



Endo Engineering Traffic Engineering Air Quality Studies Noise Assessments

November 30, 1998

Mr. Marvin Roos
Mainiero, Smith & Associates, Inc.
777 East Tahquitz Canyon Way, Suite 301
Palm Springs, CA 92262-6784

***SUBJECT: Traffic Impacts Associated with the Adams Street Hotel
and Restaurants***

Dear Mr. Roos;

Endo Engineering is pleased to submit this analysis of the traffic impacts associated with the future development of the Adams Street hotel and restaurants. The proposed project is located on approximately 6 net acres on the northeast corner of the intersection of State Route 111 and Adams Street, in the City of La Quinta.

Study Purpose and Objectives

Although a formal traffic impact study was not required, the scope of the traffic analysis herein complies with City of La Quinta specifications developed by Mr. Steve Speer. The purpose of this report is to: (1) document the trip generation of the proposed project; (2) evaluate site access opportunities; and (3) provide recommendations as necessary to ensure that adequate access is provided for the proposed project.

Site Location and Study Area

Figure 1 depicts the study area, the project site, and the site access proposals. One full access driveway is proposed on Adams Street, a right-turn only driveway is proposed on State Route 111 (at the eastern site boundary) A third driveway connects to a future roadway north of the site.

An existing commercial development is located west of Adams Street, opposite the project site. A regional commercial center with auto dealerships is proposed south of State Route 111, opposite the project site. Future commercial and industrial development is planned east and north of the project site.

Project Description

The proposed project (see Figure 2) is consistent with the current zoning and land use designations on-site. It includes a business hotel with 45,000 to 76,000 square feet of floor space and two free standing sit down restaurants. The hotel is expected to have 145 to 160 rooms, and include uses consistent with a business hotel (i.e. meeting rooms, a small restaurant, pool, jacuzzi, etc.). The two restaurants will have a combined building

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Figure 1
Location and Study Area

