

CONSULTING AGREEMENT

THIS CONSULTING AGREEMENT (“Consulting Agreement” or “Agreement”) is made and entered into this 12 day of June, 2018, by and between **HDR Inc.**, a Colorado Corporation, whose address is 1670 Broadway, Suite 3400, Denver, CO 80202 (hereinafter referred to as “Consultant”) and the **TOWN OF ERIE, COLORADO**, a Colorado municipal corporation, whose address is 645 Holbrook Street, P.O. Box 750, Erie, Colorado 80516 (hereinafter referred to as “Town” or “Erie”).

W I T N E S S E T H

WHEREAS, the Town desires to engage the Consultant to render the professional services described in this Consulting Agreement and the Consultant is qualified and willing to perform such services in accordance with, and subject to the provisions of this Consulting Agreement; and,

WHEREAS, legal authority exists to engage the Consultant and sufficient funds have been budgeted and are available for the work to be performed by the Consultant under this Agreement, and other necessary approvals have been obtained.

NOW, THEREFORE, in consideration of the mutual promises, covenants and obligations of the parties hereto, the terms, covenants and conditions hereof, and intending to be legally bound, the Town and the Consultant agree as follows:

1. The Project. The Consultant's services are engaged under this Consulting Agreement for the following project: **North Water Reclamation Facility Expansion (P18-323)** (“Project”).

2. Consultant’s Services. The Consultant shall, during the term of this Agreement, provide the services to the Town as set forth in Exhibit “A”, attached hereto and incorporated herein by this reference (the “Services”). The Consultant shall perform the Services competently, efficiently, and in accordance with the highest standards of its profession. The Consultant shall perform the Services meeting all industry safety standards.

3. Additional Services. The Town may request the Consultant to perform additional work or phases of the Project in addition to the Services. The Consultant agrees to perform the additional work or phases of the Project if the Town so requests, either pursuant to an amendment to this Consulting Agreement or a new agreement in which the Town and the Consultant shall define the scope of, and additional payment for, the additional work or phases of the Project.

4. Compensation. In consideration for the performance of the Services, the Town shall pay to the Consultant a fee in the total amount of **\$250,805**, and payable in accordance with the payment schedule, as set forth in Exhibit “B”, attached hereto and incorporated herein by this reference.

5. Reimbursable Expenses. The Town agrees to reimburse the Consultant for the reimbursable expenses incurred by the Consultant in connection with the Services, such expenses to be described in detail in Exhibit “B”. Travel expenses between the Town and the Consultant's office shall not be considered reimbursable expenses. The Consultant shall maintain an accurate record of all such expenses and provide itemized records and copies of receipts when submitting such expenses to the Town for reimbursement. The maximum amount reimbursable by the Town to the Consultant under this Consulting Agreement shall be set forth on Exhibit “B”. Such expenses not described on Exhibit “B”, shall not be reimbursed by the Town.

6. Commencement and Completion of Services. The Consultant understands and agrees that time is an essential requirement of this Consulting Agreement. The term of this Consulting Agreement shall commence on the date of this agreement and shall end on **December 31, 2018**. The Services shall be completed as soon as good practice and due diligence will permit.

7. Termination.

A. This Consulting Agreement may be terminated by either party upon Ten (10) days prior written notice to the other party in the event of a substantial failure by the other party to fulfill its obligations under this Consulting Agreement through no fault of the terminating party.

B. This Consulting Agreement may be terminated by the Town in its sole discretion upon Ten (10) days prior written notice to the Consultant.

C. In the event of termination as provided for in this paragraph, the Town shall pay the Consultant in full for Services performed to the date of notice of termination plus any Services the Town deems necessary during the notice period. Said compensation shall be paid upon the Consultant's delivering or otherwise making available to the Town all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the Consultant in performing the Services included in this Consulting Agreement, whether completed or in progress.

8. Insurance.

8.1 Consultant shall procure and maintain, and shall cause any subcontractor of Consultant to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers acceptable to the Town. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Consultant pursuant to paragraph 17 of this Consulting Agreement. In case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

A. Workmen's Compensation Insurance and Employer's Liability Insurance to cover obligations imposed by applicable laws for any employee of Consultant or a subcontractor engaged in the performance of work under this Consulting Agreement.

B. General liability insurance with minimum combined single limits of One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employees' acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision.

C. Comprehensive Automobile Liability insurance within single limits for bodily injury and property damage of not less than One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate with respect to each of Consultant's owned, hired or non-owned vehicles assigned to or used in the performance of this Consulting Agreement. The policy shall contain a severability of interests provision.

