

Item # 17B

**City of Carson City
Agenda Report**

Date Submitted: May 11, 2010

Agenda Date Requested: May 20, 2010

Time Requested: Five Minutes

To: Mayor and Supervisors

From: Purchasing and Contracts

Subject Title: Action to determine that Contract No. 0910-202 is a contract for the services of a professional engineer, professional land surveyor or registered architect; that the selection was made on the basis of the competence and qualifications of the engineer, land surveyor or architect for the type of services to be performed and not on the basis of competitive fees; and therefore not suitable for public bidding pursuant to NRS 625.530; and to approve Contract No. 0910-202 with Black and Veatch Corporation to provide Engineering Services for the Regional Transmission System Project through May 20, 2011, for a not to exceed cost of \$357,200.00 to be funded from various Water Fund Accounts as provided in FY 2009/2010. *(Sandy Scott-Fisher)*

Staff Summary: This Contract is to provide professional services for Engineering Services for the Regional Transmission Project. Consultant is to provide Project Management, Operational Hydraulic Analyses, Transient Analysis, Groundwater Blending, North-South/East-West Transmission Main Infrastructure and West Side Blending for the Regional Transmission System Project.

Type of Action Requested: (check one)

☐ Resolution ☐ Ordinance
☒ Formal Action/Motion ☐ Other (Specify)

Does This Action Require A Business Impact Statement: ☐ Yes ☒ No

Recommended Board Action: I move to determine that Contract No. 0910-202 is a contract for the services of a professional engineer, professional land surveyor or registered architect; that the selection was made on the basis of the competence and qualifications of the engineer, land surveyor or architect for the type of services to be performed and not on the basis of competitive fees; and therefore not suitable for public bidding pursuant to NRS 625.530; and to approve Contract No. 0910-202 With Black and Veatch Corporation to provide Engineering Services for the Regional Transmission System Project through May 20, 2011, for a not to exceed cost of \$357,200 to be funded from various Water Fund Accounts as provided in FY 2009/2010. *(Sandy Scott-Fisher)*

Explanation for Recommended Board Action: Pursuant to **NRS 625.530**, staff is requesting the Board of Supervisors declare that this contract is not adapted to award by competitive bidding.

NRS 625.530 Restrictions upon public works. Except as otherwise provided in NRS 338.1711 to 338.1727, inclusive, and 408.3875 to 408.3887, inclusive:

1. The State of Nevada or any of its political subdivisions, including a county, city or town, shall not engage in any public work requiring the practice of professional engineering or land

surveying, unless the maps, plans, specifications, reports and estimates have been prepared by, and the work executed under the supervision of, a professional engineer, professional land surveyor or registered architect.

2. The provisions of this section do not:

(a) Apply to any public work wherein the expenditure for the complete project of which the work is a part does not exceed \$35,000.

(b) Include any maintenance work undertaken by the State of Nevada or its political subdivisions.

(c) Authorize a professional engineer, registered architect or professional land surveyor to practice in violation of any of the provisions of chapter 623 of NRS or this chapter.

(d) Require the services of an architect registered pursuant to the provisions of chapter 623 of NRS for the erection of buildings or structures manufactured in an industrial plant, if those buildings or structures meet the requirements of local building codes of the jurisdiction in which they are being erected.

3. The selection of a professional engineer, professional land surveyor or registered architect to perform services pursuant to subsection 1 must be made on the basis of the competence and qualifications of the engineer, land surveyor or architect for the type of services to be performed and not on the basis of competitive fees. If, after selection of the engineer, land surveyor or architect, an agreement upon a fair and reasonable fee cannot be reached with him, the public agency may terminate negotiations and select another engineer, land surveyor or architect.

[12a:198:1919; added 1947, 797; A 1949, 639; 1943 NCL § 2875.06a]—(NRS A 1967, 953; 1971, 774; 1973, 1700; 1975, 208; 1977, 320; 1983, 807; 1989, 788; 1997, 1055; 1999, 3489; 2001, 2022; 2003, 119)

Applicable Statute, Code, Policy, Rule or Regulation: NRS 625.530

Fiscal Impact: \$357,200.00

Explanation of Impact: Amount of Contract.

Funding Source: Water Fund Accounts – 520-3505-435-78-07, 520-3505-435-78-10, 520-3505-435-78-09 and 520-3505-435-78-11

Alternatives: Provide other direction pursuant to Board Action.

Supporting Material: Contract No. 0910-202 and Exhibit A

Prepared By: Sandy Scott-Fisher, Purchasing and Contracts Coordinator

Reviewed By:

(Public Works)

Date: 5-11-10

(City Manager)

Date: 5/11/10

(District Attorney)

Date: 5-11-10

(Finance Director)

Date: 5/11/10

Board Action Taken:

Motion: _____

1) _____

2) _____

Aye/Nay

(Vote Recorded By)

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
PROJECTS (Architects, Engineers, and Land Surveyor's)**

Contract No. 0910-202

Engineering Services for the Regional Transmission System Project

THIS CONTRACT, made and entered into this 20th day of May, 2010, by and between the City and County of Carson City, a political subdivision of the State of Nevada, hereinafter referred to as the "**CITY**", and Black and Veatch Corporation hereinafter referred to as the "**CONSULTANT**".

W I T N E S S E T H :

WHEREAS, the Purchasing and Contracts Coordinator for the City and County of Carson City is authorized, pursuant to Nevada Revised Statutes Chapter 332 and Carson City Purchasing Resolution #1990-R71, to approve and accept this Contract as set forth in and by the following provisions; and

WHEREAS, it is deemed that the services of **CONSULTANT** for **CONTRACT No. 0910-202 Engineering Services for the Regional Transmission System Project** are both necessary and in the best interests of **CITY**; and

NOW, THEREFORE, in consideration of the aforesaid premises, the parties mutually agree as follows:

1 REQUIRED APPROVAL:

1.1 This Contract shall not become effective until and unless approved by the Carson City Board of Supervisors.

2 CONTRACT TERM:

2.1 This Contract shall be effective from May 20, 2010, subject to Carson City Board of Supervisors' approval (anticipated to be May 20, 2010) to May 20, 2011, unless sooner terminated by either party as specified in **Section 7 Contract Termination**.

3 NOTICE:

3.1 Unless otherwise specified, termination shall not be effective until thirty (30) calendar days after a party has served written notice of default, or without cause upon the other party. All notices or other communications required or permitted to be given under this Contract shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by e-mail with simultaneous regular mail, by telephonic facsimile with simultaneous regular mail, or by certified mail, return receipt requested, postage prepaid on the date posted, and addressed to the other party at the address specified below.

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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Contract No. 0910-202
Engineering Services for the Regional Transmission System Project**

For P&C Use Only	
CCBL expires	_____
GL expires	_____
AL expires	_____
PL expires	_____
WC expires	_____

3.1.1 Notice to **CONSULTANT** shall be addressed to:

Ira Rackley, P.E.
Black and Veatch Corporation
503 North Division Street
Carson City, Nevada 89703
775-720-0410/FAX 775-293-0494
rackleyis@bv.com

3.1.2 Notice to **CITY** shall be addressed to:

Carson City Purchasing and Contracts
Sandy Scott-Fisher, Purchasing and Contracts Coordinator
201 North Carson Street, Suite 3
Carson City, Nevada 89701
775-283-7137/ FAX 775-887-2107
SScott@ci.carson-city.nv.us

4 **SCOPE OF WORK:**

4.1 **CONSULTANT** shall provide and perform the following services set forth in **Exhibit A** attached hereto and incorporated herein by reference for and on behalf of **CITY** hereinafter referred to as the "**SERVICES**".

4.2 **CONSULTANT** represents that it is duly licensed by Carson City for the purposes of performing the **SERVICES**.

4.3 **CONSULTANT** represents that it is duly qualified and licensed in the State of Nevada for the purposes of performing the **SERVICES**.

4.4 **CONSULTANT** represents that it and/or the persons it may employ possess all skills and training necessary to perform the **SERVICES** described herein and required hereunder. **CONSULTANT** shall perform the **SERVICES** faithfully, diligently, in a timely and professional manner, to the best of its ability, and in such a manner as is customarily performed by a person who is in the business of providing such services in similar circumstances. **CONSULTANT** shall be responsible for the professional quality and technical accuracy of all **SERVICES** furnished by **CONSULTANT** to **CITY**.

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4.5 **CONSULTANT** represents that neither the execution of this Contract nor the rendering of services by **CONSULTANT** hereunder will violate the provisions of or constitute a default under any other contract or agreement to which **CONSULTANT** is a party or by which **CONSULTANT** is bound, or which would preclude **CONSULTANT** from performing the **SERVICES** required of **CONSULTANT** hereunder, or which would impose any liability or obligation upon **CITY** for accepting such **SERVICES**.

