Endo Engineering *Traffic Engineering* *Air Quality Studies* *Noise Assessments*

July 29, 2007

Mr. Doug Evans
Community Planning Director
City of La Quinta
78-495 Calle Tampico
La Quinta, CA 92253

SUBJECT: ***Table Revisions for Circulation Element Amendment Study For the Travertine Specific Plan Vicinity***

Dear Mr. Evans;

Endo Engineering has re-evaluated the roadway network alternatives for the area in the vicinity of the Travertine Specific Plan to determine the adequacy of the master planned street network to serve the planned development. The Tables from the March 19, 2007 report have been modified and attached in portable document format (pdf). Prior to completely revising the traffic study to reflect the modifications identified above, Endo Engineering has been directed to submit the revised tables for review.

As requested at the April 23, 2007 meeting in La Quinta, the previous analysis (dated March 19, 2007) has been revised to include 157 dwelling units in Section 5, and 2,000 vehicles per day as regional "through" traffic from the eastern Coachella Valley passing through the study area. The additional 2,000 vehicles per day travelling through the study area have been included in the analysis of the first three Network Alternatives, but have not been included in Network Alternative 4, since Avenue 62 would be terminated east of the levee with this alternative.

Table 10 provides a summary of the recommended street classifications for the roadways in the study area, based upon the latest traffic projections. The conclusions which can be drawn from the updated tables vary slightly from those previously identified, as discussed below.

- **Avenue 58** (from Madison Street to Jefferson Street) should retain its 4-lane Secondary Arterial designation.
- **Jefferson Street** (south of Avenue 58) should be reclassified as a 2-lane Collector Street.
- **Madison Street** (from Avenue 60 to Jefferson Street/Avenue 62) should be classified as a Secondary Arterial with the first three Development Plans for the Travertine Specific Plan (see Table 8). Madison Street could be constructed as a 2-lane Collector Street with Development Plan 4 (the lowest intensity Travertine Specific Plan development).

28811 Woodcock Drive, Laguna Niguel, CA 92677-1330
Phone: (949) 362-0020 FAX: (949) 362-0015

- **Avenue 62** (west of Monroe Street) should be reclassified as a 2-lane Collector Street. With Network Alternative 4, the termination of Avenue 62 would cause the project traffic assigned to Avenue 62 to be redirected to the north on Madison Street. However, the termination of Avenue 62 would also eliminate the potential for regional "through" traffic passing through the study area on Jefferson Street. Therefore, the termination of Avenue 62 in Network Alternative 4 results in the same recommended roadway classification as Network Alternatives 2 and 3.

In addition to the modified tables attached, the revised traffic study being prepared will include: (1) a discussion of the latest Travertine Site Plan; (2) additional discussion of the right-of-way constraints along Avenue 62; (3) a discussion of reducing through traffic by offsetting the intersections of Jefferson Street and Avenue 62 with Madison Street by 600 feet; (4) an updated discussion of the South Valley Parkway; and (5) modifications of the traffic study to reflect the written comments from Mr. Nazir Lalani. If you have questions or comments after reviewing the modified tables, you should contact me.

Gregory Endo
ENDO ENGINEERING

Table 1
Existing Study Area Entitlements

Project	Land Use	Quantity[a]
Travertine Specific Plan (SP 94-026)	Single-Family Detached Residential Multi-Family Attached Residential Hotel Neighborhood Commercial Two 18-Hole Golf Courses	1,526 D.U. 774 D.U. 500 Rooms (27.2 Acres) 100,000 S.F. (10 Acres) 36 Holes
Green Specific Plan (SP 94-025)	Single-Family Detached Residential	277 D.U. (331 Acres)
Section 5	Single-Family Detached Residential	157 D.U.
Other Residential[b]	Single-Family Detached Residential	547 D.U.

a. D.U. = Dwelling Units. S.F. = Square Feet of Building Area. The commercial gross floor area and the number of single-family residential versus multiple-family residential dwelling units shown reflect the 1994 *Travertine and Green Specific Plan Traffic Impact Study* prepared by Endo Engineering. The specific plan approval includes 2,300 residential dwelling units (with no specific breakdown between single-family and multiple-family residential dwellings), a 500-room hotel, and a 10-acre commercial site.

b. Includes several residential developments with access to Avenue 58, west of Madison Street, including: The Quarry Specific Plan, and The Retreat at the Quarry Specific Plan (SP 98-032) which allows 28 resort residential units on 7.36 acres at the northeastern corner of The Quarry Specific Plan. Approximately 100 dwellings units appear to currently be constructed and occupied.