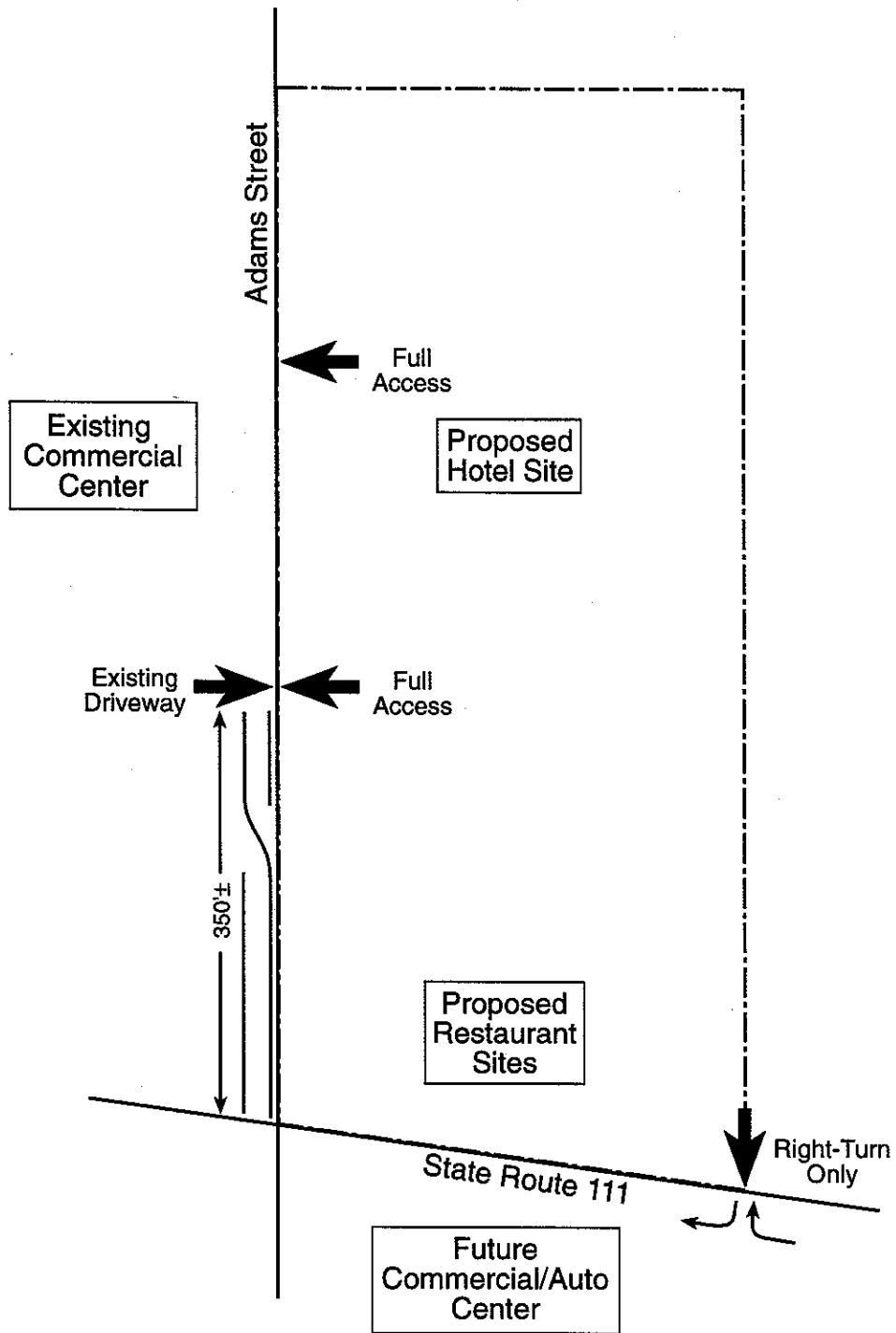
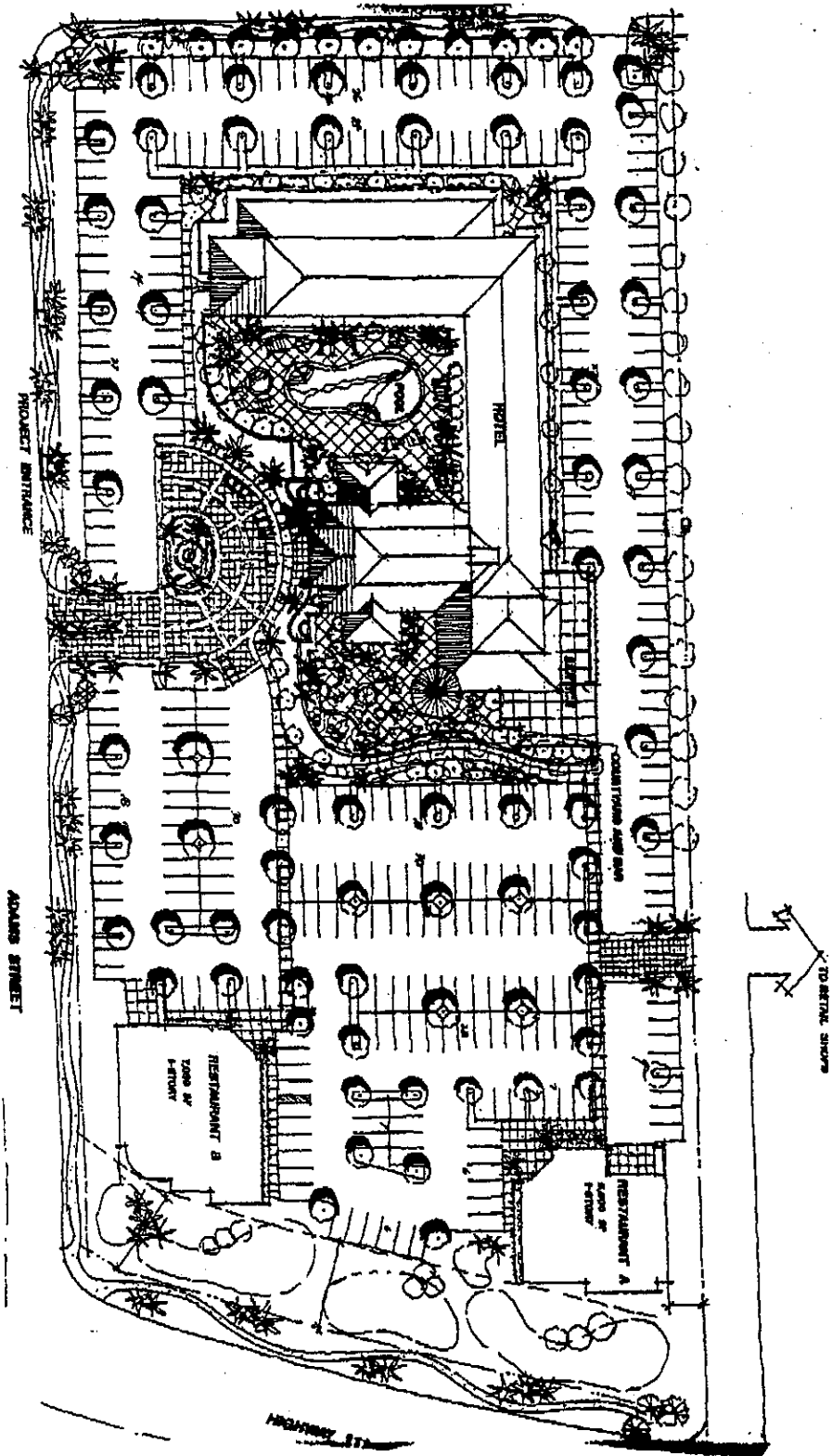