D. Professional Liability insurance within minimum single limits of not less than One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate.

8.2 The policies required by subparagraphs B and C, above shall be endorsed to include the Town and the Town's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Town, its officers, or its employees, or carried by or provided through any insurance pool of the Town, shall be excess and not contributory insurance to that provided by the Consultant. The Consultant shall be solely responsible for any deductible losses under any policy require above.

8.3 A certificate of insurance shall be completed by the Consultant's insurance agent and provided to the Town as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the Town prior to commencement of the Consulting Agreement. The certificate shall identify this Consulting Agreement and shall provide that the coverages afforded under the policies shall not be cancelled until at least thirty (30) days prior written notice has been given to the Town. Consultant shall notify the Town within ten (10) days if the coverages afforded under the policies are materially changed. The completed Certificate of Insurance shall be sent to: Town Clerk, Town of Erie, PO Box 750, Erie, CO 80516

8.4 Notwithstanding any other portion of this Consulting Agreement, failure on the part of Consultant to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of this Consulting Agreement for which the Town may immediately terminate this Consulting Agreement, or, at its discretion, the Town may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all money so paid by the Town shall be repaid by the Consultant to the Town upon demand, or the Town may offset the cost of the premiums against any money due to the Consultant from the Town.

8.5 The parties hereto understand and agree that the Town is relying on, and does not waive or intend to waive by any provision of this Consulting Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, Section 24-10-101, et seq., C.R.S., as from time to time amended, or any other law, protection or limitation otherwise available to the Town, its officers, or its employees.

9. Payment of Subconsultants. Consultant shall contract with and pay any and all subcontractors used by Consultant in the performance of the Project. The Town shall in no event have any liability to any subconsultant, and Consultant shall hold the Town harmless with respect to any payments alleged to be due to Consultant's subcontractors.

10. Compliance with Applicable Laws. In connection with the execution of this Consulting Agreement, the Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or disability. Such actions shall include, but not be limited to the following: employment; upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Consultant shall comply with the Americans with Disabilities Act (Public Law 101-336), and all applicable regulations and rules promulgated by the Equal Employment Opportunity Commission and the Colorado Civil Rights Commission. At all times during the performance of the Agreement, Consultant shall strictly adhere to all applicable federal, state and Town laws that have been or may hereafter be established. This shall include, without limitation, the United States Department of Labor standards. As used in this paragraph, and hereafter, the term "laws" shall include, without limitation, all federal, state and Town codes, charters, ordinances, laws, standards, rules and regulations. The indemnification and termination provisions of this Consulting Agreement shall apply with respect to Consultant's failure to comply with all applicable laws or regulations.

10A. No Discrimination In Employment. In connection with the performance of work under

this Agreement, Consultant agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified on the basis of race, color, ancestry, creed, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability and further agrees to insert the foregoing provision in all subcontracts hereunder

11. Prohibited Interest.

A. The Consultant agrees that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its Services hereunder. The Consultant further agrees that in the performance of the Consulting Agreement, no person having any such interest shall be employed.

B. No official or employee of the Town shall have any interest, direct or indirect, in the Consultant, this Consulting Agreement or the proceeds therefrom.

12. Independent Contractor. The Consultant shall perform all Services as an independent contractor, and nothing in this Consulting Agreement is intended to or shall create a relationship of employer-employee, joint venturers, or partners, between the parties. The Consultant shall be solely responsible for all federal and state income taxes attributable to the monies payable to the Consultant for the Services.

13. Books and Records. The Consultant's books and records with respect to the Services and reimbursable costs shall be kept in accordance with generally accepted accounting principles and practices, consistently applied, and will be made available for the Town's inspection at all reasonable times at the places where the same may be kept. The Consultant shall not be required to retain such books and records for more than three (3) years after completion of the services.

14. Obligation of Non-Disclosure. The Consultant agrees to keep confidential any and all drawings, reports, documents, memoranda, research, plans, analysis, maps, photographs, designs, information and work product either provided by the Town or generated by the Consultant pursuant to this Consulting Agreement, or provided to the Consultant by other consultants. Consultant shall make use of the information or items set forth hereinabove for any purpose, including public hearings of the Town, as expressly directed by the Town, for the Town's benefit. Consultant shall not use the information or items set forth hereinabove for its own account, or another's account, or in any manner detrimental to the Town. The Town acknowledges the need to share said information and items referred to hereinabove with the Consultant's subconsultants under this Consulting Agreement, and hereby approves such sharing and use.

