
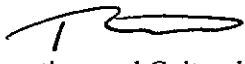
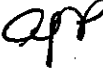


**PUBLIC WORKS DEPARTMENT  
MEMORANDUM # 2014 - 25**

DATE: April 21, 2014  
TO: Honorable Mayor Joyce Downing and City Council Members  
FROM: John Pick, City Manager   
David Willett, Director of Public Works   
Amanda Petersen, Director of Parks, Recreation, and Cultural Services   
SUBJECT: Council Study Session  
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

April 21, 2014  
E112 Design/Engineering Services

to better integrate to the residential neighborhood to the south. This will require additional engineering and design work.

**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.

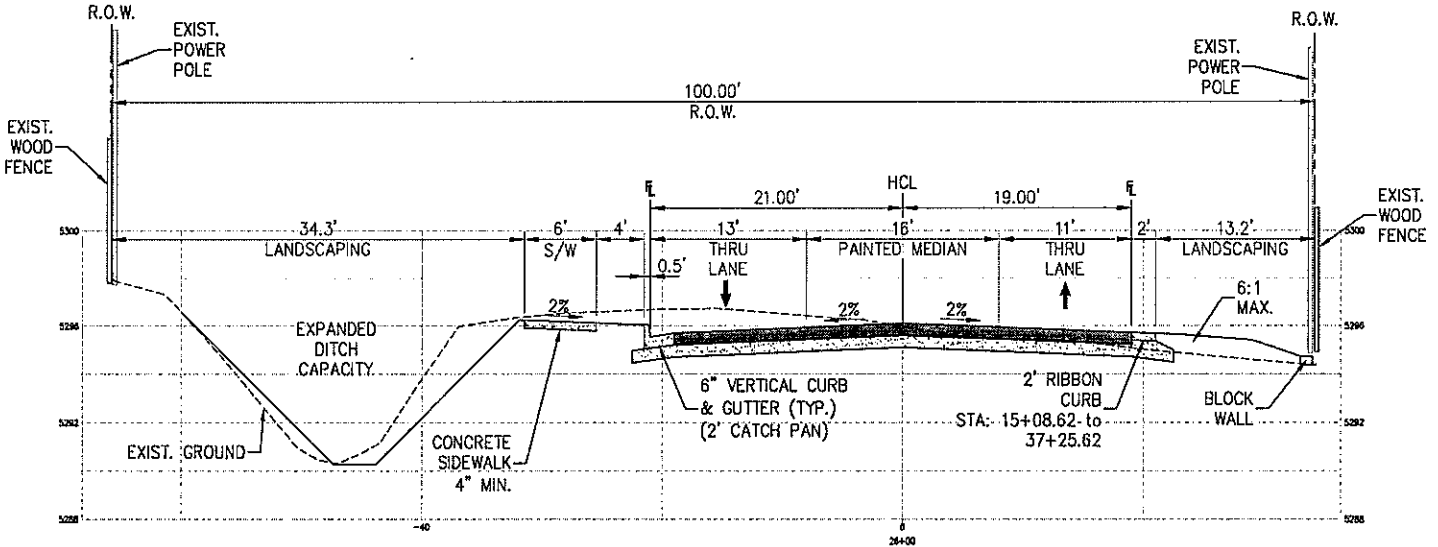
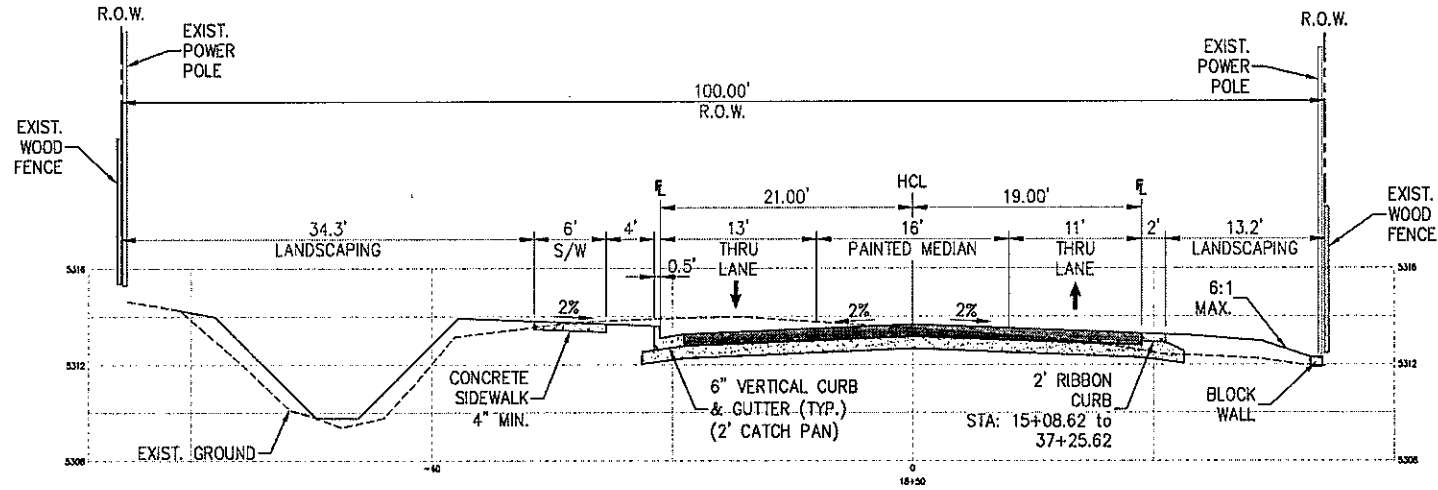
**STAFF REFERENCE**