4.6 Before commencing with the performance of any work under this Contract, **CONSULTANT** shall obtain all necessary permits and licenses as may be necessary. Before and during the progress of work under this Contract, **CONSULTANT** shall give all notice and comply with all the laws, ordinances, rules and regulations of every kind and nature now or hereafter in effect promulgated by any Federal, State, County, or other Governmental Authority, relating to the performance of work under this Contract. If **CONSULTANT** performs any work that is contrary to any such law, ordinance, rule or regulation, he shall bear all the costs arising therefrom.

4.7 Special Terms and Conditions for Engineers, Architects, and Land Surveyors:

4.7.1 Use of **CONSULTANT'S** Drawings, Specifications and Other Documents:

4.7.1.1 The drawing, specifications and other documents prepared by **CONSULTANT** for this Contract are instruments of **CONSULTANT'S** service for use solely with respect to this Contract and, unless otherwise provided, **CONSULTANT** shall be deemed the author of these documents and shall retain all common law statutory and other reserved rights, including the copyright.

4.7.1.2 **CITY** shall be permitted to retain copies, including reproducible copies, of **CONSULTANT'S** drawings, specifications, and other documents for information and reference in connection with this Contract.

4.7.1.3 **CONSULTANT'S** drawings, specifications and other documents shall not be used by **CITY** or others without expressed permission of **CONSULTANT**.

4.7.2 Cost Accounting and Audits:

4.7.2.1 If required by **CITY**, **CONSULTANT** agrees to make available to **CITY** within two (2) years after the completion of the **SERVICES** under this Contract, such books, records, receipts, vouchers, or other data as may be deemed necessary by **CITY** to enable it to arrive at appropriate cost figures for the purpose of establishing depreciation rates for the various materials and other elements which may have been incorporated into the **SERVICES** performed under this Contract.

4.8 CITY Responsibilities:

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4.8.1 **CITY** shall make available to **CONSULTANT** all technical data that is in **CITY'S** possession, reasonably required by **CONSULTANT** relating to the **SERVICES**.

4.8.2 **CITY** shall provide access to and make all provisions for **CONSULTANT** to enter upon public and private lands, to the fullest extent permitted by law, as reasonably required for **CONSULTANT** to perform the **SERVICES**.

4.8.3 **CITY** shall examine all reports, correspondence, and other documents presented by **CONSULTANT** upon request of **CITY**, and render, in writing, decisions pertaining thereto within a reasonable time so as not to delay the work of **CONSULTANT**.

4.8.4 It is expressly understood and agreed that all work done by **CONSULTANT** shall be subject to inspection and acceptance by **CITY** and approval of **SERVICES** shall not forfeit the right of **CITY** to require correction, and nothing contained herein shall relieve **CONSULTANT** of the responsibility of the **SERVICES** required under the terms of this Contract until all **SERVICES** have been completed and accepted by **CITY**.

5 CONSIDERATION:

5.1 The parties agree that **CONSULTANT** will provide the **SERVICES** specified in **Section 4 Scope of Work** and **CITY** agrees to pay **CONSULTANT** the **CONTRACT SUM** based upon time and materials and the attached fee schedule for a not to exceed maximum amount of Three Hundred Fifty-Seven Thousand, Two Hundred Dollars and No Cents (\$357,200.00).

5.2 **CONTRACT SUM** represents full and adequate compensation for the completed **WORK**, and includes the furnishing of all materials; all labor, equipment, tools, and appliances; and all expenses, direct or indirect, connected with the proper execution of the **WORK**.

5.3 **CITY** has provided a sample invoice and **CONSULTANT** shall submit its request for payment using said sample invoice.

5.4 Payment by **CITY** for the **SERVICES** rendered by **CONSULTANT** shall be due within thirty (30) calendar days from the date **CITY** acknowledges that the performance meets the requirements of this Contract or from the date the correct, complete, and descriptive invoice is received by **CITY** employee designated on the sample invoice, whichever is the latter date.

5.5 **CITY** does not agree to reimburse **CONSULTANT** for expenses unless otherwise specified.

6 TIMELINESS OF BILLING SUBMISSION:

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6.1 The parties agree that timeliness of billing is of the essence to this Contract and recognize that **CITY** is on a fiscal year which is defined as the period beginning July 1 and ending June 30 of the following year. All billings for dates of service prior to July 1 must be submitted to **CITY** no later than the first Friday in August of the same year. A billing submitted after the first Friday in August will subject **CONSULTANT** to an administrative fee not to exceed \$100.00. The parties hereby agree this is a reasonable estimate of the additional costs to **CITY** of processing the billing as a stale claim and that this amount will be deducted from the stale claim payment due to **CONSULTANT**.

7 **CONTRACT TERMINATION:**

7.1 **Termination Without Cause:**

7.1.1 Any discretionary or vested right of renewal notwithstanding, this Contract may be terminated upon written notice by mutual consent of both parties or unilaterally by either party without cause.

7.2 **Termination for Nonappropriation:**

7.2.1 The continuation of this Contract beyond June 30, 2010 is subject to and contingent upon sufficient funds being appropriated, budgeted, and otherwise made available by the Carson City Board of Supervisors. **CITY** may terminate this Contract, and **CONSULTANT** waives any and all claim(s) for damages, effective immediately upon receipt of written notice (or any date specified therein) if for any reason the funding is not appropriated or is withdrawn, limited, or impaired.

7.3 **Cause Termination for Default or Breach:**

7.3.1 A default or breach may be declared with or without termination.

7.3.2 This Contract may be terminated by either party upon written notice of default or breach to the other party as follows:

7.3.2.1 If **CONSULTANT** fails to provide or satisfactorily perform any of the conditions, work, deliverables, goods, or services called for by this Contract within the time requirements specified in this Contract or within any granted extension of those time requirements; or

7.3.2.2 If any state, county, city or federal license, authorization, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by **CONSULTANT** to provide the goods or services required by this Contract is for any reason denied, revoked, debarred, excluded, terminated, suspended, lapsed, or not renewed; or

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7.3.2.3 If **CONSULTANT** becomes insolvent, subject to receivership, or becomes voluntarily or involuntarily subject to the jurisdiction of the bankruptcy court; or

7.3.2.4 If **CITY** materially breaches any material duty under this Contract and any such breach impairs **CONSULTANT'S** ability to perform; or

7.3.2.5 If it is found by **CITY** that any quid pro quo or gratuities in the form of money, services, entertainment, gifts, or otherwise were offered or given by **CONSULTANT**, or any agent or representative of **CONSULTANT**, to any officer or employee of **CITY** with a view toward securing a contract or securing favorable treatment with respect to awarding, extending, amending, or making any determination with respect to the performing of such contract; or

7.3.2.6 If it is found by **CITY** that **CONSULTANT** has failed to disclose any material conflict of interest relative to the performance of this Contract.

7.4 Time to Correct:

7.4.1 Termination upon a declared default or breach may be exercised only after service of formal written notice as specified in **Section 3 Notice**, and the subsequent failure of the defaulting party within fifteen (15) calendar days of that notice to provide evidence, satisfactory to the aggrieved party, showing that the declared default or breach has been corrected.

7.5 Winding Up Affairs Upon Termination:

7.5.1 In the event of termination of this Contract for any reason, the parties agree that the provisions of this paragraph survive termination:

7.5.1.1 The parties shall account for and properly present to each other all claims for fees and expenses and pay those which are undisputed and otherwise not subject to set off under this Contract. Neither party may withhold performance of winding up provisions solely based on nonpayment of fees or expenses accrued up to the time of termination;

7.5.1.2 **CONSULTANT** shall satisfactorily complete work in progress at the agreed rate (or a pro rata basis if necessary) if so requested by **CITY**;

7.5.1.3 **CONSULTANT** shall execute any documents and take any actions necessary to effectuate an assignment of this Contract if so requested by **CITY**;

7.5.1.4 **CONSULTANT** shall preserve, protect, and promptly deliver into **CITY** possession all proprietary information in accordance with **Section 23 City Ownership of Proprietary Information**.

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8 REMEDIES:

8.1 Except as otherwise provided for by law or this Contract, the rights and remedies of the parties shall not be exclusive and are in addition to any other rights and remedies provided by law or equity, including, without limitation, actual damages, and to a prevailing party reasonable attorneys' fees and costs. The parties agree that, in the event a lawsuit is filed and a party is awarded attorney's fees by the court, for any reason, the amount of recoverable attorney's fees shall not exceed the rate of \$125 per hour. **CITY** may set off consideration against any unpaid obligation of **CONSULTANT** to **CITY**.

