82	0.32	0.10	0.82	3.00
8.90	5.00	20.00	54.00	42.00	0.00	2.90	4.00	0.51	0.17	0.06	0.02	0.00
9.21	7.87	23.50	56.67	45.40	0.00	3.55	6.07	0.68	0.26	0.08	0.46	0.63
9.80	18.00	43.00	64.00	65.00	0.00	4.30	9.00	0.89	0.47	0.16	0.96	1.80
8.70	4.00	21.00	56.00	45.00	0.00	2.50	4.00	0.58	0.24	0.05	0.07	0.00
9.22	8.74	27.32	58.45	48.06	0.00	3.44	7.06	0.73	0.33	0.10	0.56	0.35
9.50	12.00	33.00	62.00	51.00	0.00	4.10	8.00	0.76	0.53	0.21	0.89	2.10
9.00	7.00	23.00	56.00	45.00	0.00	3.00	4.00	0.62	0.17	0.06	0.24	0.00
9.29	9.35	27.81	58.00	47.71	0.00	3.62	6.26	0.68	0.28	0.10	0.58	0.36
9.70	12.00	38.00	61.00	52.00	0.00	4.00	11.00	0.80	0.56	0.19	0.79	1.30
9.00	7.00	22.00	55.00	41.00	0.00	2.40	5.00	0.61	0.12	0.04	0.16	0.00
9.27	9.07	27.57	57.73	47.10	0.00	3.55	6.87	0.69	0.28	0.09	0.49	0.30
9.50	14.00	36.00	59.00	48.00	0.00	4.00	12.00	0.74	0.42	0.20	0.75	1.00
8.90	6.00	22.00	56.00	39.00	0.00	3.40	6.00	0.59	0.14	0.07	0.13	0.00
9.25	9.13	28.65	57.52	46.06	0.00	3.61	6.94	0.65	0.26	0.11	0.54	0.18
9.40	12.00	38.00	70.00	48.00	8.00	3.90	8.00	0.77	0.41	0.17	0.94	2.20
8.80	6.00	20.00	56.00	44.00	0.00	3.20	4.00	0.57	0.21	0.06	0.17	0.00
9.18	8.63	26.67	57.63	46.47	0.27	3.59	6.37	0.67	0.32	0.12	0.41	0.14
9.50	14.00	32.00	60.00	49.00	0.00	4.00	12.00	0.74	0.36	0.26	0.85	0.20
8.90	7.00	21.00	54.00	45.00	0.00	2.90	6.00	0.62	0.09	0.04	0.16	0.00
9.27	9.19	26.19	57.32	46.94	0.00	3.62	7.60	0.67	0.24	0.10	0.48	0.01
9.80	18.00	43.00	70.00	65.00	8.00	4.30	12.00	0.89	0.56	0.30	1.48	4.40
7.30	0.00	18.00	54.00	39.00	0.00	1.50	2.00	0.50	0.09	0.04	0.02	0.00
9.20	8.67	26.77	57.74	46.76	0.07	3.49	6.54	0.66	0.28	0.10	0.51	0.25

2020 MONTHLY OPERATING REPORT DATA
RAW

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

How Many Other 9 **Total Metered Services at End of Month:**

Design Flow: 16MGD

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C

RAJIV SAMLAL

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS								
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
1/1/20	24	5.632	5.810	456	75	34	0.178	8740	100	0	300	210	85	18.0	186	2.1
1/2/20	24	5.714	6.070	415.5	81	12	0.326	9378	100	0	300	210	85	18.0	197	2.1
1/3/20	24	5.893	6.160	438.5	82	27.5	0.267	9380	100	0	300	212	100	18.0	191	2.0
1/4/20	24	5.923	6.190	415	72	30.5	0.267	9034	100	0	300	210	140	18.0	183	2.0
1/5/20	24	6.603	6.870	460	84.5	26.5	0.267	9637	100	0	300	190	125	19.8	175	1.8
1/6/20	24	6.000	6.170	431	84	31	0.267	9394	100	0	300	190	120	15.0	188	2.0
1/7/20	24	5.710	6.150	417	66	30.5	0.178	9236	100	0	300	186	85	18.0	194	2.1
1/8/20	24	5.310	6.100	473	73	34.5	0.267	9292	100	0	300	190	108	18.0	210	2.3
1/9/20	24	6.020	5.430	450.5	95	32.5	0.267	8314	100	0	300	186	115	18.0	166	2.0
1/10/20	24	5.840	5.910	437.5	75	27	0.178	8885	100	0	300	186	100	18.0	182	2.1
1/11/20	24	5.763	6.030	475	76	32	0.267	8411	100	0	300	186	150	17.5	175	2.1
1/12/20	24	5.893	6.160	431.5	75.5	28	0.267	8601	100	0	300	186	100	17.5	175	2.0
1/13/20	24	5.750	6.000	424	71	31	0.267	8757	100	0	300	186	100	18.0	183	2.1
1/14/20	24	5.590	5.470	412	67.5	29	0.178	7983	100	0	290	160	110	18.0	171	2.1
1/15/20	24	5.740	6.220	486	79	40	0.178	8652	100	0	290	160	100	19.0	181	2.1
1/16/20	24	5.670	5.800	527.5	83	36	0.267	8465	100	0	290	160	100	18.0	179	2.1
1/17/20	24	5.760	5.920	473	81	27.5	0.178	8640	100	0	300	160	100	18.0	180	2.1
1/18/20	24	5.680	6.180	435	73	33	0.267	9020	100	0	300	160	100	18.1	190	2.1
1/19/20	24	5.720	6.120	471.5	70	27	0.267	8932	100	0	300	160	100	18.0	187	2.1
1/20/20	24	5.580	5.590	411	68	27	0.267	8158	100	0	300	176	100	18.0	175	2.1
1/21/20	24	5.720	5.810	409.5	66.5	31	0.178	8160	100	0	300	170	114	18.0	171	2.1
1/22/20	24	5.790	5.920	475.5	72	39	0.178	8640	100	0	300	170	120	18.0	179	2.1
1/23/20	24	5.800	5.920	553.5	90.5	44	0.178	8640	100	0	300	172	110	18.0	179	2.1
1/24/20	24	6.710	5.800	479.5	76	32	0.267	8465	100	0	300	160	100	18.0	151	1.8
1/25/20	24	6.220	6.000	343	62	28	0.178	8757	100	0	300	160	110	18.0	169	1.9
1/26/20	24	6.420	5.940	456	71	35	0.267	8280	100	0	300	160	110	18.0	155	1.9
1/27/20	24	6.390	5.880	422.5	70.5	31	0.267	8582	100	0	300	160	110	18.0	161	1.9
1/28/20	24	6.000	5.560	393	62.5	27	0.267	8114	100	0	300	170	110	18.0	162	2.0
1/29/20	24	5.520	5.800	428.5	68	41	0.267	8465	100	0	300	172	110	18.0	184	2.2
1/30/20	24	5.890	6.190	461	75	36	0.178	9034	100	0	300	192	116	18.0	184	2.0
1/31/20	24	5.830	5.920	500.5	80	28.5	0.267	8640	100	0	300	196	119	18.0	178	2.1
Total	720	182.08	185.09	13863.00	2325.50	969.00	7.36	270686.00	3100.00	0.00	9270.00	5546.00	3352.00	556.90	5539.48	63.45
Max.	24	6.71	6.87	553.50	95.00	44.00	0.33	9637.00	100.00	0.00	300.00	212.00	150.00	19.80	209.82	2.26
Min.	24	5.31	5.43	343.00	62.00	12.00	0.18	7983.00	100.00	0.00	290.00	160.00	85.00	15.00	151.26	1.79
Avg.	24	5.87	5.97	447.19	75.02	31.26	0.24	8731.81	188.24	0.00	299.03	178.90	108.13	17.96	178.69	2.05

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jan-20
Telephone Number : (954) 730-2972

:24707
B22878

CHEMICAL AND PHY

DOSAGES					RAW WATER										SETTLED WATER				
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	6.4	4.5	0.42	0.38	3,8	7.2	248	280	260	20	20	0.3	30	40	0.9	10.1	23	45	57
0.0	6.3	4.4	0.41	0.378	3,8	7.2	248	280	260	20	20	0.3	30	40	0.8	10.0	24	42	29
0.0	6.1	4.3	0.47	0.37	3,8	7.2	248	280	260	20	20	0.3	30	40	1.1	10.1	22	43	58
0.0	6.1	4.3	0.65	0.36	3,8	7.2	248	280	260	20	20	0.3	30	40	1.1	9.9	18	36	58
0.0	5.4	3.5	0.52	0.36	3,8	7.2	240	280	260	20	20	0.3	30	40	1.0	10.0	20	39	58
0.0	6.0	3.8	0.55	0.30	3,8	7.2	242	280	262	18	20	0.3	30	40	0.8	10.1	24	46	61
0.0	6.3	3.9	0.41	0.38	3,8	7.2	248	284	264	20	20	0.3	30	40	1.3	10.1	23	42	56
0.0	6.8	4.3	0.56	0.41	3,8	7.2	248	284	264	20	20	0.3	30	40	0.7	10.1	22	43	56
0.0	6.0	3.7	0.53	0.36	3,8	7.2	248	284	264	20	20	0.3	30	40	0.7	10.0	21	40	55
0.0	6.2	3.8	0.47	0.37	3,8	7.2	248	284	264	20	20	0.3	30	40	1.4	9.9	20	41	59
0.0	6.2	3.9	0.72	0.36	3,8	7.2	248	284	264	20	20	0.3	30	40	1.2	10.0	22	42	58
0.0	6.1	3.8	0.47	0.36	3,8	7.2	250	284	264	20	20	0.3	30	40	1.2	10.2	22	42	58
0.0	6.3	3.9	0.48	0.38	3,8	7.2	248	284	260	20	20	0.3	30	40	1.0	10.0	25	39	58
0.0	6.2	3.4	0.54	0.39	3,8	7.2	248	280	260	20	20	0.3	30	40	1.6	10.0	22	44	58
0.0	6.1	3.3	0.48	0.40	3,8	7.2	248	280	260	20	20	0.3	30	40	1.1	9.9	16	39	58
0.0	6.1	3.4	0.49	0.38	3,8	7.2	248	280	260	20	20	0.3	30	40	0.7	10.2	24	44	60
0.0	6.2	3.3	0.48	0.37	3,8	7.2	248	280	260	20	20	0.3	30	40	0.9	10.0	23	46	60
0.0	6.3	3.4	0.49	0.38	3,8	7.2	248	280	260	20	20	0.3	30	40	1.1	10.1	21	42	57
0.0	6.3	3.4	0.48	0.38	3,8	7.2	252	280	260	20	20	0.3	30	40	0.9	10.0	20	40	58
0.0	6.4	3.8	0.49	0.39	3,8	7.2	250	280	260	20	20	0.3	30	40	0.8	10.1	23	42	58
0.0	6.3	3.6	0.55	0.38	3,8	7.2	250	280	260	20	20	0.3	30	40	1.2	9.9	21	37	57
0.0	6.2	3.5	0.57	0.37	3,8	7.2	250	280	260	20	20	0.3	30	40	1.1	10.0	23	46	59
0.0	6.2	3.6	0.52	0.37	3,8	7.2	250	280	260	20	20	0.3	30	40	0.6	9.9	20	41	58
0.0	5.4	2.9	0.41	0.32	3,8	7.2	250	280	260	20	20	0.3	30	40	0.6	10.0	18	35	57
0.0	5.8	3.1	0.49	0.35	3,8	7.2	250	280	260	20	20	0.3	30	40	0.7	10.0	22	42	57
0.0	5.6	3.0	0.47	0.34	3,8	7.2	250	280	260	20	20	0.3	30	40	0.8	10.0	22	41	57
0.0	5.6	3.0	0.47	0.34	3,8	7.2	260	284	264	20	20	0.3	30	40	0.6	9.9	18	40	62
0.0	6.0	3.4	0.51	0.36	3,8	7.2	260	284	264	20	20	0.3	30	40	1.5	9.6	21	32	56
0.0	6.5	3.7	0.55	0.39	3,4,8	7.1	260	284	264	20	20	0.3	30	40	1.1	10.1	24	44	58
0.0	6.5	3.9	0.54	0.37	4,8	7.1	246	280	256	24	20	0.3	30	40	0.9	10.2	21	44	58
0.0	6.1	4.0	0.56	0.37	4,8	7.1	246	280	256	24	20	0.3	30	40	0.9	10.1	21	40	57
0.00	190.05	113.59	15.76	11.40	**Total**	215.70	7726.00	8720.00	8090.00	626.00	620.00	9.19	930.00	1240.00	30.10	310.50	666.00	1279.00	1766.00
0.00	6.77	4.47	0.72	0.41	**Max**	7.20	260.00	284.00	264.00	24.00	20.00	0.32	30.00	40.00	1.60	10.20	25.00	46.00	62.00
0.00	5.36	2.86	0.41	0.30	**Min**	7.10	240.00	280.00	256.00	18.00	20.00	0.26	30.00	40.00	0.60	9.60	16.00	32.00	29.00
0.00	6.13	3.66	0.51	0.37	**Avg**	7.19	249.23	281.29	260.97	20.19	20.00	0.30	30.00	40.00	0.97	10.02	21.48	41.26	56.97

LATION WATER TREATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year JAN	2020

YSICAL RESULTS

	FINISHED WATER												
Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
32	33	34	35	36	37	38	39	40	41	42	43	44	45
48	9.2	8	25	56	46	0.0	3.5	6	0.73	0.19	0.08	0.42	0.0
49	9.0	8	25	57	46	0.0	3.0	5	0.65	0.32	0.11	0.22	0.0
47	9.3	10	28	57	47	0.0	3.5	6	0.62	0.34	0.13	0.68	0.0
47	9.0	8	27	58	47	0.0	3.4	6	0.59	0.31	0.12	0.32	0.1
47	9.0	7	31	59	47	0.0	3.6	7	0.63	0.35	0.12	0.32	0.0
49	9.1	7	27	57	44	0.0	3.7	7	0.64	0.30	0.10	0.33	0.0
44	9.2	7	26	57	45	0.0	3.6	6	0.64	0.25	0.10	0.42	0.0
47	9.5	6	21	56	47	0.0	3.6	6	0.64	0.20	0.08	0.65	0.1
44	9.4	9	29	58	47	0.0	4.0	6	0.70	0.30	0.08	0.67	0.0
46	9.3	10	29	58	47	0.0	4.0	5	0.70	0.28	0.10	0.63	0.0
46	9.1	9	25	58	48	0.0	3.4	5	0.74	0.28	0.11	0.28	0.0
46	9.1	8	28	60	46	0.0	3.5	6	0.73	0.28	0.11	0.40	0.0
48	9.1	7	25	58	46	0.0	3.2	6	0.72	0.26	0.06	0.31	0.8
48	9.4	9	29	59	49	0.0	3.3	5	0.71	0.27	0.08	0.76	0.2
48	9.1	8	27	56	46	0.0	3.0	6	0.62	0.23	0.11	0.34	0.2
48	9.2	9	27	56	46	0.0	3.3	6	0.52	0.26	0.12	0.44	0.0
49	9.4	10	26	57	47	0.0	3.2	6	0.64	0.30	0.11	0.64	0.7
47	9.2	8	28	59	50	0.0	3.6	6	0.72	0.34	0.12	0.50	0.2
46	9.1	10	30	58	46	0.0	3.5	7	0.76	0.40	0.15	0.40	0.0
50	9.1	9	27	57	46	0.0	3.5	7	0.76	0.31	0.11	0.34	0.0
46	9.1	7	23	56	46	0.0	3.5	6	0.73	0.26	0.12		0.1
49	9.1	9	27	55	45	0.0	3.5	6	0.67	0.22	0.09	0.33	0.3
48	8.7	7	24	57	47	0.0	2.9	6	0.65	0.25	0.08	0.07	0.3
45	9.3	9	26	56	46	0.0	3.5	6	0.65	0.20	0.09	0.53	1.5
45	9.2	9	28	58	46	0.0	3.5	5	0.63	0.20	0.08	0.45	0.0
47	9.1	7	24	59	47	0.0	3.3	5	0.64	0.26	0.10	0.30	0.0
50	9.3	7	25	57	46	0.0	3.6	6	0.62	0.27	0.09	0.48	0.0
46	9.0	7	28	62	52	0.0	3.2	6	0.63	0.22	0.09	0.32	0.0
47	9.1	9	21	57	46	0.0	3.0	6	0.63	0.21	0.08	0.24	0.0
48	9.3	10	28	57	47	0.0	3.2	6	0.60	0.30	0.11	0.59	0.0
46	9.3	7	25	61	47	0.0	3.3	6	0.59	0.30	0.11	0.33	1.0
1461.00	284.30	255.00	819.00	1786.00	1448.00	0.00	105.90	184.00	20.50	8.46	3.14	12.71	5.47
50.00	9.50	10.00	31.00	62.00	52.00	0.00	4.00	7.00	0.76	0.40	0.15	0.76	1.50
44.00	8.70	6.00	21.00	55.00	44.00	0.00	2.90	5.00	0.52	0.19	0.06	0.07	0.00
47.13	9.17	8.23	26.42	57.61	46.71	0.00	3.42	5.94	0.66	0.27	0.10	0.42	0.18

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C24707

RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS												
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES					
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17
2/1/20	24	6.020	6.210	462	96	28	0.267	8674	100	0	300	160	125	16.3	173	2.0	0	6.0	3.2	0.57	0.32
2/2/20	24	5.680	6.040	411.5	68.5	29.5	0.267	8426	100	0	300	160	140	19.2	178	2.1	0.0	6.3	3.4	0.68	0.405
2/3/20	24	5.610	5.770	412.5	66	31	0.267	8421	100	0	300	160	112	18.5	180	2.1	0.0	6.4	3.4	0.55	0.40
2/4/20	24	5.670	5.520	414.5	68	29	0.178	8056	100	0	300	160	124	18.0	170	2.1	0.0	6.3	3.4	0.60	0.38
2/5/20	24	5.650	5.910	443.5	71.5	37.5	0.356	8626	100	0	300	160	124	18.0	183	2.1	0.0	6.4	3.4	0.61	0.38
2/6/20	24	5.650	6.000	396	71	34.5	0.356	8757	100	0	300	160	126	18.0	186	2.1	0.0	6.4	3.4	0.62	0.38
2/7/20	24	5.740	5.820	390	63.5	29.5	0.089	8494	100	0	300	160	112	18.0	177	2.1	0.0	6.3	3.3	0.54	0.38
2/8/20	24	5.800	6.130	429.5	78.5	27.5	0.267	8465	100	0	300	160	122	18.0	175	2.1	0.0	6.2	3.3	0.58	0.37
2/9/20	24	5.520	5.840	525	87	36	0.267	8134	100	0	300	160	115	15.6	177	2.2	0.0	6.5	3.5	0.57	0.34
2/10/20	24	5.780	5.830	425	85.5	31	0.267	8508	100	0	300	160	128	18.0	176	2.1	0.0	6.2	3.3	0.61	0.37
2/11/20	24	5.790	5.890	397.5	66	28.5	0.178	8596	100	0	300	160	122	18.0	178	2.1	0.0	6.2	3.3	0.58	0.37
2/12/20	24	5.950	5.860	418	70.5	36	0.267	8552	100	0	300	160	126	18.0	172	2.0	0.0	6.0	3.2	0.58	0.36
2/13/20	24	5.630	5.730	432.5	66.5	35.5	0.267	8363	100	0	300	160	130	18.0	178	2.1	0.0	6.4	3.4	0.64	0.38
2/14/20	24	5.760	5.820	438	77.5	28.5	0.178	8490	100	0	300	160	120	18.0	177	2.1	0.0	6.2	3.3	0.57	0.37
2/15/20	24	6.020	6.080	487	79	32	0.267	8484	100	0	300	160	125	17.5	169	2.0	0.0	6.0	3.2	0.57	0.35
2/16/20	24	5.783	6.050	451.5	76	27	0.267	8440	100	0	300	160	150	20.4	175	2.1	0.0	6.2	3.3	0.72	0.42
2/17/20	24	5.950	5.810	411	66.5	31	0.267	8480	100	0	300	160	135	18.1	171	2.0	0.0	6.0	3.2	0.63	0.36
2/18/20	24	5.600	5.640	411	64	28.5	0.178	8232	100	0	300	160	116	18.0	176	2.1	0.0	6.4	3.4	0.57	0.39
2/19/20	24	5.890	6.060	484	79	40	0.178	8421	100	0	300	160	128	18.0	171	2.0	0.0	6.1	3.3	0.60	0.37
2/20/20	24	5.800	5.870	527.5	82	40	0.356	8667	100	0	300	160	120	18.0	179	2.1	0.0	6.2	3.3	0.57	0.37
2/21/20	24	5.680	6.230	431.5	76	29	0.178	9092	100	0	400	300	125	18.0	192	2.1	0.0	8.4	6.3	0.61	0.38
2/22/20	24	5.730	5.700	423.5	66	28	0.089	8362	100	0	400	112	130	18.0	175	2.1	0.0	8.4	2.3	0.63	0.38
2/23/20	24	5.870	6.440	558	81	52	0.356	8880	100	0	400	168	130	20.6	181	2.0	0.0	8.2	3.4	0.61	0.42
2/24/20	24	5.700	5.780	431.5	77.5	31	0.356	8436	100	0	400	350	129	19.9	177	2.1	0.0	8.4	7.4	0.62	0.42
2/25/20	24	5.770	5.640	388	63	34.5	0.178	8232	100	0	375	360	119	18.0	171	2.1	0.0	7.8	7.5	0.57	0.37
2/26/20	24	5.750	6.140	430.5	65	34.5	0.356	8961	100	0	280	260	126	20.9	187	2.1	0.0	5.8	5.4	0.60	0.44
2/27/20	24	5.013	5.280	433	67.5	37.5	0.269	8791	100	0	280	260	124	19.0	210	2.4	0.0	6.7	6.2	0.68	0.45
2/28/20	24	5.314	5.206	459	74	26	0.267	8624	100	0	300	174	130	18.0	195	2.3	0.0	6.8	3.9	0.67	0.41
2/29/20	24	6.050	6.310	386	83	28	0.267	8564	100	0	300	190	125	18.0	170	2.0	0.0	5.9	3.8	0.57	0.36
Total	672	166.17	170.61	12708.50	2135.50	941.00	7.30	247228.00	2900.00	0.00	9135.00	5374.00	3638.00	530.00	5180.69	60.77	0.00	191.31	112.88	17.53	11.11
Max.	24	6.05	6.44	558.00	96.00	52.00	0.36	9092.00	100.00	0.00	400.00	360.00	150.00	20.90	210.27	2.39	0.00	8.44	7.48	0.72	0.45
Min.	24	5.01	5.21	386.00	63.00	26.00	0.09	8056.00	100.00	0.00	280.00	112.00	112.00	15.60	168.98	1.98	0.00	5.84	2.34	0.54	0.32
Avg.	24	5.73	5.88	438.22	73.64	32.45	0.25	8525.10	100.00	0.00	315.00	185.31	125.45	18.28	178.64	2.10	0.00	6.60	3.89	0.60	0.38

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Feb-20
Telephone Number : (954) 730-2972

County : Broward
I.D. Number : 4060787
Year FEB 2020

CHEMICAL AND PHYSICAL RESULTS

	RAW WATER									SETTLED WATER						FINISHED WATER						
Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
4,8	7.1	244	282	260	20	20	0.3	30	40	0.8	9.9	18	39	60	47	9.2	8	23	60	47	0.0	3.5
4,8	7.1	244	280	260	20	20	0.3	30	40	0.7	10.0	20	40	62	46	9.6	7	27	62	50	0.0	3.8
4,8	7.1	246	280	260	20	20	0.3	30	40	1.1	9.9	17	38	62	46	9.2	8	28	59	47	0.0	3.6
4,8	7.1	246	280	260	20	20	0.3	30	40	0.9	9.9	20	37	57	47	9.2	8	28	58	48	0.0	3.7
4,8	7.1	246	280	260	20	20	0.3	30	40	1.1	10.0	21	42	57	47	9.0	8	26	56	46	0.0	3.2
4,8	7.1	246	280	260	20	20	0.3	30	40	0.7	9.9	19	36	57	47	8.9	6	26	57	47	0.0	3.2
4,8	7.1	246	280	260	20	20	0.3	30	40	0.9	10.0	20	42	60	47	9.4	12	38	58	46	0.0	3.5
4,8	7.1	246	280	260	20	20	0.3	30	40	1.3	10.0	23	41	59	47	9.2	9	28	60	47	0.0	3.4
4,8	7.1	246	280	260	20	20	0.3	30	40	0.8	9.8	18	40	64	52	9.4	11	32	62	50	0.0	3.9
4,8	7.1	246	280	260	20	20	0.3	30	40	0.6	10.0	21	41	63	55	9.3	8	29	60	49	0.0	3.5
4,8	7.1	246	280	260	20	20	0.3	30	40	1.5	9.9	23	50	64	54	9.1	8	29	60	50	0.0	3.1
4,8	7.1	246	280	260	20	20	0.3	30	40	0.8	10.1	22	43	59	48	8.9	7	26	57	47	0.0	3.0
4,8	7.1	246	280	260	20	20	0.3	30	40	0.7	10.1	23	43	59	48	9.3	9	26	59	48	0.0	3.5
4,8	7.1	246	280	260	20	20	0.3	30	40	0.9	9.9	19	37	57	47	9.0	8	22	57	47	0.0	3.2
4,8	7.1	246	280	260	20	20	0.3	30	40	1.0	10.1	20	43	60	50	9.3	11	30	61	50	0.0	3.6
4,8	7.1	250	280	260	20	20	0.3	30	40	0.9	10.1	22	42	60	46	9.2	10	30	60	48	0.0	3.5
3,4,8	7.1	248	278	258	20	20	0.3	28	40	0.9	10.0	23	41	60	48	9.2	9	29	59	46	0.0	3.5
3,4,8	7.1	246	280	260	20	20	0.3	30	40	0.9	10.1	23	44	58	49	9.2	9	28	57	47	0.0	3.7
6,8	7.1	246	280	200	20	20	0.3	30	40	0.8	10.0	20	40	58	48	9.3	9	29	59	49	0.0	3.8
6,8	7.1	246	280	260	20	20	0.3	30	40	0.8	9.9	19	41	57	47	9.2	9	27	58	47	0.0	3.6
6,8	7.1	246	280	260	20	20	0.3	30	40	0.9	10.2	22	42	58	48	8.9	6	26	57	46	0.0	3.0
6,8	7.1	246	280	260	20	20	0.3	30	40	1.2	10.0	19	40	59	47	7.3	0	25	60	47	0.8	1.7
6,8	7.2	246	280	260	40	20	0.3	28	40	0.7	10.2	24	47	64	50	7.5	0	20	62	50	3.1	3.0
6,8	7.2	236	260	230	30	20	0.4	30	40	0.9	10.2	27	45	60	50	7.6	0	20	62	51	3.4	3.6
6,8	7.2	236	260	230	30	23	0.4	30	40	0.8	10.1	24	41	59	50	7.6	0	18	56	48	3.2	3.7
6,8	7.2	236	260	230	30	20	0.3	30	40	0.5	10.2	22	42	59	49	7.6	0	19	59	45	1.3	2.6
6,8	7.2	236	260	230	30	20	0.3	30	36	0.6	10.3	22	42	59	49	9.2	6	20	56	46	1.5	2.0
6,8	7.2	238	260	230	20	20	0.3	30	40	1.0	10.2	22	42	43	46	9.0	6	21	55	45	1.6	1.8
6,8	7.2	236	260	230	20	20	0.3	30	40	1.0	10.0	21	41	51	52	8.6	3	21	55	50	1.3	1.8
0.00	206.60	7078.00	8000.00	7298.00	640.00	583.00	8.80	866.00	1156.00	25.37	291.00	614.00	1202.00	1705.00	1407.00	257.40	195.00	751.00	1701.00	1384.00	16.13	92.96
0.00	7.20	250.00	282.00	260.00	40.00	23.00	0.36	30.00	40.00	1.45	10.30	27.00	50.00	64.00	55.00	9.60	12.00	38.00	62.00	51.00	3.40	3.90
0.00	7.10	236.00	260.00	200.00	20.00	20.00	0.27	28.00	36.00	0.48	9.80	17.00	36.00	43.00	46.00	7.30	0.00	18.00	55.00	45.00	0.00	1.66
#DIV/0!	7.12	244.07	275.86	251.66	22.07	20.10	0.30	29.86	39.86	0.87	10.03	21.17	41.45	58.79	48.52	8.88	6.72	25.90	58.66	47.72	0.56	3.21

Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
40	41	42	43	44	45
6	0.63	0.29	0.10	0.38	0.0
6	0.61	0.32	0.11	0.49	0.0
7	0.67	0.30	0.07	0.48	0.0
7	0.65	0.26	0.12	0.48	0.0
6	0.63	0.26	0.12	0.16	0.1
6	0.62	0.28	0.09	0.14	0.0
7	0.64	0.25	0.10	0.80	0.8
6	0.67	0.24	0.09	0.45	0.0
8	0.66	0.29	0.12	0.76	0.0
7	0.65	0.28	0.11	0.56	0.0
7	0.64	0.27	0.11	0.34	0.0
6	0.64	0.25	0.11	0.34	0.0
6	0.66	0.26	0.10	0.53	0.0
6	0.64	0.30	0.09	0.21	0.4
7	0.65	0.38	0.13	0.61	0.0
8	0.65	0.40	0.13	0.52	0.0
7	0.64	0.31	0.11	0.48	0.2
7	0.63	0.29	0.12	0.47	0.0
8	0.64	0.29	0.12	0.61	0.0
6	0.66	0.27	0.12	0.45	0.1
6	0.63	0.34	0.14	0.15	0.2
3	0.62	0.33	0.12	1.48	0.5
4	0.63	0.30	0.11	1.30	0.0
4	0.64	0.23	0.05	1.23	0.2
3	0.75	0.24	0.09	1.35	0.1
2	0.70	0.15	0.07	1.32	0.5
3	0.67	0.14	0.04	1.43	0.0
4	0.65	0.11	0.06	1.35	0.0
4	0.62	0.18	0.06	1.32	0.0

167.00	18.79	7.81	2.91	20.19	3.05
8.00	0.75	0.40	0.14	1.48	0.75
2.00	0.61	0.11	0.04	0.14	0.00
5.76	0.65	0.27	0.10	0.70	0.11

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

Operator's Names & Cert. No.

Z. BECKFORD ***A8226***
M. HUTCHINSON ***A17010***
C.HUTCHINSON **A17011**
STANLEY EBANKS **A17017**
INDRAL SAMLAL **A7282**
KERRY ROMAN **C7873**
R.RAMNARINE **C12091** DAWN CAMPBELL C24707
H.RODRIGUEZ **C19220** RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS												
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES					
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15
3/1/20	24	6.044	6.400	399.5	65.5	26	0.356	8821	0	0	300	290	160	18.5	175	0.0	0	6.0	5.8
3/2/20	24	6.640	6.170	394	64	31	0.178	8648	0	0	300	160	130	18.0	156	0.0	0.0	5.4	2.9
3/3/20	24	5.620	5.800	434.5	69	28	0.178	8465	0	0	300	160	125	18.0	181	0.0	0.0	6.4	3.4
3/4/20	24	6.110	5.920	474.5	73.5	40.5	0.356	8648	0	0	300	160	126	18.0	170	0.0	0.0	5.9	3.1
3/5/20	24	6.160	6.720	414.5	69.5	35	0.267	9808	0	0	300	300	122	18.0	191	0.0	0.0	5.8	5.8
3/6/20	24	6.160	6.210	422.5	73	27.5	0.267	9063	0	0	300	300	126	18.0	176	0.0	0.0	5.8	5.8
3/7/20	24	6.210	6.260	422	69	29	0.267	8746	0	0	300	180	124	17.5	169	0.0	0.0	5.8	3.5
3/8/20	24	6.093	6.360	430	76.5	29.5	0.267	8694	0	0	300	180	125	18.0	171	0.0	0.0	5.9	3.5
3/9/20	24	5.960	6.260	419.5	68	31	0.267	9136	0	0	300	180	124	18.0	184	0.0	0.0	6.0	3.6
3/10/20	24	5.500	5.640	415	70	34.5	0.267	8237	0	0	300	180	115	18.0	180	0.0	0.0	6.5	3.9
3/11/20	24	5.690	5.980	395.5	65.5	32	0.178	8728	0	0	300	180	131	18.0	184	0.0	0.0	6.3	3.8
3/12/20	24	6.080	6.270	441	70	37	0.267	9151	0	0		180	116	18.0	180	0.0	0.0		3.5
3/13/20	24	6.090	5.880	441	72.5	26.5	0.267	8582	0	0	300	180	120	18.0	169	0.0	0.0	5.9	3.5
3/14/20	24	6.080	6.790	415	66	31	0.267	8873	0	0	300	180	144	18.9	175	0.0	0.0	5.9	3.5
3/15/20	24	6.110	6.170	444	67.5	26	0.356	8918	0	0	300	180	130	16.8	175	0.0	0.0	5.9	3.5
3/16/20	24	6.330	6.570	388.5	67.5	31	0.178	9588	0	0	300	160	129	18.0	182	0.0	0.0	5.7	3.0
3/17/20	24	6.320	6.000	436	66.5	37.5	0.267	8757	0	0	300	160	131	18.0	166	0.0	0.0	5.7	3.0
3/18/20	24	6.760	6.540	458	79	38.5	0.267	9545	0	0	300	200	128	18.0	169	0.0	0.0	5.3	3.5
3/19/20	24	6.410	6.710	464.5	82	38	0.267	9792	0	0	300	200	130	18.0	183	0.0	0.0	5.6	3.7
3/20/20	24	6.050	6.100	361.5	66	52.5	0.267	8902	0	0	300	200	130	18.0	176	0.0	0.0	5.9	4.0
3/21/20	24	6.500	6.690	394.5	63	28	0.267	9764	0	0	300	200	130	18.0	180	0.0	0.0	5.5	3.7
3/22/20	24	6.320	6.500	455.5	83	36	0.356	8967	0	0	300	190	130	19.2	170	0.0	0.0	5.7	3.6
3/23/20	24	5.810	6.820	410	88	27	0.356	8789	0	0	300	160	122	18.0	181	0.0	0.0	6.2	3.3
3/24/20	24	5.790	5.990	366	60	27.5	0.089	8742	0	0	300	168	121	18.0	181	0.0	0.0	6.2	3.5
3/25/20	24	5.750	6.280	468.5	69	34.5	0.267	9166	0	0	300	168	119	18.0	191	0.0	0.0	6.3	3.5
3/26/20	24	6.280	6.320	465	73.5	34.5	0.356	6224	0	0	300	170	126	18.0	119	0.0	0.0	5.7	3.2
3/27/20	24	5.750	6.130	347	59	26.5	0.178	9846	0	0	300	170	124	18.0	205	0.0	0.0	6.3	3.5
3/28/20	24	5.873	6.050	462	68	28	0.267	8634	0	0	300	170	128	18.0	176	0.0	0.0	6.1	3.5
3/29/20	24	6.530	6.740	422.5	66	26	0.356	9317	0	0	300	180	130	18.0	171	0.0	0.0	5.5	3.3
3/30/20	24	6.220	6.050	395.5	67.5	31	0.267	8830	0	0	300	180	128	18.0	170	0.0	0.0	5.8	3.3
3/31/20	24	6.020	6.130	414	69	26	0.089	8946	0	0	300	180	124	18.0	178	0.0	0.0	6.0	3.5
Total	720	189.260	194.450	13072	2166.5	987	8.099	276327	0	0	9000	5846	3948	558.88	5436	0.0	0.0	177.2	114.6
Max.	24	6.760	6.820	474.5	88	52.5	0.356	9846	0	0	300	300	160	19.20	205	0.0	0.0	6.5	5.8
Min.	24	5.500	5.640	347	59	26	0.089	6224	0	0	300	160	115	16.80	119	0.0	0.0	5.3	2.9
Avg.	24	6.105	6.273	421.66	69.89	31.84	0.261	8914	0	0	300	189	127	18.03	175.35	0.0	0.0	5.9	3.7

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATIC

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Mar-20
Telephone Number : (954) 730-2972

County
I.D. Num
Year MA

CHEMICAL AND PHYSICAL RESULTS

		RAW WATER										SETTLED WATER										
Fluoride As F	Calciflo c 2154G	Well #	pH	M Alk.	Total Hardne ss	Calciu m Hardne ss	Magne sium Hardne ss	CO2	Iron as FE	Color	Chlorid es	NTU	pH	P. Alk	M. Alk	Total Hardne ss	Calcu m Hardne	pH	P. Alk	M. Alk	Total Hardne ss	Calcu m Hardne ss
16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
0.73	0.37	6,8	7.2	236	260	230	10	20	0.3	30	40	1.0	10.1	20	41	58	46	8.1	3	21	58	46
0.54	0.325	6,8	7.2	240	260	230	10	20	0.3	30	40	0.5	10.0	19	38	58	46	9.0	7	21	56	45
0.61	0.38	6,8	7.2	240	260	240	10	20	0.3	30	40	0.5	10.1	25	45	62	54	9.3	10	27	56	46
0.57	0.35	3,4,6,	7.2	240	266	246	10	24	0.3	30	40	0.4	10.0	22	48	60	49	9.6	16	40	58	49
0.55	0.35	3,4,6	7.2	240	266	246	10	20	0.3	30	40	0.8	9.9	20	39	57	47	9.1	10	29	58	49
0.56	0.35	3,4,6	7.2	240	260	246	10	20	0.3	30	40	0.8	10.2	23	44	58	48	9.1	8	27	56	46
0.55	0.34	3,4,6	7.2	240	266	246	10	20	0.3	30	40	0.8	10.1	21	41	58	46	9.2	10	24	58	46
0.57	0.35	3,4,6	7.2	242	266	246	10	20	0.3	30	40	0.9	10.0	22	41	59	45	9.2	9	21	58	45
0.57	0.36	3,4,6	7.2	242	260	248	10	20	0.3	30	40	0.8	9.9	21	57	57	46	9.1	8	22	55	45
0.58	0.39	3,46,8	7.2	242	260	250	10	20	0.3	30	40	0.6	10.1	22	41	56	46	9.2	9	24	55	46
0.63	0.38	3,4,6,8	7.2	242	264	250	10	20	0.3	30	40	0.7	9.9	23	42	58	53	9.0	8	24	56	47
0.53	0.35	4,8	7.2	242	264	250	10	20	0.3	30	40	0.7	9.9	21	40	57	46	8.9	7	26	58	47
0.54	0.35	4,8	7.2	242	264	250	10	20	0.3	30	40	0.9	10.0	23	42	58	49	9.5	10	27	57	46
0.65	0.37	4,8	7.2	242	264	250	10	20	0.3	30	40	0.6	10.0	20	40	57	39	9.1	8	22	59	46
0.59	0.33	4,8	7.2	242	262	250	10	20	0.3	30	40	0.6	10.1	20	35	59	47	9.4	14	31	66	51
0.56	0.34	4,8	7.2	230	260	250	10	20	0.3	30	40	0.9	9.8	22	39	60	49	9.3	12	29	59	47
0.57	0.34	4,8	7.2	230	260	250	10	20	0.3	30	40	1.2	10.2	26	44	57	40	9.5	15	30	62	52
0.52	0.32	3.4.8	7.2	230	260	250	10	20	0.3	30	40	1.0	9.9	23	41	57	41	9.3	16	35	60	49
0.56	0.34	3,4,8	7.2	230	260	250	10	20	0.3	30	40	0.8	10.0	19	36	58	47	9.2	10	27	57	47
0.59	0.36	4,3,8	7.2	230	260	250	10	28	0.3	30	40	0.6	10.1	20	40	58	48	9.3	12	33	58	48
0.55	0.33	3,4,8	7.2	230	260	250	10	20	0.3	30	40	0.9	10.0	20	41	57	47	9.1	10	30	59	46
0.57	0.36	3,4,8	7.2	230	260	250	10	20	0.3	30	40	0.7	10.0	22	42	63	48	9.2	10	30	58	46
0.58	0.37	3,4,8	7.2	238	260	240	10	20	0.3	30	40	0.6	10.0	22	40	60	44	9.2	9	30	60	46
0.58	0.37	3,4,8	7.2	238	260	240	10	20	0.3	30	40	1.0	10.0	22	40	56	46	9.2	7	29	55	45
0.57	0.38	3,8	7.1	238	260	240	20	20	0.3	30	40	0.8	10.0	23	41	57	46	9.0	7	27	56	46
0.55	0.34	3,8	7.2	238	260	240	20	20	0.3	30	40	0.8	10.0	23	41	57	47	9.0	7	24	56	48
0.59	0.38	3,8	7.2	238	260	240	20	20	0.3	30	40	0.9	10.1	22	42	58	46	9.4	11	31	58	47
0.60	0.37	3,8	7.2	238	260	240	20	20	0.3	30	40	1.0	9.9	20	40	60	46	9.3	10	28	59	46
0.55	0.33	3,8	7.2	236	260	240	20	20	0.3	30	40	0.7	10.0	21	32	58	43	9.3	10	24	57	45
0.57	0.35	3,8	7.2	238	262	242	20	20	0.3	30	40	0.7	10.1	20	20	60	45	9.3	9	27	59	45
0.57	0.36	3,8	7.2	238	262	242	20	20	0.3	30	40	0.8	10.0	22	41	57	46	9.2	7	26	56	46

17.86	11.00	**Total**	215.9	7362	8106	7592	380	632	9.3	930	1240	23.5	310.4	669	1254	1805	1436	285	299	846	1793	1449
0.73	0.39	**Max**	7.2	242	266	250	20	28	0.3	30	40	1.2	10.20	26	57	63	54	9.6	16	40	66	52
0.52	0.32	**Min**	7.1	230	260	230	10	20	0.3	30	40	0.4	9.80	19	20	56	39	8.1	3	21	55	45
0.58	0.35	**Avg**	7.2	237.5	261.5	244.9	12.3	20.4	0.3	30.0	40.0	0.8	10.0	21.6	40.5	58.2	46.3	9.2	9.6	27.3	57.8	46.7

ON REPORT

:	Broward
ıber :	4060787
AR	2020

FINISHED WATER							
Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
38	39	40	41	42	43	44	45
1.0	1.5	4	0.61	0.22	0.10	0.46	0.0
1.2	1.9	5	0.64	0.25	0.10	0.54	0.0
0.0	3.3	7	0.64	0.30	0.13	0.55	0.0
0.0	4.0	7	0.63	0.27	0.13	1.05	0.0
0.0	3.4	6	0.63	0.35	0.14	0.36	0.0
0.0	3.3	5	0.63	0.36	0.15	0.35	0.0
0.0	3.8	6	0.67	0.42	0.14	0.44	0.1
0.0	3.8	7	0.66	0.44	0.30	0.48	0.0
0.0	3.6	9	0.64	0.46	0.17	0.25	0.3
0.0	3.7	7	0.63	0.46	0.19	0.39	0.3
0.0	3.5	6	0.63	0.33	0.12	0.20	0.3
0.0	3.0	6	0.62	0.38	0.13	0.14	0.2
0.0	3.6	6	0.60	0.41	0.11	0.75	0.2
0.0	3.3	7	0.62	0.32	0.12	0.26	0.0
0.0	4.0	6	0.67	0.36	0.12	0.40	0.0
0.0	3.7	7	0.71	0.40	0.14	0.57	0.0
0.0	3.4	7	0.69	0.36	0.13	0.98	0.2
0.0	3.5	7	0.66	0.35	0.14	0.69	0.2
0.0	3.5	8	0.65	0.33	0.14	0.46	0.0
0.0	3.8	8	0.65	0.31	0.11	0.47	0.0
0.0	3.7	7	0.63	0.35	0.13	0.52	0.0
0.0	3.9	7	0.64	0.29	0.13	0.54	0.1
0.0	3.5	8	0.65	0.29	0.11	0.50	0.1
0.0	3.6	7	0.67	0.30	0.13	0.47	0.0
0.0	3.1	7	0.66	0.30	0.13	0.25	0.0
0.0	3.2	7	0.66	0.32	0.13	0.21	0.0
0.0	4.0	7	0.64	0.28	0.11	0.72	0.0
0.0	3.6	7	0.65	0.27	0.11	0.48	0.0
0.0	3.6	7	0.64	0.25	0.11	0.48	0.0
0.0	3.6	9	0.67	0.35	0.12	0.64	0.1
0.0	3.4	9	0.66	0.35	0.13	0.43	0.0
0.0							
2.2	106.8	213	20.05	10.43	4.15	15.03	2.1
1.2	4	9	0.71	0.46	0.30	1.05	0.3
0.0	1.5	4	0.60	0.22	0.10	0.14	0.0
0.1	3.4	6.9	0.65	0.34	0.13	0.48	0.1

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C24707

RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS										D
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED										
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	
	1	2	3	4	5	6	7	8			9	10	11	12	13			
4/1/20	24	6.750	6.420	408.5	72	26	0.445	9370	100	0	300	180	129	18.0	166	1.8	0	
4/2/20	24	6.380	6.720	370	60.5	38	0.178	9808	100	0	300	180	130	18.0	184	1.9	0.0	
4/3/20	24	5.650	6.090	436	63	27	0.267	8889	100	0	300	179	120	18.0	189	2.1	0.0	
4/4/20	24	5.670	6.130	429.5	84.5	26.5	0.267	8275	100	0	300	180	108	18.0	175	2.1	0.0	
4/5/20	24	6.440	5.980	398	67	26	0.267	8338	100	0	300	180	120	18.0	155	1.9	0.0	
4/6/20	24	6.810	6.140	403.5	67	35.5	0.267	8961	100	0	300	180	109	18.0	158	1.8	0.0	
4/7/20	24	5.490	5.520	401.5	72	27.5	0.267	8056	100	0	300	190	105	18.0	176	2.2	0.0	
4/8/20	24	5.260	5.890	412	66.5	38.5	0.267	8596	100	0	300	151	119	18.0	196	2.3	0.0	
4/9/20	24	5.810	5.960	447.5	72	38.5	0.267	8698	100	0	300	150	121	18.0	180	2.1	0.0	
4/10/20	24	5.670	6.300	445.5	78.5	26.5	0.178	9195	100	0	300	174	112	18.0	194	2.1	0.0	
4/11/20	24	6.090	6.170	481	83	32	0.267	8615	100	0	300	180	130	18.0	170	2.0	0.0	
4/12/20	24	6.140	6.350	437	71	26.5	0.267	8878	100	0	300	180	120	18.0	173	2.0	0.0	
4/13/20	24	6.030	6.830	431	73	31	0.267	8801	100	0	300	180	125	18.0	175	2.0	0.0	
4/14/20	24	6.040	5.760	415	70	30.5	0.267	8406	100	0	300	180	116	18.0	167	2.0	0.0	
4/15/20	24	6.100	6.480	437	72	36	0.178	9457	100	0	300	180	121	18.0	186	2.0	0.0	
4/16/20	24	5.860	5.960	478.5	78.5	38.5	0.267	9364	100	0	300	180	131	18.0	192	2.0	0.0	
4/17/20	24	6.090	5.840	463	83	30	0.356	8003	100	0	300	180	140	18.0	158	2.0	0.0	
4/18/20	24	5.500	5.790	389	70	27	0.178	8191	100	0	300	180	130	18.0	179	2.2	0.0	
4/19/20	24	5.350	5.880	409	63.5	28.6	0.267	8682	100	0	300	160	130	18.0	195	2.2	0.0	
4/20/20	24	5.540	6.190	435.5	69	31	0.267	9034	100	0	300	170	125	18.0	196	2.2	0.0	
4/21/20	24	5.490	5.620	416.5	70	30	0.267	8202	100	0	300	184	120	18.0	179	2.2	0.0	
4/22/20	24	6.200	5.800	414	67	35.5	0.267	8465	100	0	300	186	110	18.0	164	1.9	0.0	
4/23/20	24	5.660	5.860	448	68	38.5	0.267	8552	100	0	300	180	118	18.0	181	2.1	0.0	
4/24/20	24	6.200	6.520	428	75	28	0.267	9126	100	0	300	180	120	18.0	176	1.9	0.0	
4/25/20	24	5.820	5.760	365.5	71.5	32	0.267	8494	100	0	300	180	154	18.0	175	2.1	0.0	
4/26/20	24	5.600	5.790	398.7	72.5	27.5	0.325	8450	100	0	300	180	140	18.0	181	2.1	0.0	
4/27/20	24	5.410	6.160	392.5	67	31	0.267	8990	100	0	300	160	119	18.0	199	2.2	0.0	
4/28/20	24	5.290	5.260	397	66	29.5	0.178	7676	100	0	300	186	112	18.0	174	2.3	0.0	
4/29/20	24	5.510	5.700	478	38.5	38.5	0.178	8319	100	0	300	186	108	18.0	181	2.2	0.0	
4/30/20	24	5.580	5.630	457.5	82	27	0.26	8216	100	0	300	168	112	18.0	177	2.1	0.0	
									100	0	300							
Total	696	168.68	174.08	12315.20	2041.50	912.60	7.35	250737.00	2900.00	0.00	8700.00	5124.00	3525.00	522.00	5182.67	60.02	0.00	
Max.	24	6.81	6.83	481.00	84.50	38.50	0.36	9808.00	100.00	0.00	300.00	190.00	154.00	18.00	199.25	2.28	0.00	
Min.	24	5.26	5.26	365.50	38.50	26.00	0.18	7676.00	100.00	0.00	300.00	150.00	105.00	18.00	155.24	1.76	0.00	
Avg.	24	5.82	6.00	424.66	70.40	31.47	0.25	8646.10	100.00	0.00	300.00	176.69	121.55	18.00	178.71	2.07	0.00	

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Apr-20
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULT

OSAGES				RAW WATER										SETTLED WATER							
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calcium Hardne	pH	P. Alk
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
5.3	3.2	0.53	0.32	3,8	7.2	238	262	242	20	30	0.3	30	40	0.6	9.9	21	39	57	47	9.3	8
5.6	3.4	0.56	0.338	3,8	7.2	238	262	242	20	30	0.3	32	40	0.6	10.2	21	41	57	47	9.2	6
6.4	3.8	0.59	0.38	3,8	7.2	238	262	242	20	30	0.3	30	40	0.8	10.0	21	40	58	47	9.4	10
6.3	3.8	0.53	0.38	3,8	7.2	240	264	244	20	30	0.3	30	40	0.8	10.0	20	41	58	45	9.2	9
5.6	3.4	0.51	0.34	3,8	7.2	240	264	244	20	30	0.3	30	40	0.6	10.0	20	38	58	46	9.3	10
5.3	3.2	0.44	0.32	3,8	7.2	242	260	240	20	30	0.3	30	40	0.8	10.1	18	39	59	47	9.2	9
6.6	4.1	0.53	0.39	3,8	7.2	242	260	240	20	30	0.3	30	40	0.9	10.2	25	42	56	46	9.3	9
6.8	3.4	0.62	0.41	3,8	7.2	242	260	240	20	30	0.3	30	40	0.7	10.1	20	40	58	46	9.4	7
6.2	3.1	0.57	0.37	3,8	7.2	242	260	240	20	30	0.3	30	40	0.6	10.0	23	41	58	48	9.1	6
6.3	3.7	0.54	0.38	3,8	7.2	242	260	240	20	30	0.3	30	40	0.6	10.2	21	42	60	49	9.5	12
5.9	3.5	0.59	0.35	3,8	7.2	242	260	240	20	30	0.3	30	40	0.9	10.1	20	40	59	46	9.5	8
5.9	3.5	0.54	0.35	3,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	21	40	60	45	9.2	9
6.0	3.6	0.57	0.36	3,8	7.2	242	260	240	20	30	0.3	30	40	0.9	10.0	24	40	56	44	9.3	10
6.0	3.6	0.53	0.36	3,8	7.2	238	260	240	20	30	0.3	30	40	0.8	10.1	25	41	58	48	9.2	6
5.9	3.5	0.55	0.35	3,8	7.2	242	260	240	20	30	0.3	30	40	0.8	9.9	22	42	58	48	9.2	9
6.1	3.7	0.62	0.37	3,8	7.2	242	260	240	20	30	0.3	30	40	0.6	10.1	23	41	57	48	9.2	6
5.9	3.5	0.63	0.35	3,8	7.2	242	260	240	20	30	0.3	30	40	0.7	10.0	22	42	60	47	9.4	10
6.5	3.9	0.65	0.39	3,8	7.2	242	260	240	20	30	0.3	30	40	0.7	10.0	20	38	58	44	9.2	8
6.7	3.6	0.67	0.40	3,8	7.2	240	260	238	22	30	0.3	30	40	0.8	10.0	20	40	60	45	9.2	9
6.5	3.7	0.62	0.39	3,8	7.2	240	260	238	22	30	0.3	30	40	0.9	9.9	20	37	56	43	9.3	9
6.6	4.0	0.60	0.39	3,8	7.2	240	260	238	22	30	0.3	30	40	0.8	9.9	19	40	58	49	9.0	7
5.8	3.6	0.49	0.35	3,8	7.2	240	260	238	22	30	0.3	30	40	0.8	9.7	20	39	57	46	9.0	8
6.4	3.8	0.57	0.38	3,8	7.2	240	260	240	20	30	0.3	30	40	0.5	10.1	24	47	60	52	9.4	9
5.8	3.5	0.53	0.35	3,8	7..2	240	260	240	20	30	0.3	30	40	0.9	10.0	21	42	60	47	9.4	11
6.2	3.7	0.73	0.37	3,8	7.2	240	260	240	20	30	0.3	30	40	0.7	10.0	21	39	64	45	9.3	9
6.4	3.9	0.69	0.39	3,8	7.2	240	260	240	20	32	0.3	30	40	0.7	10.0	21	40	62	48	9.2	8
6.6	3.5	0.61	0.40	3,8	7.2	240	260	240	20	28	0.3	30	40	1.1	10.1	18	38	56	45	9.0	7
6.8	4.2	0.58	0.41	3,8	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	20	38	54	45	9.1	7
6.5	4.0	0.54	0.39	3,8	7.2	240	260	240	20	28	0.3	30	40	0.6	9.9	20	38	57	48	9.3	10
6.4	3.6	0.55	0.39	3,8	7.2	240	260	240	20	28	0.3	30	40	0.7	10.1	28	41	64	52	9.3	13
180.07	105.93	16.77	10.80	0.00	201.60	6976.00	7552.00	6964.00	588.00	866.00	8.72	872.00	1160.00	21.58	290.70	618.00	1167.00	1696.00	1356.00	268.30	251.00
6.84	4.22	0.73	0.41	0.00	7.20	242.00	264.00	244.00	22.00	32.00	0.32	32.00	40.00	1.10	10.20	28.00	47.00	64.00	52.00	9.50	13.00
5.28	3.10	0.44	0.32	0.00	7.20	238.00	260.00	238.00	20.00	28.00	0.30	30.00	40.00	0.50	9.70	18.00	37.00	54.00	43.00	9.00	6.00
6.21	3.65	0.58	0.37	#DIV/0!	7.20	240.55	260.41	240.14	20.28	29.86	0.30	30.07	40.00	0.74	10.02	21.31	40.24	58.48	46.76	9.25	8.66

IENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year APR	2020

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FINISHED WATER										
M. Alk	Total Hardness	Calcium Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
35	36	37	38	39	40	41	42	43	44	45
25	57	47	0.0	3.4	8	0.64	0.29	0.13	0.53	0.2
23	56	45	0.0	3.5	8	0.62	0.25	0.11	0.38	0.0
28	60	48	0.0	3.5	7	0.62	0.27	0.09	0.68	0.0
27	58	46	0.0	3.5	7	0.61	0.25	0.07	0.45	0.0
26	58	46	0.0	3.6	6	0.61	0.31	0.10	0.53	0.0
29	57	46	0.0	3.4	7	0.70	0.35	0.12	0.48	0.0
28	55	45	0.0	3.8	6	0.67	0.35	0.12	0.59	0.0
26	56	45	0.0	3.6	6	0.65	0.31	0.12	0.61	0.0
23	57	47	0.0	3.1	6	0.65	0.30	0.12	0.28	0.0
33	59	49	0.0	3.7	6	0.67	0.30	0.10	0.87	0.0
24	61	46	0.0	3.4	6	0.63	0.34	0.09	0.39	0.0
24	62	45	0.0	3.7	7	0.61	0.36	0.11	0.38	0.0
27	57	43	0.0	3.5	7	0.63	0.36	0.10	0.52	0.0
28	56	46	0.0	3.5	6	0.64	0.31	0.08	0.45	0.0
28	56	46	0.0	3.3	6	0.64	0.26	0.09	0.46	0.0
24	56	46	0.0	3.6	6	0.64	0.32	0.07	0.42	0.1
29	59	46	0.0	3.6	6	0.62	0.22	0.08	0.68	0.0
25	58	45	0.0	3.3	6	0.63	0.30	0.06	0.40	0.0
24	59	44	0.0	3.5	6	0.65	0.28	0.05	0.37	0.1
25	55	44	0.0	3.6	6	0.67	0.22	0.05	0.45	0.1
24	56	46	0.0	3.2	5	0.64	0.19	0.07	0.22	0.0
25	57	47	0.0	3.0	5	0.61	0.23	0.08	0.40	0.0
27	58	47	0.0	3.5	6	0.57	0.18	0.06	0.65	0.0
34	60	48	0.0	3.7	6	0.52	0.18	0.05	0.48	0.0
31	59	45	0.0	3.7	6	0.58	0.16	0.04	0.66	0.0
22	60	44	0.0	3.8	5	0.72	0.15	0.06	0.37	0.6
27	57	47	0.0	3.4	6	0.76	0.21	0.07	0.25	0.0
27	56	45	0.0	3.3	6	0.59	0.18	0.07	0.34	0.0
25	57	47	0.0	3.8	6	0.55	0.15	0.07	0.53	0.0
34	58	47	0.0	3.5	6	0.53	0.19	0.07	0.66	0.2
			0.0							
			0.0							
777.00	1673.00	1331.00	0.00	101.60	178.00	18.23	7.48	2.37	13.95	1.10
34.00	62.00	49.00	0.00	3.80	8.00	0.76	0.36	0.12	0.87	0.60
22.00	55.00	43.00	0.00	3.00	5.00	0.52	0.15	0.04	0.22	0.00
26.79	57.69	45.90	0.00	3.50	6.14	0.63	0.26	0.08	0.48	0.04

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

How Many Other Operators? 9

Design Flow: 16MGD

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***	
M. HUTCHINSON	***A17010***	
C.HUTCHINSON	**A17011**	
STANLEY EBANKS	**A17017**	
INDRAL SAMLAL	**A7282**	
KERRY ROMAN	**C7873**	
R.RAMNARINE	**C12091**	DAWN CAMP
H.RODRIGUEZ	**C19220**	RAJIV SAMI

Total Metered Services at End of Month: 13,141

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
5/1/20	24	5.660	6.240	421	67	29	0.267	8718	100	0	300	164	100	16.3	185
5/2/20	24	5.740	5.920	427	73	28	0.267	8251	100	0	300	164	100	18.0	172
5/3/20	24	5.560	5.950	399	69	26.5	0.267	8115	100	0	300	164	100	18.0	175
5/4/20	24	5.860	6.320	368.5	63.5	31	0.089	9224	100	0	300	184	100	18.0	189
5/5/20	24	5.940	5.540	424	62	26.5	0.178	8085	100	0	300	170	100	18.2	163
5/6/20	24	5.920	6.400	474	79	36.5	0.267	9340	100	0	300	176	100	18.0	189
5/7/20	24	5.800	6.520	486	71	34	0.267	9515	100	0	300	180	100	18.0	197
5/8/20	24	5.790	5.750	393.5	70	27	0.356	9413	100	0	300	180	100	18.0	195
5/9/20	24	6.077	6.050	171	63	32	0.267	9500	100	0	300	190	100	18.0	187
5/10/20	24	6.013	6.280	378	61	27	0.267	8776	100	0	300	168	100	16.8	175
5/11/20	24	5.660	5.860	412	69	31	0.267	8633	100	0	300	172	100	19.8	183
5/12/20	24	5.490	5.400	432.5	73	30	0.178	7881	100	0	300	176	100	18.0	172
5/13/20	24	5.850	6.410	434	86.5	14	0.178	8436	100	0	300	200	100	18.0	173
5/14/20	24	5.560	5.690	429.5	74.5	28	0.356	8564	100	0	300	202	100	18.0	185
5/15/20	24	5.680	6.120	376	67	32	0.267	8961	100	0	300	186	100	18.0	189
5/16/20	24	5.490	5.560	306	70	26.5	0.178	8012	100	0	300	180	100	18.0	175
5/17/20	24	5.280	5.850	440	67.5	26	0.356	8230	100	0	300	160	100	18.0	187
5/18/20	24	5.350	5.380	393.5	66	31	0.178	7852	100	0	300	163	100	19.3	176
5/19/20	24	5.100	5.400	434.5	57	32	0.267	7881	100	0	300	184	100	18.5	185
5/20/20	24	4.960	5.400	399.5	70	29.5	0.267	7881	100	0	300	184	100	18.0	191
5/21/20	24	5.100	5.360	455	80	36.5	0.267	7863	100	0	300	184	100	18.0	185
5/22/20	24	5.350	5.810	442	73	28.5	0.178	8480	100	0	300	184	100	18.0	190
5/23/20	24	5.520	6.010	479	85	29	0.267	8382	100	0	300	186	100	16.7	182
5/24/20	24	5.120	5.610	457	85	26.5	0.267	7798	100	0	300	184	100	18.0	183
5/25/20	24	4.680	5.110	420	68	31	0.267	7458	100	0	300	160	100	18.0	191
5/26/20	24	4.800	5.220	402	62.5	30.5	0.178	7618	100	0	300	150	100	18.5	190
5/27/20	24	4.960	5.430	448	68	38.5	0.356	7925	100	0	300	150	100	19.0	192
5/28/20	24	5.480	4.970	412	67	34.4	0.178	7253	100	0	300	160	100	18.0	159
5/29/20	24	5.740	5.800	415	59.5	34	0.267	7335	100	0	300	170	100	18.0	153
5/30/20	24	5.560	5.800	405.5	75	31	0.267	7436	100	0	300	170	100	18.0	160
5/31/20	24	5.380	5.690	393.5	66.5	26	0.267	7915	100	0	300	170	100	18.0	176
Total	744.00	170.47	178.85	12728.50	2168.50	923.40	7.74	256731.00	3100.00	0.00	9300.00	5415.00	3100.00	559.10	5603.92
Max.	24.00	6.08	6.52	486.00	86.50	38.50	0.36	9515.00	100.00	0.00	300.00	202.00	100.00	19.80	196.70
Min.	24.00	4.68	4.97	171.00	57.00	14.00	0.09	7253.00	100.00	0.00	300.00	150.00	100.00	16.30	153.22
Avg.	24.00	5.50	5.77	410.60	69.95	29.79	0.25	8281.65	100.00	0.00	300.00	174.68	100.00	18.04	180.77

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : May-20
Telephone Number : (954) 730-2972

