

## City Council Action Report

Date: Decmeber 9, 2005  
Subject: Wastewater Treatment Plant Enginerring Design Services for the Service Building/Laboratory Remodel  
Strategic Council Goal: Goal # 1

### Recommended Action and Major Considerations:

- Authorize the mayor to execute the attached Amendment 2, engineering design services for the service building remodel, between the City of Northglenn and Integra Engineering for an amount of \$25,760. Authorization of Amendment 2 shall bring the total contract price to not exceed \$2,399,927.
- This amendment meets Council's Goal of Upgraded City Infrastructure and Facilities.
- Amendment 2 will provide the needed modernization and enlargement of the laboratory and upgrades to the HVAC, plumbing and electrical systems needed for the service building overall.

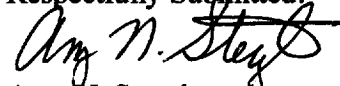
### Background and Other Information:

- In Staff Report No. 04-18 City Council authorized the Mayor to execute amendment #1 with Integra Engineering for construction management during the construction of the expanded facility. City staff is very satisfied with the quality of their work on the project to date.
- Amendment #2 supports the effort to remodel the service building/laboratory. The service building remodeling was a bid alternate for an amount of \$958,000 during the original bid phase of the Wastewater treatment plant expansion project. The operation of the expanded wastewater facility necessitates additional staff and additional laboratory analyses that are required by the state. To accommodate the additional plant staff, City staff is currently completing upgrades and remodeling of office areas. The requested funding will include a redesign to modernize and expand the laboratory areas and upgrade the outdated plumbing, electrical and HVAC systems in the service building.

### Budget Information:

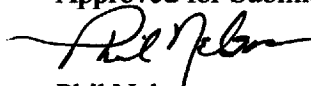
- Contingency from the wastewater plant expansion project will be used to fund this amendment.
- The Finance Department has verified that these funds are available and could be used for this amendment.

Respectfully Submitted:



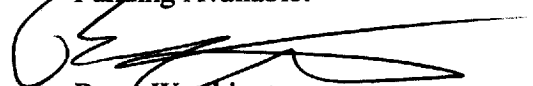
Amy N. Stecyk,  
Civil Engineer I

Approved for Submittal:



Phil Nelson  
City Manager

Funding Available:



Brent Worthington  
F.I.S.S. Manager

### COUNCIL ACTION TAKEN:

## AMENDMENT 2

**PROJECT NAME:** Wastewater Treatment Plant Engineering Design Services

**STAFF REPORT NUMBER:** SR05-34

THIS AMENDMENT to the AGREEMENT, made this 9<sup>th</sup> day of December, 2005, by and between the City of Northglenn, hereinafter called "CITY" and Integra Engineering hereinafter called "CONSULTANT".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONSULTANT will commence and complete the design services defined in:

Amendment 2 – Laboratory Design Services

2. The CONSULTANT will furnish all of the professional services necessary for the completion of the PROJECT described herein.

3. The CONSULTANT will commence the work required by the LABORATORY DESIGN SERVICES within 10 (ten) days after the date of the NOTICE TO PROCEED and will complete by 100 days unless the period for completion is extended otherwise by the CITY.

4. The CONSULTANT agrees to perform the WORK described in AMENDMENT 2 LABORATORY DESIGN SERVICES and comply with the terms therein for the sum of \$25,760.00, or as otherwise agreed upon by the CITY and the CONSULTANT. The total cost of engineering services authorized under the original Agreement for design services and Amendments 1 plus this AMENDMENT 2 shall not exceed ~~\$2,239,927.00~~ without prior written authorization from the CITY.  
For \$2,399,927.00

5. The term "LABORATORY DESIGN SERVICES" means and includes all items as set forth in the written document submitted to the CITY on December 9, 2005 by the CONSULTANT.

6. The CITY will pay the CONSULTANT on a monthly basis in accordance with the CITY's accounts payable schedule.

7. This AMENDMENT 2 to the AGREEMENT shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this AMENDMENT 2 to the AGREEMENT in duplicate, each of which shall be deemed an original on the date first written above.

**City of Northglenn**

By \_\_\_\_\_  
Name Kathleen M. Novak  
Title Mayor

ATTEST:

\_\_\_\_\_  
Name \_\_\_\_\_  
Title \_\_\_\_\_  
(SEAL)

APPROVED AS TO FORM:

\_\_\_\_\_  
Herbert C. Phillips, City Attorney

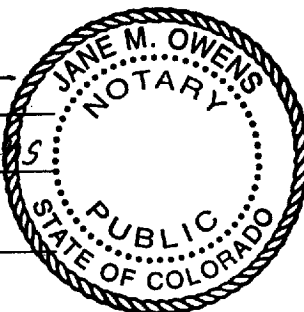
**CONSULTANT:**

By *[Signature]*  
Name Randall R. Parks  
(Please Type or Print)  
Title Principal

(SEAL)

ATTEST:

*[Signature]*  
Name Jane M. Owens  
(Please Type or Print)  
Title Notary Public



My Commission Expires 2/15/2006

# Northglenn Wastewater Treatment Plant Scope of Engineering Services

## Amendment 2

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The City requires design of modifications for the existing Service Building at the Northglenn Wastewater Treatment Plant (WWTP). The modifications will consist of:

- (1) A new laboratory located in the existing materials storage and garage space.
- (2) New washrooms, locker, and shower facilities in the existing laboratory area.

