

HANSEN, ALLEN & LUCE, INC.
ENGINEERING SERVICES AGREEMENT

THIS ENGINEERING SERVICES AGREEMENT (this "AGREEMENT") is made and entered into as of the _____ day of _____, 2018, by and between Salem City ("CLIENT") and HANSEN, ALLEN & LUCE, INC., a Utah corporation ("HA&L"), who agree as follows:

1. PROJECT. CLIENT desires to engage HA&L to provide engineering, technical, and other services as described below in connection with CLIENT'S project (the "PROJECT"). The PROJECT is described as follows: Culinary and Secondary Water Master Plan.

The site of the PROJECT (the PROJECT SITE) is located as follows: Salem, Utah

2. SCOPE OF SERVICES. HA&L shall provide certain specified services (the "SERVICES") on the PROJECT in accordance with this AGREEMENT, the Hansen, Allen & Luce, Inc. Standard Terms and Conditions ("STANDARD TERMS") attached hereto as Exhibit A, and the Scope of Services ("SCOPE OF SERVICES") attached hereto as Exhibit B. HA&L shall not be responsible to provide any services not expressly contained in the STANDARD TERMS or the SCOPE OF SERVICES.

3. FEES. CLIENT shall reimburse HA&L for services provided under this AGREEMENT on an hourly billing rate plus reimbursable expenses basis, with a not-to-exceed fee of \$196,900 in accordance with the HA&L Standard Fee Schedule (FEE SCHEDULE) attached hereto as Exhibit C. CLIENT hereby agrees that all fees and charges set forth in the FEE SCHEDULE are acceptable to CLIENT, and CLIENT further agrees to pay all fees and charges to HA&L in accordance with this AGREEMENT and FEE SCHEDULE.

4. ATTACHMENTS AND EXHIBITS. All attachments and exhibits referenced in or attached to this AGREEMENT are incorporated herein and are made a part of this AGREEMENT.

5. CLIENT has read and understood the terms and conditions set forth on this AGREEMENT, the STANDARD TERMS, and all ATTACHMENTS and EXHIBITS and agrees that such items are hereby incorporated into and made a part of this AGREEMENT.

IN WITNESS WHEREOF, CLIENT and HA&L have executed this AGREEMENT as of the date first above written.

CLIENT: _____

HANSEN, ALLEN & LUCE, INC.

By: _____

By: _____

Its: _____

Its: _____

Attest: _____

Its: _____

EXHIBIT A

HANSEN, ALLEN & LUCE, INC. STANDARD TERMS AND CONDITIONS

The standard terms and conditions set forth herein are attached to and made a part of the Engineering Services Agreement (the "AGREEMENT") between Hansen, Allen & Luce, Inc. ("HA&L"), a Utah corporation and CLIENT (as defined in the AGREEMENT).

All capitalized terms which are not specifically defined herein shall have the meanings assigned to such terms in the AGREEMENT.

ARTICLE 1. SERVICES. The SERVICES to be provided by HA&L are limited to and shall be as set forth in the SCOPE OF SERVICES attached to the AGREEMENT as Exhibit B.

ARTICLE 2. BILLING. Unless otherwise expressly provided in the AGREEMENT, billings will be based on actual accrued time, costs and expenses. CLIENT agrees to pay invoices upon receipt. If payment is not received by HA&L within 30 days of the invoice date, the amount due shall bear interest at a rate of 1.5 percent per month (18 percent per annum), before and after judgement and CLIENT shall pay all costs of collection, including without limitation reasonable attorneys' fees (provided, however, if interest provided in this ARTICLE 2 exceeds the maximum interest allowed under any applicable law, such interest shall automatically be reduced to the maximum interest allowable by applicable law). If CLIENT has any objection to any invoice or part thereof submitted by HA&L, CLIENT shall so advise HA&L in writing, giving CLIENT's reasons, within 14 days of receipt of such invoice. Payment of the invoice shall constitute final approval of all aspects of the work performed to date as well as the necessity thereof. If the PROJECT or the AGREEMENT is terminated in whole or part prior to the completion of the SERVICES, then HA&L shall be paid for work performed prior to HA&L's receiving or issuing written notice of such termination and in addition HA&L shall be reimbursed for any and all expenses associated with the termination of the PROJECT or the AGREEMENT, including without limitation any "shut-down" costs.