Table 2
Minimum Street Design Standards

Design Criteria Arterial	Secondary Street	Collector Street	Local
Daily Capacity	28,000 VPD	14,000 VPD	9000 VPD
Design Speed	40 MPH	30 MPH	25 MPH
Intersection Spacing	600 Feet	300 Feet	250 Feet
Right-of-Way	88 Feet	74 Feet	60 Feet
Pavement Width	64 Feet	52 Feet	36 Feet
Lane Configuration	4-Lane Undivided No Parking	2-Lane Undivided With Bike Lane	2-Lane Undivided
Access to Adjoining Property	Avoid Where Possible	Avoid In Some Cases	Acceptable
Stopping Sight Distance	450 Feet	250 Feet	160 Feet
Min. Horizontal Radius	850 Feet	450 Feet	200 Feet

Note: A cul-de-sac street should provide 36 feet of pavement within a 50-foot right-of-way with a 25 mph design speed and accommodate a maximum of 3,000 vehicles per day with two travel lanes and parking on both sides of the roadbed.

Table 3
"Unadjusted" Trip Generation Associated With All
Approved Undeveloped Land Uses Within the Study Area

Land Use Category (ITE Land Use Code)	Land Use Quantity[a]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily 2-Way
Travertine S.P.[b]								
Residential SFD (210)	1526 DU	269	808	1,077	785	461	1,246	12,760
Residential MFA (230)	774 DU	45	220	265	216	106	322	3,650
Hotel (310)	500 Rooms	183	117	300	156	139	295	4,100
Commercial Retail (820)	100 TSF	95	61	156	301	327	628	6,790
Subtotal		592	1,206	1,798	1,458	1,033	2,491	27,300
Green Specific Plan								
Residential SFD (210)	277 DU	51	152	203	169	99	268	2,650
Section 5								
Residential SFD (210)	157 DU	30	89	119	101	60	161	1,570
Other Residential[c]								
Residential SFD (210)	447 DU	81	242	323	260	153	413	4,120
Total		754	1,689	2,443	1,988	1,345	3,333	35,640

a. DU=Dwelling Units; TSF=Thousand Square Feet of Gross Floor Area. Rooms=Hotel Rooms.
b. Based upon the regression equations for ITE Land Use Code 210 (Single-Family Detached Residential), Land Use Code 230 (Multi-Family Attached Residential), Land Use Code 310 (Hotel), and Land Use Code 820 (Shopping Center) published by the ITE in *Trip Generation* (7th Edition, December, 2003).
c. Does not include the 100 occupied dwelling units shown in Table 1. The trips generated by the 100 occupied dwellings are included in the 24-hour traffic count made on Avenue 58, west of Madison Street.

Table 4
Daily Traffic Projections and V/C Ratios
Upon Buildout of the Current General Plan[a]
(Roadway Network Alternative 1)

Roadway Segment	Classification (Lane Configuration)	Volume (VPD)	Capacity (VPD)	Daily V/C Ratio
Avenue 58				
- West of Madison Street	Secondary (4U)	12,990	28,000	0.46
Jefferson Street				
- South of Avenue 58	Secondary (4U)	7,530	28,000	0.27
Madison Street				
- South of Avenue 60	Secondary (4U)	19,400	28,000	0.69
Avenue 62				
- West of the Levee	Secondary (4U)	6,150	28,000	0.22
- West of Monroe Street	Secondary (4U)	6,980	28,000	0.25

a. Assumes buildout of the land uses in the study area per the existing General Plan Land Use Element and that all roadway segments are four-lane undivided secondary arterials with alignments as shown in the existing General Plan Circulation Element.

