Council Meeting of August 13, 2014

Agenda Item No. 6i

REQUEST FOR COUNCIL ACTION

SUBJECT: 2014 Master Drainage Plan Update

SUMMARY: Approve an agreement with Hansen, Allen and Luce, Inc. for the 2014 Master Drainage Plan Update in an amount not to exceed $118,100.

FISCAL IMPACT: The funds for this project are available in the Storm Capital Account.

STAFF RECOMMENDATION:

Staff recommends approval of the agreement with Hansen, Allen and Luce, Inc. for the 2014 Master Drainage Plan Update in an amount not to exceed $118,100.

MOTION RECOMMENDED:

"I move to adopt Resolution No. 14-146 authorizing the Mayor to execute a contract with Hansen, Allen and Luce, Inc. for the 2014 Master Drainage Plan Update in an amount not to exceed $118,100.

Roll Call vote required

Prepared by:
Tim Heyrend, P.E.
Utilities Engineer

Reviewed by:
Wendell T. Rigby, P.E.
Director of Public Works

Reviewed as to Legal Sufficiency:
Jeffery Robinson
City Attorney

Recommended by:
Richard L. Davis
City Manager

BACKGROUND DISCUSSION:
The City's Master Drainage Plan was last updated in 2007, which included the assessment and recommendations for future detention basins, pipelines, culverts model calibration and a capital projects list. Since that time, many new subdivisions and roadways have been constructed and an evaluation of the drainage system is advised. Typically, master drainage plans are updated every five years to keep up with growth and system expansion requirements.

This Master Drainage Plan Update will assess the current and future drainage system and past recommendations, and also expand the City's stormwater model to include all inlets and pipes to provide an accurate representation of stormwater conveyance. Surveying and geographic information system (GIS) input of inlets and pipes throughout the City which have not been previously surveyed is included. A new capital facilities plan will be generated with a cost breakdown for current system repair and maintenance, and growth-related costs.

The City advertised the request for proposals to three pre-approved engineering firms who are all well qualified to perform the work. Two engineering firms responded with proposals: Hansen Allen and Luce, Inc., and Bowen Collins and Associates, Inc. Each firm turned in proposals for the work which showed expertise and project experience; however, according to the published selection criteria, the proposal which best met the needs of the City and complied fully with the request for proposal document, and also the lowest priced proposal is from Hansen Allen Luce, Inc., at an overall cost of $118,100. Please see the proposal review at the back of this staff report for how the two firms compared with each other. Therefore, it is recommended that the City accept Hansen Allen Luce's proposal for the work in an amount not to exceed $118,100.

Attachments:
- Resolution
- Agreement
- Evaluation Form

THE CITY OF WEST JORDAN, UTAH
A Municipal Corporation

RESOLUTION NO. 14-146

A RESOLUTION AUTHORIZING THE MAYOR TO EXECUTE AN AGREEMENT BETWEEN THE CITY AND HANSEN ALLEN AND LUCE, INC.

Whereas, the City Council of the City of West Jordan has received proposals for the 2014 Master Drainage Plan Update with the best proposal as determined by the City's selection criteria being from Hansen Allen and Luce, Inc. in the amount of $118,100.00; and

Whereas, the City Council desires to award the contract to Hansen Allen and Luce, Inc. which award shall not be binding upon the City of West Jordan unless and until the contract is fully executed by the parties; and

Whereas, the proposed contract between the City of West Jordan and Hansen Allen and Luce, Inc. (a copy of which is attached as **Exhibit A**) for the 2014 Master Drainage Plan Update has been reviewed; and

Whereas, the City Council of the City of West Jordan has determined that the attached contract with Hansen Allen and Luce, Inc. for the 2014 Master Drainage Plan Update is acceptable for an amount not to exceed $118,100.00.

NOW, THEREFORE, IT IS RESOLVED BY THE CITY COUNCIL OF WEST JORDAN, UTAH:

Section 1. The agreement for the 2014 Master Drainage Plan Update is hereby awarded to Hansen Allen and Luce, Inc. which award shall not be binding upon the City of West Jordan until the contract is fully executed by the parties.

Section 2. Agreement between the City of West Jordan and Hansen Allen and Luce, Inc. in the amount of $118,100.00; and

Section 3. This Resolution shall take effect immediately.

Adopted by the City Council of West Jordan, Utah, this 13th day of August 2014.

_____
Kim V. Rolfe
Mayor

ATTEST:

_____
MELANIE S. BRIGGS
City Recorder

Voting by the City Council	"AYE"	"NAY"
Jeff Haaga	____	____
Judy Hansen	____	____
Chris McConnehey	____	____
Chad Nichols	____	____
Ben Southworth	____	____
Justin D. Stoker	____	____
Mayor Kim V. Rolfe	____	____

CITY OF WEST JORDAN

REQUEST FOR PROPOSALS

Engineering Services for
2014 Master Drainage Plan Update

The City of West Jordan (City) requests engineering proposals from Professional Consulting Engineering Firms (Consultant) for planning, modeling, future project needs descriptions, cost estimating, and report preparation of the 2013 Storm Drainage Master Plan Update (Master Plan). The Master Plan study area encompasses the entire City of West Jordan as well as contributory drainage basins located outside the physical boundary of the City.

BACKGROUND

The City completed a Master Drainage Plan Update in 2007 that included maps of the drainage areas and existing and recommended future stormwater collection systems; HEC modeling; culvert improvements; trunkline improvements; and detention basin sizes. The City has now begun using GIS-based INFOSWMM software by Innovyze, and is in the process of entering in all pipes, manholes, and basins to this model. Surveying of the majority of the manholes is complete. The majority of pipes and some basins have been added to the model, along with invert depths. The City now desires to complete the INFOSWMM model and use it to analyze system deficiencies and create a Capital Facilities Plan (CFP) through buildout.

PROJECT DESCRIPTION

The Master Plan Update will evaluate through modeling with INFOSWMM the hydraulic capacity of the existing storm drain pipes and inlets both now and into the future at buildout, and recommend capital facilities improvements to convey stormwater and alleviate any flooding areas, and to improve the drainage capacity during a 100 year 3 hour storm event.

The Master Plan will also evaluate areas of the City where the stormwater system and irrigation systems are combined, and recommend capital projects to separate the systems. The general format for the report will follow the 2007 Master Drainage Plan Update.

PROJECT OBJECTIVES

The City's objective of this project is to have the stormwater model completed in INFOSWMM, analyze existing and future stormwater flows and modify the CFP through buildout. The consultant shall survey the remaining areas of the City Storm drain system, complete the INFOSWMM model, analyze system deficiencies, recommend and revise capital projects, estimate the costs for these projects, segregate the costs into impact fees versus user fees for each project, present the report and CFP to City Council for approval, and train City staff on the updated model and functionality.

SCOPE OF WORK

The following is a further itemized list of requirements and deliverables required for this Project:

- Collect and Review Existing Information including the following:
  - Aerial orthophotography and topography
  - Previous relevant storm drainage studies
  - An inventory of existing storm drain pipes which discharge to the canals
  - Digital base map for the study (ownership parcel map)
  - Transportation master plan information
  - Zoning and projected land use maps
  - Future annexation information
  - Existing drainage ordinances and policies
  - Existing digital inventory of drainage facilities
  - Historic flooding areas and known drainage system deficiencies
  - Regional and local detention basin capacities and outflow characteristics
  - Soil maps for the study area.
- Survey all areas of the City which have not been entered into the model, including parts of the existing system where insufficient data is available to enter into the model.
  - Use the GIS drawings of the stormwater division to compare to the data entered into the model, and determine where additional surveying is needed.
  - Survey the rim and invert of the missing data locations and enter the pipes, manholes and inlets into the model.
- Complete the INOFSWMM Model for existing flood control structures.
  - Update the City's INFOSWMMM model to create the Existing Scenario in the model that mirrors the GIS data of pipes, inlets, and manholes from the storm water division.
  - Use the INFOSWMM Subbasin Manager and LIDAR data (supplied by the City) to create subbasin areas for **EACH** inlet.
  - Use the City's Land Use Plan and Master Transportation Plan to develop a Buildout Scenario of needed facilities according to runoff flows generated.
- Review and incorporate into INFOSWMM past hydraulic studies of canals and creeks.
  - Update and incorporate recently completed construction projects. Creeks and canals include Bingham Creek, the Utah Lake Distributing Canal, the Utah & Salt Lake Canal, the Welby Jacob Canal, the South Jordan Canal, and the North Jordan Canal, Barneys Wash, Barneys Creek, Clay Hollow, Dry Wash, and Unnamed Wash.
- Incorporate the 2007 drainage basins and sub-basins into INFOSWMM
  - Use topographic information and existing storm drainage system inventories to identify regional and local drainage patterns, including drainage areas per inlet.
- Evaluate system and detention adequacy
  - Model the 10 year 24-hour storm for pipe capacity, and the 100 year 24-hour storm for basins, culverts, channels, and overland flows.
  - Identify the capacities of all existing storm drainage facilities, inlets, and pipes.

- Identify and include in the model, with City assistance, all private detention basins and orifice plates. Restrict flows to a maximum of 0.2 cfs per acre when basins are present in the existing scenario and in undeveloped areas for the buildout scenario.
- Determine the adequacy of all existing drainage facilities as well as recommending improvements to inadequate facilities.
- Evaluate conveyance capacities for pipes and open channels, maximum storm water release rates for new development, and minimum capacity for storm water detention facilities.