ARTICLE 3. RIGHT OF ENTRY. CLIENT grants a right of entry to the PROJECT SITE to HA&L, its employees, agents, consultants, contractors, and subcontractors, for the purpose of performing services, and all acts, studies, and research in connection therewith, including without limitation the obtaining of samples and the performance of tests and evaluations.

ARTICLE 4. PERMITS AND LICENSES. CLIENT represents and warrants that it possesses all necessary permits and licenses required for the performance of the SERVICES and the continuation of CLIENT and HA&L's activities at the PROJECT SITE.

ARTICLE 5. DOCUMENTS. CLIENT shall furnish, or cause to be furnished, such reports, data, studies, plans, specifications, documents and other information deemed necessary by HA&L for the proper performance of the SERVICES. HA&L shall be entitled to rely upon documents provided by the CLIENT in performing the SERVICES. All documents provided by CLIENT shall remain the property of CLIENT; provided, that HA&L shall be permitted at HA&L's discretion to retain copies of such documents for HA&L's files. All documents prepared by HA&L in connection with the performance of the SERVICES, including but not limited to drawings, specifications, computer files, reports, field notes, laboratory test data, calculations, estimates, and other documents and instruments shall remain the exclusive property of HA&L. CLIENT agrees that all documents of any nature furnished to CLIENT or CLIENT's agents or designees, if not paid for by CLIENT, will be returned to HA&L upon demand and will not be used by CLIENT for any purpose whatsoever. CLIENT further agrees that under no circumstances shall any documents produced by HA&L pursuant to this AGREEMENT be used at any location or for any project not expressly provided for in this AGREEMENT without HA&L's prior written permission. If CLIENT has used or uses any portion of HA&L's work without HA&L's consent, CLIENT shall indemnify and save HA&L harmless from any and all claims arising from or relating to, in any way, such unauthorized use.

ARTICLE 6. OPINIONS REGARDING COST. In providing opinions of probable construction cost, the CLIENT understands that HA&L has no control over costs or the price of labor, equipment or materials, or over the contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of HA&L's qualifications and experience. HA&L makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to the bid or actual costs.

ARTICLE 7. INDEMNITY. HA&L hereby agrees to indemnify and hold harmless CLIENT and CLIENT's officers, employees, agents, successors and assigns from and against any and all losses, damages and liabilities to the extent caused by any negligent acts, errors or omissions of HA&L or HA&L's consultants or subconsultants of any tier, or their officers, employees or agents, with respect to the AGREEMENT or the performance of HA&L's SERVICES. CLIENT hereby agrees to indemnify and hold harmless HA&L and HA&L's consultants and subconsultants of any tier and their officers, directors, employees, agents, successors and assigns from and against any and all losses, damages and liabilities to the extent caused

HANSEN, ALLEN & LUCE, INC.
STANDARD TERMS AND CONDITIONS (cont.)

by the negligent acts, errors or omissions of CLIENT or CLIENT's other consultants or contractors, or their officers, employees or agents, with respect to the AGREEMENT or the performance of HA&L's SERVICES.

ARTICLE 8. ENGINEER LIABILITY. HA&L maintains worker's compensation and employer's liability insurance for HA&L personnel, as may be required by state law. HA&L also maintains liability and auto liability insurance as required by state law. HA&L also maintains professional liability insurance. A Certificate of Insurance evidencing the coverage currently held by HA&L may be supplied upon written request by CLIENT.

Notwithstanding any provision of the AGREEMENT to the contrary, HA&L shall not be liable or responsible for any costs, expenses, losses, damages, or liability beyond the amount of the fee earned, or the amounts, limits, coverage, or conditions of the insurance held by HA&L, whichever is less. In the event any third party brings suit or claim against HA&L for any matter relating to or arising from the SERVICES, the PROJECT, or the PROJECT SITE (including, without limitation any suit alleging exposure to or damage from material, elements or constituents at or from the PROJECT or the PROJECT SITE or which is alleged to have resulted in or caused disease or any adverse health condition to any third party, or resulted in costs for remedial action, uninhabitability of the property, or other property damage), before, during or after the performance of the SERVICES, CLIENT agrees, at its sole cost and expense, to indemnify, defend and hold HA&L and its officers, employees, contractors, and representatives harmless from all costs (including without limitation attorney's fees, witness costs and courts costs), expenses, losses and judgements. CLIENT shall have the right to investigate, negotiate and settle, with HA&L's concurrence, any such suit or claim.