Table 5
Daily Traffic Projections and V/C Ratios
Upon GP Buildout With Jefferson Street Deleted[a]
(Roadway Network Alternative 2)

Roadway Segment	Classification (Lane Configuration)	Volume (VPD)	Capacity (VPD)	Daily V/C Ratio
Avenue 58				
- West of Madison Street	Secondary (4U)	13,410	28,000	0.48
Jefferson Street				
- South of Avenue 58	Collector (2U)	7,950	14,000	0.57
Madison Street				
- South of Avenue 60	Secondary (4U)	19,400	28,000	0.69
Avenue 62				
- West of the Levee	Collector (2U)	5,730	14,000	0.41
- West of Monroe Street	Collector (2U)	6,560	14,000	0.47

a. Assumes buildout of the land uses in the study area per the adopted General Plan and Roadway Network Alternative 2.

Table 6
Daily Traffic Projections and V/C Ratios
Upon GP Buildout With Jefferson Street Realignment[a]
(Roadway Network Alternative 3)

Roadway Segment	Classification (Lane Configuration)	Volume (VPD)	Capacity (VPD)	Daily V/C Ratio
Avenue 58				
- West of Madison Street	Secondary (4U)	12,990	28,000	0.46
Jefferson Street				
- South of Avenue 58	Collector (2U)	7,530	14,000	0.54
Madison Street				
- South of Avenue 60	Secondary (4U)	19,400	28,000	0.69
Avenue 62				
- West of the Levee	Collector (2U)	6,150	14,000	0.44
- West of Monroe Street	Collector (2U)	6,980	14,000	0.50

a. Assumes buildout of the land uses in the study area per the existing General Plan Land Use Element with Roadway Network Alternative 3.

Table 7
Daily Traffic Projections and V/C Ratios Upon GP Buildout
With Jefferson Street Realignment and No Levee Crossing At Avenue 62[a]
(Roadway Network Alternative 4)

Roadway Segment	Classification (Lane Configuration)	Volume (VPD)	Capacity (VPD)	Daily V/C Ratio
Avenue 58				
- West of Madison Street	Secondary (4U)	13,410	28,000	0.48
Jefferson Street				
- South of Avenue 58	Collector (2U)	7,950	14,000	0.57
Madison Street				
- South of Avenue 60	Secondary (4U)	21,130	28,000	0.75
Avenue 62				
- West of Monroe Street	Collector (2U)	830	14,000	0.06

a. Assumes buildout of the land uses in the study area per the existing General Plan Land Use Element with Roadway Network Alternative 4.

Table 8

Travertine Specific Plan External Traffic Generation[a]
Forecast By Development Yield Alternative

Development Plan (ITE Land Use Code)	Land Use Quantity[b]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily 2-Way
Current Specific Plan								
Residential SFD (210)	1526 DU	269	808	1,077	785	461	1,246	12,760
Residential MFA (230)	774 DU	45	220	265	216	106	322	3,650
Hotel (310)	500 Rooms	183	117	300	156	139	295	4,100
Commercial/Retail (820)[c]	100 TSF	61	39	100	193	209	402	4,350
Subtotal		558	1,184	1,742	1,350	915	2,265	24,860
Development Plan 2								
Residential SFD (210)	500 DU	90	270	360	287	169	456	4,570
Residential MFA (230)	1500 DU	77	374	451	371	183	554	6,410
Hotel (310)	500 Rooms	183	117	300	156	139	295	4,100
Commercial/Retail (820)[c]	100 TSF	61	39	100	193	209	402	4,700
Subtotal		411	800	1,211	1,007	700	1,707	19,430
Development Plan 3								
Residential SFD (210)	500 DU	90	270	360	287	169	456	4,570
Residential MFA (230)	1500 DU	77	374	451	371	183	554	6,410
Hotel (310)	500 Room	183	117	300	156	139	295	4,100
Subtotal		350	761	1,111	814	491	1,305	15,080
Development Plan 4								
52.78% of Approved Specific Plan	Variable	294	625	919	712	483	1,195	13,120

a. Based upon the regression equations for ITE Land Use Code 210 (Single-Family Detached Residential), Land Use Code 230 (Multi-Family Attached Residential), Land Use Code 310 (Hotel), and Land Use Code 820 (Shopping Center) published by the ITE in *Trip Generation* (7th Edition; December, 2003).

b. DU=dwelling units; TSF=thousand square feet.

c. The commercial trip generation forecast shown includes only external trips and incorporates a 36 percent reduction from the unadjusted values to eliminate the double counting of internal trips and more accurately reflect internal trip interactions and pass-by trips.