Figure 2
Site Plan



Scale 1" = 95'

coverage of approximately 8,500 to 12,000 square feet. To ensure a conservative analysis, the upper limits of the range of potential development are addressed herein.

Existing Conditions

Figure 1 depicts the surrounding street system in the immediate vicinity of the project site. As shown therein, the primary access to the project site is along Adams Street. State Route 111 borders the project site to the south and provides regional access.

State Route 111 (SR 111) is an east/west four-lane divided roadway in the study area, providing access to Palm Desert to the west, and Indio to the east. Access to Interstate 10 is provided from Washington Street (which intersects SR 111 west of the project site) and Jefferson Street (which intersects SR 111 east of the project site). There are currently traffic signals located on SR 111 at Washington Street, Adams Street, Dune Palms Road, and Jefferson Street. Another traffic signal will be installed between Adams Street and Dune Palms Road in conjunction with the future development of the regional commercial/auto center project south of SR 111 (opposite the proposed project).

Adams Street is a 2-lane undivided north/south roadway adjacent to the project site. There are two existing driveways on the west side of Adams Street that service the adjacent commercial development. The southern driveway of the adjacent commercial development (west of Adams Street) is located approximately 350 feet north of State Route 111, and the north driveway is located opposite an existing self-storage facility. There are back-to-back left-turn pockets on Adams Street, between State Route 111 and the southern driveway for the commercial center.

Master Planned Circulation System

The City of La Quinta General Plan Circulation Element details the general location and extent of the circulation system required to serve future travel demands associated with build-out per the Land Use Element of the General Plan. It also details the roadway designation (i.e. major thoroughfare, secondary thoroughfare or collector street), truck routes, bikeways and horse trails.

The master planned roadways within the study area per the City of La Quinta Circulation Plan adopted in 1992 are shown in Figure 3. Typical cross-sections and right-of-way requirements for typical master planned streets are included in Figure 4.

