Council Meeting of February 12, 2014

Agenda Item No. 56

REQUEST FOR COUNCIL ACTION

SUBJECT: Secondary Water Master Plan Update

SUMMARY: Approve an Agreement with Hansen Allen & Luce, Inc. to conduct an update to the Secondary Water Master Plan in an amount not to exceed $79,533.00

FISCAL IMPACT: Funding for this project is available in the Utility Water Reserves Account.

STAFF RECOMMENDATION:

Staff recommends approval of an Agreement with Hansen Allen & Luce, Inc. for the Secondary Water Master Plan Update in an amount not to exceed $79,533.00.

MOTION RECOMMENDED:

"I move to adopt Resolution No. 14-13 authorizing the Mayor to execute an Agreement with Hansen Allen & Luce, Inc. for the Secondary Water Master Plan Update in an amount not to exceed $79,533.00.

Roll Call vote required.

Prepared by:

Craig Frisbee

Reviewed by:

Wendell T. Rigby, P.E.
Director of Public Works

Reviewed as to Legal Sufficiency:

for

Jeffery Robinson
City Attorney

Recommended by:

Richard L. Davis
City Manager

BACKGROUND DISCUSSION:

The City has long considered developing a seasonal secondary water distribution system to support outdoor irrigation needs. This type of water delivery system would relieve demand on the culinary water system by reducing the consumption of culinary quality water resources.

Several studies have been completed in the past to evaluate the feasibility of a secondary water system. The city currently operates a limited secondary water system used to irrigate selected parks and open spaces. The City does not operate a secondary system to provide water to residential and/or commercial areas.

We have, in the past required new residential developments to construct secondary water piping systems "dry pipes" with services to each lot within the development. The feasibility of that program was evaluated and it was determined that the program should be discontinued and a more effective and practical program developed. I it was further decided that the City would no longer require the installation of "dry pipes" by developers and that the existing "dry pipes" would not be used for the time being.

At this time, we desire to develop the water resources to support such a system, as well as install the infrastructure features such as transmission pipelines, storage facilities and pumping facilities to support a secondary water system. We now desire to proceed with the development of a secondary water program utilizing the existing "dry pipe" system and developing the program further as resources are available. We have received proposals to consult on this project from a number of engineering firms. The project team chose the engineering firm of Hansen Allen & Luce, Inc. as the successful proposer. It is requested that this project and proposal be approved.

With regard to the selection of the firm Hansen, Allen & Luce, Inc. (HAL), the selection team discussed the depth and extent of experience for each proposer. The team felt that HAL had specific and wide-ranging experience with developing complex secondary water systems with varying complexity and distinctiveness throughout Utah. It was felt that this extensive and comprehensive experience would greatly assist West Jordan in developing a realistic and viable solution for the secondary water system. Though the two other firms have similar experience, the selection team felt the project would benefit from the new, fresher look at the issues the HAL team presented. The MWH proposal did not show sufficient innovative initiative and although Bowen Collins and Associates. Inc. proposed some good approaches and ideas; their team did not have the depth of experience the HAL team offered. Additionally the selection team felt HAL's experience developing similar specific and inventive programs for nearby cities like South Jordan City was impressive and would best fit West Jordan's project goals.

Additional Information Requested from January 29, 2014 Council Meeting

In reviewing the questions asked by Councilmember McConnehey, staff felt it needed to clarify items related to the process Used in evaluating the proposals received.

It should first be understood that professional services are evaluated based upon several criteria, not just cost.

In May of 2004 the City Council approved the "Professional Engineering and Architectural Service Procurement Manual' which contains the following:

1. Introduction and General Policies
2. Engineering and Architectural Consulting Practice
3. Classification of Engineering and Architectural Services
4. Procedure for Selection of the Consultant
5. Professional Services Agreements Processing

The Manual provides for an evaluation of professional service proposals based upon:

1. Understanding of the project
2. Experience and qualifications of the firm
3. Quality of the Work Plan
4. Project schedule, references and special expertise
5. Cost

Each of these items is given a weighted percentage and each proposal is evaluated based upon the items listed above and in accordance with the Council approved Manual.