15. Acknowledgement of Ownership. Consultant acknowledges that all drawings documents, information and materials relating to the Services performed and the Project for which the Services are performed, as well as those items described in paragraph 14, are or shall become, upon termination of this Consulting Agreement, the exclusive property of the Town.

16. Return of Information. Promptly upon the Town's request, and in any event upon the termination of this Consulting Agreement for any reason, all documents, materials and writings, as well as those items described in paragraph 14, and all copies thereof provided by the Town to the Consultant, directly or indirectly, shall be returned by the Consultant to the Town.

17. Professional Liability. The Consultant shall exercise in its performance of the Services hereunder the standard of care required by Colorado law. The Consultant shall be liable to the Town for any loss, damages, or costs incurred by the Town for the repair, replacement or correction of any part of the Project which is deficient or defective as a result of any failure of the Consultant to comply with this

standard.

18. Communications. All communications relating to the day-to-day Services for the Project shall be exchanged between the respective Project representatives of the Town and the Consultant who will be designated by the parties promptly upon commencement of the Services.

19. Indemnification. Consultant agrees to indemnify and save harmless the Town against any and all claims, debts, demands, damages or obligations which may be asserted against the Town arising by reason of, or in connection with, any alleged act or omission of Consultant or any person claiming under, by or through Consultant, at Consultant's own expense using those attorneys that the Town deems appropriate. If, however, it becomes necessary for the Town to defend any action arising by reason of, or in connection with, any alleged act or omission of Consultant or any person claiming under, by or through Consultant seeking to impose liability for such claim or demand, Consultant shall pay all court costs, witness fees, expert witness fees, and attorney's fees, incurred by the Town in effecting such defense in addition to any other sums which the Town may be called upon to pay by reason of the entry of any judgment, assessment, bond, writ or levy against the Town in the litigation in which such claims are asserted. Consultant shall be subrogated to any and all amounts paid by it on behalf of the Town to any claims that the Town may have as a result of said payments to any person or third persons which are the reason or cause of said payments.

20. No Assignment. Consultant's duties and obligations pursuant to this Consulting Agreement require a particular expertise and skill, and may not be assigned to any third party or agency without the express written consent of the Town, which consent may be withheld at the sole discretion of the Town.

21. Notices. Any notices required or permitted hereunder shall be sufficient if personally delivered or if sent by certified mail, return receipt requested, addressed as follows:

If to the Town:

Director of Public Works
Town of Erie
P.O. Box 750
Erie, Colorado 80516

With a copy (which shall not constitute notice) to:

Mark R. Shapiro
Mark R. Shapiro, P.C.
P.O. Box 750
Erie, Colorado 80516

If to the Consultant:

Notices personally delivered shall be effective upon delivery. Mailed notices shall be effective three (3) business days after mailing.

22. Agreement Subject to Annual Appropriation.

A. The parties hereto understand and agree that the amount of \$250,805 has been budgeted for compensation for work done pursuant to this Consulting Agreement for the current fiscal year

ending December 31, 2018. This is a full and lawful appropriation as required by appropriate statute for this project. In the event that the Town fails to appropriate sufficient funds to cover any compensation which may become due for the fiscal year beginning January 1, 2019, then, and in that event, this Consulting Agreement shall immediately terminate as of December 31, 2018, without further action of any party. The Town shall provide notice to Consultant prior to December 31, 2018, as to whether an appropriation has been made for further work anticipated following December 31, 2018.

B. The amount of money appropriated by the Town is equal to or in excess of the Consulting Agreement amounts due herein for the current fiscal year.

C. The Town shall be prohibited from issuing any change order or other form of order or directive requiring additional compensable work to be performed, which work causes the aggregate amount payable under this Consulting Agreement to exceed the amount appropriated for the original Consulting Agreement, unless Consultant is given written assurance by the Town that lawful appropriations to cover the cost of the additional work have been made or unless such work is covered under a remedy-granting provision in this Consulting Agreement.

23. Prohibition Against Employment of Illegal Aliens.

A. By its signature on this Agreement, Consultant certifies that, as of the time of its signature, it does not knowingly employ or contract with an illegal alien and that, in order to verify that it does not employ any illegal aliens, the Consultant will participate in the E-Verify Program created in Public Law 104-208, as amended, and expanded in Public Law 108-156, as amended, administered by the United States Department of Homeland Security and the Social Security Administration.

B. Consultant agrees that it shall not knowingly employ or contract with an illegal alien to perform work under this Agreement; and that it shall not enter into a contract with a subcontractor that fails to certify to the Consultant that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract.

