



**PUBLIC WORKS DEPARTMENT**  
**MEMORANDUM # 2014 - 28**

DATE: May 12, 2014  
TO: Honorable Mayor Joyce Downing and City Council Members  
FROM: John Pick, City Manager   
David Willett, Director of Public Works   
SUBJECT: Council Resolution CR-47  
E112th Avenue Roadway Improvements

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**BACKGROUND**

In 2012, Northglenn City Council approved the Conceptual Plan for the East 112<sup>th</sup> Avenue Corridor. The purpose of the Conceptual Plan was to address existing traffic related issues along this corridor and to meet future demands associated with the planned 112<sup>th</sup> Avenue North Metro station and potential transit oriented development.

On December 9, 2013 the engineering and design services and the construction management services were awarded to Vision Land Consultants. Based on the conceptual plan, it was assumed that the itemized design features shown below would need little or no analysis:

- Drainage channel adjacent to E112 roadway would remain unchanged and within the current alignment.
- Roadway improvements in the stormwater basin would not change current drainage conditions.
- Landscaping improvements were to be limited to the landscape buffer on the north side of the roadway between the north curb line and the proposed sidewalk only.

Currently, the consultant has completed a design survey and a preliminary engineering analysis for validation against the conceptual plan. From this information, the consultant has discovered certain key issues that will affect the overall characteristic of the roadway safety performance. A summary of issues and possible remedies are itemized below. The proposed roadway section attached to this memorandum includes the proposed remedies.

- Drainage impact to the ditch would be significant because the concept plan called for curb and gutter as the preferred roadway section. Taking flow from the south gutter line and redirecting north to the ditch increases the volume of stormwater carried by the ditch above the current condition. This required an unexpected drainage analysis not contemplated in the original scope of work.
- Existing drainage condition must be maintained on the south side of the road. Thus the proposed design would now reflect the installation of a ribbon border on the south side of the road to diffuse and discharge flow similar to the existing condition. This will require additional engineering and design work.
- Street section (north side) including the eight foot sidewalk does not work without modifying the ditch (especially on the eastern project limits) and increasing the cross-section slope of the road. In order to meet roadway cross slope standards and to aesthetically match the W112th roadway section, staff proposes minor re-grading and shaping of the ditch and the inclusion of a six foot meandering sidewalk and planting zones. This will require additional engineering and design work.
- Street section (south side) assumed the design to include only modest re-grading to match existing conditions. This could not be accomplished in order to meet roadway cross slope standards. As a solution, the consultant proposed a shoulder and small retaining wall full distance between Washington and Larson, and a portion of the distance between Larson and Irma. Compliment to this change, staff suggested irrigation and planting zones over the length on the retaining wall to maintain soil stability and to better integrate to the residential neighborhood to the south. This will require additional engineering and design work.

April 21, 2014  
E112 Engineering/Design Services

On April 21, 2014 (Council Study), the requested appropriation was discussed with City Council.

**BUDGET/TIME IMPLICATIONS**

Adopted 2014 Budget – Total Project Appropriation = \$4,649,745

Budget encumbered by Resolution at the December 9, 2013 Council meeting.

Engineering and Design Services Contract	\$189,950.00
Contingency	\$ <u>00.00</u>

The original engineering and design project appropriation request did not include a contingency because the cost differentiation and magnitude associated with conceptual planning exercise versus design level analysis was not known. The consultant is requesting a change order in the amount of \$35,555 to cover the engineering and design work delineated above. In addition, staff is requesting that a contingency of 10% be assigned to this project to cover additional minor changes going forward.

Pending Council's approval, the revised engineering and design contract would be **\$225,505** (\$189,950 + 35,555). The revised project encumbrance would be  $\$225,505 + \$22,550 = \mathbf{\$248,055}$ .

Note that a typical fee associated with a civil engineering project such as this would be estimated at about 10% of the construction cost. If the requested funds are approved the design fee would now stand at about at 5% of the construction cost.

Attached to this memorandum is a Resolution that, if approved, would:

- Authorize the City Manager to execute a change order between the City of Northglenn and **Bowman Colorado Group, LLC** in the amount of **\$35,555.00**.
- Authorize \$22,550.00 as contingency (10%) to approve minor changes in the scope of work and execute relevant change orders up to the approved expenditure limit of **\$248,055.00**.