ARTICLE 9. FORCE MAJEURE. HA&L is not responsible for damages or delays in performance caused by factors beyond HA&L's control, including but not limited to strikes, lockouts, work slowdowns or stoppages, accidents, acts of God, failure of any governmental or other regulatory authority to act in a timely manner, failure of the CLIENT to furnish timely information or approve or disapprove of HA&L's services or work product promptly, or delays cause by faulty performance by CLIENT or by contractor(s) or any level. When such delays beyond HA&L's reasonable control occur, the CLIENT agrees HA&L is not responsible for damages, nor shall HA&L be deemed to be in default of this AGREEMENT.

ARTICLE 10. CORPORATE PROTECTION. It is intended by the parties to this AGREEMENT that HA&L's professional services in connection with the project shall not subject HA&L's individual employees, officers or directors to any personal legal exposure for the risks associated with this PROJECT. Therefore, and notwithstanding anything to the contrary contained herein, the CLIENT agrees that as the CLIENT'S sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against HA&L, a Utah corporation, and not against any of HA&L's employees, officers or directors.

ARTICLE 11. EXTENSION OF PROTECTION. The CLIENT agrees to extend any and all liability limitations and indemnifications provided by the CLIENT to HA&L to those individuals and entities HA&L retains for performance of the services under this AGREEMENT, including but not limited to HA&L's officers and employees and their heirs and assigns, as well as HA&L's subconsultants and their officers, employees, heirs and assigns.

ARTICLE 12. STANDARD OF CARE. The SERVICES will be performed in accordance with generally accepted engineering principles and practices existing at the time of performance for the locality where the SERVICES were performed.

ARTICLE 13. GOVERNING LAW. The CLIENT and HA&L agree that all disputes arising out of or in any way connected to this AGREEMENT, its validity, interpretation and performance and remedies for breach of contract, or any other claims related to this AGREEMENT shall be governed by the laws of the State of Utah.

ARTICLE 14. MEDIATION. In an effort to resolve any conflicts that arise during the design or construction of the PROJECT or following the completion of the PROJECT, the CLIENT and HA&L agree that all disputes between them arising out of or relating to this AGREEMENT shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

ARTICLE 15. LEGAL ACTION. All legal actions by either party against the other arising from the AGREEMENT, or for the failure to perform in accordance with the applicable standards of care provided in the AGREEMENT, or for any other cause of action, shall be barred 2 years from the date the claimant knew or should have known of its claim; provided, however, no legal actions shall be asserted by CLIENT or HA&L after 4 years from the date of substantial completion of the SERVICES.

ARTICLE 16. LITIGATION ASSISTANCE. The SCOPE OF SERVICES does not include costs of HA&L for required or requested assistance to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the CLIENT. All such services required or requested of HA&L except for suits

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or claims between the parties to the AGREEMENT will be reimbursed as mutually agreed, and payment for such services shall be in accordance with this AGREEMENT, unless and until otherwise required by a court or arbitrator.

ARTICLE 17. CHANGES. CLIENT may make or approve changes by written change order within the SCOPE OF SERVICES. CLIENT shall pay any additional costs of such changes at the rates set forth in the current FEE SCHEDULE.

ARTICLE 18. TERMINATION. Either the CLIENT or HA&L may terminate this AGREEMENT at any time with or without cause upon giving the other party thirty (30) calendar days prior written notice. The CLIENT shall within thirty (30) calendar days of termination pay HA&L for all services rendered and all costs incurred up to the date of termination, in accordance with the compensation provisions of this AGREEMENT.

ARTICLE 19. SURVIVAL. All obligations arising prior to the termination of the AGREEMENT and all provisions of the AGREEMENT allocating the responsibility or liability between CLIENT and HA&L shall survive the completion of the SERVICES and the termination of the AGREEMENT.