C. Consultant has verified through participation in the E-Verify Program that the Consultant does not employ any illegal aliens.

D. Consultant shall not use the E-Verify Program procedures to undertake preemployment screening of job applicants while work under this Agreement is being performed.

E. If Consultant obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an illegal alien, the Consultant shall: (1) notify the subcontractor and the Town within three days that the Consultant has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and (2) terminate the subcontract with the subcontractor if, within three days of receiving the notice required herein, the subcontractor does not stop employing or contracting with the illegal alien; except that the Consultant shall not terminate the contract with the subcontractor if during such three days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.

F. The Consultant shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation that the Department is undertaking pursuant to the authority established in C.R.S. section 8-17.5-101(5).

G. If Consultant violates a provision of this Illegal Alien section, the Town may

terminate this Agreement for breach of contract. If the Agreement is so terminated, the Consultant shall be liable for actual and consequential damages to the Town. Consultant understands that, in the event of such a termination, Town is required to notify the office of the Colorado Secretary of State.

24. Attorney's Fees; Interest. In any action brought to enforce the provision(s) of this Consulting Agreement, the prevailing party shall be entitled to an award of all reasonable attorney's fees and costs, including expert witness' fees, expended or incurred, to be recovered as part of the costs therein. Any fees and expenses not paid to Consultant by the Town when due shall earn interest at the rate of six percent (6%) per annum.

25. Waiver. Failure to insist upon strict compliance with any of the terms, covenants, and/or conditions hereof shall not be deemed a waiver of such terms, covenants or conditions, nor shall any waiver or relinquishment of any right or power hereunder at any one time or more times be deemed a waiver or relinquishment of such right or power at any other time or times.

26. Amendments to Agreement. No changes, alterations or modifications to any of the provisions hereof shall be effective unless contained in a written agreement signed by both parties.

27. Entire Agreement. This Consulting Agreement shall constitute the entire agreement between the parties hereto and shall supersede all prior contracts, proposals, representations, negotiations and letters of intent, whether written or oral, pertaining to the Services.

28. Situs, Venue and Severability. The laws of the State of Colorado shall govern the interpretation, validity, performance and enforcement of this Consulting Agreement. For the resolution of any dispute arising hereunder, venue shall be in the Courts of the County of Weld, State of Colorado. If any provision of this Consulting Agreement shall be held to be invalid or unenforceable, the validity and enforceability of the remaining provisions of this Consulting Agreement shall not be affected thereby.

29. Paragraph Headings. Paragraph headings are inserted for convenience only and in no way limit or define the interpretation to be placed upon this Consulting Agreement.

30. Binding Agreement. This Consulting Agreement shall be binding upon and for the benefit of the parties hereto, their successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Consulting Agreement as of the day and year first-above written.

TOWN:

TOWN OF ERIE,
a Colorado municipal corporation

By: _____
Jennifer Carroll, Mayor

ATTEST:

By: _____
Jessica Koenig, Deputy Town Clerk

CONSULTANT:

HDR, INC.,
a Colorado corporation

By: _____
_____, President

ATTEST:

By: _____
_____, Secretary

EXHIBIT "A"

Scope of Work – Town of Erie North Water Reclamation Facility Expansion Plan

PROJECT OBJECTIVES

There are two key project objectives:

1. Develop a total facility Expansion Plan for the Town of Erie (Town) that sets a roadmap for the expansion of the North Water Reclamation Facility (NWRf) defining the specific improvements to be included in the next expansion/upgrade. The upgrades must meet/exceed the anticipated upcoming Regulation 85 and current NWRf effluent quality limits, capacity requirements, redundancy, and scheduling objectives. The Expansion Plan will define what to include in the next expansion to meet the need of growth and to meet NPDES discharge requirements including incentive plans (Policy 17-1) and regulation implementation.
2. Provide a Biosolids Stabilization Study to improve current operations and equipment of the Town's biosolids process through evaluation of existing and alternative stabilization technologies. The Study's information, findings, and conclusions will be included in the Expansion Plan's Solids Stream Process Evaluation chapter.

Following is a description of the scope items.

TASK SERIES 100 – PROJECT INITIATION AND COORDINATION

101 Conduct Project Initiation Team Meeting

Completed under separate contact.

102 Conduct Coordination Meetings

Team coordination meetings or conference calls with Town staff and HDR will be held at least every other week. The purpose of the meetings will be to discuss project status and for the Town to provide information and review comments. It is anticipated that formal workshops with the Town project team will be held monthly until completion of the Expansion Plan.

