CITY OF CORPUS CHRISTI
CONTRACT FOR ENGINEERING DESIGN

The City of Corpus Christi, a Texas home rule municipal corporation, P.O. Box 9277, Corpus Christi, Nueces County, Texas 78469-9277 (City) acting through its duly authorized City Manager or Designee (Director of Engineering Services) and **LNV, Inc.** , a Texas corporation, 801 Navigation, Suite 300, Corpus Christi, Texas 78408, (**Consultant**), hereby agree as follows:

1. SCOPE OF PROJECT

O.N. Stevens Facilities Feed Optimization Improvements (Project No. E12211) – This project allows for upgrades to existing chemical storage and feed facilities at O.N. Stevens Water Treatment Plant in order to meet minimum Texas Commission on Environmental Quality (TCEQ) requirements and to optimize system performance. In addition, the existing Fluoride facilities require rehabilitation to increase safety in storage, handling, and feed. These feed systems components require replacement for optimal dosage and reliable monitoring control of water treatment chemicals.

2. SCOPE OF SERVICES

The Consultant hereby agrees to perform services to complete the Project, as detailed in **Exhibit "A"**. In addition, Consultant will provide monthly status updates (project progress or delays presented with monthly invoices) and provide contract administration services, as described in **Exhibit "A"**, to complete the Project. Work will not begin on Additional Services until requested by the Consultant (provide breakdown of costs, schedules), **and** written authorization is provided by the Director of Engineering Services.

3. ORDER OF SERVICES

The Consultant agrees to begin work on those authorized Basic Services for this contract upon receipt of the Notice to Proceed from the Director of Engineering Services. Work will not begin on any phase or any Additional Services until requested in writing by the Consultant and written authorization is provided by the Director of Engineering Services. The anticipated schedule of the preliminary phase, design phase, bid phase, and construction phase is shown on **Exhibit "A"**. This schedule is not to be inclusive of all additional time that may be required for review by the City staff and may be amended by or with the concurrence of the Director of Engineering Services.

The Director of Engineering Services may direct the Consultant to undertake additional services or tasks provided that no increase in fee is required. Services or tasks requiring an increase of fee will be mutually agreed and evidenced in writing as an amendment to this contract. Consultant shall notify the City of Corpus Christi within three (3) days of notice if tasks requested requires an additional fee.

4. FEE

The City will pay the Consultant a fee as described in **Exhibit "A"** for providing services authorized, a total fee not to exceed **$1,091,812.00**. Monthly invoices will be submitted in accordance with **Exhibit "B"**.

5. INDEMNITY

Consultant shall fully indemnify and hold harmless the City of Corpus Christi and its officials, officers, agents, employees, or other entity, excluding the engineer or architect or that person's agent, employee or subconsultant, over which the City exercises control ("Indemnitee") from and against any and all claims, damages, liabilities or costs, including reasonable attorney fees and court costs, to the extent that the damage is caused by or results from an act of negligence, intentional tort, intellectual property infringement or failure to pay a subcontractor or supplier committed by Consultant or its agent, Consultant under contract or another entity over which Consultant exercises control while in the exercise of rights or performance of the duties under this agreement. This indemnification does not apply to any liability resulting from the negligent acts or omissions of the City or its employees, to the extent of such negligence.

Consultant shall defend Indemnitee, with counsel satisfactory to the City Attorney, from and against any and all claims, damages, liabilities or costs, including reasonable attorney fees and court costs, if the claim is not based wholly or partly on the negligence of, fault of or breach of contract by Indemnitee. If a claim is based wholly or partly on the negligence of, fault of or breach of contract by Indemnitee, the Consultant shall reimburse the City's reasonable attorney's fees in proportion to the Consultant's liability.

Consultant must advise City in writing within 24 hours of any claim or demand against City or Consultant known to Consultant related to or arising out of Consultant's activities under this Agreement.

6. INSURANCE

6.1 Consultant must not commence work under this agreement until all required insurance has been obtained and such insurance has been approved by the City. Consultant must not allow any subcontractor to commence work until all similar insurance required of any subcontractor has been obtained.

6.2 Consultant must furnish to the Director of Engineering Services with the signed agreement 2 copies of Certificates of Insurance (COI) with applicable policy endorsements showing the following minimum coverage by an insurance company(s) acceptable to the City's Risk Manager. **The City must be listed as an additional insured on the General liability and Auto Liability policies, and a waiver of subrogation is required on all applicable policies. Endorsements must be provided with COI. Project name and or number must be listed in Description Box of COI.**

TYPE OF INSURANCE	MINIMUM INSURANCE COVERAGE
30-written day notice of cancellation, required on all certificates or by applicable policy endorsements	**Bodily Injury and Property Damage** Per occurrence - aggregate
Commercial General Liability including: 1. Commercial Broad Form 2. Premises – Operations 3. Products/ Completed Operations 4. Contractual Liability 5. Independent Contractors 6. Personal Injury- Advertising Injury	$1,000,000 Per Occurrence $2,000,000 Aggregate
AUTO LIABILITY (including) 1. Owned 2. Hired and Non-Owned 3. Rented/Leased	$1,000,000 Combined Single Limit
PROFESSIONAL LIABILITY (Errors and Omissions)	$1,000,000 Per Claim $2,000,000 Aggregate (Defense costs shall be outside policy limits) If claims made policy, retro date must be prior to inception of agreement, have extended reporting period provisions and identify any limitations regarding who is insured.
WORKERS' COMPENSATION (All States Endorsement if Company is not domiciled in Texas) Employer's Liability	Statutory $500,000 /$500,000 /$500,000

6.3 In the event of accidents of any kind related to this agreement, Consultant must furnish the City with copies of all reports of any accidents within 10 days of the accident.

6.4 Applicable for paid employees, Consultant must obtain workers' compensation coverage through a licensed insurance company. The coverage must be written on a policy and endorsements approved by the Texas Department of Insurance. The workers' compensation coverage provided must be in an amount sufficient to assure that all workers' compensation obligations incurred by the Consultant will be promptly met. An All States Endorsement shall be required if Consultant is not domiciled in the State of Texas.

6.5 Consultant shall obtain and maintain in full force and effect for the duration of this Contract, and any extension hereof, at Consultant's sole expense, insurance coverage written on an occurrence basis, by companies authorized and admitted to do business in the State of Texas and with an A.M. Best's rating of no less than A- VII. **Consultant is required to provide City with renewal Certificates.**

6.6 Consultant shall be required to submit a copy of the replacement certificate of insurance to City at the address provided below within 10 days of the requested change. Consultant shall pay any costs incurred resulting from said changes. All notices under this Article shall be given to City at the following address:

City of Corpus Christi
Attn: Engineering Services
P.O. Box 9277
Corpus Christi, TX 78469-9277

6.7 **Consultant agrees that with respect to the above required insurance, all insurance policies are to contain or be endorsed to contain the following required provisions:**

6.7.1 List the City and its officers, officials, employees and elected representatives as additional insured by endorsement, as respects operations, completed operation and activities of, or on behalf of, the named insured performed under contract with the City, with the exception of the workers' compensation policy and professional liability/Errors & Omissions policy;

6.7.2 Provide for an endorsement that the "other insurance" clause shall not apply to the City of Corpus Christi where the City is an additional insured shown on the policy;

6.7.3 Workers' compensation and employers' liability policies will provide a waiver of subrogation in favor of the City; and

6.7.4 Provide thirty (30) calendar days advance written notice directly to City of any suspension, cancellation, non-renewal or material change in coverage, and not less than ten (10) calendar days advance written notice for nonpayment of premium.

6.8 Within five (5) calendar days of a suspension, cancellation or non-renewal of coverage, Consultant shall provide a replacement Certificate of Insurance and applicable endorsements to City. City shall have the option to suspend Consultant's performance should there be a lapse in coverage at any time during this contract. Failure to provide and to maintain the required insurance shall constitute a material breach of this contract.

6.9 In addition to any other remedies the City may have upon Consultant's failure to provide and maintain any insurance or policy endorsements to the extent and within the time herein required, the City shall have the right to order Consultant to remove the exhibit hereunder, and/or withhold any payment(s) if any, which become due to Consultant hereunder until Consultant demonstrates compliance with the requirements hereof.

6.10 Nothing herein contained shall be construed as limiting in any way the extent to which Consultant may be held responsible for payments of damages to persons or property resulting from Consultant's or its subcontractor's performance of the work covered under this agreement.

6.11 It is agreed that Consultant's insurance shall be deemed primary and non-contributory with respect to any insurance or self-insurance carried by the City of Corpus Christi for liability arising out of operations under this agreement.

6.12 It is understood and agreed that the insurance required is in addition to and separate from any other obligation contained in this agreement.

7. TERMINATION OF CONTRACT

The City may, at any time, with or without cause, terminate this contract upon seven days written notice to the Consultant at the address of record. In this event, the Consultant will be compensated for its services on all stages authorized based upon Consultant and City's estimate of the proportion of the total services actually completed at the time of termination.