9 LIMITED LIABILITY:

9.1 **CITY** will not waive and intends to assert available Nevada Revised Statutes Chapter 41 liability limitations in all cases. Contract liability of both parties shall not be subject to punitive damages. Liquidated damages shall not apply unless otherwise specified in the incorporated attachments. Damages for any **CITY** breach shall never exceed the amount of funds appropriated for payment under this Contract, but not yet paid to **CONSULTANT**, for the fiscal year budget in existence at the time of the breach. **CONSULTANT'S** tort liability shall not be limited.

10 FORCE MAJEURE:

10.1 Neither party shall be deemed to be in violation of this Contract if it is prevented from performing any of its obligations hereunder due to strikes, failure of public transportation, civil or military authority, act of public enemy, accidents, fires, explosions, or acts of God, including, without limitation, earthquakes, floods, winds, or storms. In such an event the intervening cause must not be through the fault of the party asserting such an excuse, and the excused party is obligated to promptly perform in accordance with the terms of this Contract after the intervening cause ceases.

11 INDEMNIFICATION:

11.1 As required by AB 483, and NRS 338.155, **CONSULTANT** shall defend, indemnify and hold harmless the **CITY**, and the employees, officers and agents of the public body from any liabilities, damages, losses, claims, actions or proceedings, including without limitation, reasonable attorneys' fees, to the extent that such liabilities, damages, losses, claims, actions or proceedings are caused by the negligence, errors, omissions, recklessness or intentional misconduct of the **CONSULTANT** or the employees or agents of the **CONSULTANT** in the performance of the contract. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of the indemnity which would otherwise exist as to any party or person described in this paragraph.

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11.2 Except as otherwise provided in Subsection 11.4 below, the indemnifying party shall not be obligated to provide a legal defense to the indemnified party, nor reimburse the indemnified party for the same, for any period occurring before the indemnified party provides written notice of the pending claim(s) or cause(s) of action to the indemnifying party, along with:

11.2.1 a written request for a legal defense for such pending claim(s) or cause(s) of action; and

11.2.2 a detailed explanation of the basis upon which the indemnified party believes that the claim or cause of action asserted against the indemnified party implicates the culpable conduct of the indemnifying party, its officers, employees, and/or agents.

11.3 After the indemnifying party has begun to provide a legal defense for the indemnified party, the indemnifying party shall not be obligated to fund or reimburse any fees or costs provided by any additional counsel for the indemnified party, including counsel through which the indemnified party might voluntarily choose to participate in its defense of the same matter.

11.4 After the indemnifying party has begun to provide a legal defense for the indemnified party, the indemnifying party shall be obligated to reimburse the reasonable attorney's fees and costs incurred by the indemnified party during the initial thirty (30) day period of the claim or cause of action, if any, incurred by separate counsel.

12 INDEPENDENT CONTRACTOR:

12.1 An independent contractor is a natural person, firm or corporation who agrees to perform services for a fixed price according to his or its own methods and without subsection to the supervision or control of the other contracting party, except as to the results of the work, and not as to the means by which the services are accomplished.

12.2 It is mutually agreed that **CONSULTANT** is associated with **CITY** only for the purposes and to the extent specified in this Contract, and in respect to performance of the contracted services pursuant to this Contract. **CONSULTANT** is and shall be an independent contractor and, subject only to the terms of this Contract, shall have the sole right to supervise, manage, operate, control, and direct performance of the details incident to its duties under this Contract.

12.3 Nothing contained in this Contract shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for **CITY** whatsoever with respect to the indebtedness, liabilities, and obligations of **CONSULTANT** or any other party.

12.4 **CONSULTANT** shall indemnify and hold **CITY** harmless from, and defend **CITY** against, any and all losses, damages, claims, costs, penalties, liabilities, expenses arising out of or

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incurred in any way because of, but not limited to, **CONSULTANT'S** obligations or legal duties regarding any taxes, fees, assessments, benefits, entitlements, notice of benefits, employee's eligibility to work, to any third party, subcontractor, employee, state, local or federal governmental entity.

12.5 Neither **CONSULTANT** nor its employees, agents, or representatives shall be considered employees, agents, or representatives of **CITY**.

13 INSURANCE REQUIREMENTS:

13.1 **CONSULTANT**, as an independent contractor and not an employee of **CITY**, must carry policies of insurance in amounts specified and pay all taxes and fees incident hereunto. **CITY** shall have no liability except as specifically provided in this Contract.

13.2 **CONSULTANT** shall not commence work before: (1) **CONSULTANT** has provided the required evidence of insurance to Carson City Purchasing and Contracts, and (2) **CITY** has approved the insurance policies provided by **CONSULTANT**.

13.3 Prior approval of the insurance policies by **CITY** shall be a condition precedent to any payment of consideration under this Contract and **CITY'S** approval of any changes to insurance coverage during the course of performance shall constitute an ongoing condition subsequent this Contract. Any failure of **CITY** to timely approve shall not constitute a waiver of the condition.

13.4 Insurance Coverage:

13.4.1 **CONSULTANT** shall, at **CONSULTANT'S** sole expense, procure, maintain and keep in force for the duration of this Contract the following insurance conforming to the minimum requirements specified below. Unless specifically specified herein or otherwise agreed to by **CITY**, the required insurance shall be in effect prior to the commencement of work by **CONSULTANT** and shall continue in force as appropriate until the latter of:

13.4.1.1 Final acceptance by **CITY** of the completion of this Contract; or

13.4.1.2 Such time as the insurance is no longer required by **CITY** under the terms of this Contract.

13.4.2 Any insurance or self-insurance available to **CITY** shall be in excess of and non-contributing with any insurance required from **CONSULTANT**. **CONSULTANT'S** insurance policies shall apply on a primary basis. Until such time as the insurance is no longer required by **CITY**, **CONSULTANT** shall provide **CITY** with renewal or replacement evidence of insurance no less than thirty (30) calendar days before the expiration or replacement of the

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required insurance. If at any time during the period when insurance is required by this Contract, an insurer or surety shall fail to comply with the requirements of this Contract, as soon as **CONSULTANT** has knowledge of any such failure, **CONSULTANT** shall immediately notify **CITY** and immediately replace such insurance or bond with an insurer meeting the requirements.

13.5 General Requirements:

13.5.1 Certificate Holder: Each liability insurance policy shall list Carson City c/o Carson City Purchasing and Contracts, 201 N. Carson Street Suite 3, Carson City, NV 89701 as a certificate holder.

13.5.2 Additional Insured: By endorsement to the general liability insurance policy evidenced by **CONSULTANT**, The City and County of Carson City, Nevada, its officers, employees and immune contractors shall be named as additional insureds for all liability arising from this Contract.

13.5.3 Waiver of Subrogation: Each liability insurance policy shall provide for a waiver of subrogation as to additional insureds.

13.5.4 Cross-Liability: All required liability policies shall provide cross-liability coverage as would be achieved under the standard ISO separation of insureds clause.

13.5.5 Deductibles and Self-Insured Retentions: Insurance maintained by **CONSULTANT** shall apply on a first dollar basis without application of a deductible or self-insured retention unless otherwise specifically agreed to by **CITY**. Such approval shall not relieve **CONSULTANT** from the obligation to pay any deductible or self-insured retention. Any deductible or self-insured retention shall not exceed \$5,000 per occurrence, unless otherwise approved by **CITY**.

13.5.6 Policy Cancellation: Except for ten (10) calendar days notice for non-payment of premium, each insurance policy shall be endorsed to state that; without thirty (30) calendar days prior written notice to Carson City Purchasing and Contracts, the policy shall not be canceled, non-renewed or coverage and /or limits reduced or materially altered, and shall provide that notices required by this paragraph shall be sent by certified mail to Carson City Purchasing and Contracts, 201 N. Carson Street Suite 3, Carson City, NV 89701.

13.5.7 Approved Insurer: Each insurance policy shall be issued by insurance companies authorized to do business in the State of Nevada or eligible surplus lines insurers acceptable to the State and having agents in Nevada upon whom service of process may be made, and currently rated by A.M. Best as "A-VII" or better.

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13.5.8 **Evidence of Insurance:** Prior to commencement of work, **CONSULTANT** must provide the following documents to Carson City Purchasing and Contracts, 201 North Carson Street Suite 3, Carson City, NV 89701:

13.5.8.1 **Certificate of Insurance:** The Acord 25 Certificate of Insurance form or a form substantially similar must be submitted to Carson City Purchasing and Contracts to evidence the insurance policies and coverages required of **CONSULTANT**.

13.5.8.2 **Additional Insured Endorsement:** An Additional Insured Endorsement (CG20 10 or C20 26), signed by an authorized insurance company representative, must be submitted to Carson City Purchasing and Contracts to evidence the endorsement of **CITY** as an additional insured per Subsection 13.5.2.