PBELL C24707
LAL ***B22878***

DOSAGES						RAW WATER										
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU
		14	15	16	17		18	19	20	21	22	23	24	25	26	27
2.1	0	6.4	3.5	0.49	0.35	3,8	7.2	240	260	240	20	28	0.3	30	40	1.1
2.1	0.0	6.3	3.4	0.48	0.376	3,8	7.2	240	264	240	22	30	0.3	30	40	0.6
2.2	0.0	6.5	3.5	0.50	0.39	3,8	7.2	240	264	240	20	30	0.3	30	40	0.8
2.0	0.0	6.1	3.8	0.47	0.37	3,8	7.1	228	260	230	20	30	0.3	30	40	0.7
2.0	0.0	6.1	3.4	0.46	0.37	3,8	7.1	230	250	230	20	30	0.3	30	40	0.8
2.0	0.0	6.1	3.6	0.47	0.36	3,8	7.1	230	250	230	20	30	0.3	30	40	0.9
2.1	0.0	6.2	3.7	0.48	0.37	3,8	7.1	230	250	230	20	30	0.4	30	40	1.0
2.1	0.0	6.2	3.7	0.48	0.37	3,8	7.1	230	250	230	20	30	0.4	30	40	1.3
2.0	0.0	5.9	3.7	0.45	0.36	3,8	7.1	230	260	230	20	30	0.3	30	40	0.7
2.0	0.0	6.0	3.4	0.46	0.34	3,8	7.2	230	260	230	20	30	0.3	30	40	0.7
2.1	0.0	6.4	3.6	0.49	0.42	3,8,4,6	7.2	240	260	240	20	30	0.4	30	40	0.9
2.2	0.0	6.6	3.8	0.50	0.39	3,4,6	7.2	240	260	240	20	30	0.4	30	40	0.8
2.0	0.0	6.1	4.1	0.47	0.37	3,4,6	7.2	240	260	240	20	30	0.5	30	40	1.0
2.2	0.0	6.5	4.4	0.50	0.39	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.8
2.1	0.0	6.3	3.9	0.49	0.38	3,4,6	7.1	240	260	240	20	30	0.5	30	40	0.9
2.2	0.0	6.6	3.9	0.50	0.39	3,4,6	7.1	240	260	240	20	30	0.5	30	40	0.8
2.3	0.0	6.8	3.6	0.52	0.41	3,4,6,	7.2	243	260	240	20	30	0.5	30	40	0.7
2.2	0.0	6.7	3.7	0.52	0.43	3,4,6	7.2	240	260	240	22	30	0.5	30	40	1.2
2.4	0.0	7.1	4.3	0.54	0.43	3,4,6	7.2	240	260	240	20	30	0.5	30	40	1.4
2.4	0.0	7.3	4.4	0.56	0.44	3,4,6	7.1	242	266	244	22	30	0.6	30	40	0.9
2.4	0.0	7.1	4.3	0.54	0.42	3,4,6	7.1	242	266	244	22	30	0.6	30	40	0.8
2.2	0.0	6.7	4.1	0.52	0.40	3,4,6	7.1	242	266	244	22	30	0.6	30	40	0.7
2.2	0.0	6.5	4.0	0.50	0.36	3,4.6	7.1	242	266	244	22	30	0.6	30	40	1.8
2.3	0.0	7.0	4.3	0.54	0.42	3,4,6	7.2	240	264	244	20	30	0.6	30	40	0.7
2.6	0.0	7.7	4.1	0.59	0.46	3,4,6	7.2	242	260	240	20	30	0.6	30	40	0.9
2.5	0.0	7.5	3.7	0.57	0.46	3,6	7.2	242	260	240	20	30	0.7	30	40	1.1
2.4	0.0	7.3	3.6	0.56	0.46	3,6	7.2	242	260	240	20	30	0.7	30	40	1.3
2.2	0.0	6.6	3.5	0.50	0.39	3,6	7.2	242	260	240	20	30	0.7	30	40	0.8
2.1	0.0	6.3	3.6	0.48	0.38	3,6	7.2	242	260	240	20	30	0.7	30	40	1.0
2.2	0.0	6.5	3.7	0.50	0.39	3,6,8	7.2	242	260	240	20	30	0.7	30	40	1.0
2.2	0.0	6.7	3.8	0.51	0.40	4	7.2	242	260	240	20	30	0.7	30	40	1.0

67.89	0.00	203.67	118.39	15.61	12.25	3.80	222.00	7393.00	8056.00	7390.00	632.00	928.00	15.08	930.00	1240.00	28.78
2.56	0.00	7.69	4.45	0.59	0.46	3.80	7.20	243.00	266.00	244.00	22.00	30.00	0.73	30.00	40.00	1.80
1.97	0.00	5.92	3.35	0.45	0.34	3.80	7.10	228.00	250.00	230.00	20.00	28.00	0.27	30.00	40.00	0.64
2.19	0.00	6.57	3.82	0.50	0.40	3.80	7.16	238.48	259.87	238.39	20.39	29.94	0.49	30.00	40.00	0.93

)EPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year MAY	2020

CHEMICAL AND PHYSICAL RESULTS

SETTLED WATER					FINISHED WATER											
pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.
28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
10.1	21	41	56	46	9.4	12	35	60	48	0.0	3.5	7	0.53	0.21	0.06	0.58
10.1	21	39	58	45	9.3	10	28	58	45	0.0	3.2	7	0.57	0.19	0.07	0.55
10.0	19	38	59	45	9.3	9	26	56	45	0.0	3.3	5	0.60	0.20	0.08	0.78
9.9	21	41	59	49	9.1	8	25	58	47	0.0	3.3	6	0.60	0.20	0.08	0.33
10.1	25	30	59	50	9.4	10	31	58	48	0.0	3.6	7	0.61	0.24	0.08	0.73
10.0	23	41	58	45	9.0	9	27	55	46	0.0	2.9	7	0.57	0.25	0.09	0.24
9.4	17	37	59	51	8.5	3	22	58	47	0.0	2.4	6	0.52	0.28	0.09	0.30
10.0	20	40	58	48	8.9	7	25	58	47	0.0	3.0	5	0.55	0.26	0.09	0.27
10.1	20	35	57	44	9.3	10	23	56	46	0.0	3.8	6	0.52	0.25	0.10	0.29
10.0	16	36	59	46	9.2	9	24	58	46	0.0	3.7	5	0.54	0.26	0.08	0.39
10.2	21	42	57	45	9.0	7	26	58	43	0.0	2.7	6	0.59	0.33	0.09	0.21
10.0	20	35	56	46	9.6	12	37	64	43	0.0	3.8	6	0.62	0.34	0.12	1.04
10.0	21	37	56	45	9.2	8	28	57	47	0.0	3.3	6	0.63	0.43	0.13	0.65
10.1	20	42	63	49	9.0	8	28	57	46	0.0	3.3	7	0.65	0.33	0.14	0.26
10.1	22	40	58	46	9.1	9	24	57	46	0.0	3.4	8	0.66	0.32	0.14	0.32
10.2	20	39	59	45	9.3	10	28	58	46	0.0	3.6	9	0.61	0.24	0.11	0.62
10.0	19	40	61	45	9.1	6	24	57	44	0.0	3.3	8	0.60	0.23	0.10	0.32
10.1	23	46	62	45	9.1	7	28	63	49	0.0	3.1	8	0.63	0.28	0.07	0.39
10.1	22	38	57	48	9.5	12	31	59	49	0.0	3.6	7	0.62	0.26	0.07	0.84
10.0	20	40	57	47	9.5	9	30	58	47	0.0	3.0	6	0.63	0.25	0.09	0.50
9.9	22	40	58	48	9.1	6	25	55	48	0.0	3.0	7	0.71	0.25	0.08	0.34
10.2	22	42	58	47	9.1	7	23	58	46	0.0	3.0	7	0.71	0.27	0.10	0.22
10.2	22	42	58	46	9.3	11	28	56	46	0.0	3.9	6	0.65	0.25	0.09	0.35
10.0	20	41	59	45	9.4	12	31	57	47	0.0	3.8	7	0.60	0.25	0.08	0.72
10.1	22	40	57	44	9.3	11	29	56	46	0.0	3.7	6	0.57	0.30	0.08	0.55
10.0	22	37	58	47	9.2	8	24	56	48	0.0	3.9	6	0.57	0.24	0.08	0.44
10.0	22	37	57	46	9.4	8	29	56	46	0.0	3.9	6	0.55	0.30	0.08	0.68
10.0	21	41	58	47	9.0	6	24	57	45	0.0	3.2	6	0.52	0.17	0.06	0.21
10.2	23	45	58	46	9.1	8	27	59	47	0.0	3.3	7	0.52	0.20	0.07	0.46
10.0	20	41	58	49	9.4	10	24	58	45	0.0	3.8	7	0.50	0.23	0.06	0.47
10.1	21	41	58	50	9.3	10	28	58	45	0.0	3.6	7	0.67	0.25	0.09	0.65
										0.0						
311.20	648.00	1224.00	1805.00	1445.00	285.40	272.00	842.00	1789.00	1434.00	0.00	104.90	204.00	18.42	8.06	2.75	14.70
10.20	25.00	46.00	63.00	51.00	9.60	12.00	37.00	64.00	49.00	0.00	3.90	9.00	0.71	0.43	0.14	1.04
9.40	16.00	30.00	56.00	44.00	8.50	3.00	22.00	55.00	43.00	0.00	2.40	5.00	0.50	0.17	0.06	0.21
10.04	20.90	39.48	58.23	46.61	9.21	8.77	27.16	57.71	46.26	0.00	3.38	6.58	0.59	0.26	0.09	0.47

Inches of Rain
45
0.0
0.0
0.0
0.0
0.0
0.1
0.1
0.0
0.1
0.0
0.0
0.2
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2.1
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0.0
2.0
1.6
0.2
1.0
2.2
1.0
0.0
4.4
2.6
1.2
0.4
0.1
0.2
0.3
0.0
21.00
4.40
0.00
0.68

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

K HUTCHINSON C
DAWN CAMPBELL C
RAJIV SAMLAL

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS								
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED								
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3
	1	2	3	4	5	6	7	8			9	10	11	12	13	
6/1/20	24	5.190	5.580	411	63	31	0.267	8144	100	0	300	168	118	19.8	188	2.3
6/2/20	24	5.660	5.620	433	67	31.5	0.178	8202	100	0	300	170	121	18.0	174	2.1
6/3/20	24	5.440	5.670	456.5	72	33	0.356	8275	100	0	300	170	131	18.0	182	2.2
6/4/20	24	5.080	5.810	416.5	34.5	74	0.267	8480	100	0	300	174	120	18.0	200	2.4
6/5/20	24	5.060	5.560	417	27	64	0.178	8114	100	0	300	174	140	18.0	192	2.4
6/6/20	24	5.450	5.720	402.5	70	40	0.267	8420	100	0	300	172	140	18.0	185	2.2
6/7/20	24	5.630	5.900	507.5	79	27.7	0.267	8221	100	0	300	172	120	18.6	175	2.1
6/8/20	24	5.460	5.500	436	78.5	31	0.356	8027	100	0	300	176	140	18.0	176	2.2
6/9/20	24	5.440	5.470	384.5	60.5	33	0.178	7983	100	0	300	170	126	18.0	176	2.2
6/10/20	24	4.480	5.910	444.5	66.5	38.5	0.267	8625	100	0	300	170	128	18.0	231	2.7
6/11/20	24	5.610	5.740	456.5	72	39	0.356	8377	100	0	300	170	120	18.0	179	2.1
6/12/20	24	4.890	5.900	386.5	68	27.5	0.267	8611	100	0	300	172	118	18.0	211	2.5
6/13/20	24	5.460	5.510	403	64	26	0.178	7782	100	0	300	176	195	17.4	171	2.2
6/14/20	24	5.290	5.310	443	68	26.5	0.267	7360	100	0	300	176	150	16.8	167	2.3
6/15/20	24	5.420	5.860	435.5	71	31	0.267	8552	100	0	300	176	136	10.8	189	2.2
6/16/20	24	5.220	5.710	408.5	67	29.5	0.267	8333	100	0	300	176	130	18.0	191	2.3
6/17/20	24	5.190	5.470	425	69.5	34	0.267	7983	100	0	300	176	126	18.0	184	2.3
6/18/20	24	5.160	5.680	433.5	67.5	33	0.267	8290	100	0	300	186	128	18.0	193	2.3
6/19/20	24	5.140	5.800	431	63	27.5	0.267	8075	100	0	300	184	132	18.0	188	2.3
6/20/20	24	5.100	5.800	431	76	27	0.267	8075	100	0	300	184	146	18.0	190	2.4
6/21/20	24	5.150	5.850	408	69	25	0.267	8148	100	0	300	184	120	18.0	190	2.3
6/22/20	24	5.410	5.550	405.5	66.5	31	0.267	8100	100	0	300	184	145	18.0	180	2.2
6/23/20	24	5.670	5.950	409	64.5	29	0.178	8684	100	0	300	172	146	18.0	184	2.1
6/24/20	24	5.600	5.760	465.5	70	40	0.267	8406	100	0	300	178	136	18.0	180	2.1
6/25/20	24	5.660	6.500	389	64	24	0.267	9486	100	0	300	190	140	18.0	201	2.1
6/26/20	24	6.630	5.590	410	69	26	0.267	8158	100	0	300	190	129	18.0	148	1.8
6/27/20	24	5.080	6.500	414.5	67	28	0.267	8414	100	0	300	180	140	18.0	199	2.4
6/28/20	24	5.690	6.130	415	82.5	25.5	0.267	8557	100	0	300	190	145	18.0	180	2.1
6/29/20	24	6.090	5.970	420	67.5	30	0.267	8713	100	0	300	184	154	17.4	172	2.0
6/30/20	24	5.800	5.900	382	67	26.5	0.356	8611	100	0	300	190	143	18.0	178	2.1
Total	720.00	162.15	173.22	12681.00	1991.00	989.70	7.92	249206.00	3000.00	0.00	9000.00	5334.00	4063.00	532.80	5553.75	66.88
Max.	24.00	6.63	6.50	507.50	82.50	74.00	0.36	9486.00	100.00	0.00	300.00	190.00	195.00	19.80	230.84	2.68
Min.	24.00	4.48	5.31	382.00	27.00	24.00	0.18	7360.00	100.00	0.00	300.00	168.00	118.00	10.80	147.54	1.81
Avg.	24.00	5.41	5.77	422.70	66.37	32.99	0.26	8306.87	100.00	0.00	300.00	177.80	135.43	17.76	185.13	2.23

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jun-20
Telephone Number : (954) 730-2972

:26757
24707
B22878

CHEMICAL AND

DOSAGES					RAW WATER										SETTLED WATER			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	6.9	3.9	0.63	0.46	3,8	7.1	240	260	240	20	30	0.3	30	40	1.2	10.0	19	37
0.0	6.4	3.6	0.59	0.381	3,8	7.2	240	260	240	22	28	0.3	30	40	1.4	10.0	23	41
0.0	6.6	3.7	0.66	0.40	3,8	7.2	240	266	244	22	28	0.3	30	40	1.0	10.0	22	42
0.0	7.1	4.1	0.65	0.42	3,8	7.2	240	266	244	22	28	0.3	30	40	0.8	10.0	21	39
0.0	7.1	4.1	0.76	0.43	3,8	7.2	240	266	244	22	28	0.3	30	40	0.9	10.2	24	44
0.0	6.6	3.8	0.71	0.40	3,8	7.2	240	266	244	22	28	0.3	30	40	1.3	10.4	18	38
0.0	6.4	3.7	0.59	0.40	3,8	7.2	240	266	240	20	28	0.3	30	40	1.1	10.1	20	40
0.0	6.6	3.9	0.71	0.40	3,8	7.2	240	268	246	22	30	0.3	30	40	0.7	10.1	22	41
0.0	6.6	3.7	0.64	0.40	3,8	7.2	240	268	246	22	30	0.3	30	40	0.9	10.0	22	43
0.0	8.0	4.5	0.79	0.48	3,8	7.2	240	268	246	22	30	0.3	30	40	0.8	10.2	21	42
0.0	6.4	3.6	0.59	0.38	3,8	7.2	240	260	246	22	30	0.3	30	40	0.9	10.0	20	40
0.0	7.4	4.2	0.67	0.44	3,8	7.2	240	268	246	22	30	0.3	30	40	1.1	10.1	20	39
0.0	6.6	3.9	0.98	0.38	3,8	7.2	240	268	246	22	30	0.3	30	40	0.8	10.1	20	40
0.0	6.8	4.0	0.78	0.38	3,8	7.2	242	266	246	22	30	0.3	30	40	1.0	9.9	22	37
0.0	6.6	3.9	0.69	0.24	3,8	7.1	240	264	244	20	30	0.3	30	40	0.8	9.9	19	38
0.0	6.9	4.0	0.69	0.41	3,8	7.1	242	260	242	22	30	0.3	30	40	1.1	10.1	25	44
0.0	6.9	4.1	0.67	0.42	3,8	7.1	242	264	242	22	30	0.3	30	40	1.1	10.0	20	40
0.0	7.0	4.3	0.68	0.42	3,8	7.1	242	264	242	22	30	0.3	30	40	0.9	10.0	19	41
0.0	7.0	4.3	0.71	0.42	3,8	7.2	242	264	242	22	30	0.3	30	40	1.0	10.1	21	41
0.0	7.1	4.3	0.79	0.42	3,8	7.2	242	260	244	22	30	0.3	30	40	0.9	10.1	20	40
0.0	7.0	4.3	0.64	0.42	3,8	7.2	242	260	244	22	30	0.3	30	40	0.8	10.1	20	39
0.0	6.6	4.1	0.74	0.40	3,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	22	40
0.0	6.3	3.6	0.71	0.38	3,8	7.2	240	260	240	20	30	0.3	30	40	1.2	10.0	22	41
0.0	6.4	3.8	0.67	0.39	3,8	7.2	240	260	240	20	30	0.3	30	40	1.4	9.9	21	38
0.0	6.4	4.0	0.68	0.38	3,8	7.2	240	260	240	20	30	0.3	30	40	1.1	10.1	22	43
0.0	5.4	3.4	0.54	0.33	3,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.2	25	41
0.0	7.1	4.2	0.76	0.42	3,8	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	18	39
0.0	6.3	4.0	0.70	0.38	3,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	20	40
0.0	5.9	3.6	0.70	0.34	3,8	7.2	242	260	240	20	30	0.3	30	40	0.8	10.1	20	39
0.0	6.2	3.9	0.68	0.37	3,8	7.2	242	260	240	20	30	0.3	30	40	1.1	10.0	20	40

0.00	200.64	118.79	20.80	11.88	0.00	215.50	7218.00	7892.00	7278.00	636.00	888.00	8.97	900.00	1200.00	29.49	301.70	628.00	1207.00
0.00	8.03	4.55	0.98	0.48	0.00	7.20	242.00	268.00	246.00	22.00	30.00	0.30	30.00	40.00	1.40	10.40	25.00	44.00
0.00	5.43	3.44	0.54	0.24	0.00	7.10	240.00	260.00	240.00	20.00	28.00	0.27	30.00	40.00	0.70	9.90	18.00	37.00
0.00	6.69	3.96	0.69	0.40	#DIV/0!	7.18	240.60	263.07	242.60	21.20	29.60	0.30	30.00	40.00	0.98	10.06	20.93	40.23

AL REGULATION WATER TREATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year JUN	2020

PHYSICAL RESULTS

R		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
56	46	9.3	9	26	56	45	0.0	3.5	9	0.80	0.29	0.07	0.52	0.1
58	48	9.2	8	24	57	47	0.0	3.6	7	0.75	0.23	0.08	0.43	2.2
58	48	9.2	7	22	56	46	0.0	3.7	7	0.67	0.22	0.09	0.26	2.6
57	44	9.2	8	22	56	45	0.0	3.4	6	0.51	0.25	0.08	0.38	3.0
57	47	9.3	7	22	55	45	0.0	3.5	6	0.54	0.26	0.08	0.48	2.1
58	44	9.2	6	21	54	42	0.0	3.4	6	0.54	0.21	0.07	0.25	0.1
58	41	9.3	6	22	55	42	0.0	3.5	6	0.52	0.21	0.10	0.44	0.0
57	46	9.3	9	23	56	45	0.0	3.5	7	0.55	0.28	0.09	0.70	1.1
58	48	9.3	9	24	57	46	0.0	3.8	7	0.62	0.26	0.10	0.52	0.0
59	49	9.3	9	25	57	47	0.0	3.6	7	0.62	0.26	0.10	0.54	0.1
58	45	9.5	10	32	57	46	0.0	3.6	7	0.58	0.27	0.09	0.82	0.0
58	47	9.3	6	23	56	46	0.0	3.6	6	0.59	0.25	0.07	0.52	0.3
58	45	9.2	6	22	58	43	0.0	3.7	6	0.74	0.23	0.07	0.63	0.2
60	48	9.2	7	22	59	44	0.0	3.6	5	0.75	0.25	0.09	0.73	0.1
58	47	8.9	5	20	57	44	0.0	3.2	6	0.73	0.27	0.07	0.68	2.0
61	52	9.4	10	23	58	48	0.0	3.4	5	0.67	0.27	0.09	0.73	0.2
57	47	9.2	9	24	56	47	0.0	3.7	7	0.60	0.32	0.09	0.43	1.3
59	46	9.0	6	23	58	45	0.0	3.3	6	0.72	0.32	0.10	0.18	1.2
58	41	9.3	7	22	56	45	0.0	3.8	6	0.82	0.30	0.08	0.44	0.2
57	40	9.3	11	23	57	45	0.0	3.8	6	0.73	0.28	0.07	0.46	1.0
56	44	9.3	9	22	57	46	0.0	3.9	6	0.75	0.26	0.07	0.64	0.0
58	45	9.2	7	24	56	44	0.0	3.6	6	0.76	0.27	0.06	0.40	0.0
58	52	9.1	7	21	57	47	0.0	3.4	6	0.73	0.25	0.07	0.25	1.0
58	48	8.9	6	31	55	46	0.0	2.9	5	0.70	0.23	0.07	0.04	0.0
59	51	9.1	8	25	57	48	0.0	3.3	4	0.67	0.29	0.07	0.24	0.0
59	47	8.9	6	20	57	46	0.0	3.3	5	0.71	0.30	0.09	0.02	0.0
57	46	9.2	9	24	57	45	0.0	3.8	5	0.67	0.29	0.06	0.49	0.0
56	46	9.3	10	24	58	45	0.0	3.8	5	0.75	0.26	0.07	0.54	0.0
57	46	9.2	10	26	58	45	0.0	3.7	6	0.79	0.27	0.07	0.62	0.2
58	49	9.2	9	23	57	47	0.0	3.7	6	0.72	0.17	0.07	0.41	0.0
1736.00	1393.00	276.30	236.00	705.00	1700.00	1362.00	0.00	106.60	182.00	20.30	7.82	2.38	13.79	18.99
61.00	52.00	9.50	11.00	32.00	59.00	48.00	0.00	3.90	9.00	0.82	0.32	0.10	0.82	3.00
56.00	40.00	8.90	5.00	20.00	54.00	42.00	0.00	2.90	4.00	0.51	0.17	0.06	0.02	0.00
57.87	46.43	9.21	7.87	23.50	56.67	45.40	0.00	3.55	6.07	0.68	0.26	0.08	0.46	0.63

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C

RAJIV SAMLAL

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS								
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							Lime	NH3
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G		
	1	2	3	4	5	6	7	8			9	10	11	12	13	
7/1/20	24	6.630	6.080	394	66.5	34.5	0.089	8874	100	0	300	190	148	18.0	160	1.8
7/2/20	24	5.730	6.320	444	70	30	0.356	8890	100	0	300	184	152	18.0	186	2.1
7/3/20	24	5.490	6.180	397	66	27	0.178	8760	100	0	300	186	150	18.0	191	2.2
7/4/20	24	6.320	5.860	435	66	35	0.267	8163	100	0	300	188	170	18.0	155	1.9
7/5/20	24	5.920	6.090	435.5	70	26.5	0.356	8889	100	0	300	190	170	18.0	180	2.0
7/6/20	24	4.720	5.420	417.5	78.5	31	0.267	7910	100	0	300	160	140	18.0	201	2.5
7/7/20	24	4.940	5.410	410.5	65.5	33.5	0.178	7299	100	0	300	150	144	18.0	177	2.4
7/8/20	24	5.520	5.620	486	84	36.5	0.178	8202	100	0	300	180	110	18.0	178	2.2
7/9/20	24	5.980	5.880	530.5	88	37.5	0.267	8582	100	0	300	190	152	18.0	172	2.0
7/10/20	24	5.680	6.060	378	67	30	0.356	8325	100	0	300	196	170	17.4	176	2.1
7/11/20	24	5.180	5.650	380	59	28	0.178	7986	100	0	300	150	180	18.0	185	2.3
7/12/20	24	5.480	5.700	377.5	66	28.5	0.267	8319	100	0	300	150	135	18.6	182	2.2
7/13/20	24	5.630	5.920	423	71	31	0.356	8640	100	0	300	170	120	18.0	184	2.1
7/14/20	24	5.010	5.200	381	63.5	27	0.089	7589	100	0	300	180	100	18.0	182	2.4
7/15/20	24	5.390	5.750	435.5	68	26	0.178	8392	100	0	300	180	120	18.0	187	2.2
7/16/20	24	5.720	6.110	421	84	28	0.267	8917	100	0	300	180	121	18.0	187	2.1
7/17/20	24	5.690	6.100	413	79	27	0.267	8513	100	0	300	190	131	18.6	179	2.1
7/18/20	24	5.250	5.860	411.5	68	29.5	0.267	7662	100	0	300	190	137	18.0	175	2.3
7/19/20	24	5.050	5.740	400.5	74	26.5	0.267	8377	100	0	300	160	140	18.0	199	2.4
7/20/20	24	5.680	5.750	416	72.5	31	0.267	8392	100	0	300	160	131	18.0	177	2.1
7/21/20	24	5.670	5.720	411	69	28.5	0.267	8348	100	0	300	160	140	18.0	177	2.1
7/22/20	24	5.560	5.730	427.6	67.5	35	0.178	8310	100	0	300	176	172	18.0	179	2.2
7/23/20	24	5.580	6.150	496.5	80	40	0.089	8975	100	0	300	180	140	17.4	193	2.1
7/24/20	24	5.270	5.870	461.5	71	38	0.356	8567	100	0	300	170	120	18.0	195	2.3
7/25/20	24	5.680	5.810	408	73	37	0.267	8090	100	0	300	182	120	18.6	171	2.1
7/26/20	24	5.670	5.870	342	73	27	0.267	8178	100	0	300	180	128	18.0	173	2.1
7/27/20	24	5.730	6.130	412	70.5	31	0.267	8946	100	0	300	186	130	18.0	187	2.1
7/28/20	24	5.910	5.800	402.5	66	30.5	0.267	8405	100	0	310	186	130	18.0	171	2.0
7/29/20	24	5.890	6.050	454	79	38.5	0.089	8830	100	0	300	184	128	18.0	180	2.0
7/30/20	24	5.590	5.930	392	64.5	28	0.267	8158	100	0	300	190	130	18.0	175	2.1
7/31/20	24	5.550	6.040	437	68	37.5	0.256	8035	100	0	300	188	121	18.0	174	2.2
Total	744	173.11	181.80	13031.10	2208.00	975.00	7.47	259523.00	3100.00	0.00	9310.00	5506.00	4280.00	558.60	5586.68	66.87
Max.	24	6.63	6.32	530.50	88.00	40.00	0.36	8975.00	100.00	0.00	310.00	196.00	180.00	18.60	200.94	2.54
Min.	24	4.72	5.20	342.00	59.00	26.00	0.09	7299.00	100.00	0.00	300.00	150.00	100.00	17.40	154.87	1.81
Avg.	24	5.58	5.86	420.36	71.23	31.45	0.24	8371.71	100.00	0.00	300.32	177.61	138.06	18.02	180.22	2.16

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jul-20
Telephone Number : (954) 730-2972

24707
B22878

CHEMICAL AND

DOSAGES					RAW WATER										SETTLED WATER			
CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk
	14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30
0	5.4	3.4	0.62	0.33	3,4,6,8	7.2	242	260	240	20	30	0.3	30	40	1.1	10.0	20	40
0.0	6.3	3.9	0.73	0.377	3,8	7.2	242	260	240	20	30	0.3	30	40	0.8	10.1	20	39
0.0	6.6	4.1	0.75	0.39	3,8	7.2	242	260	240	20	30	0.3	30	40	1.2	10.1	20	40
0.0	5.7	3.6	0.74	0.34	3,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	20	42
0.0	6.1	3.8	0.79	0.36	3,8	7.2	240	260	240	22	30	0.3	30	40	0.8	10.2	20	40
0.0	7.6	4.1	0.82	0.46	3,8	7.2	240	262	240	22	30	0.3	30	40	0.6	10.0	23	42
0.0	7.3	3.6	0.80	0.44	4,6	7.2	240	260	240	22	30	0.3	30	40	1.0	10.0	20	42
0.0	6.5	3.9	0.55	0.39	4,6	7.2	240	260	240	22	30	0.3	30	40	0.9	10.1	21	42
0.0	6.0	3.8	0.70	0.36	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	20	39
0.0	6.3	4.1	0.83	0.37	3,4,6	7.2	240	260	240	20	30	0.3	30	40	1.0	10.1	23	40
0.0	6.9	3.5	0.96	0.42	3,4,6	7.2	242	260	240	20	30	0.3	30	40	0.8	10.1	22	40
0.0	6.6	3.3	0.68	0.41	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.9	10.2	22	42
0.0	6.4	3.6	0.59	0.38	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.8	9.9	20	41
0.0	7.2	4.3	0.55	0.43	3,4,6	7.2	240	260	240	20	32	0.3	30	40	1.4	10.0	20	39
0.0	6.7	4.0	0.61	0.40	3,4,6	7.2	240	260	240	20	30	0.3	30	40	1.6	9.8	21	41
0.0	6.3	3.8	0.58	0.38	3,4,6	7.2	240	260	240	20	30	0.3	30	40	3.5	10.5	23	46
0.0	6.3	4.0	0.63	0.39	3,4,6	7.2	240	260	240	20	30	0.3	30	40	1.7	9.9	17	43
0.0	6.9	4.3	0.72	0.41	3,4,6	7.2	240	262	242	20	30	0.3	30	40	0.8	10.0	20	40
0.0	7.1	3.8	0.76	0.43	3,4,6	7.2	240	262	242	20	30	0.3	30	40	0.9	10.0	20	40
0.0	6.3	3.4	0.64	0.38	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.9	10.1	21	40
0.0	6.3	3.4	0.68	0.38	3,4,6	7.2	240	260	242	20	30	0.3	30	40	2.0	9.8	18	38
0.0	6.5	3.8	0.85	0.39	3,4,6	7.2	240	260	242	20	30	0.3	30	40	1.1	10.0	20	36
0.0	6.4	3.9	0.69	0.37	3,4,6	7.2	240	262	242	20	30	0.3	30	40	1.4	10.0	19	42
0.0	6.8	3.9	0.63	0.41	3,4,5	7.2	240	260	242	20	30	0.3	30	40	1.0	10.2	27	42
0.0	6.3	3.8	0.58	0.39	3,4,6	7.2	240	262	242	20	30	0.3	30	40	1.0	10.0	19	41
0.0	6.3	3.8	0.62	0.38	3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.8	10.2	22	40
0.0	6.3	3.9	0.63	0.38	3,4,6	7.2	240	264	240	20	30	0.3	30	40	1.0	10.0	20	41
0.0	6.3	3.8	0.61	0.37	3,4,6	7.2	240	264	244	20	30	0.3	30	40	1.3	10.4	27	51
0.0	6.1	3.7	0.60	0.37	3,4,6	7.2	242	264	244	20	30	0.3	30	40	1.4	9.9	20	38
0.0	6.4	4.1	0.64	0.39	3,4,6	7.2	242	264	244	20	30	0.3	30	40	0.9	9.9	19	40
0.0	6.5	4.1	0.60	0.39	3,4,6	7.2	244	264	244	20	30	0.3	30	40	0.8	10.1	23	45

0.00	200.81	118.42	21.19	12.05	0.00	223.20	7456.00	8090.00	7470.00	628.00	932.00	9.30	930.00	1240.00	35.08	311.58	647.00	1272.00
0.00	7.62	4.34	0.96	0.46	0.00	7.20	244.00	264.00	244.00	22.00	32.00	0.32	30.00	40.00	3.50	10.50	27.00	51.00
0.00	5.43	3.28	0.55	0.33	0.00	7.20	240.00	260.00	240.00	20.00	30.00	0.29	30.00	40.00	0.60	9.80	17.00	36.00
0.00	6.48	3.82	0.68	0.39	#DIV/0!	7.20	240.52	260.97	240.97	20.26	30.06	0.30	30.00	40.00	1.13	10.05	20.87	41.03

L REGULATION WATER TREATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year JUL	2020

PHYSICAL RESULTS

R		FINISHED WATER												
Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
57	48	9.1	8	23	58	48	0.0	3.1	7	0.67	0.24	0.10	0.32	0.2
57	47	9.3	7	26	57	47	0.0	3.6	7	0.70	0.34	0.10	0.74	0.3
58	50	9.1	6	21	57	47	0.0	3.4	7	0.89	0.33	0.13	0.64	0.0
59	47	9.2	9	22	58	47	0.0	3.4	7	0.71	0.41	0.13	0.56	0.1
58	46	9.3	9	25	59	46	0.0	3.3	6	0.70	0.36	0.11	0.72	0.8
57	47	9.4	10	24	59	48	0.0	3.6	7	0.72	0.28	0.09	0.84	0.0
57	47	9.2	10	25	57	47	0.0	2.5	7	0.84	0.25	0.10	0.57	0.1
63	54	8.9	5	25	61	51	0.0	3.2	7	0.71	0.45	0.15	0.18	1.4
57	46	9.3	8	29	60	53	0.0	4.3	8	0.58	0.47	0.16	0.64	0.0
56	47	9.3	9	25	57	47	0.0	4.0	9	0.61	0.37	0.09	0.56	0.0
58	46	9.3	11	27	57	46	0.0	3.7	9	0.74	0.37	0.10	0.63	0.0
57	46	9.3	11	26	56	46	0.0	3.7	8	0.78	0.32	0.11	0.53	0.3
60	50	9.1	10	26	57	46	0.0	3.2	9	0.80	0.30	0.11	0.34	0.2
58	48	8.9	6	24	57	48	0.0	3.0	9	0.79	0.28	0.11	0.14	0.4
58	47	9.3	8	27	58	47	0.0	3.2	7	0.72	0.26	0.10	0.56	0.2
61	50	9.4	10	41	64	50	0.0	3.9	6	0.65	0.35	0.07	0.67	0.0
62	56	9.2	9	43	62	65	0.0	3.8	6	0.66	0.27	0.07	0.62	0.0
58	58	9.5	10	36	59	47	0.0	3.6	7	0.68	0.29	0.05	0.94	1.8
60	45	9.4	9	31	61	47	0.0	3.7	7	0.75	0.31	0.08	0.72	0.4
58	47	9..4	10	27	59	47	0.0	3.8	7	0.72	0.46	0.13	0.65	0.3
58	48	9.0	7	25	58	48	0.0	3.1	8	0.71	0.44	0.14	0.23	1.2
56	48	8.7	4	24	57	47	0.0	3.0	6	0.69	0.43	0.11	0.07	1.0
56	48	8.9	5	22	57	45	0.0	3.2	7	0.70	0.34	0.11	0.29	1.6
58	49	9.1	7	25	57	49	0.0	3.4	7	0.70	0.34	0.11	0.36	0.3
58	44	9.1	7	23	58	46	0.0	3.3	6	0.76	0.34	0.10	0.44	0.0
58	47	9.3	8	23	58	45	0.0	3.6	4	0.78	0.32	0.07	0.65	0.0
58	48	9.4	12	26	57	48	0.0	3.9	5	0.83	0.29	0.06	0.65	0.0
63	53	9.6	14	30	58	47	0.0	3.8	9	0.78	0.26	0.10	0.93	0.0
59	49	9.8	18	41	63	51	0.0	3.5	7	0.74	0.26	0.08	0.96	0.0
56	46	9.1	10	27	57	47	0.0	3.0	7	0.73	0.30	0.10	0.54	0.0
59	47	9.1	4	28	59	47	0.0	2.8	6	0.74	0.28	0.10	0.56	0.2
							0.0							
1808.00	1499.00	276.60	271.00	847.00	1812.00	1490.00	0.00	106.60	219.00	22.58	10.31	3.17	17.25	10.82
63.00	58.00	9.80	18.00	43.00	64.00	65.00	0.00	4.30	9.00	0.89	0.47	0.16	0.96	1.80
56.00	44.00	8.70	4.00	21.00	56.00	45.00	0.00	2.50	4.00	0.58	0.24	0.05	0.07	0.00
58.32	48.35	9.22	8.74	27.32	58.45	48.06	0.00	3.44	7.06	0.73	0.33	0.10	0.56	0.35

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

Operator's Names & Cert. No.

Z. BECKFORD ***A8226***
M. HUTCHINSON ***A17010***
C.HUTCHINSON **A17011**
STANLEY EBANKS **A17017**
INDRAL SAMLAL **A7282**
KERRY ROMAN **C7873**
R.RAMNARINE **C12091** DAWN CAMPBELL C24707
H.RODRIGUEZ **C19220** RAJIV SAMLAL ***B22878***

How Many Other 9 **Total Metered Services at End of Month:**

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS											
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES				
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15
8/1/20	24	5.460	5.600	379.5	61.5	28	0.267	8173	100	0	300	190	125	18.0	179	2.2	0	6.6	4.2
8/2/20	24	5.950	6.260	383	61	26	0.267	8747	100	0	300	180	120	18.0	176	2.0	0.0	6.0	3.6
8/3/20	24	5.210	5.490	407.5	64.5	31	0.267	8012	100	0	300	160	125	18.0	184	2.3	0.0	6.9	3.7
8/4/20	24	5.780	5.870	320	66	27.5	0.178	8567	100	0	300	190	116	18.0	178	2.1	0.0	6.2	3.9
8/5/20	24	5.940	5.860	458.5	69	40	0.267	8552	100	0	300	180	152	18.0	173	2.0	0.0	6.1	3.6
8/6/20	24	5.440	5.940	418.5	71	28	0.178	7939	100	0	300	190	125	18.0	175	2.2	0.0	6.6	4.2
8/7/20	24	5.300	6.090	451	70	38	0.267	8491	100	0	300	180	160	18.0	192	2.3	0.0	6.8	4.1
8/8/20	24	5.250	5.310	423.5	75	25.5	0.356	7662	100	0	300	194	112	18.0	175	2.3	0.0	6.9	4.4
8/9/20	24	5.840	6.750	381.5	61.5	27.5	0.267	9462	100	0	300	190	130	18.0	194	2.1	0.0	6.2	3.9
8/10/20	24	5.950	6.080	453.5	109.5	31	0.267	8874	100	0	300	190	152	18.0	179	2.0	0.0	6.0	3.8
8/11/20	24	5.820	5.520	428.5	71	29.5	0.178	8056	100	0	300	170	131	18.0	166	2.1	0.0	6.2	3.5
8/12/20	24	5.870	5.920	325	66.5	28	0.178	8640	100	0	300	176	150	18.0	176	2.0	0.0	6.1	3.6
8/13/20	24	5.460	6.250	466	71	40	0.356	9121	100	0	300	180	150	18.0	200	2.2	0.0	6.6	4.0
8/14/20	24	5.530	5.930	394.5	72	27.5	0.267	8654	100	0	300	180	135	18.0	188	2.2	0.0	6.5	3.9
8/15/20	24	5.450	5.960	418	65	29	0.178	8439	100	0	300	178	130	18.0	186	2.2	0.0	6.6	3.9
8/16/20	24	5.720	6.100	462	76	27	0.356	8383	100	0	300	162	140	18.0	176	2.1	0.0	6.3	3.4
8/17/20	24	6.300	6.280	404	76	31	0.267	9165	100	0	300	174	142	18.0	174	1.9	0.0	5.7	3.3
8/18/20	24	5.560	5.650	378.5	71	26.5	0.089	8246	100	0	300	176	141	18.0	178	2.2	0.0	6.5	3.8
8/19/20	24	5.660	6.080	458	73.5	28.5	0.366	8873	100	0	300	176	136	18.0	188	2.1	0.0	6.4	3.7
8/20/20	24	5.540	6.120	390	63	33.5	0.267	8841	100	0	300	186	143	18.0	191	2.2	0.0	6.5	4.0
8/21/20	24	4.870	5.520	412	63	25	0.267	8743	100	0	300	164	154	18.0	215	2.5	0.0	7.4	4.0
8/22/20	24	5.220	6.010	409	65	28	0.267	8872	100	0	300	172	163	18.0	204	2.3	0.0	6.9	4.0
8/23/20	24	5.670	6.390	402	68.5	26	0.267	8937	100	0	300	176	145	18.0	189	2.1	0.0	6.3	3.7
8/24/20	24	5.780	6.020	401.5	63	31	0.267	8786	100	0	300	180	160	18.0	182	2.1	0.0	6.2	3.7
8/25/20	24	5.910	5.510	407	66.5	31.5	0.267	8042	100	0	300	182	140	18.0	163	2.0	0.0	6.1	3.7
8/26/20	24	5.650	6.230	423	71	35.5	0.267	9092	100	0	300	184	140	18.0	193	2.1	0.0	6.4	3.9
8/27/20	24	5.640	6.080	393.5	70.5	28	0.356	8873	100	0	300	184	141	18.0	189	2.1	0.0	6.4	3.9
8/28/20	24	5.460	6.160	394	72	32.5	0.267	8784	100	0	300	194	130	18.0	193	2.2	0.0	6.6	4.3
8/29/20	24	5.830	6.440	378	62	27	0.356	8893	100	0	300	190	159	18.0	183	2.1	0.0	6.2	3.9
8/30/20	24	5.790	6.070	344.5	58	24.5	0.267	8469	100	0	300	182	150	18.0	175	2.1	0.0	6.2	3.8
8/31/20	24	5.330	5.890	393	64	64	0.267	8207	100	0	300	186	160	18.0	185	2.2	0.0	6.7	4.2
Total	720	174.180	185.380	12559	2137.5	956	8.198	266595	3100	0	9300	5596	4357	558.00	5700	66.3	0.0	199.0	119.7
Max.	24	6.300	6.750	466	109.5	64	0.366	9462	100	0	300	194	163	18.00	215	2.5	0.0	7.4	4.4
Min.	24	4.870	5.310	320	58	24.5	0.089	7662	100	0	300	160	112	18.00	163	1.9	0.0	5.7	3.3
Avg.	24	5.619	5.980	405.11	68.95	30.84	0.264	8600	188	0	300	181	141	18.00	183.87	2.1	0.0	6.4	3.9

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Aug-20
Telephone Number : (954) 730-2972

County
I.D. Num
Year AU

CHEMICAL AND PHYSICAL RESULTS

		RAW WATER										SETTLED WATER										
Fluoride As F	Calciflo c 2154G	Well #	pH	M Alk.	Total Hardne ss	Calciu m Hardne ss	Magne sium Hardne ss	CO2	Iron as FE	Color	Chlorid es	NTU	pH	P. Alk	M. Alk	Total Hardne ss	Calcu m Hardne	pH	P. Alk	M. Alk	Total Hardne ss	Calcu m Hardne ss
16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
0.63	0.40	3,4,6	7.2	244	264	244	20	20	0.3	30	40	1.2	10.1	20	40	58	48	9.3	10	28	59	49
0.56	0.363	3,4,6	7.2	244	264	244	20	20	0.3	30	40	1.0	10.0	20	40	58	47	9.4	11	28	57	46
0.66	0.41	3,4,6	7.2	242	262	242	20	20	0.3	30	40	0.8	10.0	22	41	58	47	9.3	10	26	56	45
0.55	0.37	3,4,8	7.2	242	262	242	20	20	0.3	30	40	1.2	9.9	23	42	57	48	9.2	8	26	58	48
0.71	0.36	4,8	7.2	242	262	242	20	20	0.3	30	40	1.0	10.1	22	43	59	49	9.0	7	24	58	48
0.63	0.40	4,8	7.2	242	262	242	20	20	0.3	30	40	1.1	10.1	20	40	58	47	9.1	8	24	58	47
0.83	0.41	4,8	7.2	242	262	242	20	20	0.3	30	40	0.7	10.0	22	39	58	48	9.3	9	28	58	48
0.59	0.41	4,8	7.2	240	260	240	20	20	0.3	30	40	1.1	10.1	21	42	58	48	9.5	10	31	59	49
0.61	0.37	4,8	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0	18	40	61	44	9.4	9	28	62	46
0.70	0.36	4,8	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0	18	38	58	45	9.5	10	27	57	46
0.62	0.37	3,8	7.2	240	260	240	20	20	0.3	30	40	1.2	10.0	21	40	58	48	9.4	10	28	58	48
0.70	0.37	3,8	7.2	240	260	240	20	20	0.3	30	40	2.0	9.8	20	35	57	48	9.2	9	27	59	49
0.76	0.40	4,8	7.2	240	260	240	20	20	0.3	30	40	0.9	9.8	20	36	58	48	9.1	9	28	58	48
0.67	0.39	4,8	7.2	240	260	240	20	20	0.3	30	40	1.4	10.4	27	47	57	48	9.4	12	28	58	50
0.66	0.40	4,8	7.2	240	260	240	20	20	0.3	30	40	0.8	10.0	20	38	58	45	9.4	10	29	58	48
0.67	0.38	4,8	7.2	240	260	240	20	20	0.3	30	40	0.7	10.0	20	39	59	44	9.3	9	28	59	48
0.62	0.34	4,8	7.2	242	260	240	20	20	0.3	30	40	1.1	9.9	22	43	59	51	9.3	8	28	57	46
0.70	0.39	4,8	7.2	242	260	240	20	20	0.3	30	40	1.1	9.9	22	44	58	46	9.4	9	26	58	48
0.66	0.38	4,8	7.2	242	260	240	20	20	0.3	30	40	1.3	9.1	19	39	51	49	9.4	11	33	61	51
0.71	0.39	4,8	7.2	242	260	242	20	18	0.3	30	40	1.1	10.2	22	42	58	48	9.3	9	27	57	46
0.87	0.44	4,8	7.2	240	260	244	20	20	0.3	30	40	1.3	9.8	19	42	60	49	9.4	9	31	59	50
0.86	0.41	4,8	7.2	240	260	240	20	20	0.3	30	40	0.7	10.1	18	34	48	46	9.2	10	30	58	47
0.71	0.38	4,8	7.2	240	260	240	20	20	0.3	30	40	0.6	9.9	20	35	59	47	9.3	9	29	59	50
0.76	0.37	4,8	7.2	240	260	240	20	20	0.3	30	40	0.8	9.9	21	43	57	46	9.4	10	30	56	46
0.65	0.37	4,8	7.2	240	260	240	20	20	0.3	30	40	1.5	9.9	20	38	60	49	9.3	8	29	58	48
0.68	0.38	4,8	7.2	240	264	244	20	20	0.3	30	40	1.5	9.9	19	38	58	48	9.1	8	23	56	47
0.69	0.38	4,8	7.2	244	264	244	20	20	0.3	30	40	2.2	9.9	21	40	58	48	9.0	9	25	58	48
0.66	0.40	4,8	7.2	244	264	240	20	20	0.3	30	40	1.9	9.1	10	30	57	50	9.1	10	30	57	50
0.75	0.37	4,8	7.2	246	264	240	20	20	0.3	30	40	1.0	10.0	19	39	58	46	9.2	9	27	57	45
0.71	0.37	4,8	7.2	246	266	240	22	20	0.3	30	40	0.6	10.0	20	39	59	46	9.4	10	28	57	47
0.83	0.40	4,8	7.2	242	268	248	20	20	0.3	30	40	0.8	10.0	24	42	60	49	9.4	10	28	58	47

21.44	11.94	**Total**	216	7488	8108	7480	622	618	9.0	930	1240	34.1	307.9	630	1228	1790	1470	288	290	862	1798	1479
0.87	0.44	**Max**	7.2	246	268	248	22	20	0.3	30	40	2.2	10.40	27	47	61	51	9.5	12	33	62	51
0.55	0.34	**Min**	7.2	240	260	240	20	18	0.3	30	40	0.6	9.10	10	30	48	44	9.0	7	23	56	45
0.69	0.39	**Avg**	7.2	241.5	261.5	241.3	20.1	19.9	0.3	30.0	40.0	1.1	9.9	20.3	39.6	57.7	47.4	9.3	9.4	27.8	58.0	47.7

ON REPORT

:	Broward
ıber :	4060787
JG	2020

FINISHED WATER							
Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
38	39	40	41	42	43	44	45
0.0	3.7	6	0.71	0.34	0.08	0.58	0.6
0.0	3.9	6	0.71	0.32	0.10	0.64	0.2
0.0	3.6	7	0.75	0.29	0.09	0.73	2.1
0.0	3.6	6	0.76	0.25	0.12	0.45	1.0
0.0	3.0	6	0.73	0.21	0.10	0.43	1.0
0.0	3.4	7	0.73	0.18	0.10	0.31	1.4
0.0	3.7	4	0.76	0.21	0.08	0.64	0.0
0.0	4.0	6	0.72	0.18	0.06	0.88	0.1
0.0	4.0	8	0.67	0.22	0.09	0.46	0.0
0.0	3.6	7	0.65	0.24	0.06	0.75	0.0
0.0	3.9	7	0.64	0.18	0.08	0.88	0.2
0.0	3.6	6	0.65	0.21	0.08	0.68	0.2
0.0	3.6	6	0.66	0.19	0.08	0.57	0.2
0.0	4.1	7	0.65	0.18	0.07	0.70	0.0
0.0	3.7	7	0.70	0.19	0.07	0.65	0.0
0.0	3.6	7	0.68	0.23	0.10	0.64	0.0
0.0	3.8	8	0.66	0.27	0.09	0.56	0.2
0.0	3.9	8	0.63	0.33	0.10	0.89	0.3
0.0	3.4	7	0.64	0.43	0.13	0.79	0.4
0.0	3.4	8	0.67	0.53	0.20	0.61	0.6
0.0	3.5	5	0.70	0.49	..20	0.26	0.0
0.0	3.2	4	0.69	0.53	0.21	0.34	0.0
0.0	3.6	4	0.70	0.38	0.17	0.65	0.1
0.0	3.6	6	0.68	0.34	0.13	0.70	1.1
0.0	3.5	7	0.65	0.30	0.12	0.58	0.6
0.0	3.3	6	0.62	0.34	0.12	0.28	0.6
0.0	3.1	5	0.66	0.17	0.08	0.24	0.2
0.0	3.3	4	0.66		0.06	0.44	0.0
0.0	3.7	5	0.65	0.22	0.07	0.53	0.0
0.0	3.9	7	0.68	0.27	0.11	0.63	0.0
0.0	3.9	7	0.66	0.24	0.11	0.34	0.0
0.0							
0.0	112.1	194	21.12	8.46	3.06	17.83	11.1
0.0	4.1	8	0.76	0.53	0.21	0.89	2.1
0.0	3	4	0.62	0.17	0.06	0.24	0.0
0.0	3.6	6.3	0.68	0.28	0.10	0.58	0.4

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature: Z

Operator's Names & Cert. No.

Z. BECKFORD ***A8226***
M. HUTCHINSON ***A17010***
C.HUTCHINSON **A17011**
STANLEY EBANKS **A17017**
INDRAL SAMLAL **A7282**
KERRY ROMAN **C7873**
R.RAMNARINE **C12091**
H.RODRIGUEZ **C19220**
KEYSHAWN HUTCHINSON
DAWN CAMPBELL C24707
RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS											
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES				
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	Chlorine Pre
	1	2	3	4	5	6	7	8			9	10	11	12	13			14
9/1/20	24	5.380	5.560	432.5	59.5	19.5	0.267	8432	100	0	300	160	136	18.0	188	2.2	0	6.7
9/2/20	24	5.170	6.030	401.3	79	28	0.178	8413	100	0	300	162	156	18.0	195	2.3	0.0	7.0
9/3/20	24	5.300	5.620	404	69	49	0.267	8341	100	0	300	192	160	18.0	189	2.3	0.0	6.8
9/4/20	24	5.710	6.510	412	65	26	0.267	9112	100	0	300	192	150	18.0	191	2.1	0.0	6.3
9/5/20	24	5.800	5.990	411.5	65	29	0.267	9012	100	0	300	190	148	18.0	186	2.1	0.0	6.2
9/6/20	24	5.810	6.170	408	69.5	26	0.267	8615	100	0	300	180	160	18.0	178	2.1	0.0	6.2
9/7/20	24	4.250	5.550	406	63.5	31	0.267	8085	100	0	300	186	148	18.0	228	2.8	0.0	8.5
9/8/20	24	5.400	5.870	413.5	67	31	0.178	8567	100	0	300	186	151	18.0	190	2.2	0.0	6.7
9/9/20	24	5.250	5.440	462	72	28	0.267	7940	100	0	300	186	174	18.0	181	2.3	0.0	6.9
9/10/20	24	4.810	5.320	432	74	28	0.267	8013	100	0	300	170	128	18.0	200	2.5	0.0	7.5
9/11/20	24	4.780	5.810	422	72	40	0.267	8090	100	0	300	186	150	16.2	203	2.5	0.0	7.5
9/12/20	24	5.640	6.110	4.13.5	65.5	29	0.267	8231	100	0	300	152	154	18.0	175	2.1	0.0	6.4
9/13/20	24	4.370	5.420	364.5	62	19	0.267	7520	100	0	300	150	150	18.0	206	2.7	0.0	8.2
9/14/20	24	5.020	5.380	423.5	70.5	31	0.178	7852	100	0	300	160	160	18.0	188	2.4	0.0	7.2
9/15/20	24	4.980	5.090	383.5	64	31	0.356	7428	100	0	300	150	152	18.0	179	2.4	0.0	7.2
9/16/20	24	4.970	5.470	347	64	25	0.267	7993	100	0	300	150	152	18.0	193	2.4	0.0	7.2
9/17/20	24	5.070	5.770	410.5	66	38	0.178	8421	100	0	300	150	129	18.0	199	2.4	0.0	7.1
9/18/20	24	4.960	5.580	456	73	31	0.267	8324	100	0	300	150	146	18.0	201	2.4	0.0	7.3
9/19/20	24	4.800	5.440	429	70	28.5	0.267	7056	100	0	300	152	125	18.0	176	2.5	0.0	7.5
9/20/20	24	4.920	5.370	421	68.5	26.5	0.267	7246	100	0	300	152	140	18.0	177	2.4	0.0	7.3
9/21/20	24	5.020	5.520	394	61.5	31	0.356	8056	100	0	300	154	152	18.0	192	2.4	0.0	7.2
9/22/20	24	4.680	5.090	377.5	61	29	0.178	7428	100	0	300	148	144	18.0	190	2.6	0.0	7.7
9/23/20	24	4.800	5.570	439.5	66	36.5	0.267	8129	100	0	300	148	141	18.0	203	2.5	0.0	7.5
9/24/20	24	4.650	5.050	422.5	70	30	0.267	7370	100	0	300	148	150	18.0	190	2.6	0.0	7.7
9/25/20	24	4.700	5.410	412.5	63	35	0.356	6859	100	0	300	150	150	18.0	175	2.6	0.0	7.7
9/26/20	24	4.470	5.230	375	60	27	0.267	7243	100	0	300	150	150	18.1	194	2.7	0.0	8.0
9/27/20	24	5.310	5.700	381	59	27	0.267	7624	100	0	300	164	130	18.0	172	2.3	0.0	6.8
9/28/20	24	5.270	5.400	409.5	66	31	0.178	7881	100	0	300	164	140	18.0	179	2.3	0.0	6.8
9/29/20	24	5.070	5.250	412.5	63	29	0.267	7662	100	0	300	164	150	18.0	181	2.4	0.0	7.1
9/30/20	24	5.040	5.870	408.5	63	35	0.267	8567	100	0	300	164	144	18.0	204	2.4	0.0	7.1
Total	720.00	151.40	167.59	11872.30	1991.50	905.00	7.74	239510.00	3000.00	0.00	#####	4910.00	4420.00	538.30	5704.90	71.70	0.00	215.11	
Max.	24.00	5.81	6.51	462.00	79.00	49.00	0.36	9112.00	100.00	0.00	300.00	192.00	174.00	18.10	228.10	2.82	0.00	8.46	
Min.	24.00	4.25	5.05	347.00	59.00	19.00	0.18	6859.00	100.00	0.00	300.00	148.00	125.00	16.20	172.16	2.06	0.00	6.19	
Avg.	24.00	5.05	5.59	409.39	66.38	30.17	0.26	7983.67	100.00	0.00	300.00	163.67	147.33	17.94	190.16	2.39	0.00	7.17	

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Sep-20
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

			RAW WATER										SETTLED WATER							
Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk
15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
3.6	0.70	0.40	4,8	7.2	240	264	244	20	30	0.3	30	40	1.5	10.2	22	42	60	51	9.7	10
3.8	0.83	0.417	4,8	7.2	240	266	246	20	30	0.3	30	40	2.9	9.8	20	40	61	51	9.6	9
4.3	0.83	0.41	4,8	7.2	240	264	246	20	30	0.3	30	40	1.2	10.0	21	38	60	50	9.1	9
4.0	0.72	0.38	4,8	7.2	244	260	246	20	30	0.3	30	40	0.8	10.1	22	38	59	48	9.2	8
3.9	0.70	0.37	4,8	7.2	240	260	240	20	30	0.3	30	40	1.3	9.8	17	39	61	47	9.3	7
3.7	0.76	0.37	4,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.1	20	38	61	48	9.0	7
5.2	0.96	0.51	4,8	7.2	242	260	240	20	30	0.3	30	40	1.1	10.1	25	43	57	46	9.2	9
4.1	0.77	0.40	4,8	7.2	240	260	240	20	30	0.3	30	40	1.8	9.9	19	41	57	47	9.1	9
4.2	0.91	0.41	4,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.1	24	41	58	48	9.0	8
4.2	0.73	0.45	4,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	21	42	58	48	9.2	10
4.7	0.87	0.41	4,8	7.2	240	264	244	20	30	0.3	30	4,8	1.3	10.0	21	42	58	47	9.5	12
3.2	0.75	0.38	4,8	7.2	240	264	244	20	30	0.3	30	40	1.0	10.2	21	40	60	49	9.5	10
4.1	0.95	0.49	4,8	7.2	240	264	220	20	30	0.3	30	40	1.2	10.0	20	39	61	53	9.4	11
3.8	0.88	0.43	4,8	7.2	240	268	244	20	30	0.3	30	40	0.8	10.0	22	41	57	49	9.4	9
3.6	0.84	0.43	4,8	7.2	242	268	240	20	30	0.3	30	40	0.9	10.0	20	40	58	47	9.2	10
3.6	0.84	0.43	4,8	7.2	240	268	240	20	30	0.3	30	40	1.1	10.0	22	41	58	49	9.3	9
3.5	0.70	0.43	4,8	7.2	242	268	240	20	30	0.3	30	40	1.2	10.0	22	41	56	47	9.2	9
3.6	0.81	0.44	4,8	7.2	242	268	240	20	30	0.3	30	40	1.2	10.0	23	41	57	48	9.2	9
3.8	0.72	0.45	4,8	7.2	242	268	240	20	30	0.3	30	40	1.1	9.9	18	40	65	49	9.2	10
3.7	0.78	0.44	4,8	7.2	242	266	240	20	30	0.3	30	40	0.8	10.0	18	40	61	50	9.3	10
3.7	0.84	0.43	3.4.8	7.2	242	264	240	20	30	0.3	30	40	0.7	9.9	18	40	61	49	9.3	10
3.8	0.85	0.46	3,8	7.2	242	264	240	20	30	0.3	30	40	1.6	10.3	22	39	58	47	9.3	10
3.7	0.81	0.45	3,8	7.2	242	264	240	20	30	0.3	30	40	1.2	10.0	22	40	58	48	9.3	9
3.8	0.89	0.46	3,8	7.1	240	266	244	22	30	0.3	30	40	1.6	9.9	19	41	56	44	9.3	9
3.8	0.88	0.46	3,8	7.1	240	266	244	20	30	0.3	30	40	1.6	10.0	22	41	55	47	9.3	9
4.0	0.93	0.49	3,8	7.2	240	266	244	22	30	0.3	30	40	1.0	10.0	22	40	58	48	9.2	8
3.7	0.68	0.41	3,8	7.2	242	268	246	22	30	0.3	30	40	0.9	10.1	22	42	59	47	9.3	7
3.7	0.73	0.41	3,8	7.2	244	260	242	22	30	0.3	30	40	0.8	10.0	23	45	59	49	9.3	8
3.9	0.82	0.43	3,8	7.2	244	260	242	18	30	0.3	30	40	1.4	10.0	21	40	57	48	9.1	8
3.9	0.79	0.43	3,8	7.2	244	260	242	18	30	0.3	30	40	1.4	10.2	22	41	57	48	9.2	9

116.99	24.27	12.86	0.00	215.80	7236.00	7918.00	7238.00	604.00	900.00	8.10	900.00	1160.00	35.86	300.60	631.00	1216.00	1761.00	1447.00	278.20	272.00
5.25	0.96	0.51	0.00	7.20	244.00	268.00	246.00	22.00	30.00	0.27	30.00	40.00	2.90	10.30	25.00	45.00	65.00	53.00	9.70	12.00
3.23	0.68	0.37	0.00	7.10	240.00	260.00	220.00	18.00	30.00	0.27	30.00	40.00	0.70	9.80	17.00	38.00	55.00	44.00	9.00	7.00
3.90	0.81	0.43	#DIV/0!	7.19	241.20	263.93	241.27	20.13	30.00	0.27	30.00	40.00	1.20	10.02	21.03	40.53	58.70	48.23	9.27	9.07

NT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year SEP	2020

FINISHED WATER										
M. Alk	**Total Hardness**	**Calicum Hardness**	**Free Cl2**	**Total Cl2**	**Color**	**Fluoride as F**	**NTU**	**Iron as FE**	**S.I.**	**Inches of Rain**
35	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
38	59	48	0.0	3.7	11	0.69	0.22	0.08	0.34	0.0
33	61	49	0.0	3.0	10	0.69	0.19	0.07	0.46	0.0
35	58	48	0.0	2.4	7	0.67	0.19	0.08	0.54	0.0
23	58	46	0.0	3.4	6	0.69	0.24	0.09	0.36	0.2
25	58	47	0.0	3.6	6	0.65	0.24	0.09	0.26	0.0
22	58	46	0.0	3.3	6	0.67	0.24	0.10	0.33	0.3
30	60	52	0.0	3.6	6	0.74	0.22	0.09	0.16	0.0
25	55	47	0.0	3.4	8	0.75	0.26	0.11	0.34	1.1
25	57	47	0.0	3.1	8	0.76	0.35	0.13	0.23	0.8
29	57	47	0.0	3.7	8	0.76	0.37	0.13	0.49	0.0
29	56	46	0.0	4.0	6	0.75	0.37	0.14	0.47	0.0
28	57	46	0.0	3.7	6	0.70	0.34	0.13	0.64	1.0
29	61	50	0.0	3.8	6	0.65	0.28	0.11	0.69	1.3
29	58	47	0.0	3.8	8	0.69	0.33	0.11	0.68	0.3
28	57	47	0.0	3.5	8	0.74	0.42	0.09	0.47	0.0
27	57	47	0.0	3.5	7	0.80	0.48	0.09	0.56	0.2
27	56	47	0.0	3.5	6	0.77	0.56	0.09	0.46	0.4
27	56	46	0.0	3.7	7	0.72	0.47	0.11	0.45	0.0
26	59	41	0.0	3.7	8	0.64	0.45	0.19	0.38	0.1
29	61	51	0.0	3.5	8	0.65	0.26	0.10	0.70	1.1
29	59	48	0.0	3.7	6	0.64	0.25	0.08	0.60	0.8
29	57	47	0.0	3.8	5	0.65	0.28	0.09	0.79	0.0
29	58	48	0.0	3.5	6	0.67	0.18	0.09	0.79	0.0
26	56	46	0.0	3.8	6	0.68	0.21	0.08	0.53	0.4
26	56	47	0.0	3.8	5	0.65	0.12	0.08	0.54	0.1
23	58	48	0.0	3.5	5	0.68	0.19	0.04	0.62	0.0
24	58	45	0.0	3.6	8	0.66	0.13	0.04	0.60	0.2
22	57	45	0.0	3.7	8	0.63	0.17	0.08	0.45	0.4
28	57	47	0.0	3.5	6	0.62	0.20	0.06	0.37	0.2
27	57	47	0.0	3.6	5	0.61	0.19	0.06	0.45	0.1
827.00	1732.00	1413.00	0.00	106.40	206.00	20.67	8.40	2.83	14.75	9.02
38.00	61.00	52.00	0.00	4.00	11.00	0.80	0.56	0.19	0.79	1.30
22.00	55.00	41.00	0.00	2.40	5.00	0.61	0.12	0.04	0.16	0.00
27.57	57.73	47.10	0.00	3.55	6.87	0.69	0.28	0.09	0.49	0.30

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPOR

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	*A8226*
M. HUTCHINSON	*A17010*
C.HUTCHINSON	A17011
STANLEY EBANKS	A17017
INDRAL SAMLAL	A7282
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220