8. LOCAL PARTICIPATION

The City Council's stated policy is that City expenditures on contracts for professional services be of maximum benefit to the local economy.

9. ASSIGNABILITY

The Consultant will not assign, transfer or delegate any of its obligations or duties in this contract to any other person without the prior written consent of the City, except for routine duties delegated to personnel of the Consultant staff. If the Consultant is a partnership, then in the event of the termination of the partnership, this contract will inure to the individual benefit of such partner or partners as the City may designate. No part of the Consultant fee may be assigned in advance of receipt by the Consultant without written consent of the City.

The City will not pay the fees of expert or technical assistance and consultants unless such employment, including the rate of compensation, has been approved in writing by the City.

10. OWNERSHIP OF DOCUMENTS

All documents including contract documents (plans and specifications), record drawings, contractor's field data, and submittal data will be the sole property of the City, may not be used again by the Consultant without the express written consent of the Director of Engineering Services. However, the Consultant may use standard details that are not specific to this project. The City agrees that any modification of the plans will be evidenced on the plans, and be signed and sealed by a professional engineer prior to re-use of modified plans.

11. STANDARD OF CARE

Services provided by Consultant under this Agreement shall be performed with the professional skill and care ordinarily provided by competent engineers or architects practicing in the same or similar locality and under the same or similar circumstances and professional license; and performed as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer or architect.

12. DISCLOSURE OF INTEREST

Consultant agrees to comply with City of Corpus Christi Ordinance No. 17112 and complete the *Disclosure of Interests* form as part of this contract.

13. CERTIFICATE OF INTERESTED PARTIES

Consultant agrees to comply with Texas Government Code section 2252.908 and complete Form 1295 Certificate of Interested Parties as part of this contract, if required. For more information, please review the information on the Texas Ethics Commission website at https://www.ethics.state.tx.us.

14. CONFLICT OF INTEREST

Consultant agrees to comply with Chapter 176 of the Texas Local Government Code and file Form CIQ with the City Secretary's Office, if required. For more information and to determine if you need to file a Form CIQ, please review the information on the City Secretary's website at http://www.cctexas.com/government/city-secretary/conflict-disclosure/index.

15. ENTIRE AGREEMENT AND CONTROLLING LAW

This Agreement represents the entire and integrated Agreement between City and Consultant and supersedes all prior negotiations, representations or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both the City and Consultant. This Agreement is governed by the laws of the State of Texas without regard to its conflicts of laws. Venue for legal proceedings lies exclusively in Nueces County, Texas.

16. CONFLICT RESOLUTION BETWEEN DOCUMENTS

Consultant hereby agrees and acknowledges if anything contained in the Consultant-prepared **Exhibit A**, Consultant's Scope of Services, or contained in any other document prepared by Consultant and included herein, is in conflict with this Agreement, this Agreement shall take precedence and control to resolve said conflict.

CITY OF CORPUS CHRISTI

J.H. Edmonds, P.E. Date
Director of Engineering Services

RECOMMENDED

Operating Department Date

APPROVED AS TO LEGAL FORM

Legal Department Date

APPROVED

Office of Management Date
and Budget

ATTEST

Rebecca Huerta Date
City Secretary

Project Number E12211
Accounting Unit 4093-062
Account 550950
Activity E12211014093EXP
Account Category 50950
Fund Name Water 2013 RVBD

LNV, INC.

Dan S. Leyendecker, P.E. Date
President
801Navigation, Suite 300
Corpus Christi, Texas 78408
(361) 883-1984 Office
(361) 883-1986 Fax

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EXHIBIT "A"
CITY OF CORPUS CHRISTI, TEXAS

O.N. STEVENS FACILITIES FEED OPTIMIZATION IMPROVEMENTS
PROJECT NO. E12211

I. SCOPE OF SERVICES

A. BASIC SERVICES

For the purpose of this contract, Preliminary Phase may include Schematic Design and Design Phase services may include Design Development as applicable to Architectural services.

1. **Preliminary Phase**. The Architect/Engineer-A/E (also referred to as Consultant) will:
   - ~~a) Prepare PowerPoint presentation in City format for City Council Meeting.~~
   - b) Hold Project Kick-off Meeting. Prepare meeting agenda and distribute meeting meetings to attendees within five working days of the meeting.
   - ~~c) Prepare geotechnical investigation findings (see additional services).~~
   - d) Request available reports, record drawings, utility maps and other information provided by the City pertaining to the project area.
   - e) Develop preliminary requirements for utility relocations replacements or upgrades. Coordinate with the City's Project Manager and identify operating departments potential project needs.
   - ~~f) Develop preliminary street cross section recommendations. Prepare conceptual life-cycle cost estimate with recommended pavement sections using Federal Highway Administration (FHWA) Real Cost Program.~~
   - ~~g) Identify right-of-way acquisition requirements and illustrate on a schematic strip map.~~
   - h) Prepare preliminary opinions of probable construction costs for the recommended improvements.
   - ~~i) Develop drainage area boundary map for existing and proposed drainage areas served.~~
   - ~~j) Conduct the hydraulic analysis to quantify the storm sewer design of existing and proposed systems. Include the analysis of inlet capacity.~~
   - ~~k) Identify electric and communication utility companies and private pipeline companies that may have existing facilities and must relocated to accommodate the proposed improvements.~~
   - ~~l) Coordinate with AEP and City Traffic Engineering to identify location of electrical power conduit for street lighting and traffic signalization.~~
   - m) Identify and analyze requirements of governmental authorities having jurisdiction to approve design of the Project including permitting, environmental, historical, construction, and geotechnical issues; upon request or concurrence of the Project Manager, meet and coordinate with agencies such as RTA, CDBG, USPS, affected school districts (CCISD, FBISD, etc.) community groups, TDLR, etc.
   - ~~n) Identify and recommend public outreach and community stakeholder requirements.~~
   - ~~o) Review City provided preliminary Traffic impact assessment and provide recommendation for integration and/or additional requirements as appropriate.~~
   - p) Prepare an Engineering Letter Report (20 – 25 page main-body text document with supporting appendices) that documents the analyses, approach, opinions of probable construction costs, and document the work with text, tables, schematic-

level exhibits and computer models or other applicable supporting documents required per City Plan Preparation Standards Contract Format (CPPSCF).Engineering Letter Report to include:

1. Provide a concise presentation of pertinent factors, sketches, designs, cross-sections, and parameters which will or may impact the design, including engineering design basis, preliminary layout sketches, construction sequencing, alignment, cross section, geotechnical testing report, right-of-way requirements, conformance to master plans, identification of needed additional services, identification of needed permits and environmental consideration, existing and proposed utilities, identification of quality and quantity of materials of construction, and other factors required for a professional design.
2. Include summary output tables from Hydraulic and Hydrologic analyses.
3. Include existing site photos.
4. Provide opinion of probable construction costs.
5. Identify and analyze requirements of governmental authorities having jurisdiction to approve design of the Project including permitting, environmental, historical, construction, and geotechnical issues; meet as City agent or with City participation and coordinate with agencies such as RTA, CDBG, USPS, CCISD, community groups, TDLR, etc.
6. ~~Provide an analysis on project impacts towards "re-engineering" and effects on cost savings toward City operations, which this project will affect.~~
7. Provide anticipated index of drawings and specifications.
8. Provide a summary table & required ROW parcels

q) Submit one (1) copy in an approved electronic format, and one (1) paper copy of the Draft Engineering Letter Report.

~~r)~~ ~~Submit computer model file, results and calculations used to analyze drainage.~~

s) Conduct Project review meeting with City staff to review and receive City comments on the Draft Engineering Letter Report as scheduled by City Project Manager.

t) Assimilate all City review comments of the **Draft Engineering Letter Report** and provide one (1) set of the **Final Engineering Letter Report** (ELR) (electronic and hard copies using City Standards as applicable) suitable for reproduction.

~~u)~~ ~~Assist City in presenting summary of ELR findings to the Bicycle and Pedestrian Subcommittee and the Transportation Advisory Committee (TAC). Prepare PowerPoint presentation, handouts and exhibits for meeting. Provide follow-up and response to comments.~~

City staff will provide one set only of the following information (as applicable):

a) Electronic index and database of City's record drawing and record information.

b) Requested record drawings, record information in electronic format as available from City Engineering files.

b) The preliminary budget, specifying the funds available for construction.

c) A copy of existing studies and plans. (as available from City Engineering files).

d) Field location of existing city utilities. (A/E to coordinate with City Operating Department)

e) Applicable Master Plans and GIS mapping are available on the City's website.

f) City Control survey Bench marks and coordinates.

g) ~~Preliminary Traffic impact assessment.~~

The records provided for A/E's use under this contract are proprietary, copyrighted, and authorized for use only by A/E, and *only* for the intended purpose of this project. Any unauthorized use or distribution of the records provided under this contract is strictly prohibited.