**RECOMMENDATIONS**

Staff recommends approval of the Resolution.

**STAFF REFERENCE**

Kent Kisselman, P.E., PW Operations Superintendent  
Gregory Yanker, P.E., Civil Engineer II

[kkisselman@northglenn.org](mailto:kkisselman@northglenn.org) or 303.450.4005  
[gyanker@northglenn.org](mailto:gyanker@northglenn.org) or 303.450.8780

Attachments:

- Resolution

SPONSORED BY: MAYOR DOWNING

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-47  
Series of 2014

\_\_\_\_\_  
Series of 2014

A RESOLUTION APPROVING A FIRST ADDENDUM TO THE PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND BOWMAN COLORADO GROUP, LLC FOR THE E. 112<sup>TH</sup> AVENUE CORRIDOR PROJECT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. The City Council hereby approves Addendum #1 to the Professional Services Agreement between the City of Northglenn and Bowman Colorado Group, LLC, attached hereto, in the amount of \$35,550.00 for a contract amount of \$225,505.00 for engineering and design services for the E. 112<sup>th</sup> Avenue Corridor Project, plus the addition of ten percent (10%) contingency in the amount of \$22,550.00, for a total contract amount not to exceed \$248,055.00.

DATED at Northglenn, Colorado, this \_\_\_\_ day of \_\_\_\_\_, 2014.

\_\_\_\_\_  
JOYCE DOWNING  
Mayor

ATTEST:

\_\_\_\_\_  
JOHANNA SMALL, CMC  
City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
COREY Y. HOFFMANN  
City Attorney

**ADDENDUM # 1 TO AGREEMENT FOR PROFESSIONAL SERVICES**

THIS FIRST ADDENDUM TO AGREEMENT FOR PROFESSIONAL SERVICES is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2014, by and between the CITY OF NORTHGLENN, State of Colorado (hereinafter referred to as the "City") and Bowman Colorado Group, LLC (hereinafter referred to as "Consultant").

**RECITALS:**

A. On December 9, 2013 the City and Consultant entered into an Agreement for Professional Services for civil engineering services (the "Agreement").

B. The parties desire to supplement the Agreement with this Addendum #1 to allow for an additional scope of services for the design services for:

**Exhibit A, SCOPE OF SERVICES**

**AGREEMENT**

NOW, THEREFORE, it is hereby agreed that for the consideration hereinafter set forth, that Consultant shall provide to the City, professional engineering services as needed in the manner provided in the Agreement.

1. The Scope of Services in the Agreement is hereby supplemented to include the scope of services for the design services attached hereto as **Exhibit A**, and incorporated herein by this reference (the "Additional Scope of Services"). Consultant shall commence work on the Additional Scope of Services within ten (10) days of the issuance of a Notice to Proceed.

2. Subparagraph A. of Article IV entitled "Compensation" is hereby amended to provide as follows:

A. Compensation shall not exceed **\$35,555.00** for the work described in **Exhibit A** to this Addendum #1.

3. The original Agreement is in full force and effect and is hereby ratified by the City and the Consultant. The original Agreement and this Addendum constitute all of the agreements between the City and the Consultant.





City of Northglenn  
Public Works Department  
11701 Community Center Drive  
Northglenn, Colorado 80233

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## EXHIBIT A - SCOPE OF SERVICES

### **I. SCOPE OF SERVICES COVERED BY CHANGE ORDER**

- Traffic Signal Design at Irma Intersection
- Landscape and Irrigation design in southern ROW
- Retaining Wall design in southern ROW
- Add attached sidewalk and new drive entrances to south side of road in front of commercial businesses
- Analyze off-site drainage basins to ensure road design does not adversely impact downstream watersheds
- Design improvements to the drainage ditch
  - Hydraulic Calculations and conformance letter
  - Drainage ditch Plan and Profile drawings
  - Drainage ditch cross-sections
  - Drop structure design and detail
  - Design of special drainage structures at intersections to accommodate off-site flows
  - Additional 404 Permit requirement coordination
- Roadway redesign to accommodate improved ditch