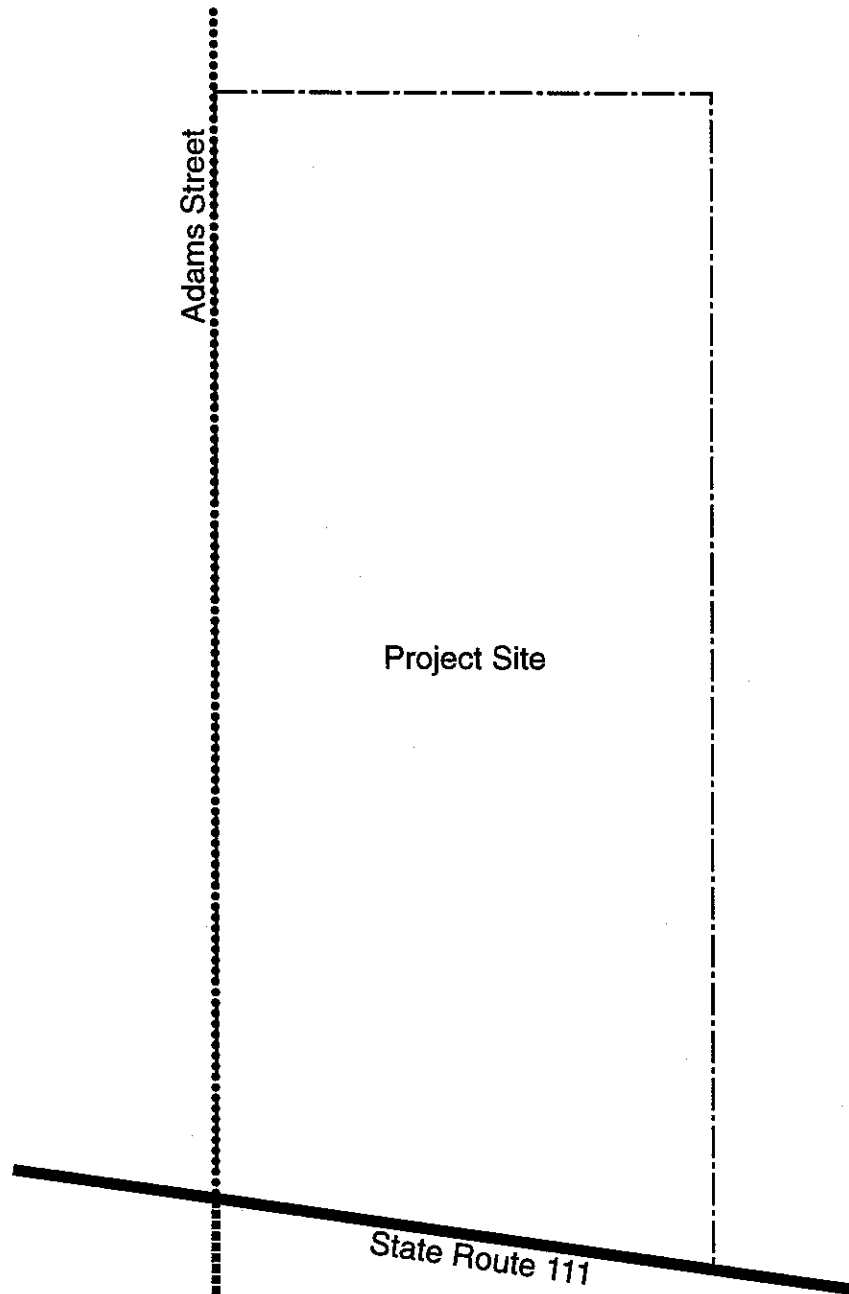
State Route 111 is a master planned major arterial within the study area. Major arterials typically have a 96-foot wide roadbed within a 120-foot right-of-way. They include an 18-foot wide raised median.

Adams Street is master planned as a secondary arterial adjacent to the project site, and a primary arterial, south of State Route 111. Secondary arterials provide a 64-foot wide roadbed within an 88-foot right-of-way. Secondary arterials may include striped medians. Primary arterials typically have a 76-foot to 86-foot wide roadbed within a 110-foot to 120-foot right-of-way. Primary arterials typically provide a 12-foot to 18-foot wide raised median.

Trip Generation Forecast

The potential trip generation from on-site development was determined from the trip generation regression equations published by the ITE in the Trip Generation manual (Sixth Edition; 1997). Table 1 provides the peak hour and daily trip generation forecast for the proposed project, based upon the ITE trip generation rates.