13.5.8.3 **Schedule of Underlying Insurance Policies:** If Umbrella or Excess policy is evidenced to comply with minimum limits, a copy of the Underlyer Schedule from the Umbrella or Excess insurance policy may be required.

13.5.9 **Review and Approval:** Documents specified above must be submitted for review and approval by Carson City Purchasing and Contracts prior to the commencement of work by **CONSULTANT**. Neither approval by **CITY** nor failure to disapprove the insurance furnished by **CONSULTANT** shall relieve **CONSULTANT** of **CONSULTANT'S** full responsibility to provide the insurance required by this Contract. Compliance with the insurance requirements of this Contract shall not limit the liability of **CONSULTANT** or its sub-contractors, employees or agents to **CITY** or others, and shall be in addition to and not in lieu of any other remedy available to **CITY** under this Contract or otherwise. **CITY** reserves the right to request and review a copy of any required insurance policy or endorsement to assure compliance with these requirements.

14 COMMERCIAL GENERAL LIABILITY INSURANCE:

14.1 Minimum Limits required:

14.1.1 Two Million Dollars (\$2,000,000.00) - General Aggregate

14.1.2 Two Million Dollars (\$2,000,000.00) - Products & Completed Operations Aggregate

14.1.3 One Million Dollars (\$1,000,000.00) - Each Occurrence

14.2 Coverage shall be on an occurrence basis and shall be at least as broad as ISO 1996 form CG 00 01 (or a substitute form providing equivalent coverage); and shall cover liability arising from premises, operations, independent contractors, completed operations, personal

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injury, products, civil lawsuits, Title VII actions and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

15 BUSINESS AUTOMOBILE LIABILITY INSURANCE:

15.1 Minimum Limit required:

15.1.1 One Million Dollars (\$1,000,000) per occurrence for bodily injury and property damage

15.2 Coverage shall be for "any auto", including owned, non-owned and hired vehicles. The policy shall be written on ISO form CA 00 01 or a substitute providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

16 PROFESSIONAL LIABILITY INSURANCE:

16.1 Minimum Limit required: One Million Dollars (\$1,000,000.00)

16.2 Retroactive date: Prior to commencement of the performance of this Contract

16.3 Discovery period: Three (3) years after termination date of this Contract.

16.4 A certified copy of this policy may be required.

17 WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE:

17.1 CONSULTANT shall provide workers' compensation insurance as required by Nevada Revised Statutes Chapters 616A through 616D inclusive and Employer's Liability insurance with a minimum limit of \$500,000 each employee per accident for bodily injury by accident or disease.

17.2 CONSULTANT may, in lieu of furnishing a certificate of an insurer, provide an affidavit indicating that **CONSULTANT** is a sole proprietor; that **CONSULTANT** will not use the services of any employees in the performance of this Contract; that **CONSULTANT** has elected to not be included in the terms, conditions, and provisions of Nevada Revised Statutes Chapters 616A-616D, inclusive; and that **CONSULTANT** is otherwise in compliance with the terms, conditions, and provisions of Nevada Revised Statutes Chapters 616A-616D, inclusive.

18 BUSINESS LICENSE:

18.1 CONSULTANT shall not commence work before **CONSULTANT** has provided a copy of his Carson City business license to Carson City Purchasing and Contracts.

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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18.2 The Carson City business license shall continue in force until the latter of: (1) final acceptance by **CITY** of the completion of this Contract; or (2) such time as the Carson City business license is no longer required by **CITY** under the terms of this Contract.

19 COMPLIANCE WITH LEGAL OBLIGATIONS:

19.1 **CONSULTANT** shall procure and maintain for the duration of this Contract any state, county, city, or federal license, authorization, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by **CONSULTANT** to provide the goods or services of this Contract. **CONSULTANT** will be responsible to pay all government obligations, including, but not limited to, all taxes, assessments, fees, fines, judgments, premiums, permits, and licenses required or imposed by law or a court. Real property and personal property taxes are the responsibility of **CONSULTANT** in accordance with Nevada Revised Statutes 361.157 and 361.159. **CONSULTANT** agrees to be responsible for payment of any such government obligations not paid by its subcontractors during performance of this Contract. **CITY** may set-off against consideration due any delinquent government obligation.

20 WAIVER OF BREACH:

20.1 Failure to declare a breach or the actual waiver of any particular breach of this Contract or its material or nonmaterial terms by either party shall not operate as a waiver by such party of any of its rights or remedies as to any other breach.

21 SEVERABILITY:

21.1 If any provision contained in this Contract is held to be unenforceable by a court of law or equity, this Contract shall be construed as if such provision did not exist and the nonenforceability of such provision shall not be held to render any other provision or provisions of this Contract unenforceable.

22 ASSIGNMENT/DELEGATION:

22.1 To the extent that any assignment of any right under this Contract changes the duty of either party, increases the burden or risk involved, impairs the chances of obtaining the performance of this Contract, attempts to operate as a novation, or includes a waiver or abrogation of any defense to payment by **CITY**, such offending portion of the assignment shall be void, and shall be a breach of this Contract. **CONSULTANT** shall neither assign, transfer nor delegate any rights, obligations or duties under this Contract without the prior written approval of **CITY**.

23 CITY OWNERSHIP OF PROPRIETARY INFORMATION:

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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23.1 Any files, reports, histories, studies, tests, manuals, instructions, photographs, negatives, blue prints, plans, maps, data, system designs, computer programs, computer codes, and computer records (which are intended to be consideration under this Contract), or any other documents or drawings, prepared or in the course of preparation by **CONSULTANT** (or its subcontractors) in performance of its obligations under this Contract shall be the exclusive property of **CITY** and all such materials shall be delivered into **CITY** possession by **CONSULTANT** upon completion, termination, or cancellation of this Contract. **CONSULTANT** shall not use, willingly allow, or cause to have such materials used for any purpose other than performance of **CONSULTANT'S** obligations under this Contract without the prior written consent of **CITY**. Notwithstanding the foregoing, **CITY** shall have no proprietary interest in any materials licensed for use by **CITY** that are subject to patent, trademark or copyright protection.

23.2 **CITY** shall be permitted to retain copies, including reproducible copies, of **CONSULTANT'S** drawings, specifications, and other documents for information and reference in connection with this Contract.

23.3 **CONSULTANT'S** drawings, specifications and other documents shall not be used by **CITY** or others without expressed permission of **CONSULTANT**.

24 **PUBLIC RECORDS:**

24.1 Pursuant to Nevada Revised Statute 239.010, information or documents received from **CONSULTANT** may be open to public inspection and copying. **CITY** will have the duty to disclose unless a particular record is made confidential by law or a common law balancing of interests. **CONSULTANT** may clearly label specific parts of an individual document as a "trade secret" or "confidential" in accordance with Nevada Revised Statute 332.061, provided that **CONSULTANT** thereby agrees to indemnify and defend **CITY** for honoring such a designation. The failure to so label any document that is released by **CITY** shall constitute a complete waiver of any and all claims for damages caused by any release of the records.

25 **CONFIDENTIALITY:**

25.1 **CONSULTANT** shall keep confidential all information, in whatever form, produced, prepared, observed or received by **CONSULTANT** to the extent that such information is confidential by law or otherwise required by this Contract.

26 **FEDERAL FUNDING:**

26.1 In the event federal funds are used for payment of all or part of this Contract:

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26.1.1 **CONSULTANT** certifies, by signing this Contract, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency. This certification is made pursuant to the regulations implementing Executive Order 12549, Debarment and Suspension, 28 C.F.R. pt. 67, § 67.510, as published as pt. VII of the May 26, 1988, Federal Register (pp. 19160-19211), and any relevant program-specific regulations. This provision shall be required of every subcontractor receiving any payment in whole or in part from federal funds.

26.1.2 **CONSULTANT** and its subcontractors shall comply with all terms, conditions, and requirements of the Americans with Disabilities Act of 1990 (P.L. 101-136), 42 U.S.C. 12101, as amended, and regulations adopted thereunder contained in 28 C.F.R. 26.101-36.999, inclusive, and any relevant program-specific regulations.

26.1.3 **CONSULTANT** and its subcontractors shall comply with the requirements of the Civil Rights Act of 1964, as amended, the Rehabilitation Act of 1973, P.L. 93-112, as amended, and any relevant program-specific regulations, and shall not discriminate against any employee or offeror for employment because of race, national origin, creed, color, sex, religion, age, disability or handicap condition (including AIDS and AIDS-related conditions).