2. **Design Phase**. Upon approval of the preliminary phase, designated by receiving authorization to proceed, the A/E will:
   a) Provide coordination with electric and communication utility companies and private pipeline companies that may have existing facilities and must relocated to accommodate the proposed improvements.
   b) Provide assistance to identify testing, handling and disposal of any hazardous materials and/or contaminated soils that may be discovered during construction (to be included under additional services).
   c) Prepare construction documents in City standard format for the work identified in the approved ELR. Construction plans to include improvements or modifications to the storm water, water and wastewater systems within the project limits. Include standard City of Corpus Christi detail sheets as appropriate.
   d) Prepare construction plans in compliance with CPPSCF using English units on 11"x 17".
      1. ~~Prepare Traffic Control and Construction Sequencing Plans. The TCP will include construction sequencing, typical cross section and construction phasing plan sheets, warning and barricades, as well as standards sheets for barricades, traffic control plan, work zone pavement markings and signage.~~
      2. Provide Storm Water Pollution Prevention Plan, including construction drawings.
   e) Furnish one (1) set of the **interim plans** (60% submittal - electronic and hard copies using City Standards as applicable) to the City staff for review and approval purposes with estimates of probable construction costs. Identify distribution list for plans and bid documents to all affected franchise utilities.
      1. **Required** with the interim plans is a "Plan Executive Summary, project checklist & drawing checklist" which will identify and summarize the project by distinguishing key elements and opinion of probable project costs.
      2. **Attend** 60% submittal meeting with City Staff to assist staff in review of 60% submittal.
   f) Hold Project 60% review meeting. Prepare meeting agenda and distribute meeting meetings to attendees within five working days of the meeting. Assimilate all review comments, as appropriate and, upon Notice to Proceed.
   ~~g)~~ ~~Provide one (1) set of the **pre-final plans and bid documents** (90% submittal - electronic and hard copy using City Standards as applicable) to the City staff for review and approval purposes with revised estimates of probable costs. Plan execution summary, project checklist and plan checklist.~~
   ~~h)~~ ~~Hold Project 90% review meeting. Prepare meeting agenda and distribute meeting meetings to attendees within five working days of the meeting. Assimilate all review comments, and incorporate any requirements into the plans and specifications, and advise City of responding and non-responding participants as appropriate and, upon Notice to Proceed.~~
   i) Provide one (1) set of the final (100%) plans (unsealed and unstamped - electronic and full-size hard copy using City Standards as applicable) for City's final review.

j) Assimilate all final review comments Upon approval by the Director of Engineering Services, provide one (1) set of the **final plans and contract documents** (electronic and full-size hard copy using City Standards as applicable) suitable for reproduction. Said bid documents henceforth become the shared intellectual property of the City of Corpus Christi and the Consultant. The City agrees that any modifications of the submitted final plans (for other uses by the City) will be evidenced on the plans and be signed and sealed by a professional engineer prior to re-use of modified plans.

k) Provide Quality Assurance/Quality Control (QA/QC) measures to ensure that all submittals of the interim, pre-final (if required), and final complete plans and complete bid documents with specifications accurately reflect the percent completion designated and do not necessitate an excessive amount of revision and correction by City. Additional revisions or design submittals are required (and within the scope of Consultant's duties under this contract) if, in the opinion of the City Engineer or designee, Consultant has not adequately addressed City-provided review comments or provided submittals in accordance with City standards..

l) Prepare and submit Monthly Status Reports to the Project Manager no later than the last Wednesday of each month with action items developed from monthly progress and review meetings. See Exhibit "A-2" for required form.

~~m) Provide copy of contract documents along with appropriate fee to Texas Department of Licensing and Regulation (TDLR) for review and approval of accessibility requirements for pedestrian improvements (as authorized by Additional Services).~~

The City staff will:

a) Designate an individual to have responsibility, authority, and control for coordinating activities for the construction contract awarded.

b) Provide the budget for the Project specifying the funds available for the construction contract.

c) Provide electronic copy the City's standard specifications, standard detail sheets, standard and special provisions, and forms for required bid documents.

3. **Bid Phase**. The A/E will:

a) Prepare draft Authorization to Advertise (ATA).

b) Participate in the pre-bid conference and provide a meeting agenda for critical construction activities and elements impacted the project.

c) Assist the City in solicitation of bids by identification of prospective bidders, and review of bids by solicited interests.

d) Review all pre-bid questions and submissions concerning the bid documents and prepare, in the City's format, for the Engineering Services' approval, any addenda or other revisions necessary to inform contractors of approved changes prior to bidding.

e) Attend bid opening, analyze bids, evaluate, prepare bid tabulation, and make recommendation concerning award of the contract.

f) In the event the lowest responsible bidder's bid exceeds the project budget as revised by the Engineering Services in accordance with the A/E's design phase estimate required above, the Engineer will, at its expense, confer with City staff and make such revisions to the bid documents as the City staff deems necessary to re-advertise that particular portion of the Project for bids.

g) Prepare Agenda Memoranda and PowerPoint presentation in City format for City Council Meeting.

The City staff will:

a) Arrange and pay for printing of all documents and addenda to be distributed to prospective bidders.
b) Advertise the Project for bidding, maintain the list of prospective bidders, receive and process deposits for all bid documents, issue (with the assistance of the A/E) any addenda, prepare and supply bid tabulation forms, and conduct bid opening.
c) Receive the Engineer's recommendation concerning bid evaluation and recommendation and prepare agenda materials for the City Council concerning bid awards.
d) Prepare, review and provide copies of the contract for execution between the City and the contractor.

4. **Construction Administration Phase**. The A/E will perform contract administration to include the following:

a) Participate in pre-construction meeting conference and provide a recommended agenda for critical construction activities and elements impacted the project.
b) Review, Contractor submittals and operating and maintenance manuals for conformance to contract documents.
c) Review and interpret field and laboratory tests.
d) Provide interpretations and clarifications of the contract documents for the contractor and authorize required changes, which do not affect the contractor's price and are not contrary to the general interest of the City under the contract.
e) Make regular visits to the site of the Project to confer with the City project inspector and contractor to observe the general progress and quality of work, and to determine, in general, if the work is being done in accordance with the contract documents. This will not be confused with the project representative observation or continuous monitoring of the progress of construction.
f) Prepare change orders as authorized by the City; provide interpretations and clarifications of the plans and specifications for the contractor and authorize minor changes which do not affect the contractor's price and are not contrary to the general interest of the City under the contract.
g) Review, evaluate and recommend for City consideration Contractor Value Engineering proposal.
h) Attend final inspection with City staff, provide punch list items to the City's Construction Engineers for contractor completion, and provide the City with a Certificate of Completion for the project upon successful completion of the project.
i) Review Contractor-provided construction "red-line" drawings. Prepare Project record drawings and provide a reproducible set and electronic file (AutoCAD r.14 or later) within two (2) months of final acceptance of the project. All drawings shall be CADD drawn using dwg format in AutoCAD, and graphics data will be in dxf format with each layer being provided in a separate file. Attribute data will be provided in ASCII format in tabular form. All electronic data will be compatible with the City GIS system.

The City staff will:

a) Prepare applications/estimates for payments to contractor.
b) Conduct the final acceptance inspection with the Engineer.

B. ADDITIONAL SERVICES

This section defines the scope of additional services that may only be included as part of this contract if authorized by the Director of Engineering Services. A/E may not begin work on any services under this section without specific written authorization by the Director of Engineering Services. Fees for Additional Services are an allowance for potential services to be provided and will be **negotiated** by the Director of Engineering Services as required. The A/E shall, with written authorization by the Director of Engineering Services, perform the following::

1. **Permit Preparation.** Furnish the City all engineering data and documentation necessary for all required permits. The A/E will prepare this documentation for all required signatures. The A/E will prepare and submit identified permits **as applicable** to the appropriate local, state, and federal authorities, including:
   - ~~a. Union Pacific Railroad, Missouri Pacific Railroad, or any other railroad operating in the area~~
   - ~~b. TxDOT utility and environmental permits, multiple use agreements~~
   - ~~c. Wetlands Delineation and Permit~~
   - ~~d. Temporary Discharge Permit~~
   - ~~e. NPDES Permit/Amendments (including SSC, NOI NOT)~~
   - ~~f. Texas Commission of Environmental Quality (TCEQ) Permits/Amendments~~
   - ~~g. Nueces County~~
   - ~~h. Texas Historical Commission (THC)~~
   - ~~i. U.S. Fish and Wildlife Service (USFWS)~~
   - ~~j. U.S. Army Corps of Engineers (USACE)~~
   - ~~k. United States Environmental Protection Agency (USEPA)~~
   - l. Texas Department of Licensing and Regulation (TDLR)
   - ~~m. Texas General Land Office (TGLO)~~
   - ~~n. Other agency project-specific permits~~

~~2.~~ **~~Right-of-Way (ROW) Acquisition Survey.~~** ~~All work must comply with Category 1-A, Condition I specifications of the Texas Society of Professional Surveyors' Manual of Practice for Land Surveying in the State of Texas, Ninth Edition. All work must be tied to and in conformance with the City's Global Positioning System (GPS) control network. All work must comply with all TxDOT requirements as applicable.~~