ARTICLE 20. NO THIRD PARTY BENEFICIARIES. No rights or benefits are provided by the AGREEMENT to any person other than the CLIENT and HA&L and the AGREEMENT has no third-party beneficiaries.

ARTICLE 21. INTEGRATION. The AGREEMENT and all the exhibits and attachments thereto constitute the entire agreement between the parties and cannot be changed except by a written instrument signed by all parties thereto.

ARTICLE 22. CONTRACTOR AND JOB-SITE SAFETY. If contractor(s) are involved in the PROJECT, HA&L shall not be responsible for the supervision or direction of any contractor or its employees or agents, and CLIENT shall so advise the contractor(s). Neither the professional activities of HA&L, nor the presence of HA&L or his or her employees and subconsultants at a construction site, shall relieve the contractor(s) and any other entity of their obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending or coordinating all portions of the Work of construction in accordance with the contract documents and any health or safety precautions required by any regulatory agencies. HA&L and his or her personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions. HA&L shall not be responsible for job or site safety on the PROJECT or at the PROJECT SITE, and HA&L shall not have the right or obligation to stop the work of any contractor or other person at the PROJECT SITE. The CLIENT agrees that the contractor(s) are solely responsible for jobsite safety, and warrants that this intent shall be made evident in the CLIENT's agreement with the contractor(s). The CLIENT also agrees that CLIENT, HA&L and HA&L's consultants shall be indemnified and shall be made additional insureds under the contractor(s) general liability insurance policy.

ARTICLE 23. NO SUPERVISION OR REPORTING DUTIES. HA&L shall not, under any circumstances, assume control of or responsibility for the PROJECT SITE or the persons operating on the PROJECT SITE nor shall HA&L be responsible for reporting to any federal, state or local agencies any conditions at the PROJECT SITE that may present potential dangers to public health, safety or the environment. CLIENT shall promptly notify the appropriate federal, state or local agencies, or otherwise disclose, any information that may be necessary to prevent any danger to health, safety or the environment, in accordance with applicable law and in a timely manner.

ARTICLE 24. SHOP DRAWING REVIEW. HA&L shall review and approve or take other appropriate action on the Contractor submittals, such as shop drawings, product data, samples and other data, which the Contractor is required to submit, but only for the limited purpose for checking for conformance with the design concept and the information shown in the Construction Documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. HA&L's review shall be conducted with reasonable promptness while allowing sufficient time in HA&L's judgment to permit adequate review. Review of a specific item shall not indicate that HA&L has reviewed the entire assembly of which the item is a component. HA&L shall not be responsible for any deviations from the Construction Documents not brought to the attention of HA&L in writing by the Contractor. HA&L shall not be required to review partial submissions or those for which submissions of correlated items have not been received.

ARTICLE 25. HAZARDOUS MATERIALS. As used in this AGREEMENT, the term *hazardous materials* shall mean any substances, including but not limited to asbestos, toxic or hazardous waste, PCBs, combustible gases and materials, petroleum or radioactive materials (as each of these is defined in

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applicable federal statutes) or any other substances under any conditions and in such quantities as would pose a substantial danger to persons or property exposed to such substances at or near the PROJECT SITE

ARTICLE 26. HAZARDOUS MATERIALS - SUSPENSION OF SERVICES. Both parties acknowledge that HA&L's SCOPE OF SERVICES does not include any services related to the presence of any hazardous or toxic materials. In the event HA&L or any other party encounters any hazardous or toxic materials, or should it become known to HA&L that such materials may be present on or about the jobsite or any adjacent areas that may affect the performance of HA&L's services, HA&L may, at its option and without liability for consequential or any other damages, suspend performance of its services under this AGREEMENT until the CLIENT retains appropriate consultants or contractors to identify and abate or remove the hazardous or toxic materials and warrants that the jobsite is in full compliance with all applicable laws and regulations.

ARTICLE 27. HAZARDOUS MATERIALS INDEMNITY. The CLIENT agrees, notwithstanding any other provision of this AGREEMENT, to the fullest extent permitted by law, to indemnify and hold harmless HA&L, its officers, partners, employees and consultants from and against any and all claims, suits, demands, liabilities, losses, damages or costs, including reasonable attorney's fees and defense costs arising out of or in any way connected with the detection, presence, handling, removal, abatement, or disposal of any asbestos or hazardous or toxic substances, products or materials that exist on, or about or adjacent to the PROJECT SITE, whether liability arises under breach of contract or warranty, tort, including negligence, strict liability or statutory liability or any other cause of action, except for the sole negligence or willful misconduct of HA&L.