27 LOBBYING:

27.1 The parties agree, whether expressly prohibited by federal law, or otherwise, that no funding associated with this Contract will be used for any purpose associated with or related to lobbying or influencing or attempting to lobby or influence for any purpose the following:

27.1.1 Any federal, state, county or local agency, legislature, commission, counsel or board;

27.1.2 Any federal, state, county or local legislator, commission member, counsel member, board member, or other elected official; or

27.1.3 Any officer or employee of any federal, state, county or local agency; legislature, commission, counsel or board.

28 GENERAL WARRANTY:

28.1 **CONSULTANT** warrants that all services, deliverables, and/or work product under this Contract shall be completed in a workmanlike manner consistent with standards in the trade, profession, or industry; shall conform to or exceed the specifications as set forth in the incorporated attachments; and shall be fit for ordinary use, of good quality, with no material defects.

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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Engineering Services for the Regional Transmission System Project**

29 PROPER AUTHORITY:

29.1 The parties hereto represent and warrant that the person executing this Contract on behalf of each party has full power and authority to enter into this Contract. **CONSULTANT** acknowledges that this Contract is effective only after approval by the Carson City Board of Supervisors and only for the period of time specified in this Contract. Any services performed by **CONSULTANT** before this Contract is effective or after it ceases to be effective are performed at the sole risk of **CONSULTANT**.

30 ALTERNATIVE DISPUTE RESOLUTION:

30.1 Pursuant to NRS 338.150, public body charged with the drafting of specifications for a public work shall include in the specifications a clause requiring the use of a method of alternative dispute resolution before initiation of a judicial action if a dispute arising between the public body and the contractor engaged on the public work cannot otherwise be settled. Therefore, in the event that a dispute arising between **CITY** and **CONTRACTOR** cannot otherwise be settled, **CITY** and **CONTRACTOR** agree that, before judicial action may be initiated, **CITY** and **CONTRACTOR** will submit the dispute to non-binding mediation. **CITY** shall present **CONTRACTOR** with a list of three potential mediators. **CONTRACTOR** shall select one person to serve as the mediator from the list of potential mediators presented by **CITY**. The person selected as mediator shall determine the rules governing the mediation.

31 GOVERNING LAW; JURISDICTION:

31.1 This Contract and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Nevada, without giving effect to any principle of conflict-of-law that would require the application of the law of any other jurisdiction. **CONSULTANT** consents and agrees to the jurisdiction of the courts of the State of Nevada located in Carson City, Nevada for enforcement of this Contract.

32 ENTIRE CONTRACT AND MODIFICATION:

32.1 This Contract and its integrated attachment(s) constitute the entire Contract of the parties and such are intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other Contracts that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Contract specifically displays a mutual intent to amend a particular part of this Contract, general conflicts in language between any such attachment and this Contract shall be construed consistent with the terms of this Contract. Unless otherwise expressly authorized by the terms of this Contract, no modification or amendment to this Contract shall be binding upon the

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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parties unless the same is in writing and signed by the respective parties hereto and approved by the Carson City Board of Supervisors.

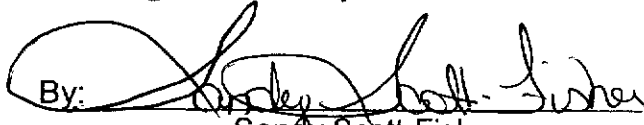
**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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Contract No. 0910-202
Engineering Services for the Regional Transmission System Project**

33 ACKNOWLEDGMENT AND EXECUTION:

33.1 In witness whereof, the parties hereto have caused this Contract to be signed and intend to be legally bound thereby.

CARSON CITY

Finance Director
Attn: Sandy Scott-Fisher, Purchasing &
Contracts Coordinator
201 North Carson Street Suite 3
Carson City, Nevada 89701
Telephone: 775-283-7137
Fax: 775-887-2107
SScott@ci.carson-city.nv.us

By: 
Sandy Scott-Fisher

DATED 5-11-10

CITY'S LEGAL COUNSEL

Neil A. Rombardo, District Attorney

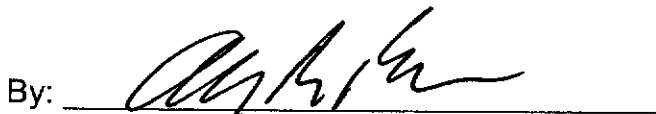
I have reviewed this Contract and approve
as to its legal form.

By: 
Deputy District Attorney

DATED 5-11-10

CITY'S ORIGINATING DEPARTMENT

BY: Andrew Burnham, Director
Carson City Public Works Department
3505 Butti Way
Carson City, NV 89701
Telephone: 775-887-2355
Fax: 775-887-2112
ABurnham@ci.carson-city.nv.us

By: 
Andy Burnham

DATED 5-11-10

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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Engineering Services for the Regional Transmission System Project

Ira Rackley, P.E. deposes and says: That he is the **CONSULTANT** or authorized agent of the **CONSULTANT**; that he has read the foregoing Contract; and that he understands the terms, conditions, and requirements thereof.

CONSULTANT

BY: David Carlson, P.E.

TITLE: Vice President

FIRM: Black and Veatch Corporation

CARSON CITY BUSINESS LICENSE #: 10-024336

Address: 503 North Division Street

City: Carson City **State:** Nevada **Zip Code:** 89703

Telephone: 775-720-0410/ **Fax #:** 775-293-0494

E-mail Address: rackleyis@bv.com

(Signature of **CONSULTANT**)

DATED _____.

STATE OF _____)
_____) **ss**
County of _____)

Signed and sworn (or affirmed) before me on this _____ day of _____, 2010,
by _____.

(Signature of Notary)

(Notary Stamp)

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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Engineering Services for the Regional Transmission System Project

SAMPLE INVOICE

Invoice Number: _____

Invoice Date: _____

Invoice Period: _____

Vendor Number: _____

Black and Veatch Corporation

503 North Division Street

Carson City, Nevada 89703

Invoice shall be submitted to:

Carson City Public Works

Attn: Karen White

3505 Butti Way

Carson City NV 89701

Line Item #	Description	Unit Cost	Units Completed	Total \$\$
Total for this invoice				

Original Contract Sum	\$	_____
Less amount previously billed	\$	_____
= contract sum prior to this invoice	\$	_____
Less this invoice	\$	_____
=Dollars remaining on Contract	\$	_____

ENCLOSE COPIES OF RECEIPTS & INVOICES FOR EXPENSES & OUTSIDE SERVICES

**PROFESSIONAL SERVICES AGREEMENT RELATED TO CONSTRUCTION
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CONTRACT ACCEPTANCE AND EXECUTION:

The Board of Supervisors for Carson City, Nevada at their publicly noticed meeting of May 20, 2010 approved the acceptance of **CONTRACT No. 0910-202**. Further, the Board of Supervisors authorizes the Mayor of Carson City, Nevada to set his hand to this document and record his signature for the execution of this contract in accordance with the action taken.

CARSON CITY, NEVADA

ROBERT L. CROWELL, MAYOR

DATED this 20th day of May, 2010.

ATTEST:

ALAN GLOVER, CLERK-RECORDER

DATED this 20th day of May, 2010.

**SCOPE OF WORK**

Regional Transmission System Preliminary Design

PROJECT UNDERSTANDING

Carson City is in the process of designing and constructing a series of water transmission pipelines and pumping facilities which will bring the next increment of supply to the City and improve supply and distribution hydraulic operations under a wide range of water supply conditions. The facilities which are to be designed are the result of recent master planning contained in the Water Supply and Facility Master Plan and include the following projects which are addressed in this scope of work:

- North South Transmission Infrastructure. This infrastructure is needed to allow receiving water from Minden/Douglas County from the south and convey this water to locations across the basin zone and to Lyon County
- East West Transmission Infrastructure. This infrastructure is needed to allow the City to convey water received from the North-South transmission main to the upper western zones during drought years and to convey surface water from the Quill Water Treatment Plant across the basin zone during median and surplus supply years.
- West Side Wells Blending. These improvements are needed to allow the City to blend the high uranium concentrations in the west side groundwater wells with low uranium surface water before introduction to the distribution system.

Project Description

The various components that need to be designed and constructed for each improvement are presented below.