- Evaluate alternative system improvements
  - Review with City personnel the results of the hydraulic and hydrologic analyses that identified existing and future storm drain system deficiencies, and propose alternative improvements, if required, to alleviate these existing and potential flood control problems.
- Develop cost estimates and a revised Capital Facilities Plan for the recommended improvements
  - Develop a revised Capital Facilities Plan for implementing the recommended improvements.
  - Provide a breakdown of the costs into User Fee (operational) costs, and Impact Fee (new growth) costs and percentages for each project.
  - Prioritize the projects according to the highest need.
- Update the general stormwater guidelines
  - Revise the guidelines from the 2007 report, and update these guidelines as necessary to come into compliance with Federal and State codes, and Salt Lake County's Regional Master Plan.
- Public Involvement
  - Obtain community input and foster support for the drainage master plan including holding (2) stakeholder meetings, and attending Planning Commission and City Council Meetings.
- Provide regular (monthly at a minimum) project management and progress coordination meetings
  - Provide project related correspondence, guidance, and direction to the project team, as well as attending project progress and coordination meetings to ensure that the study direction and results are consistent with the City's expectations.
- Incorporate channel capacities and right of way widths from the 2007 study and include new area reaches
  - Estimate capacities for reaches of Barneys Wash, Barneys Creek, Clay Hollow, and Dry Wash west of 5600 West, where natural channels need to be reestablished in the process of development.
  - Meet with City personnel to develop recommended channel right-of-way widths for these reaches, to accommodate channel, maintenance, and trail improvements.
- Report preparation
  - Prepare a draft report of each section for City review, prior to final acceptance.

Prepare a draft full report for final review. Prepare a final report to go to City Council in electronic pdf format. Incorporate any comments from Council. Prepare 20 full copies in binders, and full electronic files with separate figures, tables, and text.

- Prepare and deliver final copies to the City in Word, Excel, and PDF all original file documents.
- Prepare, deliver files, and make operable to the City the completed INFOSWMM model.

➢ Staff Training

- Provide (2) separate 3- hour training sessions to staff with the updated model, showing the basic functionality, scenarios, data management, methodology and how to use the model and add new data as subdivisions and projects are built in the City.

SCHEDULE

The City desires to complete the Master Plan by the end of May 2015. The proposing engineer shall evaluate the project scope and propose a schedule that is reasonable and that can be accomplished considering the work tasks and the project objectives.

APPROVALS

The Master Plan Update, Model, Report, and Capital Facilities Plan will be owned and funded by the City. Thus the City will be the primary approval agency.

PROPOSAL FORMAT

The proposals should contain the following information in the general order listed, and should not exceed eight (8) pages in length:

1. Introductory letter (does not count toward 8 page total).
2. A description of the project team and the qualifications of the firm to complete this project.
3. Identify the availability of the project personnel by showing the percent of time the team members have to work on this project. Identify key personnel critical to the project's completion.
4. A detailed scope of work prepared by the consultant including a summary of the deliverables to be provided to the City.
5. A proposed schedule to complete the scope of work.
6. A summary spreadsheet, to be included in the proposal separately from the sealed fee proposal, of the amount of time in hours estimated to be spent on each task identified in the scope of work and the classification of personnel to be used. The spreadsheet shall show the hours to be spent on each task and the classification of personnel to be assigned to do each task. Identify any special services to be provided by resources outside of the firm.
7. Information about other work performed by the consultant on projects similar to this project and at least three references from other clients with whom the consultant has

performed similar services.

8. In a ***separate sealed envelope***, provide a single copy of the proposed project fee to complete the project with subtotals by task as identified in the scope of work. Also, include the hourly rates charged for individuals identified on the project team and a summary of all the additional reimbursable expenses considered necessary to complete the study.
9. A City conflict of interest form must be filled out and returned with the proposal (does not count toward the eight page total.
10. Include example executive summaries from at least one similar master plan project completed by the consultant. (These summaries may be included in an appendix and will not count toward the 8 page total).

ENGINEERING CONSULTANT QUALIFICATION

Engineering consultants that will be given consideration must meet the following conditions:

1. Submit a complete proposal including all items requested.
2. Demonstrate experience with stormwater and drainage master planning, INFOSWMM modeling analysis, and preparation of master plans of comparable size and scope.
3. Use of qualified personnel and civil engineers on the project team.

SUBMITTAL REQUIREMENT

Five (5) copies of the technical proposal and one copy of the sealed fee proposal shall be submitted to the City by **4:00 p.m. on Thursday July 10th, 2014**.

Submittal shall be made to the City of West Jordan Recorders Office, Attention: David Murphy, Engineering Manager for Capital Facilities, 8000 South Redwood Road, West Jordan, UT 84088.

Questions pertaining to this request for proposals should be directed to Tim Heyrend at (801) 569-5069, or by e-mail at timh@wjordan.com. A selection committee appointed by City Administration shall review the submittal material.

SELECTION OF CONSULTANT

The successful consultant will be selected in accordance with the City procurement policy. Selection criteria to be used by the selection team include the following:

1. Appropriate level of training, experience, and expertise of key project personnel.
2. Ability to perform the work with respect to availability of key personnel, present workload, and available equipment, resources, and facilities.
3. Quality and completeness of the detailed, written work plan.
4. Past performance on similar projects for other agencies and for the City in particular.
5. Project schedule.
6. Local office, local firm presence and availability of project personnel for meeting and communicating with City personnel.
7. Previous work that reflects special expertise or groundwork available for the proposed

project.

8. The professional fee proposal.
9. The quality of example reports from previous projects.

The evaluation process will be based solely on these factors. No other factors or criteria will be used in the evaluation. The evaluation process will include a numeric-scoring sheet as follows:

1.	Experience, qualifications, availability, references, location.	15 %
2.	Demonstrated understanding of the project.	15 %
3.	Scope of work to deliver the desired end product.	15 %
4.	Proposed schedule to complete the project.	10%
5.	Related project experience and example reports.	15 %
6.	Cost proposal.	30 %
		100 %

AGREEMENT FOR PROFESSIONAL SERVICES

City of West Jordan
2014 Master Drainage Plan Update

THIS AGREEMENT, made this 13th day of August 2014 between the City of West Jordan, a municipal corporation (hereinafter referred to as "City"), and Hansen, Allen and Luce, Inc. (hereinafter referred to as "Consultant").

WHEREAS, the City desires to obtain engineering services from Consultant, and Consultant desires to provide these services to City. City and Consultant, therefore, agree as follows:

1. **RETENTION AS CONSULTANT.** City hereby retains Consultant, and Consultant hereby accepts such engagement, to perform the services described in Paragraph 2 herein. Consultant warrants it has the qualifications, experience and facilities to properly perform these services.

2. **DESCRIPTION OF SERVICES.** The services to be performed by Consultant shall be as follows:

(1) See attached Request for Proposal and Hansen, Allen and Luce, Inc. submitted Proposal. (Exhibit A)

The above services shall be performed in accordance with the City's Request for Proposal inclusive of the Consultant's Proposal dated July 10, 2014 which are incorporated herein by this reference. The Proposal is more fully set forth in Exhibit A which is attached to this Agreement.

3. **COMPENSATION AND PAYMENT.** Except for authorized extra services (pursuant to Paragraph 4), if any, the total compensation payable to Consultant by City for the services described in Paragraph 2 shall not exceed the sum of $118,100.00.

All payments shall be made within thirty (30) calendar days after the Consultant has provided the City with written verification of the actual compensation earned, which written verification shall be in a form satisfactory to the City. Invoices shall be made no more frequently than on a monthly basis, and shall describe work performed.

4. **EXTRA SERVICES.** City shall pay Consultant for extra services which are authorized in writing in addition to the services described in Paragraph 2, in such amounts as mutually agreed to in advance. Unless the City and Consultant have agreed in writing before the performance of extra services, no liability and no right to claim compensation for such extra services or expenses shall exist.

5. **SERVICES BY THE CITY.** The City shall perform the following services:

(1) Provide to Consultant copies of available information related to the project and project site
(2) Promptly review Consultants work and provide Consultant with comments, if any, in a timely manner.

6. **PROGRESS AND COMPLETION.** Consultant shall commence work on the services to be performed upon receiving an executed copy of this Agreement from the City. Consultant shall complete the Master Plan by May 2015.

7. **OWNERSHIP OF DOCUMENTS.** All drawings, designs, data, photographs, reports and other

documentation, including duplication of same prepared by Consultant in the performance of these services, shall become the property of City upon termination of the consulting services pursuant to this agreement and upon payment in full of all compensation then due Consultant. The City agrees to hold the Consultant harmless from all damages, claims, expenses and losses arising out of any reuse of the plans and specifications for purposes other than those described in this Agreement, unless written authorization of the Consultant is first obtained.

8. **PERSONAL SERVICES; NO ASSIGNMENT; SUBCONTRACTOR.** This Agreement is for professional services, which are personal services to the City. The following persons are deemed to be key member(s) of or employee(s) of the Consultant's firm, and shall be directly involved in performing or assisting in the performance of this work:

Marvin E. Allen, M.S., P.E.
Gregory J. Poole, M.S., P.E.
Gordon Jones, M.S., P.E.

Should these individuals be removed from assisting in this contracted work for any reason, the City shall have the right to approve the replacement individuals assigned to the project or may terminate this Agreement.

This Agreement is not assignable by Consultant, without the City's prior consent in writing.

9. **HOLD HARMLESS AND INSURANCE.**

A. Indemnity.

Consultant shall indemnify and hold the City, its elected officials, officers and employees, harmless from all claims, lawsuits, demands, judgments or liability including reasonable attorney's fees, but not limited to, general liability, automobile and professional errors and omissions liability, arising out of, directly or indirectly, the negligent acts, errors and omissions of the Consultant in performing the services described.

B. Insurance.

Consultant shall, at Consultant's sole cost and expense and throughout the term of this Agreement and any extensions thereof, carry:

(1) workers compensation insurance adequate to protect Consultant from claims under workers compensation acts;

(2) professional errors and omissions insurance in the amount not less than $1,000,000; and

(2) general personal injury and property damage liability insurance and automobile liability insurance with liability limits of not less than $1,000,000 for each claimant and $1,000,000 for each occurrence related to the injury or death of a person or persons and for property damage. The City, its officers and employees, shall be named as an additional insured.

All insurance policies shall be issued by a financially responsible company or companies authorized to do business in the State of Utah which are carry a Moody's rating of not less than B+. Consultant shall provide City with copies of certificates (on the City certificate form) for all policies reflecting the coverage,

with an endorsement that they are not subject to cancellation without thirty (30) calendar days prior written notice to City.