Table 9
Post-2020 Daily Traffic Projections
By Roadway Network Alternative and Development Plan

Roadway Network and Development Plan Alternative	Avenue 58 West of Madison St.	Jefferson Street South of Avenue 58	Madison Street South of Avenue 60	Avenue 62 West of The Levee	Avenue 62 West of Monroe St.
Network Alt. 1					
-Develop. Plan 1	12,990	7,530	19,400	6,150	6,980
-Develop. Plan 2	12,170	6,710	15,600	5,340	6,170
-Develop. Plan 3	11,520	6,060	12,560	4,680	5,510
-Develop. Plan 4	11,230	5,770	11,180	4,390	5,220
Network Alt. 2					
-Develop. Plan 1	13,410	7,950	19,400	5,730	6,560
-Develop. Plan 2	12,590	7,130	15,600	4,910	5,740
-Develop. Plan 3	11,940	6,480	12,560	4,260	5,090
-Develop. Plan 4	11,650	6,190	11,180	3,970	4,800
Network Alt. 3					
-Develop. Plan 1	12,990	7,530	19,400	6,150	6,980
-Develop. Plan 2	12,170	6,710	15,600	5,340	6,170
-Develop. Plan 3	11,520	6,060	12,560	4,680	5,510
-Develop. Plan 4	11,230	5,770	11,180	4,390	5,220
Network Alt. 4					
-Develop. Plan 1	13,410	7,950	21,130	–	830
-Develop. Plan 2	12,590	7,130	16,520	–	830
-Develop. Plan 3	11,940	6,480	12,820	–	830
-Develop. Plan 4	11,650	6,190	11,150	–	830

Table 10

Post-2020 Daily V/C Ratios, and Facility Classifications[a]
By Roadway Network Alternative and Development Plan

Roadway Network Alternative and Development Plan	Avenue 58 West of Madison St.	Jefferson Street South of Avenue 58	Madison Street South of Avenue 60	Avenue 62 West of The Levee	Avenue 62 West of Monroe St.
Network Alt. 1					
-Develop. Plan 1	0.46-S	0.27-S	0.69-S	0.22-S	0.25-S
-Develop. Plan 2	0.43-S	0.24-S	0.56-S	0.19-S	0.22-S
-Develop. Plan 3	0.41-S	0.22-S	0.45-S	0.17-S	0.20-S
-Develop. Plan 4	0.40-S	0.21-S	0.40-S	0.16-S	0.19-S
Network Alt. 2					
-Develop. Plan 1	0.48-S	0.57-C	0.69-S	0.41-C	0.47-C
-Develop. Plan 2	0.45-S	0.51-C	0.56-S	0.35-C	0.41-C
-Develop. Plan 3	0.43-S	0.46-C	0.45-S	0.30-C	0.36-C
-Develop. Plan 4	0.42-S	0.44-C	0.80-C	0.28-C	0.34-C
Network Alt. 3					
-Develop. Plan 1	0.46-S	0.54-C	0.69-S	0.44-C	0.50-C
-Develop. Plan 2	0.43-S	0.48-C	0.56-S	0.38-C	0.44-C
-Develop. Plan 3	0.41-S	0.43-C	0.45-S	0.33-C	0.39-C
-Develop. Plan 4	0.40-S	0.41-C	0.80-C	0.31-C	0.37-C
Network Alt. 4					
-Develop. Plan 1	0.48-S	0.57-C	0.75-S	NA	0.06-C
-Develop. Plan 2	0.45-S	0.51-C	0.59-S	NA	0.06-C
-Develop. Plan 3	0.43-S	0.46-C	0.46-S	NA	0.06-C
-Develop. Plan 4	0.42-S	0.44-C	0.80-C	NA	0.06-C

a. Format is: Daily Volume-to-Capacity Ratio followed by the roadway classification assumed to determine the V/C Ratio. An "S" indicates that a secondary arterial capacity of 28,000 vehicles per day was assumed to determine the daily V/C ratio. A "C" indicates that a collector street capacity of 14,000 vehicles per day was assumed to determine the daily V/C ratio.