DAWN CAM
RAJIV SAM

How Many Other Operators? 9

Total Metered Services at End of Month: 13,141

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS							
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime
	1	2	3	4	5	6	7	8			9	10	11	12	13
10/1/20	24	5.050	5.240	422.5	64	39.5	0.267	7648	100	0	300	164	148	18.0	182
10/2/20	24	4.620	5.390	436	67	40	0.356	7347	100	0	300	148	150	18.0	191
10/3/20	24	4.370	5.140	408	65	31	0.178	7242	100	0	300	148	160	18.0	199
10/4/20	24	4.560	5.290	337.5	77.5	61.5	0.267	7345	100	0	300	166	130	18.0	193
10/5/20	24	4.880	5.190	414.5	66.5	31	0.356	7574	100	0	300	170	150	18.0	186
10/6/20	24	5.020	5.170	375.5	61	28	0.178	7545	100	0	300	172	135	18.0	180
10/7/20	24	4.910	5.300	424.5	63	37.5	0.356	7735	100	0	300	172	135	18.0	189
10/8/20	24	4.910	5.210	369.5	65	29	0.356	7604	100	0	300	172	150	18.0	186
10/9/20	24	5.090	6.130	412	63	34	0.178	8687	100	0	300	172	160	18.0	205
10/10/20	24	4.860	5.270	465	75	31	0.267	7093	100	0	300	172	136	18.0	175
10/11/20	24	4.830	5.580	435	76	25.5	0.356	7138	100	0	300	172	150	16.8	177
10/12/20	24	4.810	5.420	369.5	66	27	0.178	7910	100	0	300	162	149	18.0	197
10/13/20	24	4.990	5.180	410.5	65	31	0.267	7560	100	0	300	160	150	18.0	182
10/14/20	24	5.090	5.650	438.5	71	34	0.178	8246	100	0	300	164	139	18.0	194
10/15/20	24	4.890	5.320	476	78	37	0.178	7764	100	0	300	180	149	18.0	190
10/16/20	24	4.770	5.720	493	83	38	0.356	7829	100	0	300	186	140	18.0	197
10/17/20	24	4.560	5.540	399	68	29	0.267	7696	100	0	300	150	150	18.0	202
10/18/20	24	4.620	5.070	395	67.5	26.5	0.267	7635	100	0	300	152	130	18.0	198
10/19/20	24	4.710	5.250	400	63	34	0.267	7924	100	0	300	164	134	18.0	202
10/20/20	24	5.190	5.380	414	61.5	33	0.178	7894	100	0	300	164	137	18.0	182
10/21/20	24	5.510	5.950	477	76	39	0.267	7794	100	0	300	168	135	18.0	170
10/22/20	24	5.140	5.240	452	74	30	0.267	7896	100	0	300	168	130	18.0	184
10/23/20	24	4.990	5.930	414	72	28	0.356	8135	100	0	300	166	140	18.0	195
10/24/20	24	4.620	5.160	383.3	60	27.5	0.178	6742	100	0	300	158	127	18.0	175
10/25/20	24	4.500	4.640	441	69	27	0.267	7765	100	0	300	164	139	18.0	207
10/26/20	24	4.720	5.400	415	70	29	0.356	7881	100	0	300	162	137	18.0	200
10/27/20	24	4.840	5.230	361.5	58	28.5	0.178	7633	100	0	300	164	149	18.0	189
10/28/20	24	4.830	5.170	424	62	38	0.267	7546	100	0	300	160	150	18.0	187
10/29/20	24	4.850	5.660	437.5	65.5	39	0.267	8260	100	0	300	172	140	18.0	204
10/30/20	24	5.580	5.350	474.6	74.1	39.5	0.356	8130	100	0	300	180	140	18.0	204
10/31/20	24	4.640	4.980	379	60	29	0.267	6879	100	0	300	160	146	18.0	175
Total	744.00	150.95	166.15	12954.40	2106.60	1032.00	8.28	238077.00	3100.00	0.00	9300.00	5132.00	4415.00	556.80	5897.62
Max.	24.00	5.58	6.13	493.00	83.00	61.50	0.36	8687.00	100.00	0.00	300.00	186.00	160.00	18.00	206.90
Min.	24.00	4.37	4.64	337.50	58.00	25.50	0.18	6742.00	100.00	0.00	300.00	148.00	127.00	16.80	169.61
Avg.	24.00	4.87	5.36	417.88	67.95	33.29	0.27	7679.90	100.00	0.00	300.00	165.55	142.42	17.96	190.25

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Oct-20
Telephone Number : (954) 730-2972

IPBELL C24707
/ILAL ***B22878***

C H E

DOSAGES						RAW WATER											
NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH
		14	15	16	17		18	19	20	21	22	23	24	25	26	27	28
2.4	0	7.1	3.9	0.81	0.43	4,8	7.1	240	266	242	24	30	0.3	30	40	1.3	10.1
2.6	0.0	7.8	3.8	0.90	0.47	4,8,3	7.1	240	266	242	24	30	0.3	30	40	1.8	10.1
2.7	0.0	8.2	4.1	1.01	0.49	4,5	7.2	240	270	248	22	30	0.3	30	40	1.0	10.0
2.6	0.0	7.9	4.4	0.79	0.47	4,5	7.2	238	268	248	20	30	0.3	32	40	0.7	10.0
2.5	0.0	7.4	4.2	0.85	0.44	4,5	7.2	240	266	250	20	30	0.3	30	40	0.8	9.9
2.4	0.0	7.2	4.1	0.74	0.43	4,5	7.2	240	266	250	16	30	0.3	30	40	1.2	10.0
2.4	0.0	7.3	4.2	0.76	0.44	4,5	7.2	240	266	250	16	30	0.3	30	40	1.2	9.9
2.4	0.0	7.3	4.2	0.84	0.44	4,5	7.2	240	266	265	16	30	0.3	30	40	1.1	10.2
2.4	0.0	7.1	4.1	0.87	0.42	4,5	7.2	240	266	250	16	30	0.3	30	40	1.2	10.0
2.5	0.0	7.4	4.2	0.77	0.44	3,5	7.2	242	268	248	20	32	0.3	30	40	0.8	10.1
2.5	0.0	7.4	4.3	0.86	0.42	5,3	7.2	242	266	246	20	32	0.3	30	40	1.0	10.0
2.5	0.0	7.5	4.0	0.85	0.45	5,3	7.2	230	260	244	16	30	0.3	30	40	0.8	10.0
2.4	0.0	7.2	3.8	0.83	0.43	5,3,8	7.0	230	260	244	16	20	0.3	30	40	0.9	9.9
2.4	0.0	7.1	3.9	0.75	0.42	5,8	7.0	230	260	244	16	20	0.3	30	40	1.3	9.9
2.5	0.0	7.4	4.4	0.84	0.44	5,8	7.0	230	260	244	16	20	0.3	28	40	0.7	9.9
2.5	0.0	7.5	4.7	0.81	0.45	5,8	7.0	230	260	244	16	20	0.3	28	40	1.2	10.0
2.6	0.0	7.9	3.9	0.91	0.47	5,8	7.1	230	260	240	20	20	0.3	32	40	0.9	10.2
2.6	0.0	7.8	3.9	0.78	0.47	5,8	7.1	232	260	240	20	20	0.3	32	40	0.8	10.0
2.5	0.0	7.6	4.2	0.78	0.46	5,8	7.2	230	260	240	16	20	0.3	32	40	1.0	10.0
2.3	0.0	6.9	3.8	0.73	0.42	5,8	7.2	230	262	238	20	20	0.3	30	40	1.0	9.9
2.2	0.0	6.5	3.7	0.68	0.39	5,8	7.2	230	262	238	24	20	0.3	30	40	0.9	9.9
2.3	0.0	7.0	3.9	0.70	0.42	5,8	7.2	230	260	238	20	20	0.3	30	40	0.8	9.8
2.4	0.0	7.2	4.0	0.77	0.43	5,8	7.2	230	260	230	20	20	0.3	30	40	0.8	10.0
2.6	0.0	7.8	4.1	0.76	0.47	5,8	7.2	236	260	240	20	30	0.3	30	40	0.7	10.0
2.7	0.0	8.0	4.4	0.85	0.48	5,8	7.2	236	260	240	20	30	0.3	30	40	0.8	10.0
2.5	0.0	7.6	4.1	0.80	0.46	5,8	7.2	238	260	240	20	30	0.3	30	40	0.8	10.0
2.5	0.0	7.4	4.1	0.85	0.45	5,8	7.2	238	260	242	20	30	0.3	30	40	.1.3	10.1
2.5	0.0	7.4	4.0	0.86	0.45	5,8	7.2	238	260	242	18	30	0.3	30	40	1.3	9.9
2.5	0.0	7.4	4.3	0.80	0.45	5,8	7.2	238	260	242	18	30	0.3	30	40	1.4	9.8
2.1	0.0	6.4	3.9	0.69	0.39	5,8	7.2	238	260	242	18	30	0.3	30	40	0.7	10.1
2.6	0.0	7.8	4.1	0.87	0.47	5,8	7.2	240	260	240	20	30	0.3	30	40	0.7	10.1

76.55	0.00	229.66	126.54	25.09	13.75	0.00	222.00	7306.00	8138.00	7551.00	588.00	824.00	9.29	934.00	1240.00	29.42	309.80
2.74	0.00	8.23	4.68	1.01	0.49	0.00	7.20	242.00	270.00	265.00	24.00	32.00	0.34	32.00	40.00	1.80	10.20
2.15	0.00	6.45	3.66	0.68	0.39	0.00	7.00	230.00	260.00	230.00	16.00	20.00	0.27	28.00	40.00	0.66	9.80
2.47	0.00	7.41	4.08	0.81	0.44	#DIV/0!	7.16	235.68	262.52	243.58	18.97	26.58	0.30	30.13	40.00	0.98	9.99

T OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year OCT	2020

MICAL AND PHYSICAL RESULTS

SETTLED WATER				FINISHED WATER												
P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
20	40	57	48	9.4	11	32	58	48	0.0	3.7	6	0.59	0.18	0.08	0.75	0.2
23	43	58	47	9.5	12	32	58	47	0.0	4.0	7	0.61	0.14	0.08	0.69	0.0
21	40	58	47	9.3	9	27	58	45	0.0	3.6	6	0.61	0.22	0.07	0.63	0.3
22	41	60	47	9.2	8	29	59	44	0.0	3.6	6	0.65	0.25	0.08	0.64	0.4
16	40	62	50	9.3	9	29	58	47	0.0	3.7	7	0.65	0.28	0.12	0.59	0.2
23	41	58	49	9.2	9	27	57	47	0.0	3.8	6	0.68	0.30	0.14	0.47	0.2
20	40	59	48	9.0	9	26	58	48	0.0	3.4	7	0.61	0.39	0.20	0.25	0.0
23	44	58	48	9.4	9	27	57	47	0.0	3.7	6	0.61	0.42	0.20	0.66	0.0
22	42	58	49	9.3	9	29	58	47	0.0	3.8	6	0.61	0.41	0.19	0.67	0.0
20	42	57	46	9.3	8	28	59	39	0.0	3.6	6	0.60	0.36	0.17	0.55	0.0
20	44	60	46	9.4	7	29	59	46	0.0	3.8	7	0.62	0.23	0.10	0.66	0.0
23	44	59	51	9.3	6	28	57	46	0.0	3.5	6	0.63	0.22	0.10	0.56	0.2
22	40	58	49	9.1	7	26	56	46	0.0	3.4	7	0.63	0.22	0.10	0.34	0.0
18	38	57	47	8.9	7	25	57	47	0.0	3.4	7	0.62	0.26	0.12	0.13	0.0
22	38	58	48	9.0	9	27	57	47	0.0	3.4	7	0.62	0.24	0.12	0.26	0.0
20	36	58	47	9.2	9	26	57	46	0.0	3.7	8	0.63	0.23	0.11	0.62	0.0
22	41	61	46	9.3	9	27	58	46	0.0	3.8	6	0.67	0.26	0.08	0.67	0.0
19	38	61	50	9.5	14	36	58	46	0.0	3.7	7	0.65	0.21	0.07	0.61	0.4
22	38	57	47	9.4	11	34	56	45	0.0	3.7	8	0.68	0.22	0.07	0.69	0.3
20	39	58	48	9.2	13	36	57	47	0.0	3.4	6	0.63	0.25	0.10	0.62	1.0
22	45	60	45	9.1	8	34	58	48	0.0	3.4	7	0.63	0.29	0.12	0.61	0.5
23	42	60	45	9.1	7	25	58	46	0.0	3.5	7	0.64	0.23	0.11	0.63	0.2
25	45	59	47	9.2	8	22	56	46	0.0	3.6	7	0.64	0.25	0.10	0.59	0.6
21	39	60	47	9.3	10	27	58	44	0.0	3.6	9	0.71	0.24	0.09	0.59	0.3
19	38	60	50	9.4	12	30	58	44	0.0	3.5	9	0.74	0.20	0.09	0.65	0.2
23	39	58	47	9.3	8	26	57	45	0.0	3.5	12	0.69	0.27	0.08	0.52	0.2
21	41	58	49	9.2	8	25	57	47	0.0	3.5	6	0.73	0.20	0.08	0.43	0.0
22	39	58	47	9.0	8	25	57	47	0.0	3.4	8	0.71	0.28	0.11	0.23	0.2
20	38	57	48	9.2	9	32	58	48	0.0	3.6	6	0.67	0.24	0.12	0.54	0.0
23	41	59	49	9.3	9	27	58	47	0.0	3.7	6	0.68	0.26	0.09	0.43	0.1
25	54	62	50	9.4	11	35	56	45	0.0	4.0	6	0.72	0.20	0.10	0.43	0.0
									0.0							
662.00	1270.00	1823.00	1482.00	286.70	283.00	888.00	1783.00	1428.00	0.00	112.00	215.00	20.16	7.95	3.39	16.71	5.50
25.00	54.00	62.00	51.00	9.50	14.00	36.00	59.00	48.00	0.00	4.00	12.00	0.74	0.42	0.20	0.75	1.00
16.00	36.00	57.00	45.00	8.90	6.00	22.00	56.00	39.00	0.00	3.40	6.00	0.59	0.14	0.07	0.13	0.00
21.35	40.97	58.81	47.81	9.25	9.13	28.65	57.52	46.06	0.00	3.61	6.94	0.65	0.26	0.11	0.54	0.18

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C24707

RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS									
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							D		
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2
	1	2	3	4	5	6	7	8			9	10	11	12	13		
11/1/20	24	5.030	5.370	388.5	63	38.5	0.267	8236	100	0	300	170	140	18.0	196	2.4	0
11/2/20	24	5.260	5.240	396.5	59	29	0.356	7647	100	0	300	170	140	18.0	174	2.3	0.0
11/3/20	24	5.220	5.110	371	60.5	28.5	0.267	7458	100	0	300	170	140	18.0	171	2.3	0.0
11/4/20	24	5.160	5.240	395.5	59	34.5	0.267	7647	100	0	300	170	139	18.0	178	2.3	0.0
11/5/20	24	5.250	5.550	424.5	66	35	0.267	7467	100	0	300	162	150	18.0	171	2.3	0.0
11/6/20	24	5.030	5.230	417.5	65	29.5	0.267	7546	100	0	300	160	140	18.0	180	2.4	0.0
11/7/20	24	4.250	4.700	438	75	30	0.267	6860	100	0	300	160	150	18.0	194	2.8	0.0
11/8/20	24	4.830	5.180	416	65	27	0.267	6750	100	0	300	168	140	17.4	168	2.5	0.0
11/9/20	24	6.020	5.980	399	67	28	0.267	8727	100	0	300	180	150	18.0	174	2.0	0.0
11/10/20	24	5.570	5.590	427.5	71	34	0.178	8158	100	0	300	180	140	18.0	176	2.2	0.0
11/11/20	24	4.760	5.510	481	73	40	0.267	8042	100	0	300	180	150	18.0	203	2.5	0.0
11/12/20	24	4.560	5.450	468.5	82	34.5	0.267	7954	100	0	300	176	145	18.0	209	2.6	0.0
11/13/20	24	5.000	5.470	394	62.5	31	0.178	7983	100	0	300	174	141	18.0	191	2.4	0.0
11/14/20	24	5.550	5.730	449.5	80.5	28.5	0.267	7894	100	0	300	170	146	18.0	171	2.2	0.0
11/15/20	24	4.690	5.740	442	78	27	0.356	7884	100	0	300	160	140	18.0	202	2.6	0.0
11/16/20	24	5.140	5.580	358	67	28	0.178	8144	100	0	300	160	144	18.0	190	2.3	0.0
11/17/20	24	5.250	5.370	427.5	65	37.5	0.178	7837	100	0	300	160	152	18.0	179	2.3	0.0
11/18/20	24	5.320	5.630	464	70	37.5	0.356	8216	100	0	300	160	135	18.0	185	2.3	0.0
11/19/20	24	5.260	5.900	413.5	73.5	34	0.267	8611	100	0	300	160	141	18.0	196	2.3	0.0
11/20/20	24	6.108	5.540	397	67	28	0.267	8085	100	0	300	160	150	18.0	159	2.0	0.0
11/21/20	24	5.608	5.430	413.5	80	52	0.178	8123	100	0	300	166	154	18.0	174	2.1	0.0
11/22/20	24	6.110	5.840	439	76	26	0.267	8213	100	0	300	174	140	18.0	161	2.0	0.0
11/23/20	24	6.220	5.860	411.5	68.5	30	0.267	8552	100	0	300	184	145	18.0	165	1.9	0.0
11/24/20	24	5.490	5.310	421.5	67	32.5	0.178	7750	100	0	300	170	160	18.0	169	2.2	0.0
11/25/20	24	5.134	5.490	453	71	35.5	0.356	8012	100	0	300	160	146	18.0	187	2.3	0.0
11/26/20	24	5.933	6.200	501.5	80.5	35.5	0.267	9048	100	0	300	166	141	18.0	183	2.0	0.0
11/27/20	24	5.164	5.520	385	68	29	0.356	8056	100	0	300	176	150	18.0	187	2.3	0.0
11/28/20	24	5.122	5.300	395	64	29.5	0.178	8124	100	0	300	172	142	18.0	190	2.3	0.0
11/29/20	24	5.210	5.800	395	66	25	0.267	8075	100	0	300	172	152	18.0	186	2.3	0.0
11/30/20	24	5.393	5.660	415.5	73	27.5	0.267	8260	100	0	300	174	150	18.0	184	2.2	0.0
Total	720	158.64	165.52	12599.50	2083.00	962.50	7.83	239359.00	3000.00	0.00	9000.00	5064.00	4353.00	539.40	5450.70	68.53	0.00
Max.	24	6.22	6.20	501.50	82.00	52.00	0.36	9048.00	100.00	0.00	300.00	184.00	160.00	18.00	209.15	2.82	0.00
Min.	24	4.25	4.70	358.00	59.00	25.00	0.18	6750.00	100.00	0.00	300.00	160.00	135.00	17.40	158.71	1.93	0.00
Avg.	24	5.29	5.52	419.98	69.43	32.08	0.26	7978.63	100.00	0.00	300.00	168.80	145.10	17.98	181.69	2.28	0.00

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Nov-20
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULT

OSAGES				RAW WATER										SETTLED WATER							
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
7.2	4.1	0.77	0.43	5,8	7.2	240	268	248	20	30	0.3	30	40	0.8	10.0	23	41	59	47	9.3	11
6.8	3.9	0.73	0.410	5,8	7.2	242	260	246	20	28	0.3	30	40	0.7	10.0	22	42	64	56	9.3	8
6.9	3.9	0.74	0.41	5,8	7.2	242	260	246	17	28	0.3	30	40	0.9	9.9	23	44	60	50	9.1	9
7.0	4.0	0.74	0.42	5,8	7.2	242	260	246	14	28	0.3	30	40	1.5	10.0	23	41	58	48	9.0	7
6.9	3.7	0.79	0.41	5,8	7.2	242	260	246	14	28	0.3	30	40	1.1	10.1	22	42	57	47	9.3	11
7.2	3.8	0.77	0.43	5,8	7.2	240	260	246	20	28	0.3	30	40	1.3	10.2	20	41	59	48	9.4	12
8.5	4.5	0.97	0.51	5,8	7.2	240	260	238	20	30	0.3	30	40	1.5	10.1	22	41	62	47	8.9	7
7.4	4.2	0.80	0.43	5,8	7.2	240	260	240	20	30	0.3	30	40	0.9	10.1	22	44	59	49	9.1	9
6.0	3.6	0.69	0.36	5,8	7.2	240	260	240	20	32	0.3	30	40	1.1	10.0	21	41	59	47	9.2	8
6.5	3.9	0.69	0.39	5,8	7.2	240	260	240	20	32	0.3	30	40	1.1	10.0	21	38	57	47	9.1	9
7.6	4.5	0.87	0.45	5,8	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	21	41	59	49	9.0	6
7.9	4.6	0.88	0.47	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	9.9	22	41	57	46	9.0	7
7.2	4.2	0.78	0.43	5,8	7.2	240	260	240	20	32	0.3	30	40	1.1	9.9	22	42	57	47	8.8	6
6.5	3.7	0.73	0.39	5,8	7.2	240	260	240	20	32	0.3	30	40	1.6	10.2	20	42	61	47	9.3	8
7.7	4.1	0.82	0.46	5,8	7.2	240	258	240	20	30	0.3	30	40	0.7	10.0	20	42	60	48	9.4	10
7.0	3.7	0.77	0.42	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	22	37	59	49	9.4	8
6.9	3.7	0.80	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	21	41	59	49	9.2	10
6.8	3.6	0.70	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	9.9	20	39	58	48	9.1	9
6.8	3.6	0.74	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	1.1	9.9	21	39	58	49	9.1	10
5.9	3.1	0.68	0.35	5,8	7.2	240	260	240	20	30	0.3	30	40	1.1	10.0	20	39	58	47	9.2	10
6.4	3.5	0.76	0.38	5,8	7.2	240	260	240	20	30	0.3	30	40	1.2	10.0	19	40	57	46	9.1	8
5.9	3.4	0.63	0.35	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	20	38	59	48	9.2	10
5.8	3.5	0.64	0.35	5,8	7.2	240	260	238	20	30	0.3	30	40	0.8	10.0	23	39	57	47	9.2	8
6.6	3.7	0.80	0.39	5,8	7.2	240	260	238	20	30	0.3	30	40	1.1	10.0	21	40	57	48	9.3	8
7.0	3.7	0.78	0.42	5,8	7.2	240	260	238	22	30	0.3	30	40	0.9	10.1	23	41	56	48	9.3	9
6.1	3.4	0.66	0.36	5,8	7.2	240	260	232	22	30	0.3	30	40	1.1	10.0	21	39	58	49	9.3	8
7.0	4.1	0.80	0.42	5,8	7.2	240	260	238	22	30	0.3	30	40	1.1	9.9	23	41	58	46	9.0	7
7.0	4.0	0.76	0.42	5,8	7.2	240	260	238	22	30	0.3	30	40	1.2	10.0	21	36	63	44	9.2	9
6.9	4.0	0.80	0.41	5,8	7.2	240	258	240	20	30	0.3	30	40	0.8	10.0	20	33	59	48	9.3	8
6.7	3.9	0.77	0.40	5,8	7.2	244	260	240	20	32	0.3	30	40	0.9	10.1	23	41	58	46	9.2	9

205.60	115.58	22.87	12.32	0.00	216.00	7212.00	7804.00	7218.00	593.00	900.00	8.12	900.00	1200.00	30.35	300.30	642.00	1206.00	1762.00	1435.00	275.30	259.00
8.46	4.63	0.97	0.51	0.00	7.20	244.00	268.00	248.00	22.00	32.00	0.29	30.00	40.00	1.60	10.20	23.00	44.00	64.00	56.00	9.40	12.00
5.78	3.14	0.63	0.35	0.00	7.20	240.00	258.00	232.00	14.00	28.00	0.27	30.00	40.00	0.70	9.90	19.00	33.00	56.00	44.00	8.80	6.00
6.85	3.85	0.76	0.41	#DIV/0!	7.20	240.40	260.13	240.60	19.77	30.00	0.27	30.00	40.00	1.01	10.01	21.40	40.20	58.73	47.83	9.18	8.63

IENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year NOV	2020

S

FINISHED WATER										
M. Alk	**Total Hardness**	**Calicum Hardness**	**Free Cl2**	**Total Cl2**	**Color**	**Fluoride as F**	**NTU**	**Iron as FE**	**S.I.**	**Inches of Rain**
35	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
36	58	46	0.0	3.6	7	0.75	0.26	0.06	0.62	0.0
26	56	46	0.0	3.5	6	0.70	0.24	0.09	0.53	0.0
26	58	48	0.0	3.6	7	0.71	0.26	0.12	0.35	0.0
24	56	46	0.0	3.4	6	0.70	0.27	0.14	0.23	0.0
28	56	46	0.0	3.8	7	0.69	0.23	0.12	0.56	0.0
27	58	47	0.0	3.8	6	0.68	0.21	0.07	0.35	0.0
38	70	48	0.0	3.2	6	0.67	0.22	0.06	0.32	2.2
28	58	47	0.0	3.7	6	0.69	0.21	0.08	0.38	0.0
27	58	47	0.0	3.6	6	0.64	0.27	0.10	0.44	0.2
23	57	47	0.0	3.6	6	0.63	0.32	0.14	0.28	0.0
25	57	47	0.0	3.4	6	0.60	0.36	0.16	0.24	0.2
25	57	46	0.0	3.3	6	0.62	0.36	0.13	0.20	0.2
21	57	46	0.0	3.3	6	0.66	0.36	0.13	0.94	0.0
27	57	46	0.0	3.6	6	0.67	0.35	0.12	0.34	0.0
31	57	46	0.0	3.9	8	0.65	0.33	0.12	0.46	0.2
26	57	46	0.0	3.9	7	0.69	0.28	0.13	0.63	0.2
28	57	47	0.0	3.6	6	0.74	0.36	0.15	0.27	0.0
26	57	46	8.0	3.5	7	0.73	0.33	0.15	0.36	0.1
28	57	46	0.0	3.4	6	0.73	0.36	0.12	0.46	0.0
27	57	46	0.0	3.4	5	0.73	0.35	0.12	0.26	0.1
26	58	44	0.0	3.6	4	0.77	0.35	0.14	0.42	0.1
22	57	45	0.0	3.8	6	0.67	0.38	0.16	0.44	0.0
20	56	46	0.0	3.8	7	0.57	0.41	0.17	0.32	0.2
27	56	47	0.0	3.8	7	0.57	0.35	0.15	0.56	0.0
27	57	47	0.0	3.8	7	0.58	0.32	0.14	0.56	0.0
27	58	47	0.0	3.4	7	0.63	0.33	0.13	0.56	0.0
22	58	47	0.0	3.2	6	0.64	0.35	0.12	0.17	0.0
28	60	48	0.0	3.8	6	0.67	0.37	0.13	0.43	0.0
27	57	47	0.0	3.8	8	0.63	0.35	0.13	0.27	0.2
27	57	46	0.0	3.7	7	0.65	0.37	0.13	0.44	0.3

800.00	1729.00	1394.00	8.00	107.80	191.00	20.06	9.51	3.71	12.39	4.21
38.00	70.00	48.00	8.00	3.90	8.00	0.77	0.41	0.17	0.94	2.20
20.00	56.00	44.00	0.00	3.20	4.00	0.57	0.21	0.06	0.17	0.00
26.67	57.63	46.47	0.27	3.59	6.37	0.67	0.32	0.12	0.41	0.14

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z

Operator's Names & Cert. No.

Z. BECKFORD	***A8226***
M. HUTCHINSON	***A17010***
C.HUTCHINSON	**A17011**
STANLEY EBANKS	**A17017**
INDRAL SAMLAL	**A7282**
KERRY ROMAN	**C7873**
R.RAMNARINE	**C12091**
H.RODRIGUEZ	**C19220**

DAWN CAMPBELL C24707

RAJIV SAMLAL ***B22878***

How Many Other 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS										DO
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED										
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	
	1	2	3	4	5	6	7	8			9	10	11	12	13			
12/1/20	24	5.212	5.390	423	66.5	33.5	0.178	7866	100	0	300	170	146	18.0	181	2.3	0	
12/2/20	24	5.273	5.540	467	70.5	37.5	0.267	8085	100	0	300	170	145	18.0	184	2.3	0.0	
12/3/20	24	5.653	5.920	460	78.5	39.5	0.267	8640	100	0	300	172	150	18.0	183	2.1	0.0	
12/4/20	24	5.409	5.765	417.5	65	31	0.356	8629	100	0	300	170	146	18.0	191	2.2	0.0	
12/5/20	24	5.656	5.834	394	66	28	0.178	8564	100	0	300	160	147	18.0	182	2.1	0.0	
12/6/20	24	5.493	5.760	433.5	68	25	0.267	8432	100	0	300	170	143	18.0	184	2.2	0.0	
12/7/20	24	5.560	5.910	404.5	65	29	0.365	8625	100	0	300	186	150	18.0	186	2.2	0.0	
12/8/20	24	5.321	5.410	393.5	67	28	0.089	7896	100	0	300	170	150	18.0	178	2.3	0.0	
12/9/20	24	5.231	5.480	493	71	40.5	0.267	7998	100	0	300	170	146	18.0	183	2.3	0.0	
12/10/20	24	5.434	5.790	488	78	40.5	0.356	8450	100	0	300	170	140	18.0	186	2.2	0.0	
12/11/20	24	5.443	5.710	390	69	27	0.267	8333	100	0	300	170	150	18.0	184	2.2	0.0	
12/12/20	24	5.432	5.610	419	70	28	0.178	7929	100	0	300	170	150	18.0	175	2.2	0.0	
12/13/20	24	5.453	5.720	434	72	23	0.267	7958	100	0	300	162	150	18.0	175	2.2	0.0	
12/14/20	24	5.494	5.850	417	70	30.5	0.356	8538	100	0	300	162	144	18.0	186	2.2	0.0	
12/15/20	24	5.321	5.400	385.5	63	30	0.178	7881	100	0	300	176	152	18.0	178	2.3	0.0	
12/16/20	24	5.233	5.500	422.5	67	35.5	0.267	8027	100	0	300	176	160	18.0	184	2.3	0.0	
12/17/20	24	5.663	5.930	428.5	68	39	0.267	8655	100	0	300	170	150	18.0	183	2.1	0.0	
12/18/20	24	5.433	5.700	388	66	30	0.267	8464	100	0	300	170	150	18.0	187	2.2	0.0	
12/19/20	24	5.400	5.580	404.5	64	22	0.178	8624	100	0	300	188	148	18.0	191	2.2	0.0	
12/20/20	24	5.424	5.830	442	64	32	0.356	8236	100	0	300	190	150	18.0	182	2.2	0.0	
12/21/20	24	5.930	5.460	395.5	65	28	0.267	8110	100	0	300	183	150	18.0	164	2.0	0.0	
12/22/20	24	6.102	6.280	413	66	28.5	0.178	9165	100	0	300	180	150	18.0	180	2.0	0.0	
12/23/20	24	4.983	5.250	443	74	30	0.267	8674	100	0	300	180	150	18.0	209	2.4	0.0	
12/24/20	24	5.773	6.040	392	77	25	0.267	8484	100	0	300	180	160	18.0	176	2.1	0.0	
12/25/20	24	5.803	6.070	385	56	37	0.267	8642	100	0	300	190	160	18.0	179	2.1	0.0	
12/26/20	24	5.472	5.590	404	63	30	0.236	8159	100	0	300	178	140	18.0	179	2.2	0.0	
12/27/20	24	5.250	5.330	377	62	25	0.267	8234	100	0	300	168	160	18.0	188	2.3	0.0	
12/28/20	24	6.253	6.520	443	70.5	35.5	0.267	9715	100	0	300	170	140	18.0	186	1.9	0.0	
12/29/20	24	5.313	5.580	395.5	67.5	29	0.267	8144	100	0	300	170	145	18.0	184	2.3	0.0	
12/30/20	24	5.330	5.600	398.5	67	27.5	0.267	8173	100	0	300	176	146	18.0	184	2.2	0.0	
12/31/20	24	5.590	5.860	435	70	40.5	0.267	8214	100	0	300	180	150	18.0	176	2.1	0.0	
Total	744.00	170.34	177.21	12986.50	2106.50	965.50	7.99	259544.00	3100.00	0.00	9300.00	5397.00	4618.00	558.00	5668.25	67.80	0.00	
Max.	24.00	6.25	6.52	493.00	78.50	40.50	0.37	9715.00	100.00	0.00	300.00	190.00	160.00	18.00	208.72	2.41	0.00	
Min.	24.00	4.98	5.25	377.00	56.00	22.00	0.09	7866.00	100.00	0.00	300.00	160.00	140.00	18.00	163.98	1.92	0.00	
Avg.	24.00	5.49	5.72	418.92	67.95	31.15	0.26	8372.39	100.00	0.00	300.00	174.10	148.97	18.00	182.85	2.19	0.00	

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Dec-20
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESU

OSAGES				RAW WATER										SETTLED WATER						
Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH
14	15	16	17		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
6.9	3.9	0.77	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.1	24	50	60	50	9.3
6.8	3.9	0.76	0.409	5,8	7.2	240	260	240	20	30	0.3	30	40	1.1	10.1	23	42	59	49	9.3
6.4	3.6	0.73	0.38	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	20	37	59	48	9.2
6.7	3.8	0.74	0.40	5,8	7.2	240	260	240	20	30	0.3	30	40	0.7	10.1	24	41	57	47	9.1
6.4	3.4	0.72	0.38	5,8	7.2	238	260	242	20	30	0.3	30	40	0.7	10.0	20	36	61	46	9.4
6.5	3.7	0.72	0.39	3,8	7.2	240	260	242	20	30	0.3	30	40	0.7	10.0	20	40	59	48	9.3
6.5	4.0	0.74	0.39	3,8	7.2	240	258	240	20	30	0.3	30	40	0.8	10.1	20	38	59	47	9.4
6.8	3.8	0.78	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.7	10.1	22	44	58	48	9.4
6.9	3.9	0.77	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.6	10.0	21	39	58	48	9.1
6.6	3.8	0.71	0.40	5,8	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	22	41	58	45	9.1
6.6	3.7	0.76	0.40	5,8	7.2	240	260	240	20	30	0.3	30	40	1.1	10.1	24	44	60	51	9.3
6.6	3.8	0.76	0.40	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.1	20	42	60	49	9.4
6.6	3.6	0.76	0.40	5,8	7.2	238	260	240	20	30	0.3	30	40	0.7	10.0	19	38	61	51	9.4
6.5	3.5	0.72	0.39	5,8	7.2	240	260	240	20	30	0.3	30	40	1.1	10.0	22	41	57	46	9.3
6.8	4.0	0.79	0.41	5,8	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	24	42	58	48	9.2
6.9	4.0	0.84	0.41	5,8	7.2	236	264	244	20	30	0.3	30	40	0.9	10.0	26	41	59	49	9.3
6.4	3.6	0.73	0.38	5,8	7.2	236	264	244	20	30	0.3	30	40	0.9	10.1	20	40	58	47	9.3
6.6	3.8	0.76	0.40	5,8	7.2	236	264	244	20	30	0.3	30	40	0.8	10.0	22	39	56	46	9.2
6.7	4.2	0.76	0.40	3,8	7.2	240	266	244	22	30	0.3	30	40	0.7	10.0	18	39	60	56	9.2
6.6	4.2	0.76	0.40	3,8	7.2	238	260	240	20	30	0.3	30	40	0.8	10.0	22	38	58	50	9.0
6.1	3.7	0.70	0.36	3,8	7.2	240	262	238	20	30	0.3	30	40	0.8	10.0	25	42	68	58	9.4
5.9	3.5	0.68	0.35	3,8	7.2	242	260	240	22	32	0.3	30	40	0.9	10.2	25	38	58	58	9.3
7.2	4.3	0.83	0.43	5,8	7.2	240	260	240	20	30	0.3	30	40	2.2	9.6	17	40	56	46	9.3
6.2	3.7	0.76	0.37	3,8	7.2	238	260	240	20	32	0.3	30	40	0.9	9.8	22	41	60	48	9.2
6.2	3.9	0.76	0.37	3,8	7.2	240	260	242	20	30	0.3	30	40	1.2	9.9	16	37	61	54	8.9
6.6	3.9	0.71	0.39	3,8	7.2	242	260	264	20	32	0.3	30	40	0.8	10.2	29	45	60	51	9.1
6.9	3.8	0.84	0.41	3,8	7.2	240	264	244	20	32	0.3	30	40	0.9	10.0	21	41	58	47	9.4
5.8	3.3	0.62	0.35	3,8	7.2	242	260	240	20	32	0.3	30	40	0.7	10.0	23	41	58	48	9.3
6.8	3.8	0.75	0.41	3,8	7.2	242	260	240	20	32	0.3	30	40	1.2	10.0	21	39	59	47	9.3
6.7	4.0	0.76	0.40	3,8	7.2	242	260	240	20	32	0.3	30	40	1.5	10.1	21	44	60	50	9.5
6.4	3.9	0.74	0.39	3,8	7.2	242	260	240	20	30	0.3	30	40	1.5	10.0	23	41	57	48	9.4

203.39	117.99	23.23	12.20	0.00	223.20	7432.00	8082.00	7488.00	624.00	944.00	9.27	930.00	1240.00	28.70	310.60	676.00	1261.00	1830.00	1524.00	287.30
7.22	4.33	0.84	0.43	0.00	7.20	242.00	266.00	264.00	22.00	32.00	0.30	30.00	40.00	2.20	10.20	29.00	50.00	68.00	58.00	9.50
5.75	3.26	0.62	0.35	0.00	7.20	236.00	258.00	238.00	20.00	30.00	0.27	30.00	40.00	0.55	9.60	16.00	36.00	56.00	45.00	8.90
6.56	3.81	0.75	0.39	#DIV/0!	7.20	239.74	260.71	241.55	20.13	30.45	0.30	30.00	40.00	0.93	10.02	21.81	40.68	59.03	49.16	9.27

EATMENT PLANT OPERATION REPORT

County :	Broward
I.D. Number :	4060787
Year DEC	2020

I L T S

FINISHED WATER											
P. Alk	**M. Alk**	**Total Hardness**	**Calicum Hardness**	**Free Cl2**	**Total Cl2**	**Color**	**Fluoride as F**	**NTU**	**Iron as FE**	**S.I.**	**Inches of Rain**
34	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
10	28	57	47	0.0	4.0	7	0.67	0.36	0.13	0.56	0.0
9	27	58	48	0.0	3.7	7	0.66	0.34	0.17	0.57	0.0
8	24	57	46	0.0	3.5	7	0.70	0.35	0.14	0.34	0.0
8	24	57	46	0.0	3.3	7	0.69	0.34	0.10	0.23	0.0
9	24	58	46	0.0	3.9	6	0.67	0.23	0.10	0.18	0.0
9	22	57	47	0.0	3.4	6	0.67	0.19	0.08	0.16	0.0
9	21	56	45	0.0	3.7	6	0.68	0.20	0.06	0.58	0.0
10	25	57	47	0.0	3.9	7	0.68	0.16	0.07	0.63	0.0
7	23	57	47	0.0	3.5	6	0.71	0.20	0.08	0.31	0.0
7	24	57	47	0.0	3.6	6	0.71	0.17	0.06	0.36	0.0
9	25	55	47	0.0	3.7	6	0.66	0.19	0.09	0.53	0.1
9	30	60	49	0.0	3.7	7	0.67	0.19	0.08	0.47	0.0
9	29	59	48	0.0	3.8	7	0.71	0.22	0.07	0.62	0.0
8	27	57	46	0.0	3.6	7	0.74	0.23	0.08	0.55	0.2
7	24	57	47	0.0	3.5	6	0.72	0.29	0.10	0.41	0.0
11	30	58	47	0.0	3.8	8	0.72	0.27	0.10	0.66	0.0
12	29	57	47	0.0	3.7	8	0.69	0.30	0.11	0.59	0.0
8	26	56	48	0.0	3.4	7	0.62	0.29	0.12	0.54	0.0
8	25	59	49	0.0	3.3	8	0.63	0.30	0.12	0.62	0.0
8	21	57	46	0.0	3.2	7	0.62	0.31	0.13	0.47	0.0
9	24	57	46	0.0	4.0	7	0.63	0.23	0.15	0.32	0.0
10	26	57	47	0.0	3.8	8	0.66	0.09	0.07	0.50	0.0
14	26	57	47	0.0	3.8	10	0.64	0.18	0.11	0.47	0.0
9	28	54	47	0.0	3.2	11	0.66	0.25	0.07	0.34	0.0
8	24	58	47	0.0	2.9	10	0.64	0.26	0.11	0.44	0.0
9	29	60	46	0.0	3.4	12	0.65	0.28	0.08	0.28	0.0
8	30	57	45	0.0	3.8	11	0.67	0.25	0.06	0.56	0.0
10	29	57	47	0.0	3.7	9	0.66	0.25	0.07	0.59	0.0
9	28	58	47	0.0	3.8	7.5	0.68	0.18	0.26	0.57	0.0
12	32	59	49	0.0	4.0	8	0.67	0.16	0.06	0.85	0.0
12	28	57	47	0.0	3.5	6	0.67	0.15	0.04	0.67	0.0
				0.0							
285.00	812.00	1777.00	1455.00	0.00	112.10	235.50	20.85	7.41	3.07	14.97	0.30
14.00	32.00	60.00	49.00	0.00	4.00	12.00	0.74	0.36	0.26	0.85	0.20
7.00	21.00	54.00	45.00	0.00	2.90	6.00	0.62	0.09	0.04	0.16	0.00
9.19	26.19	57.32	46.94	0.00	3.62	7.60	0.67	0.24	0.10	0.48	0.01

2021 MONTHLY OPERATING REPORT
YEAR SUMMARY

	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS									
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							D		
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2
Jan-21																	
Max.	24.00	6.09	6.36	506.50	85.00	61.00	0.45	9267.00	100.00	0.00	300.00	190.00	170.00	18.00	192.70	2.38	0.00
Min.	24.00	5.04	5.42	295.50	52.00	25.00	0.09	7840.00	100.00	0.00	300.00	150.00	146.00	18.00	160.43	1.97	0.00
Avg.	24.00	5.61	5.88	409.58	67.87	31.42	0.27	8492.97	188.24	0.00	300.00	171.65	153.94	18.00	181.51	2.14	0.00
Feb-21																	
Max.	24.00	6.23	6.50	535.50	90.00	44.00	0.36	8976.00	100.00	0.00	350.00	442.00	160.00	18.00	199.70	2.32	0.00
Min.	24.00	5.16	5.34	311.00	57.00	25.00	0.09	7794.00	100.00	0.00	280.00	160.00	139.00	18.00	165.40	1.92	0.00
Avg.	24.00	5.61	5.88	410.07	66.77	32.48	0.27	8534.82	100.00	0.00	303.21	221.33	148.86	18.00	182.62	2.14	0.00
Mar-21																	
Max.	24.00	6.41	6.68	500.50	88.00	41.00	0.45	9574.00	100.00	0.00	300.00	198.00	166.00	18.48	200.02	2.68	0.00
Min.	24.00	4.48	4.92	318.50	49.00	12.00	0.09	7465.00	100.00	0.00	300.00	140.00	119.00	16.80	164.93	1.87	0.00
Avg.	24.00	5.73	6.00	408.02	67.63	29.21	0.27	8654.65	100.00	0.00	300.00	166.71	139.35	17.96	181.26	2.10	0.00
Apr-21																	
Max.	24.00	6.71	6.74	486.50	88.00	43.50	0.45	9784.00	100.00	0.00	300.00	198.00	170.00	18.00	197.67	2.24	0.00
Min.	24.00	5.36	5.52	248.50	50.50	0.31	0.18	8056.00	100.00	0.00	300.00	152.00	130.00	18.00	153.00	1.79	0.00
Avg.	24.00	5.89	6.18	392.16	67.59	27.97	0.28	8879.72	100.00	0.00	300.00	178.62	152.86	18.00	180.90	2.04	0.00
May-21																	
Max.	24.00	6.29	6.63	479.00	82.00	45.50	0.45	9676.00	100.00	0.00	340.00	180.00	160.00	19.80	207.97	2.35	0.00
Min.	24.00	5.10	5.69	311.00	47.50	25.00	0.18	8258.00	100.00	0.00	300.00	156.00	120.00	16.30	176.41	1.91	0.00
Avg.	24.00	5.74	6.09	376.06	65.62	29.72	0.29	8900.03	100.00	0.00	302.58	167.94	148.32	17.95	186.11	2.10	0.00
Jun-21																	
Max.	24.00	6.12	6.34	462.50	162.00	51.00	0.53	9020.00	100.00	0.00	300.00	190.00	170.00	18.60	201.60	2.55	0.00
Min.	24.00	4.71	5.09	6.80	21.00	21.00	0.09	6874.00	100.00	0.00	300.00	140.00	130.00	10.80	157.83	1.96	0.00
Avg.	24.00	5.48	5.82	367.56	70.07	28.45	0.28	8242.29	100.00	0.00	300.00	171.14	153.11	17.76	180.58	2.20	0.00
Jul-21																	
Max.	24.00	5.97	6.07	457.50	88.00	39.60	0.45	8859.00	100.00	0.00	310.00	190.00	163.00	27.60	207.53	2.54	0.00
Min.	24.00	4.72	5.34	323.00	54.00	24.50	0.18	6889.00	100.00	0.00	290.00	152.00	121.00	17.40	167.36	2.01	0.00
Avg.	24.00	5.20	5.65	389.39	65.29	29.65	0.29	7832.88	100.00	0.00	300.00	169.87	148.00	18.31	180.83	2.31	0.00
Aug-21																	
Max.	24.00	7.00	6.82	3880.00	140.00	42.00	0.45	10216.50	100.00	0.00	300.00	200.00	160.00	27.00	175.00	2.55	0.00
Min.	24.00	4.70	5.20	334.00	57.00	25.00	0.09	6859.65	100.00	0.00	300.00	150.00	130.00	17.40	175.00	1.71	0.00
Avg.	24.00	5.53	5.88	542.05	80.28	30.65	0.27	8074.49	100.00	0.00	300.00	179.67	154.37	18.28	175.00	2.19	0.00
Sep-21																	
Max.	24.00	6.31	6.44	559.50	133.00	97.00	0.45	9209.45	100.00	0.00	300.00	360.00	186.00	18.00	175.00	2.68	0.00
Min.	24.00	4.47	4.90	135.40	26.00	14.00	0.09	6523.97	100.00	0.00	250.00	198.00	150.00	18.00	175.00	1.90	0.00
Avg.	24.00	5.65	5.93	397.55	73.57	32.78	0.30	8240.34	100.00	0.00	296.67	268.47	157.10	18.00	175.00	2.14	0.00
Oct-21																	
Max.	24.00	6.28	6.29	464.00	95.00	39.00	0.46	9165.66	100.00	0.00	300.00	300.00	160.00	18.00	175.00	2.33	0.00
Min.	24.00	5.14	5.45	284.00	50.00	16.50	0.18	7501.83	100.00	0.00	300.00	176.00	148.00	18.00	175.00	1.91	0.00
Avg.	24.00	5.58	5.83	392.92	73.03	28.58	0.31	8137.42	100.00	0.00	300.00	231.23	152.68	18.00	175.00	2.16	0.00
Nov-21																	
Max.	24.00	6.33	6.35	433.00	103.50	40.00	0.53	9238.64	100.00	0.00	300.00	200.00	195.00	18.00	175.00	2.53	0.00
Min.	24.00	4.73	5.39	295.00	48.00	20.50	0.18	6903.44	100.00	0.00	220.00	160.00	140.00	18.00	175.00	1.89	0.00
Avg.	24.00	5.57	5.84	385.69	73.58	27.17	0.33	8134.09	100.00	0.00	282.33	189.07	152.97	18.00	175.00	2.16	0.00
Dec-21																	
Max.	24.00	6.07	6.56	536.00	108.00	53.00	0.53	8859.17	100.00	0.00	270.00	220.00	160.00	24.00	175.00	2.74	0.00
Min.	24.00	4.37	5.28	296.00	31.00	6.00	0.00	6378.02	100.00	0.00	240.00	110.00	140.00	18.00	175.00	1.98	0.00
Avg.	24.00	5.54	5.86	378.10	73.35	25.82	0.34	8080.03	100.00	0.00	251.94	194.32	151.19	18.19	175.00	2.18	0.00
2021 Totals																	
Max.	24.00	7.00	6.82	3880.00	162.00	97.00	0.53	10216.50	188.24	0.00	350.00	442.00	195.00	27.60	207.97	2.74	0.00
Min.	24.00	4.37	4.90	6.80	21.00	0.31	0.00	6378.02	100.00	0.00	220.00	110.00	119.00	10.80	153.00	1.71	0.00
Avg.	24.00	5.59	5.90	404.10	70.39	29.49	0.29	8350.31	107.35	0.00	294.73	192.50	151.06	18.04	179.07	2.15	0.00

CHEMICAL AND PHY

	DOSAGES					RAW WATER									SETTLED WATER				
	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness
Jan-21																			
Max.	7.14	4.36	0.88	0.43		7.20	244.00	262.00	242.00	22.00	32.00	0.30	30.00	40.00	2.00	10.20	29.00	46.00	64.00
Min.	5.90	3.18	0.69	0.35		7.20	236.00	260.00	238.00	18.00	30.00	0.27	30.00	40.00	0.60	9.70	18.00	34.00	57.00
Avg.	6.42	3.67	0.76	0.39		7.20	240.71	260.58	240.00	19.94	30.39	0.30	30.00	40.00	1.05	9.98	21.52	39.65	59.06
Feb-21																			
Max.	7.37	9.74	0.80	0.42		7.20	246.00	260.00	242.00	20.00	30.00	0.36	32.00	40.00	1.60	10.20	24.00	46.00	64.00
Min.	5.77	3.31	0.66	0.35		7.20	238.00	258.00	230.00	18.00	20.00	0.27	28.00	36.00	0.64	9.80	15.00	30.00	29.00
Avg.	6.49	4.73	0.73	0.39		7.20	240.14	259.50	239.43	19.43	27.07	0.30	29.93	39.86	0.98	10.02	20.61	38.57	57.71
Mar-21																			
Max.	8.04	5.31	0.91	0.48		7.20	242.00	262.00	250.00	30.00	32.00	0.30	30.00	40.00	2.50	10.20	24.00	45.00	64.00
Min.	5.61	2.82	0.57	0.35		7.20	238.00	250.00	230.00	18.00	20.00	0.30	30.00	40.00	0.44	9.60	17.00	28.00	54.00
Avg.	6.30	3.50	0.67	0.38		7.20	239.87	259.61	240.13	20.06	28.97	0.30	30.00	40.00	0.95	10.01	20.16	36.90	58.52
Apr-21																			
Max.	6.71	4.03	0.82	0.40		7.20	240.00	260.00	242.00	22.00	32.00	0.32	32.00	40.00	1.90	10.20	26.00	45.00	60.00
Min.	5.36	3.22	0.58	0.32		7.10	238.00	238.00	238.00	18.00	29.00	0.27	30.00	40.00	0.45	9.70	16.00	28.00	52.00
Avg.	6.12	3.64	0.72	0.37		7.19	239.50	259.17	239.86	19.93	30.03	0.30	30.07	40.00	0.89	9.98	20.62	38.28	57.17
May-21																			
Max.	7.05	4.23	0.83	0.44		7.22	242.00	260.00	240.00	20.00	30.00	0.34	32.00	40.00	1.80	10.30	30.00	58.00	67.00
Min.	5.72	3.24	0.62	0.32		7.20	238.00	250.00	230.00	18.00	28.00	0.27	30.00	40.00	0.64	9.80	12.00	28.00	51.00
Avg.	6.29	3.52	0.71	0.38		7.20	240.00	259.61	239.55	19.87	29.84	0.30	30.06	40.00	1.23	10.00	19.97	38.65	58.81
Jun-21																			
Max.	7.64	4.74	0.90	0.46		7.20	242.00	268.00	264.00	30.00	32.00	0.30	30.00	40.00	2.10	10.40	35.00	43.00	74.00
Min.	5.88	3.32	0.59	0.22		7.20	238.00	256.00	238.00	18.00	29.00	0.27	30.00	40.00	0.63	9.80	15.00	25.00	55.00
Avg.	6.60	3.75	0.77	0.39		7.20	240.14	260.71	242.00	20.29	30.25	0.30	30.00	40.00	1.25	9.99	20.68	36.68	58.86
Jul-21																			
Max.	7.62	4.59	0.91	0.61		7.60	242.00	264.00	244.00	22.00	30.00	0.30	30.00	42.00	2.10	10.20	26.00	44.00	63.50
Min.	6.03	3.29	0.66	0.36		7.20	236.00	260.00	238.00	18.00	28.00	0.28	28.00	38.00	0.49	9.80	15.00	26.00	56.00
Avg.	6.94	3.93	0.79	0.42		7.22	239.87	261.03	240.84	20.06	29.81	0.30	29.84	40.00	1.27	10.05	19.73	37.65	58.82
Aug-21																			
Max.	7.65	4.85	0.94	0.67		7.20	242.00	264.00	244.00	22.00	30.00	0.32	32.00	42.00	2.20	10.50	29.00	46.00	66.00
Min.	5.14	3.25	0.58	0.31		7.20	140.00	260.00	238.00	18.00	20.00	0.26	28.00	40.00	0.79	9.80	16.00	31.00	54.00
Avg.	6.58	3.93	0.78	0.40		7.20	236.53	260.20	240.07	19.93	24.03	0.29	30.07	40.13	1.26	10.01	20.40	38.17	58.00
Sep-21																			
Max.	8.05	8.13	0.96	0.48		7.20	270.00	264.00	240.00	30.00	30.00	0.32	30.00	42.00	1.60	10.30	25.00	47.00	70.00
Min.	5.09	3.85	0.67	0.34		7.20	238.00	260.00	238.00	18.00	29.00	0.27	28.00	40.00	0.56	9.20	15.00	26.00	52.00
Avg.	6.34	5.74	0.77	0.38		7.20	241.07	260.27	239.73	20.07	29.93	0.27	29.93	40.27	1.13	9.99	18.93	36.30	57.97
Oct-21																			
Max.	7.00	6.98	0.83	0.42		7.20	244.00	264.00	246.00	30.00	30.00	0.34	32.00	44.00	2.10	10.50	27.00	49.00	65.00
Min.	5.73	3.94	0.65	0.34		7.10	240.00	260.00	240.00	18.00	29.00	0.28	28.00	40.00	0.62	9.80	15.00	31.00	56.00
Avg.	6.47	4.99	0.76	0.39		7.19	241.03	261.16	241.35	20.39	29.90	0.30	30.00	40.39	1.14	10.02	19.55	36.87	59.19
Nov-21																			
Max.	7.54	5.03	0.96	0.46		7.20	244.00	266.00	262.00	24.00	32.00	0.32	32.00	48.00	1.50	10.20	24.00	40.00	65.00
Min.	4.89	3.41	0.65	0.34		7.10	202.00	250.00	238.00	10.00	20.00	0.27	28.00	40.00	0.55	9.10	13.00	30.00	48.00
Avg.	6.10	4.08	0.76	0.39		7.19	238.67	260.20	241.40	19.53	28.93	0.27	29.93	40.70	0.93	9.94	19.23	35.83	57.63
Dec-21																			
Max.	6.86	5.49	0.95	0.49		7.20	244.00	264.00	242.00	22.00	32.00	0.30	32.00	42.00	1.60	10.30	26.00	52.00	72.00
Min.	4.94	2.46	0.67	0.36		7.20	240.00	260.00	238.00	18.00	28.00	0.27	28.00	40.00	0.61	9.30	14.00	28.00	53.00
Avg.	5.49	4.23	0.76	0.40		7.20	241.07	260.84	240.65	19.61	29.48	0.29	30.00	40.19	0.99	10.04	19.74	36.81	59.10
2021 Total																			
Max.	8.05	9.74	0.96	0.67		7.60	270.00	268.00	264.00	30.00	32.00	0.36	32.00	48.00	2.50	10.50	35.00	58.00	74.00
Min.	4.89	2.46	0.57	0.22		7.10	140.00	238.00	230.00	10.00	20.00	0.26	28.00	36.00	0.44	9.10	12.00	25.00	29.00
Avg.	6.34	4.14	0.75	0.39		7.20	239.88	260.24	240.42	19.93	29.05	0.29	29.99	40.13	1.09	10.00	20.09	37.53	58.40

SICAL RESULTS

	FINISHED WATER													
	Calicum Hardne	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
Jan-21														
Max.	54.00	9.60	13.00	39.00	67.00	56.00	0.00	4.00	14.00	0.77	0.47	0.18	0.84	0.20
Min.	45.00	8.90	6.00	19.00	56.00	44.00	0.00	2.80	6.00	0.59	0.19	0.06	0.20	0.00
Avg.	48.32	9.27	9.35	26.87	58.00	47.19	0.00	3.53	8.45	0.69	0.31	0.11	0.53	0.01
Feb-21														
Max.	52.00	9.60	12.00	36.00	63.00	57.00	3.20	4.10	11.00	0.79	0.39	0.16	0.88	0.80
Min.	45.00	8.80	3.00	13.00	51.00	45.00	0.00	3.00	4.00	0.59	0.13	0.03	0.10	0.00
Avg.	48.82	9.15	8.25	21.89	56.93	47.32	0.82	3.50	7.61	0.69	0.26	0.10	0.43	0.11
Mar-21														
Max.	50.00	9.50	20.00	34.00	60.00	52.00	0.00	4.10	12.00	0.75	0.46	0.18	0.91	1.50
Min.	43.00	8.80	5.00	15.00	28.00	43.00	0.00	2.80	3.00	0.57	0.17	0.04	0.05	0.00
Avg.	47.39	9.28	9.39	24.71	56.06	46.35	0.00	3.55	7.71	0.65	0.27	0.10	0.47	0.12
Apr-21														
Max.	50.00	9.60	13.00	40.00	61.00	49.00	0.00	4.10	10.00	0.78	0.59	0.26	0.78	0.10
Min.	45.00	9.00	6.00	16.00	49.00	44.00	0.00	3.10	6.00	0.58	0.26	0.08	0.17	0.00
Avg.	47.79	9.31	8.86	23.00	54.93	46.45	0.00	3.60	7.62	0.68	0.36	0.15	0.46	0.01
May-21														
Max.	55.00	9.60	11.00	34.00	64.00	57.00	0.00	4.40	9.00	0.77	0.68	0.70	0.94	2.10
Min.	43.00	9.00	4.00	15.00	48.00	42.00	0.00	3.30	5.00	0.42	0.20	0.07	0.00	0.00
Avg.	48.06	9.29	8.48	23.90	56.35	47.87	0.00	3.87	7.29	0.69	0.34	0.16	0.49	0.12
Jun-21														
Max.	63.00	9.80	17.00	40.00	60.00	51.00	0.00	4.20	9.00	0.80	0.58	0.31	0.93	2.70
Min.	45.00	9.10	6.00	16.00	48.00	42.00	0.00	3.20	5.00	0.53	0.23	0.07	0.09	0.00
Avg.	49.18	9.36	9.21	24.11	55.21	47.04	0.00	3.71	6.88	0.67	0.36	0.14	0.51	0.58
Jul-21														
Max.	54.00	9.70	12.00	28.00	63.00	53.00	0.00	4.10	9.00	0.75	0.40	0.14	0.88	2.10
Min.	45.00	8.90	4.00	14.00	47.00	42.00	0.00	1.60	4.00	0.61	0.18	0.06	0.03	0.00
Avg.	48.76	9.31	7.39	19.65	55.00	46.39	0.00	3.56	5.98	0.67	0.27	0.10	0.39	0.56
Aug-21														
Max.	52.00	9.60	12.00	25.00	59.00	49.00	0.00	3.90	14.00	0.75	0.56	0.21	0.77	3.00
Min.	44.00	9.20	4.00	18.00	47.00	42.00	0.00	3.40	5.00	0.59	0.22	0.10	0.31	0.00
Avg.	48.07	9.40	8.40	21.20	54.33	45.47	0.00	3.62	8.53	0.70	0.40	0.15	0.53	0.53
Sep-21														
Max.	59.00	9.60	11.00	26.00	67.00	57.00	0.00	3.90	9.00	0.77	0.35	0.12	0.80	1.10
Min.	43.00	8.90	5.00	15.00	48.00	41.00	0.00	3.20	2.00	0.07	0.12	0.04	0.09	0.00
Avg.	47.83	9.28	7.33	20.23	53.83	45.10	0.00	3.61	6.00	0.68	0.21	0.08	0.43	0.33
Oct-21														
Max.	53.00	10.00	13.00	30.00	64.00	55.00	0.00	4.00	10.00	0.76	0.79	0.25	1.30	0.60
Min.	45.00	8.70	4.00	18.00	48.00	39.00	0.00	2.00	3.00	0.63	0.23	0.07	-0.16	0.00
Avg.	48.10	9.26	7.48	21.29	56.39	45.84	0.00	3.37	6.53	0.73	0.40	0.16	0.41	0.08
Nov-21														
Max.	53.00	9.80	16.00	32.00	64.00	51.00	0.00	4.00	9.00	0.77	0.61	0.23	1.14	2.20
Min.	39.00	9.00	5.00	17.00	48.00	41.00	0.00	3.00	5.00	0.66	0.15	0.11	0.19	0.00
Avg.	47.77	9.33	9.03	23.10	56.13	46.20	0.00	3.65	7.10	0.71	0.40	0.17	0.51	0.37
Dec-21														
Max.	61.00	9.80	14.00	33.00	62.00	52.00	0.00	3.60	8.00	0.76	0.61	0.21	1.12	0.80
Min.	44.00	8.90	5.00	15.00	48.00	41.00	0.00	2.10	4.00	0.60	0.32	0.10	0.07	0.00
Avg.	48.97	9.32	8.26	21.55	54.81	45.77	0.00	3.17	5.74	0.70	0.41	0.16	0.47	0.05
2021 Total														
Max.	63.00	10.00	20.00	40.00	67.00	57.00	3.20	4.40	14.00	0.80	0.79	0.70	1.30	3.00
Min.	39.00	8.70	3.00	13.00	28.00	39.00	0.00	1.60	2.00	0.07	0.12	0.03	-0.16	0.00
Avg.	48.25	9.30	8.45	22.63	55.67	46.42	0.07	3.56	7.12	0.69	0.33	0.13	0.47	0.24

2021 MONTHLY OPERATING REPORT DATA
RAW

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

JANUARY 2021

Lead Operator Signature:Z

Operator's Names & Cert. No.:

Name	Cert. No.
Z. BECKFORD	A8226
M. HUTCHINSON	A17010
C.HUTCHINSON	A17011
STANLEY EBANKS	A17017
INDRAL SAMLAL	A7282
KERRY ROMAN	C7873
R.RAMNARINE	C12091
H.RODRIGUEZ	C19220
DAWN CAMPBELL	C24707
RAJIV SAMLAL	B22878

How Many Other: 9

Total Metered Services at End of Month:

Design Flow: 16MGD

Name o

Utility C

M

Telepho

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings — Total	Max	Min	Total Wash Water, MGD	CHEMICALS — POUNDS USED: Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	DOSAGES: Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calciflo c 2154G	RAW W: Well #	pH	M Alk.	Total Hardness	Calcium Hardness
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19	20	21
1/1/21	24	5.863	6.130	481.5	85	29	0.267	8462	100	0	300	180	158	18.0	173	2.0	0	6.1	3.7	0.74	0.37	3,8	7.2	240	262	242
1/2/21	24	5.760	5.610	388	66	25	0.267	9257	100	0	300	180	160	18.0	193	2.1	0.0	6.2	3.7	0.77	0.375	3,8	7.2	242	260	240
1/3/21	24	5.040	5.700	369	61	27	0.267	7929	100	0	300	180	160	18.0	189	2.4	0.0	7.1	4.3	0.88	0.43	3,8	7.2	244	260	240
1/4/21	24	5.513	5.780	421.5	73	39	0.267	8436	100	0	300	190	150	18.0	183	2.2	0.0	6.5	4.1	0.75	0.39	3,8	7.2	242	262	240
1/5/21	24	5.491	5.580	419	70	31	0.089	8144	100	0	300	190	154	18.0	178	2.2	0.0	6.6	4.1	0.77	0.39	3,5	7.2	242	262	240
1/6/21	24	5.663	5.930	506.5	74	31	0.267	8655	100	0	300	190	156	18.0	183	2.1	0.0	6.4	4.0	0.76	0.38	3,5	7.2	242	262	240
1/7/21	24	5.594	5.950	465.5	80	29	0.356	8684	100	0	300	190	160	18.0	186	2.1	0.0	6.4	4.1	0.79	0.39	3,5	7.2	242	262	240
1/8/21	24	5.253	5.520	382	66	27	0.267	8056	100	0	300	162	152	18.0	184	2.3	0.0	6.8	3.7	0.80	0.41	3,5	7.2	242	262	240
1/9/21	24	5.602	5.780	295.5	64	28	0.178	8436	100	0	300	150	157	18.0	181	2.1	0.0	6.4	3.2	0.77	0.39	3,5	7.2	242	262	240
1/10/21	24	5.883	6.150	436	69	28	0.267	8586	100	0	300	156	160	18.0	175	2.0	0.0	6.1	3.2	0.75	0.37	3,5	7.2	240	260	240
1/11/21	24	5.854	6.210	414	69	29	0.356	9063	100	0	300	190	152	18.0	186	2.0	0.0	6.1	3.9	0.72	0.37	3,5	7.2	242	260	240
1/12/21	24	5.223	5.490	360.5	58	30.5	0.267	8012	100	0	300	190	151	18.0	184	2.3	0.0	6.9	4.4	0.80	0.41	3,5	7.2	242	260	240
1/13/21	24	5.504	5.860	372	67	28	0.356	8552	100	0	300	190	150	18.0	186	2.2	0.0	6.5	4.1	0.75	0.39	3,5	7.2	242	260	240
1/14/21	24	5.802	5.980	387	62.5	34	0.178	8727	100	0	300	160	150	18.0	180	2.1	0.0	6.2	3.3	0.71	0.37	3,5	7.2	242	260	240
1/15/21	24	5.064	5.420	431.5	60	28.5	0.356	7910	100	0	300	160	149	18.0	187	2.4	0.0	7.1	3.8	0.81	0.43	4,5	7.2	242	260	240
1/16/21	24	5.663	5.930	378	66.5	61	0.267	7840	100	0	300	160	150	18.0	166	2.1	0.0	6.4	3.4	0.73	0.38	4,5	7.2	242	260	240
1/17/21	24	5.513	5.780	388	56	27	0.267	7980	100	0	300	160	150	18.0	174	2.2	0.0	6.5	3.5	0.75	0.39	4,5	7.2	240	262	238
1/18/21	24	5.593	5.860	406.5	66	31	0.267	8552	100	0	300	161	150	18.0	183	2.1	0.0	6.4	3.5	0.74	0.39	4,5	7.2	236	260	240
1/19/21	24	5.253	5.520	393	63	30	0.267	8056	100	0	300	160	146	18.0	184	2.3	0.0	6.8	3.7	0.77	0.41	4,5	7.2	240	260	240
1/20/21	24	5.714	6.070	402.5	66	39	0.356	8859	100	0	300	164	152	18.0	186	2.1	0.0	6.3	3.4	0.73	0.38	4,8	7.2	240	260	240
1/21/21	24	6.083	6.350	395	63.5	35.5	0.267	9267	100	0	300	166	154	18.0	183	2.0	0.0	5.9	3.3	0.70	0.35	4,8	7.2	240	262	238
1/22/21	24	5.513	5.780	397.5	61	31	0.267	8436	100	0	300	176	150	18.0	183	2.2	0.0	6.5	3.8	0.75	0.39	4,8	7.2	240	260	240
1/23/21	24	5.680	5.860	430	74	26	0.178	8645	100	0	300	176	154	18.0	182	2.1	0.0	6.3	3.7	0.75	0.38	4,8	7.2	240	260	240
1/24/21	24	5.605	6.050	426	78	26	0.445	8617	100	0	300	158	160	18.0	184	2.1	0.0	6.4	3.4	0.79	0.39	4,8	7.2	238	260	240
1/25/21	24	6.092	6.270	344	52	27	0.178	8151	100	0	300	170	152	18.0	160	2.0	0.0	5.9	3.3	0.69	0.35	4,8	7.2	240	260	242
1/26/21	24	5.252	5.430	426	70.5	32.5	0.178	7925	100	0	300	170	150	18.0	181	2.3	0.0	6.8	3.9	0.79	0.41	4,8	7.2	240	260	240
1/27/21	24	5.824	6.180	498	74.5	39	0.356	9020	100	0	300	170	170	18.0	186	2.1	0.0	6.2	3.5	0.80	0.37	4,8	7.2	240	260	240
1/28/21	24	5.684	6.040	415.5	77	35	0.356	8815	100	0	300	170	151	18.0	186	2.1	0.0	6.3	3.6	0.73	0.38	4,8	7.2	240	260	240
1/29/21	24	5.831	5.920	405.5	69.5	32	0.089	8640	100	0	300	168	150	18.0	178	2.1	0.0	6.2	3.5	0.71	0.37	4,8	7.2	240	260	240
1/30/21	24	5.633	5.900	450	68.5	32	0.267	8760	100	0	300	164	154	18.0	186	2.1	0.0	6.4	3.5	0.75	0.38	4,8	7.2	240	260	240
1/31/21	24	6.004	6.360	412	73.5	26	0.356	8810	100	0	300	170	160	18.0	176	2.0	0.0	6.0	3.4	0.73	0.36	3,4,8	7.2	238	260	240
Total	720	174.046	182.390	12697	2104	974	8.366	263282	3100	0	9300	5321	4772	558.00	5627	66.4	0.0	199.1	113.9	23.48	11.94	**Total**	216	7462	8078	7440
Max.	24	6.092	6.360	506.5	85	61	0.445	9267	100	0	300	190	170	18.00	193	2.4	0.0	7.1	4.4	0.88	0.43	**Max**	7.2	244	262	242
Min.	24	5.040	5.420	295.5	52	25	0.089	7840	100	0	300	150	146	18.00	160	2.0	0.0	5.9	3.2	0.69	0.35	**Min**	7.2	236	260	238
Avg.	24	5.614	5.884	409.58	67.87	31.42	0.270	8493	188	0	300	172	154	18.00	181.51	2.1	0.0	6.4	3.7	0.76	0.39	**Avg**	7.2	240.7	260.6	240.0

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

JANUARY 2021

Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
ompany :	City of Lauderhill	**I.D. Number :**	4060787
lonth :	Jan-21	**Year JAN**	2021
ne Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

/ATER					SETTLED WATER						FINISHED WATER												
Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calcium Hardne	pH	P. Alk	M. Alk	Total Hardness	Calcium Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
18	30	0.3	30	40	0.9	10.1	24	41	60	51	9.3	10	22	56	47	0.0	3.6	8	0.63	0.22	0.06	0.71	0.0
20	30	0.3	30	40	0.6	10.1	20	38	59	53	9.4	9	21	57	47	0.0	3.8	7	0.60	0.22	0.07	0.55	0.0
20	30	0.3	30	40	0.7	10.0	22	40	59	47	9.3	8	23	58	47	0.0	3.7	7	0.64	0.25	0.06	0.48	0.0
20	30	0.3	30	40	0.7	9.9	22	40	60	49	9.4	10	30	58	45	0.0	3.6	7	0.74	0.19	0.07	0.69	0.0
20	30	0.3	30	40	0.9	9.9	18	39	58	48	9.3	10	30	59	49	0.0	3.5	7	0.74	0.24	0.08	0.63	0.0
20	30	0.3	30	40	0.9	9.9	23	40	58	49	9.2	9	26	58	47	0.0	3.6	7	0.71	0.25	0.10	0.43	0.0
20	30	0.3	30	40	1.0	10.0	21	39	58	48	9.4	11	30	58	47	0.0	3.7	7	0.71	0.31	0.11	0.71	0.0
22	30	0.3	30	40	1.0	10.2	27	46	61	52	9.4	10	29	58	48	0.0	3.9	7	0.73	0.36	0.11	0.71	0.0
20	30	0.3	30	40	1.0	9.9	20	40	61	45	9.2	8	29	63	50	0.0	3.3	8	0.73	0.34	0.12	0.73	0.0
20	30	0.3	30	40	1.0	10.0	22	41	57	47	9.4	10	28	57	47	0.0	3.8	7	0.72	0.34	0.12	0.72	0.0
20	30	0.3	30	40	0.9	10.0	22	39	60	50	9.3	9	29	57	46	0.0	3.7	7	0.70	0.36	0.11	0.59	0.0
20	30	0.3	30	40	1.3	10.0	20	39	58	48	9.3	9	28	57	46	0.0	3.6	7	0.66	0.26	0.10	0.56	0.0
20	32	0.3	30	40	1.4	9.9	19	38	57	47	9.1	8	24	57	47	0.0	3.4	7	0.65	0.27	0.11	0.30	0.1
20	30	0.3	30	40	1.0	10.1	22	41	60	48	9.2	9	26	57	46	0.0	3.2	7	0.71	0.27	0.10	0.42	0.2
20	30	0.3	30	40	1.2	10.0	24	42	58	48	9.4	12	38	57	48	0.0	3.5	6	0.71	0.27	0.09	0.82	0.0
20	30	0.3	30	40	1.2	10.0	21	45	64	46	9.2	8	30	61	44	0.0	3.6	6	0.66	0.41	0.13	0.48	0.0
20	30	0.3	30	40	0.8	10.0	21	40	61	51	9.4	11	23	59	46	0.0	3.8	12	0.64	0.47	0.12	0.57	0.0
20	30	0.3	30	40	0.9	10.0	21	41	59	46	9.3	11	29	57	46	0.0	3.5	8	0.70	0.42	0.15	0.57	0.0
20	30	0.3	30	40	1.5	9.9	22	37	57	47	9.3	10	29	57	47	0.0	3.5	8	0.70	0.31	0.14	0.60	0.0
20	30	0.3	30	40	0.9	10.0	23	40	58	48	9.0	7	24	57	47	0.0	3.4	7	0.67	0.38	0.14	0.23	0.0
20	30	0.3	30	40	1.1	9.9	20	39	57	47	9.1	8	25	58	47	0.0	3.4	8	0.66	0.37	0.14	0.33	0.0
20	30	0.3	30	40	0.8	10.0	20	37	57	47	9.0	9	27	56	46	0.0	3.5	8	0.67	0.35	0.11	0.33	0.0
20	30	0.3	30	40	1.3	10.0	20	34	59	46	9.2	7	23	60	47	0.0	3.7	11	0.61	0.35	0.14	0.38	0.0
18	30	0.3	30	40	0.8	10.0	20	39	62	49	9.4	10	21	57	47	0.0	4.0	12	0.59	0.30	0.15	0.38	0.0
20	32	0.3	30	40	0.8	10.1	23	42	59	48	9.4	11	29	56	46	0.0	3.8	14	0.64	0.31	0.08	0.68	0.0
20	32	0.3	30	40	1.8	9.9	19	37	57	48	9.3	10	31	58	48	0.0	3.6	12	0.71	0.29	0.11	0.63	0.0
20	30	0.3	30	40	2.0	9.7	20	37	58	48	8.9	7	20	56	46	0.0	2.8	10	0.77	0.27	0.12	0.20	0.0
20	32	0.3	30	40	1.0	9.9	22	39	57	47	8.9	6	19	56	47	0.0	3.0	9	0.76	0.34	0.09	0.20	0.0
20	32	0.3	30	40	1.0	10.1	29	40	62	54	9.6	13	39	58	48	0.0	3.3	10	0.74	0.29	0.06	0.84	0.0
20	32	0.3	30	40	1.2	10.1	19	38	59	46	9.5	11	32	67	56	0.0	3.4	10	0.72	0.29	0.10	0.64	0.0
20	30	0.3	30	40	1.2	9.7	21	41	61	50	9.2	9	19	58	48	0.0	3.2	11	0.66	0.23	0.18	0.36	0.0
																0.0							
618	942	9.3	930	1240	32.6	309.3	667	1229	1831	1498	287	290	833	1798	1463	0.0	109.4	262	21.28	9.53	3.37	16.47	0.3
22	32	0.3	30	40	2.0	10.20	29	46	64	54	9.6	13	39	67	56	0.0	4	14	0.77	0.47	0.18	0.84	0.2
18	30	0.3	30	40	0.6	9.70	18	34	57	45	8.9	6	19	56	44	0.0	2.8	6	0.59	0.19	0.06	0.20	0.0
19.9	30.4	0.3	30.0	40.0	1.1	10.0	21.5	39.6	59.1	48.3	9.3	9.4	26.9	58.0	47.2	0.0	3.5	8.5	0.69	0.31	0.11	0.53	0.0

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

	Z. BECKFORD FEB 2021	A8226	
	M. HUTCHINSON	A17010	
Lead Operator Signature:Z — **Operator's Names & Cert. No.**	C.HUTCHINSON	A17011	
	STANLEY EBANKS	A17017	
How Many Other 9	INDRAL SAMLAL	A7282	
Total Metered Services at End of Month:	KERRY ROMAN	C7873	
Design Flow: 16MGD	R.RAMNARINE	C12091	DAWN CAMPBELL C24707
	H.RODRIGUEZ	C19220	RAJIV SAMLAL B22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings Total	Max	Min	Total Wash Water, MGD	CHEMICALS: POUNDS USED Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	DOSAGES Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19	20
2/1/21	24	5.853	6.120	364.5	59.5	29	0.267	8932	100	0	300	192	150	18.0	183	2.0	0	6.1	3.9	0.71	0.37	3,4,8	7.2	240	258
2/2/21	24	5.412	5.590	399	63	29.5	0.178	8158	100	0	300	180	150	18.0	181	2.2	0.0	6.6	4.0	0.76	0.399	3,4,8	7.2	240	258
2/3/21	24	5.374	5.730	429.5	66	31	0.256	8363	100	0	300	170	150	18.0	187	2.2	0.0	6.7	3.8	0.77	0.40	3,8	7.2	240	258
2/4/21	24	5.683	5.950	404	64	36.5	0.267	8684	100	0	300	166	152	18.0	183	2.1	0.0	6.3	3.5	0.74	0.38	4,8	7.2	240	258
2/5/21	24	6.230	6.500	409	63	28.5	0.267	8594	100	0	300	192	153	18.0	165	1.9	0.0	5.8	3.7	0.68	0.35	3,4,8	7.2	244	260
2/6/21	24	5.190	5.460	414	67	28	0.267	8644	100	0	300	186	148	18.0	200	2.3	0.0	6.9	4.3	0.79	0.42	3,4,8	7.2	240	258
2/7/21	24	5.680	6.040	442	72	33	0.356	8815	100	0	300	180	148	18.0	186	2.1	0.0	6.3	3.8	0.72	0.38	4,8	7.2	238	260
2/8/21	24	5.560	5.820	385	63	28.5	0.267	8768	100	0	300	180	150	18.0	189	2.2	0.0	6.5	3.9	0.74	0.39	4,8	7.2	240	260
2/9/21	24	5.162	5.340	417	61	37	0.178	7794	100	0	300	160	145	18.0	181	2.3	0.0	7.0	3.7	0.77	0.42	4,8	7.2	240	260
2/10/21	24	5.793	6.060	477	70	41	0.267	8844	100	0	300	160	140	18.0	183	2.1	0.0	6.2	3.3	0.67	0.37	4,8	7.2	240	260
2/11/21	24	5.730	5.910	535.5	90	40	0.178	8625	100	0	300	160	152	18.0	180	2.1	0.0	6.3	3.3	0.73	0.38	4,8	7.2	240	260
2/12/21	24	5.844	6.200	441	89	44	0.356	8624	100	0	300	182	152	18.0	177	2.1	0.0	6.2	3.7	0.72	0.37	4,8	7.2	246	260
2/13/21	24	5.560	5.820	372.5	63	28	0.267	8569	100	0	300	182	146	18.0	185	2.2	0.0	6.5	3.9	0.72	0.39	4,8	7.2	240	258
2/14/21	24	5.896	6.160	387.5	68.5	26	0.267	8769	100	0	300	182	150	18.0	178	2.0	0.0	6.1	3.7	0.70	0.37	4,8	7.2	240	260
2/15/21	24	5.830	6.090	408.5	78	28	0.267	8976	100	0	300	182	150	18.0	185	2.1	0.0	6.2	3.7	0.71	0.37	4,8	7.2	240	260
2/16/21	24	5.193	5.460	394.5	62	28	0.267	7969	100	0	300	190	140	18.0	184	2.3	0.0	6.9	4.4	0.74	0.42	4,8	7.2	240	260
2/17/21	24	5.653	5.950	428	66	43	0.267	8684	100	0	300	164	150	18.0	184	2.1	0.0	6.4	3.5	0.73	0.38	4,8	7.2	240	260
2/18/21	24	5.813	6.080	452.5	67	42	0.267	8463	100	0	300	268	152	18.0	175	2.1	0.0	6.2	5.5	0.72	0.37	4,8	7.2	240	260
2/19/21	24	5.432	5.690	367.5	59	32	0.267	8463	100	0	300	264	150	18.0	187	2.2	0.0	6.6	5.8	0.76	0.40	4,8	7.2	240	260
2/20/21	24	5.473	5.740	390.5	60	28	0.267	8377	100	0	300	212	145	18.0	184	2.2	0.0	6.6	4.6	0.73	0.39	4,8	7.2	240	260
2/21/21	24	5.543	5.810	417.5	67.5	27	0.267	8463	100	0	300	268	160	18.0	183	2.2	0.0	6.5	5.8	0.80	0.39	4,8	7.2	240	260
2/22/21	24	5.444	5.800	377.5	63.5	25	0.267	8465	100	0	300	442	149	18.0	186	2.2	0.0	6.6	9.7	0.75	0.40	4,8	7.2	238	260
2/23/21	24	5.673	5.940	355	57.5	30.5	0.267	8669	100	0	320		150	18.0	183	2.1	0.0	6.8		0.73	0.38	4,8	7.2	240	260
2/24/21	24	5.811	5.900	427	69	40	0.089	8210	100	0	320		160	18.0	169	2.1	0.0	6.6		0.76	0.37	4,8	7.2	240	260
2/25/21	24	5.840	5.970	528	77.5	42	0.356	8713	100	0	320	430	140	18.0	179	2.1	0.0	6.6	8.8	0.66	0.37	4,8	7.2	240	260
2/26/21	24	5.354	5.710	381.5	67	31	0.356	8436	100	0	280		145	18.0	189	2.2	0.0	6.3		0.75	0.40	4,8	7.2	240	260
2/27/21	24	5.693	5.960	311	57	28	0.267	8264	100	0	350	420	152	18.0	174	2.1	0.0	7.4	8.8	0.74	0.38	4,8	7.2	240	258
2/28/21	24	5.364	5.720	365.5	59.5	25	0.356	8640	100	0	300		139	18.0	193	2.2	0.0	6.7		0.71	0.40	6,8	7.2	238	260
Total	672.00	157.08	164.52	11482.00	1869.50	909.50	7.47	238975.00	2800.00	0.00	#####	5312.00	4168.00	504.00	5113.31	59.96	0.00	181.73	113.44	20.52	10.79	0.00	201.60	6724.00	7266.00
Max.	24.00	6.23	6.50	535.50	90.00	44.00	0.36	8976.00	100.00	0.00	350.00	442.00	160.00	18.00	199.70	2.32	0.00	7.37	9.74	0.80	0.42	0.00	7.20	246.00	260.00
Min.	24.00	5.16	5.34	311.00	57.00	25.00	0.09	7794.00	100.00	0.00	280.00	160.00	139.00	18.00	165.40	1.92	0.00	5.77	3.31	0.66	0.35	0.00	7.20	238.00	258.00
Avg.	24.00	5.61	5.88	410.07	66.77	32.48	0.27	8534.82	100.00	0.00	303.21	221.33	148.86	18.00	182.62	2.14	0.00	6.49	4.73	0.73	0.39	#DIV/0!	7.20	240.14	259.50

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

FEB 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	Feb-21	**Year FEB**	2021
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

RAW WATER						SETTLED WATER						FINISHED WATER												
Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
242	20	30	0.3	32	40	0.7	9.9	19	35	60	49	9.3	9	22	59	48	0.0	3.7	10	0.62	0.37	0.14	0.48	0.0
240	18	20	0.3	30	40	1.2	10.0	22	42	58	48	9.3	8	22	56	47	0.0	3.4	11	0.65	0.32	0.11	0.47	0.0
240	18	20	0.3	30	40	1.2	9.8	24	39	57	48	9.2	9	23	57	47	0.0	3.3	11	0.71	0.26	0.12	0.38	0.0
240	18	20	0.3	30	40	1.0	9.9	22	44	58	49	9.0	9	26	57	46	0.0	3.1	11	0.71	0.29	0.12	0.22	0.0
240	20	30	0.3	30	40	0.8	10.0	22	42	57	46	8.9	7	23	57	46	0.0	3.2	9	0.69	0.33	0.10	0.34	0.1
238	18	28	0.3	30	40	1.0	10.0	17	31	59	45	9.3	10	20	58	45	0.0	3.8	8	0.66	0.34	0.14	0.56	0.2
240	20	30	0.3	30	40	1.0	10.0	17	36	59	47	9.4	9	19	55	45	0.0	4.0	6	0.65	0.30	0.14	0.48	0.2
240	20	30	0.3	30	40	0.7	10.2	24	46	61	51	9.6	10	28	58	48	0.0	4.1	7	0.65	0.26	0.12	0.88	0.3
240	20	30	0.3	30	40	1.1	9.9	21	39	58	48	9.6	12	36	59	49	0.0	3.5	7	0.65	0.28	0.11	0.76	0.0
240	20	30	0.3	30	40	1.1	9.9	21	38	58	49	9.2	9	26	58	48	0.0	3.1	7	0.61	0.26	0.11	0.45	0.0
240	20	30	0.3	30	40	0.8	10.0	21	40	58	48	9.3	9	26	57	47	0.0	3.4	8	0.64	0.29	0.12	0.54	0.0
240	20	30	0.3	30	40	0.8	9.9	22	39	59	52	9.3	10	26	58	57	0.0	3.2	8	0.64	0.32	0.14	0.36	0.0
238	18	30	0.3	30	40	0.8	9.8	16	34	64	51	9.1	7	21	58	46	0.0	3.0	9	0.59	0.39	.16.	0.24	0.0
240	20	30	0.3	30	40	0.8	10.0	20	40	60	50	9.0	8	19	57	47	0.0	3.0	9	0.65	0.38	0.16	0.20	0.0
240	20	30	0.3	30	40	0.7	10.0	20	42	61	51	9.0	8	21	57	47	0.0	3.4	9	0.67	0.37	0.13	0.15	0.0
240	20	30	0.3	30	40	0.9	10.1	21	40	60	49	9.2	11	21	57	48	0.0	3.9	7	0.65	0.25	0.11	0.36	0.8
240	20	30	0.3	28	40	1.2	10.0	21	41	59	48	9.4	11	28	57	48	0.0	3.6	7	0.66	0.24	0.09	0.74	0.2
240	20	20	0.3	30	40	0.7	10.0	23	39	57	48	9.1	11	25	56	46	0.0	3.2	8	0.70	0.23	0.09	0.31	0.0
240	20	20	0.3	30	40	0.7	10.1	24	41	58	48	9.1	10	30	56	47	0.0	3.0	7	0.73	0.26	0.08	0.64	0.0
238	18	20	0.3	30	40	0.7	10.1	18	32	63	50	9.0	8	17	63	46	0.0	3.0	5	0.72	0.26	0.12	0.47	0.2
240	20	30	0.3	30	40	0.6	10.1	15	31	58	49	9.0	6	21	57	47	3.0	3.6	4	0.72	0.23	0.11	0.53	0.2
240	18	28	0.3	30	40	0.8	10.0	20	30	56	50	9.2	6	13	51	45	3.1	3.8	6	0.72	0.20	0.08	0.10	0.2
240	20	28	0.3	28	40	0.7	10.2	22	38	59	49	8.9	3	16	54	48	3.2	3.7	7	0.71	0.18	0.08	0.42	0.0
240	20	28	0.3	30	40	1.6	10.2	21	42	58	49	8.9	6	20	56	47	2.9	4.0	6	0.75	0.17	0.08	0.17	0.0
240	20	28	0.4	30	40	1.5	10.2	23	42	29	49	8.8	6	14	57	47	3.1	3.8	9	0.75	0.14	0.06	0.65	0.1
240	20	28	0.3	30	40	1.4	10.0	22	41	56	47	9.0	7	14	56	46	2.7	3.8	6	0.73	0.13	0.03	0.21	0.5
238	18	30	0.3	30	36	1.5	10.2	20	36	58	48	8.9	6	18	56	48	2.6	3.8	6	0.79	0.13	0.03	0.34	0.0
230	20	20	0.3	30	40	1.3	10.1	19	40	58	51	9.3	6	18	57	49	2.4	3.7	5	0.77	0.13	0.04	0.47	0.0
6704.00	544.00	758.00	8.44	838.00	1116.00	27.34	280.60	577.00	1080.00	1616.00	1367.00	256.30	231.00	613.00	1594.00	1325.00	23.00	98.10	213.00	19.19	7.31	2.76	11.92	3.00
242.00	20.00	30.00	0.36	32.00	40.00	1.60	10.20	24.00	46.00	64.00	52.00	9.60	12.00	36.00	63.00	57.00	3.20	4.10	11.00	0.79	0.39	0.16	0.88	0.80
230.00	18.00	20.00	0.27	28.00	36.00	0.64	9.80	15.00	30.00	29.00	45.00	8.80	3.00	13.00	51.00	45.00	0.00	3.00	4.00	0.59	0.13	0.03	0.10	0.00
239.43	19.43	27.07	0.30	29.93	39.86	0.98	10.02	20.61	38.57	57.71	48.82	9.15	8.25	21.89	56.93	47.32	0.82	3.50	7.61	0.69	0.26	0.10	0.43	0.11

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

MARCH 2021

													Z. BECKFORD	A8226																
													M. HUTCHINSON	A17010																
Lead Operator Signature:Z				Operator's Names & Cert. No.									C.HUTCHINSON	A17011																
													STANLEY EBANKS	A17017																
How Many Other Operators?		9											INDRAL SAMLAL	A7282																
			Total Metered Services at End of Month:										KERRY ROMAN	C7873																
Design Flow:		16MGD											R.RAMNARINE	C12091		DAWN CAMPBELL C24707														
													H.RODRIGUEZ	C19220		RAJIV SAMLAL		B22878												

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS																	
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES										
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH
				Total	Max	Min																			
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18
3/1/21	24	6.413	6.680	374.5	57	30	0.267	8821	100	0	300	180	148	18.5	165	1.9	0	5.6	3.4	0.64	0.35	4,8	7.2
3/2/21	24	5.593	5.860	354	54	25	0.267	8552	100	0	300	188	150	18.0	183	2.1	0.0	6.4	4.0	0.74	0.386	4,8	7.2
3/3/21	24	5.802	5.980	432.5	74	39	0.178	8727	100	0	300	186	150	18.0	180	2.1	0.0	6.2	3.8	0.71	0.37	4,8	7.2
3/4/21	24	6.003	6.270	469	70	30	0.267	9151	100	0	300	180	145	18.0	183	2.0	0.0	6.0	3.6	0.67	0.36	4,8	7.2
3/5/21	24	5.932	6.000	400	70	29	0.356	8657	100	0	300	178	122	18.0	175	2.0	0.0	6.1	3.6	0.57	0.36	4,8	7.2
3/6/21	24	5.564	5.740	380	62	28	0.178	8475	100	0	300	174	140	18.0	183	2.2	0.0	6.5	3.7	0.69	0.39	4,8	7.2
3/7/21	24	5.932	6.110	443.5	76.5	12	0.267	8657	100	0	300	160	140	17.5	175	2.0	0.0	6.1	3.2	0.65	0.35	4,8	7.2
3/8/21	24	5.424	5.780	477	77	29	0.356	7916	100	0	300	160	140	18.0	175	2.2	0.0	6.6	3.5	0.71	0.40	4,8	7.2
3/9/21	24	5.053	5.320	374	60.5	29.5	0.267	7764	100	0	300	160	144	18.0	184	2.4	0.0	7.1	3.8	0.79	0.43	4,8	7.2
3/10/21	24	5.672	5.850	421.5	71	23	0.178	8538	100	0	300	160	120	18.0	180	2.1	0.0	6.3	3.4	0.58	0.38	4,8	7.2
3/11/21	24	5.543	5.810	453.5	72	30	0.267	8480	100	0	300	140	140	18.0	183	2.2	0.0	6.5	3.0	0.70	0.39	4,8	7.2
3/12/21	24	5.943	6.210	339.5	73	34.5	0.267	9063	100	0	300	140	140	18.0	183	2.0	0.0	6.1	2.8	0.65	0.36	4,8	7.2
3/13/21	24	5.613	5.880	437	62	30	0.267	8654	100	0	300	140	132	18.0	185	2.1	0.0	6.4	3.0	0.65	0.38	4,8	7.2
3/14/21	24	5.903	6.170	412.5	70.5	29	0.267	8423	100	0	300	140	144	18.0	171	2.0	0.0	6.1	2.8	0.67	0.37	4,8	7.2
3/15/21	24	5.694	6.050	387.5	61	30	0.356	8830	100	0	300	144	130	16.8	186	2.1	0.0	6.3	3.0	0.63	0.35	3.4.5	7.2
3/16/21	24	5.522	5.700	387	62	31.5	0.178	8319	100	0	300	150	145	18.0	181	2.2	0.0	6.5	3.3	0.72	0.39	3,4,5	7.2
3/17/21	24	5.813	6.080	454	76.5	41	0.267	8874	100	0	300	160	131	18.0	183	2.1	0.0	6.2	3.3	0.62	0.37	3,4,5	7.2
3/18/21	24	6.252	6.430	467.5	79.5	30	0.178	9384	100	0	300	156	153	18.0	180	1.9	0.0	5.8	3.0	0.67	0.35	3,4,5	7.2
3/19/21	24	4.475	4.920	461	83	30.5	0.445	7465	100	0	300	198	148	18.0	200	2.7	0.0	8.0	5.3	0.91	0.48	3,4,5	7.2
3/20/21	24	5.830	6.120	341.5	63.5	26	0.267	8644	100	0	300	198	166	18.0	178	2.1	0.0	6.2	4.1	0.79	0.37	3,4,5	7.2
3/21/21	24	5.805	6.250	347.5	49	26	0.445	8456	100	0	300	186	140	18.0	175	2.1	0.0	6.2	3.8	0.67	0.37	3.4.5	7.2
3/22/21	24	5.653	5.920	318.5	49	27	0.267	8640	100	0	300	168	130	18.0	183	2.1	0.0	6.4	3.6	0.63	0.38	3,4,5	7.2
3/23/21	24	5.621	5.710	416.5	69	31	0.089	8333	100	0	300	168	130	18.0	178	2.1	0.0	6.4	3.6	0.64	0.38	3,4,5	7.2
3/24/21	24	5.983	6.560	500.5	85	26	0.267	9574	100	0	300	170	140	18.0	192	2.0	0.0	6.0	3.4	0.65	0.36	3,46	7.2
3/25/21	24	5.444	5.800	484.5	88	26.5	0.356	8465	100	0	300	168	119	18.0	186	2.2	0.0	6.6	3.7	0.60	0.40	3,4,6	7.2
3/26/21	24	5.603	5.870	367	59	26.5	0.267	8730	100	0	300	170	126	18.0	187	2.1	0.0	6.4	3.6	0.62	0.39	3,4,6	7.2
3/27/21	24	5.663	5.930	381	63.5	36	0.267	8648	100	0	300	170	124	18.0	183	2.1	0.0	6.4	3.6	0.60	0.38	3,4,6	7.2
3/28/21	24	5.974	6.330	384	60	26	0.356	8645	100	0	300	168	140	18.0	174	2.0	0.0	6.0	3.4	0.65	0.36	3,4,6	7.2
3/29/21	24	6.053	6.320	371	60	28	0.267	9224	100	0	300	168	145	18.0	183	2.0	0.0	5.9	3.3	0.66	0.36	3,4,6	7.2
3/30/21	24	5.763	6.030	388	68	29.5	0.267	8801	100	0	300	168	150	18.0	183	2.1	0.0	6.2	3.3	0.72	0.37	3,4,6	7.2
3/31/21	24	6.163	6.430	423	71	36	0.267	9384	100	0	300	172	148	18.0	183	1.9	0.0	5.8	3.5	0.66	0.35	3,4,6	7.2
Total	744.00	177.70	186.11	12648.50	2096.50	905.50	8.46	268294.00	3100.00	0.00	#####	5168.00	4320.00	556.78	5619.19	65.11	0.00	195.34	108.64	20.86	11.69	0.00	223.20
Max.	24.00	6.41	6.68	500.50	88.00	41.00	0.45	9574.00	100.00	0.00	300.00	198.00	166.00	18.48	200.02	2.68	0.00	8.04	5.31	0.91	0.48	0.00	7.20
Min.	24.00	4.48	4.92	318.50	49.00	12.00	0.09	7465.00	100.00	0.00	300.00	140.00	119.00	16.80	164.93	1.87	0.00	5.61	2.82	0.57	0.35	0.00	7.20
Avg.	24.00	5.73	6.00	408.02	67.63	29.21	0.27	8654.65	100.00	0.00	300.00	166.71	139.35	17.96	181.26	2.10	0.00	6.30	3.50	0.67	0.38	#DIV/0!	7.20

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

MARCH 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	Mar-21	**Year MAR**	2021
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

RAW WATER								SETTLED WATER						FINISHED WATER								
M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
240	260	240	20	30	0.3	30	40	0.7	10.1	21	39	56	47	9.2	7	16	57	46	0.0	3.8	4	0.73	0.21
238	262	242	20	30	0.3	30	40	0.5	10.0	19	35	58	48	9.4	8	16	57	47	0.0	4.0	6	0.69	0.27
238	258	240	18	30	0.3	30	40	1.1	10.1	19	38	58	48	9.3	9	25	58	47	0.0	3.6	6	0.72	0.21
240	260	240	20	28	0.3	30	40	1.2	10.2	24	43	59	48	9.5	11	30	58	47	0.0	3.1	7	0.75	0.24
240	260	240	20	28	0.3	30	40	1.6	10.1	23	42	58	48	9.4	12	33	58	47	0.0	3.1	8	0.75	0.18
240	260	246	20	20	0.3	30	40	0.7	10.0	19	33	59	43	9.3	10	24	56	46	0.0	3.8	7	0.75	0.18
242	260	240	20	20	0.3	30	40	0.6	10.0	18	28	61	49	9.3	10	27	57	46	0.0	3.7	6	0.68	0.22
240	250	230	30	20	0.3	30	40	0.7	10.0	18	34	58	47	9.3	7	23	56	46	0.0	3.8	3	0.64	0.22
242	260	240	20	32	0.3	30	40	1.0	10.0	24	32	58	47	9.3	10	25	58	47	0.0	3.5	7	0.68	0.23
240	260	240	20	30	0.3	30	40	1.1	10.2	23	45	60	49	9.5	12	26	58	48	0.0	4.1	6	0.69	0.17
240	260	240	20	30	0.3	30	40	1.1	10.0	19	38	58	47	9.4	12	27	58	48	0.0	4.0	7	0.65	0.21
240	260	240	20	30	0.3	30	40	1.1	10.2	23	45	60	49	9.5	12	26	58	48	0.0	4.1	6	0.69	0.17
240	260	240	20	30	0.3	30	40	1.1	10.0	19	38	58	47	9.4	12	27	58	48	0.0	4.0	7	0.65	0.21
240	260	240	20	30	0.3	30	40	0.9	10.1	19	38	59	48	9.3	10	26	57	47	0.0	3.6	8	0.65	0.30
240	260	250	20	30	0.3	30	40	0.6	10.0	20	33	62	43	9.4	20	33	57	43	0.0	3.8	8	0.62	0.27
240	260	240	20	30	0.3	30	40	0.7	10.0	18	32	64	46	9.3	9	21	59	43	0.0	3.8	7	0.63	0.25
240	260	240	20	30	0.3	30	40	0.7	10.0	20	34	61	49	9.3	9	19	58	47	0.0	3.8	11	0.64	0.23
240	260	240	20	30	0.3	30	40	1.3	9.9	22	37	58	49	9.3	9	29	57	48	0.0	3.8	11	0.63	0.19
240	260	240	20	30	0.3	30	40	2.5	9.6	20	39	58	48	8.8	5	23	55	44	0.0	2.8	10	0.66	0.20
240	260	240	20	30	0.3	30	40	0.7	9.9	21	38	58	48	8.9	6	22	56	46	0.0	2.8	12	0.65	0.23
240	260	240	20	30	0.3	30	40	1.1	9.9	20	41	58	48	9.2	9	28	57	47	0.0	3.1	11	0.63	0.18
240	258	238	18	30	0.3	30	40	0.4	10.0	17	33	59	44	9.3	8	20	55	43	0.0	3.4	10	0.61	0.22
240	260	240	20	30	0.3	30	40	0.6	10.0	19	33	58	49	9.2	6	15	54	45	0.0	3.5	5	0.61	0.20
240	260	240	18	30	0.3	30	40	1.2	10.2	22	36	54	48	9.4	11	30	53	45	0.0	3.7	5	0.63	0.21
240	260	240	20	30	0.3	30	40	1.1	9.7	21	36	58	47	9.5	12	34	59	52	0.0	3.7	6	0.64	0.29
238	260	240	20	30	0.3	30	40	0.8	10.1	20	39	60	48	9.0	7	25	60	47	0.0	3.0	7	0.61	0.43
240	260	240	20	30	0.3	30	40	0.9	10.2	20	41	60	50	9.3	10	28	59	49	0.0	3.5	9	0.61	0.36
240	260	240	20	30	0.3	30	40	1.2	10.0	21	38	58	48	9.1	9	27	57	47	0.0	3.3	8	0.60	0.45
240	260	240	20	30	0.3	30	40	0.7	10.2	20	37	58	46	9.4	10	25	57	46	0.0	3.8	9	0.57	0.39
238	260	240	18	30	0.3	30	40	0.7	10.0	18	39	58	48	9.5	9	19	57	43	0.0	4.0	9	0.57	0.42
240	260	238	20	30	0.3	30	40	0.9	10.0	19	38	56	46	9.2	8	20	57	46	0.0	3.4	9	0.58	0.46
240	260	240	20	30	0.3	30	40	1.1	10.0	22	40	57	48	9.1	7	23	55	46	0.0	3.4	8	0.67	0.42
240	260	240	20	30	0.3	30	40	1.1	9.8	19	35	57	47	9.3	9	27	28	48	0.0	3.4	9	0.72	0.40
																			0.0				
7436.00	8048.00	7444.00	622.00	898.00	9.30	930.00	1240.00	29.46	310.30	625.00	1144.00	1814.00	1469.00	287.70	291.00	766.00	1738.00	1437.00	0.00	110.10	239.00	20.26	8.44
242.00	262.00	250.00	30.00	32.00	0.30	30.00	40.00	2.50	10.20	24.00	45.00	64.00	50.00	9.50	20.00	34.00	60.00	52.00	0.00	4.10	12.00	0.75	0.46
238.00	250.00	230.00	18.00	20.00	0.30	30.00	40.00	0.44	9.60	17.00	28.00	54.00	43.00	8.80	5.00	15.00	28.00	43.00	0.00	2.80	3.00	0.57	0.17
239.87	259.61	240.13	20.06	28.97	0.30	30.00	40.00	0.95	10.01	20.16	36.90	58.52	47.39	9.28	9.39	24.71	56.06	46.35	0.00	3.55	7.71	0.65	0.27

Iron as FE	S.I.	Inches of Rain
43	44	45
0.07	0.20	0.0
0.05	0.41	0.0
0.09	0.52	0.1
0.05	0.81	1.5
0.04	0.40	0.0
0.05	0.40	1.5
0.07	0.50	0.0
0.07	0.47	0.0
0.07	0.53	0.1
0.09	0.74	0.1
0.08	0.67	0.2
0.11	0.53	0.1
0.14	0.60	0.0
0.10	0.41	0.0
0.06	0.40	0.0
0.07	0.60	0.0
0.07	0.05	0.0
0.07	0.06	0.0
0.08	0.47	0.0
0.18	0.39	0.0
0.11	0.16	0.0
0.10	0.69	0.1
0.10	0.91	0.0
0.11	0.22	0.0
0.10	0.59	0.0
0.10	0.50	0.0
0.13	0.71	0.0
0.14	0.56	0.0
0.17	0.32	0.0
0.16	0.27	0.0
0.14	0.57	0.0
2.97	14.66	3.70
0.18	0.91	1.50
0.04	0.05	0.00
0.10	0.47	0.12

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

												Z. BECKFORD	*A8226*											
												M. HUTCHINSON	*A17010*											
Lead Operator Signature:Z				**Operator's Names & Cert. No.**								C.HUTCHINSON	**A17011**											
												STANLEY EBANKS	**A17017**											
How Many Other		9										INDRAL SAMLAL	**A7282**											
			Total Metered Services at End of Month:									KERRY ROMAN	**C7873**		**K HUTCHINSON C 26757**				5.4					
Design Flow:		16MGD										R.RAMNARINE	**C12091**		**DAWN CAMPBELL C24707**									
												H.RODRIGUEZ	**C19220**		**RAJIV SAMLAL**		*B22878*							

Date	**Hours Plant Operation**	**Total Raw Water Pumped, MGD**	**Total Finished Water Pumped, MGD**	**FILTER DATA**				**CHEMICALS**														
				Hours Filter Runs Between Washings			**Total Wash Water, MGD**	**POUNDS USED**							**DOSAGES**							
								Lime	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride**	**Calciflo c 2154G**	**Lime**	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride As F**	**Calcifloc 2154G**
				Total	**Max**	**Min**					**lbs/d**	**lbs/d**						**mg/L**	**mg/L**		
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17
4/1/21	24	5.943	6.210	433.5	68.5	29	0.267	9063	100	0	300	170	148	18.0	183	2.0	0	6.1	3.4	0.69	0.36
4/2/21	24	6.173	6.440	395.5	67	26.5	0.267	9248	100	0	300	180	130	18.0	180	1.9	0.0	5.8	3.5	0.58	0.350
4/3/21	24	6.162	6.340	425.6	69	31	0.178	8964	100	0	300	180	152	18.0	174	1.9	0.0	5.8	3.5	0.68	0.35
4/4/21	24	6.115	6.560	459.5	79	42	0.445	9426	100	0	300	180	156	18.0	185	2.0	0.0	5.9	3.5	0.70	0.35
4/5/21	24	5.812	5.990	394	65	26	0.178	8742	100	0	300	180	154	18.0	180	2.1	0.0	6.2	3.7	0.73	0.37
4/6/21	24	6.432	6.610	396.5	70	28	0.178	9647	100	0	300	180	150	18.0	180	1.9	0.0	5.6	3.4	0.64	0.34
4/7/21	24	5.533	5.800	486.5	74	33	0.267	8649	100	0	300	170	151	18.0	187	2.2	0.0	6.5	3.7	0.75	0.39
4/8/21	24	5.896	6.670	470	88	27	0.356	9720	100	0	300	170	150	18.0	198	2.0	0.0	6.1	3.5	0.70	0.37
4/9/21	24	5.932	6.350	373.5	60	33.5	0.267	9526	100	0	300	170	152	18.0	193	2.0	0.0	6.1	3.4	0.71	0.36
4/10/21	24	6.500	6.520	386	75	0.31	0.356	9784	100	0	300	176	150	18.0	180	1.8	0.0	5.5	3.2	0.64	0.33
4/11/21	24	5.800	6.180	349	61	32	0.445	8874	100	0	300	160	150	18.0	183	2.1	0.0	6.2	3.3	0.71	0.37
4/12/21	24	5.880	6.180	322.5	50.5	26	0.178	9019	100	0	300	180	152	18.0	184	2.0	0.0	6.1	3.7	0.71	0.37
4/13/21	24	5.540	5.520	398	62	29	0.267	8056	100	0	300	152	140	18.0	174	2.2	0.0	6.5	3.3	0.70	0.39
4/14/21	24	5.660	6.180	397	66	29	0.356	8910	100	0	300	184	150	18.0	189	2.1	0.0	6.4	3.9	0.73	0.38
4/15/21	24	6.440	6.370	345	59	27	0.267	9297	100	0	300	198	150	18.0	173	1.9	0.0	5.6	3.7	0.64	0.34
4/16/21	24	6.030	6.000	368.5	63	43.5	0.267	8926	100	0	300	180	131	18.0	177	2.0	0.0	6.0	3.6	0.60	0.36
4/17/21	24	5.680	6.400	399	82	36	0.356	8862	100	0	300	190	156	18.0	187	2.1	0.0	6.3	4.0	0.76	0.38
4/18/21	24	6.000	6.740	410.5	80	32	0.356	9120	100	0	300	180	150	18.0	182	2.0	0.0	6.0	3.6	0.69	0.36
4/19/21	24	6.100	6.230	383.5	76	28	0.356	9092	100	0	300	180	160	18.0	179	2.0	0.0	5.9	3.5	0.72	0.35
4/20/21	24	5.797	5.530	361.5	60	29	0.267	8071	100	0	300	180	170	18.0	167	2.1	0.0	6.2	3.7	0.81	0.37
4/21/21	24	5.482	5.660	357	58	29	0.178	8261	100	0	300	180	160	18.0	181	2.2	0.0	6.6	3.9	0.80	0.39
4/22/21	24	5.360	5.790	422	68	28	0.267	8450	100	0	300	180	160	18.0	189	2.2	0.0	6.7	4.0	0.82	0.40
4/23/21	24	5.390	5.850	457	74	27	0.267	8538	100	0	300	180	160	18.0	190	2.2	0.0	6.7	4.0	0.82	0.40
4/24/21	24	5.510	6.090	412	65	26	0.267	8642	100	0	300	180	156	18.0	188	2.2	0.0	6.5	3.9	0.78	0.39
4/25/21	24	6.710	6.630	385.5	59	25	0.267	8562	100	0	300	180	170	18.0	153	1.8	0.0	5.4	3.2	0.70	0.32
4/26/21	24	5.413	5.680	248.5	61	29	0.267	8188	100	0	300	176	150	18.0	181	2.2	0.0	6.6	3.9	0.76	0.40
4/27/21	24	6.044	6.400	382	67	25	0.236	8462	100	0	300	194	160	18.0	168	2.0	0.0	6.0	3.8	0.73	0.36
4/28/21	24	5.933	6.200	355	56	34	0.267	8624	100	0	300	190	160	18.0	174	2.0	0.0	6.1	3.8	0.74	0.36
4/29/21	24	5.670	6.020	398.5	77	0.32	0.267	8789	100	0	300	180	155	18.0	186	2.1	0.0	6.3	3.8	0.75	0.38
4/30/21	24								100	0	300	168	112	18.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total	696.00	170.94	179.14	11372.60	1960.00	811.13	8.16	257512.00	2900.00	0.00	8700.00	5180.00	4433.00	522.00	5246.21	59.19	0.00	177.57	105.65	20.81	10.65
Max.	24.00	6.71	6.74	486.50	88.00	43.50	0.45	9784.00	100.00	0.00	300.00	198.00	170.00	18.00	197.67	2.24	0.00	6.71	4.03	0.82	0.40
Min.	24.00	5.36	5.52	248.50	50.50	0.31	0.18	8056.00	100.00	0.00	300.00	152.00	130.00	18.00	153.00	1.79	0.00	5.36	3.22	0.58	0.32
Avg.	24.00	5.89	6.18	392.16	67.59	27.97	0.28	8879.72	100.00	0.00	300.00	178.62	152.86	18.00	180.90	2.04	0.00	6.12	3.64	0.72	0.37

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

APR 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	Apr-21	**Year APR**	2021
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

	RAW WATER									SETTLED WATER						FINISHED WATER											
Well #	**pH**	**M Alk.**	**Total Hardness**	**Calcium Hardness**	**Magnesium Hardness**	**CO2**	**Iron as FE**	**Color**	**Chlorides**	**NTU**	**pH**	**P. Alk**	**M. Alk**	**Total Hardness**	**Calicum Hardness**	**pH**	**P. Alk**	**M. Alk**	**Total Hardness**	**Calicum Hardness**	**Free Cl2**	**Total Cl2**	**Color**	**Fluoride as F**	**NTU**	**Iron as FE**	**S.I.**	**Inches of Rain**
	18	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.8	10.0	21	39	58	48	9.2	10	24	58	47	0.0	3.6	8	0.73	0.37	0.13	0.41	0.0
3,4,5,6	7.2	240	260	240	20	30	0.3	32	40	0.5	9.9	24	41	58	48	9.2	9	30	56	46	0.0	3.6	8	0.73	0.35	0.12	0.56	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.7	9.9	18	32	56	45	9.5	8	23	58	48	0.0	3.5	8	0.76	0.36	0.11	0.43	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.7	10.0	24	39	55	48	9.3	11	23	52	46	0.0	3.6	8	0.74	0.48	0.20	0.62	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.6	10.0	21	34	57	47	9.6	10	22	51	47	0.0	3.9	7	0.72	0.38	0.15	0.77	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.8		21	39	58	48	9.3	9	22	57	47	0.0	3.7	7	0.71	0.33	0.08	0.47	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.7	10.0	22	40	58	48	9.4	9	23	57	47	0.0	3.9	7	0.69	0.31	0.14	0.60	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.6	10.0	21	40	55	46	9.3	8	22	52	44	0.0	3.7	7	0.66	0.31	0.16	0.46	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	26	43	58	48	9.4	9	24	57	47	0.0	3.9	7	0.65	0.30	0.14	0.60	0.0
3,4,5	7.2	238	260	240	18	30	0.3	30	40	0.5	10.0	19	35	56	47	9.5	8	19	54	44	0.0	3.9	8	0.60	0.27	0.12	0.57	0.0
3,4,5	7.2	240	260	238	20	30	0.3	30	40	0.5	10.0	18	37	54	48	9.6	9	21	51	47	0.0	3.9	7	0.58	0.26	0.14	0.75	0.0
3,4,5	7.2	238	260	240	20	30	0.3	30	40	1.0	10.0	24	42	56	49	9.5	9	21	52	46	0.0	3.6	8	0.61	0.32	0.12	0.44	0.0
3,4,5	7.2	238	260	240	20	30	0.3	30	40	1.1	10.0	18	36	59	49	9.3	9	21	57	47	0.0	3.6	7	0.65	0.34	0.13	0.45	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	1.2	9.8	22	39	57	47	9.1	9	25	57	47	0.0	3.2	7	0.69	0.35	0.15	0.32	0.0
3,4,5	7.2	238	260	240	20	30	0.3	30	40	0.7	10.0	23	39	56	49	9.1	8	19	51	46	0.0	3.1	7	0.68	0.48	0.18	0.19	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.7	10.0	22	40	58	48	9.1	9	25	56	46	0.0	3.6	8	0.67	0.36	0.10	0.31	0.0
3,4,5	7.2	240	260	240	20	30	0.3	30	40	0.5	10.0	19	38	55	49	9.2	7	17	51	44	0.0	4.0	8	0.67	0.33	0.15	0.21	0.0
3,4,5	7.2		260	240	20	30	0.3	30	40	0.8	10.0	19	41	57	49	9.3	6	17	49	46	0.0	3.9	9	0.65	0.32	0.14	0.33	0.0
3,4,5	7.2	240	260	238	18	30	0.3	30	40	1.0	10.0	20	36	60	47	9.4	7	19	56	45	0.0	3.5	10	0.65	0.38	0.14	0.48	0.1
3,4,5	7.2	240	260	240	20	30	0.3	30	40	1.4	9.9	18	37	59	49	9.0	7	22	57	47	0.0	3.1	9	0.70	0.38	0.14	0.17	0.0
4,5,6,3	7.2	240	260	238	22	30	0.3	30	40	1.2	10.0	22	28	59	49	9.0	8	23	56	46	0.0	3.5	7	0.74	0.38	0.15	0.17	0.1
3,6	7.2	238	260	242	18	30	0.3	30	40	1.1	10.1	22	42	58	48	9.5	11	26	56	47	0.0	3.6	7	0.78	0.32	0.17	0.78	0.0
3,6	7.1	238	260	242	18	30	0.3	30	40	0.9	10.2	22	43	60	50	9.5	13	40	58	48	0.0	4.1	7	0.73	0.29	0.13	0.64	0.0
3,6	7.1	238	260	242	18	30	0.3	30	40	0.8	10.0	16	30	60	46	9.4	9	27	61	49	0.0	3.5	6	0.70	0.28	0.12	0.68	0.0
3,4,6	7.2	240	258	240	20	30	0.3	30	40	0.7	10.0	19	38	52	47	9.4	7	16	50	45	0.0	3.7	6	0.62	0.33	0.14	0.39	0.0
3,4,6,8	7.2	240	238	240	20	32	0.3	30	40	1.4	10.1	17	36	57	46	9.4	10	20	52	47	0.0	3.3	7	0.61	0.39	0.14	0.53	0.0
3,8	7.2	240	260	240	22	30	0.3	30	40	1.5	9.7	16	42	57	47	9.2	10	26	57	47	0.0	3.1	9	0.65	0.55	0.20	0.43	0.0
3,8	7.2	240	260	238	22	30	0.3	30	40	1.9	10.0	23	45	59	49	9.2	10	26	58	48	0.0	3.4	8	0.71	0.59	0.22	0.44	0.0
3,8	7.2	240	260	238	22	29	0.3	30	40		9.9	21	39	56	47	9.0	8	24	56	46	0.0	3.4	9	0.75	0.44	0.26	0.20	0.0
3,8	7.2	240	260	240	20	28	0.3	30	40	0.7											0.0							0.2
																					0.0							
																					0.0							
0.00	208.60	6706.00	7516.00	6956.00	578.00	871.00	8.69	872.00	1160.00	24.89	279.50	598.00	1110.00	1658.00	1386.00	269.90	257.00	667.00	1593.00	1347.00	0.00	104.40	221.00	19.83	10.55	4.27	13.40	0.15
0.00	7.20	240.00	260.00	242.00	22.00	32.00	0.32	32.00	40.00	1.90	10.20	26.00	45.00	60.00	50.00	9.60	13.00	40.00	61.00	49.00	0.00	4.10	10.00	0.78	0.59	0.26	0.78	0.10
0.00	7.10	238.00	238.00	238.00	18.00	29.00	0.27	30.00	40.00	0.45	9.70	16.00	28.00	52.00	45.00	9.00	6.00	16.00	49.00	44.00	0.00	3.10	6.00	0.58	0.26	0.08	0.17	0.00
#DIV/0!	7.19	239.50	259.17	239.86	19.93	30.03	0.30	30.07	40.00	0.89	9.98	20.62	38.28	57.17	47.79	9.31	8.86	23.00	54.93	46.45	0.00	3.60	7.62	0.68	0.36	0.15	0.46	0.01

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

MAY 2021

Lead Operator Signature:Z		Operator's Names & Cert. No.	
		Z. BECKFORD	A8226
		M. HUTCHINSON	A17010
		C.HUTCHINSON	A17011
		STANLEY EBANKS	A17017
How Many Other	9	INDRAL SAMLAL	A7282
Total Metered Services at End of Month:		KERRY ROMAN	C7873
Design Flow:	16MGD	R.RAMNARINE	C12091
		H.RODRIGUEZ	C19220
		DAWN CAMPBELL C24707	
		RAJIV SAMLAL	B22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings Total	Max	Min	Total Wash Water, MGD	CHEMICALS: POUNDS USED Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	DOSAGES Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19	20
5/1/21	24	6.160	6.300	365	74	27	0.356	9436	100	0	340	170	141	16.3	184	1.9	0	5.8	3.3	0.63	0.32	3,8	7.2	238	260
5/2/21	24	6.290	6.630	333.5	52	25	0.267	9676	100	0	340	170	160	18.0	184	1.9	0.0	5.7	3.2	0.70	0.343	3,8	7.2	240	260
5/3/21	24	6.080	6.260	386	59.5	30.5	0.267	9136	100	0	300	180	150	18.0	180	2.0	0.0	5.9	3.5	0.68	0.35	3,8	7.2	240	260
5/4/21	24	6.160	6.340	368.5	60	31	0.445	9253	100	0	300	170	150	18.0	180	1.9	0.0	5.8	3.3	0.67	0.35	3,8	7.2	240	260
5/5/21	24	6.130	6.580	311	55	26	0.267	9603	100	0	300	170	160	18.2	188	2.0	0.0	5.9	3.3	0.72	0.36	3,8	7.2	240	260
5/6/21	24	6.220	6.270	379.5	60.5	36.5	0.178	9151	100	0	300	170	140	18.0	176	1.9	0.0	5.8	3.3	0.62	0.35	3,8	7.2	240	250
5/7/21	24	6.000	6.050	414.5	62.5	33	0.445	9012	100	0	300	180	146	18.0	180	2.0	0.0	6.0	3.6	0.67	0.36	3,8	7.2	240	260
5/8/21	24	5.100	5.870	337.5	76	26	0.356	8846	100	0	300	180	130	18.0	208	2.4	0.0	7.1	4.2	0.70	0.42	3,8	7.2	240	260
5/9/21	24	5.340	5.950	325	47.5	25	0.356	8684	100	0	300	178	120	18.0	195	2.2	0.0	6.7	4.0	0.62	0.40	3,8	7.2	240	260
5/10/21	24	5.720	5.880	356	60	26	0.178	8582	100	0	300	160	155	16.8	180	2.1	0.0	6.3	3.4	0.75	0.35	3,8	7.2	240	260
5/11/21	24	5.380	5.780	404	73	30.5	0.267	8436	100	0	300	160	152	19.8	188	2.2	0.0	6.7	3.6	0.78	0.44	3,8	7.2	240	260
5/12/21	24	5.520	5.990	377.5	62	34.5	0.267	8742	100	0	300	160	156	18.0	190	2.2	0.0	6.5	3.5	0.78	0.39	3,8	7.2	240	260
5/13/21	24	5.540	5.700	346	58	27	0.267	8414	100	0	300	160	142	18.0	182	2.2	0.0	6.5	3.5	0.71	0.39	3,8	7.2	240	260
5/14/21	24	5.380	5.690	337	59	26.5	0.356	8520	100	0	300	160	160	18.0	190	2.2	0.0	6.7	3.6	0.82	0.40	3,8	7.2	240	260
5/15/21	24	5.110	5.950	391.5	77	33	0.356	8413	100	0	300	170	154	18.0	197	2.3	0.0	7.0	4.0	0.83	0.42	3,8	7.2	240	258
5/16/21	24	5.440	5.890	363	54.5	25	0.356	8258	100	0	300	160	154	18.0	182	2.2	0.0	6.6	3.5	0.78	0.40	4	7.2	240	260
5/17/21	24	5.510	5.900	370	67	27	0.178	8611	100	0	300	156	149	18.0	187	2.2	0.0	6.5	3.4	0.75	0.39	3,8	7.2	240	260
5/18/21	24	5.630	5.900	358.5	57	26.5	0.267	8611	100	0	300	156	160	18.0	183	2.1	0.0	6.4	3.3	0.78	0.38	3,8	7.2	240	260
5/19/21	24	5.500	5.950	396	60	39.5	0.267	8684	100	0	300	156	145	18.0	189	2.2	0.0	6.5	3.4	0.73	0.39	3.6.8	7.2	240	260
5/20/21	24	5.600	5.690	383.5	64. 5	26	0.356	8304	100	0	300	158	150	18.0	178	2.1	0.0	6.4	3.4	0.74	0.39	3,8	7.2	240	260
5/21/21	24	5.410	6.050	350	71	30	0.256	8830	100	0	300	172	145	18.0	196	2.2	0.0	6.6	3.8	0.74	0.40	3,8	7.2	240	260
5/22/21	24	5.560	6.020	332.5	64	26	0.178	8740	100	0	300	176	135	18.0	188	2.2	0.0	6.5	3.8	0.67	0.39	3,8	7.2	240	260
5/23/21	24	5.870	6.210	479	80	45.5	0.356	8644	100	0	300	170	150	16.7	177	2.0	0.0	6.1	3.5	0.70	0.34	3,8	7.2	240	260
5/24/21	24	5.990	6.470	379	82	26	0.267	9442	100	0	300	170	150	18.0	189	2.0	0.0	6.0	3.4	0.69	0.36	3,8	7.2	240	260
5/25/21	24	5.950	6.110	405.5	66	32	0.178	8917	100	0	300	170	150	18.0	180	2.0	0.0	6.0	3.4	0.70	0.36	3,8	7.2	240	260
5/26/21	24	5.970	6.220	450.5	79	29	0.356	9078	100	0	300	170	154	18.5	182	2.0	0.0	6.0	3.4	0.71	0.37	3,6	7.2	242	260
5/27/21	24	6.080	6.280	323.5	78	26	0.267	9165	100	0	300	170	150	18.0	181	2.0	0.0	5.9	3.4	0.68	0.35	4,8	7.2	240	260
5/28/21	24	5.870	6.300	370.5	53	34.4	0.267	9194	100	0	300	170	160	18.0	188	2.0	0.0	6.1	3.5	0.75	0.37	4,8	7.2	240	260
5/29/21	24	5.890	5.820	401.5	68	28	0.178	9012	100	0	300	174	140	18.0	183	2.0	0.0	6.1	3.5	0.66	0.37	4,8	7.2	240	260
5/30/21	24	5.820	6.400	463.5	72	37	0.356	9123	100	0	300	170	150	18.0	188	2.1	0.0	6.2	3.5	0.71	0.37	4,8	7.2	240	260
5/31/21	24	5.770	6.430	399	81	26	0.356	9384	100	0	300	170	140	18.0	195	2.1	0.0	6.2	3.5	0.67	0.37	4,8	7.2	240	260
Total	744	177.99	188.88	11658.00	1968.50	921.40	9.07	275901.00	3100.00	0.00	#####	5206.00	4598.00	556.30	5769.56	64.95	0.00	194.84	109.00	22.14	11.66	3.80	223.22	7440.00	8048.00
Max.	24	6.29	6.63	479.00	82.00	45.50	0.45	9676.00	100.00	0.00	340.00	180.00	160.00	19.80	207.97	2.35	0.00	7.05	4.23	0.83	0.44	3.80	7.22	242.00	260.00
Min.	24	5.10	5.69	311.00	47.50	25.00	0.18	8258.00	100.00	0.00	300.00	156.00	120.00	16.30	176.41	1.91	0.00	5.72	3.24	0.62	0.32	3.80	7.20	238.00	250.00
Avg.	24	5.74	6.09	376.06	65.62	29.72	0.29	8900.03	100.00	0.00	302.58	167.94	148.32	17.95	186.11	2.10	0.00	6.29	3.52	0.71	0.38	3.80	7.20	240.00	259.61

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

MAY 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	May-21	**Year MAY**	2021
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

RAW WATER						SETTLED WATER						FINISHED WATER												
Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
240	20	30	0.3	30	40	0.9	9.9	12	34	63	45	9.3	9	21	56	44	0.0	4.1	8	0.70	0.68	0.26	0.42	0.0
238	18	30	0.3	30	40	0.9	10.0	22	39	67	49	9.3	8	19	53	46	0.0	4.0	8	0.74	0.62	0.20	0.39	0.0
240	20	30	0.3	30	40	1.8	10.1	19	41	59	50	9.1	7	19	55	46	0.0	4.1	9	0.76	0.60	0.20	0.19	0.0
240	20	30	0.3	30	40	1.3	10.0	25	43	59	48	9.3	11	28	57	47	0.0	3.5	9	0.76	0.53	0.18	0.57	0.0
240	20	30	0.3	30	40	1.6	10.0	21	40	58	48	9.2	9	24	57	47	0.0	4.0	9	0.77	0.52	0.17	0.40	0.0
240	20	30	0.3	30	40	1.5	10.1	21	41	59	48	9.4	11	31	59	50	0.0	4.1	8	0.77	0.37	0.16	0.80	1.2
240	20	30	0.3	30	40	1.3	10.0	25	39	65	55	9.4	11	29	59	50	0.0	4.4	7	0.73	0.29	0.15	0.72	0.0
240	20	30	0.3	30	40	1.0	9.9	17	37	60	48	9.6	7	19	54	48	0.0	3.8	6	0.71	0.29	0.11	0.94	0.0
240	20	30	0.3	30	40	0.9	9.9	21	42	59	51	9.1	5	15	51	45	0.0	3.7	7	0.73	0.34	0.13	0.06	0.1
230	20	30	0.3	30	40	0.9	10.0	19	36	58	48	9.3	9	26	58	48	0.0	3.7	7	0.72	0.33	0.11	0.54	0.0
240	20	30	0.3	30	40	1.5	10.1	20	39	58	48	9.4	9	26	58	48	0.0	4.0	8	0.72	0.28	0.13	0.64	0.0
240	20	30	0.3	30	40	0.9	9.8	19	34	58	48	9.3	9	23	57	47	0.0	4.0	6	0.42	0.26	0.13	0.48	0.0
240	20	29	0.3	30	40	1.8	9.9	20	39	57	47	9.3	9	26	57	47	0.0	4.0	8	0.72	0.28	0.13	0.53	0.0
240	20	30	0.3	30	40	1.0	10.0	21	58	58	49	9.2	9	25	58	54	0.0	3.5	7	0.68	0.31	0.13	0.48	0.0
238	18	30	0.3	32	40	0.9	10.0	16	44	51	43	9.2	7	17	48	44	0.0	4.1	5	0.66	0.32	0.09	0.21	2.1
240	20	30	0.3	30	40	1.4	10.0	21	40	61	50	9.5	9	21	58	48	0.0	4.0	6	0.64	0.34	0.12	0.66	0.0
240	20	30	0.3	30	40	1.2	10.1	19	38	58	48	9.3	10	24	57	47	0.0	3.7	7	0.68	0.35	0.11	0.53	0.0
240	20	28	0.3	30	40	1.5	10.0	19	39	56	46	9.3	8	24	57	47	0.0	3.9	7	0.68	0.28	0.12	0.53	0.0
240	20	30	0.3	30	40	1.4	9.9	20	38	58	48	9.3	10	27	58	48	0.0	3.6	7	0.67	0.28	0.11	0.57	0.0
240	20	28	0.3	30	40	1.4	9.8	18	35	58	49	9.2	9	23	57	48	0.0	3.3	8	0.68	0.20	0.09	0.39	0.0
240	20	30	0.3	30	40	1.1	10.3	30	40	58	49	9.3	9	30	57	48	0.0	3.8	7	0.68	0.23	0.07	0.70	0.0
240	20	30	0.3	30	40	1.0	10.0	17	30	62	43	9.4	9	30	58	57	0.0	4.1	7	0.68	0.29	0.11	0.80	0.0
240	20	30	0.3	30	40	0.6	10.0	16	28	60	47	9.4	9	20	64	51	0.0	4.0	8	0.72	0.32	0.12	0.57	0.0
240	20	30	0.3	30	40	1.0	10.0	21	41	60	53	9.2	6	18	56	47	0.0	3.5	8	0.67	0.29	0.11	0.29	0.0
240	20	30	0.3	30	40	1.3	9.9	18	34	59	48	9.0	8	19	56	46	0.0	3.6	7	0.66	0.30	0.12	0.09	0.0
240	20	30	0.3	30	40	1.2	9.9	21	36	58	48	9.3	9	26	57	47	0.0	3.7	8	0.66	0.29	0.12	0.54	0.0
240	20	30	0.3	30	40	1.2	10.0	23	41	57	47	9.3	9	26	56	46	0.0	4.0	8	0.66	0.32	0.13	0.55	0.0
240	20	30	0.3	30	40	1.5	10.0	17	34	56	45	9.3	8	24	55	55	0.0	4.1	8	0.64	0.28	0.13	0.55	0.0
240	20	30	0.3	30	40	1.2	10.0	20	40	57	47	9.3	9	34	59	49	0.0	3.8	7	0.66	0.28	0.11	0.55	0.0
240	20	30	0.3	30	40	1.5	10.0	21	40	60	51	9.3	7	30	52	47	0.0	4.0	5	0.66	0.20	0.70	0.37	0.0
240	20	30	0.3	30	40	1.7	10.3	20	38	56	46	9.3	4	17	53	42	0.0	3.8	6	0.67	0.22	0.29	0.00	0.3
																								0.0
7426.00	616.00	925.00	9.29	932.00	1240.00	38.28	309.90	619.00	1198.00	1823.00	1490.00	288.10	263.00	741.00	1747.00	1484.00	0.00	119.90	226.00	21.30	10.49	4.84	15.06	3.70
240.00	20.00	30.00	0.34	32.00	40.00	1.80	10.30	30.00	58.00	67.00	55.00	9.60	11.00	34.00	64.00	57.00	0.00	4.40	9.00	0.77	0.68	0.70	0.94	2.10
230.00	18.00	28.00	0.27	30.00	40.00	0.64	9.80	12.00	28.00	51.00	43.00	9.00	4.00	15.00	48.00	42.00	0.00	3.30	5.00	0.42	0.20	0.07	0.00	0.00
239.55	19.87	29.84	0.30	30.06	40.00	1.23	10.00	19.97	38.65	58.81	48.06	9.29	8.48	23.90	56.35	47.87	0.00	3.87	7.29	0.69	0.34	0.16	0.49	0.12