Kent Kisselman, P.E., PW Operations Superintendent	<a href="mailto:kkisselman@northglenn.org">kkisselman@northglenn.org</a> or 303.450.4005
Gregory Yanker, P.E., Civil Engineer II	<a href="mailto:gyanker@northglenn.org">gyanker@northglenn.org</a> or 303.450.8780

**Attachments:**

- E112th Roadway Section Drawings – Proposed Section over Existing Conditions

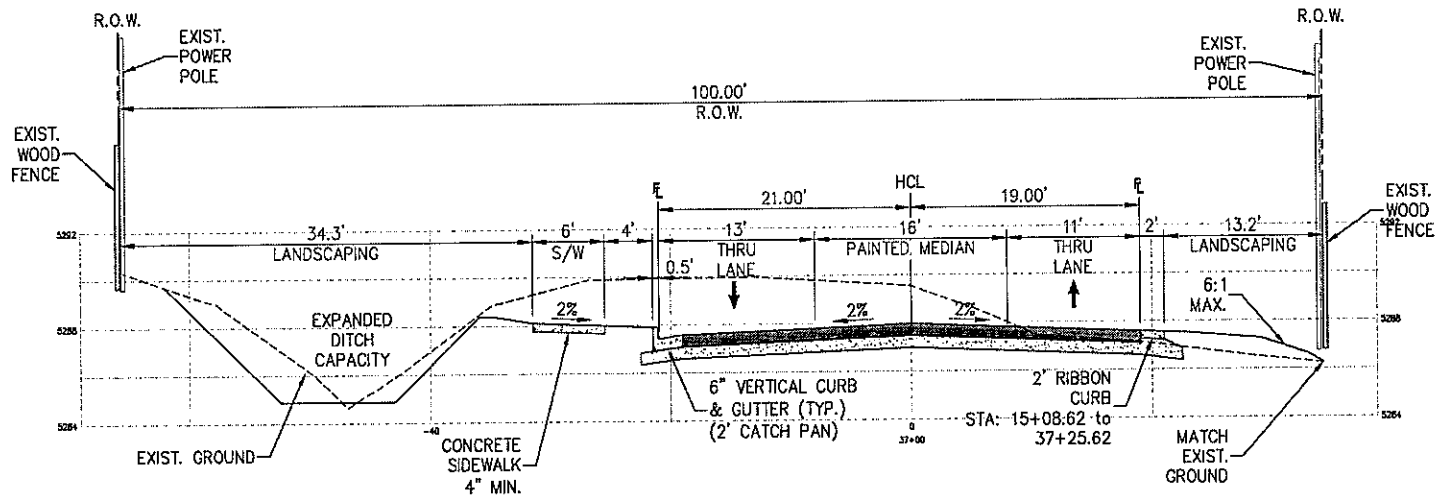
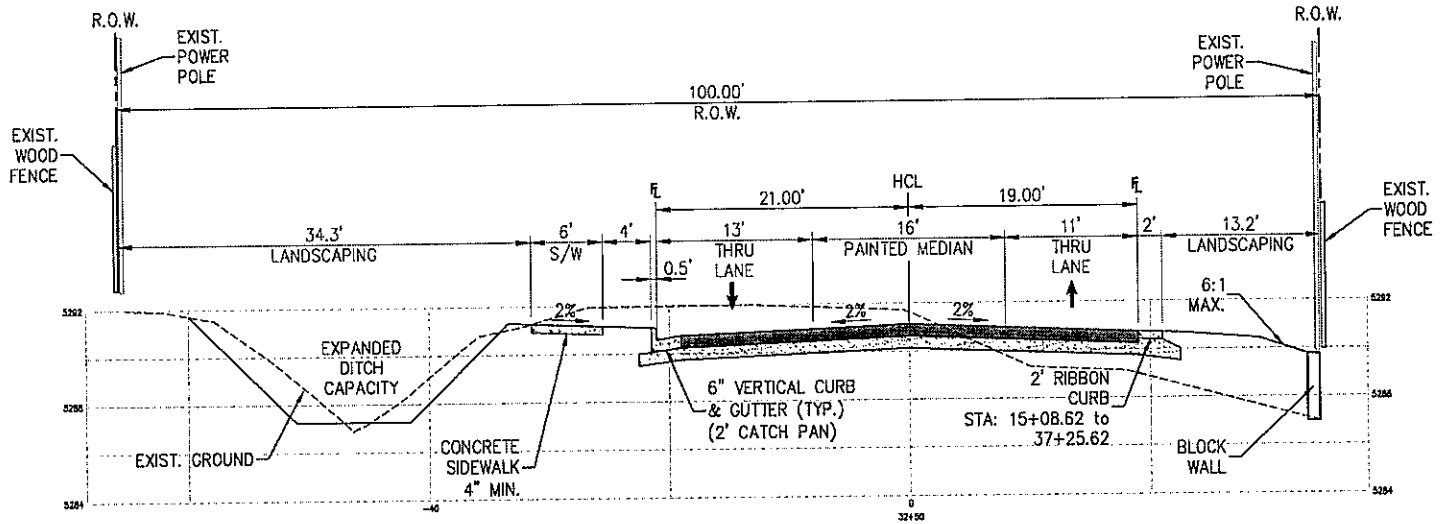
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### WASHINGTON TO LARSON

DATE	BY	CHK'D	APP'D
08/20/10	JOB NO. 238010	DESIGNED BY	JR
INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION.			
<b>EAST 112TH AVENUE CORRIDOR IMPROVEMENTS</b> <b>ROADWAY</b> <b>TYPICAL SECTIONS</b> <b>NORTHGLENN, CO 40% DESIGN DOCUMENTS</b>			
<b>C3.02</b>			

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### LARSON TO IRMA

DATE	NO.	BY	CHKD.
10/15/14	2101	JL	JL
DATE	NO.	BY	CHKD.
10/15/14	2101	JL	JL

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

**Bowman**  
Vision Land

EAST TENTH AVENUE CORRIDOR IMPROVEMENTS  
ROADWAY  
TYPICAL SECTIONS  
NORTHGLEN, CO 40% DESIGN DOCUMENTS

931  
**C3.02**