- ~~a) Perform surveys to determine apparent right-of-way widths.~~
- ~~b) Research plats, ROW maps, deed, easements, and survey for fence corners, monuments, and iron pins within the existing ROW and analyze to establish existing apparent ROW. A/E must obtain Preliminary Title Reports from a local title company and provide copies of the title reports to the City. Preliminary Title Report shall identify title ownership and any title encumbrances to all right-of-way to be acquired.~~
- ~~c) Provide a preliminary base map containing apparent ROW, which will be used by the A/E to develop the proposed alignment and its position relative to the existing and proposed ROW. This preliminary base map must show lot or property lines, land ownership and addresses as per appraisal district records.~~
- ~~d) Prepare Metes and Bound Instrument with supporting exhibits as required and agreed upon, subsequent to ELR acceptance for ROW parcels, utility easements and temporary construction easements.~~

3. **Topographic Survey ~~and Parcel Descriptions~~** All work must be tied to and conform with the City's Global Positioning System (GPS) control network and comply with Category 6, Condition I specifications of the Texas Society of Professional Surveyors' Manual of Practice for Land Surveying in the State of Texas, Ninth Edition. Include reference to a minimum of two (2) found boundary monuments from the project area.
   a) Establish Horizontal and Vertical Control.
   b) Establish both primary and secondary horizontal/vertical control.
   c) Set project control points for Horizontal and Vertical Control outside the limits of project construction disturbance.
   d) Horizontal control will be based on NAD 83 State plane coordinates (South Zone), and the data will have no adjustment factor applied – i.e. – the coordinate data will remain in grid.
   e) Vertical control will be based on NAVD 88.
   f) All control work will be established using conventional (non-GPS) methods. Perform topographic surveys to gather existing condition information.
   g) Locate proposed soil/pavement core holes as drilled by the City's Geotechnical Engineering Consultant.
   h) Obtain *x*, *y*, and *z* coordinates of all accessible existing sanitary sewer, storm sewer, water and gas lines as well as any other lines owned by third-parties and locate all visible utilities, wells and signs within the apparent ROW width along project limits. No utility connections will be shown. Surveying services, related to subsurface engineering (SUE) shall be provided as part of the scope of work for SUE.
   i) Locate improvements within the apparent ROW.
   j) Locate and identify trees, at least five inches in diameter within the apparent ROW.
   k) Generate electronic planimetric base map for use in project design.
   ~~l)~~ ~~Set property corners and prepare right of way strip parcel map depicting all parcels proposed for acquisition. Metes and bounds descriptions must indicate parent tract areas based on the most accurate information available. Strip map will show entire parent tracts at "not to scale" and for information only. All existing easements within the parcels to be acquired and those within adjacent parcels must be shown.~~
   ~~m)~~ ~~Prepare individual signed and sealed parcel maps and legal descriptions for the required right of way acquisition for parcels and easements. A strip map showing all parcels required will be submitted along with parcel descriptions. Additional fees may be required in resolving boundary conflicts between Owners. A/E shall submit parcel maps and legal descriptions prior to the 60% submittal.~~

~~4. **Environmental Issues.** Identify and develop a scope of work for any testing, handling and disposal of hazardous materials and/or contaminated soils that may be discovered during construction.~~

~~5. **Public Involvement.** Participate in two public meetings. One public meeting shall be held after submittal of the Final Engineering Letter Report and one public meeting shall be held prior to start of project construction. Prepare notices, PowerPoint presentations, handouts and exhibits for meetings. Provide follow-up and response to citizen comments. Revise contract drawings to address citizen comments, as directed by the City. Prepare notices, handouts and exhibits for public information meetings.~~

6. **Subsurface Utility Investigation**

a) Provide subsurface utility engineering in accordance with ASCE Standard "ASCE C-I, 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" including, but not limited to, hydro-excavation. The proposed subsurface utility investigation will be as follows:

i) Excavation – The survey scope includes working with a subsurface utility excavator to perform Quality Level A investigation of underground utilities in specified areas through the project limit. (Quality Level A involves the use of nondestructive digging equipment at critical points to determine the horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics.) Utilities located at this quality level will be physically located and tied to the topographic survey control. The utility will be identified and an elevation will be obtained to the top of the utility.

ii) Utility Location – The survey scope includes locating certain utilities to Quality Level B (Quality Level B involves surveying visible above ground utility facilities, such as manholes, valve boxes, posts, etc., and correlating this information with existing utility records.) These utilities will be located by obtaining a One-Call Notice and measuring the marked locations.

iii) Storm Water – Storm water facilities within the project limits will be located to Quality Level C. Locations will be based on the surveyed locations of accessible storm water manholes and drainage inlets.

iv) Wastewater – Wastewater facilities within the project limits will be located to Quality Level C. Locations will be based on the surveyed locations of accessible wastewater manholes. Wastewater lines that are not to be replaced as part of this project and that fall within the footprint of construction-related excavation shall be located at Quality Level A.

v) Water – Water facilities within the project limits will be located to Quality Level C.

vi) Gas – Gas facilities within the project limits will be located to Quality Level C by the A/E. The City of Corpus Christi Gas Department will provide Quality Level A. The A/E will coordinate this activity.

b) Inform local franchises whose utilities fall within the footprint of construction-related excavation of the potential for encountering their utility lines during construction.

7. **Construction Observation Services.** To Be Determined.

8. **Warranty Phase.** Provide a maintenance guaranty inspection toward the end of the one-year period after acceptance of the Project. Note defects requiring contractor action to maintain, repair, fix, restore, patch, or replace improvement under the maintenance guaranty terms of the contract. Document the condition and prepare a report for the City staff of the locations and conditions requiring action, with its recommendation for the method or action to best correct defective conditions and submit to City Staff. Complete the inspection and prepare the report no later than sixty (60) days prior to the end of the maintenance guaranty period.

9. **Start-Up Services**

Provide services as described in Exhibit A-1.

10. **Provide SCADA Documentation**

Provide services as described in Exhibit A-1.

11. **Project Coordination Services**

Provide services as described in Exhibit A-1.

12. **Control System Integration**

Provide services as described in Exhibit A-1.

13. **Operations and Maintenance Manual and Training**

Provide services as described in Exhibit A-1.

14. **Windstorm**

Provide services as described in Exhibit A-1.

15. **Process Automation System Development**

Provide services as described in Exhibit A-1.

II. SCHEDULE

ACTIVITY	DURATION	DATE
PRELIMINARY PHASE	4 MONTHS	4 MONTHS AFTER NTP
DESIGN PHASE	11 MONTHS	15 MONTHS AFTER NTP
BID PHASE	4 MONTHS	19 MONTHS AFTER NTP
CONSTRUCTION PHASE	17 MONTHS	36 MONTHS AFTER NTP

III. FEES

A. **Fee for Basic Services.** The City will pay the A/E a fixed fee for providing for all "Basic Services" authorized as per the table below. The fees for Basic Services will not exceed those identified and will be full and total compensation for all services outlined in Section I.A.1-4 above, and for all expenses incurred in performing these services. **The fee for this project is subject to the availability of funds. The Engineer may be directed to suspend work pending receipt and appropriation of funds.** For services provided, A/E will submit monthly statements for services rendered. The statement will be based upon A/E's estimate (and with City's concurrence) of the proportion of the total services actually completed at the time of billing. City will make prompt monthly payments in response to A/E's monthly statements.

B. Fee for Additional Services. For services authorized by the Director of Engineering Services under Section I.B. "Additional Services," the City will pay the A/E a not-to-exceed fee as per the table below:

Summary of Fees

Basic Services Fees	
1. Preliminary Phase	$152,237
2. Design Phase	$524,317
3. Bid Phase	$13,620
4. Construction Administration Phase	$212,112
Subtotal Basic Services Fees	**$902,286**
Additional Services Fees (Allowance)	
1. Permit Preparation	$24,949
3. Topographic Survey and Parcel Descriptions*	$1,600
8. Warranty Phase	$11,200
9. Start-Up Services	$14,946
10. Provide SCADA Documentation	$26,576
11. Project Coordination Services	$24,940
12. Control System Integration	$5,931
13. Operations and Maintenance Manual & Training	$14,349
14. Windstorm	$4,660
15. Process Automation System Development	$60,375
Sub-Total Additional Services Fees Authorized	**$189,526**
Total Authorized Fee	**$1,091,812**

*Additional Services which are requested to be authorized in coordination with the notice to proceed for Basic Services.

EXHIBIT "A-1"

(Provides supplemental description to Exhibit 'A'. Task List does not supersede Exhibit 'A'.)

