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## TECHNICAL MEMORANDUM

To: Tyler Reeves  
KZ Devco

From: Thomas J. Wheat, PE, TE  
Jeffrey Weckstein  
TJW Engineering

Date: September 27, 2016

**Subject: Baseline/Church Smart & Final Truck Haul Analysis, City of Highland**

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The peak period of truck activity during construction of the proposed Baseline/Church Smart & Final would occur during excavation and grading of the Project Site. Based on projections compiled for the Project, approximately 9,835 cubic yards of material would be excavated and removed from the Project Site over a 20 - workday (four week) period. This equates to approximately 492 cubic yards of material exported each workday, requiring 36 haul trucks per work day based on an anticipated haul truck capacity of 14 cubic yards each. It is also expected during this period that there would be an average of one delivery truck per day. Thus, up to 74 daily truck trips (37 inbound, 37 outbound) are forecast to occur during the excavation and grading period, with approximately 10 trips per hour (~5 inbound, ~5 outbound) uniformly over a typical eight-hour workday.

Transportation Research Circular No. 212 defines passenger car equivalents (PCE) for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay- creating effects. Table 8 of Transportation Research Circular No. 212 and Exhibit 16.7 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 74 truck trips would be equivalent to 148 daily PCE trips. The 8 hourly truck trips would be equivalent to 20 PCE trips (~10 inbound, ~10 outbound) per hour. In addition, during this period 10 construction workers would work at the Project Site. Assuming no carpooling amongst those workers, 10 workers would result in a total of 10 vehicle trips to and 10 vehicle trips from the project site on a daily basis.

With the implementation of a Construction Management Plan, it is anticipated that almost all haul truck activity to and from the project site would occur outside of the AM and PM peak hours. Worker trips to and from the site would also occur outside of the peak hours, as construction workers typically arrive at work before 7:00 AM and depart before 4:00 PM. Therefore, no peak hour construction traffic impacts are expected during the excavation and grading phase of construction.

Haul trucks would travel on approved truck routes designated within the City.

Please feel free to call us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,



Thomas Wheat, PE, TE  
Principal  
TJW Engineering, Inc.  
Registered Civil Engineer #69467  
Registered Traffic Engineer #2565



Jeffrey Weckstein  
Transportation Planner  
TJW Engineering, Inc.