North-South Transmission System

- Pipelines Segments
 - Southern (North County Booster Pump Station to Hells Bells)
 - North County Booster Pump Station to Well 50 (pipeline design by others)
 - Well 50 to Hells Bells
 - Northern (Hells Bells to East Carson Tank)
 - Well-Field (Wells 24, 25 and 41)
 - Basin Tank Feed (Race Track to Basin Tank)
- Facilities
 - Prison Hill & Foothills Booster Pump Station
 - Prison Hill Tank Flow Control Facility
 - Basin Tank Flow Control Facility
 - Utility Yard Flow Control Facility



SCOPE OF WORK

Regional Transmission System Preliminary Design

- East Carson Tank Flow Control Facility

East-West Transmission System

- Pipelines Segments
 - Eastern (Fairview Road to Washington Street Booster Pump Station)
 - Northern (Washington Street Booster Pump Station to Quill Tank)
- Facilities
 - Washington Street Booster Pump Station
 - Washington Street Flow Control Facility

The following additional project description serves as the basis of the scope of work:

- Pump station facilities are assumed to be single story, slab on-grade pump station with a masonry building with shallow foundations. It is assumed that vertical turbine can type pumps would be used. Openings will be provided in the roof for pump removal.
- Above ground storage tanks are assumed to be welded steel storage tanks on concrete ringwall foundation. Underground storage tanks are assumed to be reinforced concrete tanks.
- Pipe material will depend on the pressure class determined from the hydraulic analyses.
- Valve vaults are assumed to be underground reinforced concrete valve vaults.
- It is assumed that electricity is available near the tanks and pump station site. Work will cover the initial investigation of power availability by contacting the local electric utility.
- Preliminary control descriptions will be provided for the pump station and tanks. A conceptual control block that shows tying these facilities into the existing Supervisory Control and Data Acquisition (SCADA) system will be shown.

SCOPE OF WORK

The scope of work presented below covers the preliminary design associated with the components mentioned above. The preliminary design will include the following major tasks:

- Task 1 – Project Management
- Task 2 – Operational Hydraulic Analyses
- Task 3 – Transient Analysis
- Task 4 – Groundwater Blending
- Task 5 – Basis of Conceptual Design Report



SCOPE OF WORK

Regional Transmission System Preliminary Design

- North-South Transmission Main Infrastructure
- East-West Transmission Main Infrastructure
- West Side Blending

Project Schedule

The following project schedule is used for development of scope of work:

Activity	Date
Notice to Proceed	May 21, 2010
Draft Surge and Hydraulic Analysis Report Complete	July 22, 2010
Final Surge and Hydraulic Analysis Report Complete	August 13, 2010
Draft Basis of Conceptual Design Report Complete	August 20, 2010
Final Basis of Conceptual Design Report Complete	September 17, 2010

A detailed description of the tasks is presented below.

TASK 1 – PROJECT MANAGEMENT

The purpose of this task is to manage the efforts of project team members including any subconsultants; review work progress; coordinate Quality Assurance/Quality Control procedures; and otherwise direct work so as to ensure satisfactory completion of work elements on schedule, within budget, and in conformance with City standards. This includes reviewing former work pertaining to the project; reporting budget and status; conducting and documenting project correspondence and meetings; and performing quality control reviews of deliverables. These activities are further explained below.

Task 1.1 – Project Administration and Coordination

The Black & Veatch Project Manager will function as the primary point of contact with the City to ensure continuity in communications. Internal coordination meetings will be conducted as needed to ensure schedule landmarks are met and deliverables submitted on-time. Black & Veatch will provide the City with formal monthly progress reports to apprise key participants of project development and



SCOPE OF WORK

Regional Transmission System Preliminary Design

status. Each progress report will contain the following information: a description of project status in terms of both schedule and budget, work completed in the last month, and work planned for the next month. Informal meetings and phone contact will be maintained with City representatives and other team members regarding project status between regular reports.

Black & Veatch will manage and implement record keeping for the Project, including filing of calculations, meeting notes, correspondence, memoranda, pertinent information pertaining to this scope of services, and all documents created, prepared, or used during the execution of the work. A project file log will be prepared and maintained throughout the project.

Task 1.2 – Quality Assurance and Control

A Quality Assurance/Quality Control review will be performed using Black & Veatch's standard continuous Quality Control plan. Black & Veatch will implement the Quality Assurance/Quality Control plan to check, as a minimum, design methods, calculations, drawings, specifications, cost estimates, field investigations and measurements, and other technical issues associated with the Project design.

Task 1.3 – Kick-Off Meeting/Workshop

Following the collection of Background Information, Black & Veatch will prepare and distribute a project review meeting agenda for a kick-off meeting at the City's Public Works office involving key personnel from the City and other identified stakeholders. This Workshop will clarify the project requirements, review pertinent available data, review project staffing and organization, present the initial work schedule, and will serve to transfer information prior to the beginning of the work and to define required performance criteria for the design activities. An agenda, meeting preparation materials, and meeting minutes will be prepared and distributed to all attendees.

The focus of the meeting will be to discuss the project as follows:

- Work Scope and Purpose
- Existing Facilities and Functions
- Pipeline Alignments and Material Alternatives
- Flow and Pressure Considerations
- Operations and Maintenance
- City/End User Preferences
- Phasing/Sequencing

**SCOPE OF WORK**

Regional Transmission System Preliminary Design

- Constructability Issues

Task 1.4 – Project Progress and Coordination Meetings

Project coordination meetings will be scheduled with the City and other identified key stakeholders. These meetings will provide a platform for issues and concerns to be discussed so that the project may be shaped according to the input of key participants. Up to four (4) project progress and coordination meetings are included (Hydraulic Analysis Review, Surge Analysis Review, Draft Basis of Conceptual Design Review, and one additional interim meeting). It is assumed all meetings will be held in Carson City. Black & Veatch will be responsible for maintaining agendas, meeting notes, and attendance records. Meetings will be attended by Black & Veatch's Project Manager, Project Director, and Hydraulic Modeler and Surge Analysis Expert as needed.

Task 1.5 – Collection of Background Information

Data relevant to the engineering work to be performed will be identified, collected, and assembled. The primary purpose will be to identify data required from the City to ensure that the work proceeds in accordance with the requirements of the entities involved. Information shall include, but not be limited to, existing maps, reports, and other data that are readily available in hardcopy or electronic format. Black & Veatch will conduct a thorough review of available documents, hydraulic data, as-builts of existing facilities, survey data, and any other information made available by the City that has bearing on the Project. Black & Veatch will not be responsible for accuracy of data and documentation prepared by others and used in the development of deliverables.

TASK 2 – OPERATIONAL HYDRAULICS DESIGN

In response to recently completed water resource planning, the need for a regional transmission system, serving Carson City and multiple agencies within Douglas and Lyon County, has been established and agreed. The Regional Water Transmission system will permit multi-agency water resources to be developed in Douglas County and delivered to Carson City and on to Lyon County. The basic concept and operational plan for the Regional Transmission System was reviewed in meetings on April 15/16 2010 meeting and it was agreed that the design of this conceptual system is to now move forward.

Under this task, hydraulic analysis of the Regional Transmission System will be performed and the hydraulic design parameters will be developed from which the various pipelines and facilities can be designed. To date, only preliminary



SCOPE OF WORK

Regional Transmission System Preliminary Design

modeling of the various transmission system concepts and alternatives has been performed. A complete model of the Regional Transmission System, in its current form, has not yet been built or analyzed. This modeling and hydraulic design task will;

- 1) Build a model of the Carson City portion of the Regional Transmission system, incorporating all pipelines, facilities and functions as per the configuration and phasing outlined in the April 15/16 2010 meetings.
- 2) Work in parallel with distribution system modeling which is being performed separately. (The distribution system model has been updated to receive water from the regional system but does not include a functional Regional Transmission system model.)
- 3) Perform a detailed hydraulic analysis, going beyond planning level answers, to develop design-level hydraulic parameters for the pipelines and facilities for which preliminary design is being provided.

Task 2.1 Transmission System Definition and Phasing

A definition of the transmission system infrastructure will be developed for use as the basis for the Operational and Transient Hydraulic Analyses to be performed. The phasing and capacity plan will also guide the design of initial and future transmission system infrastructure. The definition will address:

System Configuration: providing an accurate map of the alignments followed and sites occupied by all transmission system pipelines and facilities utilizing digital GIS and CAD files associated with parallel master planning and modeling work currently under way. Pipeline lengths will be tabulated and ground elevations profiled for each segment of the transmission system. Parcels will be identified for the location of the major facilities.

System Capacity and Phasing: The transmission system is to be built and operated in phases. The pipeline segments, facilities and operational capacity associated with each phase of the North-South and East West systems is to be defined and its coordination with the larger City-Wide water production planning confirmed by tabular definition of the flow quantities / locations to be delivered from initial phases through buildout. Operations are to be quantified under the following conditions:

- 2011, 2012, 2015 and Buildout Phases
- Drought, Normal and Surplus Supply Years
- Min-Month, Average Day Demand, Max-Month and Max Day Demand

Copies of the system configuration mapping and phasing descriptions will be



SCOPE OF WORK

Regional Transmission System Preliminary Design

reviewed with City staff to gain confirmation. The pipelines and facilities to be addressed are indicated in the project description.