Salem City Culinary Water and Pressurized Irrigation Master Plan

SCOPE OF WORK:

The purpose of this project is to prepare a comprehensive culinary water and pressurized irrigation master plan to assist Salem City with growth and development while ensuring an efficient and sustainable drinking water and pressurized irrigation system over the 40-year planning period.

The following items are included in the scope of work:

Planning Area

- Working in cooperation with the City, HAL will identify the final project planning area. In general, this will be the proposed annexation declaration area of Salem City with some slight variations if necessary.

Demographics & Land Use

- A comprehensive demographic analysis that, at a minimum, includes the following:
 - A detailed evaluation of the population growth rate over the last 40 years, and an in-depth projection of population growth rate for the next 40 years. The growth analysis shall account for and analyze population projections, analysis, and considerations from the Governor's Office of Planning and Budget, Envision Utah, 2018 Economic Report to the Governor by the Kem C Gardner Policy Institute, as well as other applicable economic and growth related projection publications. Multiple growth projection methodologies will be considered to provide a reasonable growth that can be expected over the planning period.
 - A detailed evaluation of the current zoning and land use patterns.
 - A detailed projection and recommendations of future land use, zoning, and development patterns over the next 40 years.
 - A projection of the build-out population and land use of the current Annexation Declaration Boundary and a comparison of current land use patterns with future or projected land use patterns over the 40 year planning period.
 - An assessment of the ability of the current zoning patterns to absorb new development and meet future population growth levels.

- An evaluation of current commercial, industrial, institutional, and residential land uses and water use. Projections of the commercial, industrial, institutional, and residential land uses and water use required for the next 40 years will be made. This evaluation shall also include an analysis of the Salem I-15 Interchange and project reasonable and sustainable industrial, commercial, and professional uses and land requirements.

Level of Service

- An evaluation and recommendation for defensible Level of Service and System Capacity Requirements in compliance with 2018 Revisions to Utah Code 19-4 (H.B. 303) – Water Use Data Reporting and Public Water System Minimum Sizing Requirements for the drinking water system and in compliance with the Utah State Impact Fee Law for both water systems. Requirements will define the level of service the city will provide for water rights, supply, storage, distribution, and treatment for all residential housing types, commercial, industrial, and institutional uses anticipated. Although requirement units will vary, all requirements will be related to an Equivalent Residential Unit (ERU) in Salem with regards to lot size and number of persons per household, for comparison purposes.
- Utilizing actual water use data, a comparison of the soon to be updated Utah State Rule R309-510 Division of Drinking water minimum sizing requirements for water storage, water source, and water distribution with actual use.

Culinary Water System

- All water system projections will include entire Annexation Declaration Area as defined by the final planning area.
- An in-depth water rights analysis for both existing and future culinary water rights over the planning period.
 - An evaluation and recommendations for water right requirements to be applied to new commercial, industrial, and residential developments.
 - A comparison of water rights requirements from Salem, Spanish Fork, Payson, Santaquin, Mapleton, Springville, Elk Ridge, and Woodland Hills.
 - A water right tracking program to be used by Salem City.
 - An evaluation and recommended actions to be taken regarding the existing water rights owned and or contracted with Salem City.
 - An update to the City's 40 year plan for water rights.