CITY OF CORPUS CHRISTI, TEXAS

O.N. Stevens Facilities Feed Optimization Improvements
Project No. E12211

TASK LIST

PROJECT BACKGROUND

O.N. Stevens WTP Facilities Feed Optimization Improvements is based upon the analysis and recommendations made for alum, polymer, and liquid ammonium sulfate (LAS) facilities, along with select elements of sedimentation basin hydraulic improvements, and alkalinity adjustment (referenced as Lime Slurry Feed and Storage System) outlined in the Facility Analysis Engineering Report for the O.N. Stevens Water Treatment Plant (ONSWTP) provided under City of Corpus Christi Project No. 8426 and also the Draft Design Memorandum for the ONSWTP Facilities Feed Optimization Improvements provided under Amendment No. 1 of City of Corpus Christi Project No. 8605 as submitted in January 2011. In addition, caustic pumps replacement and chlorine feed point modifications are proposed herein.

PURPOSE

The purpose of this project is to provide select improvements for alum, polymer, LAS, caustic, chlorine, and sedimentation basins, which will include: chemical storage, chemical feed, chemical injection, instrumentation, electrical, and structural improvements. It will also include a feasibility study to address proper alkalinity adjustment during turbidity and alkalinity excursions associated with storm events. The above will be provided through basic and additional services in accordance with the Agreement between ENGINEER and OWNER. This contract will be combined with the Raw Water Influent Improvements project (City Project 8643, by others) into one bid package. The Scope of Work is as follows:

Basic Services:

1. Preliminary Phase
2. Design Phase
3. Bid Phase
4. Construction Phase

Additional Services:

1. Permitting
2. Topographic Survey
3. Warranty Phase

4. Start-up Services
5. SCADA Documentation
6. Project Coordination
7. Control System Integration
8. Operations and Maintenance Manual and Training
9. Windstorm
10. Process Automation and System Development

PROJECT ASSUMPTIONS

The following assumptions have been used to develop the Scope of Services and budget for this project.

1. The improvements shall be accomplished as a traditional design-bid-build project.

2. The deliverables will be combined with the Raw Water Influent Improvements project (City Project 8643, by others). LNV, Inc. and others will be responsible for the scope of services outlined in respective contracts. Others will package combined plans, specs, for bidding purposes. LNV, Inc. will coordinate with others with regard to combining bid packages and avoiding overlapping design.

PROJECT ELEMENTS

The O.N. Stevens WTP Facilities Feed Optimization Improvements will consist of the following major elements:

1. Chemical Storage Improvements (Designed for 200 MGD plant capacity)
   a. Bulk and day tank storage will be provided for alum and polymer. Existing polymer tanks will be used for West LAS Storage as appropriate, and Alum tanks will be replaced. A new day tank will be provided for LAS.
   b. Existing containment areas will be re-used or re-purposed when possible.

2. Chemical Feed Improvements
   a. New flow-paced metering pumps for feeding of alum, polymer, LAS and caustic will be provided.
   b. Two (2) uninstalled spare flash mix pumps shall be specified for replacement of in-service pumps for alum as needed.

3. Chemical Injection Point Modifications
   a. New injection points for alum and polymer will be provided at the new flash mix and valve structures upstream of the four sedimentation basins. Direct inject chemical diffusers will also be provided as redundancy for alum and polymer.

b. Injection points for LAS and the existing chlorine delivery system will be relocated to a new chemical feed structure. This will also include rerouting of chemical feed piping.

4. Sedimentation Basin Hydraulic Improvements

Plant No.1

a. For each basin, demolish the primary sedimentation basin influent channel and construct a concrete ported distribution wall to help distribute flow along the width of the basin, and to reduce short-circuiting of flow through the basin.
b. For each basin, demolish the 4-foot wide by 5-foot high gate used to bypass the center mixing tank between the primary and secondary sedimentation basins. Expand the opening to 8-foot wide by 6-foot high. This is required to reduce the head loss through the opening at the future plant design flow of 200 mgd.
c. Seal the hydraulic connection between the two secondary sedimentation basins.

Plant No. 2

a. For each basin, demolish the primary sedimentation basin influent channel and construct a concrete ported distribution wall to help distribute flow along the width of the basin, and to reduce short-circuiting of flow through the basin.
b. For each basin, demolish the 4-foot wide by 5-foot high gate used to bypass the center mixing tank between the primary and secondary sedimentation basins. Expand the opening to 8-foot wide by 6-foot high. This is required to reduce the head loss through the opening at the future plant design flow of 200 mgd.

5. Instrumentation and Controls

New instrumentation and controls will be provided for the alum, polymer, and LAS facilities to provide flow measurements for flow-paced chemical injection, monitor individual tanks levels, calculate current chemical inventories and assist in chemical storage leak detection. Existing instrumentation and controls will be modified as necessary for the new caustic feed pumps.

6. SCADA and Integration

The Contractor will provide all integration services. SCADA and integration design services will be provided for alum, polymer, LAS and caustic accordingly to modernize the plant control system to improve the optimization and control of chemical addition, provide flow-paced control, and support the redundant controller systems to improve overall plant control and reliability. All new and relocated instrumentation will be integrated into the Plant SCADA HMI system via new and existing PLC installations.

7. Electrical Feed Improvements

Necessary electrical feed improvements will be provided to serve alum, polymer, and LAS improvements accordingly. These improvements will serve the pumps, receptacles, instrumentation, area lighting, and area buildings.

The "PCR #8 and PCR #9 5kV Loop Completion" work includes the following:

- Complete the 4.16kV North / South redundant feeder power distribution tie between existing PCR's #8 and #9 switchgear to include underground ductbank, manholes "MH6" and "MH6A", #500kCM Cable / terminations and the fiber optic cable tie between patch panels located at PCR #8 and PCR #9.
- The Pre-Sedimentation Basin Low Lift Pumps, (3 - 125hp each), refeed from PCR #8. This includes underground ductbank and surface raceway to/at the pump station as well as 480V motor T-leads and motor local control wiring between the pump station and PCR #8. Also 480V refeed to the station "mini power center" from PCR #8.
- 480V refeed to the "mini power centers",(one for each), at Decant Structures #1 and #2 from PCR #8
- Demolition of electrical and instrumentation devices, conduit and associated appurtenances attached and local to the Raw Water Metering Pit, the Raw Water Junction Box, the Raw Water Receiving Unit and Chemical Feed Pumps.
- Demolition of the Low Lift Pump Station Motor Control Center and Transformer. Also the 4.16kV temporary overhead feeder, (and poles), between PCR #8 switchgear and the Low Lift Pump Station MCC.

8. Civil Site Work

Pavement repairs and overall grading/drainage improvements will be made as outlined in the Draft Design Memorandum for the ONSWTP Facilities Feed Optimization Improvements. It is estimated that approximately 62,000 SF of pavement repair will be required. In addition, this contract includes all civil site work associated with or adjacent to the facilities proposed in the Raw Water Influent Improvements project. Any pavement which has been cut, broken, or otherwise damaged during construction will be repaired or replaced.

9. Structural Improvements

a. Sun shade canopies and/or enclosures will be provided to protect all pumps for alum, polymer and LAS.
b. New containment area will be provided for South Alum System.

c. The containment area for the West Alum System will be adequately expanded.
d. The containment area for the West Polymer System may need to be expanded to provide adequate operation and maintenance access and will be evaluated and in the preliminary design phase.
e. Slab on grade foundations and conventional spread footings will be considered for proposed foundations.

10. Alkalinity Adjustment
ENGINEER will provide a feasibility study to address proper chemical, storage, delivery and injection systems to adjust alkalinity during excursions associated with storm runoff events where alum is used in excess. Cost estimates will be provided for alternatives considered.

11. Demolition and/or Abandonment of Existing Structures and/or Systems
The following will be demolished in their entirety:
a. Alum
- North alum storage, feed and yard piping system
- West alum feed and yard piping system

b. Polymer
- North polymer storage, feed and yard piping system
- West polymer feed and yard piping system

c. LAS
- West LAS storage, feed and yard piping system

d.Chlorine
- Chlorine piping west of sedimentation basins and injection points

e. Caustic
- Caustic feed pumps/VFDs

SCOPE OF SERVICES

All tasks shown below are associated with the improvements shown in the above Project Elements section ONLY.

A. BASIC SERVICES

PART 1 - PRELIMINARY DESIGN PHASE

TASK 1.0 DESIGN BASIS MEMORANDUM

Design criteria will be developed and refined for process and equipment sizing, site layouts, sample/representative process control descriptions, construction phasing requirements, preliminary instrumentation and control diagrams and cost estimates as appropriate for a Preliminary level of design. Included in this task are the following subtasks:

1.1 Data Collection

Review plant operational data and procedures in the field to confirm approaches to be used in preliminary design.

1.2 Design Basis Memorandum

Prepare a Design Basis Memorandum that addresses the alum, polymer, LAS, caustic, chlorine, alkalinity adjustment feasibility and sedimentation basin design criteria for the O.N. Stevens WTP Facilities Feed Optimization Improvements. The Design Basis Memorandum shall be composed of a series of chapters addressing the major project elements. The Memo will document the critical design criteria and assumptions, including 15-30% Drawings, process and equipment selection, mechanical and structural layouts, and cost estimates for the project elements. The overall intent of the Design Basis Memorandum is to document the critical design criteria, design considerations, and provide a description of the recommended improvements. It is not the intent to evaluate every possible alternative or to make wholesale changes to the existing processes. The Design Basis Memorandum will address the following components:

1.2.1 Design Criteria

Summarize the intent of the project, and present the Basis of Design for the project in tabular form, listing each process element and key information for associated equipment, such as number and size of units, capacities, etc, for those project elements that will be designed.