Figure 3
Master Planned Roadways



Legend

- Major Arterial (120' R/W)
- Primary Arterial (100-110' R/W)
- Secondary Arterial (88' R/W)

Figure 4
 Typical Street Cross-Sections
 (La Quinta)

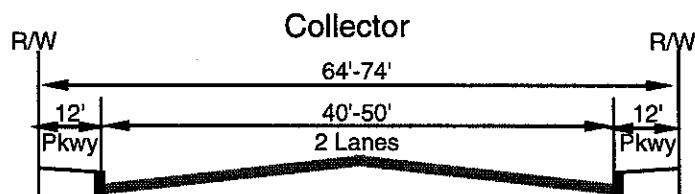
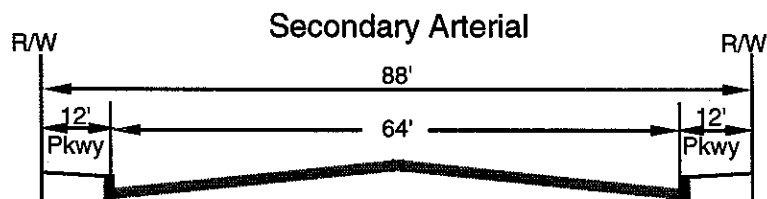
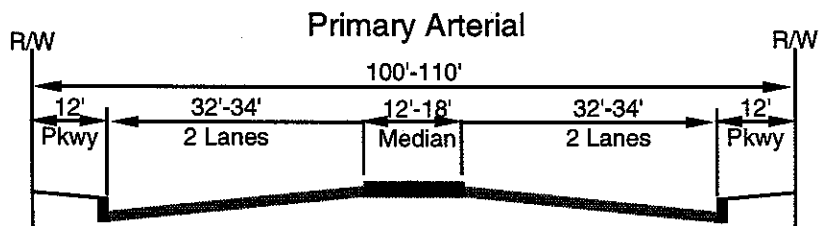
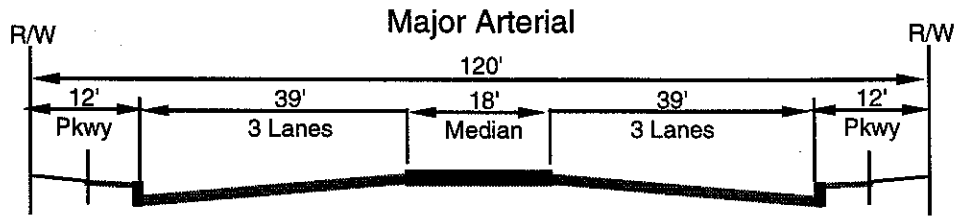


Table 1
Estimated Project Site Traffic Generation^a

Land Use Category (ITE Code)	Land Use Quantity	Midday Peak Hour			PM Peak Hour			Daily 2-Way
		In	Out	Total	In	Out	Total	
UNADJUSTED FORECAST								
Hotel (310)	160 Occ Rm.	45	29	74	43	38	81	1,060
Restaurant (832)	12,000 S.F.	58	53	111	78	52	130	1,560
Unadjusted Total		103	82	185	121	90	211	2,620
PASS-BY TRIPS^b								
Restaurant (30%)		17	16	33	23	16	39	470
ADJUSTED FORECAST								
Hotel (310)	160 Occ Rm.	45	29	74	43	38	81	1,060
Restaurant (832)	12,000 S.F.	41	37	78	55	36	91	1,090
Adjusted Total		86	66	152	98	74	172	2,150

a. Based upon trip generation rates published by the ITE Trip Generation (Sixth Edition); 1997.

b. A pass-by trip reduction of 30% of the unadjusted restaurant trip generation was assumed to develop the "adjusted" trip generation forecast.