The proposed new laboratory will be based on the floor plan from the Northglenn Wastewater Treatment Plant (WWTP) design prepared by Integra Engineering and dated April 2004. The proposed new laboratory floor plan may be partially modified to improve access within the existing structure. The new washrooms, locker, and shower facilities will be designed to fit within the existing building space.

The laboratory and washrooms will require new ventilation and heating systems to comply with building codes for these facilities. The laboratory and washrooms HVAC systems will be designed as separate systems to serve these areas while the existing HVAC system will remain intact to serve the remainder of the building. The new HVAC system for the laboratory and washroom areas will require propane as a temporary new fuel source. The ventilation and heating systems will be designed with water to water heat exchangers compatible with the ground source heating system planned for the building in a future upgrade and expansion project.

The following existing drawings will be modified to accommodate the revised layout of the laboratory and washroom areas.

A-9001	Service Building – Ground Floor Plan
A-9002	Service Building – Reflected Ceiling Plan
A-9020	Service Building – Lab and Sample Rooms Plan and Elevations
M-9001	Service Building – Lower Plumbing Plan
H-9000	Service Building – First Floor HVAC Plan
H-9002	Service Building – First Floor HVAC Piping Plan
H-9005	Service Building – Roof HVAC Plan
E-9001	Service Building – Lower Level Power Plan
E-9002	Service Building – Electrical One-Line Diagram
E-9003	Service Building – Electrical One-Line Diagram
E-9006	Service Building – Lower Level Receptacle Plan
E-9007	Service Building – Lower Level Lighting Plan
E-9008	Service Building – Lab and Sample Rooms Power Plan and Panel Schedules
E-9010	Service Building – Panel Schedules
E-9011	Service Building – First Floor HVAC Power Plan

The scope of engineering services for the Service Building improvements includes the following tasks.

**Task 44.1 - Service Building Architectural Plans**

Modify existing floor plan, reflected ceiling plan, and laboratory plan and elevations. Classify building areas by type of occupancy and fire separation requirements per the Uniform Building Code (UBC). Design entrances, corridors, and doors to provide emergency exit routes conforming with the UBC and the Americans with Disabilities Act (ADA). Design new washrooms, locker, and shower facilities in the existing laboratory area. Modify existing layouts of casework and fixed cabinets and countertops in the new laboratory. Modify existing interior and exterior finish schedules, window and door schedules, and hardware schedules. Design new skylights for existing building.

**Task 44.2 - Service Building Plumbing and HVAC Systems**

Design plumbing for the washrooms, locker, and shower facilities conforming to the requirements of the Uniform Mechanical Code (UMC) and other local building codes and regulations. Design new roof mounted laboratory air handling unit with water to water heat exchanger. Design hot water boiler to supply heat to the water to water heat exchanger in the laboratory air handling unit. Design propane gas storage tank and gas piping for the hot water boiler. Develop As-built drawings of the existing HVAC system within the existing Service Building. Design new supply and exhaust air ductwork for the laboratory and washroom areas. New air distribution ductwork shall be designed to fit around existing ductwork serving the remainder of the existing building. Design new ventilation equipment to provide air exchange rates recommended by the National Fire Code, OSHA regulations, and industry accepted manuals of practice.

**Task 44.3 - Service Building Electrical System**

Modify existing electrical one-line diagrams, power plans, lighting plans, and panel schedules. Design electrical systems to provide power and lighting to new and modified equipment. Calculate electrical loads for the modified Service Building and total load applied to the WWTP electrical service equipment. Design power and instrumentation, conduits, conductors, and lighting to accommodate new equipment. Design transformers, motor control centers (MCCs), and power and lighting panels.

**FEE ESTIMATE**

Table A2-1 provides an estimate of the level of effort and cost for each task described in the Scope of Engineering Services for Amendment 2. Total cost of Amendment <sup>Per 2</sup> shall not exceed \$25,760.00 without prior written authorization from the City.

For the services described in Amendment 2, Integra Engineering shall be compensated based on 2006 hourly billing rates listed in the Contract plus expenses incurred directly for the project. Hourly billing rates and charges for expenses established in the original Agreement and Amendment 1 shall remain unchanged.

Northglenn Wastewater Treatment Plant

**Table A2-1 Estimated Level of Effort and Cost**

Task	Engineering Design Services	Plan sheets	Labor		Expense dollars	Total dollars
			hours	dollars		
44.1	Service Building Architectural Plans	3	8	960	5,000	5,960
44.2	Service Building Plumbing & HVAC	4	12	1,060	10,000	11,060
44.3	Service Building Electrical System	8	80	8,740	0	8,740
	<b>Total</b>	<b>15</b>	<b>100</b>	<b>10,760</b>	<b>15,000</b>	<b>25,760</b>

Table A2-2 summarizes the original contract and amendments to date. Total project cost for all services provided under this Agreement shall not exceed ~~\$2,239,927.00~~ without prior written authorization.  
*PK*  
 \$ 2,359,927.00

**Table A2-2 Summary of Agreement and Amendments**

Item	Description	Cost, dollars
Original Contract	Planning & Design	1,295,900.00
Amendment 1	Construction Engineering (CM)	1,078,267.00
Amendment 2	Service Building Improvements	25,760.00
<b>Total</b>		<del>2,239,927.00</del>

*PK*  
 \$ 2,359,927.00