103 Project Management and Administration

HDR will manage and control its professional services contract to provide efficient completion of the project. The HDR project manager will submit project invoices monthly. A progress memorandum, in bullet item format, will be prepared with each monthly invoice. The progress memo will summarize the work progress to date, the budget expenditures to date, and identify any information requirements or decisions that need to be made by the Town.

Monitor project activities for potential changes, anticipate changes whenever possible, and with the Town's approval, modify project tasks and approach to keep the overall project within budget and on schedule.

Weekly informal coordination meetings between Town PM and HDR PM will be held to discuss project status and share information. Other Town/HDR staff will attend these meetings on an as-

needed basis. These meetings will occur in-person or by phone based on the Town PM's convenience and discretion.

104 Quality Assurance and Quality Control

Review all work activities and project deliverables for conformance with quality control requirements and project standards.

Task Series 100 Deliverables

- Meeting Minutes will be prepared by HDR and distributed to all team members.
- Action item log.
- Decision log.
- Monthly invoices and progress memorandum.

Task Series 100 Town Provided Services and/or Information

- Attendance and input at meetings.
- Provide available data as requested by HDR.

Task Series 100 Assumptions

- A total of 24 weekly coordination meetings will be held between Town PM and HDR PM, based on a six (6) month project duration.

TASK SERIES 200 – BASIS OF PLANNING

Collect and review Town data as necessary for the project. Develop an understanding of pertinent systems. Data may include recent studies, master plans, utility plans, geotechnical data, survey, wetland information, flood plain, operational data, as-built drawings, operational data and permits.

Future flow and load projections will be provided by Town for the Team's use. Development of the flow and load projections are not included in this scope.

201 Review Record Drawings and Data Provided by the Town

Collect and review relevant and available as-built drawings and flow/loading data. Obtain and review data pertinent to project completion including, but not limited to:

- As-built drawings of the facility including any other related drawings, specifications and O&M manuals.
- Existing utilities, survey, topography, wetlands, flood plain, and easement drawings.
- Review energy usage data.
- Operational data to determine solids flows and loads.

202 Review Prior Engineering Studies Provided by the Town

Collect and review relevant and available engineering studies. Obtain and review data pertinent to project completion including, but not limited to:

- Previously completed master plans, utility plans and relevant data for extraction of flow/load forecasts.

203 Prepare Chapter Summarizing Basis of Planning

Prepare a draft technical memorandum summarizing the findings for Basis of Planning pertaining to this project.

Previous task items will be summarized in the chapter.

Task Series 200 Deliverables

- Prepare a draft technical memorandum summarizing the findings for Basis of Planning pertaining to this project.
- Prepare a final technical memorandum for inclusion into the Master Plan.

Task Series 200 Town Provided Services and/or Information

- Town staff will assist with review by providing all available drawings, specifications, reports, records and maps.
- Timely review of the draft memorandum and a consolidated set of comments.

TASK SERIES 300 – NWRP EXPANSION PLAN

The objective of this work effort is to assist Town in developing a Wastewater Expansion Plan to evaluate and rate the existing NWRP, determine improvements required to meet future flows, loads, and permitting requirements.

301 Wastewater Characterization

Town will provide the following items for use in developing the Expansion Plan:

- Current and future wastewater service area
- Current and future land use and population projections
- Current and future wastewater flows and loads

Evaluate average and peak day dry weather flow data. Develop projected average/max month/peak hour flows and loads conditions for the next 20-years.

Task Series 301 Deliverables

- Preparation of an electronic draft technical memorandum summarizing wastewater characterization to this project.
- Preparation of a final technical memorandum for inclusion into the Expansion Plan.

302 Regulatory Drivers

Prepare a critical analysis of forecasted regulatory requirements including Incentive Plan (Regulation 17) and the proposed 2027 Regulation 31 implementation. CDPHE staff will be consulted and discussions documented. Completed and on-going CDPHE studies, along with studies of others, will be considered in developing both short term and long range control strategies and capital improvement list to accomplish control strategies.

Identify water quality and effluent permit requirements driving treatment, effluent management or biosolids reuse decisions. Develop a spectrum of probable, best and worst case regulatory scenarios that could affect the scope and extent of the treatment facilities. Identify the likely timeframe in which these scenarios would impact necessitate treatment modifications.