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

Lead Operator Signature:Z	Operator's Names & Cert. No.	Z. BECKFORD JUN 2021 A8226
		M. HUTCHINSON A17010
		C.HUTCHINSON A17011
		STANLEY EBANKS A17017
How Many Other: 11		INDRAL SAMLAL A7282
	Total Metered Services at End of Month:	KERRY ROMAN C7873
		K HUTCHINSON C26757
Design Flow: 16MGD		R.RAMNARINE C12091
		DAWN CAMPBELL C24707
		H.RODRIGUEZ C19220
		RAJIV SAMLAL B22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings Total	Max	Min	Total Wash Water, MGD	CHEMICALS – POUNDS USED: Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	DOSAGES: Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19	20
6/1/21	24	5.530	5.530	369.5	67	28.5	0.178	8071	100	0	300	180	150	18.0	175	2.2	0	6.5	3.9	0.75	0.39	4,8	7.2	242	260
6/2/21	24	6.120	5.520	455.5	74	33	0.267	8056	100	0	300	180	130	18.0	158	2.0	0.0	5.9	3.5	0.59	0.353	3,4,8	7.2	240	260
6/3/21	24	6.080	6.000	356	76	23.5	0.356	8757	100	0	300	180	150	18.0	173	2.0	0.0	5.9	3.5	0.68	0.35	3,4,8	7.2	240	260
6/4/21	24	5.260	6.010	316.5	54	26	0.267	8772	100	0	300	172	150	18.0	200	2.3	0.0	6.8	3.9	0.79	0.41	3,4,8	7.2	240	260
6/5/21	24	5.330	6.140	400	64	31	0.178	8847	100	0	300	170	150	18.0	199	2.2	0.0	6.7	3.8	0.78	0.40	3,4,8	7.2	240	260
6/6/21	24	5.140	5.840	422.5	21	25	0.356	8642	100	0	300	170	150	18.0	202	2.3	0.0	7.0	4.0	0.80	0.42	3,4,8	7.2	238	256
6/7/21	24	5.270	6.000	367	63	25	0.267	8463	100	0	300	160	140	18.6	193	2.3	0.0	6.8	3.6	0.73	0.42	3,4,8	7.2	240	260
6/8/21	24	5.000	5.320	394	74.5	30.5	0.178	7764	100	0	300	140	144	18.0	186	2.4	0.0	7.2	3.4	0.79	0.43	3,4,8	7.2	240	268
6/9/21	24	5.720	6.180	462.5	76	30	0.267	9020	100	0	300	176	154	18.0	189	2.1	0.0	6.3	3.7	0.74	0.38	3,4,8	7.2	240	260
6/10/21	24	5.710	6.110	395.5	71.5	28	0.356	8917	100	0	300	176	170	18.0	187	2.1	0.0	6.3	3.7	0.82	0.38	3,4,8	7.2	240	260
6/11/21	24	5.760	5.890	367	72	30	0.267	8900	100	0	300	170	165	18.0	185	2.1	0.0	6.2	3.5	0.79	0.37	3,4,8	7.2	240	260
6/12/21	24	5.800	5.940	354	64	23	0.267	8901	100	0	300	172	160	18.0	184	2.1	0.0	6.2	3.6	0.76	0.37	3,4,8	7.2	240	268
6/13/21	24	5.860	6.130	374	76	34	0.267	8984	100	0	300	176	160	18.0	184	2.0	0.0	6.1	3.6	0.75	0.37	3,4,8	7.2	240	260
6/14/21	24	5.630	5.740	334	57	29	0.267	7980	100	0	300	166	150	18.0	170	2.1	0.0	6.4	3.5	0.73	0.38	3,4,8	7.2	242	266
6/15/21	24	6.000	5.440	6.8	162	27	0.267	7939	100	0	300	166	160	10.8	159	2.0	0.0	6.0	3.3	0.74	0.22	3,4,8	7.2	240	260
6/16/21	24	5.190	5.940	373.5	144	21	0.534	8669	100	0	300	166	160	18.0	200	2.3	0.0	6.9	3.8	0.85	0.42	3,4,8	7.2	240	260
6/17/21	24	4.910	5.380	317	51	30	0.089	7852	100	0	300	150	150	18.0	192	2.4	0.0	7.3	3.7	0.84	0.44	3,8	7.2	240	260
6/18/21	24	4.920	5.760	418	64	28	0.326	7180	100	0	300	156	150	18.0	175	2.4	0.0	7.3	3.8	0.84	0.44	3,8	7.2	240	260
6/19/21	24	4.840	5.870	400	71	27	0.267	7064	100	0	300	164	154	18.0	175	2.5	0.0	7.4	4.1	0.88	0.45	3,8	7.2	242	260
6/20/21	24	5.800	6.040	367.5	56	27	0.356	8465	100	0	300	180	158	18.0	175	2.1	0.0	6.2	3.7	0.75	0.37	3,8	7.2	242	260
6/21/21	24	5.780	5.800	380	74	27	0.178	8465	100	0	300	180	152	18.0	176	2.1	0.0	6.2	3.7	0.73	0.37	3,8	7.2	240	260
6/22/21	24	5.820	5.730	424.5	41.5	51	0.356	8363	100	0	300	180	155	18.0	172	2.1	0.0	6.2	3.7	0.73	0.37	3,8	7.2	240	260
6/23/21	24	5.030	5.520	431.5	79	27	0.267	7341	100	0	300	160	154	18.0	175	2.4	0.0	7.2	3.8	0.84	0.43	3,8	7.2	240	260
6/24/21	24	5.460	6.130	365.5	66.5	29	0.356	7968	100	0	300	160	167	18.0	175	2.2	0.0	6.6	3.5	0.84	0.40	3,8	7.2	238	262
6/25/21	24	4.710	5.090	305.5	59	25	0.267	6874	100	0	300	186	154	18.0	175	2.5	0.0	7.6	4.7	0.90	0.46	3,8	7.2	240	260
6/26/21	24	5.320	5.840	385	62	30	0.267	7764	100	0	300	186	156	18.0	175	2.3	0.0	6.8	4.2	0.81	0.41	3,8	7.2	240	260
6/27/21	24	5.840	6.340	371	56	25	0.356	8523	100	0	300	190	154	18.0	175	2.1	0.0	6.2	3.9	0.73	0.37	3,8	7.2	240	260
6/28/21	24	5.700	5.670	378	66	26	0.089	8243	100	0	300	180	140	18.0	173	2.1	0.0	6.3	3.8	0.68	0.38	3,8	7.2	240	260
6/29/21	24								100	0	300	184	154	17.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	3,8	7.2	242	260
6/30/21	24								100	0	300	190	143	18.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	3,8	7.2	242	260
Total	672.00	153.53	162.90	10291.80	1962.00	796.50	7.71	230784.00	2800.00	0.00	#####	4792.00	4287.00	497.40	5056.14	61.56	0.00	184.68	105.09	21.67	10.95	0.00	201.60	6724.00	7300.00
Max.	24.00	6.12	6.34	462.50	162.00	51.00	0.53	9020.00	100.00	0.00	300.00	190.00	170.00	18.60	201.60	2.55	0.00	7.64	4.74	0.90	0.46	0.00	7.20	242.00	268.00
Min.	24.00	4.71	5.09	6.80	21.00	21.00	0.09	6874.00	100.00	0.00	300.00	140.00	130.00	10.80	157.83	1.96	0.00	5.88	3.32	0.59	0.22	0.00	7.20	238.00	256.00
Avg.	24.00	5.48	5.82	367.56	70.07	28.45	0.28	8242.29	100.00	0.00	300.00	171.14	153.11	17.76	180.58	2.20	0.00	6.60	3.75	0.77	0.39	#DIV/0!	7.20	240.14	260.71

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

JUN 2021

Name of Plant : Lauderhill Water Treatment Plant **County :** Broward
Utility Company : City of Lauderhill **I.D. Number :** 4060787
Month : Jun-21 **Year JUN** 2021
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

RAW WATER						SETTLED WATER						FINISHED WATER												
Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calcium Hardne	pH	P. Alk	M. Alk	Total Hardness	Calcium Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
240	20	30	0.3	30	40	2.1	10.0	15	25	74	63	9.4	10	40	58	48	0.0	3.8	5	0.80	0.23	0.07	0.79	0.0
240	20	32	0.3	30	40	1.4	10.4	24	43	60	50	9.8	16	34	60	51	0.0	3.8	7.5	0.73	0.30	0.07	0.20	0.3
240	20	32	0.3	30	40	0.9	9.9	21	38	57	47	9.4	10	30	57	47	0.0	3.8	7	0.72	0.36	0.08	0.71	1.0
240	20	32	0.3	30	40	1.7	10.0	35	35	59	46	9.4	8	29	58	50	0.0	4.2	7	0.67	0.28	0.10	0.72	0.0
	30	32	0.3	30	40	1.5	10.0	18	32	61	47	9.3	7	24	60	48	0.0	3.7	6	0.70	0.32	0.10	0.51	0.0
242	18	30	0.3	30	40	1.0	10.0	20	39	59	50	9.5	8	18	50	45	0.0	4.0	6	0.67	0.43	0.13	0.55	0.0
240	20	29	0.3	30	40	1.3	10.0	23	40	58	50	9.4	8	16	54	46	0.0	3.5	7	0.73	0.44	0.16	0.40	0.0
264	20	30	0.3	30	40	1.5	9.9	20	33	57	48	9.4	9	23	55	47	0.0	3.9	7	0.68	0.41	0.16	0.58	0.0
240	20	30	0.3	30	40	1.6	9.9	19	35	58	48	9.3	10	25	58	48	0.0	3.5	7	0.67	0.38	0.16	0.54	0.0
240	20	30	0.3	30	40	1.6	9.9	21	37	57	47	9.4	10	23	58	48	0.0	3.7	7	0.73	0.33	0.14	0.54	0.0
240	20	30	0.3	30	40	1.4	10.0	18	41	57	47	9.2	8	23	54	45	0.0	3.6	7	0.72	0.41	0.16	0.56	0.0
260	20	30	0.3	30	40	1.4	9.9	20	41	59	50	9.2	7	18	59	50	0.0	3.6	6	0.60	0.31	0.13	0.53	0.0
238	18	30	0.3	30	40	1.0	10.0	20	38	58	50	9.3	7	17	51	44	0.0	3.7	8	0.53	0.33	0.12	0.54	0.0
246	22	30	0.3	30	40	1.1	10.0	22	38	58	50	9.5	10	22	49	45	0.0	3.8	8	0.65	0.31	0.13	0.65	1.4
240	20	30	0.3	30	40	2.0	9.9	23	33	62	52	9.6	13	30	60	49	0.0	3.8	7	0.71	0.31	0.17	0.93	2.1
240	20	30	0.3	30	40	1.5	9.9	21	39	57	47	9.4	11	31	57	47	0.0	3.6	7	0.69	0.31	0.17	0.72	2.7
240	20	30	0.3	30	40	1.2	9.9	23	40	56	51	9.3	10	25	57	47	0.0	3.6	8	0.76	0.30	0.19	0.53	0.4
240	20	30	0.3	30	40	1.2	9.8	17	33	57	45	9.7	11	32	59	50	0.0	3.9	7	0.65	0.37	0.31	0.86	0.2
240	20	30	0.3	30	40	1.0	10.0	19	33	64	50	9.2	17	35	55	46	0.0	3.7	5	0.63	0.43	0.17	0.23	0.0
244	22	30	0.3	30	40	1.2	10.0	20	40	59	50	9.3	7	25	52	47	0.0	3.7	5	0.59	0.53	0.18	0.26	2.1
240	20	30	0.3	30	40	1.0	10.1	23	39	58	52	9.2	9	18	52	47	0.0	3.9	7	0.59	0.58	0.17	0.27	0.2
240	20	30	0.3	30	40	1.2	10.1	21	41	58	48	9.3	8	24	56	46	0.0	3.7	8	0.66	0.44	0.15	0.52	2.0
240	20	30	0.3	30	40	1.4	10.0	21	40	58	48	9.4	9	26	58	49	0.0	3.8	9	0.74	0.39	0.16	0.66	0.0
240	18	30	0.3	30	40	0.7	10.0	20	28	58	48	9.3	9	18	54	48	0.0	3.8	7	0.75	0.33	0.13	0.48	0.0
240	20	30	0.3	30	40	0.6	10.0	19	34	55	46	9.3	7	19	54	46	0.0	3.7	8	0.66	0.31	0.14	0.39	1.8
240	20	30	0.3	30	40	0.7	10.0	15	30	59	48	9.2	6	16	48	42	0.0	3.6	6	0.63	0.25	0.09	0.16	0.6
240	20	30	0.3	30	40	0.9	10.0	18	40	60	51	9.1	6	16	51	45	0.0	3.2	7	0.64	0.28	0.11	0.09	0.4
240	20	30	0.3	30	40	1.1	10.0	23	42	55	48	9.4	7	18	52	46	0.0	3.3	6	0.58	0.33	0.10	0.46	1.0
240	20	30	0.3	30	40												0.0							
240	20	30	0.3	30	40												0.0							
######	568	847	8.4	840	1120	35.1	279.6	579	1027	1648	1377	262	258	675	1546	1317	0.0	103.9	192.5	18.88	10.00	3.95	14.38	16.2
264.00	30	32	0.3	30	40	2.1	10.40	35	43	74	63	9.8	17	40	60	51	0.0	4.2	9	0.80	0.58	0.31	0.93	2.7
238.00	18	29	0.3	30	40	0.6	9.80	15	25	55	45	9.1	6	16	48	42	0.0	3.2	5	0.53	0.23	0.07	0.09	0.0
242.0	20.3	30.3	0.3	30.0	40.0	1.3	10.0	20.7	36.7	58.9	49.2	9.4	9.2	24.1	55.2	47.0	0.0	3.7	6.9	0.67	0.36	0.14	0.51	0.6

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

JUL 2021

	Z. BECKFORD	A8226		
	M. HUTCHINSON	A17010		
Lead Operator Signature:Z	C.HUTCHINSON	A17011		
Operator's Names & Cert. No.	STANLEY EBANKS	A17017		
How Many Other Operators? 11	INDRAL SAMLAL	A7282		
Total Metered Services at End of Month: 13,141	KERRY ROMAN	C7873		
Design Flow: 16MGD	R.RAMNARINE	C12091	DAWN CAMPBELL C24707	
	H.RODRIGUEZ	C19220	RAJIV SAMLAL	B22878

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							CHEMICALS: DOSAGES						
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17
7/1/21	24	5.030	5.430	360.5	60.5	29	0.267	7925	100	0	300	170	155	18.0	189	2.4	0	7.2	4.1	0.85	0.43
7/2/21	24	5.020	5.620	386	59.5	33.5	0.267	8202	100	0	300	170	140	18.0	196	2.4	0.0	7.2	4.1	0.77	0.430
7/3/21	24	4.850	5.510	388.5	73.5	34	0.267	8012	100	0	300	170	156	18.0	198	2.5	0.0	7.4	4.2	0.89	0.45
7/4/21	24	5.480	5.820	373.5	62	25	0.356	7865	100	0	300	160	156	18.0	172	2.2	0.0	6.6	3.5	0.79	0.39
7/5/21	24	5.360	5.970	358	57	28	0.178	8713	100	0	300	176	160	18.0	195	2.2	0.0	6.7	3.9	0.82	0.40
7/6/21	24	5.400	5.340	408	62	33	0.256	7793	100	0	300	180	156	18.0	173	2.2	0.0	6.7	4.0	0.80	0.40
7/7/21	24	5.390	5.590	378.5	67.5	30.5	0.356	8158	100	0	300	180	150	18.0	181	2.2	0.0	6.7	4.0	0.77	0.40
7/8/21	24	5.120	5.610	367.5	58.5	30	0.178	8188	100	0	300	180	150	18.0	192	2.3	0.0	7.0	4.2	0.81	0.42
7/9/21	24	5.340	5.660	418	64	26.5	0.267	7794	100	0	300	184	151	18.0	175	2.2	0.0	6.7	4.1	0.78	0.40
7/10/21	24	4.720	5.530	441	67	26	0.356	6889	100	0	300	160	154	17.4	175	2.5	0.0	7.6	4.1	0.90	0.44
7/11/21	24	5.160	5.500	363	64.5	24.5	0.267	7531	100	0	300	160	150	18.0	175	2.3	0.0	7.0	3.7	0.80	0.42
7/12/21	24	5.970	5.710	375	59	27	0.267	8333	100	0	300	164	150	18.0	167	2.0	0.0	6.0	3.3	0.69	0.36
7/13/21	24	5.300	5.540	375.5	62	28	0.267	8085	100	0	300	160	148	18.0	183	2.3	0.0	6.8	3.6	0.77	0.41
7/14/21	24	5.060	5.390	398.5	63.5	28	0.267	7385	100	0	300	160	154	18.0	175	2.4	0.0	7.1	3.8	0.84	0.43
7/15/21	24	4.840	5.740	393	80	27	0.267	8377	100	0	290	160	159	18.0	208	2.5	0.0	7.2	4.0	0.91	0.45
7/16/21	24	4.910	5.750	394.5	66	34	0.356	7166	100	0	300	180	121	18.0	175	2.4	0.0	7.3	4.4	0.68	0.44
7/17/21	24	5.010	5.350	386	67	27	0.178	7312	100	0	300	190	131	18.6	175	2.4	0.0	7.2	4.5	0.72	0.45
7/18/21	24	5.650	5.870	436	88	32	0.356	8246	100	0	300	190	137	18.0	175	2.1	0.0	6.4	4.0	0.67	0.38
7/19/21	24	5.720	5.970	399	67	28	0.178	8713	100	0	300	160	140	18.0	183	2.1	0.0	6.3	3.4	0.67	0.38
7/20/21	24	5.490	5.420	457.5	71	39.6	0.267	7818	100	0	300	160	131	18.0	171	2.2	0.0	6.6	3.5	0.66	0.39
7/21/21	24	4.900	5.550	445	76	35.5	0.365	8100	100	0	300	180	140	18.0	198	2.4	0.0	7.3	4.4	0.79	0.44
7/22/21	24	4.900	5.660	448	72	37.5	0.267	7152	100	0	300	160	155	18.0	175	2.4	0.0	7.3	3.9	0.87	0.44
7/23/21	24	5.250	5.590	409	63.5	31.5	0.365	7662	100	0	300	152	160	17.4	175	2.3	0.0	6.9	3.5	0.84	0.40
7/24/21	24	5.400	6.000	370.5	65	28	0.267	7881	100	0	300	160	158	27.6	175	2.2	0.0	6.7	3.6	0.81	0.61
7/25/21	24	4.980	5.520	362.5	59	25	0.356	7268	100	0	300	182	163	18.6	175	2.4	0.0	7.2	4.4	0.90	0.45
7/26/21	24	5.340	5.490	360.5	55	30	0.267	8012	100	0	300	160	160	18.0	180	2.2	0.0	6.7	3.6	0.83	0.40
7/27/21	24	5.440	6.070	390.5	65	28	0.267	8859	100	0	300	160	152	18.0	195	2.2	0.0	6.6	3.5	0.77	0.40
7/28/21	24	5.340	5.710	411.5	80	31	0.445	7794	100	0	310	160	150	18.0	175	2.2	0.0	7.0	3.6	0.77	0.40
7/29/21	24	4.870	5.680	323	60	29	0.356	7108	100	0	300	160	150	18.0	175	2.5	0.0	7.4	3.9	0.85	0.44
7/30/21	24	4.960	5.610	325	54	27	0.267	7239	100	0	300	190	130	18.0	175	2.4	0.0	7.3	4.6	0.72	0.44
7/31/21	24	4.960	5.820	368	55	26	0.267	7239	100	0	300	188	121	18.0	175	2.4	0.0	7.3	4.5	0.67	0.44
Total	744.00	161.16	175.02	12071.00	2024.00	919.10	8.91	242819.27	3100.00	0.00	9300.00	5266.00	4588.00	567.60	5605.74	71.72	0.00	215.14	121.89	24.41	13.12
Max.	24.00	5.97	6.07	457.50	88.00	39.60	0.45	8859.00	100.00	0.00	310.00	190.00	163.00	27.60	207.53	2.54	0.00	7.62	4.59	0.91	0.61
Min.	24.00	4.72	5.34	323.00	54.00	24.50	0.18	6889.00	100.00	0.00	290.00	152.00	121.00	17.40	167.36	2.01	0.00	6.03	3.29	0.66	0.36
Avg.	24.00	5.20	5.65	389.39	65.29	29.65	0.29	7832.88	100.00	0.00	300.00	169.87	148.00	18.31	180.83	2.31	0.00	6.94	3.93	0.79	0.42

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

JUL 2021

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Jul-21
Telephone Number : (954) 730-2972
County :
I.D. Number :
Year JUL

CHEMICAL AND PHYSICAL RESULTS

	RAW WATER									SETTLED WATER						FINISHED WA					
Well #	pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
3,8	7.2	240	260	240	20	30	0.3	30	40	1.2	10.0	21	38	58	48	9.2	9	24	58	48	0.0
3,8	7.2	240	260	240	20	30	0.3	30	40	1.2	10.0	20	42	58	48	9.4	8	21	56	46	0.0
3,8	7.2	240	260	240	20	30	0.3	30	40	1.6	10.2	19	36	61	48	9.4	7	20	60	46	0.0
3,8	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	20	41	59	52	9.5	8	17	56	45	0.0
3,8	7.2	240	260	240	22	30	0.3	30	40	1.3	9.8	18	41	56	54	8.9	4	17	55	49	0.0
3,8	7.2	240	260	240	20	30	0.3	30	40	1.4	10.1	21	39	58	49	9.2	9	22	58	49	0.0
3,8	7.2	240	260	240	20	30	0.3	30	40	1.4	10.0	21	39	59	48	9.3	9	21	57	47	0.0
3,4,8	7.2	240	260	240	20	30	0.3	30	40	1.4	10.1	20	37	58	47	9.1	8	22	57	46	0.0
3,8	7.2	240	260	240	20	28	0.3	30	40	1.0	10.2	18	33	56	46	9.1	7	21	54	48	0.0
3,8	7.2	238	260	240	18	29	0.3	28	38	0.5	10.1	17	30	57	45	9.5	6	15	49	46	0.0
3,8	7.6	238	260	240	18	29	0.3	30	38	0.8	10.0	18	26	58	46	9.4	5	17	51	45	0.0
3,8	7.4	242	264	244	20	30	0.3	28	42	0.9	10.0	20	38	57	48	9.3	7	18	51	44	0.0
3,4,6	7.2	242	264	242	22	30	0.3	30	40	1.4	10.0	21	41	57	47	9.3	8	21	57	47	0.0
3,4,6	7.2	242	264	242	22	30	0.3	30	40	1.7	10.2	25.5	44	63.5	53.5	9.3	8	21	57	45	0.0
3,4,6	7.2	240	260	238	20	28	0.3	29	42	1.5	10.2	20	38	58	50	9.6	7	15	51	46	0.0
3,4,6	7.2	240	260	240	20	30	0.3	30	40	2.1	9.9	18	36	58	48	9.6	7	22	58	47	0.0
3,4,6	7.2	240	260	240	20	30	0.3	30	40	1.0	10.0	15	30	57	45	9.2	6	17	52	45	0.0
3,4,6	7.2	240	260	242	20	30	0.3	30	40	0.9	10.0	20	41	59	52	9.3	7	16	51	46	0.0
3,4,6	7.2	238	262	240	18	30	0.3	30	40	1.0	9.9	20	42	60	52	9.2	7	17	48	42	0.0
3,4,6	7.2	238	262	240	22	30	0.3	30	40	1.0	10.2	20	38	58	47	9.0	6	15	56	46	0.0
3,4,6	7.2	240	260	242	20	30	0.3	30	40	1.7	10.1	21	40	59	48	9.1	7	21	57	46	0.0
3,4,6	7.2	240	260	242	20	30	0.3	30	40	1.5	10.2	26	43	61	50	9.2	9	23	57	47	0.0
3,4,6	7.2	240	262	242	20	30	0.3	30	40	1.4	10.1	19	39	62	49	9.7	11	28	63	53	0.0
3,4,5	7.2	240	260	242	20	30	0.3	30	40	0.9	10.0	16	34	60	50	9.3	6	18	52	44	0.0
3,4,6	7.2	240	262	242	20	30	0.3	30	40	0.8	10.0	21	40	62	50	9.3	6	17	49	45	0.0
3,4,6	7.2	240	260	240	20	30	0.3	30	40	0.9	10.0	21	40	59	49	9.3	7	14	47	44	0.0
3,4,6	7.2	240	264	240	20	30	0.3	30	40	1.8	10.1	19	38	58	47	9.5	8	19	54	45	0.0
3,4,6	7.2	240	264	244	20	30	0.3	30	40	1.9	10.1	20	39	59	48	9.6	12	27	58	49	0.0
3,4,6	7.2	242	264	244	20	30	0.3	30	40	1.4	10.1	20	35	59	51	9.4	8	24	61	48	0.0
3,4,6	7.2	240	260	240	20	30	0.3	30	40	2.0	9.9	16	31	60	48	9.1	6	21	59	49	0.0
3,4,6	7.2	236	260	240	20	30	0.3	30	40	1.0	9.9	20	38	59	48	9.2	6	18	56	45	0.0
			.																		0.0
0.00	223.80	7436.00	8092.00	7466.00	622.00	924.00	9.22	925.00	1240.00	39.40	311.40	611.50	1167.00	1823.50	1511.50	288.50	229.00	609.00	1705.00	1438.00	0.00
0.00	7.60	242.00	264.00	244.00	22.00	30.00	0.30	30.00	42.00	2.10	10.20	26.00	44.00	63.50	54.00	9.70	12.00	28.00	63.00	53.00	0.00
0.00	7.20	236.00	260.00	238.00	18.00	28.00	0.28	28.00	38.00	0.49	9.80	15.00	26.00	56.00	45.00	8.90	4.00	14.00	47.00	42.00	0.00
#DIV/0!	7.22	239.87	261.03	240.84	20.06	29.81	0.30	29.84	40.00	1.27	10.05	19.73	37.65	58.82	48.76	9.31	7.39	19.65	55.00	46.39	0.00

Broward
4060787
2021

ATER

Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
39	40	41	42	43	44	45
3.3	6	0.67	0.20	0.09	0.41	2.1
3.9	6	0.63	0.25	0.08	0.54	1.1
3.6	5	0.63	0.18	0.08	0.52	0.4
3.9	4	0.61	0.23	0.11	0.52	0.2
3.5	4	0.66	0.36	0.12	0.04	2.0
3.6	5	0.69	0.34	0.12	0.39	1.0
3.7	5	0.66	0.28	0.11	0.45	1.0
3.5	5	0.68	0.24	0.10	0.26	0.4
3.5	6	0.68	0.19	0.10	0.26	1.2
4.1	4	0.66	0.20	0.06	0.47	0.1
3.9	6	0.73	0.26	0.10	0.42	0.0
3.6	9	0.69	0.33	0.10	0.34	2.0
3.7	6	0.70	0.29	0.10	0.55	0.4
3.7	7	0.71	0.24	0.13	0.43	0.0
3.8	6	0.75	0.19	0.06	0.57	0.1
3.5	6	0.71	0.18	0.07	0.67	0.1
3.6	4	0.69	0.21	0.07	0.22	1.3
3.8	6	0.68	0.27	0.11	0.30	1.1
3.6	5	0.64	0.33	0.11	0.19	0.0
3.0	6	0.63	0.28	0.11	0.03	2.0
1.6	5	0.65	0.24	0.10	0.24	0.0
3.1	5	0.65	0.28	0.11	0.38	0.2
4.0	6	0.67	0.24	0.09	0.38	0.0
3.4	5	0.64	0.31	0.09	0.34	0.0
3.6	7	0.63	0.31	0.09	0.32	0.0
3.5	9	0.69	0.28	0.08	0.22	0.2
3.7	7	0.71	0.24	0.06	0.58	0.2
3.7	7	0.73	0.40	0.09	0.88	0.0
3.7	7.5	0.73	0.36	0.14	0.54	0.2
3.6	8	0.69	0.34	0.12	0.27	0.0
3.6	8	0.63	0.33	0.12	0.25	0.0
110.30	185.50	20.92	8.38	3.02	11.98	17.31
4.10	9.00	0.75	0.40	0.14	0.88	2.10
1.60	4.00	0.61	0.18	0.06	0.03	0.00
3.56	5.98	0.67	0.27	0.10	0.39	0.56

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

AUG 2021

	Z. BECKFORD	A8226			
	M. HUTCHINSON	A17010			
Lead Operator Signature:Z	C.HUTCHINSON	A17011			
Operator's Names & Cert. No.	STANLEY EBANKS	A17017			
How Many Other Operators? 9	INDRAL SAMLAL	A7282			
Total Metered Services at End of Month: 13,141	KERRY ROMAN	C7873			
Design Flow: 16MGD	R.RAMNARINE	C12091	DAWN CAMPBELL C24707		
	H.RODRIGUEZ	C19220	RAJIV SAMLAL	B22878	

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA				CHEMICALS													
				Hours Filter Runs Between Washings			Total Wash Water, MGD	POUNDS USED							DOSAGES						
								Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calcifloc 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #
				Total	Max	Min																
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17	
8/1/21	24	5.550	5.710	393	74	26	0.267	8100	100	0	300	160	150	18.0	175	2.2	0	6.5	3.5	0.75	0.39	3,4,6
8/2/21	24	5.240	5.500	373	73	27	0.267	7648	100	0	300	160	160	18.0	175	2.3	0.0	6.9	3.7	0.84	0.412	3,46
8/3/21	24	4.970	5.660	414	61	25	0.267	7254	100	0	300	160	160	18.0	175	2.4	0.0	7.2	3.9	0.89	0.43	3,4,6
8/4/21	24	4.770	5.430	409	81	28	0.445	6962	100	0	300	150	160	18.0	175	2.5	0.0	7.5	3.8	0.93	0.45	3,4,6
8/5/21	24	4.830	5.200	334	57	25.5	0.267	7049	100	0	300	180	154	27.0	175	2.5	0.0	7.4	4.5	0.88	0.67	3,4,6
8/6/21	24	5.680	5.940	396	68.5	27.5	0.267	8290	100	0	300	190	150	18.0	175	2.1	0.0	6.3	4.0	0.73	0.38	3,4,6
8/7/21	24	5.490	5.920	376	62	25	0.267	8013	100	0	300	180	150	18.0	175	2.2	0.0	6.6	3.9	0.75	0.39	3,5,6
8/8/21	24	5.480	5.700	408.5	78	25	0.267	7998	100	0	300	194	140	18.0	175	2.2	0.0	6.6	4.2	0.70	0.39	3,5,6
8/9/21	24	5.360	5.970	421	80	30	0.267	7823	100	0	300	190	152	18.0	175	2.2	0.0	6.7	4.3	0.78	0.40	3,4,6
8/10/21	24	5.110	5.520	393.5	70	25	0.267	7458	100	0	300	190	152	18.0	175	2.3	0.0	7.0	4.5	0.82	0.42	4,6,8
8/11/21	24	5.650	5.910	400	67	36	0.267	8246	100	0	300	180	160	17.4	175	2.1	0.0	6.4	3.8	0.78	0.37	4,8
8/12/21	24	4.890	5.240	412	73	39.5	0.267	7137	100	0	300	180	154	18.0	175	2.5	0.0	7.4	4.4	0.87	0.44	4,8
8/13/21	24	5.800	5.950	423	77	31	0.267	8465	100	0	300	170	160	18.0	175	2.1	0.0	6.2	3.5	0.76	0.37	4,8
8/14/21	24	4.700	5.730	439	84.5	39	0.356	6860	100	0	300	170	160	18.0	175	2.6	0.0	7.7	4.3	0.94	0.46	4,8
8/15/21	24	5.160	5.770	359.5	74	27	0.267	7531	100	0	300	170	160	18.0	175	2.3	0.0	7.0	4.0	0.86	0.42	4,8
8/16/21	24	5.290	5.810	378.5	61	29	0.267	7721	100	0	300	180	160	18.0	175	2.3	0.0	6.8	4.1	0.83	0.41	4,8
8/17/21	24	5.750	5.540	399	68	28.5	0.356	8392	100	0	300	180	156	18.0	175	2.1	0.0	6.3	3.8	0.75	0.38	4,8
8/18/21	24	5.930	6.060	346.5	62	28	0.267	8655	100	0	300	180	150	18.0	175	2.0	0.0	6.1	3.6	0.70	0.36	4,6,8
8/19/21	24	4.850	5.560	372	62.5	27	0.089	7079	100	0	300	170	158	18.0	175	2.5	0.0	7.4	4.2	0.90	0.45	4,8
8/20/21	24	4.880	6.260	456.5	68	41	0.356	7122	100	0	300	174	160	18.0	175	2.5	0.0	7.4	4.3	0.90	0.44	4,6
8/21/21	24	5.660	5.860	384.5	73	28	0.267	8261	100	0	300	180	156	18.0	175	2.1	0.0	6.4	3.8	0.76	0.38	4,6
8/22/21	24	5.860	6.210	378.5	68	25	0.267	8553	100	0	300	172	150	18.0	175	2.0	0.0	6.1	3.5	0.71	0.37	3,4,6,
8/23/21	24	5.880	6.140	3880	76	28	0.445	8582	100	0	300	192	160	18.0	175	2.0	0.0	6.1	3.9	0.75	0.37	3,4,6
8/24/21	24	5.090	6.180	380	74	25	0.178	7429	100	0	300	180	160	18.0	175	2.4	0.0	7.1	4.2	0.87	0.42	3,4,6
8/25/21	24	6.201	6.290	491	87	38.5	0.089	9050	100	0	300	190	150	18.0	175	1.9	0.0	5.8	3.7	0.67	0.35	3,5,6
8/26/21	24	4.940	6.050	572	100	39.5	0.267	7210	100	0	300	200	160	18.0	175	2.4	0.0	7.3	4.9	0.89	0.44	3,5,6
8/27/21	24	6.850	6.720	524.5	124	25.5	0.267	9998	100	0	300	194	150	18.0	175	1.8	0.0	5.3	3.4	0.60	0.32	3.5.6
8/28/21	24	6.170	5.810	536	132	36	0.267	9005	100	0	300	194	130	18.0	175	1.9	0.0	5.8	3.8	0.58	0.35	3,5,6
8/29/21	24	6.940	6.820	521	140	42	0.267	10129	100	0	300	190	159	18.0	175	1.7	0.0	5.2	3.3	0.63	0.31	3,5,6
8/30/21	24	7.000	6.040	690	133	42	0.089	10217	100	0	300	190	150	18.0	175	1.7	0.0	5.1	3.3	0.59	0.31	3,4,6,8
8/31/21	24							0	100	0	300	186	160	18.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	4,8
Total	720.00	165.97	176.50	16261.50	2408.50	919.50	8.01	242234.67	3000.00	0.00	#####	5390.00	4631.00	548.40	5250.00	65.80	0.00	197.39	117.82	23.41	12.05	0.00
Max.	24.00	7.00	6.82	3880.00	140.00	42.00	0.45	10216.50	100.00	0.00	300.00	200.00	160.00	27.00	175.00	2.55	0.00	7.65	4.85	0.94	0.67	0.00
Min.	24.00	4.70	5.20	334.00	57.00	25.00	0.09	6859.65	100.00	0.00	300.00	150.00	130.00	17.40	175.00	1.71	0.00	5.14	3.25	0.58	0.31	0.00
Avg.	24.00	5.53	5.88	542.05	80.28	30.65	0.27	8074.49	100.00	0.00	300.00	179.67	154.37	18.28	175.00	2.19	0.00	6.58	3.93	0.78	0.40	#DIV/0!

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

AUG 2021

Name of Plant :	Lauderhill Water Treatment Plant
Utility Company :	City of Lauderhill
Month :	Aug-21
Telephone Number :	(954) 730-2972
County :	Broward
I.D. Number :	4060787
Year AUG	2021

CHEMICAL AND PHYSICAL RESULTS

RAW WATER									SETTLED WATER						FINISHED WATER						
pH	M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
7.2	240	260	240	20	20	0.3	30	40	0.9	10.1	20	40	61	50	9.5	7	18	49	44	0.0	3.8
7.2	238	260	240	20	20	0.3	30	40	0.9	10.0	22	43	59	48	9.3	8	20	48	42	0.0	3.7
7.2	238	260	240	20	20	0.3	30	40	1.6	10.0	20	40	57	47	9.4	10	22	55	46	0.0	3.7
7.2	238	260	240	20	20	0.3	30	40	1.0	10.0	21	40	55	46	9.3	9	21	51	45	0.0	3.6
7.2	240	260	240	20	30	0.3	30	40	0.8	10.2	20	38	56	47	9.5	9	21	52	45	0.0	3.8
7.2	240	260	240	20	30	0.3	30	40	1.0	10.1	22	44	62	50	9.5	9	21	58	48	0.0	3.6
7.2	240	262	238	18	29	0.3	28	42	0.8	9.9	16	31	58	44	9.3	8	18	47	43	0.0	3.4
7.2	240	260	238	20	30	0.3	30	40	0.8	10.0	20	39	58	49	9.5	4	19	49	44	0.0	3.6
7.2	240	260	240	18	29	0.3	32	42	1.5	9.9	19	37	58	49	9.4	9	23	54	45	0.0	3.4
7.2	240	260	240	20	28	0.3	30	40	1.1	9.9	18	35	58	46	9.4	9	22	58	46	0.0	3.5
7.2	240	260	240	20	28	0.3	30	40	1.2	10.0	21	39	58	47	9.5	12	24	59	48	0.0	3.5
7.2	240	260	240	20	28	0.3	30	40	1.1	10.0	21	35	58	46	9.4	9	22	58	46	0.0	3.5
7.2	240	260	240	20	30	0.3	30	40	1.1	10.0	21	36	59	48	9.4	10	22	58	46	0.0	3.5
7.2	240	260	240	20	28	0.3	30	40	1.7	10.0	18	32	58	47	9.4	7	22	57	47	0.0	3.7
7.2	240	260	240	20	28	0.3	30	40	1.0	10.0	20	40	56	46	9.4	9	22	55	47	0.0	3.7
7.2	240	260	240	22	30	0.3	30	40	0.9	10.1	19	39	57	50	9.5	7	18	51	44	0.0	3.8
7.2	240	260	240	20	30	0.3	30	40	1.8	10.0	18	36	57	46	9.3	6	19	56	47	0.0	3.4
7.2	240	260	240	20	20	0.3	30	40	1.5	9.9	19	36	56	47	9.4	8	22	58	47	0.0	3.6
7.2	140	260	240	20	20	0.3	30	40	1.0	10.0	19	37	57	47	9.4	9	23	57	48	0.0	3.7
7.2	242	260	240	20	20	0.3	30	40	1.3	10.1	24	38	62	51	9.3	8	22	57	46	0.0	3.5
7.2	242	264	242	20	22	0.3	30	40	1.7	10.0	20	34	58	46	9.4	9	22	58	48	0.0	3.6
7.2	240	260	244	20	20	0.3	30	40	1.0	10.0	18	36	54	49	9.4	8	19	53	42	0.0	3.7
7.2	240	260	240	20	20	0.3	30	40	1.3	10.0	22	43	57	47	9.4	8	18	48	43	0.0	3.7
7.2	238	260	240	20	29	0.3	32	40	0.9	9.9	21	39	59	51	9.5	8	22	49	43	0.0	3.4
7.2	240	260	240	20	20	0.3	30	40	1.5	10.5	29	46	59	51	9.6	10	23	59	44	0.0	3.5
7.2	240	260	240	20	20	0.3	30	40	1.2	9.8	17	33	58	48	9.3	9	21	56	47	0.0	3.6
7.2	240	260	240	20	20	0.3	30	40	1.1	9.9	20	40	58	48	9.2	8	22	56	46	0.0	3.7
7.2	240	260	240	20	20	0.3	30	40	1.7	10.0	21	37	58	48	9.4	10	25	57	47	0.0	3.7
7.2	240	260	240	20	20	0.3	30	40	1.7	10.1	20	39	57	47	9.2	6	21	58	43	0.0	3.7
7.2	240	260	240	20	20	0.3	30	40	2.2	9.8	26	44	66	52	9.3	8	22	56	49	0.0	3.9
7.2	240	260	240	20	20	0.3	30	40	1.5	10.1	21	34	54	50	9.6	10	22	51	44	0.0	3.6
7.2	242	268	248	20	20	0.3	30	40												0.0	
																				0.0	
216.00	7096.00	7806.00	7202.00	598.00	721.00	8.68	902.00	1204.00	37.77	300.30	612.00	1145.00	1740.00	1442.00	282.00	252.00	636.00	1630.00	1364.00	0.00	108.60
7.20	242.00	264.00	244.00	22.00	30.00	0.32	32.00	42.00	2.20	10.50	29.00	46.00	66.00	52.00	9.60	12.00	25.00	59.00	49.00	0.00	3.90
7.20	140.00	260.00	238.00	18.00	20.00	0.26	28.00	40.00	0.79	9.80	16.00	31.00	54.00	44.00	9.20	4.00	18.00	47.00	42.00	0.00	3.40
7.20	236.53	260.20	240.07	19.93	24.03	0.29	30.07	40.13	1.26	10.01	20.40	38.17	58.00	48.07	9.40	8.40	21.20	54.33	45.47	0.00	3.62

Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
40	41	42	43	44	45
8	0.59	0.34	0.17	0.58	1.0
8	0.62	0.36	0.12	0.38	1.2
8	0.69	0.35	0.10	0.56	2.2
8	0.69	0.49	0.15	0.41	1.6
10	0.72	0.47	0.18	0.63	0.0
13	0.73	0.56	0.16	0.66	1.0
14	0.73	0.44	0.17	0.33	1.3
10	0.70	0.45	0.15	0.57	1.0
9	0.72	0.47	0.15	0.56	0.0
9	0.71	0.48	0.17	0.57	0.0
11	0.69	0.34	0.16	0.71	0.0
8	0.68	0.45	0.15	0.56	1.2
8	0.71	0.43	0.15	0.57	3.0
8	0.72	0.44	0.16	0.57	0.0
7	0.75	0.43	0.16	0.49	0.0
8	0.74	0.49	0.18	0.39	0.1
8	0.70	0.41	0.14	0.57	0.4
7	0.68	0.25	0.10	0.57	0.0
8	0.68	0.27	0.10	0.48	0.1
8	0.73	0.33	0.10	0.58	0.0
8	0.75	0.39	0.13	0.42	0.0
9	0.67	0.41	0.13	0.42	0.0
10	0.70	0.48	0.15	0.63	0.1
9	0.69	0.40	0.16	0.77	0.0
9	0.67	0.40	0.17	0.45	1.2
9	0.68	0.42	0.18	0.36	0.2
8	0.70	0.42	0.21	0.62	0.2
6	0.75	0.34	0.20	0.31	0.0
5	0.72	0.26	0.18	0.49	0.0
5	0.63	0.22	0.21	0.74	0.2
256.00	20.94	11.99	4.64	15.95	16.00
14.00	0.75	0.56	0.21	0.77	3.00
5.00	0.59	0.22	0.10	0.31	0.00
8.53	0.70	0.40	0.15	0.53	0.53

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

SEP 2021

	C.HUTCHINSON	A17011				
	M. HUTCHINSON	*A17010*				
Lead Operator Signature:Z	**Operator's Names & Cert. No.**	K.HUTCHINSON	B26757			
		STANLEY EBANKS	A17017			
How Many Other	9	INDRAL SAMLAL	A7282			
	Total Metered Services at End of Month:	KERRY ROMAN	C7873	KEYSHAWN HUTCHINSON		
Design Flow:	16MGD	R.RAMNARINE	C12091	DAWN CAMPBELL C24707		
		H.RODRIGUEZ	C19220	RAJIV SAMLAL	*B22878*	

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							CHEMICALS: DOSAGES							Well #	pH	M Alk.
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G			
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19
9/1/21	24	6.160	6.280	398.5	125.5	22.5	0.445	8991	100	0	300	198	150	18.0	175	1.9	0	5.8	3.9	0.67	0.35	3,4,6	7.2	240
9/2/21	24	5.890	6.190	298.5	52.5	27.5	0.445	8596	100	0	300	225	150	18.0	175	2.0	0.0	6.1	4.6	0.70	0.366	3,4,6	7.2	240
9/3/21	24	5.630	5.700	135.4	49	37	0.267	8217	100	0	300	225	152	18.0	175	2.1	0.0	6.4	4.8	0.74	0.38	3,4,6	7.2	240
9/4/21	24	5.700	6.050	355	73	26	0.445	8319	100	0	300	223	168	18.0	175	2.1	0.0	6.3	4.7	0.81	0.38	3,4,6	7.2	242
9/5/21	24	5.860	6.220	299	49	26	0.356	8553	100	0	300	226	160	18.0	175	2.0	0.0	6.1	4.6	0.75	0.37	3,4,6	7.2	240
9/6/21	24	5.670	5.900	338	66	26.5	0.178	8275	100	0	300	224	155	18.0	175	2.1	0.0	6.3	4.7	0.75	0.38	3,46	7.2	240
9/7/21	24	5.830	6.300	428.5	90	30	0.356	8509	100	0	250	226	160	18.0	175	2.1	0.0	5.1	4.6	0.76	0.37	3,4,6	7.2	240
9/8/21	24	5.890	5.900	397	68	33	0.356	8596	100	0	250	223	153	18.0	175	2.0	0.0	5.1	4.5	0.72	0.37	3,46,	7.2	240
9/9/21	24	5.840	5.960	407	80	26.5	0.178	8523	100	0	300	233	157	18.0	175	2.1	0.0	6.2	4.8	0.74	0.37	3,4,6	7.2	240
9/10/21	24	5.560	5.840	439	84	36	0.267	8115	100	0	300	233	160	18.0	175	2.2	0.0	6.5	5.0	0.79	0.39	3,4,6	7.2	240
9/11/21	24	5.310	6.070	438	27	84	0.356	7750	100	0	300	260	160	18.0	175	2.3	0.0	6.8	5.9	0.83	0.41	3,4,6	7.2	242
9/12/21	24	5.730	6.260	367	26	97	0.267	8363	100	0	300	280	150	18.0	175	2.1	0.0	6.3	5.9	0.72	0.38	3,4,6	7.2	240
9/13/21	24	6.270	6.100	413	91	29	0.356	9151	100	0	300	260	186	18.0	175	1.9	0.0	5.7	5.0	0.82	0.34	3,4,6	7.2	270
9/14/21	24	5.600	5.940	371.5	61	29	0.267	8173	100	0	300	274	160	18.0	175	2.1	0.0	6.4	5.9	0.79	0.39	5,6,8	7.2	240
9/15/21	24	5.090	5.520	366	29.5	60	0.445	7429	100	0	300	260	150	18.0	175	2.4	0.0	7.1	6.1	0.81	0.42	5,8	7.2	240
9/16/21	24	4.890	5.280	323.5	55.5	25.5	0.178	7137	100	0	300	260	160	18.0	175	2.5	0.0	7.4	6.4	0.90	0.44	5,8	7.2	240
9/17/21	24	5.810	5.960	401	79.5	26.5	0.178	8480	100	0	300	260	155	18.0	175	2.1	0.0	6.2	5.4	0.74	0.37	5,8	7.2	240
9/18/21	24	6.310	6.280	457	80.5	30.5	0.178	9209	100	0	300	300	160	18.0	175	1.9	0.0	5.7	5.7	0.70	0.34	5,8	7.2	240
9/19/21	24	5.270	5.950	486	87	25	0.356	7692	100	0	300	260	160	18.0	175	2.3	0.0	6.8	5.9	0.84	0.41	5,8	7.2	238
9/20/21	24	5.270	5.620	450.5	110	27	0.267	7692	100	0	300	250	160	18.0	175	2.3	0.0	6.8	5.7	0.84	0.41	5,8	7.2	240
9/21/21	24	5.800	6.050	429	81	25	0.178	8465	100	0	300	250	150	18.0	175	2.1	0.0	6.2	5.2	0.71	0.37	5,8	7.2	240
9/22/21	24	6.060	6.270	490.5	90	23.5	0.178	8845	100	0	300	250	150	18.0	175	2.0	0.0	5.9	4.9	0.68	0.36	5,8	7.2	240
9/23/21	24	4.470	4.900	559.5	109	26.5	0.356	6524	100	0	300	268	156	18.0	175	2.7	0.0	8.0	7.2	0.96	0.48	4,8	7.2	240
9/24/21	24	5.640	6.100	475	133	26.5	0.089	8232	100	0	300	350	150	18.0	175	2.1	0.0	6.4	7.4	0.73	0.38	4,8	7.2	240
9/25/21	24	5.450	5.950	462	72	32.5	0.356	7954	100	0	300	360	150	18.0	175	2.2	0.0	6.6	7.9	0.76	0.40	4,8	7.2	240
9/26/21	24	5.250	5.770	428	75	27	0.356	7662	100	0	300	356	150	18.0	175	2.3	0.0	6.9	8.1	0.79	0.41	4,8	7.2	240
9/27/21	24	5.880	5.670	347.5	62	14	0.267	8582	100	0	300	360	154	18.0	175	2.0	0.0	6.1	7.3	0.72	0.37	4,8	7.2	240
9/28/21	24	6.220	6.440	406.5	67	27.5	0.267	9078	100	0	300	360	155	18.0	175	1.9	0.0	5.8	6.9	0.69	0.35	4,8	7.2	240
9/29/21	24	5.630	5.570	410	71	29.5	0.356	8217	100	0	300	300	160	18.0	175	2.1	0.0	6.4	6.4	0.78	0.38	3,8	7.2	240
9/30/21	24	5.400	5.780	349	63	27	0.356	7881	100	0	300	300	172	18.0	175	2.2	0.0	6.7	6.7	0.88	0.40	3,8	7.2	240
Total	720.00	169.38	177.82	11926.40	2207.00	983.50	8.90	247210.11	3000.00	0.00	8900.00	8054.00	4713.00	540.00	5250.00	64.06	0.00	190.13	172.14	23.14	11.53	0.00	216.00	7232.00
Max.	24.00	6.31	6.44	559.50	133.00	97.00	0.45	9209.45	100.00	0.00	300.00	360.00	186.00	18.00	175.00	2.68	0.00	8.05	8.13	0.96	0.48	0.00	7.20	270.00
Min.	24.00	4.47	4.90	135.40	26.00	14.00	0.09	6523.97	100.00	0.00	250.00	198.00	150.00	18.00	175.00	1.90	0.00	5.09	3.85	0.67	0.34	0.00	7.20	238.00
Avg.	24.00	5.65	5.93	397.55	73.57	32.78	0.30	8240.34	100.00	0.00	296.67	268.47	157.10	18.00	175.00	2.14	0.00	6.34	5.74	0.77	0.38	#DIV/0!	7.20	241.07

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

SEP 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	Sep-21	**Year SEP**	2021
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

RAW WATER							SETTLED WATER						FINISHED WATER											
Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
260	240	20	30	0.3	30	40	1.5	9.9	20	35	55	47	9.2	7	20	53	44	0.0	3.8	8	0.65	0.22	0.12	0.30	0.0
260	240	20	30	0.3	30	40	1.6	10.2	19	34	53	44	9.2	6	18	53	42	0.0	3.8	8	0.67	0.20	0.08	0.22	0.4
260	240	20	30	0.3	30	40	1.2	9.9	16	35	54	46	9.2	6	15	52	42	0.0	3.3	5	0.67	0.14	0.07	0.44	0.2
264	238	20	30	0.3	30	40	0.8	10.0	15	28	54	45	9.3	6	19	50	42	0.0	3.5	2	0.69	0.13	0.08	0.38	1.1
260	238	18	29	0.3	30	42	0.7	10.0	22	40	52	43	9.5	8	19	50	42	0.0	3.8	5	0.70	0.24	0.12	0.55	1.0
260	238	18	30	0.3	30	42	1.0	9.9	21	38	53	45	9.5	7	20	51	42	0.0	3.5	4	0.77	0.28	0.10	0.58	0.6
260	240	20	30	0.3	30	40	1.5	9.9	16	28	59	45	9.2	7	22	56	47	0.0	3.5	9	0.71	0.23	0.10	0.37	0.0
260	240	20	30	0.3	30	40	0.9	10.0	21	39	56	46	9.1	7	19	56	46	0.0	3.6	7	0.71	0.25	0.09	0.19	0.0
260	240	20	30	0.3	30	40	1.5	10.1	20	40	56	46	9.5	10	26	57	47	0.0	3.9	7	0.70	0.20	0.09	0.69	0.0
260	240	20	30	0.3	30	40	1.5	10.0	20	41	54	45	9.3	8	20	53	47	0.0	3.6	5	0.68	0.21	0.07	0.29	0.0
260	238	18	29	0.3	28	42	1.6	10.1	16	31	58	44	9.5	6	18	48	41	0.0	3.6	5	0.07	0.14	0.04	0.57	0.0
260	240	30	30	0.3	30	42	1.5	10.0	21	38	56	49	9.6	8	19	48	41	0.0	3.2	5	0.67	0.15	0.05	0.68	0.0
260	240	20	30	0.3	30	40	1.3	10.0	19	39	58	48	9.3	7	20	48	43	0.0	3.5	6	0.67	0.17	0.07	0.39	0.8
260	240	20	30	0.3	30	40	1.3	10.3	25	46	58	48	9.4	9	20	49	44	0.0	3..8	6	0.70	0.17	0.07	0.50	1.1
260	240	20	30	0.3	30	40	1.5	10.2	22	47	57	48	9.4	9	21	55	44	0.0	3.6	5	0.71	0.12	0.08	0.52	0.2
260	240	20	30	0.3	30	40	1.1	10.1	22	39	56	45	9.2	7	21	51	45	0.0	3.7	6	0.73	0.13	0.06	0.33	0.2
260	240	20	30	0.3	30	40	1.3	10.1	20	40	56	46	9.4	8	23	55	45	0.0	3.9	6	0.73	0.17	0.05	0.56	0.6
260	240	20	30	0.3	30	40	0.7	9.9	18	32	60	44	9.1	6	21	53	44	0.0	3.7	4	0.68	0.14	0.05	0.18	0.0
264	240	18	30	0.3	30	40	0.6	10.0	21	40	58	49	9.0	8	20	49	43	0.0	3.3	6	0.62	0.16	0.08	0.09	0.0
260	240	20	30	0.3	30	40	0.6	9.9	16	36	54	47	9.1	5	20	51	44	0.0	3.7	7	0.71	0.15	0.06	0.20	0.4
260	240	20	30	0.3	30	40	0.9	10.1	16	35	69	59	9.1	7	20	56	45	0.0	3.7	6	0.74	0.17	0.06	0.43	0.3
260	240	20	30	0.3	30	40	0.8	10.1	19	35	70	59	9.3	7	19	56	46	0.0	3.8	4	0.72	0.22	0.09	0.72	0.4
260	240	20	30	0.3	30	40	0.8	10.0	18	32	70	54	9.3	6	19	67	57	0.0	3.8	4	0.74	0.22	0.09	0.39	1.0
260	240	20	30	0.3	30	40	1.4	9.9	19	37	56	46	9.3	11	24	57	49	0.0	3.6	7	0.74	0.22	0.09	0.52	0.6
260	240	20	30	0.3	30	40	1.0	9.2	15	26	68	59	9.0	5	21	56	47	0.0	3.5	7	0.74	0.29	0.11	0.32	0.6
260	240	20	30	0.3	30	40	1.3	10.0	18	40	57	48	9.3	9	22	57	48	0.0	3.6	7	0.73	0.32	0.10	0.48	0.0
260	240	20	30	0.3	30	40	1.1	9.9	17	30	58	48	8.9	5	20	58	46	0.0	3.5	7	0.75	0.35	0.11	0.33	0.2
260	240	20	30	0.3	30	40	1.0	10.0	18	37	56	46	9.5	9	22	56	46	0.0	3.5	8	0.70	0.29	0.08	0.80	0.0
260	240	20	30	0.3	30	40	1.0	10.0	19	32	58	47	9.5	8	19	57	48	0.0	3.5	7	0.69	0.24	0.08	0.41	0.0
260	240	20	30	0.3	30	40	1.0	10.0	19	39	60	49	9.2	8	20	57	46	0.0	3.7	7	0.70	0.30	0.09	0.32	0.2
7808.00	7192.00	602.00	898.00	8.19	898.00	1208.00	33.88	299.70	568.00	1089.00	1739.00	1435.00	278.40	220.00	607.00	1615.00	1353.00	0.00	104.70	180.00	20.49	6.22	2.43	12.75	9.90
264.00	240.00	30.00	30.00	0.32	30.00	42.00	1.60	10.30	25.00	47.00	70.00	59.00	9.60	11.00	26.00	67.00	57.00	0.00	3.90	9.00	0.77	0.35	0.12	0.80	1.10
260.00	238.00	18.00	29.00	0.27	28.00	40.00	0.56	9.20	15.00	26.00	52.00	43.00	8.90	5.00	15.00	48.00	41.00	0.00	3.20	2.00	0.07	0.12	0.04	0.09	0.00
260.27	239.73	20.07	29.93	0.27	29.93	40.27	1.13	9.99	18.93	36.30	57.97	47.83	9.28	7.33	20.23	53.83	45.10	0.00	3.61	6.00	0.68	0.21	0.08	0.43	0.33

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

OCT 2021

												C.HUTCHINSON	A17011																	
												M. HUTCHINSON	*A17010*																	
Lead Operator Signature:Z				**Operator's Names & Cert. No.**								K.HUTCHINSON	B26757																	
												STANLEY EBANKS	A17017																	
How Many Other Operators?		10										INDRAL SAMLAL	A7282																	
			Total Metered Services at End of Month:									KERRY ROMAN	C7873																	
Design Flow:		16MGD										R.RAMNARINE	C12091		DAWN CAMPBELL C24707															
												H.RODRIGUEZ	C19220		RAJIV SAMLAL		*B22878*													

Date	**Hours Plant Operation**	**Total Raw Water Pumped, MGD**	**Total Finished Water Pumped, MGD**	**FILTER DATA**				**CHEMICALS**																	
				Hours Filter Runs Between Washings			**Total Wash Water, MGD**	**POUNDS USED**							**DOSAGES**								**Well #**	**pH**
								Lime	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride**	**Calcifloc 2154G**	**Lime**	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride As F**	**Calcifloc 2154G**		
				Total	**Max**	**Min**																			
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18
10/1/21	24	5.350	5.680	284	50	24	0.178	7808	100	0	300	176	154	18.0	175	2.2	0	6.7	3.9	0.79	0.40	3,8	7.2
10/2/21	24	5.460	5.970	392.5	73	26	0.356	7969	100	0	300	190	156	18.0	175	2.2	0.0	6.6	4.2	0.79	0.40	3,8	7.2
10/3/21	24	5.650	5.880	360	67	25	0.356	8246	100	0	300	208	160	18.0	175	2.1	0.0	6.4	4.4	0.78	0.38	3,8	7.2
10/4/21	24	5.720	5.790	384.5	74	27.5	0.178	8348	100	0	300	220	152	18.0	175	2.1	0.0	6.3	4.6	0.73	0.38	3,8	7.2
10/5/21	24	5.840	6.190	391	69.5	30.5	0.178	8523	100	0	300	220	156	18.0	175	2.1	0.0	6.2	4.5	0.74	0.37	3,8	7.2
10/6/21	24	5.770	5.840	452	78	25	0.356	8421	100	0	300	220	160	18.0	175	2.1	0.0	6.2	4.6	0.76	0.37	3,8	7.2
10/7/21	24	5.330	5.450	408	68	35.5	0.356	7779	100	0	300	200	150	18.0	175	2.2	0.0	6.7	4.5	0.78	0.40	3,8	7.2
10/8/21	24	5.250	5.600	369.5	59.5	38	0.267	7662	100	0	300	200	152	18.0	175	2.3	0.0	6.9	4.6	0.80	0.41	3,8	7.2
10/9/21	24	5.140	5.640	464	68	38	0.267	7502	100	0	300	202	154	18.0	175	2.3	0.0	7.0	4.7	0.83	0.42	3,8	7.2
10/10/21	24	5.560	5.940	422	71	25	0.267	8115	100	0	300	212	150	18.0	175	2.2	0.0	6.5	4.6	0.74	0.39	3,8	7.2
10/11/21	24	6.280	6.180	401.5	69	28.5	0.267	9166	100	0	300	210	148	18.0	175	1.9	0.0	5.7	4.0	0.65	0.34	3,4,5,8	7.2
10/12/21	24	5.710	5.500	405.5	70	28.5	0.356	8334	100	0	300	210	150	18.0	175	2.1	0.0	6.3	4.4	0.72	0.38	3,4,5	7.2
10/13/21	24	5.530	6.090	372.5	70	29.5	0.267	8071	100	0	300	210	155	18.0	175	2.2	0.0	6.5	4.6	0.77	0.39	4,5	7.1
10/14/21	24	5.890	5.830	370	75	21	0.455	8596	100	0	300	210	152	18.0	175	2.0	0.0	6.1	4.3	0.71	0.37	4,5	7.1
10/15/21	24	5.550	5.960	368	72	16.5	0.267	8100	100	0	300	210	148	18.0	175	2.2	0.0	6.5	4.5	0.74	0.39	4,5	7.1
10/16/21	24	5.390	5.930	454	89	37	0.269	7867	100	0	300	220	153	18.0	175	2.2	0.0	6.7	4.9	0.78	0.40	4,5	7.2
10/17/21	24	5.400	5.770	429.5	83.5	29	0.356	7881	100	0	300	220	154	18.0	175	2.2	0.0	6.7	4.9	0.79	0.40	4,5	7.2
10/18/21	24	5.880	5.870	380	90	27	0.356	8582	100	0	300	250	152	18.0	175	2.0	0.0	6.1	5.1	0.71	0.37	3,4,5,6	7.2
10/19/21	24	5.850	6.040	375	63	29.5	0.178	8538	100	0	300	250	156	18.0	175	2.0	0.0	6.1	5.1	0.74	0.37	3,4,6	7.2
10/20/21	24	5.900	6.290	445.5	71.5	36.5	0.267	8611	100	0	300	250	150	18.0	175	2.0	0.0	6.1	5.1	0.70	0.37	3,4,6	7.2
10/21/21	24	5.590	5.660	441	90.5	37.5	0.356	8159	100	0	300	250	150	18.0	175	2.1	0.0	6.4	5.4	0.74	0.39	3,4,6	7.2
10/22/21	24	5.390	5.770	401.5	95	39	0.356	7867	100	0	300	300	150	18.0	175	2.2	0.0	6.7	6.7	0.77	0.40	3,4,6	7.2
10/23/21	24	5.150	5.690	405	68.5	34	0.267	7516	100	0	300	300	150	18.0	175	2.3	0.0	7.0	7.0	0.80	0.42	3,4,6	7.2
10/24/21	24	5.480	5.810	386.5	92	25	0.356	7998	100	0	300	280	150	18.0	175	2.2	0.0	6.6	6.1	0.75	0.39	4,5,6	7.2
10/25/21	24	5.460	5.690	357	62	29	0.356	7969	100	0	300	250	160	18.0	175	2.2	0.0	6.6	5.5	0.81	0.40	3,4,5,6	7.2
10/26/21	24	6.280	6.290	381.5	71	19	0.178	9166	100	0	300	250	155	18.0	175	1.9	0.0	5.7	4.8	0.68	0.34	3,4,6	7.2
10/27/21	24	5.460	5.510	450.5	79.5	23	0.445	7969	100	0	300	250	158	18.0	175	2.2	0.0	6.6	5.5	0.80	0.40	3,5,6	7.2
10/28/21	24	5.540	5.620	364	78.5	24	0.445	8086	100	0	300	250	148	18.0	175	2.2	0.0	6.5	5.4	0.74	0.39	3,5,6	7.2
10/29/21	24	5.220	5.530	338	58	26	0.267	7619	100	0	300	250	150	18.0	175	2.3	0.0	6.9	5.7	0.79	0.41	3,5,6	7.2
10/30/21	24	5.450	6.050	381	57	26	0.356	7954	100	0	300	250	150	18.0	175	2.2	0.0	6.6	5.5	0.76	0.40	3,5,6	7.2
10/31/21	24	5.370	5.740	345.5	81	26	0.356	7838	100	0	300	250	150	18.0	175	2.2	0.0	6.7	5.6	0.77	0.40	3,5,6	7.2
Total	744.00	172.84	180.80	12180.50	2264.00	886.00	9.54	252259.98	3100.00	0.00	#####	7168.00	4733.00	558.00	5425.00	66.83	0.00	200.49	154.59	23.47	12.03	0.00	222.90
Max.	24.00	6.28	6.29	464.00	95.00	39.00	0.46	9165.66	100.00	0.00	300.00	300.00	160.00	18.00	175.00	2.33	0.00	7.00	6.98	0.83	0.42	0.00	7.20
Min.	24.00	5.14	5.45	284.00	50.00	16.50	0.18	7501.83	100.00	0.00	300.00	176.00	148.00	18.00	175.00	1.91	0.00	5.73	3.94	0.65	0.34	0.00	7.10
Avg.	24.00	5.58	5.83	392.92	73.03	28.58	0.31	8137.42	100.00	0.00	300.00	231.23	152.68	18.00	175.00	2.16	0.00	6.47	4.99	0.76	0.39	#DIV/0!	7.19