Task 2.2 Transmission System Model Construction

Models will be constructed of the North-South and East-West Transmission Systems as an extension of the WaterGEMs distribution system model. It is anticipated that the:

North South Transmission Main System will be constructed as a hydraulically separate skeleton model of primarily transmission system components, capable of functioning with limited interface with distribution system elements. Phased pipe sets, facility sets, control sets and scenarios will be prepared for 2011, 2012, 2015 and Buildout model runs.

East West Transmission Main System will primarily function as an integral part of the distribution system model, due to the manner in which the East West Transmission Main ties into the Basin Zone and Quill Zone distribution pipelines. Phased pipe sets, facility sets, control sets and scenarios will be prepared for 2011, 2012, 2015 and Buildout model runs.

The Transmission System models will include all pumping, wells, control facilities and reservoirs, which form a part of each system and as needed to analyze performance under each phase of system development.

Task 2.3 Operational Hydraulic Analyses

The transmission system models will be utilized to develop a complete set of hydraulic parameters needed for the design of the following transmission system infrastructure, under the range of operating conditions for each phase of operation outlined in Task 2.1.

Pipelines; diameter, velocity, friction loss (ft/1000ft), static pressure and hydraulic gradient, material and pressure class for each segment of the North South Transmission Main and the East West Transmission Main.

Pumping Stations; range of operating flow, size and number of units / phase, system head curves, rated head and flow, evaluated head, min operating head, pump control philosophy and set points.

Wells; well-head back pressure (Wells 24, 25 and 41)

Reservoirs; total storage volume, floor and overflow elevations, volume



SCOPE OF WORK

Regional Transmission System Preliminary Design

utilization, operating band and control set-points.

Flow Control Facilities; range of flow and delta-head, number and size of units / phase, operating pressure, control philosophy and set-points. The flow, duration and head to be broken at the Washington Street Flow Control Facility will be noted for future hydropower consideration.

Both static and Extended Period Simulation runs will be performed as necessary. Model runs may not be performed for certain intermediate phasing or loading conditions where it can be seen that the data points yielded would not provide information required for the design process.

Task 2.4 Operational Hydraulic Design Parameters

The results of the above tasks will be presented to Carson City in a Hydraulic Design Workshop. Modifications which are to be made in the design and/or operating parameters, as agreed during the discussions, will be recorded in the meeting minutes. Following the meeting, the models and hydraulic analyses will be modified accordingly and the resulting final design parameters will be summarized and included in the report under Task 5 for the North South Transmission Main and the East West Transmission Main.

Deliverables:

- *Meeting Minutes – Hydraulic Design Workshop*
- *Operations Phasing and Hydraulic Design Parameters*

TASK 3 – TRANSIENT ANALYSIS AND SURGE CONTROL RECOMMENDATIONS

Task 3.1 Transient Analysis Scenario Definition.

Using the data and knowledge of the transmission system gained from the preceding operational hydraulic analyses, operational scenarios capable of generating critical hydraulic transients will be identified for analysis with the transient analysis model. It is anticipated that the following types of events will be analyzed.

- Normal Pump Operation
- Normal Valve Operation
- Emergency Shut-down (valves)
- Power-Failure (all pumps stop)



SCOPE OF WORK

Regional Transmission System Preliminary Design

The nature of local power failure events will be assessed in terms of; the probable extent of its coverage and the number and location of pumping systems which could potentially trip simultaneously. Flow Control valves to be considered include flow control valves at junctions / nodes within the transmission system and flow control valves at outlets from the transmission system to reservoirs or to distribution.

Transient analysis scenarios will be developed to address those events judged to be the critical events causing the severest surge pressures associated with elements of each system. In addition, it is anticipated that the "critical events" associated with the North South Transmission Main and the East West Transmission Main systems will change as these systems are constructed and operated in phases. Therefore the scenarios defined will take into consideration the changing configuration and capacity of each stage of development. Twelve (12) transient analyses will be performed based upon the number of facilities and phases considered.

An outline of the surge scenarios will be prepared outlining the factor(s) causing the surge event and the background hydraulic conditions for each.

Task 3.2 Transient Model Construction

Transient analysis models will be built for the North South and East West Transmission systems by building upon the data and files already developed with the Operational Hydraulics models and incorporating the additional features and data needed for the transient models including:

- Pipeline characteristics defining wave speed, air valve type and location and centerline elevation data needed to refine the pipeline profiles.
- Pumping Station mechanical piping/valving configuration, pump type and control method, pump curve and inertia and pump control valve characteristics.
- Flow Control Valve size, type and operating characteristics.

The model will be extended beyond the transmission mains as necessary but will be limited to include only facilities in the distribution system that may produce significant surge conditions and piping systems that may be at risk from surge generated in the transmission mains. The additional data collected will be incorporated into the transient model's facility and control sets as required for the scenarios defined in the preceding task.



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Task 3.3 Transient Hydraulic Analysis

The hydraulic transient models will be utilized to develop a set of hydraulic parameters needed for the design of the surge control infrastructure.

Model output will be provided in the form of graphs, plots and tables showing the reaction of the transmission system to the surge conditions depicting:

- Surge Pressure Envelopes (Maximum and Minimum)
- Locations Exceeding Design/Test Pressures
- Locations Experiencing Negative Pressure.
- Pressure Oscillation at Surge Tanks, Pumping Stations.

Potential problem areas will be noted and mitigating features or operational changes will be incorporated into the model by which surge pressures can be brought within design criteria. Surge mitigation measures will make sure that the residential service pressures are not exceeded. The scenarios will be rerun and model output will be prepared showing the improvement achieved.

Task 3.4 Surge Control Design Parameters

The results of the above transient analysis tasks will be presented to Carson City in the Hydraulic Design Workshop (along with the Operational Hydraulic results). The purpose of the transient analysis discussion is to:

- Present and discuss the manner in which the transmission system reacts under the scenarios analyzed in order to confirm the validity of the results and note any changes/corrections which should be made to the background conditions or scenario implementation.
- Review the effect which potential surge control measures have on mitigating and controlling surge and discuss Carson City preferences among the alternative measures presented as well as other options which Carson City may wish to have analyzed.
- Indicate the manner in which the systems reaction to transients changes with system phasing and the phasing required, if any, for the recommended surge protection equipment.

Modifications to design and/or operation of surge control measures, which are discussed and agreed in the workshop, will be recorded in the meeting minutes. Following the meeting, the models and transient hydraulic analyses will be modified accordingly and the resulting final surge control system design parameters will be summarized and included in the Report for the North South Transmission Main and the East West Transmission Main under Task 5.



SCOPE OF WORK

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Deliverables:

- *Meeting Minutes – Hydraulic Design Workshop*
- *Surge Control System Design Parameters*

TASK 4 – WEST-SIDE BLENDING HYDRAULIC DESIGN

Task 4.1 Blending Operations Design

High uranium levels found in groundwater from Wells 6, 10, 51 and 55 are to be blended with surface water supplies which have lower uranium levels. The blending operations will be defined quantitatively by first establishing the following:

Surface Water Blending Power. Records will be reviewed and the range and trend of uranium defined for surface waters originating from the Marlette-Hobart, Ash Canyon and King Canyon fractions. The water quality data will be combined with yield data to define the blending power of each fraction and total of the surface water supplies on a; seasonal basis, under drought, median and surplus years as well as the trend in recent years and at current and future production levels for the Marlette Hobart Water System.

Groundwater Blending Requirements. Records will be reviewed and the range and trend of uranium defined for groundwater pumped from Wells 6, 10, 51 and 55. Quality data will be combined with well production records to define the range of blending requirements for each of the wells.

Black & Veatch will review the water quality and flow data currently in its possession from other water resources projects and discuss with the City any additional water quality and flow records which may be required. Depending on the data needs and availability, sampling and analysis of groundwater and surface water may be required if critical data is missing. It is assumed that sampling and analysis, if needed, will be provided by the City.

Using mass balance principles, a series of blending matrices (spreadsheets) will be prepared showing the probable range of surface water to groundwater blends required to produce the target water quality for each well. The blending matrices will be based upon reasonable variations and combinations of surface water and groundwater quality under conditions of:

- Blended surface water supply where all three sources (Marlette Hobart Water System, Ash and King) are allowed to blend.
- Managed surface water supply where the lower and higher uranium fractions of the surface water supplies are kept separate and used for



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blending and direct distribution respectively.

- Existing and future levels of surface water blending power (Before and after expansion of the Marlette Hobart Water System)

The blending matrices will establish the range of surface water supply and blended product flowrates for use in the design of the distribution and blending facilities. Design (maximum rates) will be identified for surface water supply and blended product from each individual well. The blending matrices will be provided to Carson City for review and comment and adjustments made accordingly.