A committee of 3 or 4 City employees is formed and each employee evaluates and scores each of the proposals separately. These individual scores are then combined to form the 'Proposal Review'. For this project we also held 'oral interviews' and a score was given by each of the interview panel, and these scores added to the proposal evaluations.

For this specific project, the proposals were evaluated based upon the City Council approved process and staff recommends, based upon the scoring sheet provided in the staff report, that Hansen Allen & Luce (HAL) be awarded the project.

A copy of the Manual is located on the table near the Council in-boxes in the Administrative Area of City Hall for your review.

Attachments:

Resolution
Agreement
Tabulation

THE CITY OF WEST JORDAN, UTAH
A Municipal Corporation

RESOLUTION NO. 14-13

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

Whereas, the City Council of the City of West Jordan has received proposals for the Secondary Water Master Plan Update project with Hansen Allen & Luce, Inc. being the recommended firm for an Agreement in the amount of $79,533.00; and

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

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

Whereas, the City Council of the City of West Jordan has determined that the attached Agreement with Hansen Allen & Luce, Inc. for the contract amount of $79,533.00 is acceptable for the Secondary Water Master Plan Update.

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

Section 1. The agreement for the Secondary Water Master Plan Update is hereby awarded to Hansen Allen & 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. After approval as to legal form by the City Attorney, the Mayor is hereby authorized to execute an Agreement between the City of West Jordan and Hansen Allen & Luce, Inc. in the amount of $79,533.00;

Section 3. This Resolution shall take effect immediately.

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

Kim V. Rolfe
Mayor

ATTEST:

MELANIE S. BRIGGS
City Recorder

RESOLUTION NO. 14-13

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

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

Proposal Review

Project: **Secondary Water Master Plan Update**

Review Team: Craig F., Nate Nelson, Tim H., Roger P.

Review Date Deadline:

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	MWH
Demonstrated understanding of the project	10	7.75	7.75	10.00
Experience and qualifications of the Firm and Individual team members to be assigned to the project	20	15.50	17.75	18.25
Quality of work plan and methodology to deliver the desired end product	20	11.75	18.00	19.00
Project schedule, reference, & special expertise	10	7.50	8.75	8.50
Quality and clarity of sample drawings	10	0.75	2.50	2.00
Sub-Total		**43.25**	**54.75**	**57.75**
Cost	30	30.00	14.33	12.92
RFP SCORE	90	**73.25**	**69.08**	**70.67**
Total Hours		301	563	652
Expenses		$38,000.00	$79,533.00	$88,256.00
Hourly Rate		$126.25	$141.27	$135.36
ORAL PRESENTATION SCORE		**85**	**97**	**63**
COMBINED SCORE		**158.00**	**166.08**	**133.67**
RANK		**2**	**1**	**3**

AGREEMENT FOR PROFESSIONAL SERVICES

City of West Jordan
Engineering Services for the
Secondary Water Master Plan Update

THIS AGREEMENT, made this 29th day of January 2014 between the City of West Jordan, a municipal corporation (hereinafter referred to as "City"), and Hansen Allen & Luce, Inc. (hereinafter referred to as "Consultant").

WHEREAS, the City desires to obtain professional 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 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 November 12, 2013 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 $79,533.00 .

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, work shall be completed by April 2014.

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:

Richard M. Noble, P.E.
David E. Hansen, Ph.D., P.E.
Steven C. Jones, M.S., P.E.
Travis B. Timothy, P.E.
Michael M. Chambers, P.E., P.M.P

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

(3) 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
Craig Frisbee
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:

Hansen Allen & Luce,Inc.
6771 South 900 East
Salt Lake City, 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:_____
Its: _____

STATE OF_____)
:SS
COUNTY OF_____)

On this _____ day of _____, 2014, personally appeared before me, _____, who being by me duly sworn did say that he is the _____ of _____ _____, 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.