10. **RELATIONSHIP OF THE PARTIES.** The relationship of the parties to this Agreement shall be that of independent contractor(s). In no event shall Consultant be considered an officer, agent, servant or employee of City. The Consultant shall be solely responsible for any worker's compensation, withholding taxes, unemployment insurance and any other employer obligations associated with the described work.

11. **STANDARD OF CARE.** Consultant services shall be performed in accordance with the skill and care ordinarily exercised by members of the same profession performing the same or similar services at the time Consultant's services are performed. Consultant shall, at Consultant's sole expense reperform any services not meeting this standard.

12. **CORRECTIONS.** In addition to the above indemnification obligations, the Consultant shall correct, at its expense, all errors in the work which may be disclosed during the City's review of the Consultant's report or plans. Should Consultant fail to make such correction in a reasonably timely manner, such correction shall be made by the City, and the cost thereof shall be charged to and paid by Consultant. "Errors in the work" as referred to above does not include and shall be in addition to, "redlines" or other standard corrections which are provided to Consultant by City.

13. **TERMINATION BY CITY.** Unless otherwise stated in the Special Terms and Conditions, this contract may be terminated, with cause by either party, in advance of the specified termination date, upon written notice being given by the other party. The party in violation will be given ten (10) working days after notification to correct and cease the violations, after which the contract may be terminated for cause. This contract may be terminated without cause, in advance of the specified expiration date, by either party, upon 30 days prior written notice being given the other party. On termination of this contract, all accounts and payments will be processed according to the financial arrangements set forth herein for approved services rendered to date of termination.

14. **ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE.** The acceptance by Consultant of the final payment made under this Agreement shall operate as and be a release to City from all claims and liabilities for compensation to, or claimed by, Consultant for anything done, finished or relating to the Consultant's work or services. Acceptance of payment shall be any negotiation of the City's check.

However, approval or payment by the City shall not constitute nor be deemed a release of the responsibility and liability of Consultant, its employees, subcontractors, agents and consultants for the accuracy and/or competency of the information provided and/or work performed; nor shall such approval or payment be deemed to be an assumption of such responsibility or liability by the City for any defect or error in the work prepared by Consultant, its employees, subcontractors, agents or consultants.

15. **WAIVER; REMEDIES CUMULATIVE.** Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, irrespective of the length of time for which such failure continues, shall not constitute a waiver of such party's right to demand strict compliance by such other party in the future. No waiver by a party of a default or breach of the other party shall be effective or binding upon such party unless made in writing by such party and no such waiver shall be implied from any omission by a party to take any action with respect to such default or breach. No express written waiver of a specified default or breach shall affect any other default or breach, or cover any other period of time, other than any default or breach and/or period of time specified. All of the remedies permitted or available to a party under this Agreement, or at law or in equity, shall be cumulative and alternative, and invocation of any such right or remedy shall not constitute a waiver or election of remedies

with respect to any other permitted or available right or remedy.

16. **CONSTRUCTION OF LANGUAGE OF AGREEMENT.** The provisions of this Agreement shall be construed as a whole according to its common meaning and purpose of providing a public benefit and not strictly for or against any party. It shall be construed consistent with the provisions hereof, in order to achieve the objectives and purposes of the parties. Wherever required by the context, the singular shall include the plural and vice versa, and the masculine gender shall include the feminine or neutral genders or vice versa.

17. **MITIGATION OF DAMAGES.** In all situations arising out of this Agreement, the parties shall attempt to avoid and minimize the damages resulting from the conduct of the other party.

18. **RECORDS ADMINISTRATION.** The Consultant shall maintain, or supervise the maintenance of all records necessary to properly account for the payments made to the Consultant for costs authorized by this contract. These records shall be retained by the Consultant for at least four years after the contract terminates, or until all audits initiated within the four years, have been completed, whichever is later.

19. **GOVERNING LAW.** This Agreement, and the rights and obligations of the parties, shall be governed and interpreted in accordance with the laws of the State of Utah.

20. **CAPTIONS.** The captions or headings in the Agreement are for convenience only and in no other way define, limit or describe the scope or intent of any provision or section of the Agreement.

21. **AUTHORIZATION.** Each party has expressly authorized the execution of this Agreement on its behalf and bind said party and its respective administrators, officers, directors, shareholders, divisions, subsidiaries, agents, employees, successors, assigns, principals, partners, joint ventures, insurance carriers and any others who may claim through it to this Agreement.

22. **REPRESENTATION REGARDING ETHICAL STANDARDS FOR CITY OFFICERS AND EMPLOYEES AND FORMER CITY OFFICERS AND EMPLOYEES.** The Consultant represents that it has not: (a) provided an illegal gift or payoff to a city officer or employee or former city officer or employee, or his or her relative or business entity; (b) retained any person to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, other than as exempted in the City's Conflict of Interest ordinance; or (c) knowingly influenced (and hereby promises that it will not knowingly influence) a city officer or employee or former city officer or employee to breach any of the ethical standards set forth in the City's Conflict of Interest ordinance, Title 2, Chapter 4 of the City of West Jordan Municipal Code.

23. **EQUAL OPPORTUNITY CLAUSE.** The Consultant agrees to abide by the provisions of Title VI and VII of the Civil Rights Act of 1964 (42USC 2000e) which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; and further agrees to abide by Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; 45 CFR 90 which prohibits discrimination on the basis of age; and Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act of 1990 which prohibits discrimination on the basis of disabilities. Also, the Consultant agrees to abide by Utah's Executive Order, dated June 30, 1989, which prohibits sexual harassment in the work place.

24. **ENTIRE AGREEMENT BETWEEN PARTIES.** Except for Consultant's proposals and submitted representations for obtaining this Agreement, this Agreement supersedes any other agreements, either oral or in writing, between the parties hereto with respect to the rendering of services, and contains all

of the covenants and agreements between the parties with respect to said services. Any modifications of this Agreement will be effective only if it is in writing and signed by the party to be charged.

25. **PARTIAL INVALIDITY.** If any provision in this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way.

26. **NOTICES.** Any notice required to be given hereunder shall be deemed to have been given by depositing said notice in this United States mail, postage prepaid, or by facsimile with proof of transmission, and addressed as follows:

TO CITY:
CITY OF WEST JORDAN
Tim Heyrend, P.E.
8000 South Redwood Road
West Jordan, Utah 84088
Facsimile No.: (801) 569-5127

With a copy to the City Attorney
Jeff Robinson, City Attorney
8000 South Redwood Road
West Jordan, Utah 84088
Facsimile No.: (801) 569-5149

TO CONSULTANT:
Marvin Allen, P.E.
Hansen, Allen and Luce, Inc.
6771 South 900 East
Murray, UT 84047
P: 801-566-5599
F: 801-566-5581

EXECUTION OF AGREEMENT

In concurrence and witness whereof, this Agreement has been executed by the parties effective on the date and year first above written.

CITY OF WEST JORDAN

Kim V. Rolfe
Mayor

ATTEST:

Melanie Briggs, MMC
City Recorder

APPROVED AS TO LEGAL FORM

City Attorney

CONSULTANT

By: Marvin E. Allen
Its: President

STATE OF Utah)
:SS
COUNTY OF Salt Lake

On this 28 day of July, 2014, personally appeared before me, Marvin E. Allen, who being by me duly sworn did say that he is the President of Hansen, Allen & Luce, Inc., a corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of its Board of Directors, and he acknowledged to me that said corporation executed the same.

PAULA ROBERTS
NOTARY PUBLIC-STATE OF UTAH
COMMISSION# 611329
COMM. EXP. 08-11-2015

Paula Roberts
NOTARY PUBLIC

My Commission Expires: 08-11-2015

Residing in Sandy County, Salt Lake

EXHIBIT A

(Consultant Proposal)

HANSEN ALLEN & LUCE inc
ENGINEERS

SALT LAKE AREA OFFICE
6771 SOUTH 900 EAST
MIDVALE, UTAH 84047
PHONE (801) 566-5599
FAX (801) 566-5581
www.hansenallenluce.com

July 10, 2014

City of West Jordan
Recorder's Office
Attention: David Murphy
Engineering Manager for Capital Facilities
8000 South Redwood Road
West Jordan, Utah 84088

Re: Proposal to Provide Engineering Services for 2014 Master Drainage Plan Update

Dear Mr. Murphy and Members of Selection Committee:

Hansen, Allen & Luce, Inc. (HAL) is very enthused to submit this Proposal to provide engineering services to the City of West Jordan for the referenced project. We respectfully request that you consider the HAL Team for the following reasons:

- HAL's proposal is ***complete*** and ***addresses all scope items*** requested by the City.
- HAL's approach will provide the City with a ***fresh look*** at storm drainage within the city
- The HAL Team has a ***proven track record*** of successful ***storm water master plan*** efforts within Utah.
- All surveys will be completed by HAL's ***in-house surveyors*** who are experienced in collecting data for storm drain master plans.
- HAL is ***very familiar with West Jordan City***. We have provided many projects and studies for the City, including storm drainage projects
- We are ***highly motivated***. We value our relationship with the City of West Jordan and will do all in our power to continue to meet your needs for water-related engineering services. ***We are committed to your being totally satisfied with all of our services.***

