APPENDIX A

List of Principles for Sustainable Infrastructure in the City of Tracy, November 17, 2009

MEMORANDUM

Date: November 17, 2009
To: Bill Dean, Assistant Director of Development and Engineering Services
From: Steve Roberts, Harris & Associates

RE: List of Principles for Sustainable Infrastructure in the City of Tracy

The purpose of this memorandum is to list the sustainable and "green" principles that will be used to the develop the Infrastructure Master Plans being prepared for the City's General Plan related to the anticipated growth over the next 20 to 30 years. The City's goal to provide sustainable infrastructure is, in part, driven by Assembly Bill 32, "The Global Warming Solutions Act" and Senate Bill 375. The intent of both Bills is to reduce greenhouse gas (GHG) emissions by building more sustainable communities.

This memorandum is based on discussions and input from:

- City Staff
- DC&E (Memorandum dated November 5, 2009)
- CH2M Hill (Wastewater)
- West Yost & Associates (Water)
- Stantec & SWC (Storm Drainage)
- RBF and Fehr & Peers (Roadways & Transportation Systems)
- Harris & Associates (Program Manager)

A. Storm Drainage

- Storm drainage design should be integral to the design of each project. The overall site topography and other factors must be considered from the early planning stages so that storm drainage components may be effectively incorporated into the overall form of the project.
- Storm drainage should be designed to mimic the undeveloped natural "hydrologic" conditions of the watershed while providing for flood protection and/or water quality control needs.
- "Best Management Practices" must be applied to all significant development projects in Tracy. The City shall enforce the measures in the "Manual of Stormwater Quality Control Standards for New

Development and Redevelopment (SWQC Manual)" adopted by the City on June 17, 2008.

- Maximize the potential for storm drainage subsurface percolation wherever feasible and where such percolation does not have a negative impact on the groundwater basins water quality and/or water levels. Because of soil conditions, this appears to be most feasible primarily south of 11th Street.
- Retention and detention facilities should be designed for "joint use" such as recreation and environmental stewardship, where feasible.
- Storm drainage channels should be designed to fit the surrounding context and to mimic the appearance of natural systems, except where overriding constraints exist (i.e. right of way, contaminated soils, long term maintenance issues).

B. Water and Wastewater

- Methane gas generated at the wastewater treatment plant should be used for some beneficial use, such as a resource for heating digesters.
- Energy efficient design and control systems should be used in all new facilities to minimize power consumption. Look for opportunities to use solar generation facilities.
- Promote and encourage, where feasible, the use to recycled water (Title 22 criteria) for non-potable uses in existing and future publicly landscaped areas.
- In analyzing the feasibility of one or two wastewater treatment plants, consider the following:
    i. Total GHG emissions over time
    ii. Total energy consumption over time
    iii. Long-term operational and life cycle costs
    iv. Ability to support recycled water production, transmission and distribution to the end user along with the costs and environmental issues associated therewith
- Establish and adopt interior and exterior water conservation requirements which are consistent with recommended State guidelines, to the degree possible.
- Require that existing City customers participate in water conservation activities that will enable the City to meet or exceed the projected ten-year water conservation requirements proposed in the 20x2020 State plan.
- Create a water rate structure that supports and provides incentives for water conservation.
- Discourage the use of water softeners and encourage the removal of existing water softeners to decrease the salt load in the City's recycled water system.

- Encourage and create incentives to convert high water use on outdoor landscaping to more drought resistant plantings to facilitate water conservation among existing water users.

C. Roadways & Transportation

- Provide an interconnected and multi-use hierarchy of thoroughfares from arterials to collector and local streets
- Replace the conventional Level of Service (LOS) system with a multi-modal composite LOS system.
- Provide a multiple street system network, where feasible, rather than relying on fewer wider streets. Consider four lane roadways as the maximum width for new streets, including arterials.
- Provide a comprehensive bicycle network that includes both on-street (Class II) and off-street (Class I) bicycle paths.
- Design new streets and retrofit existing streets, where feasible, to become "complete streets" that accommodate a variety of users, such as vehicles, transit, bicycles and pedestrians. Provide maximum vehicle speeds that are consistent with the livability and the scale, form and density of the surrounding area.
- Develop a street network with the flexibility to allow for changes in use over time, including increases in transit service, bicycling and walking.
- In assessing future roadway improvements, consider the following:
    i. Effects of VMT
    ii. Effects on pedestrian, bicycle and transit usability
    iii. Potential reductions in vehicle travel times (as opposed to improvements only based on Level of Service)
- Provide "Green streets" and "green parking areas" consistent with best storm drainage management practices, when feasible.