Task 4.2 Supply and Distribution Hydraulic Design

Coordinated hydraulic operations will be required in order to execute the blending program outlined in the matrices, without interfering with distribution operations. The hydraulic capacity and functionality of the following supply and distribution elements will be reviewed and the required improvements identified:

Blending Water Production. The flow path of raw surface water supplies will be defined from intake points (Tanks, Ash and King), through treatment at the Quill WTP, and finally pumping to the Ash Tanks. A basic schematic will be prepared of this system showing and confirming the capacity and functionality required from these elements to manage blending and/or separation of surface water supplies, at existing and future Marlette Hobart Water System production levels.

Blending Water Delivery. The WaterGEMs distribution model will be utilized to assess the distribution system's ability to deliver surface water from the Ash Tank to the uranium well sites (6, 10, 51 and 55) at the flowrates indicated in the blending matrices. The delivery of surface water will be assessed with simultaneous operation of other distribution system functions, such as supply of the Lakeview and Timberline pumps, CT and Murphy Pressure Reducing Valves and Ash Zone demands in order to identify any distribution system improvements required for delivery of the blending water to the well-sites. The analysis will consider the improvements needed for initial operations in 2011 as well as under the buildout zone configuration, when the Lakeview Water Treatment Plant will be operational.

Blended Product Distribution. The WaterGEMs distribution model will be utilized to assess the ability to distribute blended product from the uranium well sites (6, 10, 51 and 55) at the blended flowrates indicated in the blending matrices. The distribution of blended product will be assessed under normal



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distribution system functions in order to identify / confirm the ability of distribution system to receive the blended water quantities into the Ash and/or Quill zones without causing hydraulic imbalance or recirculation of blended water back through the Quill Reservoir and Ash Tanks. The analysis will consider the improvements needed for initial operations in 2011 as well as under the buildout zone configuration, when the Lakeview Water Treatment Plant will be operational.

The above operations will be analyzed under drought, median and surplus year operations as outlined in the master plan to confirm compatibility of the blending operations with planned distribution systems operations. The infrastructure improvements will be identified which are required to undertake the blending operations and schematics, maps and tables will be provided identifying:

- Quill Water Treatment Plant improvements, phasing and capacity of raw water intake, treatment capacity and finished water pumping / pipelines.
- Distribution system pipeline improvements on the blending water supply side and blended product receipt side.

The proposed improvements will be discussed with Carson City and the plan will be modified as required based upon comments received. The final improvements plan will be incorporated into the West Side Blending Report under Task 5.

Task 4.3 Well Site Hydraulic Design

Hydraulic operations will be reviewed for each well-site (6, 10, 51 and 55) to identify the improvements needed to undertake the blending operations outlined in the blending matrices. One site visit will be conducted and as-builts reviewed in order to prepare mechanical piping schematics showing the current mechanical piping layout including well-head, isolation and control valves, metering, distribution system connections and other major hydraulic elements at each well site. The proposed mechanical improvements for each well-site will be identified considering:

Blending Operations Management. Piping configuration, valve and meter upgrades will be identified as required to manage the blending of surface and groundwater supplies in the ratios identified in the blending matrices and deliver this water to the distribution zone(s). Pipeline, valve and meter sizes will be established based upon the indicated flow-rates through each. The upgraded piping configuration will permit normal unblended operation, blended operation and Aquifer Surface Recharge operation.



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Pressure / Pump Management. will be evaluated at each well-site in order to maintain compatibility with each pump's rated discharge and head curve (if available), identify the pressure in each portion of the flow piping under each method of operation, confirm that adequate driving head is available for the planned operations, identify the head and flow to be broken across control valves and the pressure rating for all mechanical elements.

A summary of the required improvements will be provided for each well-site in the form of:

- Schematic showing the existing and modified mechanical piping configuration
- Control philosophy discussion for each well addressing blending control, and pressure / flow management requirements.
- List of mechanical improvements addressing the number, capacity and pressure rating of the proposed piping, valving, metering, and well-pump modifications.

The proposed improvements will be discussed with Carson City and the well-site mechanical improvements plan will be modified as required based up comments received. The final mechanical improvements plan will be incorporated into the West Side Blending Report under Task 5.

TASK 5 – BASIS OF CONCEPTUAL DESIGN REPORT

Task 5.1 – Basis of Conceptual Design Report

Prepare a Basis of Conceptual Design Report including preliminary drawings/sketches as required to identify site requirements, basic design criteria for various project components which will be used as the basis for the detailed design. The report will include the following:

- Preliminary design criteria for pipeline, pump stations, storage tanks and appurtenances based on the operational and transient hydraulic analysis performed under Tasks 2 and 3
- Structural Design Criteria
- Architectural Design Criteria
- Mechanical Design Criteria
- Electrical Design Criteria
- I&C Design Criteria including preliminary control descriptions
- Preliminary Drawings including:



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- Preliminary Schematic
- Preliminary Hydraulic Profile
- Preliminary site plan for pump stations and storage tanks
- Preliminary piping and equipment plan for the pump stations
- Preliminary Process & Instrumentation Diagrams for pump stations related to North South Transmission Main and the East West Transmission Main.

The aerial survey and topographic mapping for the pipeline alignments required to prepare the preliminary drawings/sketches will be provided by the City. The geotechnical investigation reports will be provided by the City.

It is understood that the City is proceeding with the design of some components of the North South Transmission Main and the East West Transmission Main. To avoid duplication of effort, the basis of conceptual design report will focus on the design criteria for the facilities only and it will not include the following:

- Alignment study
- Aerial Survey and Mapping
- Geotechnical Investigations
- Piping plan and profiles
- Utilities investigation
- Permitting Requirements
- Cost Estimate

The work completed will be summarized and presented to City staff in the project coordination/progress review meeting under TASK 1. The comments obtained from the City will be incorporated into the final design memorandum.

Five (5) copies of the draft Basis of Conceptual Design Reports will be submitted to the City for review. Following receipt and resolution of review comments, five (5) copies of the final design memoranda will be prepared and distributed to the City.

Deliverables:

Three Basis of Conceptual Design Report will be prepared as follows:

- *North-South Transmission System*
- *East-West Transmission System*
- *West Side Blending*

EXHIBIT A

Carson City
Regional Transmission System Preliminary Design
Hours and Fee Estimate

Project Element & Task Descriptions		Labor Hours	Labor Cost	Expenses	Total Cost
	TASK 1 - PROJECT MANAGEMENT AND COORDINATION	306	\$61,200	\$7,000	\$68,200
	Task 1.1 Administration and Coordination	68	\$12,300	\$0	\$12,300
	Task 1.2 Quality Assurance and Control	64	\$14,900	\$500	\$15,400
	Task 1.3 Kick-off Meeting	44	\$8,100	\$1,000	\$9,100
	Task 1.4 Project Progress and Coordination Meetings (4 mtgs)	116	\$23,300	\$5,000	\$28,300
	Task 1.5 - Collection of Background Information	14	\$2,600	\$500	\$3,100
	TASK - 2 OPERATIONAL HYDRAULIC ANALYSIS	380	\$58,900	\$0	\$58,900
	Task 2.1 - Transmission System Definition and Phasing	52	\$8,700	\$0	\$8,700
	Task 2.2 - Transmission System Model Construction	68	\$10,400	\$0	\$10,400
	Task 2.3 Operational Hydraulic Analysis	154	\$23,200	\$0	\$23,200
	Task 2.4 - Operational Hydraulic Design Parameters	106	\$16,600	\$0	\$16,600
	TASK 3 - TRANSIENT ANALYSIS	360	\$56,500	\$0	\$56,500
	Task 3.1 - Transient Analysis Scenario Definition	36	\$6,100	\$0	\$6,100
	Task 3.2 Transient Model Construction	48	\$7,800	\$0	\$7,800
	Task 3.3 - Transient Hydraulic Analysis	138	\$21,300	\$0	\$21,300
	Task 3.4 Surge Control Design Parameters	138	\$21,300	\$0	\$21,300
	TASK 4 - GROUNDWATER BLENDING	342	\$52,100	\$0	\$52,100
	Task 4.1 - Water Quality and Capacity	72	\$11,600	\$0	\$11,600
	Task 4.2 - Hydraulic Operations	124	\$18,400	\$0	\$18,400
	Task 4.3 - Well-Site and Distribution Hydraulic Improvements	146	\$22,100	\$0	\$22,100
	TASK 5 - BASIS OF DESIGN REPORT	756	\$113,500	\$8,000	\$121,500
	Task 5.1 - Basis of Design Reports (3 Reports)	560	\$85,900	\$4,000	\$89,900
	Incorporate QC and City Comments	160	\$23,300		\$23,300
	Issue Final Design Memoranda	36	\$4,300	\$4,000	\$8,300
	TOTAL FEE	2144	\$342,200	\$15,000	\$357,200