_____
NOTARY PUBLIC

My Commission Expires:

Residing in _____County, _____

EXHIBIT A

(Consultant Proposal)

SCOPE OF WORK :.

Presented below is our proposed project approach to assist the City in meeting your key project objectives. Throughout the study we will focus on the key project issues described previously. Our goal is to provide City officials with a **broad range of options** and the data necessary to make **informed decisions**. We *will keep you in the driver's seat* with the understanding that this is an important project for the City. We will diligently work to find the most attractive funding scenario possible that **maximizes grants** and **minimizes interest rates** on borrowed money. A detailed financial analysis will be provided that not only addresses **user rates** that will be required for the secondary water system but also addresses **financial impacts to the drinking water system**. Additionally, water conservation is a current topic of concern throughout the State. Our approach will identify the effects of water conservation on projects costs.

Task 1 – Review Available Previous Reports and Studies

Objective: To collect, review, and organize the data needed to update a digital model of the West Jordan secondary water system that will be used to simulate water system operation under different scenarios and identify alternatives for capital improvements.

Activities:

1. Review the following information that will be provided by West Jordan City:
   - Previous Water System Master Plan, updates, and other reports
   - Recent West Jordan City Water Annual Report Data
   - Water use data from 2000 through 2012
   - Boundaries of future annexations areas and potential service areas
   - Existing secondary water system maps and attributes in GIS format that includes pipe location, age, material
   - Existing drinking water system maps and attributes in GIS format that includes pipe location, age, material – to be used to determine potential locations for cross-connecting secondary water lines to provide an interim means of charging the secondary water lines
   - Growth projections from the City's water master plan
   - Digital files containing aerial mapping and topographic data of the secondary water system service area
   - GIS shape files of current City boundaries, water system service area, and parcel boundaries with required attributes.
   - Existing secondary water system model files
2. Prepare for and attend a project kickoff meeting to review the project objectives and schedule, develop project and data coordination procedures, and discuss questions regarding information provided by the City. Discuss model options with the City and present our experience with various modeling options to assist the City in the selection of the model that will best meet their needs.

Products:

1. Information and understanding needed to develop a computer model of the West Jordan secondary water system and use it in formulating and evaluating alternatives for capital improvements.

Task 2 – Identify and Evaluate Potential Water Sources to Serve the Study Area

Objective: To determine the quantity and quality of water available to the secondary water system from various sources.

Activities:

1. Evaluate existing data for the following potential water sources:
   - City owned existing deep well groundwater currently used for culinary water supply; possible conversion to a resource for secondary water
   - New ground water sources to be developed from water rights owned by West Jordan City
   - Water reuse from wastewater treatment
   - Utah Lake water delivered through existing canals
   - Shallow ground water delivered through shallow wells or from under-drain flows
   - Other potential and available sources
2. Prepare a table that summarizes the quantity and quality of water available from each source.

Products:

1. Summary table listing quantity and quality of water available from each source.

Task 3 – Review Water Quality Issues and Concerns; Recommend Action as Determined Necessary

Objective: To determine which potential water sources have suitable quality for use in secondary water system.

Activities:

1. Determine upper limits of salt tolerance for landscaping plants typically used in West Jordan
2. Identify other negative characteristics of potential water sources that would limit their suitability for use in the secondary water system (i.e., odor, organisms, VOCs, heavy metals, etc.)
3. Determine which potential sources are suitable for unrestricted use, which sources are suitable when mixed with higher quality water, and which sources are not suitable for use in secondary water system.
4. Meet with City staff to discuss findings of Tasks 2 and 3.

Products:

1. Summary table indicating sources that are suitable for unrestricted use, sources that are suitable when mixed with higher quality water, and sources that are not suitable for use in secondary water system.
2. Meeting notes with recommendations.