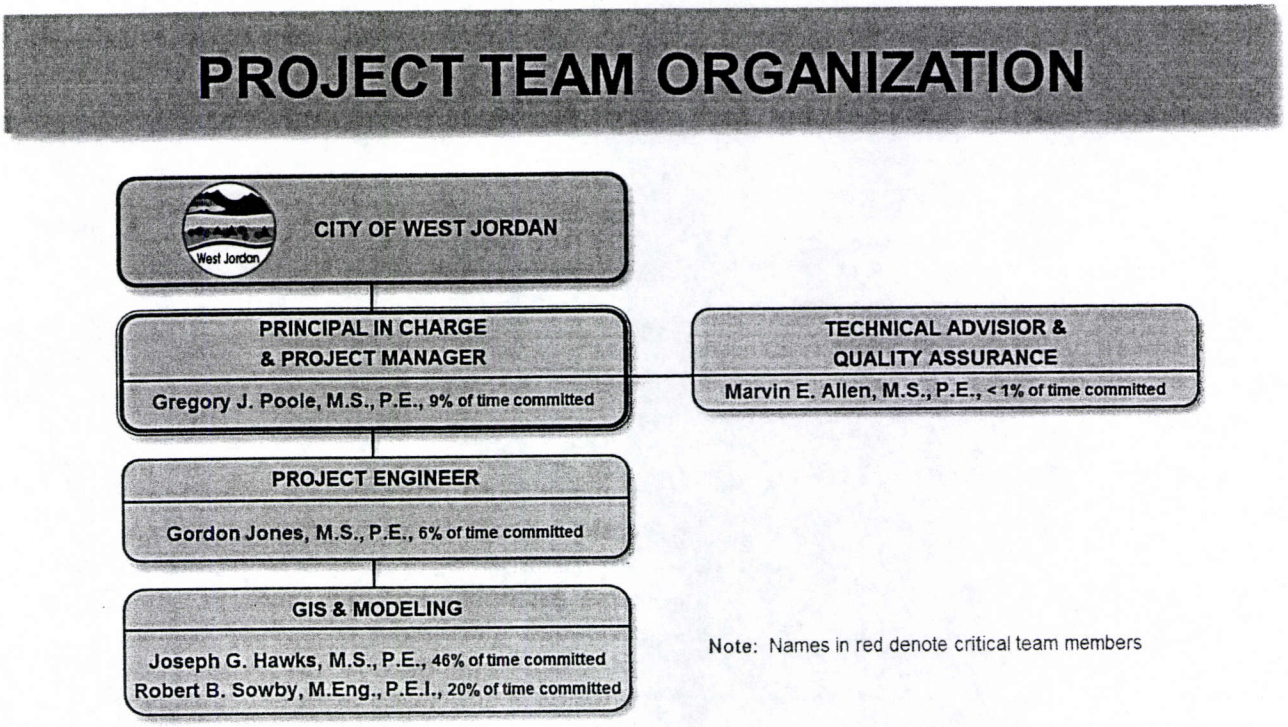
Sincerely,

HANSEN, ALLEN & LUCE, INC.

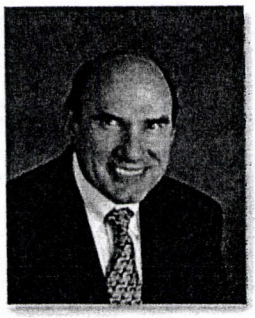
Gregory J. Poole, M.S., P.E.
Principal

1 – PROJECT TEAM & FIRM QUALIFICATIONS :.

Members of the proposed HAL team were carefully selected to meet West Jordan's specific needs for the 2014 Master Drainage Plan Update. Key team members have specific planning, design, and construction experience related to **storm drainage master plans**, **GIS, modeling using SWMM software,** and **capital facility plans**. Team key members have worked together on many similar projects. Each team member has specialized qualifications and experience that will ensure the success of the project. The proposed HAL project team, demonstrating work and communications flow, is provided in the chart below.



Key Team Members



Gregory J. Poole, M.S., P.E., will be the Principal in Charge and Project Manager for the HAL Team for West Jordan's 2014 Master Drainage Plan Update. Greg serves as Chief Engineer for HAL and has over **34 years of experience** in water resources projects. Greg has specialized in complex analyses and studies in surface and groundwater hydrology, hydraulics and water quality. He has participated in many of HAL's significant master planning, design and construction-related projects involving culinary and irrigation water supply, waste water disposal, storm drainage and flood control, water quality protection, watershed management, and wetlands permitting. Greg has managed vast numbers of projects that have levels of complexity that are greater than or equal to West Jordan's Master Drainage Plan Update. Because of Greg's in-depth understanding of technical issues, he serves as a Special Advisor for Engineering Excellence on many of the Firm's more complex projects. Greg has B.S and M.S. degrees in irrigation and water resources engineering from Utah State University. Greg has recently served as project manager for storm water master plans completed for Draper City, Murray City, and Riverton City, Sandy City, Weber County and as project manager for Davis County 2011-2012 storm drainage projects. He has assisted municipalities in preparing storm water management plans to comply with DEQ MS4 permit requirements while at the same

time best serving the needs of the city. Greg is ideally qualified to manage West Jordan's 2014 Master Drainage Plan Update.

GREG POOLE – SUMMARY OF SELECTED STORM DRAIN MASTER PLAN EXPERIENCE				
CLIENT	POPULATION	PROJECT	ROLE	YEAR
Draper City	43,000	Storm Drainage Master Plan	Project Manager	2011
Draper City	20,000	South Mountain Hydrology Study	Project Manager	2012
Draper City	5,000	Suncrest Regional Detention Study	Project Manager	2012
Highland City	16,000	Storm Drainage Master Plan	Project Manager	2006
Layton City	67,000	Storm Drainage Master Plan	Project Manager	1988
Murray City	48,000	Storm Drainage Master Plan	P.I.C. & P.M.	2011
Orem City	90,000	Storm Drainage Master Plan	Quality Assurance	1998
Riverton City	10,000	Foothills Storm Drain Master Plan	Project Manager	2010
Salt Lake County	25,000	Corner Canyon Flood Control Master Plan	Project Manager	1992
South Salt Lake City	24,000	Storm Drainage Master Plan	Quality Assurance	2000
South Weber City	6,000	Storm Drainage Master Plan	Project Manager	1996
Springville City	30,000	Storm Drainage Master Plan	Quality Assurance	2006
Tooele City	32,000	Storm Drainage Master Plan	Project Manager	2000
Tooele County & Tooele City	30,000	Middle Canyon Creek Master Plan	Project Manager	2007
Weber County	234,000	Storm Drainage Master Plan	Project Manager	2014

Marvin E. Allen, M.S., P.E., is President of HAL and will take on the role of **Technical Advisor** and will also be responsible for **Quality Assurance**. Marv has worked with many municipalities in Utah to provide for their water, sewer system, and storm water **master planning** and capital improvement projects on an on-going basis. Marv has **practiced engineering for more than 34 years**, and is a registered Professional Engineer in Utah, Nevada, and Arizona. He has extensive experience in permitting, planning, design and construction services. Marv has served in leadership capacities in several professional and technical organizations, including President of ACEC – Utah and ACEC National Director, and President of the American Water Resources Association – Utah Section, and is currently serving on the Board for APWA – Utah.

Gordon L. Jones, M.S., P.E., is a project manager and project engineer at Hansen, Allen & Luce and will serve as the Project Engineer for West Jordan's 2014 Master Drainage Plan Update. Gordon has over 12 years of engineering experience. He specializes in GIS applications for water resources management as well as hydrologic, hydraulic, and groundwater modeling. He has been involved in various master planning and modeling efforts using hydrologic modeling software (EPA SWMM, HEC-1, HEC-HMS, StormNET, AutoCad Storm and Sanitary Analysis) and hydraulic modeling software (HEC-RAS, Hydra, SewerCAD, EPANet). He received his B.S. and M.S. degrees from Brigham Young University in Civil and Environmental Engineering.

GORDON JONES – SUMMARY OF SELECTED STORM DRAIN MASTER PLAN EXPERIENCE				
CLIENT	POPULATION	PROJECT	ROLE	YEAR
Draper City	43,000	Storm Drainage Master Plan	Project Engineer	2011
Draper City	20,000	South Mountain Hydrology Study	Project Engineer	2012
Draper City	5,000	Suncrest Regional Detention Study	Project Engineer	2012
Riverton City	10,000	Foothills Storm Drain Master Plan	Project Engineer	2010
Salt Lake County	25,000	Neffs Canyon Creek Master Plan	Project Engineer	2007
Weber County	234,000	Storm Drainage Master Plan	Project Engineer	2014

Joe Hawkes M.S., P.E., has 8 years of water related engineering experience. His experience includes physical modeling of hydraulic structures, water meter calibration, groundwater investigation, storm water master planning, wastewater master planning, drinking water and pressurized irrigation master planning, and water rights management. He is also experienced with engineering and water engineering software, including AutoCAD, ArcGIS, EPANET, HEC-HMS, EPA SWMM, EPANet, Autodesk Storm and Sanitary Analysis, WhAEM and Aqtesolv. Joe graduated Magna Cum Laude with an M.S. degree and Cum Laude with a B.S. degree from Utah State University. Joe recently modeled Sandy City's entire storm drain system using EPA SWMM. He is currently finishing a Sanitary Sewer Master Plan for South Salt Lake City where Autodesk's Storm and Sanitary Analysis (SSA) was used to evaluate system performance under existing and future loading. SSA is an AutoCAD program that uses EPA SWMM to model hydrology and hydraulics of collection systems.

Robert B. Sowby, M.Eng., PEI, has contributed to over 70 civil, water, and environmental projects throughout Utah and North America. Rob recently completed GIS analysis and hydrologic modeling for Weber County's Storm Water Master Plan, HAL's largest hydrologic study to date. His other work at HAL has included water rights, groundwater investigation, hydraulic design, water system optimization, water resources management, and environmental issues. Rob studied civil engineering and water resources at Brigham Young University, Harvard University, and Massachusetts Institute of Technology.

About HAL

For 40 years HAL has been dedicated to ***meeting the specialized needs of our many repeat water clients***. The following list represents HAL's selected Areas of Practice and Professional Services offered within the general water area:

Areas of Practice :.

- > Waste Water
- > Water Resources
- > Hydrology & Hydraulics
- > Surface Water
- > Ground Water
- > Drinking Water
- > Irrigation Water
- > Storm Water
- > Water Quality
- > Water Rights
- > Water Conservation
- > Water Reuse
- > Hazardous Waste
- > The Environment

Professional Services :.