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

OCT 2021

Name of Plant : Lauderhill Water Treatment Plant
Utility Company : City of Lauderhill
Month : Oct-21
Telephone Number : (954) 730-2972
County : Broward
I.D. Number : 4060787
Year OCT 2021

CHEMICAL AND PHYSICAL RESULTS

RAW WATER								SETTLED WATER						FINISHED WATER									
M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
240	260	246	20	30	0.3	30	40	1.2	10.1	20	42	58	48	9.2	7	22	56	45	0.0	3.3	6	0.73	0.24	0.08
240	260	240	30	30	0.3	30	42	0.6	10.0	17	31	59	45	9.0	6	20	56	42	0.0	3.4	5	0.73	0.24	0.07
240	260	242	18	30	0.3	30	40	0.8	10.0	24	40	57	47	9.4	7	20	48	41	0.0	3.4	6	0.73	0.23	0.07
240	260	240	20	30	0.3	30	40	0.8	10.0	21	40	56	46	9.4	8	22	56	45	0.0	3.4	6	0.72	0.26	0.07
240	260	240	20	30	0.3	30	40	0.9	10.0	19	39	59	48	9.4	8	24	59	48	0.0	3.6	6	0.72	0.26	0.11
240	260	240	20	30	0.3	30	40	0.8	10.1	21	41	58	48	9.3	7	21	56	47	0.0	3.7	4	0.70	0.24	0.11
240	260	240	20	30	0.3	30	40	0.9	10.2	24	43	61	49	9.5	9	24	59	48	0.0	3.9	4	0.72	0.24	0.11
240	260	240	20	30	0.3	30	40	0.8	10.0	17	37	56	47	9.6	10	28	56	47	0.0	3.9	4	0.75	0.26	0.10
240	260	240	20	30	0.3	30	40	0.9	10.1	16	31	59	45	9.3	6	22	58	39	0.0	3.4	3	0.76	0.25	0.11
242	264	240	18	29	0.3	28	42	0.7	10.1	20	37	58	47	9.4	8	20	48	42	0.0	3.7	4	0.75	0.35	0.14
242	262	240	22	30	0.3	30	42	1.0	10.0	18	38	58	47	9.4	7	20	51	42	0.0	3.7	7	0.74	0.42	0.15
240	260	240	20	30	0.3	30	40	1.0	10.0	21	40	60	50	9.4	8	21	57	45	0.0	3.9	9	0.73	0.48	0.18
242	262	242	20	30	0.3	30	40	1.5	9.9	17	34	58	48	9.3	8	21	57	47	0.0	3.7	8	0.74	0.56	0.17
242	262	240	22	30	0.3	30	40	1.7	9.9	19	35	59	48	9.1	7	20	55	46	0.0	3.2	8	0.73	0.58	0.19
242	262	242	20	30	0.3	30	40	1.4	9.8	18	34	56	46	9.1	6	19	55	45	0.0	3.2	7	0.73	0.60	0.20
242	262	242	20	30	0.3	30	40	1.3	9.9	15	32	59	47	8.9	4	19	57	47	0.0	3.1	9	0.74	0.79	0.25
240	260	244	22	29	0.3	32	44	1.3	10.1	20	38	60	50	9.2	7	20	51	46	0.0	3.7	10	0.73	0.70	0.24
242	262	240	20	30	0.3	32	40	0.9	10.0	20	34	57	47	9.1	7	20	54	44	0.0	3.5	8	0.71	0.62	0.23
242	262	240	22	30	0.3	30	40	1.2	10.0	20	37	56	47	9.2	6	18	55	45	0.0	3.6	8	0.72	0.51	0.21
242	262	242	20	30	0.3	30	40	0.9	9.9	20	36	58	47	9.2	7	19	56	46	0.0	3.7	7	0.72	0.41	0.19
242	262	242	20	30	0.3	30	40	1.8	10.5	27	49	59	48	10.0	13	28	60	49	0.0	4.0	7	0.74	0.40	0.20
242	262	242	20	30	0.3	30	40	2.1	9.9	19	35	58	48	9.4	11	26	58	48	0.0	3.4	7	0.73	0.33	0.17
242	260	242	18	30	0.3	30	40	1.3	10.1	18	33	64	47	9.0	5	18	58	45	0.0	2.8	7.5	0.74	0.43	0.18
240	260	244	20	29	0.3	28	40	0.9	10.2	20	31	64	51	9.1	7	18	60	48	0.0	3.0	6	0.74	0.41	0.17
244	262	240	20	30	0.3	28	42	1.2	9.9	18	36	59	47	9.2	7	19	58	48	0.0	3.3	7	0.73	0.37	0.15
242	262	240	22	30	0.3	30	40	1.8	10.1	21	39	63	53	9.2	7	18	57	46	0.0	3.4	8	0.74	0.31	0.14
240	262	242	20	30	0.3	30	40	1.8	9.8	19	35	65	53	9.4	10	24	64	55	0.0	3.2	7	0.72	0.25	0.14
240	262	242	20	30	0.3	30	40	1.6	9.8	19	36	59	49	9.4	11	30	59	49	0.0	2.6	7	0.75	0.45	0.16
240	262	242	20	30	0.3	30	40	1.0	10.0	20	39	57	47	8.7	5	20	59	48	0.0	2.0	6	0.71	0.44	0.17
242	260	244	18	30	0.3	30	40	0.8	10.0	18	31	65	49	9.0	5	20	60	44	0.0	2.5	6	0.63	0.44	0.18
240	262	242	20	30	0.3	32	40	0.7	10.1	20	40	60	52	9.3	8	19	55	44	0.0	3.3	5	0.70	0.41	0.18
																			0.0					
7472.00	8096.00	7482.00	632.00	927.00	9.30	930.00	1252.00	35.25	310.50	606.00	1143.00	1835.00	1491.00	287.10	232.00	660.00	1748.00	1421.00	0.00	104.50	202.50	22.53	12.48	4.82
244.00	264.00	246.00	30.00	30.00	0.34	32.00	44.00	2.10	10.50	27.00	49.00	65.00	53.00	10.00	13.00	30.00	64.00	55.00	0.00	4.00	10.00	0.76	0.79	0.25
240.00	260.00	240.00	18.00	29.00	0.28	28.00	40.00	0.62	9.80	15.00	31.00	56.00	45.00	8.70	4.00	18.00	48.00	39.00	0.00	2.00	3.00	0.63	0.23	0.07
241.03	261.16	241.35	20.39	29.90	0.30	30.00	40.39	1.14	10.02	19.55	36.87	59.19	48.10	9.26	7.48	21.29	56.39	45.84	0.00	3.37	6.53	0.73	0.40	0.16

S.I.	Inches of Rain
44	45
0.36	0.0
0.08	0.0
0.47	0.0
0.56	0.0
0.62	0.0
0.45	0.0
0.72	0.0
0.88	0.4
0.39	0.0
0.48	0.0
0.48	0.0
0.48	0.0
0.54	0.2
0.45	0.1
0.22	0.0
0.19	0.2
0.01	0.0
0.32	0.0
0.20	0.2
0.27	0.0
0.30	0.1
1.30	0.0
0.66	0.3
0.07	0.0
0.20	0.0
0.32	0.2
0.28	0.2
0.68	0.0
0.73	0.6
-0.16	0.0
0.10	0.0
0.38	0.0
12.58	2.50
1.30	0.60
-0.16	0.00
0.41	0.08

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

NOV 2020

												C.HUTCHINSON	A17011													
												M. HUTCHINSON	*A17010*													
Lead Operator Signature: C Hutchinson				**Operator's Names & Cert. No.**								K ,HUTCHINSON	B26757													
												STANLEY EBANKS	A17017													
How Many Other Operators?		10										INDRAL SAMLAL	A7282													
			Total Metered Services at End of Month:									KERRY ROMAN	C7873													
Design Flow:		16MGD										R.RAMNARINE	C12091		DAWN CAMPBELL C24707											
												H.RODRIGUEZ	C19220		RAJIV SAMLAL		*B22878*									

Date	**Hours Plant Operation**	**Total Raw Water Pumped, MGD**	**Total Finished Water Pumped, MGD**	**FILTER DATA**				**CHEMICALS**																	
				Hours Filter Runs Between Washings			**Total Wash Water, MGD**	**POUNDS USED**							**DOSAGES**										
								Lime	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride**	**Calcifloc 2154G**	**Lime**	**NH3**	**CO2**	**Chlorine Pre**	**Chlorine Post**	**Fluoride As F**	**Calcifloc 2154G**	**Well #**	**pH**
				Total	**Max**	**Min**																			
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18
11/1/20	24	5.540	5.920	363	63	29	0.356	8086	100	0	250	200	158	18.0	175	2.2	0	5.4	4.3	0.79	0.39	3,5,6	7.2
11/2/20	24	5.520	5.420	343	64	24.5	0.267	8056	100	0	300	200	156	18.0	175	2.2	0.0	6.5	4.3	0.78	0.391	3,5,6	7.2
11/3/20	24	5.590	5.870	424.5	89	24	0.356	8159	100	0	300	200	154	18.0	175	2.1	0.0	6.4	4.3	0.76	0.39	3,5,6	7.2
11/4/20	24	4.770	5.420	394.5	79.5	25	0.356	6962	100	0	300	200	150	18.0	175	2.5	0.0	7.5	5.0	0.87	0.45	3,5,6	7.2
11/5/20	24	5.720	6.030	377.5	103.5	25	0.356	8348	100	0	300	200	150	18.0	175	2.1	0.0	6.3	4.2	0.72	0.38	3,5,6	7.2
11/6/20	24	5.510	5.610	335.5	64	27	0.178	8042	100	0	300	200	156	18.0	175	2.2	0.0	6.5	4.4	0.78	0.39	3,5,6	7.2
11/7/20	24	5.510	5.880	386.5	62	27	0.356	8042	100	0	300	200	150	18.0	175	2.2	0.0	6.5	4.4	0.75	0.39	3,5,6	7.1
11/8/20	24	5.690	6.250	433	93	28	0.534	8305	100	0	300	200	150	18.0	175	2.1	0.0	6.3	4.2	0.73	0.38	3,5,6	7.2
11/9/20	24	5.610	5.390	295	50	24.5	0.178	8188	100	0	300	200	160	18.0	175	2.1	0.0	6.4	4.3	0.79	0.38	3,8	7.2
11/10/20	24	5.420	5.700	398	74	24	0.356	7910	100	0	300	200	154	18.0	175	2.2	0.0	6.6	4.4	0.78	0.40	3,8	7.2
11/11/20	24	5.620	5.580	425.5	79	20.5	0.356	8202	100	0	300	200	152	18.0	175	2.1	0.0	6.4	4.3	0.75	0.38	3,8	7.2
11/12/20	24	5.640	5.780	355	82	27	0.356	8232	100	0	300	200	150	18.0	175	2.1	0.0	6.4	4.3	0.73	0.38	3,8	7.2
11/13/20	24	5.530	5.990	383	60.5	29	0.178	8071	100	0	300	200	150	18.0	175	2.2	0.0	6.5	4.3	0.75	0.39	3,8	7.2
11/14/20	24	5.260	6.350	379.5	89.5	25	0.356	7677	100	0	300	200	160	18.0	175	2.3	0.0	6.8	4.6	0.84	0.41	3,8	7.2
11/15/20	24	6.330	5.820	395.5	83.5	28	0.267	9239	100	0	300	180	150	18.0	175	1.9	0.0	5.7	3.4	0.65	0.34	3,8	7.2
11/16/20	24	5.360	5.680	375	71	27.5	0.267	7823	100	0	300	180	150	18.0	175	2.2	0.0	6.7	4.0	0.77	0.40	3,8	7.2
11/17/20	24	5.400	6.070	411.5	81	21	0.445	7881	100	0	240	180	150	18.0	175	2.2	0.0	5.3	4.0	0.77	0.40	4	7.2
11/18/20	24	5.840	5.690	429	89	22	0.445	8523	100	0	300	180	154	18.0	175	2.1	0.0	6.2	3.7	0.73	0.37	3,6	7.2
11/19/20	24	5.690	5.760	341.5	62	23	0.267	8305	100	0	300	180	140	18.0	175	2.1	0.0	6.3	3.8	0.68	0.38	3,5,6	7.2
11/20/20	24	5.620	5.990	428.1	68	38	0.267	8202	100	0	300	180	195	18.0	175	2.1	0.0	6.4	3.8	0.96	0.38	3,5,6	7.2
11/21/20	24	5.136	5.810	425	83	25	0.267	7496	100	0	300	180	140	18.0	175	2.3	0.0	7.0	4.2	0.75	0.42	3,5,6	7.1
11/22/20	24	5.190	5.440	410	82	28.5	0.356	7575	100	0	300	180	150	18.0	175	2.3	0.0	6.9	4.2	0.80	0.42	3,5,6	7.1
11/23/20	24	5.350	6.180	371.5	63	29	0.267	7808	100	0	250	180	160	18.0	175	2.2	0.0	5.6	4.0	0.82	0.40	3,5,6	7.2
11/24/20	24	6.100	6.070	407	71	24.5	0.356	8903	100	0	250	180	150	18.0	175	2.0	0.0	4.9	3.5	0.68	0.35	3,5,6	7.2
11/25/20	24	6.230	5.870	412.5	76	33	0.356	9093	100	0	260	192	150	18.0	175	1.9	0.0	5.0	3.7	0.66	0.35	3,5,6	7.2
11/26/20	24	4.730	5.800	356	48	37	0.267	6903	100	0	220	160	150	18.0	175	2.5	0.0	5.6	4.1	0.87	0.46	3,5,6	7.2
11/27/20	24	5.490	5.860	424.5	61	40	0.267	8013	100	0	250	180	150	18.0	175	2.2	0.0	5.5	3.9	0.75	0.39	3,5,6	7.2
11/28/20	24	6.130	5.940	395.5	85	25	0.445	8947	100	0	250	180	150	18.0	175	2.0	0.0	4.9	3.5	0.67	0.35	3,6,8	7.2
11/29/20	24	6.010	6.190	337.5	67	30	0.267	8772	100	0	250	180	150	18.0	175	2.0	0.0	5.0	3.6	0.69	0.36	3,6,8	7.2
11/30/20	24	5.660	5.790	357	64	24	0.445	8261	100	0	250	180	150	18.0	175	2.1	0.0	5.3	3.8	0.73	0.38	3,6,8	7.2
Total	720.00	167.20	175.15	11570.60	2207.50	815.00	9.79	244022.56	3000.00	0.00	#####	5672.00	4589.00	540.00	5250.00	64.82	0.00	183.01	122.52	22.80	11.67	3.80	215.70
Max.	24.00	6.33	6.35	433.00	103.50	40.00	0.53	9238.64	100.00	0.00	300.00	200.00	195.00	18.00	175.00	2.53	0.00	7.54	5.03	0.96	0.46	3.80	7.20
Min.	24.00	4.73	5.39	295.00	48.00	20.50	0.18	6903.44	100.00	0.00	220.00	160.00	140.00	18.00	175.00	1.89	0.00	4.89	3.41	0.65	0.34	3.80	7.10
Avg.	24.00	5.57	5.84	385.69	73.58	27.17	0.33	8134.09	100.00	0.00	282.33	189.07	152.97	18.00	175.00	2.16	0.00	6.10	4.08	0.76	0.39	3.80	7.19

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

NOV 2021

Name of Plant : Lauderhill Water Treatment Plant — **County :** Broward
Utility Company : City of Lauderhill — **I.D. Number :** 4060787
Month : Nov-21 — **Year NOV** 2021
Telephone Number : (954) 730-2972

CHEMICAL AND PHYSICAL RESULTS

RAW WATER								SETTLED WATER						FINISHED WATER									
M Alk.	Total Hardness	Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
242	260	240	18	28	0.3	32	42	0.6	10.1	20	38	60	50	9.6	8	22	57	46	0.0	4.0	6	0.76	0.36	0.11
242	260	240	20	28	0.3	32	42	1.5	9.9	23	36	58	47	9.3	9	23	57	47	0.0	3.7	7	0.76	0.45	0.16
242	260	240	20	28	0.3	30	40	1.5	10.0	18	33	57	47	9.4	12	24	58	48	0.0	3.8	7	0.70	0.38	0.17
242	260	240	20	28	0.3	30	40	1.1	10.0	20	39	57	48	9.0	8	23	57	47	0.0	3.4	7	0.68	0.36	0.16
242	260	240	20	28	0.3	30	40	1.2	10.0	20	39	57	47	9.4	12	31	57	49	0.0	3.4	8	0.68	0.45	0.19
242	260	240	20	28	0.3	30	40	1.0	10.0	19	34	58	47	9.2	8	23	56	45	0.0	3.6	7	0.68	0.61	0.23
244	264	262	22	28	0.3	30	40	1.2	10.0	18	40	56	46	9.5	10	28	58	47	0.0	4.0	8	0.71	0.52	0.18
240	260	248	20	30	0.3	28	42	0.8	10.1	21	40	58	49	9.4	10	22	55	45	0.0	3.9	8	0.68	0.46	0.18
240	260	240	20	30	0.3	30	40	1.0	9.9	19	35	57	46	9.3	8	22	56	46	0.0	3.9	8	0.70	0.48	0.20
240	260	240	20	30	0.3	30	40	1.0	9.6	14	30	56	46	9.2	9	22	57	47	0.0	3.5	9	0.72	0.47	0.19
240	260	240	20	30	0.3	30	40	1.0	10.0	20	38	57	47	9.5	12	32	58	48	0.0	3.7	9	0.70	0.39	0.19
240	260	240	20	30	0.3	30	40	1.0	10.2	21	38	58	48	9.3	11	27	57	47	0.0	3.8	8	0.72	0.43	0.18
240	260	240	20	30	0.3	30	40	0.7	9.1	15	32	48	39	9.2	7	23	57	47	0.0	3.6	6	0.72	0.39	0.16
242	264	240	18	28	0.3	28	42	0.9	10.0	15	33	58	53	9.3	5	17	48	43	0.0	3.8	6	0.71	0.39	0.17
240	266	244	22	32	0.3	28	40	0.6	10.0	19	33	57	49	9.4	8	18	51	43	0.0	3.8	6	0.72	0.35	0.15
240	264	240	24	30	0.3	30	40	1.0	10.1	24	40	59	49	9.3	10	25	57	47	0.0	3.4	8	0.73	0.37	0.15
240	260	240	24	30	0.3	30	40	0.8	10.0	21	38	59	49	9.3	13	27	57	48	0.0	3.9	7	0.74	0.39	0.15
240	260	240	20	30	0.3	30	40	1.0	10.1	22	39	59	48	9.5	11	25	58	47	0.0	3.7	7.5	0.71	0.45	0.16
242	262	242	20	30	0.3	30	40	1.3	9.9	20	36	59	49	9.3	7	19	56	46	0.0	3.5	8.5	0.68	0.32	0.17
242	262	242	20	30	0.3	30	40	1.1	10.0	19	36	58	46	9.2	6	22	57	44	0.0	3.3	7	0.71	0.30	0.17
202	250	240	10	20	0.3	30	45	0.7	10.0	17	32	57	47	9.3	7	19	50	44	0.0	3.4	8	0.75	0.32	0.18
210	256	240	16	24	0.3	30	48	0.8	9.9	20	38	58	48	9.3	8	18	54	43	0.0	3.4	9	0.77	0.15	0.15
244	260	242	18	30	0.3	30	40	0.8	10.0	23	39	57	47	9.3	8	23	58	49	0.0	3.6	8	0.74	0.32	0.19
242	262	242	20	30	0.3	30	40	1.0	9.8	17	31	58	48	9.2	7	20	55	47	0.0	3.5	7	0.69	0.47	0.20
242	262	242	20	30	0.3	30	40	0.8	9.9	21	37	58	48	9.2	8	20	57	46	0.0	3.8	7	0.66	0.48	0.20
242	260	242	18	30	0.3	30	40	0.8	10.0	18	37	55	47	9.8	16	30	64	51	0.0	4.0	5	0.70	0.36	0.15
242	260	240	20	30	0.3	30	40	0.7	9.9	20	33	65	50	9.2	8	23	63	48	0.0	3.0	5	0.75	0.46	0.18
238	256	238	18	28	0.3	30	40	0.7	9.9	13	31	59	50	9.3	7	20	56	45	0.0	3.6	5	0.75	0.41	0.17
236	258	238	18	30	0.3	30	40	0.6	9.9	20	34	59	51	9.2	9	23	48	41	0.0	3.8	6	0.70	0.32	0.12
240	260	240	20	30	0.3	30	40	0.9	9.8	20	36	57	47	9.4	9	22	55	45	0.0	3.7	5	0.72	0.36	0.16
7160.00	7806.00	7242.00	586.00	868.00	8.19	898.00	1221.00	27.78	298.10	577.00	1075.00	1729.00	1433.00	279.80	271.00	693.00	1684.00	1386.00	0.00	109.50	213.00	21.44	11.97	5.12
244.00	266.00	262.00	24.00	32.00	0.32	32.00	48.00	1.50	10.20	24.00	40.00	65.00	53.00	9.80	16.00	32.00	64.00	51.00	0.00	4.00	9.00	0.77	0.61	0.23
202.00	250.00	238.00	10.00	20.00	0.27	28.00	40.00	0.55	9.10	13.00	30.00	48.00	39.00	9.00	5.00	17.00	48.00	41.00	0.00	3.00	5.00	0.66	0.15	0.11
238.67	260.20	241.40	19.53	28.93	0.27	29.93	40.70	0.93	9.94	19.23	35.83	57.63	47.77	9.33	9.03	23.10	56.13	46.20	0.00	3.65	7.10	0.71	0.40	0.17

S.I.	Inches of Rain
44	45
0.77	0.2
0.49	2.2
0.62	0.0
0.19	1.2
0.74	0.0
0.37	2.2
0.78	0.0
0.56	0.0
0.47	0.2
0.37	0.4
0.85	0.0
0.56	0.0
0.39	0.0
0.32	0.0
0.45	0.0
0.53	0.2
0.57	0.0
0.73	0.4
0.40	1.2
0.35	0.0
0.38	0.0
0.35	0.0
0.51	1.1
0.33	0.8
0.32	0.8
1.14	0.2
0.40	0.0
0.41	0.0
0.33	0.0
0.56	0.1
15.27	11.21
1.14	2.20
0.19	0.00
0.51	0.37

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

C.HUTCHINSON A17011 DEC 21

M. HUTCHINSON *A17010*

Lead Operator Signature: C Hutchinson — **Operator's Names & Cert. No.**

STANLEY EBANKS **A17017**

INDRAL SAMLAL **A7282**

How Many Other 9

K ,HUTCHINSON **B26757**

Total Metered Services at End of Month:

KERRY ROMAN **C7873**

Design Flow: 16MGD

R.RAMNARINE **C12091**

DAWN CAMPBELL C24707

H.RODRIGUEZ **C19220**

RAJIV SAMLAL ***B22878***

Date	Hours Plant Operation	Total Raw Water Pumped, MGD	Total Finished Water Pumped, MGD	FILTER DATA: Hours Filter Runs Between Washings			Total Wash Water, MGD	CHEMICALS: POUNDS USED							CHEMICALS: DOSAGES										
				Total	Max	Min		Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride	Calciflo c 2154G	Lime	NH3	CO2	Chlorine Pre	Chlorine Post	Fluoride As F	Calcifloc 2154G	Well #	pH	M Alk.	Total Hardness
	1	2	3	4	5	6	7	8			9	10	11	12	13			14	15	16	17		18	19	20
12/1/21	24	5.450	5.750	354	69	19	0.356	7954	100	0	250	180	155	18.0	175	2.2	0	5.5	4.0	0.78	0.40	6,8	7.2	240	260
12/2/21	24	5.570	5.860	380	63.5	25	0.356	8129	100	0	250	180	155	18.0	175	2.2	0.0	5.4	3.9	0.77	0.387	6,8	7.2	240	260
12/3/21	24	5.470	5.720	376	68	36	0.326	7983	100	0	250	180	155	18.0	175	2.2	0.0	5.5	3.9	0.78	0.39	6,8	7.2		260
12/4/21	24	5.730	6.300	296	46	17	0.445	8363	100	0	250	180	154	18.0	175	2.1	0.0	5.2	3.8	0.74	0.38	6,8	7.2	242	260
12/5/21	24	5.540	5.740	305	60	18	0.267	8086	100	0	250	180	158	18.0	175	2.2	0.0	5.4	3.9	0.79	0.39	6,8	7.2	240	260
12/6/21	24	5.580	6.060	3.75.5	83	31	0.445	8144	100	0	240	180	150	18.0	175	2.1	0.0	5.2	3.9	0.74	0.39	6,8	7.2	242	260
12/7/21	24	5.670	5.410	321.5	66	25	0.267	8275	100	0	240	180	140	18.0	175	2.1	0.0	5.1	3.8	0.68	0.38	3,5,6,8	7.2	240	262
12/8/21	24	5.840	6.196	443	90	14.5	0.356	8523	100	0	270	180	154	18.0	175	2.1	0.0	5.5	3.7	0.73	0.37	3,5,6	7.2	240	262
12/9/21	24	5.000	5.570	324	90	18	0.356	7298	100	0	270	180	150	18.0	175	2.4	0.0	6.5	4.3	0.83	0.43	3,5,6	7.2	242	260
12/10/21	24	5.020	5.700	406.5	94	25	0.356	7327	100	0	270	188	140	18.0	175	2.4	0.0	6.4	4.5	0.77	0.43	5,6	7.2	242	262
12/11/21	24	5.300	6.020	393	68	37	0.267	7735	100	0	270	190	140	18.0	175	2.3	0.0	6.1	4.3	0.73	0.41	5,6	7.2	242	262
12/12/21	24	5.950	5.920	397	88	26	0.445	8684	100	0	250	190	154	24.0	175	2.0	0.0	5.0	3.8	0.71	0.48	5,6	7.2	240	260
12/13/21	24	6.041	6.560	339	69	30	0.445	8817	100	0	250	196	160	18.0	175	2.0	0.0	5.0	3.9	0.73	0.36	5,6	7.2	242	264
12/14/21	24	5.970	5.500	343.5	71	25	0.178	8713	100	0	250	200	150	18.0	175	2.0	0.0	5.0	4.0	0.69	0.36	5,6	7.2	242	262
12/15/21	24	5.550	5.740	430	77	19	0.445	8100	100	0	250	200	155	18.0	175	2.2	0.0	5.4	4.3	0.77	0.39	5,6	7.2	242	262
12/16/21	24	4.370	5.610	365	63	24	0.267	6378	100	0	250	200	150	18.0	175	2.7	0.0	6.9	5.5	0.95	0.49	5,6	7.2	242	262
12/17/21	24	4.970	5.530	423.5	75	27	0.267	7254	100	0	250	200	150	18.0	175	2.4	0.0	6.0	4.8	0.83	0.43	5,6	7.2	242	262
12/18/21	24	5.420	5.820	478	94	26	0.356	7910	100	0	250	220	150	18.0	175	2.2	0.0	5.5	4.9	0.76	0.40	3,6	7.2	240	260
12/19/21	24	6.070	5.630	422	108	22	0.445	8859	100	0	250	210	150	18.0	175	2.0	0.0	4.9	4.1	0.68	0.36	6,8	7.2	242	264
12/20/21	24	5.940	6.280	327.5	56	26	0.356	8669	100	0	250	220	145	18.0	175	2.0	0.0	5.0	4.4	0.67	0.36	6,8	7.2	240	260
12/21/21	24	4.970	5.280	325.5	56	26	0.356	7254	100	0	250	220	148	18.0	175	2.4	0.0	6.0	5.3	0.82	0.43	6,8	7.2	240	260
12/22/21	24	5.550	5.990	395	66.5	35.5	0.178	8100	100	0	250	220	150	18.0	175	2.2	0.0	5.4	4.8	0.75	0.39	6,8	7.2	240	260
12/23/21	24	5.780	5.730	441	89		0	8436	100	0	250	220	150	18.0	175	2.1	0.0	5.2	4.6	0.72	0.37	6,8	7.2	240	260
12/24/21	24	5.520	5.900	536	93	25	0.534	8056	100	0	250	220	150	18.0	175	2.2	0.0	5.4	4.8	0.75	0.39	6,8	7.2	240	260
12/25/21	24	5.850	6.080	324	98	6	0.356	8538	100	0	250	200	150	18.0	175	2.0	0.0	5.1	4.1	0.71	0.37	6,8	7.2	244	262
12/26/21	24	5.760	6.110	349	31	53	0.445	8407	100	0	250	200	150	18.0	175	2.1	0.0	5.2	4.2	0.72	0.37	6,8	7.2	240	260
12/27/21	24	5.610	6.040	358	67	30	0.356	8188	100	0	250	200	144	18.0	175	2.1	0.0	5.3	4.3	0.71	0.38	6,8	7.2	242	260
12/28/21	24	5.610	5.780	338.5	60	25	0.178	8188	100	0	250	200	150	18.0	175	2.1	0.0	5.3	4.3	0.74	0.38	6,8	7.2	242	260
12/29/21	24	5.520	6.020	402	78	32.5	0.356	8056	100	0	250	200	160	18.0	175	2.2	0.0	5.4	4.3	0.80	0.39	6,8	7.2	242	260
12/30/21	24	5.630	5.790	397.5	81	16	0.445	8217	100	0	250	200	160	18.0	175	2.1	0.0	5.3	4.3	0.78	0.38	6,8	7.2	240	260
12/31/21	24	5.370	6.090	352	56	35	0.267	7838	100	0	250	110	160	18.0	175	2.2	0.0	5.6	2.5	0.82	0.40	6,8	7.2	240	260
Total	744.00	171.62	181.73	11343.00	2274.00	774.50	10.47	250480.85	3100.00	0.00	#####	6024.00	4687.00	564.00	5425.00	67.46	0.00	170.04	131.02	23.45	12.26	0.00	223.20	7232.00	8086.00
Max.	24.00	6.07	6.56	536.00	108.00	53.00	0.53	8859.17	100.00	0.00	270.00	220.00	160.00	24.00	175.00	2.74	0.00	6.86	5.49	0.95	0.49	0.00	7.20	244.00	264.00
Min.	24.00	4.37	5.28	296.00	31.00	6.00	0.00	6378.02	100.00	0.00	240.00	110.00	140.00	18.00	175.00	1.98	0.00	4.94	2.46	0.67	0.36	0.00	7.20	240.00	260.00
Avg.	24.00	5.54	5.86	378.10	73.35	25.82	0.34	8080.03	100.00	0.00	251.94	194.32	151.19	18.19	175.00	2.18	0.00	5.49	4.23	0.76	0.40	#DIV/0!	7.20	241.07	260.84

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION WATER TREATMENT PLANT OPERATION REPORT

DEC 2021

Name of Plant :	Lauderhill Water Treatment Plant	**County :**	Broward
Utility Company :	City of Lauderhill	**I.D. Number :**	4060787
Month :	Dec-21	**Year DEC**	2020
Telephone Number :	(954) 730-2972		

CHEMICAL AND PHYSICAL RESULTS

RAW WATER						SETTLED WATER						FINISHED WATER												
Calcium Hardness	Magnesium Hardness	CO2	Iron as FE	Color	Chlorides	NTU	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	pH	P. Alk	M. Alk	Total Hardness	Calicum Hardness	Free Cl2	Total Cl2	Color	Fluoride as F	NTU	Iron as FE	S.I.	Inches of Rain	CC = TAC-FAC
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
240	20	30	0.3	30	40	0.9	9.7	20	34	57	47	9.0	6	19	54	44	0.0	3.1	6	0.73	0.34	0.16	0.08	0.0	3.10
240	20	30	0.3	30	40	0.8	10.1	20	38	58	48	9.2	8	20	57	47	0.0	3.6	6	0.73	0.32	0.15	0.33	0.0	3.60
240	20	30	0.3	30	40	1.6	10.0	16	32	57	45	9.0	9	21	55	45	0.0	3.5	4	0.73	0.36	0.16	0.14	0.0	3.50
238	18	29	0.3	30	40	0.8	10.1	25	42	60	46	9.3	8	22	50	46	0.0	3.6	7	0.72	0.32	0.10	0.47	0.0	3.60
238	20	30	0.3	32	40	0.7	10.0	22	37	62	51	9.5	10	24	57	46	0.0	3.4	6	0.70	0.33	0.13	0.70	0.0	3.40
240	18	30	0.3	30	40	0.9	9.7	20	37	58	49	9.3	8	19	49	43	0.0	3.5	7	0.62	0.37	0.12	0.37	0.4	3.50
242	20	30	0.3	30	40	1.6	10.2	22	41	60	50	9.4	10	28	60	48	0.0	3.4	6	0.74	0.43	0.14	0.69	0.8	3.40
242	20	30	0.3	30	40	1.4	10.0	21	39	59	49	9.3	9	24	56	46	0.0	3.5	5	0.74	0.44	0.16	0.50	0.2	3.50
242	20	30	0.3	30	40	0.9	10.2	21	38	61	50	9.5	10	23	59	49	0.0	3.5	5	0.71	0.45	0.17	0.71	0.0	3.50
242	20	30	0.3	28	40	1.4	10.0	19	36	59	49	9.0	7	23	55	48	0.0	3.0	5	0.65	0.61	0.21	0.20	0.0	3.00
242	20	30	0.3	30	40	1.1	10.0	17	32	62	47	9.2	6	22	58	46	0.0	3.1	5	0.65	0.58	0.20	0.37	0.0	3.10
242	18	29	0.3	28	40	0.9	10.1	21	33	60	50	9.5	9	20	49	42	0.0	3.3	4	0.61	0.51	0.21	0.58	0.0	3.30
240	20	30	0.3	32	40	0.9	10.2	23	42	57	48	9.3	9	20	48	42	0.0	2.7	5	0.60	0.53	0.19	0.38	0.0	2.70
240	22	28	0.3	30	40	1.0	10.1	20	33	57	47	9.3	7	20	53	44	0.0	3.0	8	0.72	0.45	0.19	0.40	0.2	3.00
240	22	28	0.3	30	40	1.0	9.8	19	35	58	48	9.3	8	20	56	46	0.0	2.8	7	0.73	0.47	0.19	0.42	0.0	2.80
242	20	28	0.3	30	40	0.9	9.3	18	36	72	61	9.6	11	25	62	52	0.0	2.4	6	0.73	0.60	0.19	0.87	0.0	2.40
242	20	28	0.3	30	40	1.0	10.0	20	40	58	48	9.3	9	26	59	48	0.0	2.1	6	0.72	0.46	0.19	0.56	0.0	2.10
242	18	30	0.3	30	42	0.9	10.2	14	34	60	49	8.9	5	22	55	46	0.0	2.7	5	0.67	0.46	0.17	0.07	0.0	2.70
240	20	32	0.3	30	40	0.8	10.3	19	28	53	44	9.4	8	17	49	41	0.0	3.3	5	0.62	0.42	0.16	0.40	0.0	3.30
240	18	30	0.3	28	40	1.0	10.1	20	32	57	49	9.2	6	19	49	42	0.0	3.2	5	0.76	0.39	0.15	0.26	0.0	3.20
240	20	30	0.3	30	40	1.0	10.1	20	38	57	47	9.3	8	21	55	45	0.0	3.6	5	0.74	0.35	0.17	0.44	0.0	3.60
240	20	30	0.3	30	40	1.0	10.1	18	37	58	47	9.2	7	19	55	46	0.0	3.2	5	0.74	0.33	0.15	0.30	0.0	3.20
240	20	30	0.3	30	40	1.3	10.2	20	36	60	49	9.8	6	18	55	47	0.0	2.8	5	0.72	0.33	0.14	0.89	0.0	2.80
240	20	30	0.3	30	40	1.0	10.2	22	44	59	50	9.3	9	25	56	46	0.0	3.1	5	0.70	0.35	0.15	0.52	0.0	3.10
242	18	28	0.3	32	42	0.6	10.0	14	28	61	49	9.5	8	19	58	46	0.0	3.4	6	0.68	0.38	0.14	0.60	0.0	3.40
242	20	28	0.3	30	42	0.7	10.1	18	34	59	50	9.5	8	16	48	44	0.0	3.4	6	0.69	0.38	0.16	0.51	0.0	3.40
240	18	28	0.3	30	40	0.7	10.1	17	34	58	58	9.3	7	15	54	44	0.0	3.2	6	0.73	0.43	0.16	0.28	0.0	3.20
240	20	28	0.3	30	40	1.5	10.0	19	39	57	47	9.3	10	24	56	46	0.0	3.2	7	0.73	0.38	0.16	0.50	0.0	3.20
240	20	30	0.3	30	40	1.0	10.0	19	38	59	47	9.1	7	21	56	46	0.0	3.2	6	0.76	0.36	0.15	0.24	0.0	3.20
242	18	30	0.3	30	40	0.9	10.1	26	52	60	50	9.8	14	33	59	49	0.0	3.5	7	0.70	0.32	0.15	1.12	0.0	3.50
240	20	30	0.3	30	40	1.1	10.2	22	42	59	49	9.3	9	23	57	49	0.0	2.9	7	0.74	0.36	0.15	0.51	0.0	2.90
																	0.0								
7460.00	608.00	914.00	9.08	930.00	1246.00	30.75	311.20	612.00	1141.00	1832.00	1518.00	288.85	256.00	668.00	1699.00	1419.00	0.00	98.20	178.00	21.81	12.81	5.02	14.43	1.62	98.20
242.00	22.00	32.00	0.30	32.00	42.00	1.60	10.30	26.00	52.00	72.00	61.00	9.80	14.00	33.00	62.00	52.00	0.00	3.60	8.00	0.76	0.61	0.21	1.12	0.80	3.60
238.00	18.00	28.00	0.27	28.00	40.00	0.61	9.30	14.00	28.00	53.00	44.00	8.90	5.00	15.00	48.00	41.00	0.00	2.10	4.00	0.60	0.32	0.10	0.07	0.00	2.10
240.65	19.61	29.48	0.29	30.00	40.19	0.99	10.04	19.74	36.81	59.10	48.97	9.32	8.26	21.55	54.81	45.77	0.00	3.17	5.74	0.70	0.41	0.16	0.47	0.05	3.17

APPENDIX E
DOSING & BULK TANK SIZING CALCULATIONS BULK

Sodium Hypochlorite System Design - Bulk

1. Calculate Demands and Capacity for Each Injection Point

User Input

The WTP hypochlorite system will include four injection points (IPs):
1.) Pre-Filter (between SCCs and the filters)
2.) Post-Filter (between filters and clearwell)
3.) Post Clearwell (between clearwell and GSTs)
4.) Post-GSTs (between GSTs and HSPS)

For each IP, calculate demands under a range of flow and dosage scenarios. This sets the max capacity and turndown required for each point.

NaOCl Specific Gravity	-	1.17	1.17	1.17
NaOCl Solution Strength	%	12%	12%	12%

(1) Pre-Filter IP:

	Units	Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	Note
Flow, Q	mgd	4.41	6.15	11.04	

Dosage (dry weight, as Cl_2)

Minimum	mg/L	2.7	2.7	2.7
Average	mg/L	6.0	6.0	6.0
Maximum	mg/L	8.5	8.5	8.5

Dosage (as NaOCl)

Minimum	ppd	104	146	261	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Average	ppd	232	323	580	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Maximum	ppd	328	458	822	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2

Dosage (solution)

Minimum	gal/day	89	124	223	[lb/day] ÷ (% solids x s.g. x 8.34)
Average	gal/day	198	276	495	[lb/day] ÷ (% solids x s.g. x 8.34)
Maximum	gal/day	280	391	702	[lb/day] ÷ (% solids x s.g. x 8.34)

		Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	
Required capacity range:	gpd	89	586	1,053	Includes 1.5x
	gpd	17.8	586	1053	Feed range: 20% of min
	gph	0.74	24.4	43.9	
	gpm	0.012	0.407	0.731	
	mL/min	47	1,542	2,767	

Size feed pumps: 2 pumps 1 duty, 1 shelf spare
43.9 gph each

(2 OR 3) Post-Filter OR Post-Clearwell IP

	Units	For Each Flow: Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	Note
Flow, Q	mgd	4.41	6.15	11.04	

Dosage (dry weight, as Cl_2)

Minimum	mg/L	3.30	3.30	3.30	
Average	mg/L	4.40	4.40	4.40	
Maximum	mg/L	5.50	5.50	5.50	

Dosage (as NaOCl)

Minimum	ppd	128	178	319	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Average	ppd	170	237	426	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Maximum	ppd	213	296	532	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2

Dosage (solution)

Minimum	gal/day	109	152	272	[lb/day] ÷ (% solids x s.g. x 8.34)
Average	gal/day	145	202	363	[lb/day] ÷ (% solids x s.g. x 8.34)
Maximum	gal/day	181	253	454	[lb/day] ÷ (% solids x s.g. x 8.34)

		Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	
Required capacity range:	gpd	109	379	681	Includes 1.5x
	gpd	21.8	379	681	Feed range: 20% of min
	gph	0.91	15.8	28.4	For feed pump and piping sizing
	gpm	0.015	0.264	0.473	For feed pump and piping sizing
	mL/min	57	997	1,791	For calibration column sizing

Size feed pump: 2 pumps 1 duty, 1 spare

28.4 gph each

(4) Post-GST IP

	Units	For Each Flow: Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	Note
Flow, Q	mgd	4.28	5.97	10.72	

Dosage (dry weight, as Cl_2)

Minimum	mg/L	0.45	0.45	0.45	
Average	mg/L	1.80	1.80	1.80	
Maximum	mg/L	4.00	4.00	4.00	

Dosage (as NaOCl)

Minimum	ppd	17	24	42	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Average	ppd	68	94	169	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Maximum	ppd	150	209	376	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2

Dosage (solution)

Minimum	gal/day	14	20	36	[lb/day] ÷ (% solids x s.g. x 8.34)
Average	gal/day	58	80	144	[lb/day] ÷ (% solids x s.g. x 8.34)
Maximum	gal/day	128	179	321	[lb/day] ÷ (% solids x s.g. x 8.34)

Required capacity range:

	Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	
gpd	14	268	481	Includes 1.5x
gpd	2.9	268	481	Feed range: 20% of min
gph	0.12	11.2	20.0	
gpm	0.002	0.186	0.334	
mL/min	8	704	1,264	

Size feed pump: 1 pumps

20.0 gph each

2. Calculate Total Demands and 15-day Supply

Injection Point	Units	Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity
(1) Pre-Filter IP	gpd	197.88	275.96	495.38
(2 or 3) Post-Filter/Post-Clearwell IP	gpd	145.12	202.37	363.28
(4) Post-GST IP	gpd	57.62	80.37	144.31
Total Demands	gpd	401	559	1,003
15-day Supply	gal	6,009	8,380	15,045

3. Size Bulk Tank

Volume of tank to be used: 16,000 gal

Turnover or Days of Supply = Inventory [gal] ÷ Demand [gpd]

At Phase I Capacity:

Days of Supply = 16,000 gal ÷ 1003 gpd

= 16.0 days Acceptable - meets 15 days.

DOSING & BULK TANK SIZING CALCULATIONS
UV + BULK

Sodium Hypochlorite System Design - UV + Bulk

1. Calculate Demands and Capacity for Each Injection Point

User Input

The post -GST IP can be used to provide residual disinfection (via chloramines) in the distribution system if UV is utilized at the WTP. For each IP, calculate demands under a range of flow and dosage scenarios. This sets the max capacity and turndown required for each point.

NaOCl Specific Gravity	-	1.17	1.17	1.17
NaOCl Solution Strength	%	12%	12%	12%

(1) Post-GST IP

	Units	For Each Flow: Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	Note
Flow, Q	mgd	4.28	5.97	10.72	

Dosage (dry weight, as Cl_2)

Minimum	mg/L	2.70	2.70	2.70	
Average	mg/L	3.60	3.60	3.60	
Maximum	mg/L	4.00	4.00	4.00	

Dosage (as NaOCl)

Minimum	ppd	101	141	254	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Average	ppd	135	188	338	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2
Maximum	ppd	150	209	376	[mgd] x [mg/L] x 8.34 x 1.05 mg NaOCl / mg Cl_2

Dosage (solution)

Minimum	gal/day	86	121	216	[lb/day] ÷ (% solids x s.g. x 8.34)
Average	gal/day	115	161	289	[lb/day] ÷ (% solids x s.g. x 8.34)
Maximum	gal/day	128	179	321	[lb/day] ÷ (% solids x s.g. x 8.34)

Required capacity range:

	Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity	
gpd	86	268	481	Includes 1.5x
gpd	17.3	268	481	Feed range: 20% of min
gph	0.72	11.2	20.0	
gpm	0.012	0.186	0.334	
mL/min	45	704	1,264	

Size feed pump: 2 pumps (1 duty, 1 shelf spare)
20.0 gph each

2. Calculate Total Demands and 15-day Supply

Injection Point	Units	Min. Water Capacity	Avg. Water Capacity	Max. Water Capacity
(1) Post-GST IP	gpd	115.23	160.73	288.62
Total Demands	gpd	115	161	289
15-day Supply	gal	1,728	2,411	4,329

3. Size Bulk Tank

Volume of tank to be used: 4,800 gal

Turnover or Days of Supply = Inventory [gal] ÷ Demand [gpd]

At Phase I Capacity:

Days of Supply = 4,800 gal ÷ 289 gpd

= 16.6 days Acceptable - meets 15 days.

APPENDIX F
PRELIMINARY SCHEMATICS

PLOT DATE: 8/14/2023 5:02 PM

WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

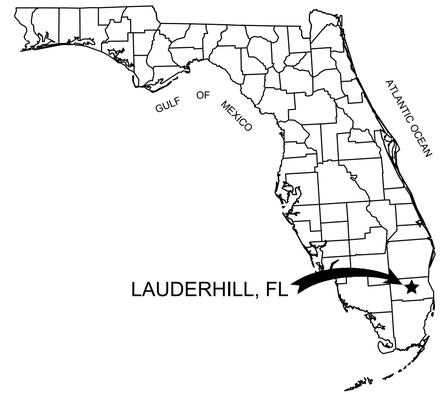
CONCEPTUAL DRAWINGS
AUGUST, 2023



SECTION 25 - TOWNSHIP 49S - RANGE 41E

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SCALE: 1"=500'



VICINITY MAP

CONSULTANT

6401 SW 87 AVE, SUITE 200
MIAMI, Florida 33173
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

NOTES:

1. ALL HORIZONTAL AND VERTICAL CONTROL UTILIZES THE FOLLOWING:
   - HORIZONTAL DATUM - NAD83
   - VERTICAL DATUM - NAVD1988
2. DRAWING SCALE SHOWN CORRESPONDS TO PLOT SIZE 11"X17".
3. FEMA FLOOD PANEL 12011C0361H, FLOOD ZONE AE=7.0 FT

DESIGN TICKET:
DATE:

Sunshine811
Call 811 or visit sunshine811.com two full business days before digging to have buried facilities located and marked.
Check positive response codes before you dig!

SEAL
ALEX VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: 04/14/2023

DRAWING NO. G-01

FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_G01_COVR.DWG

PLOT DATE: 8/14/2023 5:03 PM

INDEX OF DRAWINGS

SEQUENCE No.	SHEET No.	SHEET TITLE
1	G-01	COVER SHEET
2	G-02	INDEX OF DRAWINGS, LEGEND & ABBREVIATIONS
3	G-03	EXISTING SITE AERIAL
4	Y-01	EXISTING SITE PIPING PLAN
5	Y-02	PROPOSED SITE PIPING PLAN – BULK & OSG
6	Y-03	PROPOSED SITE PIPING PLAN – UV & BULK
7	M-01	EXISTING WTP PROCESS FLOW DIAGRAM – CHLORAMINE & RECARBONATION SYSTEMS
8	M-02	PROPOSED WTP PROCESS FLOW DIAGRAM – BULK & OSG
9	M-03	PROPOSED WTP PROCESS FLOW DIAGRAM – UV & BULK
10	M-04	PROPOSED PROCESS FLOW DIAGRAM–SODIUM HYPOCHLORITE – BULK
11	M-05	PROPOSED PROCESS FLOW DIAGRAM–SODIUM HYPOCHLORITE – OSG
12	M-06	PROPOSED PROCESS FLOW DIAGRAM – UV & BULK

LEGEND

- PROPOSED PIPING
- EXISTING PIPING
- PIPING TO BE REMOVED
- TEE
- PUMP
- UV CHAMBER
- FLOW ARROW
- VENTURI FLOW METER
- [M] EQUIPMENT MOTOR

ABBREVIATIONS:

A/C	AIR CONDITIONER
A.D.F.	ALUMINUM DECORATIVE FENCE
AIT	ANALYZER INDICATING TRANSMITTER
BFP	BACKFLOW PREVENTOR
B.H.	BORING HOLE
BOL	BOLLARD
BP	BRICK PAVERS
(CALC.)	CALCULATED MEASUREMENT
C/S	CONCRETE SLAB
C.B.S.	CONCRETE BLOCK STUCCO
CBS	CONCRETE BLOCK STRUCTURE
CDD	COMMUNITY DEVELOPMENT DEPARTMENT
CL2	CHLORINE
CO2	CARBON DIOXIDE
C.L.F.	CHAIN LINK FENCE
CLF	CHAIN LINK FENCE
CLP	CONCRETE POLE W/LIGHT
CO	CLEANOUT
CONC	CONCRETE
DDCV	DOUBLE DETECTOR CHECK VALVE
D.I.P.	DUCTILE IRON PIPE
EB	ELECTRIC BOX
EL.	ELEVATION
ELEV.	ELEVATION
EP	ELECTRIC PANEL
EXIST.	EXISTING
FAC	FLORIDA ADMINISTRATIVE CODE
FW	FILTERED WATER
F/S	FIBERGLASS SHED
F.F.	FINISHED FLOOR
F.F.L.	FINISHED FLOOR
GA	GUYWIRE ANCHOR
H	HYDROGEN
H/C	HANDICAPPED
H.D.P.E.	HIGH DENSITY POLYETHYLENE
I.F.A.	IRON FENCE
INV.	INVERT
IP	INJECTION POINT
IRRI	IRRIGATION
L	LENGTH OF CURVE
LB	LICENSED BUSINESS
L.B.	LICENSED BUSINESS
M/C	MOTORCYCLE PARKING
MAS	MAINTENANCE OF ACCESS STRUCTURE
MAX.	MAXIMUM
MEG	MATCH EXISTING GRADE
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MLP	METAL POLE W/LIGHT
NAOCL	SODIUM HYPOCHLORITE
NH3	AMMONIA
N.T.S.	NOT TO SCALE
O/H	OVERHEAD WIRES
OHW	OVERHEAD WIRES
O.R.B.	OFFICIAL RECORDS BOOK
ORB.	OFFICIAL RECORDS BOOK
P.B.	PLAT BOOK
PB.	PLAT BOOK
PE	POLYETHYLENE
PG.	PAGE
P.O.B.	POINT OF BEGINNING
P.R.M.	PERMANENT REFERENCE MONUMENT
PROP.	PROPOSED
P.S.M.	PROFESSIONAL SURVEYOR AND MAPPER
PVC	POLYVINYLCHLORIDE
PW	POTABLE WATER
REST	RESTRAINT
R	RADIUS OF CURVE
RGE.	RANGE
R.P.M.	RAISED PAVEMENT MARKER
RW	RAW WATER
SA	SAMPLE
SAN	SANITARY
SBT&T	TELEPHONE AND TELECOMMUNICATIONS
SCC	SOLIDS CONTACT CLARIFIER
SEC.	SECTION
SIA	SIAMESE CONNECTION
SOLN	SOLUTION
SP	SPREAD
ST	STORMWATER
STM	STORMWATER
T.B.M.	TEMPORARY BENCHMARK
T.O.P.	TOP OF PIPE
TWP.	TOWNSHIP
TYP.	TYPICAL
VAC	VACUUM
W/	WITH
W.F.	WOOD FENCE
WF	WOOD FENCE
WLP	WOOD POLE W/LIGHT
WP	WOOD POLE
WTR	WATER
Δ	DELTA OF CURVE
⌀	DIAMETER
+9.99	SPOT ELEVATION

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: A.E.N.
DRAWN BY: G.A.M.
CHECKED BY:
SCALE: N/A

bcc engineering
6401 SW 87th Ave, Ste. 200
Miami, Florida 33173
Tel: 305.670.2350 Fax: 305.670.2351
www.bcceng.com
Certificate of Authorization No. 7184

CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE
INDEX OF DRAWINGS, LEGEND, & ABBREVIATIONS

SEAL
ALEX VAZQUEZ
LICENSE
No. 42108
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

DATE: 08/2023

SHEET NO. G-02

F:\E: LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\X-8 – C4D\0200075.05_G02_ABBV_GNNT.DWG

PLOT DATE: 8/14/2023 5:03 PM



REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED BY: A.E.N.
DRAWN BY: G.A.M.
CHECKED BY:
SCALE: N/A

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CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE

EXISTING SITE AERIAL

SEAL
ALEX VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

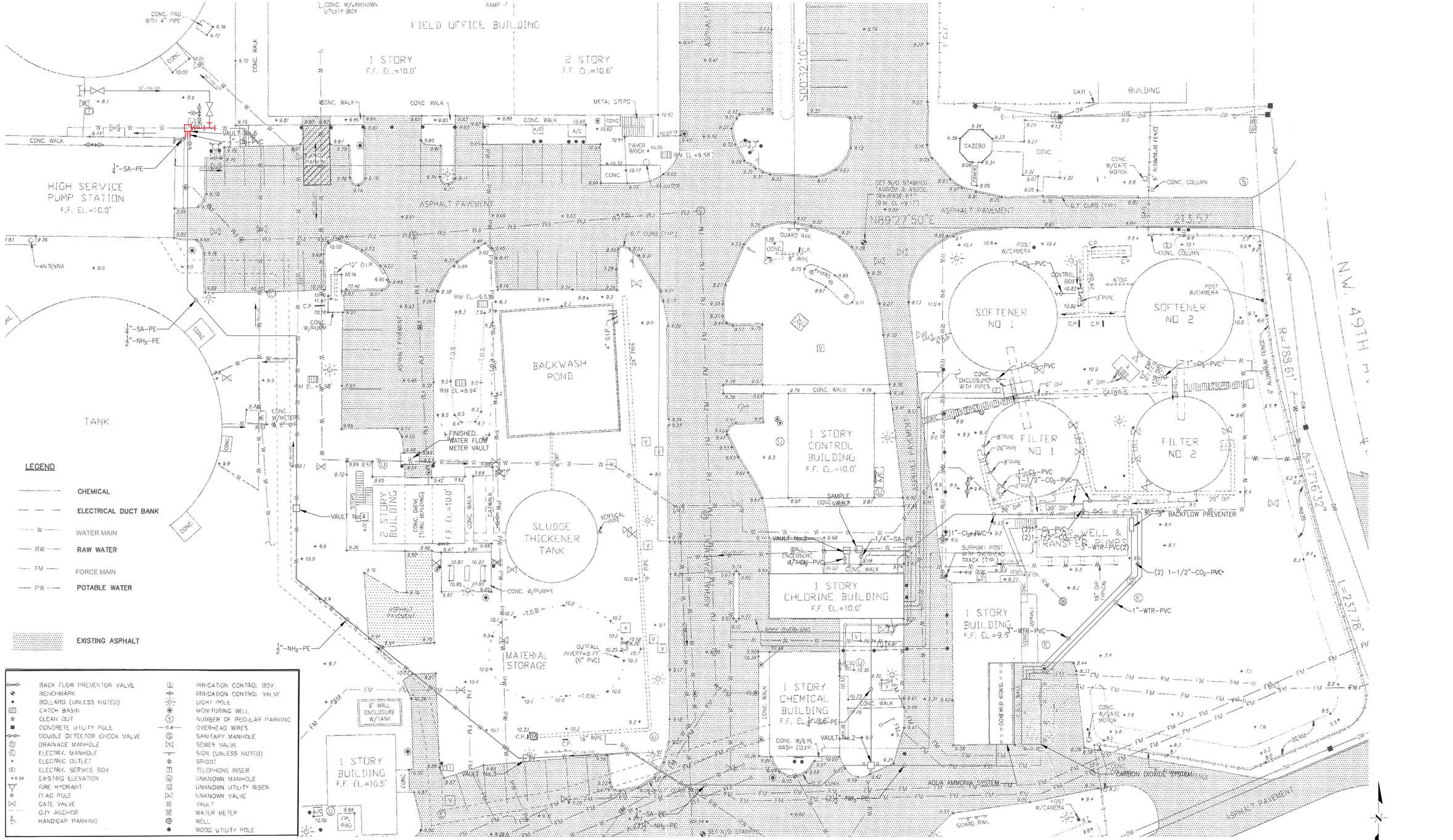
DATE: 08/2023

SHEET NO. G-03

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PLOT DATE: 8/14/2023 5:03 PM

FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_Y-01.DWG



REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED BY: A.E.N.
DRAWN BY: G.A.M.
CHECKED BY:
SCALE: N/A

bcc engineering
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Certificate of Authorization No. 7184

CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE

EXISTING SITE PIPING PLAN

SEAL: ALEX V. AZQUE, LICENSE No. 42108, STATE OF FLORIDA, PROFESSIONAL ENGINEER

DATE: 08/2023

SHEET NO. Y-01

PLOT DATE: 8/14/2023 5:03 PM

FIELD OFFICE BUILDING
1 STORY
F.F. EL.=10.0'
2 STORY
F.F. EL.=10.6'
HIGH SERVICE PUMP STATION
F.F. EL.=10.0'
TANK
BACKWASH POND
SLUDGE THICKENER TANK
2 STORY BUILDING
F.F. EL.=10.0'
1 STORY BUILDING
F.F. EL.=10.5'
MATERIAL STORAGE
1 STORY CONTROL BUILDING
F.F. EL.=10.0'
1 STORY CHLORINE BUILDING
F.F. EL.=10.0'
1 STORY CHEMICAL BUILDING
F.F. EL.=10.0'
1 STORY BUILDING
F.F. EL.=9.5'
SOFTENER NO 1
SOFTENER NO 2
FILTER NO. 1
FILTER NO. 2
TRANSFER PUMP & WELL
GAZEBO
BUILDING
GATE
CONC. WALK
ASPHALT PAVEMENT
PAVER BRICK
CONC. W/PUMPS
CONC. W/METERS
CONC. W/GATE MOTOR
CONC. COLUMN
POST W/CAMERA
CONTROL BOX
CATWALK
GUARD RAIL
6' WALL ENCLOSURE W/TANK
WALL ENCLOSURE W/PIPES
SUPPORT POST W/OVERHEAD TRACK (TYP.)
CONCRETE BERM
6' ALUMINUM FENCE
SAMPLE CONC. VAULT
CONC. W/EYE WASH EQUIP.
FPL PAD
VAULT No.1
VAULT No.2
VAULT No.3
VAULT No.4
REMOVE EXIST. Cl_2 INJECTION POINT
$\frac{1}{4}$"-SA-PE
$\frac{1}{2}$"-NH_3-PE
1"-Cl_2-PVC
(2)1"-Cl_2-PVC
1"-Cl_2-PVC-W/1-1/2"-CO_2-PVC
(2)1"-Cl_2-PVC-(2)1-1/2"-CO_2-PVC
3" BACKFLOW PREVENTER
3"-WTR-PVC(2)
(2) 1-1/2"-CO_2-PVC
1"-WTR-PVC
3"-WTR-PVC
AQUA AMMONIA SYSTEM
CARBON DIOXIDE SYSTEM
S00°32'10"E
N89°27'50"E
N.W. 49TH ST.
R=738.61'
L=237.78'
Δ=18°27'32"
Δ=71°16'32"

LEGEND

- CHEMICAL
- ELECTRICAL DUCT BANK
- W — WATER MAIN
- RW — RAW WATER
- FM — FORCE MAIN
- PW — POTABLE WATER
- EXISTING ASPHALT

- BACK FLOW PREVENTOR VALVE
- BENCHMARK
- BOLLARD (UNLESS NOTED)
- CATCH BASIN
- CLEAN OUT
- CONCRETE UTILITY POLE
- DOUBLE DETECTOR CHECK VALVE
- DRAINAGE MANHOLE
- ELECTRIC MANHOLE
- ELECTRIC OUTLET
- ELECTRIC SERVICE BOX
- +8.94 EXISTING ELEVATION
- FIRE HYDRANT
- FLAG POLE
- GATE VALVE
- GUY ANCHOR
- HANDICAP PARKING
- IRRIGATION CONTROL BOX
- IRRIGATION CONTROL VALVE
- LIGHT POLE
- MONITORING WELL
- NUMBER OF REGULAR PARKING
- SANITARY MANHOLE
- SEWER VALVE
- SIGN (UNLESS NOTED)
- SPIGOT
- TELEPHONE RISER
- UNKNOWN MANHOLE
- UNKNOWN UTILITY RISER
- UNKNOWN VALVE
- VAULT
- WATER METER
- WELL
- WOOD UTILITY POLE

NOTE:
1. ALL EXISTING GAS CHLORINATION EQUIPMENT, PIPING & ANCILLARY COMPONENTS TO BE REMOVED.