1.2.2 Chemical Storage Improvements

Develop preliminary design concepts for chemical storage, both bulk and day tank, facility improvements for alum, polymer and LAS.

1.2.3 Chemical Feed Improvements

Develop preliminary design concepts for flow-paced chemical feed facilities for alum, polymer, LAS and caustic.

1.2.4 Chemical Injection Improvements

Develop preliminary design concepts for relocating or making improvements upon existing chemical injection points for alum, polymer, LAS and chlorine.

1.2.5 Sedimentation Basin Hydraulic Improvements

Develop preliminary design concepts to improve flow distribution and decrease head losses in the sedimentation basins.

1.2.6 Instrumentation and Controls

Develop preliminary design concepts for instrumentation and controls for alum, polymer, LAS and caustic.

1.2.7 SCADA

Develop preliminary design concepts for SCADA for alum, polymer, LAS and caustic.

1.2.8 Electrical Improvements

Develop preliminary design concepts for the electrical improvements for alum, polymer, LAS and caustic.

1.2.9 Alkalinity Adjustment

Develop feasibility study and cost estimates which address proper chemical, storage, delivery and injection system to provide additional alkalinity during storm events where alum is used in excess.

1.2.10 Civil Site Work

Develop preliminary design concepts for civil site work improvements including roadways, grading and drainage.

1.2.11 Structural Improvements

Develop preliminary design concepts for structural improvements

1.3 Preparation of Preliminary Contract Documents

Prepare Preliminary Plans based on the Design Basis Memorandum and the decisions from the Design Workshop and as selected by the OWNER.

Drawings shall be prepared on 11” x 17” sheet format per the OWNER’s standards using AutoCAD software. Drawings shall be provided with text file format that index file name with sheet number.

The Preliminary Contract Documents shall include:

a. Site plans

b. Facility layouts of process structures
c. Mechanical plans, pipe routing & cross sections
d. Process flow diagrams
e. Process & instrumentation diagrams
f. Structural plans, sections and elevations
g. Electrical improvements
h. Preliminary Opinion of Probable Cost

1.4 Quality Management Check

The ENGINEER's shall perform an internal Quality Management Check of the Preliminary Contract Documents.

1.5 Deliverables

1.5.1 Design Basis Memorandum

An electronic version (PDF file) of each chapter of the Draft Design Basis Memorandum will be provided to the OWNER for review and comment. Comments received from the OWNER will be incorporated in a final version of each chapter.

1.5.2 Final Design Basis Memorandum (30%) Submittal

The ENGINEER shall prepare and submit the Final Design Basis Memorandum with plans and specifications at the 15-30% level of completion in accordance with Exhibit A. The Final Design Basis Memorandum submittal shall include the various discipline plans, technical specifications, and typical details as appropriate to the level of design at the time of submittal and in accordance with the OWNER's final review comments.

1.5.3 Drawings

Provide an electronic copy of the Preliminary Drawings (PDF format).

1.6 Meetings and Workshops

Attend project meetings throughout the preliminary design phase to keep the OWNER informed on the progress, issues, and development of the preliminary design. Additionally, these meetings will facilitate identification of the project goals and proposed timetables. These meetings and workshops are described further as follows:

1.6.1 Kick-Off Meeting

Attend preliminary design project kick-off meeting with project participants to review the design Scope of Work and preliminary design delivery schedule.

1.6.2 Project Workshop

Attend two full-day workshops. The purpose of the workshop will be to discuss the project with OWNER's personnel and make decisions. The ENGINEER will provide an agenda for the workshop no less than 3 days in advance of the workshop and will record the workshop activities, action items, and decisions.

1.6.3 Design Basis Memorandum Review Workshop

Attend up to two (2) 2 hr workshops. The purpose of the workshops will be to review the Draft Design Basis Memorandum to incorporate OWNER's review comments into the Final Design Basis Memorandum.

The ENGINEER shall develop and distribute to project contributors a preliminary schedule of all required project documentation and assign responsibility for creating, updating and distributing project documentation. Additionally, the ENGINEER shall revise and redistribute such schedule throughout the life cycle of the project

PART 2 - DESIGN PHASE

The ENGINEER shall complete a final design in accordance with the design concepts set forth in the Preliminary Phase. Detailed drawings, technical specifications, and typical details shall be developed for mechanical project elements. Technical specifications shall be based on the format of the Construction Specifications Institute (CSI). Note: The ENGINEER will use the OWNER's plan preparation standards for their specific construction contract documents.

TASK 2.0 PLANS AND SPECIFICATIONS

2.1 Prepare Plans and Specifications

Provide plans and specifications in accordance with Exhibit A.

2.2 60-Percent Interim Design Submittal

The ENGINEER shall prepare and submit plans and specifications at the 60 percent level of completion in accordance with Exhibit A. The 60 percent design submittal shall include the various discipline plans, technical specifications, and typical details as appropriate to the level of design at the time of the submittal.

The ENGINEER shall also attend a half-day submittal review workshop with OWNER Staff for the 60-Percent design submittal. The design team shall develop a log of the OWNER's review comments and submit with the Pre-Final (100 Percent) submittal.

2.3 100-Percent Pre-Final Design Submittal

The ENGINEER shall prepare and submit plans and specifications at the 100-percent level of completion in accordance with Exhibit A. The 100-percent design submittal shall include the various discipline plans, technical specifications, and typical details as appropriate to the level of design at the time of the submittal.

Attend a half-day submittal review workshop with OWNER Staff for the Pre-Final design submittal to the OWNER. The design team shall develop a log of the OWNER's review comments and submit with the Pre-Final (100 Percent) submittal.

2.4 Quality Management Check

The ENGINEER shall perform an internal detailed quality management check, in accordance with Exhibit A.

2.5 Final Opinion of Probable Cost

The ENGINEER shall update the cost estimate and provide a final opinion of probable cost, in accordance with Exhibit A.

2.6 Final Design Submittal

The ENGINEER shall submit final documents, ready for bid solicitation, in accordance with Exhibit A.

PART 3 - BID PHASE

TASK 3.0 BID PHASE SERVICES

3.1 Pre-Bid Conference

ENGINEER will assist OWNER in conducting a Pre-Bid Conference to review the details of the project and solicit questions regarding the Bid Documents. ENGINEER will document the conference in writing within 5 working days.

3.2 Addenda Preparation and Response

ENGINEER will answer OWNER and Contractor questions, develop written responses in the form of Contract Addenda, provide (1) set of any required addenda for distribution to Bidders.

3.3 Bidding Coordination

ENGINEER will assist the City in solicitation of bids by identification of prospective bidders, and review of bids by solicited interests.

3.4 Bid Evaluation and Recommendation of Award

The ENGINEER will tabulate and review all bids received for compliance with the requirements of the bid documents, including addenda. After consultation with OWNER, the team will prepare a written award recommendation based on this review and knowledge of proposed contractors' and subcontractors' past performance records.

PART 4 - CONSTRUCTION PHASE

TASK 4.0 CONSTRUCTION PHASE SERVICES

Construction Phase Services shall be provided in accordance with Exhibit A and as follows:

4.1 Pre-Construction Meeting

Attend in accordance with Exhibit A.

4.2 Review Submittals and Test Results

ENGINEER will receive, log and distribute for review and approval the submittals, shop drawings, samples, test results, operations and maintenance manuals, and other data that Contractor is required to submit. ENGINEER will distribute and file the submittals after review action has been taken. ENGINEER will follow-up to verify that revisions are made and resubmitted as required and will verify that such required submittals are received and approved prior to installation or payment for the materials covered. ENGINEER will also perform a review of the schedule of shop drawing submissions and schedule of values prepared by Contractor and will discuss status of the submittals at construction progress meetings. ENGINEER will be responsible for completing the submittal reviews within 15 business days and for monitoring the status and timeliness of responses.

ENGINEER, with other Project Team members, will review and approve product data, shop drawings, samples, test results, operations and maintenance manuals, and other data that the Contractor is required to submit. However, such reviews will be conducted only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such review and approval or other action will not extend to means, methods, sequences, techniques or procedures of

construction selected by Contractor, or to safety precautions and programs incident thereto.

ENGINEER will maintain a submittal log showing dates of submittal, transmittal action to other sub-consultants, dates of return and review action. Copies of the log will be furnished to the OWNER and the Contractor monthly. ENGINEER will also evaluate the Contractor's request for substitutions. Submittal review efforts are based on a maximum of two (2) reviews per submittal and that no more than fifty percent (50%) of the total number of first submittal will require two (2) reviews. The level of effort for this task is based on receiving 100 shop drawing submittals.