- > Project Leadership
- > Complex Analysis & Studies
- > Computer Modeling
- > Master Planning
- > Design
- > Construction Management
- > Surveying
- > Regulatory Coordination
- > Funding Assistance
- > GIS Applications
- > Development Standards & Review
- > Source Water Protection
- > Vulnerability Assessment
- > Environmental Permitting
- > Public Involvement
- > Litigation Support

Philosophy – HAL puts significant emphasis on empowering our clients to remain in control of their project. We refer to this as **"Keeping the client in the driver's seat."** This is realized principally by following a principal taught by the founder of the Firm, Dr. Vaughn E. Hansen, who encouraged all employees to continually think of the needs of the client, and to ask ourselves and the client, **"How can we help?"** We employ a number of client communication techniques including holding regular project coordination meetings with the client, preparing a Memorandum of Understanding after significant project coordination meetings, making regular phone calls or sending frequent emails to the client, and implementing a project status based invoicing system.

Offices – HAL's main offices are located in Midvale, Utah, with branch offices located in American Fork; Brigham City; and Park City, Utah.

2014 MASTER DRAINAGE PLAN UPDATE

2 – SCOPE OF WORK :.

PROJECT UNDERSTANDING

West Jordan City is experiencing significant growth. The previous storm drainage master plan update (2007) was completed using fairly large subbasins (60 to 80 acres) with HEC-HMS. Because HEC-HMS is a hydrologic model only and does not model hydraulics and because of the large subbasin sizes, a more refined model is needed which includes hydraulics. The City would like a hydraulic model in InfoSWMM which is refined sufficiently to allow modeling **each storm inlet in the city**.

A key technical constraint is that because the City is growing so rapidly, the consultant's custody of the GIS data needs to be minimized. Our proposed work plan minimizes the time the GIS data will be in our custody.

HAL offers a proven project team with the experience needed to prepare a quality storm drainage master plan update. Our proposed project approach will keep West Jordan City in a position to make the key decisions throughout the master planning process while minimizing the time that the dataset will be in our custody.

The need to model all of the City storm inlets results in an estimated total number of subbasins of about 7,000. About one seventh of the subbasins have already been delineated by City staff. The study area includes about 32 square miles of City plus the tributary areas from the west.

The request for proposals includes a detailed list of requirements and deliverables included in our scope by reference. Our proposed scope of work and approach will leverage the available GIS data and the new LIDAR mapping which is expected to be available in August 2014. Our proposed approach is designed to provide City representatives with the information and tools needed to make decisions which will be the best for the City in the long term. We recommend a workshop approach to defining the alternative mitigation measures for further study and for selection of preferred drainage solutions for adoption in the master plan.

A detailed Scope of Work is provided in Appendix A. The following are the proposed major task items and a discussion of key components:

TASK 100 – PROJECT INITIATION, PUBLIC INVOLVEMENT, PROJECT MEETINGS

Communication during the master planning process is key to a successful project. We will hold regular progress meetings as well as discussions with key stakeholders and City leaders. To be viable and have lasting influence, City involvement is critical in the master planning process. Our proposed approach is designed to provide City representatives with the information and tools needed to make decisions which will be the best for the City long term. We recommend a workshop approach (completed in subsequent tasks) to define the alternative mitigation measures for further study and for selection of preferred drainage solutions for adoption in the master plan.

Our proposed work plan and ethics will empower the City in making the decisions which will best serve them. We understand that City representatives have multiple pressures on their time. We see our role as providing the "homework" such that the issues are clearly defined and the alternatives developed sufficiently to promote informed master planning decisions.

2014 MASTER DRAINAGE PLAN UPDATE

TASK 200 – COLLECT AND REVIEW EXISTING INFORMATION and COMPLETE INVENTORY

West Jordan City is in a great position to leverage existing and available studies and information to produce a detailed hydrology and hydraulic model. HAL will use its recent experience with large storm drain systems like Weber County, Draper City and Sandy City with similar existing information as West Jordan to review the available information and identify data gaps and needs. The HAL team will use our understanding of current regulations and familiarity with recent studies to incorporate the necessary factors into the master planning process. We offer a proven field data collection team providing survey grade locations and elevations to complete the storm drainage facilities inventory.

TASK 300 – COMPLETE THE MODEL FOR EXISTING AND FUTURE CONDITIONS

The storm water model is proposed to be developed using the Innovyze InfoSWMM software with the subcatchment manager tool. The City desires a very detailed model that includes modeling flow at each existing storm inlet. This is expected to produce around **7,000 subbasins. Because of the high number of basins, HAL is proposing to use the auto-delineation features provided by the InfoSWMM subcatchment tools** enabled by the ArcGIS Spatial Analyst extension. The auto-delineation process in urban areas has historically been difficult to rely on due to lack of topographic detail that captures important features such as the crown of roads and curbs. This process will inevitably fall short in commercial areas or other locations where private storm drainage systems have not been inventoried. Also of concern is how basins are delineated around structures. Auto-delineation will ignore the direction and connectivity of roof drainage which may produce inaccuracies. **Because of these potential issues, HAL proposes to complete auto-delineation of urban subbasins in a trial area of the City**. These subbasins will be examined individually based on engineering judgment using contours, aerial photography, and field verification. We will bring the results of this analysis to the City to present results of the auto-delineated basins versus the manually verified subbasins. **The City will make the final decision about the acceptability of the auto-delineation.** Should the City desire, HAL proposes an additive alternate scope and budget for manual delineation using GIS.

HAL proposes to use GIS tools to assist in the SWMM parameterization of the subbasins. GIS layers, including land use, soils and impervious surface will be used to generate subbasin characteristics for inclusion in the model. It is important to note that impervious areas should be divided into two components: directly connected impervious areas and unconnected impervious areas. Directly connected impervious areas provide a direct path for runoff to a conveyance such as a pipe, gutter or channel. Directly connected impervious areas include roadways, parking lots, driveways and sometimes the roofs of buildings. Runoff from unconnected impervious areas must cross a pervious area before reaching a conveyance. Examples of unconnected impervious areas include sidewalks that are not adjacent to the curb, patios, sheds, and usually some portion of the roof of houses. **It is vitally important that the directly connected impervious area subbasin parameter be as accurate as possible because it tends to have the largest impact on modeled flow rates**. For this reason, HAL proposes to take advantage of the power of InfoSWMM and GIS where appropriate for batch processes while taking the time to ensure proper accounting for directly connected impervious surfaces.

TASK 400 – EVALUATE SYSTEM AND DETENTION ADEQUACY

The model will be used to evaluate the existing storm drainage facilities and identify deficiencies in regards to the storm drain network and retention/detention basin storage. These issues will be catalogued in a table format with unique IDs in preparation for review by City Staff. The table identifies each deficiency with a unique ID that corresponds to a geographically referenced feature and will summarize each deficiency and its cause. Our experience has shown that this process produces a product that can be used efficiently during workshop meetings by providing a quick reference to discuss the problem and visually see where it is located.

TASK 500 – STORM DRAINAGE MASTER PLAN DEVELOPMENT

HAL has found that using the tables produced in Task 400 as the basis for the creation of the capital facilities plan is a natural and efficient progression. Columns for deficiency solutions and costs will be added to the table which would become the capital facility plan. The development of the storm drainage capital facilities plan is the key task in the master plan process and requires involvement from the City to produce the most useful and viable solutions. This is where the workshop approach and communication with City staff will be key and where HAL can put its vast master planning experience to maximum benefit.

TASK 600 – MASTER PLAN DOCUMENT PREPARATION

HAL proposes to prepare a report that clearly documents the capability and future requirements of the storm drainage system. The document will be a means for educating developers, private property owners, City staff, and elected officials regarding the capability and needs of the storm drainage system. For this reason, the report needs to be clear and concise so that it is easily understood by readers with a range of backgrounds. Explanations of methodology and concepts will be presented so that interested parties can understand the process that led to the City's Capital Facilities Plan.

Following are key features of the proposed work plan, please refer to Appendix A for a complete description of the scope of work.

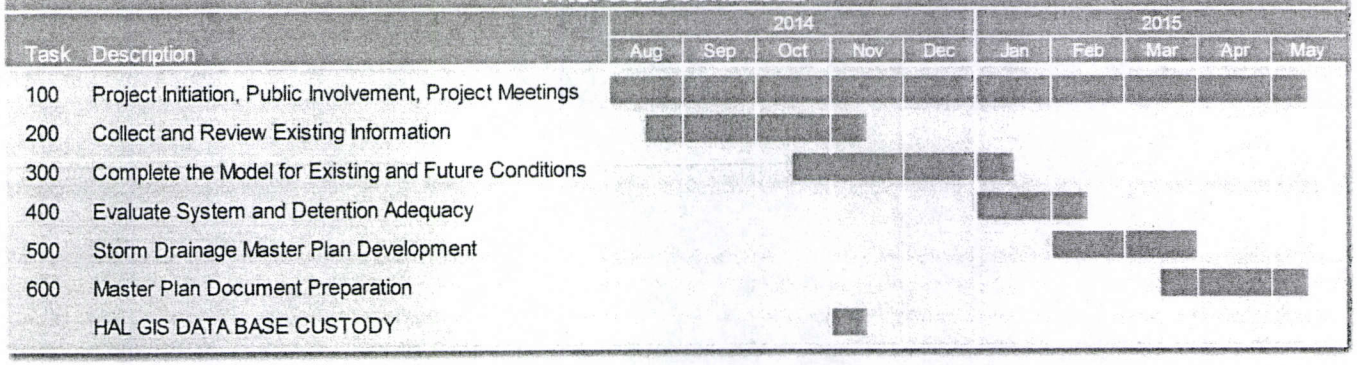
- Progress meetings and key (workshop) meetings to keep City staff empowered to make key decisions throughout the master planning process. A total of 10 meetings are proposed with City staff (providing a minimum of 1 meeting per month), five of these meetings are interim progress meetings, the other meetings are at key times during the project. The proposed budget includes up to two additional stakeholder meetings and a meeting each with the City Council and Planning Commission.
- The storm drainage model will include subbasins for each inlet (estimated at 7,000 total subbasins).
- Budgets for both auto-delineation and manual delineation of subbasins.
- The available storm drainage facilities inventory will be completed using survey grade GPS equipment and experienced personnel. At this time the best estimate of the additional features (manholes and inlets) to be surveyed is 1,100 which includes about 1,000 features which are currently included in the GIS data base and about 150 acres of new subdivisions.
- Subbasin characteristics will be defined for each subbasin using GIS tools and batch processes to as efficiently as possible define the subbasin parameters for input into the model.
- Updated storm drainage design criteria consistent with Clean Water Act storm drainage requirements and West Jordan City needs.
- Preparation of both an existing system and future build out system model.
- Preparation of project cost estimates with a break down of costs by User Fee and Impact Fee.
- Our proposed schedule will provide the updated CIP by the end of March to assist with fiscal planning.

