

# Kiowa Engineering Corporation

## Memorandum

**To:** Westerly Creek Sponsors  
**From:** Brian Wozniak  
**Date:** 4/22/08  
**Project:** Westerly Creek (Lower) Drainageway Update  
**Subject:** Meeting Minutes for Progress Meeting No.5

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**Next meeting: Thursday, May 22, 2008 at 1:30 p.m.**

### Hydraulics

The revised 100-year "flood area", as well as, the 50-, 25-, and 10-year flood areas were shown on the project mapping. For comparison purposes, the regulatory 100-year floodplain was also depicted. Due to changes in mapping the regulatory floodplain was shown two ways: (1) graphically (traced) and (2) based on water surface elevations converted from 1929 datum to the 1988 datum. These two methods of presenting the regulatory floodplain were dramatically different, indicating significant differences in mapping since the regulatory floodplain was outlined from the 1991 LOMR. Spot elevations were checked at street intersections between the two maps. Some locations were close in elevation and others differed by 2.5 feet. No justification for significant map changes was presented. The datum adjustment was made through the use of VERTCON, which indicated a conversion factor of 2.953 feet. More information on this conversion procedure can be found at the National Geodetic Survey's website: <http://www.ngs.noaa.gov/TOOLS/Vertcon/vertcon.html>.

The revised 100-year flood area compares fairly well with the graphic 1991 floodplain. Where sizeable differences occur investigations were conducted. One notable difference lies in the 1991 modeling of an old open channel that has since been filled and placed in an underground culvert. This accounts for a 7-foot difference in channel invert between the models for two cross-sections.

### Preliminary Alternatives

Alternatives were restated for the closed conduit and greenbelt options. An additional open channel alternative was presented that follows the residual floodway. Property acquisition costs are the same as the greenbelt 1 option. This alignment makes more sense from a drainage perspective as it follows the current surface drainage path, as well as, the historic alignment of the Westerly Creek channel. Benefit-Cost analyses need to be determined for comparison of the alternatives.

Other considerations needing to be addressed are:

- Stanley Aviation remains in the 100-year floodplain per the 2003 Matrix revision.
- City boundaries should be shown on all alternatives mapping.
- Evaluation of the existing channel from 11<sup>th</sup> to 14<sup>th</sup> for erosion and slope stability.

Westerly Creek Connection will be holding/attending several neighborhood meetings. These include: East Montclair, North Aurora, Delmar, Stapleton, Lowry 1, and Lowry 2. Kiowa will provide PDF versions of the three main alternatives for use in these meetings.

Aurora and Denver will supply Kiowa with utility mapping for alternative evaluation.