- A Hydraulic Water Model created in accordance with DDW Rule R309-511. The hydraulic model shall be available for viewing on CityWater™, an online viewing system developed by Aquaveo, a software company headquartered in Provo, Utah. HAL will provide a trial subscription of CityWater™ to Salem City and provide all support and information necessary to the use of CityWater™. After the trial subscription, Salem City can decide to pay the subscription fee or decide to use another modeling software solution. At a minimum the hydraulic model will meet the following requirements:
 - Hydraulic Model shall be field calibrated to current conditions based on water billing data, production data, SCADA information, pressure tests, hydrant flow tests, water quality tests, and energy billing data.
 - Model demands shall be loaded in such a way as to represent the actual allocation of the existing system.
 - Existing Peak Day, Average Day, and Minimum Day Scenarios are to be created for basis of existing infrastructure evaluation. All scenarios shall be an extended period simulation (EPS) with water quality and energy modeling capabilities.
 - Future Peak Day, Average Day, and Minimum Day EPS Scenarios are to be created for the basis of the 40-year planning analysis.
 - Future Peak Day demands will be a result of the growth, demand, and water rights analyses.
 - Model shall be used to identify system deficiencies including fire flow analysis, distribution analysis, pressure analysis, water quality analysis, source analysis, storage analysis, and energy efficiency analysis.
 - A flushing analysis shall be provided.
- An evaluation of the existing conditions of the culinary water system, and recommendations for necessary improvements regarding the following:
 - Water Supply Sources including, surface, spring, and groundwater sources
 - Water Storage Systems including open reservoirs and storage tanks
 - Water Distribution systems including pump station facilities, control valves, and pipelines. Recommendations may include capital projects and operational changes.
 - A pressure zone analysis for the entire system, and recommended changes to improve efficiencies, proper flow distribution, etc., with corresponding costs and implementation schedule.

- Water Treatment methods such as intermediate chlorination and/or water age mitigation techniques.
 - An evaluation of existing water quality relative to any pending or anticipated changes in drinking water standards.
- An evaluation of the future requirements of the culinary water system that will be required over the planning period:
 - Water Supply Sources including potential new sources/sites
 - Water Storage Systems including potential new sources/sites
 - Water Distribution systems including potential transmission infrastructure
 - Water Treatment methods
 - Water Quality
- Recommendations on the implementation of size and approximate location of all necessary system components. Recommendations will consider time of need for improvements categorized by existing deficiencies, future deficiencies caused by growth, need to serve new development, or redundancy including:
 - Water Supply Sources
 - Water Storage Systems
 - Water Distribution systems
 - Water Treatment methods
 - Water Quality
 - Energy Efficiency
- A well location study based on the additional well requirements. Recommendations for well locations shall be based on current and future needs as well as redundancy, source vulnerability and well site viability.
- An evaluation of the possible Relief Mine Spring Development Project and a recommendation as to whether or not this should be pursued. The evaluation will provide an answer to the question, “Should Salem City spend the time and resources necessary to prepare a PER for this project and move forward with the development of the spring?”
- An evaluation of the existing Water Canyon Spring and recommendations for improvement.
- A water-use priority sequence that identifies which water source should be utilized first, second, third, etc. The priority should be based on per unit source costs, redundancy, future needs, vulnerability etc.

- A metering analysis and recommendations for a metering upgrade that will allow instantaneous reading, real time or nearly real time customer use data, leak detection, online customer portal, historical use tracking, etc. This system should mesh with the recommendations for the pressurized irrigation system as well as the city's existing billing system.
- A review and analysis of the existing SCADA system and recommended improvements with corresponding costs and implementation schedule. Salem's current SCADA system makes getting information from the system very difficult. The recommended solution will solve this problem as well as others identified in the review and analysis.
 - Recommended improvements will include any pertinent modifications to operational set points for system optimization for operations and energy use.
 - Recommended improvements will include equipping existing infrastructure with SCADA controls and identifying new locations for hydraulic control monitoring to facilitate system operations and identify water loss in specific regions.
- A construction standards review and an update of sections pertinent to the culinary water system. These updates will need to be approved by the DDW. The PRV standards will be updated and developed as part of the construction standards review. A submittal for DDW for plan check waiver will be prepared.
- An implementation/capital improvements schedule for improvements identified in the culinary water master plan, identifying trigger points based on population growth. Projects anticipated within the first 20 years of the 40-year planning period will be detailed with cost estimates prepared, adjusted for the approximate construction date. Projects anticipated between years 20 and 40 shall be less detailed and have a more general cost estimate prepared and escalated over time. This shall include funding recommendations for the implementation of all necessary changes in the system.
- A water conservation plan. Water conservation plan must meet all state requirements.
- The Central Utah Water Conservancy District plans for water supply, pipes, and turnouts will be incorporated into the master plan.
- An AWWA Water Audit using the IWA/AWWA Water Audit Method:
 - A water balance analysis as outlined in AWWA guidelines.
 - An in-depth analysis of water loss sources.
 - An in-depth analysis of authorized consumption sources.