2014 MASTER DRAINAGE PLAN UPDATE

3 – SCHEDULE & MANPOWER ESTIMATE :.

HAL has prepared a schedule that will allow all Master Drainage Plan Update tasks to be completed before the end of May 2015, according to the City's schedule. Our proposed schedule is illustrated in the figure below.

CITY OF WEST JORDAN 2014 MASTER DRAINAGE PLAN UPDATE
PROPOSED SCHEDULE



Estimated man hours to complete each task as identified in our Scope of Work are shown in the following table.

CITY OF WEST JORDAN 2014 MASTER DRAINAGE PLAN UPDATE
MANPOWER ESTIMATE

Task	Description	Principal	Prof III	Prof I	PEI	RLS	Field Tech	Sec	Task Total
100	Project Initiation, Public Involvement, Project Meetings	28.6	4.4	4.4					37.4
200	Collect and Review Existing Information	24.2	5.5	64.0	13.2	8.8	242.0		357.7
300	Complete the Model for Existing and Future Conditions	8.8	13.2	226.6	52.8				301.4
400	Evaluate System and Detention Adequacy	13.2	17.6	105.6	35.2				171.6
500	Storm Drainage Master Plan Development	17.6	9.9	63.8					91.3
600	Master Plan Document Preparation	7.7	8.8	106.2	44.0			4.4	171.1
	Subtotal Project Hours by Classification:	**100.1**	**59.4**	**570.6**	**145.2**	**8.8**	**242**	**4.4**	
	Additive Alternate - Manual Subbasin Delineation		4.4		550				554.4
	Total Project Hours by Classification:	**100.1**	**63.8**	**570.6**	**695.2**	**8.8**	**242**	**4.4**	
	Total Project Hours:				**1130.5**				

SCOPE OF WORK

PROJECT UNDERSTANDING

West Jordan City is experiencing significant growth. The previous storm drainage master plan update (2007) was completed using fairly large subbasins (60 to 80 acres) with HEC-HMS. Because HEC-HMS is a hydrologic model only and does not model hydraulics and because of the large subbasin sizes, a more refined model is needed which includes hydraulics. The City would like a hydraulic model in InfoSWMM which is refined sufficiently to allow modeling each storm inlet in the city.

A key technical constraint is that because the City is growing so rapidly, the time the custody of the GIS data set is in the hands of the consultant needs to be minimized.

HAL offers a proven project team with the experience needed to prepare a quality storm drainage master plan update. Our proposed project approach will keep West Jordan City in a position to make the key decisions throughout the master planning process while minimizing the time that the data set will be in our custody.

The need to model all of the City storm inlets results in an estimated total number of subbasins of about 7,000. About one seventh of the subbasins have already been delineated by City staff. The study area includes about 32 square miles of City plus the tributary areas from the west.

The City has also completed a majority of the storm drainage facilities inventory with survey grade GPS equipment. There remains about 1,000 features (manholes and inlets) to be surveyed plus 150 acres of new subdivision which is not currently in the City GIS system. The scope of work includes the use of survey grade GPS equipment to complete the inventory.

The request for proposals includes a detailed list of requirements and deliverables included in our scope by reference. Our proposed scope of work and approach will leverage the available GIS data and the new LIDAR mapping which is expected to be available in August 2014. Our proposed approach is designed to provide City representatives with the information and tools needed to make decisions which will be the best for the City long term. We recommend a workshop approach to defining the alternative mitigation measures for further study and for selection of preferred drainage solutions for adoption in the master plan. We see our role as providing the "homework" such that the issues are clearly defined and the alternatives developed sufficiently to promote informed master planning decisions.

TASK 100 – PROJECT INITIATION, PUBLIC INVOLVEMENT, PROJECT MEETINGS

Objective: Communicate project status and issues in regular meets with the City. Provide information to stakeholders and City representatives to educate them on the process and results.

Input:

- Scope of Work

Activities:

1. **Meet with City Staff** to review project objectives and obtain available drainage studies and standards.
2. **Stakeholder, City Council and Planning Commission Meetings**. Prepare for and participate in two stakeholder meetings, 1 City Council meeting and 1 Planning Commission meeting. Meeting notes from stakeholder meetings will be kept and distributed to the City staff. Meetings will be conducted at the following times during the study.
   a. Initial Scoping meeting during the data gathering phase of the project.
   b. Draft master plan presenting the draft capital facilities plan.
   c. Final master plan presenting the final capital facilities plan.
   d. Planning Commission presentation of final capital facilities plan.
   e. City Council presentation of final capital facilities plan.
3. **Provide regular** (monthly at a minimum) project management and progress coordination meetings. Prepare draft agendas for the meetings and prepare meeting notes and distribute to meeting participants.

Output:

- Meetings

TASK 200 – COLLECT AND REVIEW EXISTING INFORMATION, PREPARE DATA COLLECTION PLAN, AND COLLECT THE ADDITIONAL DATA TO COMPLETE THE STORM DRAINAGE FACILITIES INVENTORY

Objective: Review and summarize the information contained in the available reports and standards to make use of prior studies to the extent possible. Gather all available storm drainage system information.

Input:

- Existing master plans.
  - 2007 West Jordan City Storm Drainage Master Plan Update
  - 2003 Southwest Canal and Creek Study
- West Jordan City Drainage Standards
- City storm drainage facilities mapping.
- Base mapping provided by West Jordan City (new LIDAR mapping to be available spring 2014).
- Information from other sources (FEMA, UDOT studies, etc.)

Activities:

1. Establish a data structure for the project data management.
2. Compile all available existing storm drainage facility information into project GIS database and identify data gaps and needs.
3. Review available drainage and flood studies and standards and prepare a summary of the pertinent information available in each document along with available CAD and GIS Data.

4. Review the West Jordan City Storm Drainage standards with City representatives and make appropriate updates as needed to accommodate current and future foreseeable stormwater requirements. These criteria serve as a basis for defining the acceptable levels of service, flood protection, and new development mitigation requirements. Review consistency with Salt Lake County Regional Master Plan.
5. Review current and projected future Clean Water Act (UPDES) storm drainage requirements and prepare summary of UPDES requirements.
   - Review and summarize current MS4 stormwater general permit requirements.
   - Summarize pertinent information from the Jordan River TMDL study.
   - Interview State DEQ personnel.
   - Prepare summary for use in Data Inventory Workshop.
6. Data Inventory Workshop. Meet with City staff to review the existing facilities inventory and to assess adequacy for master planning purposes. Identify data gaps. Identify priority areas. Review drainage design criteria. Select software for use in modeling storm drainage system. Review data collection plan.
7. Revise City storm drainage design criteria as appropriate based on City input.
8. Modify data collection plan based on City input and selected model, and submit by email to City representatives.
9. Complete the storm drainage facilities inventory using survey grade GPS equipment. Assume 1,100 manholes and inlets to be surveyed providing structure location, structure lip elevation, and pipe invert elevation.
10. Incorporate collected data into project GIS database. To minimize the "custody" time of West Jordan's database, we recommend that the City maintain custody during completion of the field inventory. After data collection is complete, HAL would then gain custody of the dataset for a short period to update the GIS facilities inventory.

Output:

- Existing Facilities base mapping (GIS coverage)
- Updated Storm Drainage Design Criteria
- Storm drainage facilities inventory in GIS.

TASK 300 – COMPLETE THE MODEL FOR EXISTING AND FUTURE CONDITIONS

Objective: Prepare a stormwater runoff model for West Jordan City. The model is to include all existing storm inlets and is expected to have about **7,000 subbasins.** The model will incorporate the results of past hydraulic studies of canals and creeks and will incorporate the 2007 drainage basins and sub-basins.

Input:

- Task 200
- West Side Canal and Creek Study hydraulic modeling of canals and creeks.
- 2007 West Jordan City Storm Drainage Master Plan Update
- City zoning map and land use plans.
- SCS soil classification maps.

- NOAA 14 Precipitation Data Server
- Utah AGRC Lidar – expected availability in Spring 2014

Activities:

1. Using the Lidar topographic data (assumed to be provided by Utah AGRC with 0.5 meter grid) work with City staff to **auto-delineate a trial area of subbasin boundaries tributary to each inlet using InfoSWMM and spatial analyst tools**. Perform field reconnaissance to confirm subbasin boundaries and determine the accuracy of the auto-delineation created subbasins.
2. **Meet with City staff to review trial area subbasin boundaries** to determine the acceptability of the method for the entire City.
3. **Complete auto-delineation of subbasins using InfoSWMM and spatial analyst tools**. This assumes that the trial basins are acceptable to the City following the review provided in the previous subtask. If the City chooses manual delineation instead of auto-delineation then the additive alternate scope activity (designated activity 303A) would provide manual delineation of the subbasins using GIS.
4. Using the facilities inventory coverage (Task 200 above), prepare a model of the storm drainage conveyance system and **assess the existing capacity of the conveyance system facilities.** Incorporate the results of past hydraulic studies of canals and creeks including: Bingham Creek, the Utah Lake Distributing Canal, the Utah & Salt Lake Canal, the Welby Jacob Canal, the South Jordan Canal, and the North Jordan Canal, Barneys Wash, Barneys Creek, Clay Hollow, Dry Wash, and Unnamed Wash.
5. Using available mapping, field reconnaissance, and land use planning, **develop hydrologic characteristics for each subbasin** for existing conditions. Parameters include area, percent directly connected impervious area, unconnected impervious area, soil type, vegetation cover type and density, typical grass and paved overland flow lengths and slopes, and routing data (length, slope, conveyance shape, and roughness).
6. Using land use planning overlays and the Master Transportation Plan, **predict subbasin hydrologic characteristics** for the build out conditions.
7. Prepare **input data parameters for the model**, including rainfall hydrographs, detention facilities and model scenarios. The 10-year storm will be used to assess the minor storm system (pipes, inlets, etc) condition and the 100-year (regional detention, creeks and open channels) to assess the major storm facilities.
8. **Compute runoff hydrographs** at key locations for the existing storm drainage facilities consistent with City criteria. The storm drainage model will be calibrated qualitatively through evaluation with City personnel.
9. **Compute runoff outflow hydrographs for each subbasin** under future conditions.