Identify the current and future (20 year planning horizon) regulatory drivers which will drive the Town's capital improvements program over the next 20 years, which may include the following at a minimum:

- New and revised water quality standards (TIN, TN, ammonia, TP, selenium, arsenic, temperature, etc.)
- Biosolids drivers (Class A vs Class B)
- Storm Water Management Regulatory Drivers

- Toxins, Trace Organics or EDCs

Develop a summary of the existing and future regulatory impacts possibly affecting the Town's operations, which should include a comprehensive list of effluent requirements, air emissions, and biosolids regulations. Prepare a draft and final chapter of the master plan detailing the regulatory and other planning level drivers applicable through the study period.

Include information for the expanded wastewater treatment plant that meets the criteria provided by CDPHE. Attend required meetings of any regulatory authority, including County, CDPHE to obtain such information, approvals and applicable permits.

Define regulatory agency coordination, permitting and approval requirements. This includes identification and preparation of required permits and will include CDPHE approval.

303 Liquid Stream Process Evaluation and Expansion Recommendations

This task will develop the understanding of current liquid process operations at NWRf based on reviewed documents, plans, reports, and meet with the Town staff. The task will conclude with improvement recommendations to accommodate future flows and loads including necessary IFAS system treatment capacity and redundancy requirements.

Based on Town provided flows and loads and using biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), phosphorous and nitrogen loading data; evaluate treatment and hydraulic capacity of the NWRf including: influent pumping, headworks, IFAS basins, blowers, secondary clarifiers, UV disinfection, and tertiary filters. Include recommendations for minor equipment/control revisions that will allow the plant to continue operation during planning and design.

The evaluation shall include a table of current flow and loading conditions versus the rated capacity of the unit processes as required for future CDPHE Regulation 22 submittals. The analysis will identify capacity restrictions in the unit processes and will determine when they will occur.

Develop BioWin process model, hydraulic model, and solids mass balance based on plant data, design reports from previous projects, and HDR experience with similar projects. Determine expansion and improvements necessary to meet the need of growth and CDPHE Regulation 85 and 31 nutrient limits. Prepare a draft and final chapter of the master plan detailing the capacity of the existing facility.

HDR will coordinate and facilitate an "IFAS Bootcamp" with Kruger to assist new plant staff in understanding the fundamentals of the secondary treatment process. HDR will video record the training and create minutes from the meeting for future reference and staff training.

304 Solids Stream Process Evaluation and Expansion Recommendations

This subtask will include two primary parts; 1) Existing Process Evaluation and 2) a Long-Term Solids Stabilization Study.

304A – Existing Process Evaluation:

- The goal of this task is to clearly identify the facility's existing stabilization process, its performance, and its ability to successfully treat biosolids into the future. Based on Town provided information and site visits, performance and capacity evaluation of the existing solids handling process will be performed including WAS tank, Lime tank,

Feed tanks, tanks mixing, lime system, solids pumping, WAS thickening, dewatering, stabilization/ pasteurization process, polymer system, centrate system, and loadout.

- Analysis of the existing system's ability to treat future flows and loads reviewed. Process redundancy and contingency plans for solids disposal will be addressed. Included in this task are recommendations for minor equipment/control revisions that will allow the plant to continue operation during planning and design. The evaluation shall include a table of current flow and loading conditions versus the rated capacity of the unit process as required for future CDPHE Regulation 22 submittals. The analysis will identify capacity restrictions in the unit processes and will predict when they will occur.

304B – Long-Term Biosolids Stabilization Study

- Provide a screening level of all applicable stabilization technologies. Define Class A and Class B biosolids and the regulatory drivers for each. A screening level of technologies will allow the Town to understand industry trends and identify processes that may be worth evaluating in more detail. In a workshop setting, the potential stabilization systems will be presented and those worth evaluating in more detail will be identified.
- Detailed analysis of narrowed technologies will be developed for further review following the screening workshop. Each technology will be presented to a level of detail that a comparative review of each can be performed. Comparison criteria will include; capital cost, operational cost, maintenance cost, difficulty to implement into existing facility, impact on secondary treatment, odor production, regulatory risk, operator safety, operational risks, energy usage, chemical usage, non-economic factors, and others identified by HDR/Town during development of the project. It is anticipated five (5) narrowed technologies will be detailed including:
 - Aerobic Digestion
 - Autothermal Thermophilic Aerobic Digestion
 - Alkaline Stabilization (Lime) Using Dewatered Cake – Class B
 - Solar Greenhouse Biosolids Drying with Supplemental Heat
 - Chemical Stabilization Using CleanB® Process
- The detailed analysis will include vendor/manufacturer workshops and/or site visits. Assumed three (3) in-state, same-day site visits will be performed for the Town to become more acquainted with the processes.
- Provide recommendation if the Town should continue with existing lime system to achieve either a stabilization goal of Class A or Class B biosolids. Evaluate other stabilizations options and when making a change may make sense. Provide a discussion on the options.

