

October 16, 2018
B62075

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Principal, Agency Team
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1927 Fifth Avenue
San Diego, CA 92101

SUBJECT: ANALYSIS OF HAUL ROUTES AND TRUCK TRIPS FOR IMPORT AND EXPORT OF CONSTRUCTION MATERIAL, LINDO LAKE PROJECT

Dear Mr. Page:

The purpose of this document is to discuss potential temporary construction traffic related to the removal of sediments from Lindo Lake in Lakeside. Currently proposed improvements to Lindo Lake Park include grading to re-contour and deepen the existing lake basins with an estimated total excavation of approximately 235,000 cubic yards. Some of the excavated lake material will be used to stabilize the banks of the lake basins and to create mounds surrounding the basins. The balance of the material (approx. 225,000 c.y.) will be exported offsite to the Sycamore Landfill located near Santee. 33,600 cubic yards of construction material will also be imported to the site. This memorandum describes alternative routes to get the excavated material to the freeway for hauling to the Sycamore Landfill and imported construction materials to Lindo Lake. The document provides an estimate of the number of truck trips that will be required to accommodate the removal of the excavated material and import of material.

Site Location

The Lindo Lake site is located in the central part of Lakeside. The graphic also shows the street classifications used by Caltrans.

Figure 1: Location of Project/Caltrans Street Classifications



Truck Trips Generated

The number of truck trips needed to import and export material has been calculated based upon estimates of sediment volume to be exported, materials to be imported, and truck volume capacity. The truck hauling calculations are as follows:

Double Bottom Dump Type: **24 Tons of hauling capacity or 12 cubic yards**



Transfer Type: **24 Tons of hauling capacity or 12 cubic yards**



Ten Wheel Dump Truck **12 tons of hauling capacity or 6 cubic yards**



Exported Material

The total amount of sediment to be removed is estimated at 225,000 cubic yards. Dewatering will occur onsite prior to transport for each phase of material excavation. The volume of sediments will decrease somewhat after the dewatering processes. Assuming a 20% reduction in volume, this would result in 180,000 cubic yards of sediment to be transported.

The project is to be completed in two phases. The East Basin will be Phase I. Approximately 101,000 cubic yards of material (80,800 c.y following dewatering) will be exported over an 84 day period. Using the 10 wheel dump truck with a capacity of six cubic yards will result in the use of 13,470 truck trips to haul out the excavated material. Using a truck with twelve cubic yards of capacity would require 6,735 outbound trips. It will also require the same number of

empty truck trips to travel to the site. The required number of truck trips would equate to an approximate amount of 160 outbound truck trips per day for 84 days with a 6 c.y. capacity truck, or 80 outbound truck trips per day for 84 days with a 12 c.y. capacity truck.

The West Basin will be addressed in Phase 2. Approximately 124,000 cubic yards of material (99,200 c.y. following dewatering) will be exported over a 103 day period. Using the 10 wheel dump truck with a capacity of six cubic yards will result in the use of 16,540 truck trips to haul out the excavated material. Using a truck with twelve cubic yards of capacity would require 8,270 outbound trips. It will also require the same number of empty truck trips to travel to the site. The required number of truck trips would equate to an amount of 160 outbound truck trips per day for 103 days with a 6 c.y. capacity truck, or 80 outbound truck trips per day for 103 days with a 12 c.y. capacity truck.

Imported Material

The amount of imported material will include 2,600 c.y. of cobble rock and 31,000 c.y. of bentonite clay. During the first phase of the project, 22 days will be used to import 13,600 cubic yards of material. Using the 10 wheel dump truck with a capacity of six cubic yards will result in the use of 2,300 truck trips to import construction materials. Using a truck with twelve cubic yards of capacity would require 1,150 trips. It will also require the same number of empty truck trips to travel back from the site. The required number of truck trips would equate to 115 inbound truck trips per day over the 22 days with a 6 c.y. capacity truck, or 58 inbound truck trips per day with a 12 c.y. capacity truck. It will also require the same number of empty truck trips to travel from the site following delivery of the materials.

In Phase 2, 30 days will be used to import 20,000 cubic yards of material. Using the 10 wheel dump truck with a capacity of six cubic yards will result in the use of 3,330 truck trips to import construction materials. Using a truck with twelve cubic yards of capacity would require 1,665 inbound trips. It will also require the same number of empty truck trips to travel back from the site. The required number of truck trips would be 115 outbound truck trips per day over the 30 days with a 6 c.y. capacity truck, or 58 outbound truck trips per day with a 12 c.y. capacity truck. It will also require the same number of empty truck trips to travel from the site following delivery of the materials.

Travel Routes

There are a number of route alternatives for the excavated material to be hauled out of the Community of Lakeside. The origin of the trips is anticipated to be adjacent to Lakeshore Drive, as this location is away from built recreational features such as buildings, tennis courts and the skate park. It also provides better access to the street system. The destination of the truck trips will be outside the Community. The Sycamore Landfill was identified as the destination for the excavated materials.