4.3 Interpretations/Clarifications and Responses to Requests for Information

The ENGINEER shall review and respond in writing to RFIs for those elements of the Project designed by the ENGINEER. Questions and concerns that arise during construction shall be documented using the Request for Information (RFI) format. Design team members shall provide oversight in each discipline to ensure that the decisions made in design are incorporated in the responses to RFIs generated during construction.

ENGINEER will maintain an RFI log showing dates of submittal, transmittal action to other sub-consultants, dates of return, and a summary of the response. Copies of the log will be furnished to the OWNER and the Contractor monthly. The level of effort for this task is based on receiving 25 RFIs.

4.4 Site Visits

ENGINEER will make regular visits (two per month for the duration of construction and startup) to the site to observe the general progress and quality of construction for those elements of the Project designed by the ENGINEER, and to confer with OWNER's on-site staff.

4.5 Change Orders

ENGINEER will review cost and time estimates for change orders and for Contractor's claims for additional cost or compensation due to differing site conditions, force majeure, material or equipment shortages, or other causes. ENGINEER will also provide an estimate of the additional Design Consultant costs (if any) that would be incurred as a result of the change order.

ENGINEER will evaluate Contractor's claims to determine whether they are justified under the Contract and will review Contractor's proposals for additional compensation, credits, and/or time relating to changes or claims. ENGINEER will make recommendations to the City's Project Manager on the amount of additional

compensation, credit, or time extension due to the Contractor. In addition, ENGINEER will clarify matters and work to resolve discrepancies with the Contractor.

ENGINEER, with other Project Team members, will perform necessary design revisions in connection with change orders to reflect modifications requested by the City, or as required by unforeseen conditions. Coordination of the resulting change order requests and any additional Design Consultant research and design efforts, up to a maximum number of hours as shown in the fee schedule, are included in this scope.

ENGINEER, with input from other Project Team members, will consider and evaluate Contractor's suggestions for changes in the Contract Drawings or Specifications and respond as appropriate or as required by the Contract Documents. ENGINEER will coordinate with the City and provide recommendations pertaining to the suggested design modifications.

ENGINEER, with other Project Team members, will also perform necessary design revisions authorized by the City in connection with change orders to reflect modifications requested by the Contractor and will perform services in evaluating substitutions proposed by Contractor. Coordination of the resulting change order requests and any additional Design Consultant research and design efforts, up to a maximum number of hours as shown in the fee schedule, are included in this scope.

4.6 Substantial Completion/Final Acceptance Inspection

Following notice from the Contractor, ENGINEER will conduct an inspection to determine if the Project is substantially complete in accordance with the construction documents. If ENGINEER considers the work substantially complete, then ENGINEER will deliver to OWNER and the Contractor a Certificate of Substantial Completion and a list of observed items requiring completion or correction (punch list), date for completion for the punch list, and recommendation for division of responsibilities between the OWNER and the Contractor.

ENGINEER will conduct a final inspection to determine if the finished Work has been completed to the standard required by the Contract Documents and that Contractor has fulfilled its obligations as required. This inspection will be based on the punch list and any other functional or operational deficiencies that occur in the time period between when the punch list is generated and the Final Inspection. A final list of items to be completed or corrected in accordance with the requirements of the construction documents will be prepared and submitted to the Contractor.

After the Contractor has completed the work of the final punch list and upon written notice from the Contractor, ENGINEER will review and determine that items on the final list have been completed or corrected and make recommendations to the OWNER concerning acceptance and final payment.

4.7 Review Contractor-Submitted Operations and Maintenance Manuals

Provide in accordance with Exhibit A for those elements of the Project designed by the ENGINEER.

4.8 Record Drawings

ENGINEER will prepare and deliver to the City record drawings of the constructed work both in hard copy and complete electronic files for the project in AutoCAD and PDF. Record drawing information will be obtained from redlined drawings prepared by the Contractor and will be prepared in accordance with Exhibit A for those elements of the Project designed by the ENGINEER.

4.9 Construction Coordination

Provide construction administration, quality control, value engineering support and coordination: ENGINEER will provide construction administration and quality control services during the course of the project to assure that the overall technical correctness of the construction phase services and that specified procedures are being followed and ENGINEER's schedules are being met. ENGINEER will provide coordination functions during the construction phase as follows:

- Coordinate with regulatory and approving agencies and utilities as required.
- Coordinate the work of specialty sub-consultants assigned to the project.
- Maintain and provide detailed project records and documentation during the construction phase. Project records will include correspondence, schedules, submittals, test data, project data, payments, change orders, meeting minutes, clarifications, mark-ups of drawings and specifications, and other such documentation. Project records will be delivered to the City's representative upon completion of the construction contract. Records will be maintained at the ENGINEER's office.
- Project Management Manuals.
- Status reports for the construction contract will be provided.

4.10 Monthly Progress Meetings

ENGINEER will attend monthly construction progress meetings (1 per month for the duration of construction) along with owner representative and contractor to receive progress reports on construction schedules, costs, issues, etc. ENGINEER will prepare and distribute meeting minutes within a one week period of each meeting.

B. ADDITIONAL SERVICES

The following describes the Additional Services that may be provided as part of the project, upon written authorization by the OWNER.

1. PERMITTING

TCEQ Design Submittal: The ENGINEER shall coordinate, prepare, and submit the required Summary Transmittal Letter documentation for TCEQ notification and authorization to begin construction. Update the ONSWTP Concentration-Time (CT) Study and Surface Water Monthly Operating Report (SWMOR) accordingly.

2. TOPOGRAPHIC SURVEY

Provide Topographic Survey services as described in Exhibit A for those elements of the project designed by the ENGINEER.

3. WARRANTY PHASE SERVICES

Provide Warranty Phase services as described in Exhibit A for those elements of the Project designed by the ENGINEER. In addition to the Warranty Phase services described in Exhibit A, provide the services of ENGINEER's staff **(up to 60 hours total)** to resolve equipment issues and other warranty issues that may arise during the warranty period.

4. START-UP SERVICES

Provide Start-up services for those elements of the Project designed by the ENGINEER. The ENGINEER shall provide detailed checklist and start-up coordination to assist the Contractor in performing all integration and programming. The ENGINEER will also coordinate start-up assistance of the equipment with the appropriate Contractor staff to assure Project start-up activities are performed expeditiously.

Validate that the testing program submitted by the Contractor is in conformance with the Contract Documents and assure that the system(s) will respond properly during normal operations and anticipated unusual conditions.

Observe conduct of testing and startup and verify that the approved testing program is followed and the reports provided are accurate and complete.

Review the Contractor's training plan and instruction materials for compliance with Contract Documents. Contractor or Manufacturer training presentations will be scheduled and coordinated with OWNER personnel and facility operation.

5. PROVIDE SCADA DOCUMENTATION

Provide standardized SCADA documentation, which will include PFDs, P&IDs, loop sheets, logics, SCADA architecture, DCS I/O lists, instrument lists, tie-in lists, piping lists, equipment lists, and instrumentation specification sheets. The construction documents will include the requirements within the Construction Contract and specifications that the Contractor is to prepare SCADA documents as specified, for submission to the ENGINEER for review and approval. ENGINEER will provide the final SCADA documentation to OWNER in organized format when approved.

Prepare construction documents listing requirements and specifications for the contractor to prepare an equipment operation and maintenance manual for submittal to the OWNER. Incorporate review comments from the OWNER, ENGINEER, OWNER operations personnel and program manager and develop a final equipment O&M manual.

6. PROJECT COORDINATION SERVICES

The ENGINEER shall attend additional project coordination meetings no more often than bi-monthly, which will be billed as an additional service. The additional coordination and meetings shall be a **maximum of 80 hours**. These meetings shall be for the purpose of coordinating the design efforts of the Raw Water Improvements project with this project. Coordination shall consist of ENGINEER's attendance of meetings to jointly discuss and communicate project requirements, critical interfaces and various other correspondences to promote continuity and minimize conflicts.

7. CONTROL SYSTEM INTEGRATION

Provide engineering services to review Contractor's control system configuration parameters such as P&ID parameters, set points, and alarm levels required to achieve correct operation, alarming, emergency notification, and response associated with the automated control system. Engineer will support and coordinate with Contractor on integration of the new PLC panel into the existing SCADA system, configuration of the Historical server, integration of the HMI screens into existing system-wide HMI, demonstration and verification to Owner stability of the new, integrated system. This task is subsequent to the Control Logic and Application Development.

8. OPERATIONS AND MAINTENANCE MANUAL AND TRAINING

The ENGINEER shall provide engineering services for the operations and maintenance manual and corresponding training as follows:

- Provide workshops to identify all required manuals and training required by the Contractor.

- Coordinate overall system training and submit Contractor provided training material to OWNER for pre-review prior to training classes.

- A total of 3 training support sessions that will last approximately 4 hours are planned. The Contractor provided training will be both classroom and hands-on and is intended to supplement the information presented in the O&M Manual.

- Ensure that the Owner is in possession of all Manuals and has received all specified training prior to placing the finished product in service.