This task will develop solids mass balance based on plant data, design reports from previous projects, and HDR experience with similar projects. Determine expansion and improvements necessary to meet the need of growth. Prepare a draft and final chapter of the Expansion Plan detailing the capacity and limits of the existing solids stabilization process.

Evaluation of dewatering return flow's effect on the liquid treatment process, its management, storage, or potential new technologies will be addressed.

Conclusions and recommendations from the Biosolids Stabilization Study will be included in this chapter.

305 Existing Facility Site Improvements

The goal of this task is to provide preliminary engineering recommendations for remaining components of the Facility not specifically addressed in the Liquid or Solids chapters of the Plan. Items addressed in this chapter will include:

- a. Needs for a Maintenance Building - A needs assessment will first be performed documenting the need for a new Maintenance Building. Specific building attributes and requirements will be established in a Basis of Design document including location of building, materials of construction, utility requirements, plan view drawings, and equipment/tool layouts.
- b. Equalization Basin Needs Assessment - The advantages and challenges of adding an Equalization Basin, its value to the NWRf, process details of the system, capital and operating costs, and operational considerations will be addressed.
- c. Odor Control Investigation and Recommendations - A detailed odor control improvements plan is included within this task. Odor sources and concentrations will be established using field measurements. Long-term and short-term solutions will be provided to the Town for evaluation and determination of any improvement needs. Odor control technologies will be reviewed and assessed with a concluding recommendation on what, if any, system is recommended. The conclusions and recommendations of the Biosolids Stabilization Study will be addressed with any odor control recommendation made.
- d. Additional Facility Improvements - Additional minor facility improvements that are identified during site visits or workshops will also be addressed in this task. Operational or maintenance issues related to process improvements that could be made in the Town's next improvements project will be addressed.

Task will conclude with recommended alternatives and, if valid, timelines or triggers for implementation.

306 Monetary and Non-monetary Evaluation

Prepare planning level cost estimates with probable ranges of values for recommended alternatives. Include project costs including capital construction costs, engineering and administration costs, O&M costs and construction contingency estimates. Evaluate improvements using a project weighted prioritization matrix and initial project priorities will be reviewed with the Town in a workshop. Summarize in a graph the capital project costs versus planning period for future budgeting purposes.

Develop non-monetary criteria including sustainability impacts, environmental impacts, risk of cost changes for consumables, operator safety, operational risks, and proof of technology for evaluating the alternatives.

307 System Recommendations and Capital Improvements Plan

Prepare plan for implementation of the recommended alternatives. Plan will include a description of the recommended projects and their priorities.

Develop capital improvements schedule that includes prioritization, capital costs, and potential external funding sources.

308 Final Facility Expansion Plan

The data collected and evaluations conducted in the previous tasks and sub-tasks will be assembled into a single Expansion Plan document. A combined capital improvements schedule with recommended capital improvements will be assembled into a summary report. The chapters forming the Town of Erie NWRf Expansion Plan will be structured similar to the following outline:

Executive Summary

Chapter 1	Basis of Planning
Chapter 2	Wastewater Characterization
Chapter 3	Regulatory Drivers
Chapter 4	Liquid Stream Process Performance Evaluation and Alternatives Analysis
Chapter 5	Solids Stream Process Performance Evaluation and Alternatives Analysis
Chapter 6	Existing Facility Site Improvements
Chapter 7	Monetary and Non-monetary Evaluation
Chapter 8	System Recommendations and Capital Improvements Plan

Draft versions of the Plan will be submitted to the Town for review and comment on an intermittent basis as portions are completed. A complete formal draft will be submitted at the 90 percent level of completion for review and comment prior to finalizing the Plan.

311 Workshops

Conduct workshop(s) with Town's project team to present progress reports and discuss recommended alternatives. Workshops will be provided for each of the chapters in the Expansion Plan. It is anticipated that at a minimum of five (5) workshops will be included as some of the chapters will be presented together.

312 Board Presentation

Provide materials and present recommendations to the Board of Trustees. It is anticipated that one (1) presentation to the Board of Trustees will be required.

Task Series 300 Deliverables

- Electronic draft in .pdf format and 6 hard copies of the Expansion Plan chapters for Town review and comment.
- Final Expansion Plan, including all exhibits, in .pdf format and 8 bound hard copies.