The options to access Route 67 are shown in Figure 2. One route is to travel west on Lakeshore Drive to Channel Road and is depicted with a solid yellow line. Channel Road

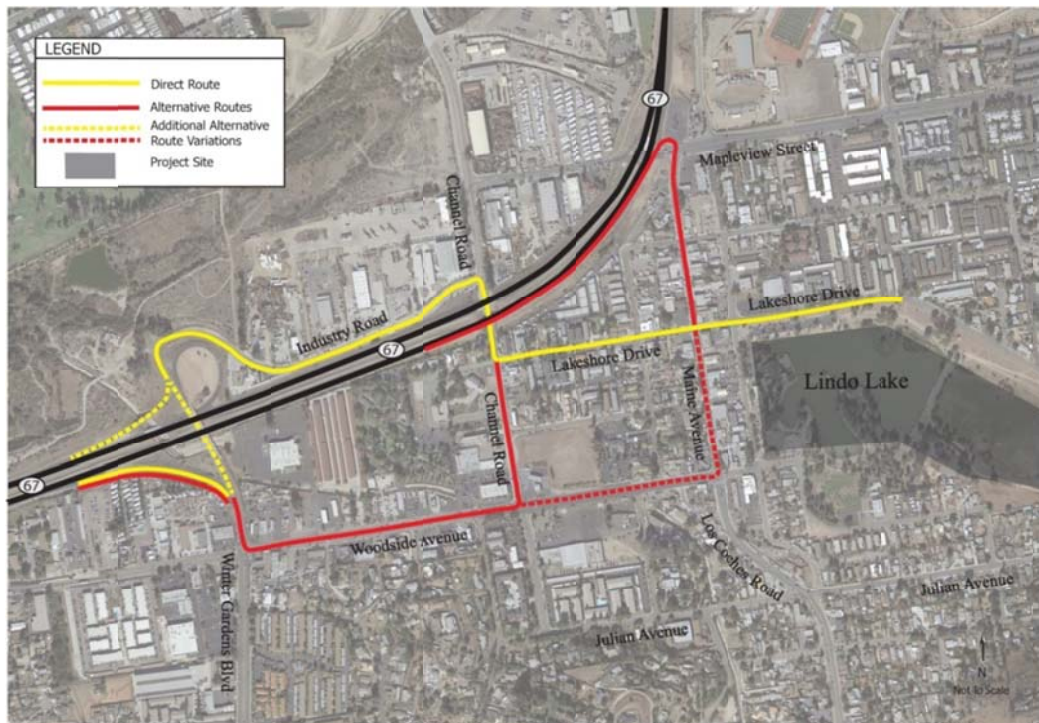
would be used to pass under Route 67. Industry Road would be used to access Route 67 at the Winter Gardens Boulevard interchange. Route 67 would then be used to transport the materials from the Community. This route does have one block on Lakeshore Drive between River Street and Channel Road which has residential development. However, this route minimizes the distance traveled through residential areas. This route would also minimize the number of truck trips within the business district located along Maine Avenue. This route would be used for both outbound and inbound materials.

A number of variations are shown in Figure 1. Truck traffic could also use Woodside Avenue between Channel Road and Winter Gardens Boulevard to access the interchange with Route 67. Woodside Avenue is a four-lane wide route. The intersections on Woodside Avenue at Channel Road and at Winter Garden Boulevard are signalized. Use of this route would place trucks on a more highly traveled thoroughfare of Woodside Avenue, rather than less traveled industrial area along Industry Road.

A second variation for travel is west on Lakeshore Drive, north on Maine Avenue to Maplevue Street, then west on Route 67. Travel on this route may provide a slightly shorter travel time outside peak travel hours. Use of Maine Avenue would place truck traffic through the business district.

Additional route options in Figure 2 are shown as dashed. These roadways include the other possible routes to the site. However, the routes would require travel through the Maine Avenue business district, and this is not recommended.

Figure 2: Truck Routes to Route 67



The route from Lakeside to the Sycamore Landfill would include Route 67 and SR-52 to Mast Boulevard in Santee. The return trip would follow the same route.

Conclusion

Field observations of travel congestion and travel times were made by senior staff experienced in traffic analysis. The following recommendations regarding options for haul routes and times are based on our observations and professional experience. These recommendations are intended to result in minimizing project-related traffic congestion on local roadways during construction.

The following information was provided that summarize the truck route options.

Total Project Truck Trips

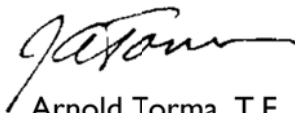
- Approximately 30,000 empty inbound trips / 30,000 total full outbound trips with large truck (6 c.y.) for sediment removal
- Approximately 15,000 empty inbound trips / 15,000 total outbound trips with double dump truck (12 c.y.) for sediment removal
- Approximately 5,600 full inbound trips with large truck (6 c.y.) / 5,600 empty outbound trips to deliver construction materials
- Approximately 2,800 full inbound trips with double dump truck (12 c.y.) / 2,800 empty outbound trips to deliver construction materials

Recommendation

Route 67 options, Route 67 via Lakeshore Drive/Channel Road/Industrial Road is recommended to be the route for truck use as this route avoids traffic queues that were observed at the signalized intersection of Route 67 and Maplevue Street during peak travel times. In addition, this route also avoids difficult roadway turns due to close intersection spacing at the Route 67/Maplevue Street/Maine Avenue intersection area. This option would also avoid signal delay and commercial traffic volumes on Woodside Avenue.

Sincerely,

KOA CORPORATION



Arnold Torma, T.E.
Senior Traffic Engineer