Output:

- **Storm drainage model for existing and future conditions**
- Storm drainage model description
- Capacity of existing storm drainage facilities

TASK 400 – EVALUATE SYSTEM AND DETENTION ADEQUACY

Objective: Evaluate the existing storm drainage facilities and identify deficiencies in regards to the storm drain network, retention/detention basin storage, and other issues encountered during the investigation.

Input:

- City Drainage Design Criteria
- Task 300 - storm drainage model.

Activities:

1. **Evaluate adequacy of existing facilities** to meet existing and future needs. Define areas of deficiency such as lack of storm drain capacity, inadequate detention and/or debris storage volume, inadequate natural channel capacity, and erosion and maintenance problems.
2. Use Mannings equation and typical street right-of-way cross sections to assess ability of streets to pass the 100-year storm runoff event without impacting homes. In particular, identify downhill cul-de-sacs, street sags without a surface outlet, and downhill Tee intersections and assess adequacy during a 100-year storm runoff event.
3. **Locate existing and future problem areas on project GIS base mapping.**
4. Prepare problem definition tables including problem location, description, causes, and risk assessments.

Output:

- Problem identification including GIS coverage showing location of drainage facilities deficiencies.
- Problem definition tables.

TASK 500 – STORM DRAINAGE MASTER PLAN DEVELOPMENT

Objective: Prepare a master drainage plan including recommendations for immediate and future improvement recommendations.

Input:

- Area storm drainage model (Task 300).
- Problem identification (Task 400).
- EPA Phase 2 stormwater regulations.

Activities:

1. Incorporate channel capacities and right of way widths from the 2007 study and include new area reaches.
   a. Estimate capacities for reaches of Barneys Wash, Barneys Creek, Clay Hollow, and Dry Wash west of 5600 West, where natural channels need to be reestablished in the process of development.
   b. Meet with City personnel to develop recommended channel right-of-way widths for these reaches, to accommodate channel, maintenance, and trail improvements.
2. Hold a **workshop** with City personnel **to develop and screen conceptual level drainage plans with alternatives** that may include detention, flood channels, storm drains, etc.
3. **Compare the alternative plans** on the basis of conceptual level construction costs, maintenance requirements, public acceptability, and ability to accommodate changes in the land use plan.
4. Hold a **workshop** with City personnel to **evaluate the drainage plan alternatives** and **select the preferred alternative.**
5. Refine the preferred drainage plan and prioritize the projects according to the highest need.
6. Develop cost estimates and a revised Capital Facilities Plan for the recommended improvements. Provide a breakdown of the costs into User Fee (operational costs) and Impact Fee (new growth) costs and percentages for each project.
7. Meet with City Staff to review the draft Capital Facilities Plan and discuss construction phasing plan recommendations.

Output:

- Recommended channel right-of-way widths for Barneys Wash, Barneys Creek, Clay Hollow, and Dry Wash west of 5600 West.
- The **preferred drainage plan** with projects prioritized by highest need.
- **Capital Faculties Plan** with probable **construction costs**.

TASK 600 – MASTER PLAN DOCUMENT PREPARATION

Objective: Prepare a report documenting the capability and needs of the storm drainage system. The document will be a means for educating developers, private property owners, City staff and elected officials regarding the capability and needs of the storm drainage system.

Input:

- Tasks 100 - 500.
- Recommendations and comments from City and City staff.

Activities:

1. Prepare a draft table of contents and outline. Meet with City staff to review the draft outline, receive suggestions, and revise the outline as needed to meet City needs.
2. Prepare Draft Master Plan Document. The sections of the report will be submitted for review as completed and as a full draft document. The draft document will include the following maps and figures, unless directed otherwise by City staff: Major Drainage Basin Boundaries; Existing Storm Drainage Facilities; Subbasin Boundaries; Storm Drainage Problem Areas; Preferred Storm Drainage Alternatives; and 5-, 10-, and 20-year Implementation Plans with estimated construction costs.
3. Present the draft document to City staff for review.
4. Receive comments and prepare the Final Master Plan Document.
5. Integrate Master Plan Information with Project GIS
6. Provide model training for staff that covers a review of the updated model, functionality, scenarios, data management and methodology.

Output:

- Draft Master Plan Document.
- Final Master Plan Document.
- Staff Training

CONFLICT OF INTEREST AND
NONCOLLUSION CERTIFICATE

(To be Executed by Proposer for Professional Services
and Submitted with the Proposal)

State of Utah
) ss.
County of Salt Lake)

Gregory J. Poole, being first duly sworn, deposes and says that: (1) he or she is Principal of Hansen, Allen & Luce, Inc. the party ("Proposer") making the foregoing proposal for professional services; (2) that the proposal is not made in the interest of or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; (3) that the proposal is genuine and not collusive or sham; (4) that the Proposer has not directly or indirectly induced or solicited any other proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any other proposer or anyone else to submit a sham proposal or to refrain from proposing on the project; (5) that the Proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the Proposer or any other proposer, or to fix any overhead, profit, or cost element of the proposal price of the Proposer or of any other proposer, or to secure any advantage against the public body awarding the Professional Services Agreement or of anyone interested in the proposed Agreement; (6) that all statements contained in the proposal are true; and (7), that the Proposer has not, directly or indirectly, submitted his or her proposal price or any portion thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, or to any member or agent thereof to effectuate a collusive or sham proposal.

The bidder, offeror, or contractor represents that it has not: (1) provided an illegal gift or payoff to a city officer or employee or former city officer or employee, or his or her relative or business entity; (2) retained any person to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, other than as exempted in the City's Conflict of Interest ordinance; or (3) knowingly influenced (and hereby promises that it will not knowingly influence) a city officer or employee or former city officer or employee to breach any of the ethical standards set forth in the City's Conflict of Interest ordinance, Chapter 2.4, West Jordan City Code.

Proposer: Hansen, Allen & Luce, Inc.

By: Gregory J. Poole
Gregory J. Poole

Title: Principal

Organization: Hansen, Allen & Luce, Inc.

Address: 6771 South 900 East
Midvale, Utah 84047

HAL PROPOSAL SPREADSHEET

7/10/2014

CLIENT: WEST JORDAN CITY
PROJECT: Storm Water Master Plan

Pha	Task #	Task Activity	Billing Period	Hours: Principal GJP/MEA	Prof III GLJ	Prof 1 JH	PEI RS	RLS	Field Tech	Secretary	Total Hours	Labor Costs	Expense Cost	Total HAL Cost	COMMENT
I	**PROJECT INITIATION, PUBLIC INVOLVEMENT, PROJECT MEETINGS**														
	101	Meet with City staff to review objectives	1	2.2	2.2						4.4	$609.40	26.40	$635.80	
	102	Prepare for and participate in stakeholder meetings	1	13.2		4.4					17.6	$2,615.80	144.60	$2,760.40	Assume 2 stakeholder meetings, 1 City Council and 1 Planning Commission held at City Hall
	103	Provide regular meetings with City	1	11.0							11	$1,837.00	128.40	$1,965.40	Assume held at City offices, 5 meetings in addition to the other meetings specifically defined in other activities.
	199	Quality Control (QC) / Quality Assurance (QA)	1	2.2	2.2						4.4	$609.40	26.40	$635.80	
		SUBTOTAL HOURS/UNITS:		28.6	4.4	4.4	0	0	0	0	37.4				
		SUBTOTAL:		$4,776.20	$484.00	$411.40	$0.00	$0.00	$0.00	$0.00		$5,671.60	$325.80	$5,997.40	
II	**COLLECT AND REVIEW EXISTING INFORMATION**														
	201	Establish a data structure and data management	1		1.1	2.2					3.3	$326.70	19.80	$346.50	
	202	Compile existing facility information and Identify data gaps and needs	1		2.2	13.2	13.2				28.6	$2,624.60	171.60	$2,796.20	
	203	Review drainage and flood studies	1	4.4		4.4					8.8	$1,146.20	52.80	$1,199.00	
	204	Review City standards and make updates	1	4.4							4.4	$734.80	26.40	$761.20	
	205	Review current and projected UPDES requirements	1	4.4							4.4	$734.80	26.40	$761.20	
	206	Prepare for and attend Data Inventory Workshop	1	4.4		4.4					8.8	$1,146.20	60.60	$1,206.80	
	207	Review and update storm water design criteria based on City input	1	4.4		4.4					8.8	$1,146.20	52.80	$1,199.00	
	208	Modify data collection plan and data needs based on workshop input	1			4.4					4.4	$411.40	26.40	$437.80	
	209	Provide coordination for data collection	1			4.4					4.4	$411.40	26.40	$437.80	
	210	Survey MH and Inlet Lip Elevation & Invert Elevation	1					8.8	242.0		250.8	$19,549.20	1504.80	$21,054.00	Assume 1,100 items (MHs and Inlets) at 12 minutes per site.
	299	Quality Control (QC) / Quality Assurance (QA)	1	2.2	2.2						4.4	$609.40	26.40	$635.80	
		SUBTOTAL HOURS/UNITS:		24.2	5.5	64.0	13.2	8.8	242	0	357.68333				
		SUBTOTAL:		$4,041.40	$605.00	$5,982.44	$1,148.40	$1,399.20	$18,150.00	$0.00		$31,326.44	$2,153.90	$33,480.34	
III	**COMPLETE THE MODEL FOR EXISTING AND FUTURE CONDITIONS**														
	301	Use InfoSWMM to auto-delineate subbasins and flowpaths in trial area	1		4.4	8.8	17.6				30.8	$2,838.00	201.05	$3,039.05	
	302	Meet with City staff to review the trial area basin boundaries	1	2.2		2.2					4.4	$573.10	34.20	$607.30	
	303	Complete auto-delineation of subbasins for entire city per inlet	1			22.0	22.0				44	$3,971.00	264.00	$4,235.00	Assume minimal time for manual re-delineation, mainly for areas with private storm drainage systems not included in the inventory
	304	Assess existing capacity of conveyance facilities, including canals and creeks	1								0	$0.00	0.00	$0.00	
	305	Prepare hydrologic characteristics for subbasins	1	2.2	4.4	132.0					138.6	$13,193.40	831.60	$14,025.00	Hydrologic characteristics assigned by basin
	306	Predict subbasin future characteristics	1			26.4	13.2				39.6	$3,616.80	237.60	$3,854.40	
	307	Prepare model input parameters for InfoSWMM model	1			17.6					17.6	$1,645.60	105.60	$1,751.20	
	308	Compute runoff hydrographs	1			8.8					8.8	$822.80	52.80	$875.60	
	309	Compute runoff hydrographs for future	1			8.8					8.8	$822.80	52.80	$875.60	
	399	Quality Control (QC) / Quality Assurance (QA)	1	4.4	4.4						8.8	$1,218.80	52.80	$1,271.60	
		SUBTOTAL HOURS/UNITS:		8.8	13.2	226.6	52.8	0	0	0	301.4				
		SUBTOTAL:		$1,469.60	$1,452.00	$21,187.10	$4,593.60	$0.00	$0.00	$0.00		$28,702.30	$1,832.45	$30,534.75	