Task 4 - Identify System Requirements for Delivery of Secondary Water; i.e. Quantity, Flow Rate, Piping Systems, Pumps, Storage, Right-Of-Way, etc.

Objective: To identify a range of options for implementing a secondary water system with emphasis on phased implementation.

Activities:

1. Determine secondary water system demands based on existing and projected land use within the study area.

2. Determine the potential effects of conservation practices on demands.
3. Meet with City staff in a workshop setting to develop a range of alternative concepts for implementing the secondary water system. These options could include the following:
   - Convert existing deep groundwater well flows to secondary water
   - Pump secondary water from canal systems
   - Capture flows from under-drain systems to use as secondary water
   - Reclaim water from the wastewater treatment plant
   - Develop new shallow or deep ground water sources
   - Cross-connect with drinking water system to provide an interim water source for quick implementation and a source of water for blending (This will require suitable backflow prevention to prevent contamination of drinking water system.)
4. Identify infrastructure needed to implement each alternative concept (i.e., transmission pipelines, wells, pump stations, storage reservoirs)
5. Using GIS data develop a computer model for each alternative that can be used to determine pipe and pump sizes and evaluate system performance
6. Develop conceptual-level cost estimates for each alternative
7. Prepare an evaluation matrix to compare alternatives
8. Meet with City staff to discuss alternatives evaluation
9. Work session with City Council to discuss alternatives and select recommended approach
10. Develop recommended approach for implementing secondary water system including potential phasing

Products:

1. Technical memo documenting system demands
2. Meeting notes documenting alternatives to be evaluated
3. Evaluation matrix comparing alternatives
4. Meeting notes documenting selection of recommended approach for implementing secondary water system

Task 5 – Prepare Preliminary Cost Estimates for Recommended Improvements

Objective: To develop a cost estimate that can be used for budgeting and rate studies

Activities:

1. Develop construction cost estimates using 2013 RS Means Heavy Construction Cost Data and recent bid data from other projects
2. Develop operation and maintenance cost estimates based on pumping costs and other operating requirements for facilities

Products:

1. Technical memo summarizing construction and O&M cost estimates.

Task 6 – Recommend Funding Sources and Rate Structure

Objective: To develop a financial strategy for implementing the secondary water system including project funding and rates that will be required for debt service and operating costs.

Activities:

1. Identify and evaluate potential sources of project funding including loans and grants. Make

recommendations for potential grants that could be pursued.

2. Develop a project funding plan based on the previous activity.
3. Determine annual revenue requirements that must be generated through secondary water system rates as follows:
   - Develop revenue requirement models
   - Forecast revenues and expenses
   - Evaluate Fiscal policies
   - Allocate costs to customer classes
   - Rate model development and documentation
4. Prepare rate study report

Products:

1. Rate study report

Task 7 – Evaluate Alternative Uses for the Secondary Water System Piping

Objective: Identify potential uses of existing secondary water system piping in the event that a secondary water system is not implemented.

Activities:

1. In the workshop identified in Task 4, brainstorm with City staff concepts for potential alternative uses of existing secondary piping. These alternatives could include supplementing drinking water system capacity, conduits for other utilities, and storm drainage.
2. Perform a preliminary evaluation of concepts and develop recommendations.

Products:

1. Meeting notes summarizing concepts for alternative uses.
2. Memo summarizing evaluation of concepts and recommendations.

Task 8 – Report

Objective: Prepare a report summarizing the results of this study.

Activities:

1. Prepare a draft report that summarizes the results of the study and presents the recommended water system capital improvements plan.
2. Meet with City personnel to review comments on draft report.
3. Incorporate City comments into the final report.
4. Present summary to the City Council and public at a City Council meeting.

Products:

1. Five paper copies of the draft water system master plan report.
2. Ten paper copies of the final water system master plan report.
3. One electronic PDF copy of the [mal water system master plan report.
4. Two copies of a technical appendix (if any) that contains pertinent technical data used in developing the master plan report.