- Cost estimates for all recommended improvements.
- An in-depth analysis of user rates, billing, and production data, including a recommended implementation schedule of modified rates. Rates shall be defensible and based on actual budget requirements.
- An Impact Fee Facilities Plan and Analysis and recommendations for an appropriate impact fee and implementation schedule. The impact fee facilities plan and analysis shall comply with current Utah State Law.
- Findings of all components will be summarized in a written report or reports. Hydraulic evaluations created in the model shall include a digital deliverable to be incorporated into Salem City GIS or be the basis thereof.

Pressurized Irrigation

- A metering analysis of the system, including recommendations for appropriate customer metering and AMI system improvements, cost estimates, revenue estimates, and a determination of ROI of this improvement. This system will mesh with the recommendations for the culinary water system as well as the city billing system.
- A landscape incentive program that would promote water conservation when selecting landscape types for all water users.
- An evaluation of wastewater re-use feasibility, including an estimate of associated costs; including environmental clearances, pump stations, piping, water rights, etc. as well as an implementation plan demonstrating how this could be accomplished and paid for.
- All water system projections will include entire Annexation Declaration Area as defined by the final planning area.
- An in-depth water rights analysis for both existing and future pressurized irrigation water rights over the planning period.
 - An evaluation and recommendations for water right requirements to be applied to new commercial, industrial, and residential developments.
 - A comparison of water rights requirements from Salem, Spanish Fork, Payson, Santaquin, Mapleton, Springville, Elk Ridge, and Woodland Hills.
 - A water right tracking program to be used by Salem City.
 - An evaluation and recommended actions to be taken regarding the existing water rights owned and or contracted with Salem City.
 - An update to the City's 40 year plan for water rights.
- A Hydraulic Water Model. The hydraulic model shall be available for viewing on CityWater™, an online viewing system developed by Aquaveo, a software company headquartered in Provo, Utah. HAL will provide a trial subscription of CityWater™ to Salem City and provide all support and information necessary to the use of CityWater™. After Salem City has been given sufficient opportunity to use and evaluate CityWater™, Salem City will pay subscription and/or software fees to Aquaveo if continued use of CityWater™ is desired. At a minimum the hydraulic model will meet the following requirements:
 - Hydraulic Model shall be field calibrated to current conditions based on production data, SCADA information, pressure tests, and energy billing data.

- Model demands shall be loaded in such a way as to represent the actual allocation of the existing system.
- Existing Peak Day and Average Day Scenarios will be created for basis of existing infrastructure evaluation. All scenarios shall be an extended period simulation (EPS) with energy modeling capabilities.
- Existing Peak Day and Average Day Scenarios will be created for the basis of the 40-year planning analysis.
 - Future Peak Day demands will be a result of the growth, demand, and water rights analyses.
- Model shall be used to identify system deficiencies including distribution analysis, pressure analysis, source analysis, storage analysis, and energy efficiency analysis.
- An evaluation of the existing conditions of the pressurized irrigation water system, and recommendations for necessary improvements regarding the following:
 - Water Supply Sources including, surface, spring, and groundwater sources
 - Water Storage Systems including open reservoirs and storage tanks
 - Water Distribution systems including pump station facilities, control valves, and pipelines. Recommendations may include capital projects and operational changes.
 - A pressure zone analysis for the entire system, and recommended changes to improve efficiencies, proper flow distribution, etc., with corresponding costs and implementation schedule.
 - Water Treatment, including filtration.
- An evaluation of the future requirements of the pressurized irrigation water system that will be required over the planning period:
 - Water Supply Sources including potential new sources/sites
 - Water Storage Systems including potential new sources/sites
 - Water Distribution systems including potential transmission infrastructure
 - Water Treatment
- Recommendations on the implementation of size and approximate location of all necessary system components. Recommendations will consider time of need for improvements categorized by existing deficiencies, future deficiencies caused by growth, need to serve new development, or redundancy including:
 - Water Supply Sources
 - Water Storage Systems