Task Series 300 Assumptions

- Depending on findings and developments through the course of the project, final recommendations may be held until the Biosolids Stabilization Study is in Draft format.
- Three site visits required for technology evaluations. All will be in-state single-day trips.

- Town will provide planning information as noted in Task 301.
- Potholing and survey of utilities is not required or included.

Task Series 300 Town Provided Services and/or Information

- Town will provide review comments on the Draft chapters to HDR with a single Word document using track changes or single marked up hard copy.
- Provide available record drawings and access to the site.

EXHIBIT "B"

(Payment Schedule and reimbursable expenses description and limit)

Town of Erie North Water Reclamation Facility Expansion Plan

Estimated Fee Effort Town of Erie North Water Reclamation Facility Expansion Plan															HDR Hours	HDR Labor	Vehicle Mileage	HDR Total Expenses	Total Fee
		Overall QA/QC - Gover	Project Manager - Parmenter	Project Engineer - Kristen James	Project Engineer - Teigan Gulliver	Liquid Stream & Permitting - Matt Gough	Electrical - Moore	I&C - Cassidy	Odor Control Expert - Chris Easter	Process Modeling - Benisch	CAD - Brewster	HVAC - Chris Work	Administrative - Velasquez	Accountant - Rachel Aletti					
Task Description		\$ 280	\$ 212	\$ 103	\$ 140	\$ 272	\$ 273	\$ 253	\$ 291	\$ 204	\$ 187	\$ 198	\$ 87	\$ 106					
Task 100 Project Initiation and Coordination																			
102	Conduct Coordination Meetings		24	24	12	12									72	\$ 12,513	\$ 287	\$ 287	\$ 12,799
103	Project Management and Administration		38											18	\$ 9,958		\$ -	\$ 9,958	
104	Quality Assurance and Quality Control	16												16	\$ 4,480		\$ -	\$ 4,480	
	Sub-total	16	62	24	12	12	0	0	0	0	0	0	0	18	144	\$ 26,950	\$ 287	\$ 287	\$ 27,237
Task 200 Basis of Planning																			
201	Review Record Drawings Provided by Town		12	8	12	8	2	2						44	\$ 8,281		\$ -	\$ 8,281	
202	Review Prior Engineering Studies Provided by Town		4	4	4	4								16	\$ 2,910		\$ -	\$ 2,910	
204	Prepare Chapter Summarizing Basis of Planning		2	16	4	2								24	\$ 3,180		\$ -	\$ 3,180	
	Sub-total	0	18	28	20	14	2	2	0	0	0	0	0	84	\$ 14,371	\$ -	\$ -	\$ 14,371	
Task 300 Wastewater Master Plan																			
301	Wastewater Characterization		2	8	4	8				16				38	\$ 7,258		\$ -	\$ 7,258	
302	Regulatory Drivers		4	16	4	16								40	\$ 7,413		\$ -	\$ 7,413	
303	Liquid Stream Process Evaluation and Expansion Recommendations	8	32	70	36	68				48	8			270	\$ 51,102		\$ -	\$ 51,102	
304	Solids Stream Process Evaluation and Expansion Recommendations	12	106	76	98	16				2				310	\$ 52,182		\$ -	\$ 52,182	
305	Existing Facility Site Improvements	4	18	14	14	2	4	4	4		4	4		72	\$ 13,695	\$ 87	\$ 87	\$ 13,783	
308	Monetary and Non-monetary Evaluation	1	8	4	2	8								23	\$ 4,846		\$ -	\$ 4,846	
309	System Recommendations and Capital Improvements Plan	4	12	12	12	12								52	\$ 9,850		\$ -	\$ 9,850	
310	Final Facility Expansion Plan		12	24	24	12					8		4	84	\$ 13,490		\$ -	\$ 13,490	
311	Workshops	16	72	72	42	42	4	4					4	256	\$ 46,942	\$ 896	\$ 896	\$ 47,838	
312	Board Presentation		4	4									2	10	\$ 1,434		\$ -	\$ 1,434	
	Sub-total	45	270	300	236	184	8	8	4	66	20	4	10	1,155	\$ 208,214	\$ 983	\$ 983	\$ 209,197	
Hours		61	350	352	268	210	10	10	4	66	20	4	10	1,383					
Fee		\$17,080	\$74,219	\$36,308	\$37,582	\$57,138	\$2,732	\$2,527	\$1,164	\$13,494	\$3,731	\$793	\$868	\$1,899	\$ 249,535	\$ 1,270	\$ 1,270	\$ 250,805	