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED BY: A.E.N.
DRAWN BY: G.A.M.
CHECKED BY:
SCALE: N/A

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Miami, Florida 33173
Tel: 305.670.2350 Fax: 305.670.2351
www.bcceng.com
Certificate of Authorization No. 7184

CITY OF LAUDERHILL
WATER TREATMENT PLANT CONVERSION OF GAS CHLORINATION SYSTEM

2101 NW 49TH AVENUE
LAUDERHILL, FL 33313

SHEET TITLE
PROPOSED SITE PIPING PLAN - BULK & OSG

SEAL: ALEX VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

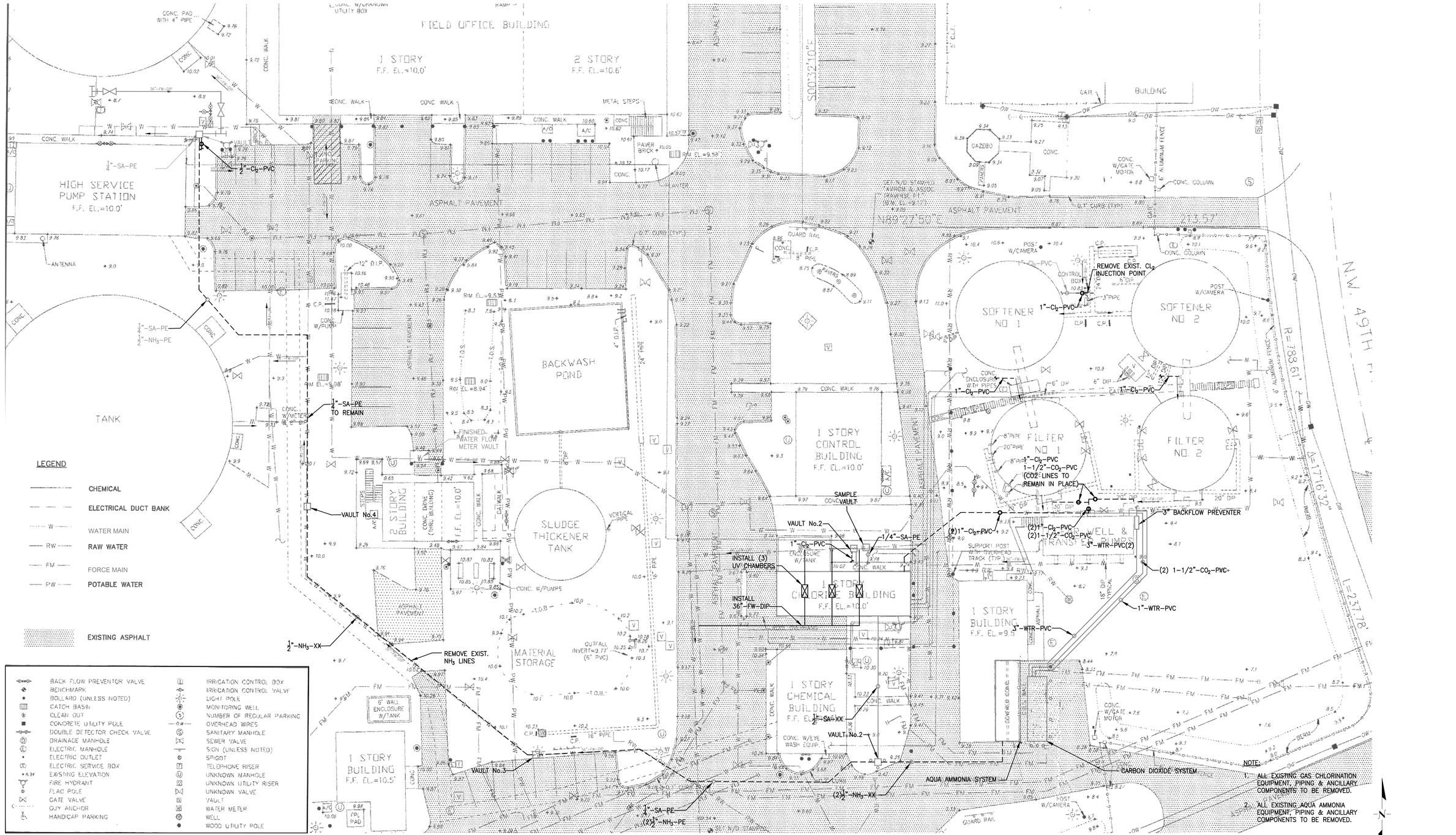
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PLOT DATE: 8/14/2023 5:04 PM

FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\B - CAD\0200075.05_Y-03.DWG



LEGEND

- CHEMICAL
- ELECTRICAL DUCT BANK
- W — WATER MAIN
- RW — RAW WATER
- FM — FORCE MAIN
- PW — POTABLE WATER
- EXISTING ASPHALT

BACK FLOW PREVENTOR VALVE	IRRIGATION CONTROL BOX
BENCHMARK	IRRIGATION CONTROL VALVE
BOLLARD (UNLESS NOTED)	LIGHT POLE
CATCH BASIN	MONITORING WELL
CLEAN OUT	NUMBER OF REGULAR PARKING
CONCRETE UTILITY POLE	OVERHEAD WIRES
DOUBLE DETECTOR CHECK VALVE	SANITARY MANHOLE
DRAINAGE MANHOLE	SEWER VALVE
ELECTRIC MANHOLE	SIGN (UNLESS NOTED)
ELECTRIC OUTLET	SPIGOT
ELECTRIC SERVICE BOX	TELEPHONE RISER
EXISTING ELEVATION	UNKNOWN MANHOLE
FIRE HYDRANT	UNKNOWN UTILITY RISER
FLAG POLE	UNKNOWN VALVE
GATE VALVE	VAULT
GUY ANCHOR	WATER METER
HANDICAP PARKING	WELL
	WOOD UTILITY POLE

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: A.E.N.
DRAWN BY: G.A.M.
CHECKED BY:
SCALE: N/A

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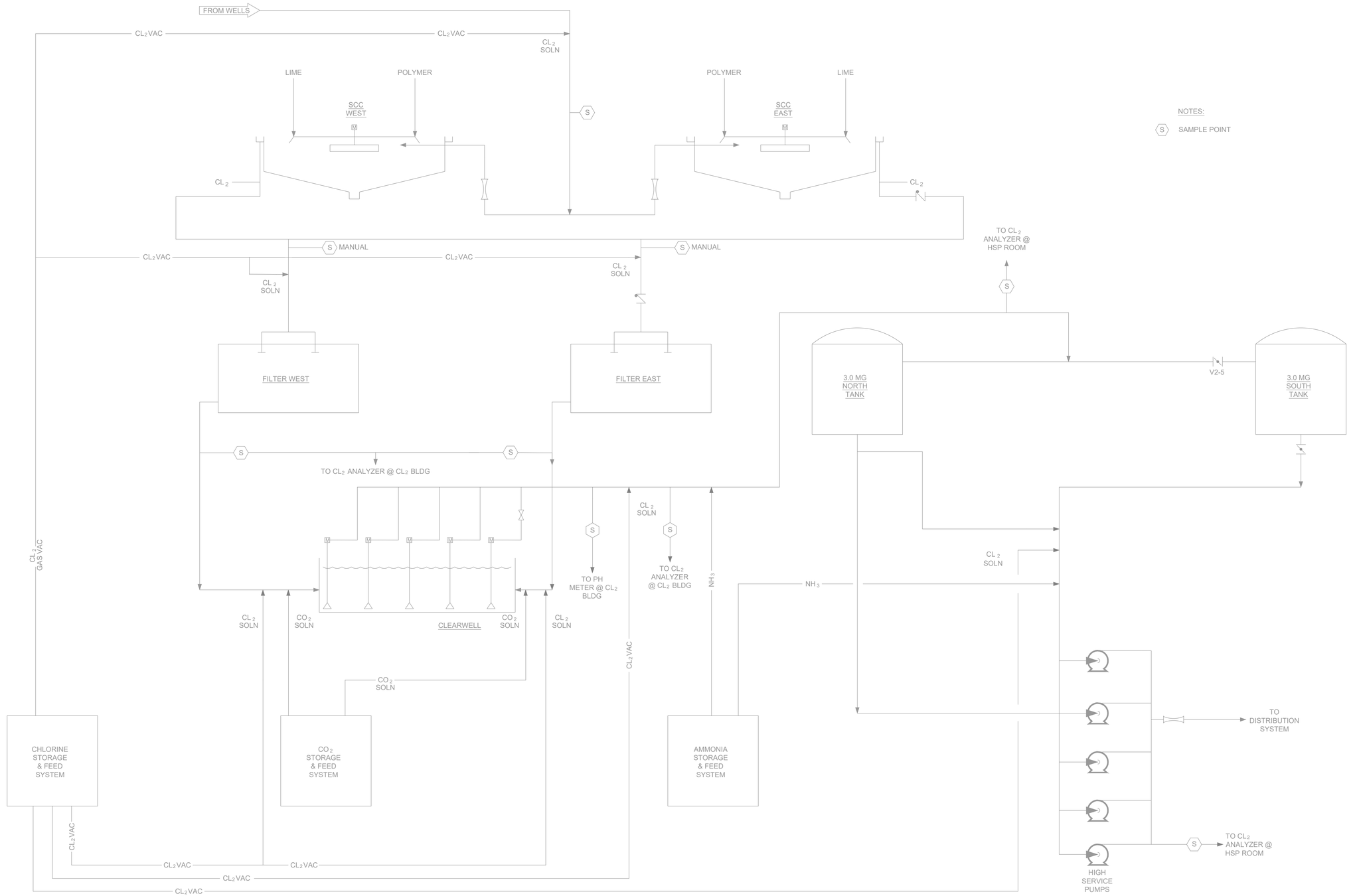
PROPOSED SITE PIPING PLAN - UV & BULK

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DATE: 08/2023

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SHEET TITLE
EXISTING WTP PROCESS FLOW DIAGRAM - CHLORAMINE & RECARBONATION SYSTEMS

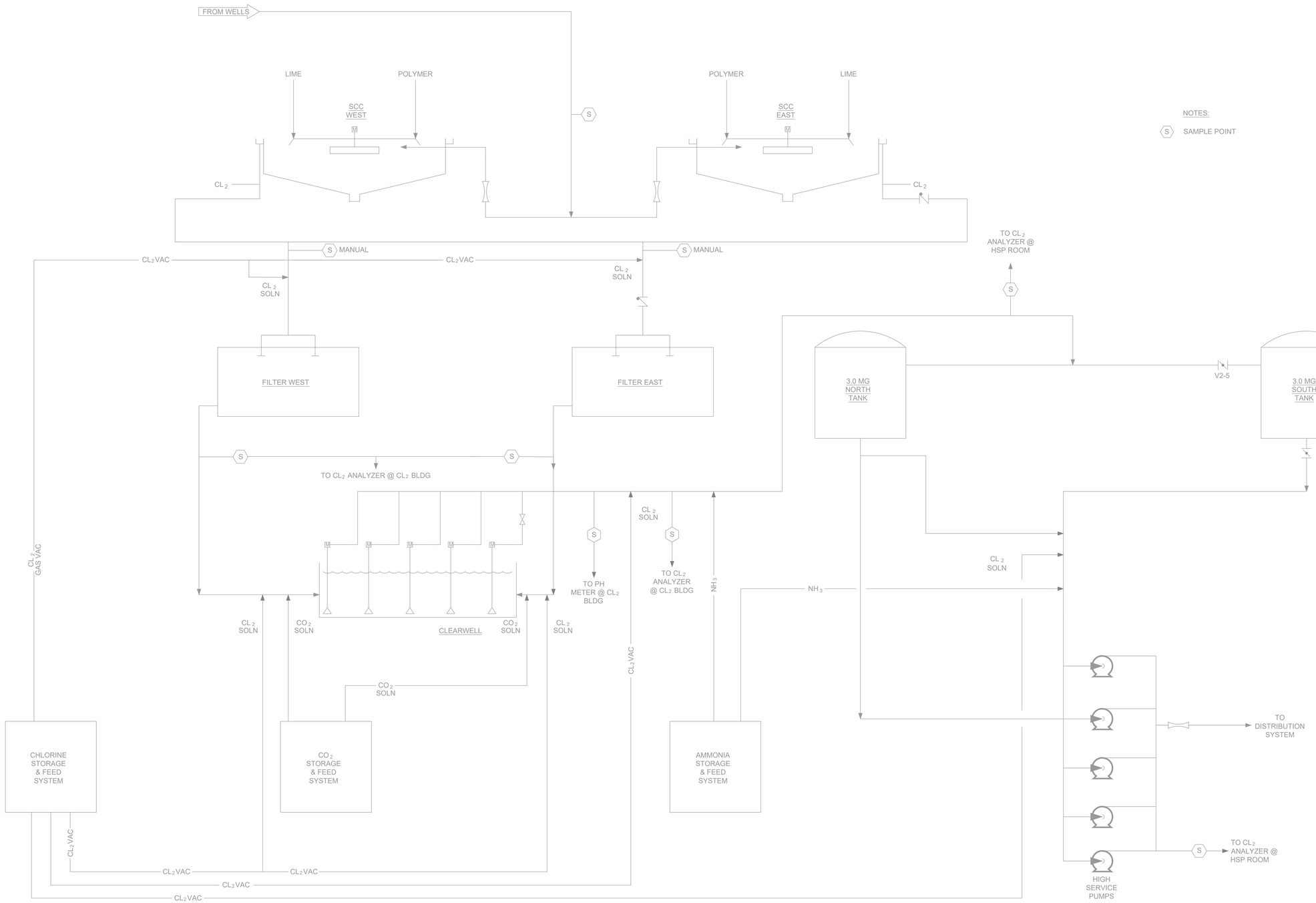
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DATE: 08/2023

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SHEET TITLE
PROPOSED WTP PROCESS FLOW DIAGRAM - BULK & OSG

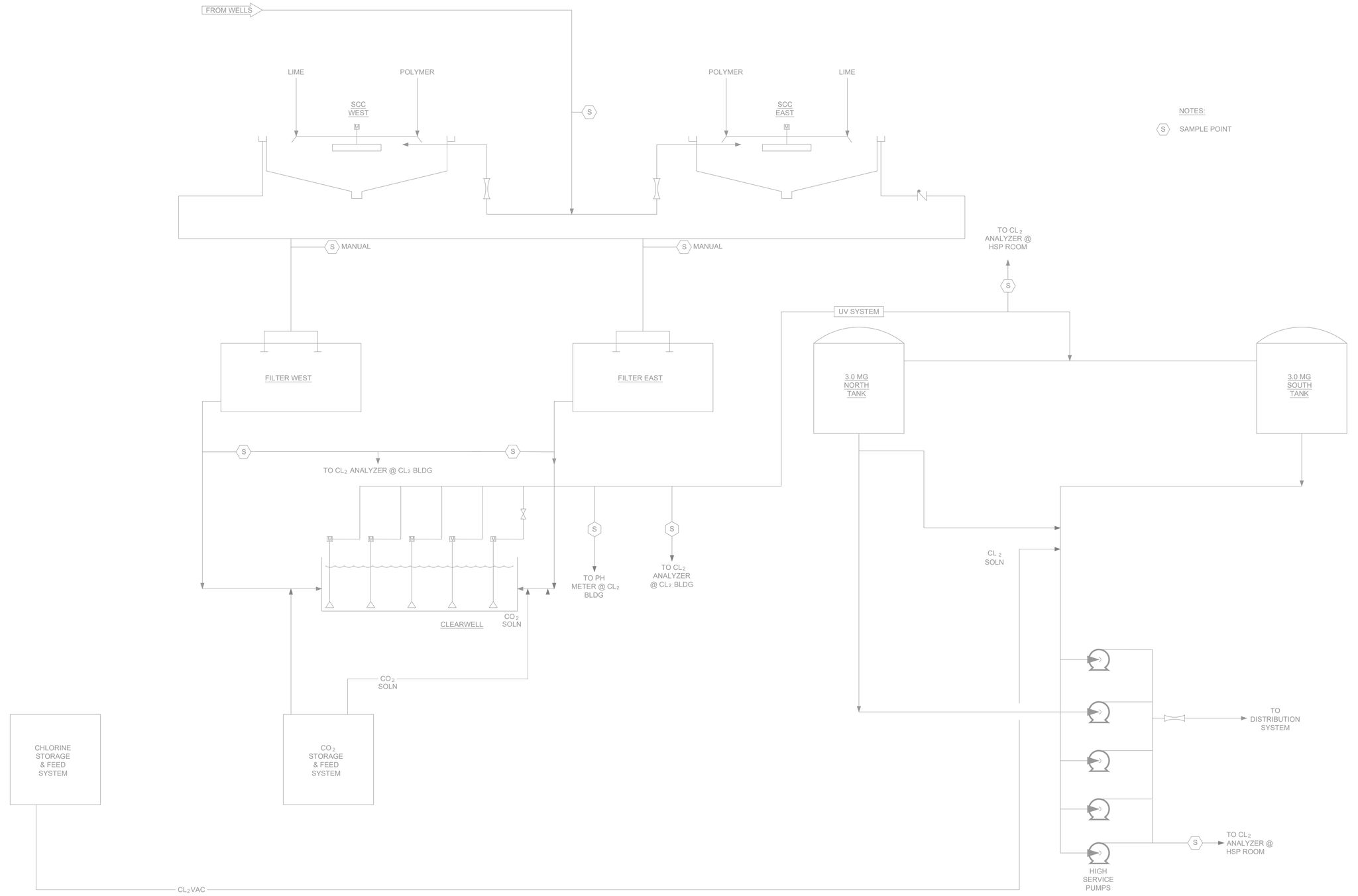
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FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_M-03.DWG

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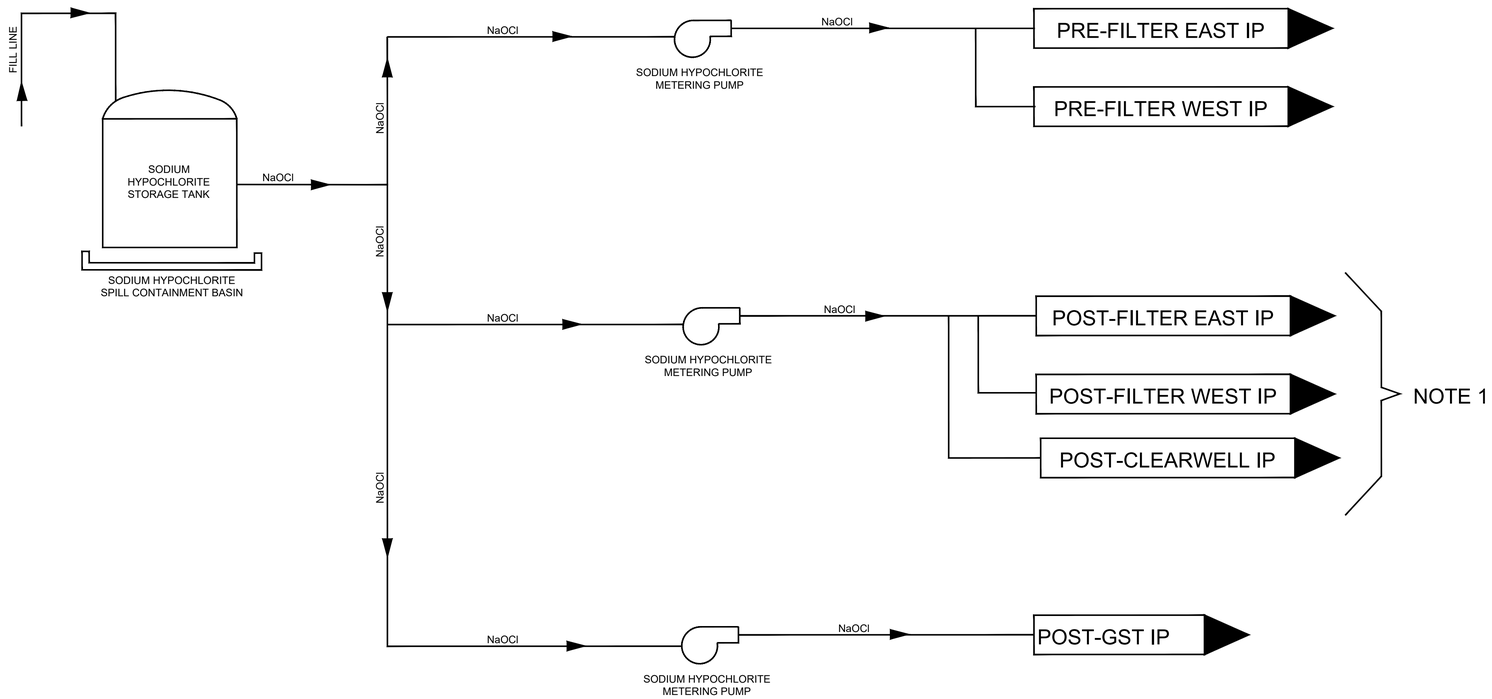
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NOTE:

1. DOSAGE WILL OCCUR ONLY POST–FILTER OR POST CLEARWELL.

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SHEET TITLE
PROPOSED PROCESS FLOW DIAGRAM - SODIUM HYPOCHLORITE - BULK

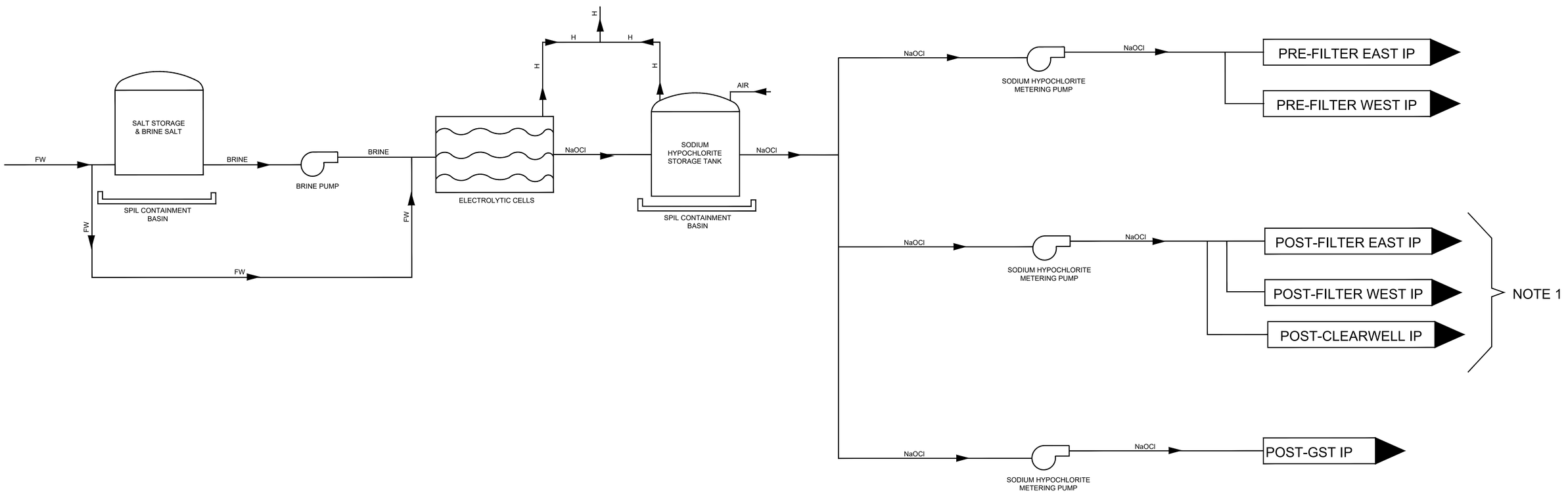
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ALEX V. VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: 08/2023

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FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_M-04.DWG

PLOT DATE: 8/14/2023 5:04 PM



NOTE:

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SCALE: N/A

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PROPOSED PROCESS FLOW DIAGRAM - SODIUM HYPOCHLORITE - OSG

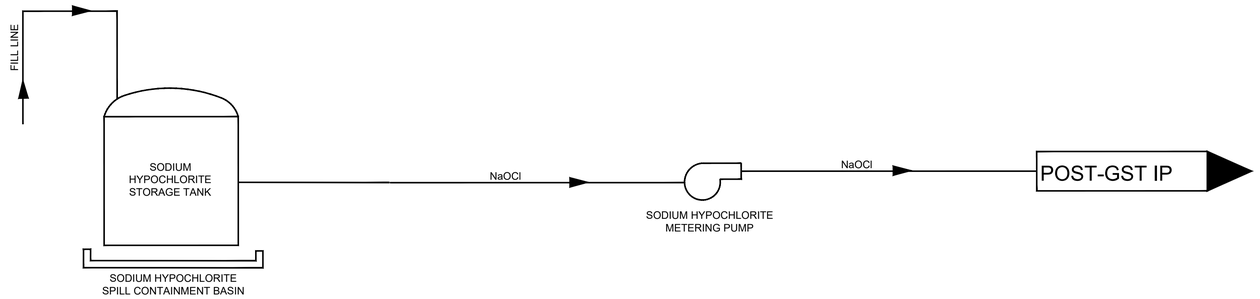
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SHEET TITLE

PROPOSED PROCESS FLOW DIAGRAM - UV & BULK

SEAL

ALEX VAZQUEZ LICENSE No. 42108 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: 08/2023

SHEET NO. M-06

FILE LOCATION: H:\PROJECTS\0200075.05 LAUDERHILL WTP CL CONVERSION\8 - CAD\0200075.05_M-06.DWG

APPENDIX G
PROPOSALS

DENORA (OSG) PROPOSAL

ClorTec® On-site Sodium Hypochlorite Generation

Budgetary Proposal/Estimate Prepared For:

BCC Engineering Inc.

Model: ClorTec 900-C Rack
Project Name: City of Lauderhill WTP Chlorine Conversion
Proposal Number: P-137363 Q-30459 Rev. 0
Date: 07 Jun 2023

DE NORA
discover more

De Nora Water Technologies, LLC
1110 Industrial Boulevard
Sugar Land, TX 77478
United States of America
Tel: +1 281 240 6770

Date:	07 Jun 2023
Customer Name:	BCC Engineering Inc.
Project Name:	City of Lauderhill WTP Chlorine Conversion
Project Location:	Florida
RFQ Reference:	E-Mail
Proposal No:	P-137363 Q-30459 Rev. 0

Attn: To whom it may concern,

On behalf of De Nora Water Technologies Inc., we are pleased to present our offer for the City of Lauderhill WTP Chlorine Conversion project. De Nora Water Technologies - ClorTec technology has been effectively implemented worldwide and we are excited for the opportunity to provide our on-site sodium hypochlorite generation system for this project.

Some specific benefits of the ClorTec on-site sodium hypochlorite generation system are:

- A system offering the highest efficiency in the industry with the guaranteed lowest consumption of salt and electricity.
- An experienced manufacturer/supplier with 3,000 installed ClorTec® systems worldwide and a significant global market share of large municipal installations.
- Proven titanium electrodes providing an unmatched robust design and durability.
- Standard multi-layered safety design including a hydrogen detector for generator room, as well as various integral devices eliminating any possibility of operator error.
- An optimized hydrogen dilution system including vent stacks, as applicable, and tank blowers.
- A sophisticated rectifier feature allowing the system to regulate current and voltage input and adjust for any inherent variations, making the process even more efficient.
- On-site hypochlorite generation systems that have been fully integrated into the overall plant and recognize the importance of Public Health and Safety.

Some general benefits associated with ClorTec® on-site systems:

- Eliminated bulk storage of chemicals
- No transportation liabilities
- Reduced threat to public safety

- Lower disinfection byproducts
- Consistent solution concentration
- A simple, cost effective product
- Reduced risk to plant personnel because of drastically reduced hazardous material (HazMat) storage and handling requirements.

We have enclosed a detailed offer for your review and evaluation that has been prepared per your bid request and technical specifications. Please feel free to contact our local regional sales manager, rep agency or myself should you have any questions.

Elynel Davila

Proposal Engineer
Elynel.Davila@denora.com

cc: Nancy Hatley
Regional Municipal Sales Manager, SE
Cell +1 (215) 353-2298
nancy.hatley@denora.com

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IMPORTANT NOTICE

This offer and any and all documents submitted in the framework of this offer (collectively the "Offer") do not constitute a contract, commitment, undertaking or other binding obligation or limitation on the part of De Nora Water Technologies (DNWT)in any respect. This Offer does not constitute an offer or proposal capable of acceptance. Accordingly, this Offer does not create any obligations, legal or otherwise, on DNWT in respect of this project (the "Project"). DNWT is entitled at any time, with no liability whatsoever, to interrupt or terminate any discussions and/or negotiations with regard to the Project and this Offer. Any obligation in respect of the Project will only arise if and when a binding definitive written agreement in relation to the same will executed by DNWT and the client (the "Binding Contract").

This Offer is provided to the Buyer for confidential use in connection with the evaluation of this Project. The information provided herein is limited to the specific purpose for which it is submitted. It may not be disclosed to any third parties or be reproduced in any form, without the written permission of the Seller.

It is understood that all of the technical details, specifications and other features of the process and equipment described in this offer are of a preliminary nature only. The Seller reserves the right to modify, delete, or add to them during completion of detailed engineering. These changes shall be incorporated in the final designs at Buyer's cost, and further provided that the overall performance and guarantees are maintained.

This Offer is and the Binding Contract shall be subject to the conditions precedent that: (i) a satisfactory due diligence is carried out by DN on the client, the end user of the products as well as on the other persons and entities involved in the transaction, in adherence with EU and US legislation applicable to business transaction with [name of the country] and (ii) DN receives satisfactory legal advice on the absence of EU and US export control restrictions on the products to be supplied by our company.

1. Introduction

Microbiological contamination is a global concern and for more than twenty-five years De Nora Water Technologies, LLC ClorTec® OSHG systems have been providing proven treatment solutions for generating Sodium Hypochlorite onsite.

De Nora Water Technologies, LLC offers the ClorTec® systems as a safe, proven and cost-effective disinfection solution to meet your and your community's water needs. The ClorTec® system uses electrodes coated with proprietary rare earth metal oxides. Our enhanced electrode coating reduces salt and energy consumption while prolonging the electrode life and lowering the O&M costs.

ClorTec® OSHG System Features and Benefits

- The ClorTec® OSHG systems are the Industry Standard with over 3,500 installations worldwide with a generating capacity of 3.2 Million Pounds per Day.
- The ClorTec® OSHG system design guarantees Salt consumption of <3 Lbs, Softened Water consumption of 15 gallons and electrical energy of <2 kwh for one lb. of Chlorine Equivalent produced.
- The ClorTec® OSHG system electrodes incorporate proprietary rare earth metal oxide coatings; leading to higher conversion efficiency versus competitors electrodes.
- Every ClorTec® OSHG system design includes inherent safety protocol and interlocks.





2. Comparison to Other Disinfection Technologies

Onsite Hypochlorite generation features prominently among the popular disinfection processes including Gas Chlorination, UV (Ultraviolet) Disinfection, Bulk Hypochlorite.

Gas Chlorination involves the use of chlorine gas stored either in cylinders or bulk containers. Chlorine gas is vacuumed through ejectors and mixed with water under pressure. This necessitates transportation, handling and storage of chlorine gas, which is a strong oxidizer, and poses severe safety risks. Additionally, there is a possibility of forming DBP's (Disinfection By Products) such as TTHM (Total Trihalomethanes) and HAA 5 (Five Haloacetic Acids) which are regulated under EPA primary standards. Additionally, chlorine gas users need to carry out OSHA risk management planning.

Ultraviolet disinfection technology uses ultraviolet light in the 200 -300 nm range for destroying viruses and bacteria. UV does so by altering the DNA of the microorganisms, making them non-viable and non-infectious. Since UV dose is primarily based on light intensity, water quality parameters such as turbidity and suspended solids (SS) can lower UV transmittance by screening/shielding UV light from the microorganisms. The presence of some organic and inorganic compounds (such as iron, calcium hardness) can also absorb UV light, lowering UV transmittance. Some key issues with UV disinfection are high maintenance, efficacy is strongly affected by variable water quality, lack residual disinfection and testing the effectiveness of the process.

Bulk Hypochlorite (Sodium or Calcium Hypochlorite) finds wide acceptance within the water treatment industries. With the high levels of available chlorine, up to 15% in a "fresh" solution, however, storage and handling poses significant risk. Many a times, the solution strength of the delivered bulk hypo varies with the manufacturer and is not consistent. Additionally, because of safety concerns, transportation and storage costs are often high. This increases the carbon foot print compared to OSHG systems.

Onsite Sodium Hypochlorite Generation involves the use of salt, softened water and electricity to generate 0.8% (typical) Chlorine Equivalent (CE) solution on site. There is no transportation of hazardous chemicals and avoids the risks associated with gas chlorine. This process also offers consistent solution strength and on-demand production. Solution strength of 0.8% is considered non-hazardous, eliminating the need for OSHA risk management planning requirements associated with gaseous chlorine. It also helps reduce the number of delivery trucks on the road thus lowering the CO_2 emissions and the facility's Carbon footprint.

3. Design Assumptions

De Nora Water Technologies, LLC (DNWT) is pleased to present our offer for the supply of OSHG equipment, Electrolytic Generating Cell and services. This offer is in accordance with De Nora Water Technologies, LLC's standard specifications and drawings, as enclosed herewith.

Below is a summary of Design and Water Quality Specifications:

- Chlorine Equivalent Generation Capacity, PPD: See scope of supply.
- Inlet Water Temperature: Inlet water temperature must be between 65˚F-80˚F [18˚C-27˚C].
- Power Available at site: 480VAC/ 3Ø; 120VAC/1Ø
- Water pH: 6.5 – 7.5
- Inlet Water Pressure: Min. 40 PSI
- Inlet Water Pressure: Max. 50 PSI
- Hardness (Ca /Mg): < 10 PPM (at outlet of water softener)
- Total Organic Content: < 1 PPM
- Iron: < 200 PPB
- Manganese: < 10 PPB
- Nickel: < 5 PPM
- Fluoride: < 1 PPM
- Copper: < 5 PPB
- Chlorine: < 2 PPM
- Piping material: PVC

Salt Quality Specifications:

- NaCl, Dry Basis: 96.3% Minimum
- NaCl, Wet: 93.3%
- Calcium Sulfate: 0.30% Maximum
- Magnesium Chloride: 0.06% Maximum
- Calcium Chloride: 0.10% Maximum
- Magnesium Sulfate: 0.02% Maximum
- Insolubles: 0.1% Maximum
- Moisture (as H2O): 3.0% Maximum
- Lead: 0.0007% Maximum
- Copper: 0.0003% Maximum
- Iron (as Fe): 0.002% Maximum
- Fluoride: 0.00001% Maximum
- Manganese: < 0.0002%

4. Scope of Supply

A.- Equipment Description – ClorTec 900-C Rack System

DNWT is proposing our ClorTec® system capable of producing **1800-lbs** per day chlorine equivalent. Please find below the list of all the items provided for the generator system.

Factory Pre-Assembled Rack:

Two (2)	Powder coated carbon steel frame with brine proportioning system, drain valve, acid cleaning by-pass valves, solenoid valve, flow switch, and filters. • New ClorTec Gen III High Efficiency Electrochlorination system that delivers up to 15% operating cost savings
Four (4)	450 PPD DSA titanium electrode assemblies with temp/level controls, DC Copper connection points and safety covers, in a **FRP wrapped PVC** housing with acrylic end plate to facilitate electrode inspection. Factory plumbed and mounted on above rack. *** 2 cells per each Rack**

Equipment Supplied as Loose Items:

Two (2)	Transformer Rectifier in a NEMA 1 corrosion resistant painted steel enclosure: Air-cooled DC power supply / rectifier, soft start constant current with built in DC volt/amp display, emergency shut-off switch. The rectifier is supplied with one set of D.C. cable.
One (1)	Master Control Panel Cabinet with: • Painted carbon steel, NEMA 4 enclosure • Allen Bradley Compact Logix PLC • 7" COLOR TOUCHSCREEN • Ethernet-IP Connection • RS-232/485 SERIAL PORT • All necessary I/O points • Safety interlocks
Two (2)	Hydrogen dilution system for hypochlorite vent stack, consisting of **two blowers** (one duty/one standby) with duty blower supplied with a check valve, differential pressure switch and pitot tube and the standby blower supplied with a check valve only. **2 x blowers per each vent stack.*

Two (2)	Hydrogen dilution system for hypochlorite storage tank consisting of **one blower** supplied with check valve, differential pressure switch and pitot tube. **1 x blower per each sodium hypochlorite storage Tank.*
Two (2)	Kinetico, dual tank, continuous operation, automatic regenerating water softener
Two (2)	Ultrasonic Level Sensor for Hypochlorite Storage Tank
Six (6)	20 Micron 10” inline filters in clear PVC housing.
Four (4)	Pressure regulating valve.
Two (2)	Inlet Water Solenoid Valve
One (1)	Portable Acid Cleaning System with • (1) 4’-5” by 2’-2” thermoplastic cart with wheels and handle rated at 500 pounds capacity. • (1) 55 gallon HDLPE storage tank with hinged lid. • (1) Centrifugal pump rated at 25 GPM at 20’-0’ TDH with a 1/3 HP, 120 volts, single phase motor. • 50 feet power cord and an on/off switch.
One (1)	Hydrogen detector for generator room by RKI instruments (required safety feature). ** An additional detector will be required if the hypo storage tanks are located indoors in a separate room.*
Two (2)	Maintenance Kit which consists of the following items, • Replacement Filters (2) • Conductive Grease • T-9 Torx L-Key for brine pump • Salinity Test Kit • Hardness Test Kit • Chlorine Test Kit • Laminated Temperature/Salinity Chart • Log Book • 20" Toolbox

**This proposal is based on Dosing System being provided by Others.*

B.- Optional Scope of Supply - Equipment Description

One (1)	63 Tons FRP brine maker/ storage tank (12' Dia x 16' H) with the following included: • 304 SS Salt unloading piping, • Vent, fittings and drain • Water Level Control Package • Salt Level Indication • FRP ladder w cage Sufficient for 26 days' storage of 1703 PPD (max demand).
Two (2)	13,550 gal FRP hypochlorite storage tank (12' Dia x 16' H) with Vent, fittings and drain. The 2 Tanks collectively are sufficient for 1-day storage of 1703 PPD (max demand).

Technical Services

Engineering & Documentation:

- One (1) electronic set of Shop Drawing & Product Data submittals.
- One (1) electronic copy of Operation & Maintenance Manuals.

Installation Inspection, Startup & Training

- Our offer includes **Six (6) days** on-site for Installation Inspection, Start-up & training of the system.
- This offer excludes any pre-start up or pre-installation consulting. If such service is required, it will be priced separately upon request.
- Proposed services are based on **One (1) trip**. Should additional trips be required due to circumstances out of ClorTec control, such as uninstalled equipment, lack of power, lack of water, etc., a cost adder will apply.
- The above listed services must be provided by a DNWT, ClorTec® factory trained technician or a factory authorized third party. Failure to comply will void the warranty. A list of such authorized third parties is available upon request.
- SUPPORT: DE NORA VIATM remote Support solution: Connects de Nora Technicians with on-site customers in real time using live video and inspections
    - Contactless capabilities like voice, text, document share and augmented reality to provide a fast and easy response to equipment concerns

Installation Services

- This offer is for equipment Inspection, Start-up & Training only and does not include Installation services.

5. General Clarifications & Exclusions

Clarifications

1.	This offer reflects standard ClorTec equipment, no project specific specifications have been considered.
2.	DNWT shall not be obligated to establish or verify the accuracy of the information furnished by the Customer or Engineer nor shall DNWT be responsible for the impact or effect on the Materials and any services provided based on the information furnished by the Customer or Engineer in the event that such information contains errors and/or omissions. DNWT design shall be based solely on the provided specifications and not the application. Any changes in the design or equipment selection shall be priced separately as a change order.
3.	Inlet water and salt must meet the requirements stated in the standard operating conditions listed below for proper electrode operation and efficiency.
4.	The hydrogen dilution system maintains hydrogen byproduct at 25% of LEL.
5.	This offer is based on supplying one set of four DC cables for each rectifier, each with standard length of 25 feet (total 100 linear feet). The length of cable will be physically measured during the installation of equipment and reported to DNWT prior to the shipment of cables to the job site. If the reported length exceeds 25 feet, a cost adder will apply.
6.	A hydrogen detector for generator room is a recommended safety feature.
7.	Offer includes Equipment only and does not include Start-up and training of owner's operating personnel unless otherwise specified.
8.	This offer is based on the assumption that the manganese level in the inlet water to the unit is less than 10 PPB. A green sand filter will be required if the Mn level is above 10 PPB and shall be priced separately upon request.
9.	Please note the recommended supply water temperature must be between 65˚F-80˚F. A Water heater or Chiller will be required if the supply water temperature falls out of the recommended temperature range and shall be priced separately upon request.
10	Metering pumps to be controlled by owner's PLC (4-20mA signal to VFD). Programming associated with the pumps to be provided by others.
11	Complete assemblies are defined as "factory pre-assembled." Otherwise, all system components reflected in the above scope will be supplied as loose items and will be assembled and INSTALLED in the field by the party performing the installation in accordance with ClorTec® recommendations. This includes all stands, backboards, skids, enclosures, panels, etc. and any associated devices or equipment.

Exclusions

1.	Sales, Permits, Licenses and fees, and all other taxes.
2.	Civil, Structural, Architectural and Design work of any kind.
3.	Installation of the On-site Sodium Hypochlorite Generation System, hypochlorite or brine tanks and accessories including but not limited to, ladders, railings, decking, fill lines and vent lines, interconnect pipe, pipe supports, valves and fittings not part of the equipment or installation material.
4.	Electrical power and underground conduit to provided equipment or any other equipment.
5.	Injection line piping from any equipment to the injection point, feed water piping to the equipment.
6.	All testing and system verifications other than DNWT ClorTec standards.
7.	Painting or special finishes other than manufacturer's standard.
8.	Salt or any consumables or chemicals required for start-up and operation.
9.	Gravel for the brine tank – if applicable.
10.	Blower flexible connector – if applicable.
11.	Equipment anchor bolts.
12.	All items not specifically listed in the Scope of Supply above.

6. Price and Commercial Conditions

Price – ClorTec 900-C Rack System

Item No.	Qty.	Description of Unit	Total Price US$
1	2	900 lbs/day on-site sodium hypochlorite generator with components as listed under **A.- Scope of Supply.**	$ 641,854
	1	1 x Brine Maker and 2 x Hypochlorite Tanks with components as listed under **B.- Optional Scope of Supply.** **** Freight is included***	$ 530,426
2	1	Engineering & Documentation	Included
3	1	Crating & Freight	Included
4	1	Startup & Training	$ 19,492
		TOTAL	**$ 1,191,772**

*This is a budgetary estimate only. This is not an offer to contract. All prices are subject to change without notice.

Typical Payment Terms:

Net 30 with approved credit

Progress Payments

- 10% upon order acceptance.
- 10% on submission of approval documents
- 20% on purchase of major equipment
- 40% upon Notice of Ready to Ship.
- 10% on submission of final documents
- 10% upon completion of start-up, not to exceed 60 days after delivery

Typical Delivery Times:

Scheduled delivery of submittals: **4 - 6** weeks after the effective date of the purchase order. The effective date of the purchase order is the date by which the buyer and DNWT have signed the purchase order.

Review and return of initial submittals by the customer must be within 4 weeks of receipt. Any subsequent submittals must be reviewed and returned within 2 weeks of receipt.

Delivery of equipment scheduled **18** to **32** weeks after approved submittals, CPT Jobsite. (INCOTERMS 2020)

Seller may freely assign any order issued by Buyer to any of Seller's affiliates, and shall notify the Buyer of same, at its option. Seller reserves the right to manufacture, or to have manufactured at an affiliated facility worldwide, any of the Products, in whole or in part, associated with an order issued hereunder.

Terms and Conditions:

De Nora Water Technologies, LLC and **BCC Engineering Inc.** agree that the General Terms and Conditions of Sale set forth at http://www.denora.com/products.html (the "Terms") shall exclusively govern the transactions described or contemplated in this Purchase Order and any other sales or related transaction between the parties herein, and such Terms are expressly incorporated by reference herein and to any related agreements between the parties. Any additional or different terms or conditions which may appear in any communication from **BCC Engineering Inc.**, including, without limitation, in any printed form provided, are hereby expressly objected to and rejected in full and shall not be effective or binding in any capacity unless expressly accepted in an authorized writing by De Nora Water Technologies, LLC, regardless of, and fully notwithstanding, De Nora Water Technologies, LLC supply of any goods and services or the execution of any document or acceptance by any person other than an officer or authorized agent of De Nora Water Technologies, LLC.

Notwithstanding any other provision of these Terms or the Seller's Documentation, unless otherwise expressly stated in the Seller's Documentation, if, at any time during the course of Seller's performance of the sale of the Products or Services, there is an unforeseen and material increase in the price of raw materials, materials, labor, or other costs of Seller associated with the Products or Services, Seller shall have the right to reasonably adjust the prices set forth in the Seller's Documentation upon written notice to the Purchaser setting forth the amount of such price adjustment and reasonably setting forth the cost changes associated therewith.

7. Disclaimers

This budgetary offer contains proprietary or confidential information of De Nora Water technologies LLC, Inc. (DNWT) regarding patent protected proprietary technologies and their implementation in the field, recommended uses and costs. Any such proprietary or confidential information disclosed herein is provided at buyer's request and solely for the purpose of enabling buyer to evaluate this offer.

In receiving and reading this offer, buyer agrees that it will not reveal or otherwise distribute its contents to any third party without DNWT's prior written consent. The foregoing limitation shall not preclude buyer from disclosing the contents of this offer to its employees, on a need to know basis, who have the responsibility to evaluate and/or implement the program set forth in this offer. This offer shall at all times remain the exclusive property of DNWT until accepted by the party to which it was tendered.

This offer is made under the DNWT standard terms and conditions of sale.

COVID-19

In the event that the performance of a contractual obligation hereunder by either party hereto is prevented, restricted, hindered, delayed or interfered with directly or indirectly in connection with the COVID-19 (“Coronavirus”) pandemic or similar pandemic or epidemy and/or any measures introduced by any government authority to address such pandemics/epidemies, the party so affected shall be excused from such performance to the extent and for the duration of such prevention, restriction, hindrance, delay or interference, and shall not be liable for any costs or damages.
Each party shall exercise reasonable efforts to resolve any impediment, however, neither Party shall be obligated to incur additional costs of more than 5% of the order value. The party affected should give notice to the other party as soon as practicable of the prevention, restriction, hindrance, delay or interference with its performance.

8. Case Studies

A series of ClorTec® OSHG case studies have been developed to showcase the full-scale and commercial success of our proven on site Sodium Hypochlorite Generation Systems. We have included a brief summary of our case studies for your reference.

The Daytona Beach Ralph Brennan WT Plant

In 1999, the City of Daytona Beach, Florida, had one water treatment and two wastewater treatment facilities within its service area that exceeded the 2,500-pound threshold limit for gaseous chlorine. As a result, a Risk Management Plan (RMP) would have to be prepared and submitted to the Environmental Protection Agency Risk Management Planning-Accidental Release Prevention Program. While developing their RMP, the City staff further evaluated the chlorination facilities at one particular location -- The Ralph Brennan Water Treatment Plant - and determined that the 25-year old system was reaching the end of its useful life and that approximately 40 hours were spent on site-specific RMP paperwork, maintenance and operational procedures every month. Therefore, the City decided to embark on a program to replace the gaseous chlorine system at the Plant with a treatment technology that would put them in better compliance with or eliminate RMP guidelines at that location.

On January 2, 2001, two ClorTec MC 2,000-lb/day on-site systems went on line and within two hours of start-up were producing 0.8% hypochlorite solution. The system is fully automated and has manual operation features if needed.

By almost any measure, the ClorTec on-site sodium hypochlorite generating system has exceeded the expectations of the City of Daytona Beach. On-site generation eliminates the use of hazardous chemicals commonly used in other forms of chlorine disinfection. The system's flexibility and reliability make for a robust disinfection system and quick system installation; ongoing operational efficiencies with low, predictable maintenance combine to provide excellent cost savings.

Onsite Disinfection Helps Ensure Safety at British Columbia WT Facility

Constructed in 1997, the District of Chetwynd Water Treatment Plant (British Columbia, Canada) treats nearly 2,500 cubic meters of water per day using gas chlorination as its primary form of drinking water disinfection. With recent concerns about the safety of chlorine gas, including potential eye, skin and respiratory irritation and the risk of death with high exposure, the district elected to switch to hypochlorite generation as its primary means of disinfection. With a town population of just over 3,000, the plant required a 12 lb/day on-site generating system. In July 2005, Tricker oversaw the installation of a skid-mounted ClorTec® 12 lb/day on-site generation system.

The ClorTec system produces a week-long supply of equivalent chlorine disinfection, which is held in the storage tank, ready for distribution to the community. The District maintains a full stock of all spare parts associated with the on-site generating system in the event the duty system is not operational. After more

than one year of operation, Tricker proclaimed the on-site sodium hypochlorite generating system to have met and surpassed the District's expectations.

"Safety is a priority for the District," said Tricker, "and transporting bulk chlorine and storing it on-site carried risks for our facility and the community. Generating hypochlorite on-site not only eliminated that risk, but provided the disinfection level we needed at a much lower cost. After system start-up, the most significant cost has been the purchase of three 20 kg. bags of salt per week." Tricker also points out another benefit of the hypochlorite generating system. "We get fewer customer complaints about the taste or smell of chlorine."

Document 500.5020

Pennsylvania WT Plant: An Operational Profile of ClorTec OSHG System

In 1999, United Water Pennsylvania, a water utility serving more than 150,000 people in eight counties in the Keystone state, installed a ClorTec® Model MC 100 System to replace chlorine gas cylinders at its Hummelstown Water Treatment Plant (WTP) just east of Harrisburg. The plant is a conventional WTP consisting of prechlorination, coagulation, clarification, granular media filtration and post chlorination. The water source for the Hummelstown plant is the Swatara Creek, the turbidity, pH alkalinity and hardness of which can vary significantly.

As part of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification program (ETV), the EPA and NSF International verified the performance of the Hummelstown system at installation. Five-day-per week sampling for Total Coliform, indicator bacteria for potential fecal contamination, showed no positive indications for its presence in either the feed water or treated water.

According to McGarvey, the ClorTec system has met United Water Pennsylvania's expectations since it was installed at the Hummelstown plant. "Since 2000, the unit has operated without any unplanned or unscheduled maintenances and has continued to operate, as expected, under any conditions," McGarvey said. "Our plant operators have been extremely happy with the ClorTec equipment compared to having to replace chlorine gas cylinders on a regular cycle. "We closed the Hummelstown facility in September 2006 and opened a state-of-the art membrane plant on the same site. But we've transferred the ClorTec equipment to our Sixth Street Water Treatment Plant as a standby, and we expect that it will continue to operate extremely well," McGarvey concluded.

Document 500.5060

Innovative Water Reuse in Water Starved Southern Arizona

Southern Arizona's population growth in the last 20 years has created severe challenges for the region's water resources. For the fastest growing municipality in that part of the state, those challenges created the opportunity to develop an innovative use of reclaimed water. Oro Valley, Arizona, is a suburban town located about six miles north of Tucson. For several years in the 1990s, the town was the fastest growing municipality in the state. In 1990, the town's population was 6,670. By 2000, the number of residents had grown to 29,700 and by 2008, 45,000 residents. In October 2005, the Town of Oro Valley Water Utility unveiled a new reclaimed water storage and booster facility. The utility's Rancho Vistoso Pump Station,

which receives reclaimed water from nearby Tucson Water, was outfitted with a ClorTec® CT-75 on-site sodium hypochlorite generation system from De Nora Water Technologies. The system produces 75 pounds per day of sodium hypochlorite at a 0.8% solution and has a total storage capacity of 2,500 gallons.

According to Jeff Kane, lead operator/production facilities for the Town of Oro Valley Water Utility, the ClorTec system has operated well, helping the town to more carefully manage its precious water supply with an innovative reuse strategy that has been predicted by some water experts to be the "way of the future" in the Western United States.

ClorTec On-Site Hypochlorite System delivers "Historic" efficiency levels

In one of Pennsylvania's three original counties, water has played an integral – even historic – role in the region's development. Founded in 1682 by William Penn, Bucks County was named after Penn's ancestral home of Buckinghamshire, England. About 30 miles northeast of Philadelphia and not far from Penn's Bucks County home, Pennsbury Manor, lies the historic village of Washington Crossing, Pennsylvania.

In February 2005, Forest Park Water, owned and operated by the North Penn and North Wales Water Authorities, began work to expand the Forest Park Water Treatment Plant in Chalfont to accommodate the needs of a growing customer base in Bucks and neighboring Montgomery counties. For its chlorination needs, Forest Park chose an on-site sodium hypochlorite generating system, which has proven to be noteworthy for delivering record, never-before-validated efficiency levels. Forest Park's engineering firm, Gannett Fleming of Harrisburg, designed the on-site sodium hypochlorite generation, and the water authorities awarded the general contract which included two 1,200 lb/day ClorTec® generating units to De Nora Water Technologies. The 0.8% solution generated from the ClorTec system can also be directly used and fed to the membrane elements to act as a disinfectant during routine maintenance and cleaning procedures for the membrane filtration system. Not only has the ClorTec system met – even surpassed – the performance requirements of the contract, Letourneau expresses satisfaction with the ClorTec system's design and operation.

"The ClorTec computer program makes our job easier by identifying and pinpointing the source of any operational problems. That minimizes the time we have to spend trouble shooting system problems."

WT Plant sets State Standard for use of Filtration, Disinfection Technologies

Murfreesboro, Tenn., located near the geographic center of the Volunteer State, is, perhaps, best known for being the site of one of the Civil War's bloodiest battles — The Battle of Stones River. The city also was the capital of the state in the early 1800s before being replaced by nearby Nashville in 1826. Today, Murfreesboro is better known as one of the state's — in fact, one of the country's — fastest growing cities, with a population that has grown more than 120 percent since 1990. Middle Tennessee State University, which boasts the largest undergraduate enrollment in the state, is also located in Murfreesboro. In selecting the disinfection technology, Smith Seckman Reid recommended replacing the chlorine gas unit with on-site sodium hypochlorite generation. Safety was a big reason for the choice. "The Stones River plant is located near a Veterans Administration hospital, and many of their patients cannot be easily moved from the facility in the case of an emergency," said Cranford. "We felt it wasn't worth the potential risk to continue using chlorine gas.

In addition, the Hazmat safety training and ongoing vigilance required to comply with our EPA risk management plan were significant time consumers.

"When Smith Seckman Reid investigated the most appropriate on-site system for the Stones River plant, they considered simplicity of operation and maintenance. Selecting a system that had a proven track record in larger facilities was important, too."

The system selected was the ClorTec® on-site sodium hypochlorite generating system from De Nora Water Technologies. The system includes two 900 lb/day hypochlorite generators that are kept in operation concurrently, giving the facility redundancy in the event one unit temporarily ceases operation; two 40-ton brine silos; and three 15,000 gallon storage tanks. As for the on-site sodium hypochlorite system, Cranford said, "The ClorTec system has proven to be simple to use and easy to maintain. And we've been impressed at the consistency of sodium hypochlorite solution it has produced. Compared to other on-site systems we investigated, the consistency of the solution has been outstanding."

Top Research Institute Turns to On-Site generation for Drinking Water System

As one of the top 20 American research institutes in the United States, Texas A&M has hundreds of laboratory facilities on its campus where a variety of proven water treatment technologies are used to control the quality of the water used in research. The university owns seven wells with a production capability of 12.8 mgd. The current average production is 4.7 mgd and has been as low as 4.0 mgd during non-drought years. The water production serves a campus population that peaks at close to 65,000 during fall and spring semesters. The Wellfield Station draws water from six groundwater water wells.

Since the Wellfield Station's opening, gaseous chlorine has been used to disinfect the water and provide an effective chlorine residual. After the water is disinfected, it is pumped through a 7.5 mile dual pipe transmission system to a booster station located adjacent to the campus, then into the water distribution system. In 2001, Nathan Jones, the water and environmental service manager, began considering an alternative disinfection method. "Our gaseous chlorine system was working fine, and our water was in full compliance," he said. "But in light of the new Homeland Security rules, it made sense to get our one-ton cylinders out of service, especially since they were located in both populated areas and in unmanned locations. Changing our disinfection system also would allow us to get out from under the USEPA Risk Management Plan requirements." Jones mentioned another benefit of on-site generation. "Chlorine is a contact disinfecting agent and is not soluble in water, so it is easily driven off through agitation, air relief stations, pumps and tank changes. To maintain the necessary residuals, we were having to use excess amounts of chlorine to maintain the far ends of the system. By contrast, sodium hypochlorite is soluble in water and is not diminished by agitation as it makes its way through the system."

Jones noted the benefits of the ClorTec unit's design. "The clear cylindrical cell allows full visibility and easy access to the electrode array. The cells can be removed as a single unit, eliminating the time and labor spent disassembling cell structures and handling electrodes individually. We also like the fact that the ClorTec unit is one large cell with expansion capabilities versus a daisy chain of smaller cells." Additionally, Jones stated that he gets excellent customer support from Severn Trent and their associated component distributors.

According to Jones, the ClorTec system has performed as expected. “Safety and security were the driving factor behind our switch to on-site generation. We have been able to meet the chlorine residual requirements while using less chemicals. We calculate that we use about 25 percent less equivalent product to get more stable residual results.”

“Exactly as Advertised”: On-Site system increases Safety, Reduces Cost

The City of Gastonia, N.C., water treatment plant was constructed in 1922 near what is now the center of the city. Gastonia, a city of 70,000 residents, is located 20 miles west of Charlotte in the state’s southern Piedmont region. Its 25.2-mgd water treatment facility uses a traditional disinfection / coagulation / flocculation / sedimentation / filtration process to treat surface water drawn from Mountain Island Lake. Using gaseous chlorine for disinfection at the water treatment facility, the City had developed an efficient evacuation plan in the event of a large scale gas leak as required by its USEPA risk management plan. However, in the 1990s a three-story courthouse, a jail and a social services building were built near the plant, with the jail and courthouse adjacent to the chlorine storage building. With an evacuation plan now affecting thousands of residents — including inmates — rather than just hundreds, the City knew it was time to either move the plant or change disinfection methods.

After analyzing the two disinfection methods, Laurin Kennedy PE, CDM’s principal design engineer on the project, recommended the selection of the ClorTec® on-site sodium hypochlorite generating system from De Nora Water Technologies. Two 750-lb generating units were installed in January 2010 along with four 12,500-gallon storage tanks.

From the beginning, safety was the driving force behind eliminating the use of gaseous chlorine at the facility. Says Ed Cross, Division Manager, “When the chlorine gas cylinders were being hauled away, we were jumping for joy. Choosing on-site generation for our disinfection needs was in line with our safety requirements and the switch provided us with cost savings, too. When we applied for deregistration from our risk management plan and no longer had to perform HAZMAT training, we realized how significant the savings were. We haven’t completed a full cost analysis yet, but we are certain the ClorTec system is providing long-term savings. When there is an operational issue, the system tells you what’s wrong, and our staff has been able to handle every maintenance issue. The system has performed exactly as advertised, and that’s a testament to the technology and to the De Nora Water Technologies sales and technical team.”

9. Supporting Documents

The documents listed below form an integral part of this offer.