A pass-by trip adjustment was applied to the unadjusted trip generation forecast. The ITE Trip Generation Handbook, (October 1998, Table 5.7) demonstrates that high turnover sit-down restaurants exhibit an average pass-by trip rate of 43 percent. Following a review of the twelve studies of pass-by trips associated with restaurants documented therein, a more conservative assumption of 30% pass-by trips was identified as appropriate for the proposed restaurants. No pass-by trip adjustment was made for the hotel uses as the ITE Trip Generation Handbook indicated a pass-by trip rate on the order of 4 percent.

Project Access

The project is afforded access from three proposed driveways (one on Adams Street, one on SR 111, and one on a future roadway north of the site). The driveway on Adams Street is located opposite the existing commercial driveway on the west side of Adams Street. The driveway proposed on SR 111 is restricted to right turns only and is located approximately 360 feet east of Adams Street. This driveway is proposed as a "common" or "shared" driveway on the eastern property line and will serve the proposed project as well as future development on the neighboring property to the east. The spacing of this driveway will comply with the City's minimum required offset of 250 feet from the adjacent intersection.

Future Traffic Volumes

A recently completed traffic study for the La Quinta Auto Center includes year 2005+auto center traffic volumes along State Route 111 of 29,300 ADT (east of Adams Street) and 29,500 ADT (west of Adams Street). Year 2005+auto center projections along Adams Street included 8,800 ADT (north of SR 111) and 9,700 ADT (south of SR 111).

The La Quinta Auto Center Traffic Study based the future projections on a 4.1% annual traffic growth rate. These traffic volume projections are generally consistent with the Coachella Valley Area Transportation Study (CVATS) year 2010 projections of 35,010 ADT for SR 111 adjacent to the project site.

The City of La Quinta General Plan includes buildout traffic volume projections for SR 111 and Adams Street. State Route 111 has a projected volume of 78,800 ADT and Adams Street is shown with a General Plan buildout volume of approximately 18,700 ADT (north of Westward Ho Drive) and 14,000 ADT (south of SR 111).

The General Plan buildout traffic projections for SR 111 appear to be the result of "worst case" assumptions and are unlikely to occur even under ultimate conditions. The roadway capacity (upper limit of LOS E) for a major arterial is identified in the General Plan as 54,000 ADT, which is approximately one-half of the projected year 2010 traffic volume along SR 111.

Findings and Conclusions

The proposed hotel and restaurants would generate approximately 2,620 unadjusted daily trips, with 185 trips (103 inbound and 82 outbound) occurring during the morning peak hour and 211 trips (121 inbound and 90 outbound) occurring during the evening peak hour. With a 30% pass-by adjustment for the restaurants, the proposed hotel and restaurants will generate approximately 2,150 adjusted daily trips. Of that total, 152 trips (86 inbound and 66 outbound) would occur during the morning peak hour and 172 trips (98 inbound and 74 outbound) would occur during the evening peak hour.

The proposed project incorporates adequate site access from the proposed driveways. The driveway on Adams Street is properly located to minimize turning movement conflicts, and meet the City's minimum spacing requirements. The right-turn only driveway on State Route 111 is located on the project boundary to provide a combined access for the proposed project and future development to the east.

Recommendations

The applicant will be required to fully improve to their ultimate half-sections the two master planned roadways adjacent to the project site. State Route 111 shall be improved to major arterial standards (within an 120-foot right-of-way). Adams Street shall be improved to secondary arterial standards (with an 88-foot right-of-way). The traffic signal currently located on the northeast corner of Adams Street at State Route 111 will need to be relocated to its ultimate location in conjunction with the proposed development on-site.

We trust that the information provided herein will be of value to the City of La Quinta in their review of the proposed hotel and restaurants on Adams Street. Should questions or comments develop regarding the findings and recommendations within this report, please do not hesitate to contact our offices at (949) 362-0020.

Cordially,

ENDO ENGINEERING

Vicki Lee Endo

Vicki Lee Endo
Registered Professional
Traffic Engineer TR 1161





Endo Engineering Traffic Engineering Air Quality Studies Noise Assessments

January 8, 1999

Mr. Steve Speer
City of La Quinta
78495 Calle Tampico
La Quinta, CA 92262-6784

SUBJECT: Adams Street Hotel Access Traffic Signal Warrant Analysis

Dear Mr. Speer;

Pursuant to our conversation with you yesterday, Endo Engineering has evaluated the potential for traffic signal warrants to be met in the future at the proposed Adams Street access to the Adams Street Hotel and Restaurants development. Traffic from the proposed development as well as future cumulative development to the east of the project site was analyzed to insure a "worst case" assessment. The methodology employed and findings are summarized below.

