ATTACHMENT 6

MEMORANDUM

Date: January 27, 2011

To: Auburn Community Development Department

From: Joe Olsen; Project Engineer, Ubora Engineering

Subject: Summary of Site Access Alternatives onto Auburn Folsom Road

Alternatives #4 & #5 use an identical alignment across BRSP property (roughly 3,400 feet), and across the Sipe property (roughly 700 feet), until roughly where they enter the UPRR right-of-way, at which they diverge into alternative alignments. Please note that each of the two alternatives also cross roughly 100 feet of A.R.D. property in roughly the same location. The discussion below first addresses each individual alignment as they cross UPRR right-of-way, then the remaining 4,200 feet across on-site and off-site private property where alternatives #4 & #5 are identical.

UPRR Right-of-Way

Alternative #4 -- Pacific Street (roughly 2,500 feet east of Herdal Drive):

This option would essentially extend Pacific Street; however, due to topography, significant amounts of fill would be required (e.g. approximately 60,000 cubic yards of fill would be needed in the railroad right of way, alone). The required fill height at the abutments would be in the neighborhood of 22 feet. Also, in order to avoid existing A.R.D. facilities, this bridge would need to be built at a significant skew (approaching 45-degrees), causing this bridge option to have a span in excess of 250 feet. The construction time for this railroad crossing option could easily be double that for Alternative #1 at Herdal Drive.

Alternative #5 -- South of Pacific Street (roughly 2,000 feet east of Herdal Drive):

At this location, in order to achieve adequate clearance over the railroad tracks, significant fills would be required at the abutment approaches (approximately 12 feet high at the abutments). I estimate approximately 15,000 cubic yards of fill in order to achieve the minimum clearance required by Union Pacific. The bridge span would need to be approximately 100 feet, but could be built at a 90-degree skew. Due to the longer span, the larger abutments, and the need for fill, the construction time for this railroad crossing option would be greater (perhaps half again as long) than at Herdal Drive.

Private Property

Alternatives #4 and #5 use an identical alignment across essentially the entirety of the 4,200 feet across private property. It should be noted that the alignment described in this summary was created based upon minimum City roadway design standards; however, given the challenging terrain, the resulting steep slopes and tight curves may not be prudent for use as the primary access to the proposed project.

Due to the hilly terrain, the 4,200 feet of roadway would have areas containing significant cut and/or fill slopes, resulting in the impact of roughly 14 acres of woodlands. The maximum width of the impacted area along the alignment would be over 250 feet wide. The highest fill-slope would be in the neighborhood of 80 feet and the highest cut-slope roughly 50 feet. The portions of the proposed right-of-way for the road that occur on Sipe (700 feet) and A.R.D. (100 feet) would need to be acquired; potentially from non-cooperative owners. Both properties would be impacted by significant cut and/or fill-slopes with significant tree impacts. Each end of the alignment would contain a 15% (City maximum) longitudinal roadway slope located within tight (200-foot radius) horizontal curves; a less than desirable combination. We estimate that there would be a need to import in the neighborhood of 150,000 cubic yards of dirt to build the required fills for this roadway.

Please let me know if you have any questions.

Joe Olsen
Ubora Engineering & Planning, Inc.
2901 Douglas Blvd., Suite 285
Roseville, CA 95661
Ph: 916-780-2500 ext 206