- Water Distribution systems
 - Water Treatment
 - Energy Efficiency
- An evaluation of the potential use of wells in the pressurized irrigation system, including potential well locations.
- A water-use priority sequence that identifies which water source should be utilized first, second, third, etc. The priority should be based on per unit source costs, redundancy, future needs, vulnerability etc.
- A metering analysis and recommendations for a metering upgrade that will allow instantaneous reading, real time or nearly real time customer use data, leak detection, online customer portal, historical use tracking, etc. This system should mesh with the recommendations for the drinking water system as well as the city's existing billing system.
- A review and analysis of the existing SCADA system and recommended improvements with corresponding costs and implementation schedule. Salem's current SCADA system makes getting information from the system very difficult. The recommended solution will solve this problem as well as others identified in the review and analysis.
 - Recommended improvements will include any pertinent modifications to operational set points for system optimization for operations and energy use.
 - Recommended improvements will include equipping existing infrastructure with SCADA controls and identifying new locations for hydraulic control monitoring to facilitate system operations and identify water loss in specific regions.
- A construction standards review and an update of sections pertinent to the pressurized irrigation water system.
- An implementation/capital improvements schedule for improvements identified in the pressurized irrigation water master plan, identifying trigger points based on population growth. Projects anticipated within the first 20 years of the 40-year planning period will be detailed with cost estimates prepared, adjusted for the approximate construction date. Projects anticipated between years 20 and 40 shall be less detailed and have a more general cost estimate prepared and escalated over time. This shall include funding recommendations for the implementation of all necessary changes in the system.
- A water conservation plan. Water conservation plan must meet all state requirements.

- The Central Utah Water Conservancy District plans for water supply, pipes, and turnouts will be incorporated into the master plan.
- An AWWA Water Audit using the IWA/AWWA Water Audit Method:
 - A water balance analysis as outlined in AWWA guidelines.
 - An in-depth analysis of water loss sources.
 - An in-depth analysis of authorized consumption sources.
- Cost estimates for all recommended improvements.
- An in-depth analysis of user rates, billing, and production data, including a recommended implementation schedule of modified rates. Rates shall be defensible and based on actual budget requirements.
- An Impact Fee Facilities Plan and Analysis and recommendations for an appropriate impact fee and implementation schedule. The impact fee facilities plan and analysis shall comply with current Utah State Law.
- Findings of all components will be summarized in a written report or reports. Hydraulic evaluations created in the model shall include a digital deliverable to be incorporated into Salem City GIS or be the basis thereof.

STANDARD FEE SCHEDULE
2018

PERSONNEL CHARGES

Client agrees to reimburse Hansen, Allen & Luce, Inc. (HAL), for personnel expenses directly related to the completion of the project, in accordance with the following:

Table listing personnel charges with rates per hour: Senior Managing Professional (\$179.50/hr), Managing Professional (\$156.50/hr), Senior Professional II (\$145.25/hr), Senior Professional I (\$136.10/hr), Professional III (\$126.20/hr), Professional II (\$113.30/hr), Professional I (\$105.30/hr), Professional Intern (\$95.10/hr), Engineering Student Intern (\$49.35/hr), Senior Designer (\$101.50/hr), Senior Field Technician (\$101.60/hr), Field Technician (\$82.55/hr), CAD Operator (\$82.55/hr), Secretary (\$60.75/hr), Professional Land Surveyor (\$116.70/hr), 1 Man GPS Surveying Services (\$137.90/hr), and Expert Legal Services (\$288.50/hr).

DIRECT CHARGES

Client also agrees to reimburse HAL for all other costs directly related to the completion of the project. Direct charges shall include, but not be limited to, the following:

Table listing direct charges: Communication, Computer, Reproduction (\$6.00 per labor hour), Out-of-town per diem allowance (lodging not included) (\$46.00 per day), Vehicle (\$0.65 per mile), Outside consulting and services (Cost plus 10%), Other direct expenses incurred during the project (Cost plus 10%), Trimble GPS Unit (\$130.00 per day), Drone Unit (\$500.00 per day plus data conversion costs), and Data Logger/Transducer (\$125.00 per week).

INTEREST CHARGE AFTER 30 DAYS FROM INVOICE DATE..... 1.5% per month

Note: Annual adjustments to personnel and direct expense charges will occur in January of each year. Mileage rate changes