9. WINDSTORM

Engineer will perform Windstorm calculations, inspections, and provide certification for structures as necessary. The OWNER shall furnish existing windstorm certificates for recertification of existing structures.

- Prepare WPI-1 form in accordance with the requirements of the Texas Department of Insurance (TDI) for Windstorm for the each of the New Structures; including foundations.

- Review design calculations for new building structures and foundations to insure design is in accordance with the International Building Code 2003/2006 and Texas Dept. of Insurance for Windstorm compliance.

- Perform wind pressure calculations in accordance with the International Building Code 2003/2006 for all building envelopes to insure all component and cladding elements meet or exceed the requirements of TDI for Windstorm.

- Review all necessary submittals for foundation reinforcing, wall and floor framing, windows/frames/anchoring, doors/frames/anchoring, louvers/frames/anchoring and roofing for compliance with TDI. Initial submittal review and one (1) re-submittal review is included in this contract. Additional review of re-submittal's will be performed at an hourly rate of $150.00.

- Perform necessary inspections during the entire construction process for all buildings and their respective foundation systems as required to visually verify that all foundation reinforcing, anchorage, primary and secondary framing,

connections, sheathing installation, doors, windows and louvers are all constructed as designed. Additional re-inspections will be performed at an hourly rate of $150.00.

- Submit WPI-2 –BC-5 forms upon completion of construction to receive the WPI-8 Windstorm Certificate.

Windstorm Certification Requirements:
The Contractor/Owner shall be responsible for providing all necessary Design / Assembly Documentation for all windows, doors, louvers...etc. to the Windstorm Engineer / Inspector as required to conform to the requirements of the Texas Department of Insurance. All windows, doors, louvers...etc., at a minimum, shall meet all positive (inward) and negative (outward) wind pressures for "Components and Cladding" in accordance with the International Building Code 2006 (IBC 2006 with latest Texas Revisions) as calculated by Texas Registered Professional Engineer for the specific project. All Custom-Built Doors / Windows must be tested for the appropriate wind design pressures with a certified facility as approved by the Texas Dept. of Insurance prior to receiving any certification.

10. PROCESS AUTOMATION SYSTEM DEVELOPMENT

Assist the OWNER with defining and documenting the User Requirements Specifications (URS) for the control system. Control Logic and Application Development is a necessary step in designing, writing, and implementing the proper control logic. This task also insures that the control logic and applications meet the owner's expectations and requirements and that the components function properly before being integrated into the rest of the system.

- Engineering Services to solicit from the Owner and document User Requirements Specification (URS) for the Process Automation
- Engineering Services to develop Detailed Functional Specification (DFS) and Sequence Of Operation (SOO) based on User Requirements
- Engineering Services to determine and specify all control system configuration parameters such as PID parameters, setpoints, and alarm levels required to achieve correct operation, alarming, and emergency notification and response of the automated control system. To include parameters for new pumps and equipment as well as modification to control system parameters for existing equipment.
- Engineering Services to develop Integration, Verification, and Validation (IV&V) documentation. Develop phased testing and acceptance plan for the new control system. Develop all required testing scenarios, checklists, acceptance and sign-off documentation, installation and cutover sequence,

and other quality control and acceptance documentation to be used by the contractor.

- Engineering Services to develop drawings and specifications required by contractor to deliver a functional, integrated Process Automation System.
- Engineering Services to coordinate, attend and witness acceptance tests, startup, and commissioning. Determine whether supplied system meets requirements and recommend acceptance to Owner.
- Upon successful start-up and commissioning, update Detailed Functional Specification and Sequence of Operation, if required, and submit to Owner with As-Built documentation.
- Provide engineering services required to coordinate the integrators development of the Human Machine Interface (HMI) graphics for the operator work stations.
- Provide engineering services required to coordinate the integrators programming of the specified PLC platform according to the SOO.
- Provide engineering services to coordinate the integrators verification and demonstrate to the OWNER that the PLC and HMI operator workstation function as designed prior to installation in field.

EXHIBIT B

SAMPLE PAYMENT REQUEST FORM

Sample form for:
Payment Request
Revised 07/27/00

COMPLETE PROJECT NAME
Project No. XXXX
Invoice No. 12345
Invoice Date:

Basic Services:	**Contract**	**Amd No. 1**	**Amd No. 2**	**Total Contract**	**Amount Invoiced**	**Previous Invoice**	**Total Invoice**	**Percent Complete**
Preliminary Phase	$1,000	$0	$0	**$1,000**	$0	$1,000	$1,000	100%
Design Phase	2,000	1,000	0	**3,000**	1,000	500	1,500	50%
Bid Phase	500	0	250	**750**	0	0	0	0%
Construction Phase	2,500	0	1,000	**3,500**	0	0	0	0%
Subtotal Basic Services	$6,000	$1,000	$1,250	**$8,250**	$750	$1,500	$2,500	30%
Additional Services:								
Permitting	$2,000	$0	$0	**$2,000**	$500	$0	$500	25%
Warranty Phase	0	1,120	0	**1,120**	0	0	0	0%
Inspection	0	0	1,627	**1,627**	0	0	0	0%
Platting Survey	TBD	TBD	TBD	**TBD**	TBD	TBD	TBD	0%
O & M Manuals	TBD	TBD	TBD	**TBD**	TBD	TBD	TBD	0%
SCADA	TBD	TBD	TBD	**TBD**	TBD	TBD	TBD	0%
Subtotal Additional Services	$2,000	$1,120	$1,627	**$4,747**	$500	$0	$500	11%
Summary of Fees								
Basic Services Fees	$6,000	$1,000	$1,250	**$8,250**	$750	$1,500	$2,500	30%
Additional Services Fees	2,000	1,120	1,627	**4,747**	500	0	500	11%
Total of Fees	$8,000	$2,120	$2,877	**$12,997**	$1,250	$1,500	$3,000	23%

City of Corpus Christi

SUPPLIER NUMBER
TO BE ASSIGNED BY CITY
PURCHASING DIVISION

CITY OF CORPUS CHRISTI
DISCLOSURE OF INTEREST

City of Corpus Christi Ordinance 17112, as amended, requires all persons or firms seeking to do business with the City to provide the following information. Every question must be answered. If the question is not applicable, answer with "NA". See reverse side for Filing Requirements, Certifications and definitions.

COMPANY NAME: LNV, Inc.

P. O. BOX:

STREET ADDRESS: 801 Navigation, Suite 300 **CITY:** Corpus Christi **ZIP:** 78408

FIRM IS: 1. Corporation ☐ 2. Partnership ☐ 3. Sole Owner ☐
4. Association ☐ 5. Other ☐

DISCLOSURE QUESTIONS

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Job Title and City Department (if known)
NONE	

2. State the names of each "official" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Title
NONE	

3. State the names of each "board member" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Board, Commission or Committee
NONE	

4. State the names of each employee or officer of a "consultant" for the City of Corpus Christi who worked on any matter related to the subject of this contract and has an "ownership interest" constituting 3% or more of the ownership in the above named "firm."

Name	Consultant
NONE	

FILING REQUIREMENTS

If a person who requests official action on a matter knows that the requested action will confer an economic benefit on any City official or employee that is distinguishable from the effect that the action will have on members of the public in general or a substantial segment thereof, you shall disclose that fact in a signed writing to the City official, employee or body that has been requested to act in the matter, unless the interest of the City official or employee in the matter is apparent. The disclosure shall also be made in a signed writing filed with the City Secretary. [Ethics Ordinance Section 2-349 (d)]

CERTIFICATION

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the City of Corpus Christi, Texas as changes occur.

Certifying Person: **Dan S. Leyendecker, P.E.** **Title:** **President**

(Type or Print)

Signature of Certifying Person: **Date:** 3-10-16

DEFINITIONS

a. "Board member." A member of any board, commission, or committee appointed by the City Council of the City of Corpus Christi, Texas.

b. "Economic benefit". An action that is likely to affect an economic interest if it is likely to have an effect on that interest that is distinguishable from its effect on members of the public in general or a substantial segment thereof.

c. "Employee." Any person employed by the City of Corpus Christi, Texas either on a full or part-time basis, but not as an independent contractor.

d. "Firm." Any entity operated for economic gain, whether professional, industrial or commercial, and whether established to produce or deal with a product or service, including but not limited to, entities operated in the form of sole proprietorship, as self-employed person, partnership, corporation, joint stock company, joint venture, receivership or trust, and entities which for purposes of taxation are treated as non-profit organizations.

e. "Official." The Mayor, members of the City Council, City Manager, Deputy City Manager, Assistant City Managers, Department and Division Heads, and Municipal Court Judges of the City of Corpus Christi, Texas.

f. "Ownership Interest." Legal or equitable interest, whether actually or constructively held, in a firm, including when such interest is held through an agent, trust, estate, or holding entity. "Constructively held" refers to holdings or control established through voting trusts, proxies, or special terms of venture or partnership agreements."

g. "Consultant." Any person or firm, such as engineers and architects, hired by the City of Corpus Christi for the purpose of professional consultation and recommendation.