- General Arrangement Drawing
- Process and Instrumentation Drawing - for reference
- DNWT LLC Electrode Warranty ClorTec April 2016
- DNWT LLC General Terms and Conditions at http://www.denora.com/products.html

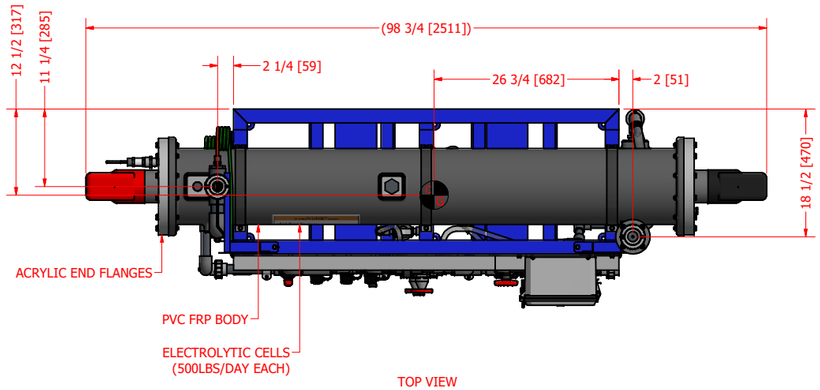
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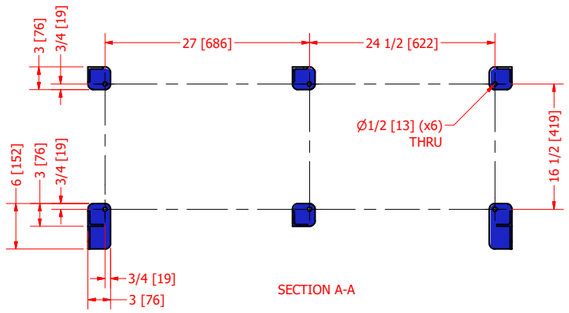
www.denora.com

CLORTEC 900-C (1000 LBS/DAY)
FINISH: POWDER COATED CARBON STEEL
POWER: 120VAC, 50HZ

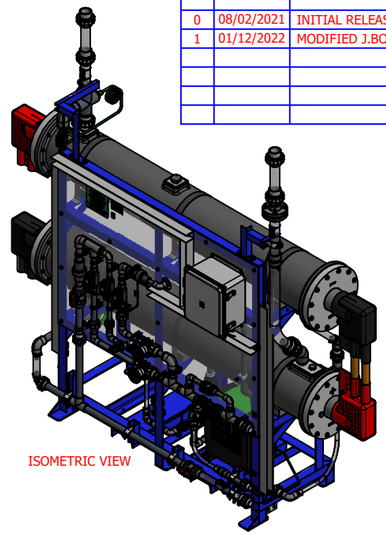
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1	01/12/2022	MODIFIED J.BOX SIZE	RAM	JPM	JPM



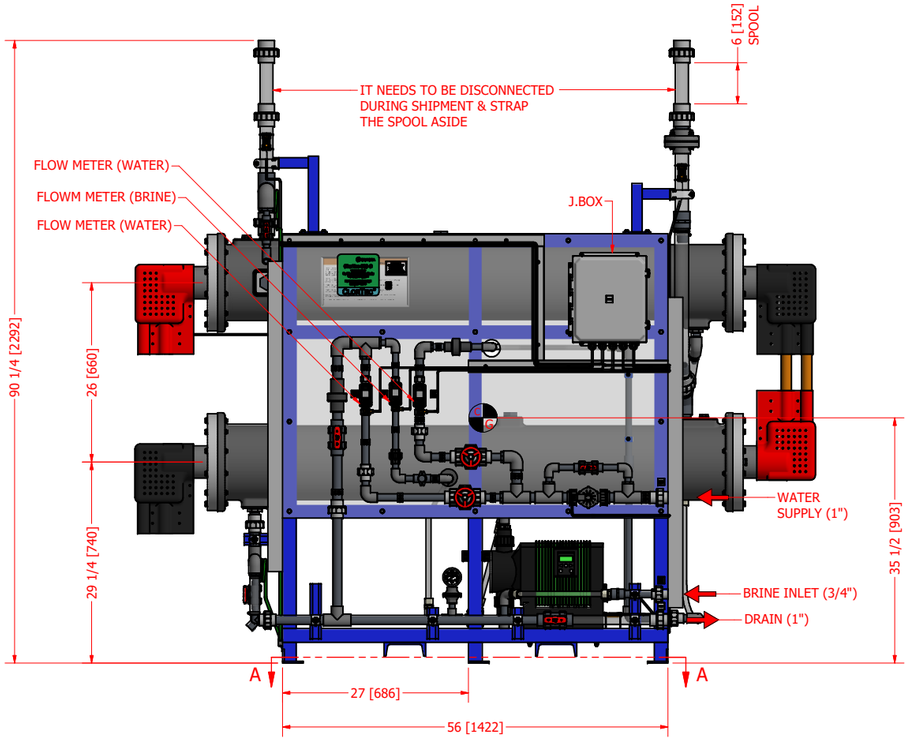
TOP VIEW



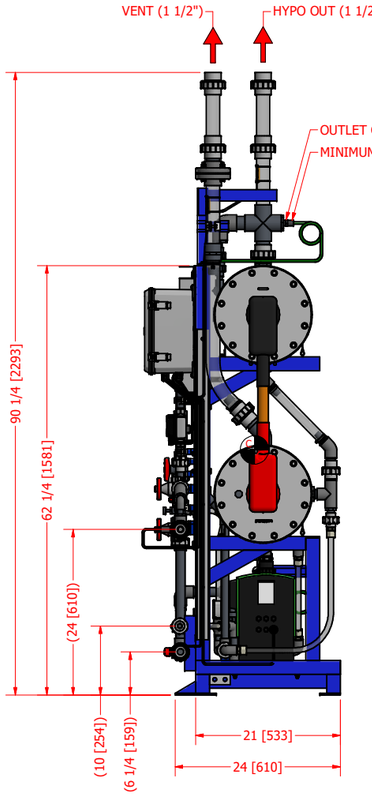
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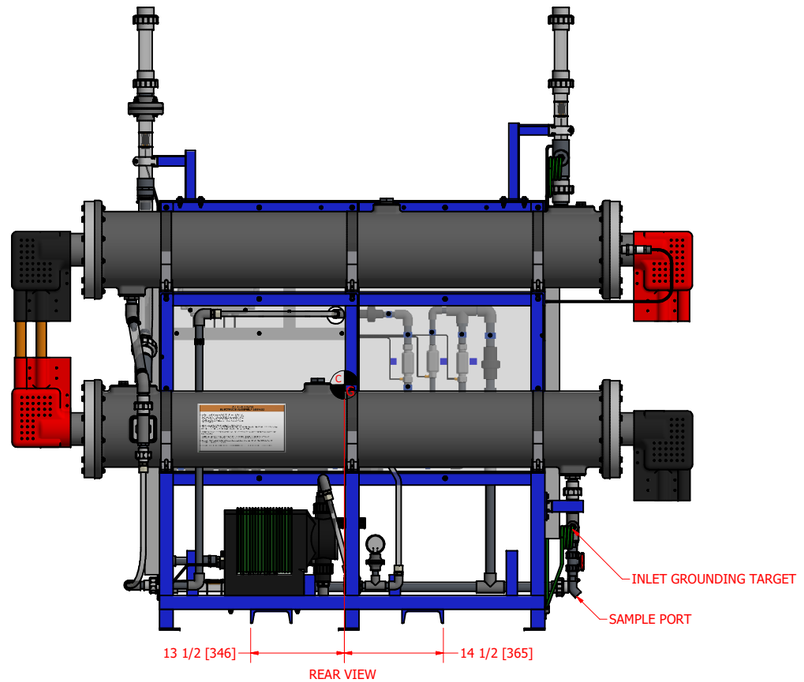
ISOMETRIC VIEW



FRONT VIEW



SIDE VIEW



REAR VIEW

NOTES (UNLESS OTHERWISE SPECIFIED)

NOTES:

ALL DIMENSIONS ARE IN INCHES [MM]
MATERIAL : CARBON STEEL
FINISH : POWDER COATED

DE NORA
1110 INDUSTRIAL BOULEVARD SUGAR LAND, TEXAS 77478
TELEPHONE No: (281) 240-6770
FAX No: (281) 240-6762
E-MAIL: info.dnwt@denora.com
WEB SITE: www.denora.com

UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE IN INCHES
[MM] = REFERENCE

FRACTIONS	± 1/2"	±12.7mm
.X	± 0.1"	±2.5mm
.XX	± 0.02"	±0.51mm
.XXX	± 0.005"	±.127mm
ANGLES	± 1°	

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CLORTEC

ASSY, RACK, CLORTEC 900-C (1000 LBS/DAY), ONSITE HYPOCHLORITE GENERATOR, POWDER COATED CARBON STEEL, 120VAC, 60HZ

SAP # 47002930

SCALE:	PROJECT NO:	SIZE:	REV:
NTS		D	1

DWG NO: CT0900RA2G3-CPBP-120T-GA-01

SHEET: 1 of 1

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	APPROVED BY
0	05/18/2023	INITIAL RELEASE	RAM	CAM	CAM
1	06/07/2023	REVISED SCOPE FROM 3x CT1500 TO 2x CT900	RAM	CAM	CAM

CITY OF LAUDERHILL WTP – CHLORINE CONVERSION

2X CLORTEC 900–C (1000 LBS/DAY) RACK MOUNTED ON–SITE SODIUM HYPOCHLORITE GENERATION SYSTEM PIPING & INSTRUMENTATION DIAGRAM

NOTES (UNLESS OTHERWISE SPECIFIED)

SYTELINE ITEM NUMBER(S)

DE NORA
1110 INDUSTRIAL BOULEVARD SUGAR LAND, TEXAS 77478
TELEPHONE No: (281) 240–6770 E–MAIL: info.dnwt@denora.com
FAX No: (281) 240–6762 WEB SITE: www.denora.com

UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE IN INCHES [MM] = REFERENCE

FRACTIONS	± 1/16"	±1.5mm
.X	± .1"	±2.5mm
.XX	± .01"	±0.51mm
.XXX	± .005"	±0.127mm
ANGLES	± 1°	

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CLORTEC

2X CLORTEC 900–C (1000 LBS/DAY) RACK MOUNTED ON–SITE SODIUM HYPOCHLORITE GENERATION SYSTEM PIPING & INSTRUMENTATION DIAGRAM

CITY OF LAUDERHILL WTP

SCALE:	DNWT PROJECT No:	SIZE:	REV:
NTS	P137363	D	1

DNWT DWG No: P137363–I–01

SHEET: 1 of 7

ABBREVIATIONS

AC	ACTIVATED CARBON
ADV	ACTUATED DIAPHRAGM VALVE
AE	ANALYTICAL ELEMENT
AI	ANALYTICAL INDICATOR
AIT	ANALYTICAL INDICATOR TRANSMITTER
AL	ALARM LIGHT
BFV	BUTTERFLY VALVE
BLW	BLOWER
BR	BRINE
BP	BELLOWS PUMP
BPV	BACK PRESSURE VALVE
BV	BALL VALVE
CC	CALIBRATION COLUMN
CP	CONTROL PANEL
CS	CORP STOP
CV	CHECK VALVE
CWS	CITY WATER SUPPLY
DPS	DIFFERENTIAL PRESSURE SWITCH
DPSL	DIFFERENTIAL PRESSURE SWITCH LOW
DS	DISCONNECT SWITCH
DV	DIAPHRAGM VALVE
EC	ELECTROLYTIC CELL
ED	EDUCTOR
FA	FLOW ALARM
FAL	FLOW ALARM LOW
FIL	FILTER CARTRIDGE
FIQ	FLOW INDICATOR/TOTALIZER
FIT	FLOW INDICATOR TRANSMITTER
FM	FLOWMETER
FSL	FLOW SWITCH LOW
GT	GROUNDING TARGET
HAL	HYDROGEN ALARM LEVEL
HAF	HYDROGEN ALARM FAULT
HD	HYDROGEN DETECTOR
HI	HIGH
HOA	HAND OFF AUTO
HS	HYPOCHLORITE SOLUTION
HV	HAND VALVE
HX	HEAT EXCHANGER
IC	CURRENT FEED BACK
IE	VOLTAGE FEED BACK
II	CURRENT CONTROL
ISR	INTRINSICALLY SAFE BARRIER
LIT	LEVEL INDICATOR TRANSMITTER
LO	LOW
LSL	LEVEL SWITCH LOW
MP	METERING PUMP
MV	MOTORIZED VALVE
N.O	NORMALLY OPEN
N.C	NORMALLY CLOSED
NPW	NON-POTABLE WATER
OSHGP	ON-SITE HYPOCHLORITE GENERATION PUMP
PD	PULSATION DAMPENER
PRV	PRESSURE REGULATING VALVE
PRV	PRESSURE RELIEF VALVE
PSB	POWER SUPPLY BOX
PSL	PRESSURE SWITCH LOW
PT	PRESSURE TRANSMITTER
PV	PRESSURE VESSEL
PVC	POLYVINYL CHLORIDE
QC	QUALITY CONTROL
RCT	RECTIFIER
SV	SOLENOID VALVE
SP	SAMPLE POINT
SW	SOFTENED WATER
TAH	TEMPERATURE ALARM HIGH
TIT	TEMPERATURE INDICATOR TRANSMITTER
TK	TEMPERATURE ALARM LOW
TK	TANK
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
VFD	VARIABLE FREQUENCY DRIVE
WC	WATER CHILLER
WH	WATER HEATER
WS	WATER SOFTENER
XYZ	FILED MOUNTED INSTRUMENT
XC	SOLENOID OPEN / CLOSE
XFRM	TRANSFORMER
YA	FAULT ALARM
YST	Y-STRAINER
ZSO	LIMIT SWITCH OPEN
ZSC	LIMIT SWITCH CLOSE

INSTRUMENT & FUNCTION SYMBOLS

- INSTRUMENT MOUNTED ON MAIN PANEL ACCESSIBLE - PRIMARY LOCATION
- FIELD MOUNTED INSTRUMENT
- INSTRUMENT MOUNTED ON MAIN PANEL ACCESSIBLE - AUXILIARY LOCATION
- INSTRUMENT MOUNTED BEHIND MAIN PANEL - NOT READILY ACCESSIBLE
- SHARED DISPLAY ACCESSIBLE - PRIMARY LOCATION
- SHARED DISPLAY FIELD MOUNTED
- SHARED DISPLAY ACCESSIBLE - AUXILIARY LOCATION
- SHARED DISPLAY NOT READILY ACCESSIBLE
- COMPUTER - INTERNAL SYSTEM FUNCTION ACCESSIBLE - PRIMARY LOCATION
- COMPUTER - INTERNAL SYSTEM FUNCTION FIELD MOUNTED
- COMPUTER - INTERNAL SYSTEM FUNCTION ACCESSIBLE - AUXILIARY LOCATION
- COMPUTER - INTERNAL SYSTEM FUNCTION NOT ACCESSIBLE TO OPERATOR
- LEVEL - FUNCTION DESCRIPTOR; FI - LOOP TYPE; XXXX - LOOP NUMBER; DO - DIGITAL OUTPUT; DI - DIGITAL INPUT; AO - ANALOG OUTPUT; AI - ANALOG INPUT
- PROGRAMMABLE LOGIC CONTROL ACCESSIBLE - PRIMARY LOCATION
- PROGRAMMABLE LOGIC CONTROL FIELD MOUNTED
- PROGRAMMABLE LOGIC CONTROL ACCESSIBLE - AUXILIARY LOCATION
- PROGRAMMABLE LOGIC CONTROL NOT ACCESSIBLE TO OPERATOR
- INSTRUMENT WITH LONG TAG NUMBER
- INSTRUMENTS SHARING COMMON HOUSING
- PILOT LIGHT
- PANEL MOUNTED PATCHBOARD POINT 12
- * PURGE FOR FLUSHING DEVICE
- * REST FOR LATCH - TYPE ACTUATOR
- * UNDEFINED INTERLOCK LOGIC

* - THESE DIAMONDS ARE APPROXIMATELY HALF THE SIZE OF LARGER ONES

VALVE SYMBOLS

- BALL VALVE (NORMALLY OPEN)
- BALL VALVE (NORMALLY CLOSED)
- VENTED BALL VALVE
- BALL VALVE W/ LOCKING HANDLE
- BUTTERFLY VALVE
- DIAPHRAGM VALVE
- NEEDLE VALVE
- BALL CHECK VALVE
- CHECK VALVE (SWING)
- CHECK VALVE (SPRING)
- DIAPHRAGM CHECK VALVE
- BACKFLOW PREVENTER
- GATE VALVE
- PRESSURE REGULATING VALVE
- PRESSURE RELIEF VALVE (2-WAY)
- PRESSURE RELIEF VALVE (3-WAY)
- BACK PRESSURE VALVE
- SAMPLE POINT VALVE
- SOLENOID VALVE
- FLOAT VALVE
- ELECTRIC, AIR, ETC.
- ACTUATED BUTTERFLY VALVE
- ACTUATED DIAPHRAGM VALVE
- EDUCTOR

CONNECTION SYMBOLS

- CONCENTRIC REDUCER (LINE-SIZE REDUCTION)
- CAPPED LINE
- UNION
- FLANGE CONNECTION
- FLEX CONNECTOR, VIBRATION ISOLATOR
- FLEXIBLE LINE, HOSE, TUBING
- CAMLOK FITTING
- Y-STRAINER
- GAUGE ISOLATOR, GAUGE GUARD
- FLOW ARROW
- FLOOR DRAIN, DRAIN CONNECTION
- SOURCE LEADER (TAG)

INSTRUMENTATION SYMBOLS

- PI 00 — IN-LINE PRESSURE INDICATOR
- PI 00 — PANEL-MOUNT PRESSURE INDICATOR
- PI 00 — IN-LINE PRESSURE INDICATOR WITH ISOLATION VALVE
- PI 00 — PANEL-MOUNT PRESSURE INDICATOR WITH ISOLATION VALVE
- FI / FE — IN-LINE FLOW ELEMENT WITH PANEL-MOUNT FLOW INDICATOR
- FI 00 / FE 00 — IN-LINE VORTEX-TYPE FLOW ELEMENT WITH PANEL-MOUNT FLOW INDICATOR
- AI 00 — RES, %REJ, pH, ETC.
- AE 00 — IN-LINE ANALYTICAL ELEMENT WITH PANEL-MOUNT ANALYTICAL INDICATOR
- AI — RES, %REJ, pH, ETC.
- XX / AE / XX / AE — (2) IN-LINE ANALYTICAL ELEMENTS SHARING (1) PANEL MOUNT ANALYTICAL INDICATOR
- TOC, SILICA, HARDNESS, OXYGEN, ETC. — XX MONITOR — OFF-SKID ANALYTICAL MONITOR WHICH PULLS IN-LINE SAMPLE AND DUMPS TO A DRAIN
- GROUND
- DISCONNECT SWITCH
- CALIBRATION COLUMN

EQUIPMENT SYMBOLS

- CENTRIFUGAL PUMP
- VERTICAL PUMP
- METERING PUMP
- BRINE PROPORTIONING PUMP OR BELOWS PUMP
- LE — SALT LEVEL PROBE
- LT / LE — ULTRASONIC LEVEL TRANSMITTER
- PS — LO / HI — DIFFERENTIAL PRESSURE SWITCH
- CARTRIDGE FILTER HOUSING
- IN-LINE (ROTAMETER) FLOW INDICATOR
- FIT / TIT — FLOW / TEMPERATURE INDICATOR TRANSMITTER
- D — PULSATION DAMPENER
- BLOWER
- CORP STOP
- BLOWER FLEX CONNECTION
- BLOWER TRANSITION
- BLOWER BACKDRAFT DAMPENER

COMMON INSTRUMENT / DEVICE IDENTIFIERS

ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION
AS	ANALYSIS SWITCH
AE	ANALYSIS ELEMENT
AT	ANALYSIS TRANSMITTER
CS	CONDUCTIVITY SWITCH
CT	CONDUCTIVITY TRANSMITTER
DS	DENSITY SWITCH
ET	VOLTAGE TRANSMITTER
FC	FLOW CONTROLLER
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FS	FLOW SWITCH
FT	FLOW TRANSMITTER
FY	FLOW RELAY
FZ	FLOW DRIVE
HS	HAND SWITCH
IT	CURRENT TRANSMITTER
JT	POWER TRANSMITTER
KC	TIME CONTROLLER
KI	ELAPSED TIME INDICATOR
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LS	LEVEL SWITCH
LT	LEVEL TRANSMITTER
LY	LEVEL RELAY
PC	PRESSURE CONTROLLER
PI	PRESSURE INDICATOR
PT	PRESSURE TRANSMITTER
PIT	PRESSURE INDICATING TRANSMITTER
PS	PRESSURE SWITCH
SC	SPEED CONTROLLER
SI	SPEED INDICATOR
ST	SPEED TRANSMITTER
TC	TEMPERATURE CONTROLLER
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR
TS	TEMPERATURE SWITCH
TT	TEMPERATURE TRANSMITTER
TY	TEMPERATURE RELAY
UR	MULTIVARIABLE RECORDER
VT	VIBRATION TRANSMITTER
WE	WEIGHT ELEMENT
WT	WEIGHT TRANSMITTER
XX	UNCLASSIFIED
YC	STATE CONTROL
YN	STATE ON
YY	EVENT RELAY
YS	EVENT SWITCH
ZS	POSITION SWITCH
ZT	POSITION TRANSMITTER
ZZ	POSITION DRIVE

FUNCTIONAL IDENTICATION

	FIRST-LETTER		SUCCEEDING-LETTERS			DESCRIPTION
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER	I/O TYPE TYPICAL ASSOCIATED CDACS
A	ANALYSIS		ALARM			DI
B	BURNER, COMBUSTION			CLOSE-STOP DECREASE		DO
C	CONDUCTIVITY, pH (ACIDITY)		CONTROL, CLOSE	CONTROL OR CONTROLLER	CLOSE/CLOSED	DI/AO
D	DENSITY	DIFFERENTIAL		OPEN-START-INCREASE		DO
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)			
F	FLOW RATE	RATIO (FRACTION)			FAIL	DI
G	GAUGE, GAS		GLASS VIEWING DEVICE			
H	HAND				H-HIGH-(ALARM) HH-HIGH-(SHUTDOWN)	DI
I	CURRENT (ELECTRICAL)		INDICATE			AI
J	POWER	SCAN				DO/AI
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION		DO/AO
L	LEVEL		LIGHT		L-LOW-(ALARM) LL-LOW-(SHUTDOWN)	DI
M	MOTOR	MOMENTARY	ON OR OPERATE		MIDDLE, INTERMEDIATE	DI
N	MOISTURE, TORQUE					DO
O	UNCLASSIFIED		OPEN ORIFICE, RESTRICTION POINT (TEST) CONNECTION		OPEN/OPENED OVERLOAD	DO
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION	PNEUMATIC		
Q	QUANTITY	INTEGRATE, TOTALIZE		INTEGRATE OR TOTALIZE		DI/AI
R	RUN, RADIATION		RECORD & STORE	REPORT		AI
S	SPEED, FREQUENCY, SOLENOID	SAFETY		SWITCH OR SAFETY		DI/DO
T	TEMPERATURE			TRANSMIT		AI
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION	DI
V	VIBRATION, VOLUME MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER		
W	WEIGHT, FORCE		WELL			
X	ON/OFF, FAILURE OR TROUBLE	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	DI/DO
Y	EVENT, STATE OR PRESENCE	Y AXIS		COMPUTE, CONVERT, RELAY		
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT		

LINE SYMBOLS

- PROCESS FLOW, MAIN FLOW
- ELECTRICAL SIGNAL
- POWER SUPPLY ELECTRICAL CONNECTION 3Ø
- POWER SUPPLY ELECTRICAL CONNECTION 1Ø
- INSTRUMENT SIGNAL ANALOG / DIGITAL
- POWER SUPPLY ELECTRICAL CONNECTION VDC
- HYDRAULIC SIGNAL
- CAPILLARY TUBE
- ELECTRO MAGNETIC OR SONIC SIGNAL (GUIDED)
- ELECTRO MAGNETIC OR SONIC SIGNAL (NOT GUIDED)
- DATA/COMMUNICATION
- MECHANICAL LINK
- LOOP — CUSTOMER POINT OF USE

GENERAL NOTES

1. THIS DRAWING IS FOR EQUIPMENT PROCESS FLOW INFORMATION PURPOSES ONLY. ALL EQUIPMENT, COMPONENTS, INSTRUMENTS, DEVICES, PIPING, FITTINGS, VALVES & CONDUIT SHOWN ON THIS DRAWING ARE NOT NECESSARILY SUPPLIED & INSTALLED BY DNWT. REFER TO CONTRACT DOCUMENTS, DNWT SCOPE OF SUPPLIES FOR DNWT RESPONSIBILITY IN THIS PROJECT.
2. ALL PIPING FITTINGS & VALVES ARE PVC SCH. 80. ALL TUBING ARE POLYETHYLENE.
3. ELECTRICAL POWER, WATER SUPPLY, POINT OF INJECTION AND SCADA ARE PROVIDED BY OTHERS.
4. ALL UNDER GROUND WORK, CONCRETE WORK, WALL AND ROOF PENETRATIONS ARE DONE BY OTHERS.
5. ALL ELECTRICAL CONDUITS, WIRING ,JUNCTION AND PULL BOXES WILL BE PROVIDED BY OTHERS.
6. ALL PAINTING AND COATING TO BE PROVIDED BY OTHERS.
7. ALL BACKBOARDS AND SUPPORTS TO BE PROVIDED BY OTHERS.
8. CUSTOMER TO PROVIDE WATER SUPPLY PRESSURE & TEMPERATURE.
9. CUSTOMER TO PROVIDE DETAILED DOSING ROUTINE. (WHEN APPLICABLE)
10. CUSTOMER TO PROVIDE HYPOCHLORITE FEEDING SYSTEM PRESSURE. (WHEN APPLICABLE).
11. ALL ELECTRICAL DISCONNECT SWITCHES ARE PROVIDED BY OTHERS.
12. POWER TO ELECTRICAL COMPONENTS CAN ALSO BE PROVIDED IN 50Hz.

13 — REFER MAJOR EQUIPMENT SPECIFICATIONS TABLE.

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CLORTEC

2X CLORTEC 900-C (1000 LBS/DAY)
RACK MOUNTED ON-SITE SODIUM HYPOCHLORITE GENERATION SYSTEM
PIPING & INSTRUMENTATION DIAGRAM

CITY OF LAUDERHILL WTP

SCALE:	DNWT PROJECT No:	SIZE:	REV:
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(CUSTOMER PROVIDED)
120VAC, 1ø, 60 HZ, XX FLA

TO CUSTOMER SCADA

ALLEN BRADLEY COMPACTLOGIX PLC

7" COLOR C-MORE TOUCH SCREEN DISPLAY

SOLENOID VALVE OPEN/CLOSE
ZS 200
DO

BRINE LEVEL
LI 200
AI

SALT LEVEL
LI 201
AI

MCP-100
HYPOCHLORITE CONTROL PANEL
***

CONTINUED ON SHEET 4

120 VAC

POWER CORD
120VAC, 1ø, 5A

ON/OFF SWITCH

FROM SAMPLE TAP ON OUTLET OF CELL

3/4"

(55 GALLONS) 208.2 LITER

3/4" 3/4"

TO ACID PORT 3/4"

1/2"

DRAIN

ACC-100
ELECTROLYTIC CELLS
ACID CLEANING CART
***

4" SS 316 SALT FILL LINE

8" VENT TO DUST BAG

NOTE A

DUST CONTROL WATER INLET 3-5 GPM

CAMLOCK W/CAP

DUST BAG

LIT 201

REMOTE START UNIT

RS-485

16VAC

120 VAC, 1ø, 60HZ
(CUSTOMER PROVIDED)

TOP MANWAY

SALT LEVEL SENSOR

BT-200
BRINE SATURATOR TANK
63 TONS
12'-0" DIA x 16'-0" H
***

CONSUMABLE (BY OTHERS)

SIDE MANWAY

SALT

BRINE SOLUTION

GRAVEL - IF NEEDED (by G.C.)

BRINE PICK-UP

PIT 200

BFV-200

BV-222

DRAIN

2" BV-220

1/2" PVC-BR

BV-221
1/2" SAMPLE

3/4" PVC-BR
TO SHEET 4
TO
D CT RACK ECR-100

3/4" PVC-BR
TO SHEET 5
TO
E CT RACK ECR-120

FROM POTABLE WATER SUPPLY (CUSTOMER PROVIDED)

2"PVC

FIL-200
BY OTHERS

2" BV-202

2" BV-200

2" BV-201

BV-203 1/2" SAMPLE

1/2" SAMPLE BV-204

BV-210 1/2" SAMPLE

3/4"

3/8" 1/4"

BV-205 CV-200

DRAIN

WS-200
WATER SOFTENER
***

1" PVC-SW

BV-218

FIL-201
***

PRV-200
***

SV 200
S
(NC)
***

1 1/2" PVC-SW
TO SHEET 4
TO
A CT RACK ECR-100

1 1/2" PVC-SW
TO SHEET 5
TO
B CT RACK ECR-120

2" BV-208

2" BV-206

2" BV-207

BV-209 1/2" SAMPLE

1/2" SAMPLE BV-210

3/4"

3/8" 1/4"

BV-211 CV-201

DRAIN

WS-201
WATER SOFTENER
***

RECOMMENDED SUPPLIED WATER TEMPERATURE:
OPTIMUM OPERATION FOR LOW SALT CONSUMPTION: 65-75° F (18-24° C)
OPTIMUM OPERATION FOR LOW CHLORATE: 55-60° F (13-16° C)

RECOMMENDED PRESSURE: 80 PSI (4.8 BAR)

RECOMMENDED WATER FLOW (TO RUN HYPO DILUTION PANEL): 60 GPM (227 LPM)MAX

RECOMMENDED WATER FLOW (NORMAL OPERATION): 22-25 GPM (83-95 LPM)-SEE NOTE 3

pH LEVEL: 6.5 - 7.5

NOTES:

1. WATER INLET PRESSURE REQUIREMENT MIGHT HAVE TO BE ADJUSTED DEPENDING ON THE LOCATION/ELEVATION OF THE BRINE SATURATOR TANKS RELATIVE TO THE LOCATION/ELEVATION OF THE GENERATOR RACK ASSEMBLY.
2. **** SALT DENSITY WILL VARY DEPENDING ON THE TYPE OF SALT USED - ROCK, SOLAR OR VACUUM EVAPORATED (COARSE OR FINE)
3. RECOMMENDED FLOWRATE IS CALCULATED BASED ON THE FULL FLOW RATE TO RUN A CLORTEC-1500 (15.63 GPM MINIMUM) PLUS THE NECESSARY FLOW RATE REQUIRED TO FILL OUT 2 FEET OF A 10 FOOT DIAMETER BRINE TANK IN 2 HOURS WHICH IS ABOUT 9 GPM.

***
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CLORTEC

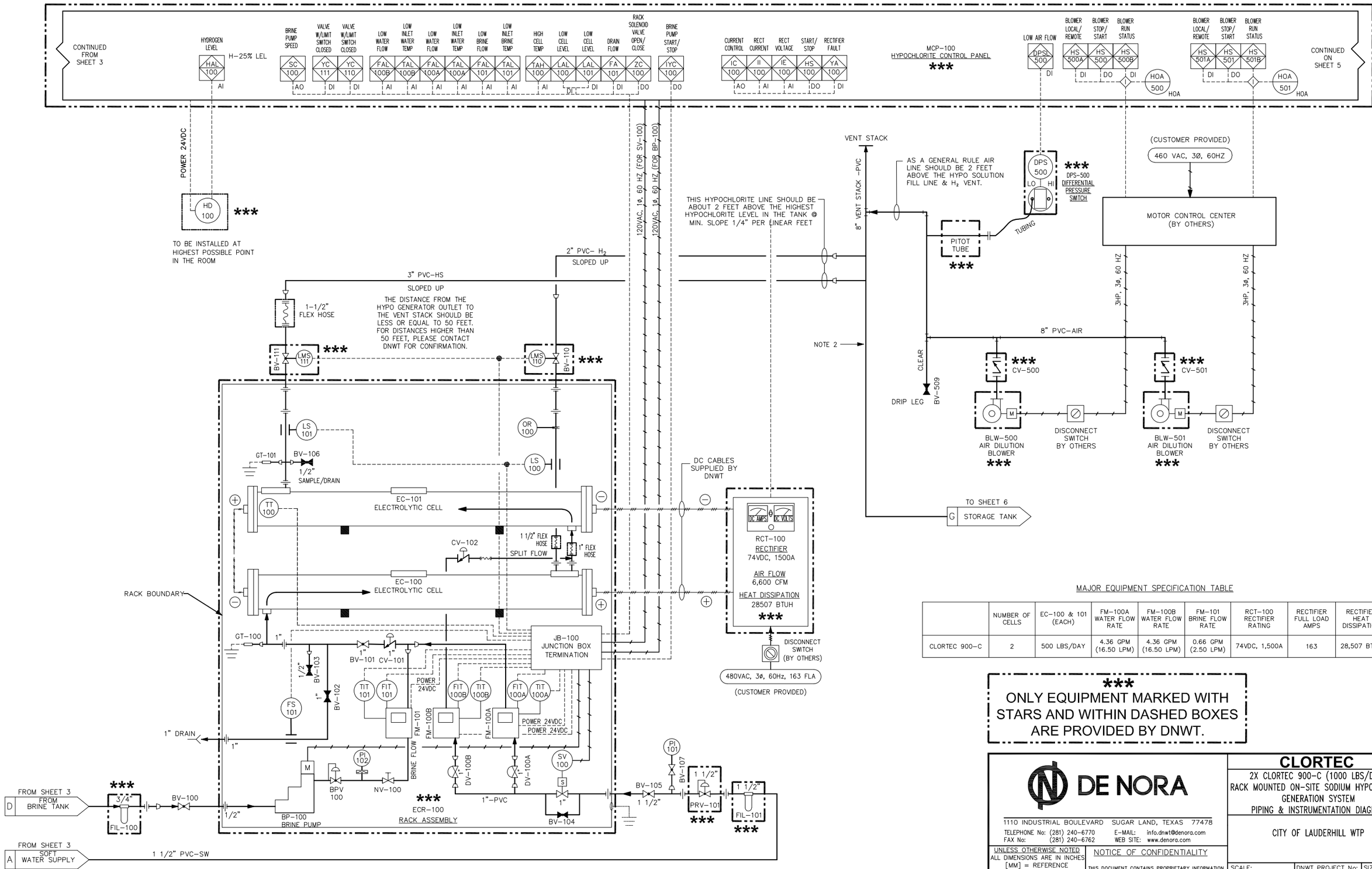
2X CLORTEC 900-C (1000 LBS/DAY)
RACK MOUNTED ON-SITE SODIUM HYPOCHLORITE GENERATION SYSTEM
PIPING & INSTRUMENTATION DIAGRAM

CITY OF LAUDERHILL WTP

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MAJOR EQUIPMENT SPECIFICATION TABLE

	NUMBER OF CELLS	EC-100 & 101 (EACH)	FM-100A WATER FLOW RATE	FM-100B WATER FLOW RATE	FM-101 BRINE FLOW RATE	RCT-100 RECTIFIER RATING	RECTIFIER FULL LOAD AMPS	RECTIFIER HEAT DISSIPATION
CLORTEC 900-C	2	500 LBS/DAY	4.36 GPM (16.50 LPM)	4.36 GPM (16.50 LPM)	0.66 GPM (2.50 LPM)	74VDC, 1,500A	163	28,507 BTUH

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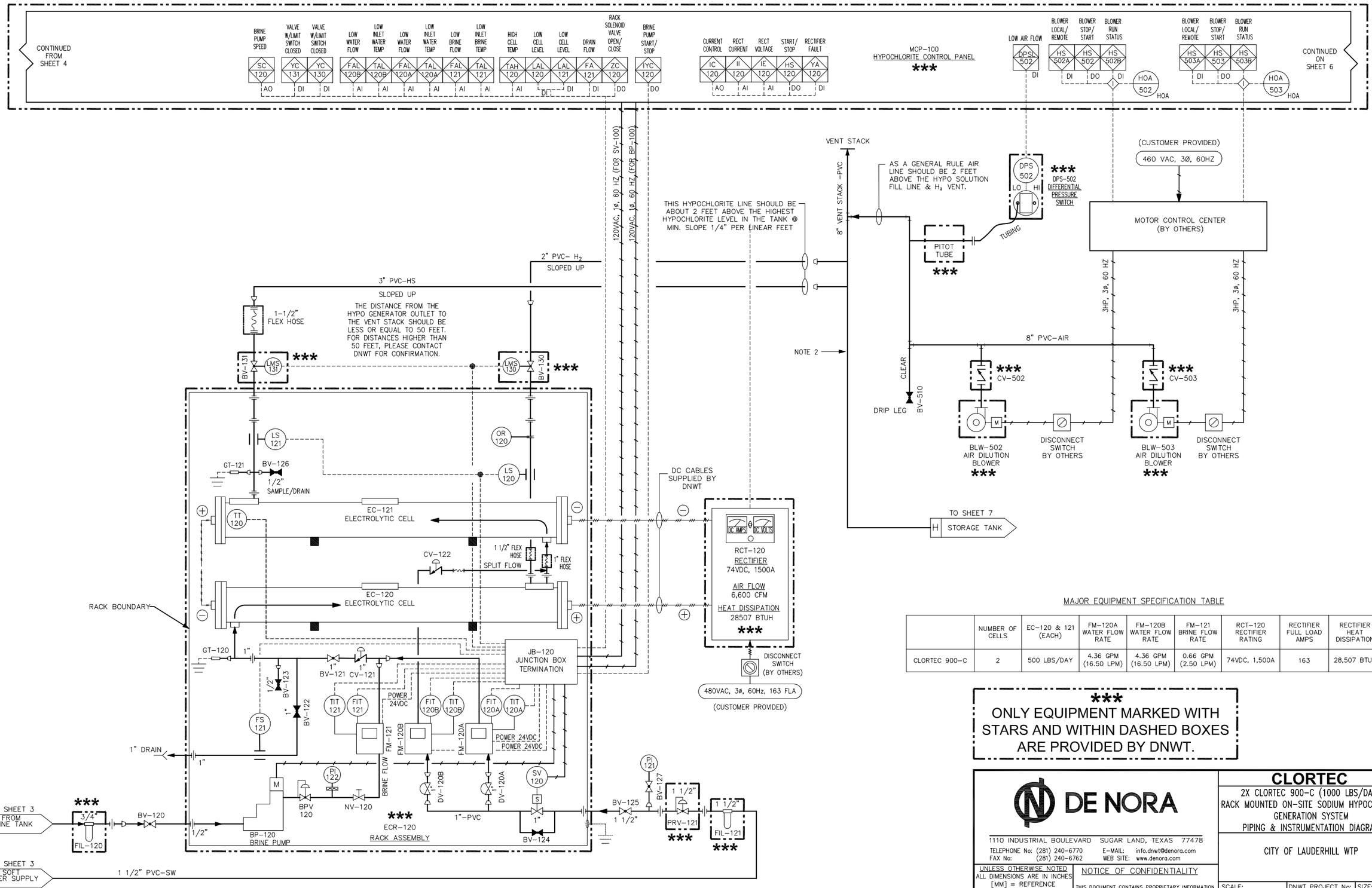
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MAJOR EQUIPMENT SPECIFICATION TABLE

	NUMBER OF CELLS	EC-120 & 121 (EACH)	FM-120A WATER FLOW RATE	FM-120B WATER FLOW RATE	FM-121 BRINE FLOW RATE	RCT-120 RECTIFIER RATING	RECTIFIER FULL LOAD AMPS	RECTIFIER HEAT DISSIPATION
CLORTEC 900-C	2	500 LBS/DAY	4.36 GPM (16.50 LPM)	4.36 GPM (16.50 LPM)	0.66 GPM (2.50 LPM)	74VDC, 1,500A	163	28,507 BTUH

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CLORTEC

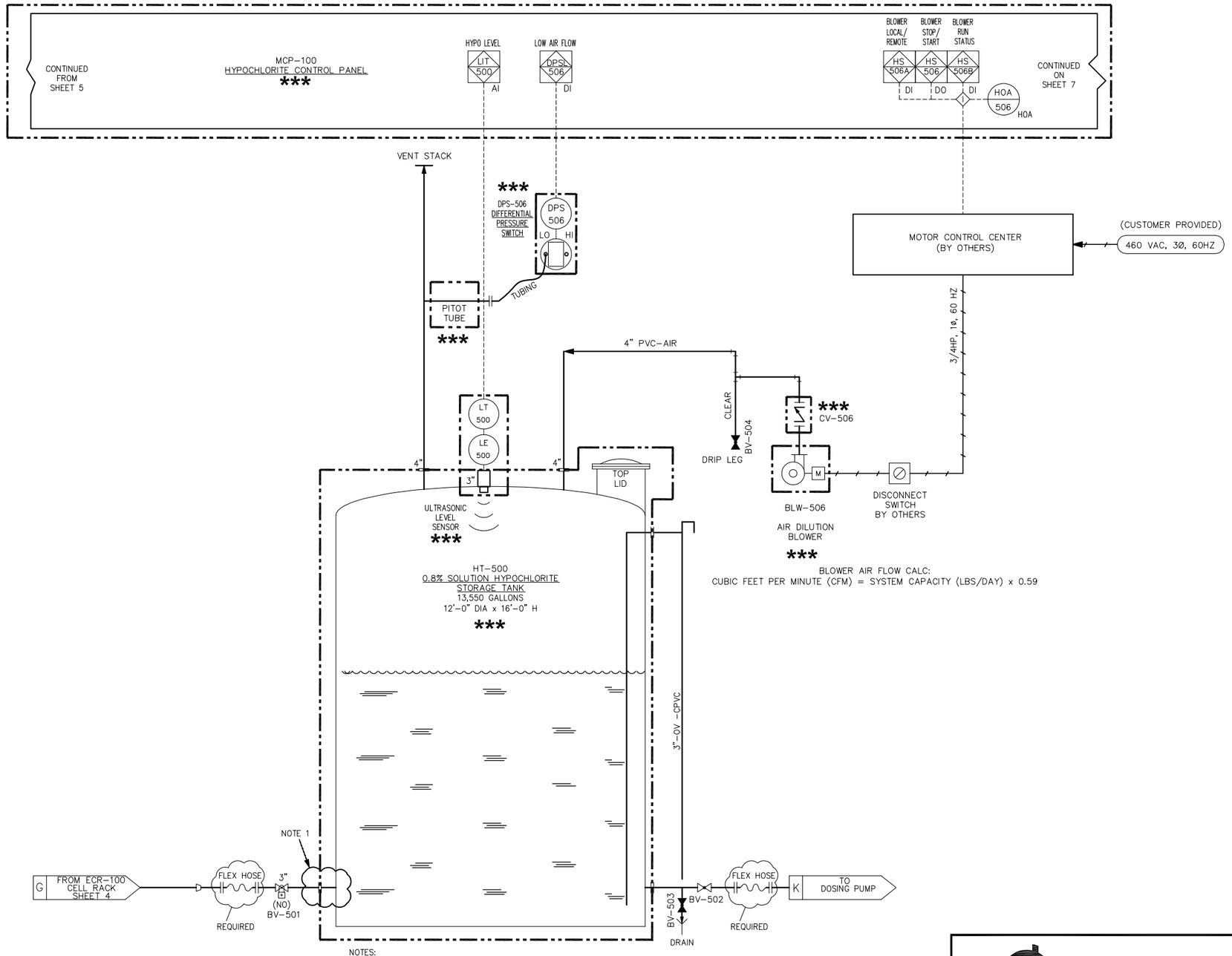
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NOTES:

1. FILL LINE CAN BE LOCATED AT THE BOTTOM OF THE TANK OR ON THE TOP OF TANK. IF INSTALLED ON THE TOP OF THE HYPO TANK A DOWNTUBE MUST BE INSTALLED INSIDE THE HYPO TANK.
2. KEEP THE VENT STACK AS CLOSE AS POSSIBLE TO THE HYPOCHLORITE GENERATOR ECR-100 TO ALLOW HYDROGEN TO VENT OUT OF THE SYSTEM AS QUICKLY AS POSSIBLE. FOR SPECIAL BUILDING CONFIGURATION, PLEASE CONTACT DNWT FACTORY.

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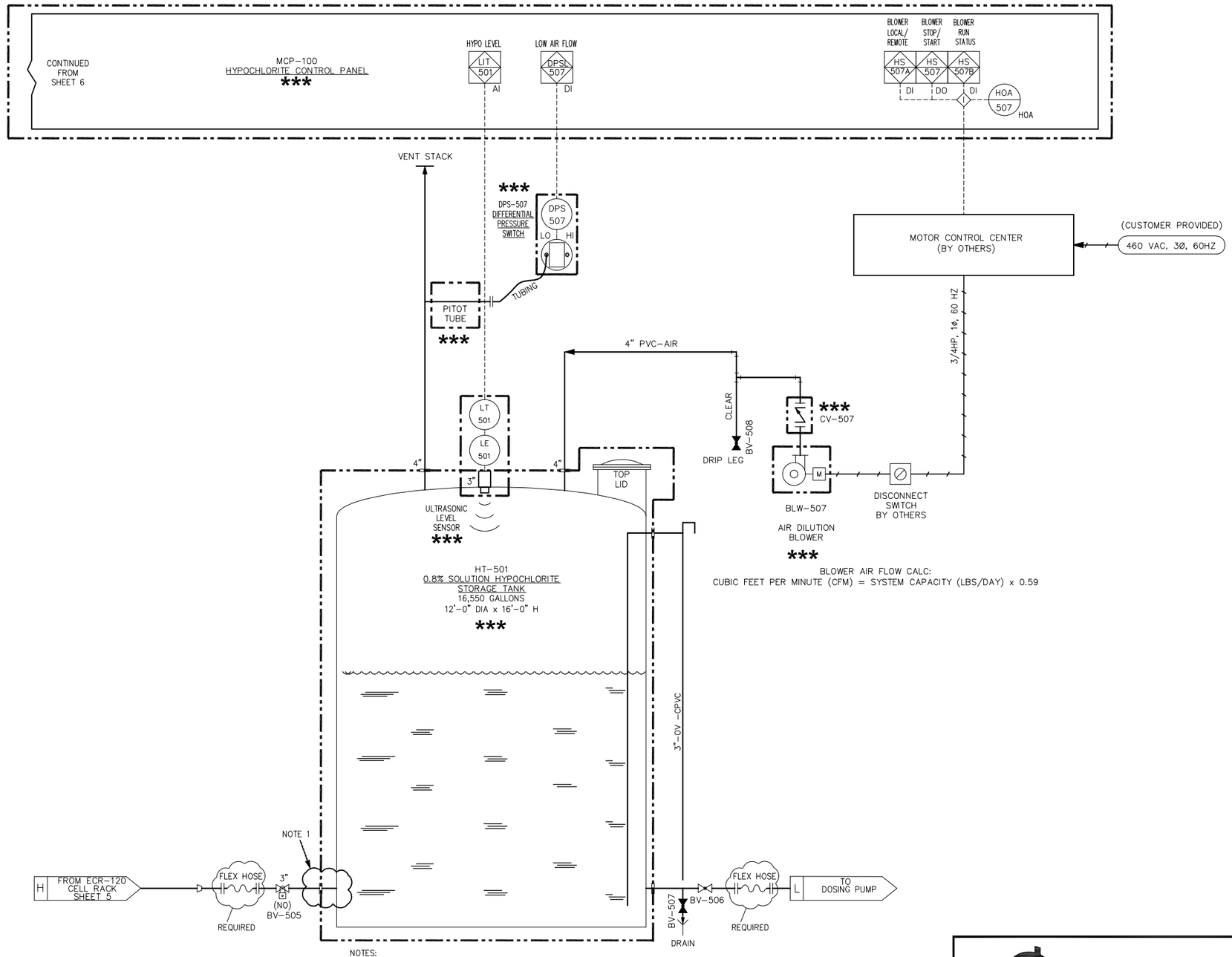
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.XXX	± .005"	±0.127mm
ANGLES	± 1°	

NOTICE OF CONFIDENTIALITY
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION THAT IS AND SHALL REMAIN THE PROPERTY OF DE NORA WATER TECHNOLOGIES TEXAS, LLC AND IS TO BE RETURNED IMMEDIATELY UPON REQUEST. ITS CONTENTS MAY NOT BE REPRODUCED, DISTRIBUTED, CIRCULATED OR DISCLOSED TO THIRD PARTIES. RECIPIENT WILL NOT USE THIS INFORMATION FOR PURPOSES OTHER THAN INTENDED WITHOUT PRIOR WRITTEN CONSENT OF DE NORA WATER TECHNOLOGIES TEXAS, LLC.

CLORTEC

2X CLORTEC 900-C (1000 LBS/DAY)
RACK MOUNTED ON-SITE SODIUM HYPOCHLORITE GENERATION SYSTEM
PIPING & INSTRUMENTATION DIAGRAM

CITY OF LAUDERHILL WTP

SCALE:	DNWT PROJECT No:	SIZE:	REV:
NTS	P137363	D	1
DNWT DWG No: P137363-I-01		SHEET:	7 of 7

Warranty Rider for ClorTec, MIOX, and SeaClor Electrodes

De Nora Water Technologies, LLC, (henceforth referred to as DNWT) provides this Warranty Rider for ClorTec and MIOX Electrodes (this "Rider") in conjunction with DNWT's General Terms and Conditions of Sale, as amended from time to time, a copy of which is available at https://denora.com/info/Sales-Terms---Conditions.html (the "Terms").

This Rider electrodes modifies and supplements the duration of the warranty period as set forth in Article 8 of the Terms and applies only to DNWT- provided ClorTec, MIOX, or SeaClor electrodes. DNWT warrants the provided ClorTec, MIOX, or SeaClor electrodes against material defects in materials and workmanship for the time period listed below provided that the ClorTec, MIOX, or SeaClor equipment is operated strictly under normal use and service as defined in the ClorTec Standard Operating Conditions, the MIOX Standard Operating Conditions, or the SeaClor Standard Operating Conditions, as applicable, copies of which are available upon request (the "Standard Conditions") . At its sole and exclusive option, DNWT will repair, provide replacement or refurbish components deemed defective by DNWT, in its discretion, pursuant to this Warranty rider.

This warranty solely covers the bare DNWT-provided electrode and specifically excludes the housing and any ancillary components. The bare electrodes are warranted for seven (7) years that begins at transfer of title. Should a covered electrode fail during the first two (2) years, that electrode will be repaired, refurbished or replaced by DNWT, at its sole discretion. Should a covered electrode prove to be defective during years three (3) to seven (7), the repair, replacement or refurbishment of that bare electrode will be provided by DNWT, at its sole discretion, on a prorated basis based on the number of years (out of seven) remaining since the transfer of title on the respective component. The applicablity of this warranty shall inure solely to the initial purchaser of the system or an expressly authorized end-user, and shall be expressly contingent upon such warranty claimant not being in default of any payment or other obligation to DNWT of any kind or type. This warranty further expressly excludes any and all costs related to shipping, transportation, and labor and expenses for access to, removal, and reinstallation of warranty parts, which shall be at the sole cost and responsibility of the warranty claimant. This warranty also expressly excludes, and DNWT will have no liability or obligation regarding, any consequential, indirect, and/or secondary damages, or loss of any kind sustained directly or indirectly as a result of a defect in any equipment, material, repair, or installation. Any repair or replacement conducted under this Rider shall not extend the term or duration of any warranty for any Electrodes, which shall remain based on the initial transfer of title.

In the event that DNWT determines, pursuant to the terms hereof, that any claimed defect or failure to not be covered by this Rider or the Terms, Buyer shall pay DNWT DNWT's then-customary charges for any repair or replacement made by DNWT.

Exclusions

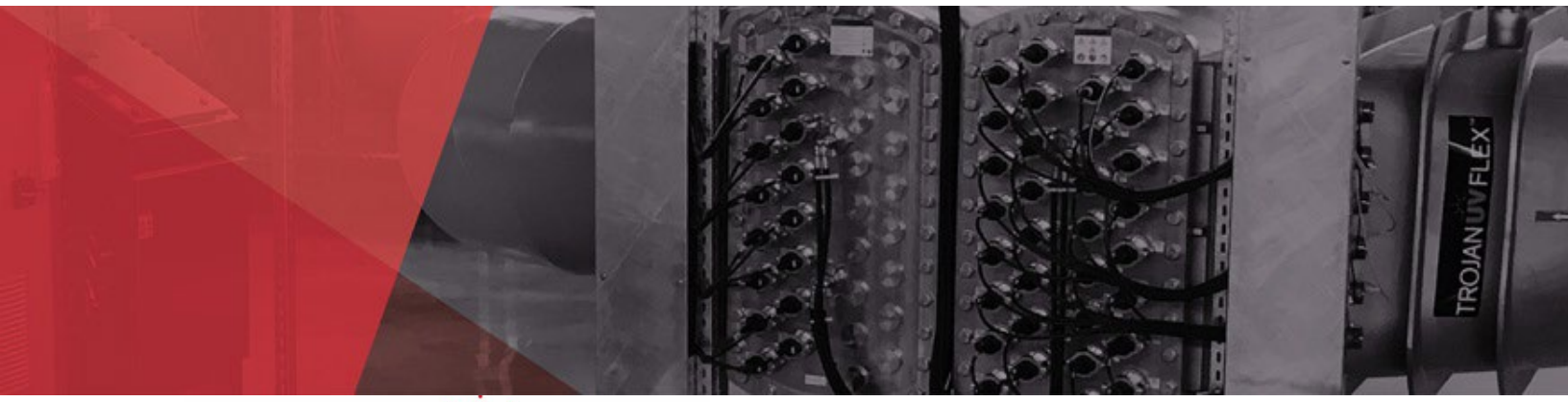
This warranty will be voided, does not cover, and will be of no effect in relation to any damages caused, in whole or in part, by:

1. "Acts of God" or unavoidable natural disasters including but not limited to floods, storms, lightning, power outages, weather, earthquakes, etc.
2. Theft, vandalism, or other damaging acts, whether or not intentional or negligent.
3. Abuse, misuse, or neglect, whether or not intentional or negligent.

4. Failures or repairs resulting from the failure (whether or not intentional or negligent) to perform preventative maintenance and/or operational procedures in strict accordance with the Standard Conditions.
5. Damages or defects in any DNWT product or compontent, which were caused by initial start-up, repairs or attempted repairs, improvements or attempted improvements, or any other alterations of any kind performed by anyone other than a DNWT-authorized service provider.
6. Normal wear and tear or depreciation.

7. Abnormal system conditions including but not limited to temperature, chemical, debris, or other conditions in excess of those expressly stated in the Standard Conditions.
8. Goods that have not been stored by the buyer, end-user, or their representatives prior to installation and start-up in strict compliance with the storage conditions stated in the Standard Conditions.
9. Equipment/programming which has been revised, altered, improved, modified, repaired, or otherwise changed in any way by anyone other than a DNWT-authorized service provider.

TROJAN (UV) PROPOSAL
65 - 67% UVT



TROJAN UV FLEX™

PROPOSAL FOR CITY OF LAUDERHILL, FLORIDA
QUOTE: 241243



Mari Burgess, Trojan Technologies
3020 Gore Road
London, Ontario N5V 4T7
(519) 457-3400, mburgess@trojanuv.com
www.trojanuv.com

Duggan M. Jacobs, TSC Jacobs
813-854-2354, djacobs@tscjacobs.com

July 24, 2023

We are pleased to submit this conceptual design for the City of Lauderhill Project. This quotation is based on the TrojanUVFlex™ 100 system with TrojanUV Solo Lamps™ to deliver highly efficient treatment with minimum maintenance.

TROJANUVFLEX: Equipped with TrojanUV Solo Lamp technology, the TrojanUVFlex provides state-of-the-art UV disinfection in the most compact footprint **and** with the fewest number of high efficiency lamps. Solo Lamps combine the benefits of both low and medium pressure lamps. At 500 Watts each, they are the most powerful high-efficiency amalgam lamps in the industry.

The unique TrojanUVFlex reactor offers the highest treatment capacity in a reduced number of trains – reducing total space requirements for chambers and panels, saving overall construction costs. The low lamp count, low power consumption and long lamp life (15,000 hours guaranteed) offer both maintenance and operating cost benefits. The TrojanUVFlex is also the only large-scale high-efficiency LPHO UV system available **with automatic sleeve cleaning** to remove sleeve fouling which is expected to be a significant issue in this project.

SERVICE PROGRAMS: Service is an integral part of Trojan's UV solutions. We have a global network of certified Trojan service technicians that provide local service & support for routine and emergency responses. Our Technical Assistance Center provides 24/7 telephone and remote trouble-shooting support. Lastly, a number of our customers have pursued long-term service contracts with us – for complete peace of mind.

VALIDATION: The TrojanUVFlex carries an advanced validation done in accordance with the US EPA Ultraviolet Disinfection Guidance Manual (UVDGM) as well as the National Water Reuse Institute's 2012 Guidelines. The validation will demonstrate that the TrojanUVFlex is capable of delivering UV treatment across a significant range of treatment conditions including high flows and waters with very low UV transmittance.

DESIGNED FOR CHALLENGING TREATMENT APPLICATIONS: The TrojanUVFlex chamber provides the most compact lamp arrangement for an LPHO system in the UV industry. Together with a robust validation, the TrojanUVFlex is designed specifically for UV installations with high flow capacities and high dose requirements. The TrojanUVFlex is capable of meeting the high UV demands of these sites with the lowest train counts and minimum footprint. Drinking water installations hoping to achieve high doses at high flow rates and those targeting environmental contaminants will benefit greatly from the engineering that defines the TrojanUVFlex.

We look forward to working with you on this exciting project. We hope that our experience and expertise in municipal drinking water treatment, along with the TrojanUVFlex solution, enable you to provide Water Confidence™ to your customers and community.

DESIGN CRITERIA

City of Lauderhill, Florida

APPLICATION REQUIREMENTS	
Peak Design Flow:	8 MGD
UV Transmittance:	65% - 67% (minimum)
TSS:	5 mg/L (maximum, grab sample)
Disinfection Requirement:	25 Fecal Coliform/100mL based on a daily maximum with 75% of samples non detectable for fecal coliform.
Design Dose:	2 Log Virus Removal
Redundancy:	2 Duty Chambers, 1 Standby Chamber at peak flow

DESIGN SUMMARY

QUOTE: 241243

UV CHAMBER	
Model:	TrojanUVFlex™ 100
Configuration:	2 Duty Trains + 1 Standby Train
Number of Banks:	3
Number of Sections Online:	6
Operating Lamps per Chamber:	96
Total Number of Lamps	288
Lamp Technology:	TrojanUV Solo Lamp (500 Watts amalgam)
Sleeve Cleaning:	Automatic Mechanical
Chamber Material:	Type 2205 Duplex Stainless Steel
Maximum Power Draw (Duty Chambers):	108.8 kW
Chamber Pressure Rating:	60 psi (4 bar)
Chamber Headloss at Peak Flow:	0.9 inches
EQUIPMENT LAYOUT & DIMENSIONS	
Flange Type:	36" AWWA Class B
Chamber Length (Flange to Flange):	7 ft. 5 in.
Clearance Requirements:	8 ft. 7 in. (2.6 m) of space required for lamp removal and equipment maintenance
Cable Length (CPP to Chamber):	Maximum of 16 ft (5 m)

CONTROL AND POWER PANELS	
Control Power Panel (CPP) Quantity:	3 Total CPPs
CPP(s) Enclosure Material and Rating:	316 Stainless Steel (Type 12, IP54)
CPP Dimensions (W x H x D):	61” x 80” x 30”
CPP HMI:	Trojan OIT 7” Display
CPP Controller (PLC):	AB CompactLogix L33er
HYDRAULIC SYSTEM CENTER	
Hydraulic System Center (HSC) Quantity:	One (1) HSC Panel per Chamber
HSC Enclosure Material and Rating:	316 Stainless Steel (Type 4X, IP66)
HSC Dimensions (width x height x depth):	25” x 47” x 21”
SYSTEM CONTROL CENTER	
System Control Center (SCC) Quantity:	One (1) SCC Panel
SCC Enclosure Material and Rating:	316 Stainless Steel (Type 4X, IP66)
SCC Dimensions (width x height x depth):	36” x 36” x 12”
ADDITIONAL EQUIPMENT	
Spare Parts & Safety Equipment:	Included
UVT Monitor:	Included

ELECTRICAL REQUIREMENTS

1. One (1) Forced Air electrical supply for 3 double-door CPP(s) per chamber each with a 108 kVA power supply connected
2. The SCC requires one (1) 120V, 1 phase, 2 wire + GND, 60 Hz, 1.8 kVA power supply
3. Each HSC requires one (1) 480V, 3 phase, 3 wire + GND, 50 Hz power supply, 2.5 kVA power supply
4. The Optiview UVT Monitor requires one (1) 120V, 1 Phase, 2 Wire + GND, 250VA
5. Electrical disconnects are not included in this proposal. Refer to local electrical codes.

COMMERCIAL INFORMATION

CAPITAL COST ESTIMATE
Total Capital Cost: $ 2 110 000 USD

Notes:
This price excludes any taxes that may be applicable and is valid for 90 days from the date of this letter.

WARRANTIES

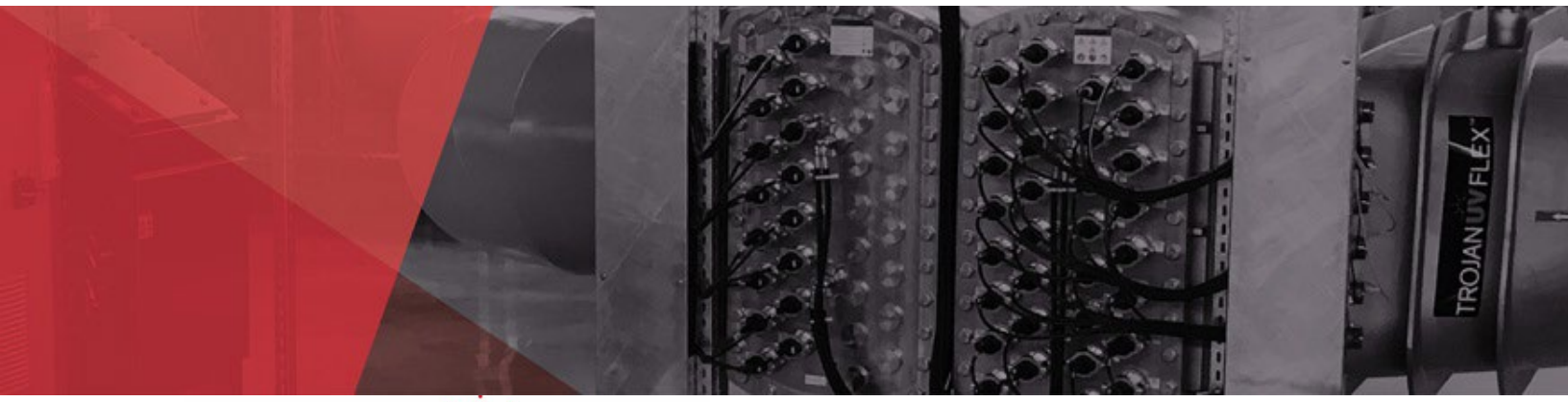
Component	Warranted Life
Lamps	15,000 Hours
Ballasts	10 Years
Sleeves	1 Year
Sensors	5 Years

1. Trojan Technologies warrants all components of the system (excluding UV lamps) against faulty workmanship and materials for a period of 12 months from start-up or 18 months after shipment, whichever occurs first.

2. UV lamps purchased are warranted for 15,000 hours of operation or 3 years from shipment, whichever comes first. The warranty is pro-rated after 9,000 hours of operation. This means that if a lamp fails prior to 9,000 hours of use, a new lamp is provided at no charge.

3. Trojan offers an unparalleled Lifetime Performance Guarantee. The spirit of this guarantee is simple: the Trojan equipment, as sized for the project, will meet the treatment requirements for the life of the system.

TROJAN (UV) PROPOSAL
69% UVT



TROJAN UV FLEX™

PROPOSAL FOR CITY OF LAUDERHILL, FLORIDA
QUOTE: 241244



Mari Burgess, Trojan Technologies
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London, Ontario N5V 4T7
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Duggan M. Jacobs, TSC Jacobs
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July 24, 2023

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DESIGN CRITERIA

City of Lauderhill, Florida

APPLICATION REQUIREMENTS	
Peak Design Flow:	8 MGD
UV Transmittance:	69% (minimum)
TSS:	5 mg/L (maximum, grab sample)
Disinfection Requirement:	25 Fecal Coliform/100mL based on a daily maximum with 75% of samples non detectable for fecal coliform.
Design Dose:	2 Log Virus Removal
Redundancy:	2 Duty Chambers, 1 Standby Chamber at peak flow

DESIGN SUMMARY

QUOTE: 241243

UV CHAMBER	
Model:	TrojanUVFlex™ 100
Configuration:	2 Duty Trains + 1 Standby Train
Number of Banks:	3
Number of Sections Online:	5
Operating Lamps per Chamber:	80
Total Number of Lamps	240
Lamp Technology:	TrojanUV Solo Lamp (500 Watts amalgam)
Sleeve Cleaning:	Automatic Mechanical
Chamber Material:	Type 2205 Duplex Stainless Steel
Maximum Power Draw (Duty Chambers):	95.8 kW
Chamber Pressure Rating:	60 psi (4 bar)
Chamber Headloss at Peak Flow:	0.9 inches
EQUIPMENT LAYOUT & DIMENSIONS	
Flange Type:	36" AWWA Class B
Chamber Length (Flange to Flange):	7 ft. 5 in.
Clearance Requirements:	8 ft. 7 in. (2.6 m) of space required for lamp removal and equipment maintenance
Cable Length (CPP to Chamber):	Maximum of 16 ft (5 m)

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Control Power Panel (CPP) Quantity:	3 Total CPPs
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CPP Controller (PLC):	AB CompactLogix L33er
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SCC Dimensions (width x height x depth):	36” x 36” x 12”
ADDITIONAL EQUIPMENT	
Spare Parts & Safety Equipment:	Included
UVT Monitor:	Included

ELECTRICAL REQUIREMENTS

1. One (1) Forced Air electrical supply for 3 double-door CPP(s) per chamber each with a 108 kVA power supply connected
2. The SCC requires one (1) 120V, 1 phase, 2 wire + GND, 60 Hz, 1.8 kVA power supply
3. Each HSC requires one (1) 480V, 3 phase, 3 wire + GND, 50 Hz power supply, 2.5 kVA power supply
4. The Optiview UVT Monitor requires one (1) 120V, 1 Phase, 2 Wire + GND, 250VA
5. Electrical disconnects are not included in this proposal. Refer to local electrical codes.

COMMERCIAL INFORMATION

CAPITAL COST ESTIMATE
Total Capital Cost: $ 2 010 000 USD

Notes:
This price excludes any taxes that may be applicable and is valid for 90 days from the date of this letter.

WARRANTIES

Component	Warranted Life
Lamps	15,000 Hours
Ballasts	10 Years
Sleeves	1 Year
Sensors	5 Years

1. Trojan Technologies warrants all components of the system (excluding UV lamps) against faulty workmanship and materials for a period of 12 months from start-up or 18 months after shipment, whichever occurs first.

2. UV lamps purchased are warranted for 15,000 hours of operation or 3 years from shipment, whichever comes first. The warranty is pro-rated after 9,000 hours of operation. This means that if a lamp fails prior to 9,000 hours of use, a new lamp is provided at no charge.

3. Trojan offers an unparalleled Lifetime Performance Guarantee. The spirit of this guarantee is simple: the Trojan equipment, as sized for the project, will meet the treatment requirements for the life of the system.

APPENDIX H
UV WATER SAMPLE RESULTS

CERTIFICATE OF ANALYSIS
Final Report

Project Name: **City of Lauderhill WTP**
Contact: Anna Solomon
Address: City of Lauderhill WTP
2102 NW 49th Ave
Lauderhill, FL 33313

Telephone: (954) 714-1537
Email: asolomon@lauderhill-fl.gov

Trojan Sales: Michael Shortt
Local Trojan Rep: ----
Engineer: ----

Sample #: 23-0200 – 23-0208

Received Date/Time: May 23, 2023, 10:30 AM EST
Analysis Date: May 23, 2023
Release Date: May 26, 2023

Trojan System: ----
Water Source: Drinking Water

LAB SAMPLE NO.	SAMPLE IDENTIFICATION	SAMPLE DATE/TIME (M/D/Y)	RECEIVED TEMP. (°C)	UVT (%/cm)
23-0200	Pre-Filters Sample	5/17/2023 2:53 PM EST	21.5	62
23-0201	Post-Clear Wells Sample	5/17/2023 3:04 PM EST	21.5	69
23-0202	Post-East Filter Sample	5/17/2023 3:00 PM EST	21.5	62
23-0203	Exit Point Sample	5/17/2023 3:07 PM EST	21.5	67
23-0204	Well #4 Raw Water Sample	5/17/2023 2:45 PM EST	21.5	36
23-0205	Well #7 Raw Water Sample	5/17/2023 2:47 PM EST	21.5	39
23-0206	Well #3 Raw Water Sample	5/17/2023 2:27 PM EST	21.5	39
23-0207	Well #5 Raw Water Sample	5/17/2023 2:30 PM EST	21.5	36
23-0208	Well #8 Raw Water Sample	5/17/2023 2:22 PM EST	21.5	42

DESCRIPTION OF ANALYSES

UVT (UV Transmittance)
The percentage of germicidal UV light that is able to penetrate through 1 cm of water sample at 254 nm. The higher the UVT value measured, the more effective a UV system will be. UVT can be reduced by iron, organic dyes, tannins, and humic acids.

Comments:

Pankaj Chowdhury

Certified by Pankaj Chowdhury, Ph.D., P.Eng.
Application Scientist/Lab Manager

Confidential - Company Proprietary