Pha	Task #	Task Activity	Billing Period	Hours: Principal GJP/MEA	Prof III GLJ	Prof 1 JH	PEI RS	RLS	Field Tech	Secretary	Total Hours	Labor Costs	Expense Cost	Total HAL Cost	COMMENT
IV	**EVALUATE SYSTEM AND DETENTION ADEQUACY**														
	401	Evaluate adequacy of existing facilities	2		8.8	22.0	22.0				52.8	$4,939.00	316.80	$5,518.59	
	402	Assess street capacity to convey 100-yr without flooding homes	2	8.8		26.4					35.2	$3,938.00	211.20	$4,356.66	
	403	Locate existing and future problem areas in GIS and ID	2		2.2	13.2	13.2				28.6	$2,624.60	171.60	$2,936.01	
	499	Quality Control (QC) / Quality Assurance (QA)	2	2.2	2.2						4.4	$609.40	26.40	$667.59	
		SUBTOTAL HOURS/UNITS:		13.2	17.6	105.6	35.2	0	0	0	171.6				
		SUBTOTAL:		$2,204.40	$1,936.00	$9,873.60	$3,062.40	$0.00	$0.00	$0.00		$17,076.40	$1,029.60	$18,747.85	
V	**STORM DRAINAGE MASTER PLAN DEVELOPMENT**														
	501	Incorporate channel capacities and ROW widths from 2007 study	2		2.2	8.8					11	$1,064.80	66.00	$1,187.34	
	502	Hold a workshop to develop conceptual level and alternative drainage plans	2	4.4		4.4					8.8	$1,146.20	52.80	$1,258.95	
	503	Compare alternative plans	2			17.6					17.6	$1,645.60	105.60	$1,838.76	
	504	Hold a workshop with City to select preferred alternatives	2	4.4		4.4					8.8	$1,146.20	60.60	$1,267.14	
	505	Refine the preferred drainage plan and prioritize	2	2.2	2.2	13.2					17.6	$1,843.60	105.60	$2,046.66	
	506	Develop cost estimates and breakdown by User Fee vs Impact fee	2		1.1	13.2					14.3	$1,355.20	85.80	$1,513.05	
	507	Meet with City to review the draft CFP	2	2.2		2.2					4.4	$573.10	26.40	$629.48	
	508		2								0	$0.00	7.80	$8.19	
	509		2								0	$0.00	0.00	$0.00	
	599	Quality Control (QC) / Quality Assurance (QA)	2	4.4	4.4						8.8	$1,218.80	52.80	$1,335.18	
		SUBTOTAL HOURS/UNITS:		17.6	9.9	63.8	0	0	0	0	91.3				
		SUBTOTAL:		$2,939.20	$1,089.00	$5,965.30	$0.00	$0.00	$0.00	$0.00		$9,993.50	$563.40	$11,084.75	
VI	**MASTER PLAN DOCUMENT PREPARATION**														
	601	Prepare a draft table of contents and outline	2	1.1		8.8					9.9	$1,006.50	59.40	$1,119.20	
	602	Prepare draft master plan document, including figures	2		4.4	66.0	44.0				114.4	$10,483.00	686.40	$11,727.87	
	603	Meet with City staff to present draft for review	2	1.1							1.1	$183.70	6.60	$199.82	
	604	Receive comments and prepare Final document	2	1.1		17.6				4.4	23.1	$2,073.50	288.60	$2,480.21	Prepare 20 full hard copies and electronic files
	605	Integrate Master Plan information with GIS	2			8.8					8.8	$822.80	52.80	$919.38	
	606	Provide model training	2			5.0					4.95	$462.83	29.70	$517.15	Assume 4 hours of on-site training
	699	Quality Control (QC) / Quality Assurance (QA)	2	4.4	4.4						8.8	$1,218.80	52.80	$1,335.18	
		SUBTOTAL HOURS/UNITS:		7.7	8.8	106.15	44	0	0	4.4	171.05				
		SUBTOTAL:		$1,285.90	$968.00	$9,925.03	$3,828.00	$0.00	$0.00	$244.20		$16,251.13	$1,176.30	$18,298.80	
	Additive Alternate - Manual Subbasin Delineation														
	303A	Manually delineate subbasins using GIS	1		4.4		550.0				554.4	$48,334.00	3326.40	$51,660.40	Assume 6,000 subbasins at 5 minutes each
		SUBTOTAL HOURS/UNITS:		0	4.4	0	550	0	0	0	554.4				
		SUBTOTAL:		$0.00	$484.00	$0.00	$47,850.00	$0.00	$0.00	$0.00		$48,334.00	$3,326.40	$51,660.40	
		TOTAL HOURS BY EMPLOYEE:		100.1	63.8	570.5	695.2	8.8	242	4.4					

PHASE	TASK	Labor Costs	Direct Exp Cost	Subtotal	Subconsultant Costs	SubTotal
I	PROJECT INITIATION, PUBLIC INVOLVEMENT, PROJECT MEETINGS	$5,671.60	$325.80	$5,997.40	$0.00	$5,997.40
II	COLLECT AND REVIEW EXISTING INFORMATION	$31,326.44	$2,153.90	$33,480.34	$0.00	$33,480.34
III	COMPLETE THE MODEL FOR EXISTING AND FUTURE CONDITIONS	$28,702.30	$1,832.45	$30,534.75	$0.00	$30,534.75
IV	EVALUATE SYSTEM AND DETENTION ADEQUACY	$17,076.40	$1,029.60	$18,747.85	$0.00	$18,747.85
V	STORM DRAINAGE MASTER PLAN DEVELOPMENT	$9,993.50	$563.40	$11,084.75	$0.00	$11,084.75
VI	MASTER PLAN DOCUMENT PREPARATION	$16,251.13	$1,176.30	$18,298.80	$0.00	$18,298.80
	TOTAL:	$109,021.37	$7,081.45	$118,143.88	$0.00	$118,143.88

Filename: H:\Marketing\Proposals_SOQ's\2014\West Jordan City\Stormwater Master Plan 2014\Submittal #2\[HAL Proposal Spreadsheet_West Jordan SWMP.xlsm]Data - Contingency in Hours

303A	Additive Alternate - Manual Subbasin Delineation	$48,334.00	$3,326.40	$51,660.40	$0.00	$51,660.40
	TOTAL with Additive Alternate	$153,384.37	$10,143.85	$165,569.28	$0.00	$165,569.28

Other Assumptions:

1. Modeling will only look at the existing inlet and piping system. Modeling of split flows due to inlet capacity or manhole surcharging has not been included in the scope and budget.
2. The hours of assumed time for subbasin auto-delineation includes time for completing the auto-delineation and for minimal time for manual re-delineation. Most re-delineation will be due to commercial areas or other areas with private storm drainage systems not included in the inventory.
3. The total budget with the Addtive Alternate manual subbasin deleineation = Total base budget minus Activity 303 plus Activity 303A.

Proposal Review

Project: **2014 Master Drainage Plan Update**

Review Team: Roger P., Tim H., Nate Nelsen, Craig Frisbee

Review Date Deadline: July 17, 2:00 p.m.

Rating Weights (% of total weighted percentage)(example, if weighted % =15%, possible points = 15) (**score each proposal area up to percentage weight: ie., between 1-15 pts, 0-5 Fair, 6-10 Good, and 11-15 Exceptional**) Costs shall be evaluated together as a group.

Consultant	Weighted %	Bowen Collins & Associates	Hansen, Allen & Luce
Experience, qualifications, availability, references, location	15	**12.25**	**14.50**
Demonstrated understanding of the project	15	**7.75**	**14.25**
Scope of work to deliver the desired end product	15	**8.75**	**14.50**
Proposed schedule to complete the project	10	**9.75**	**9.50**
Related project experience and example reports	15	**11.50**	**13.25**
Technical Quality Subtotal	**70**	**50.00**	**66.00**
Cost	30	**28.16**	**30.00**
TOTAL SCORE	**100**	**78.16**	**96.00**
Total Hours		**926**	**846.45**
Total Proposal Cost		**$125,800.00**	**$118,100.00**
RANK		**2**	**1**
Cost Rating ($/hour average)		**$135.85**	**$139.52**