It was determined that the "worst case" project-cumulative westbound approach volumes at the Adams Street site access may reach approximately 92 percent of the urban peak hour traffic signal warrant (with a one-lane approach), or 61 percent of the urban peak hour traffic signal warrant (with a two-lane approach). Therefore, a traffic signal does not appear to be warranted at the proposed site driveway on Adams Street, north of SR 111.

Background

Endo Engineering analyzed the potential traffic impacts of the Adams Street Hotel and Restaurants development in a letter report dated November 30, 1998. The site is located on 7 gross acres on the northeast corner of State Route 111 at Adams Street, in the City of La Quinta. The Site Plan evaluated at that time included a single driveway on Adams Street that was to be the main access to the proposed hotel. The two free standing restaurants proposed on-site were afforded more direct access via a common driveway proposed on SR 111 at the eastern site boundary. This driveway was to be restricted to right-turn access only and shared with future cumulative development east of the project site, along the north side of SR 111.

Since that time, the Site Plan layout has been revised slightly to make the Adams Street access more convenient and attractive to motorists frequenting the site. This modification has raised the concern that the new design might attract sufficient traffic to this driveway to warrant signalization, once cumulative development occurs east of the project site and north of SR 111. That possibility is evaluated herein.

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The potential need for a traffic signal at the Adams Street project access was analyzed for two scenarios: (1) with only the proposed hotel and restaurants; and (2) with a connection to future cumulative development to the east. Plans for development of the parcels to the east have not been finalized. For a "worst case" assessment, the most intense development scenario (which assumes that the neighboring parcel is developed with commercial uses) was evaluated.

Although the Adams Street driveway provides full access for all destinations, the future cumulative development to the east will provide several alternative access points. Future traffic with destinations west of the project site or south along Adams Street will use the Adams Street access or the driveways along SR 111. Motorists with destinations to the north along Adams Street will be able to access the industrial road that parallels SR 111 and extends along the northern project boundary, east of Adams Street. Alternative routes for destinations to the east along SR 111 will include access to the industrial street north of the project site, followed by a right turn on Dune Palms Road. Like Adams Street, Dune Palms Road is signalized at SR 111. If future traffic volumes at the Adams Street driveway ever approach the levels needed to warrant signalization, the queues and delays will discourage motorists who will then seek alternate paths.

Site Location and Study Area

Figure 1 depicts the study area, the project site and the site access proposals. One full-access driveway is proposed on Adams Street. A right-turn only driveway is proposed on SR 111 at the eastern site boundary. A third driveway connects to a future industrial roadway located north of the project site.

An existing commercial development is located west of Adams Street, opposite the project site. A regional commercial center with auto dealerships is proposed south of State Route 111, opposite the project site. Future commercial and industrial development is planned east and north of the project site.

Project Description

Figure 2 depicts the proposed project, which is consistent with the current zoning and land use designations on-site. The project includes a business hotel with 45,000 to 76,000 square feet of floor space and two free standing sit down restaurants. The hotel is expected to have 145 to 160 rooms and include uses consistent with a business hotel (i.e. meeting rooms, a small restaurant, pool, Jacuzzi, etc.). The two restaurants will have a combined building coverage of approximately 8,500 to 12,000 square feet. To ensure a conservative analysis, the upper limits of the range of potential development are addressed herein.

Trip Generation Forecast

The potential trip generation from on-site development was determined from the trip generation regression equations published by the ITE in the Trip Generation manual (Sixth Edition; 1997). Table 1 provides the peak hour and daily trip generation forecast for the proposed project, based upon the ITE trip generation rates. Future cumulative traffic from potential commercial development on the adjacent parcel to the east is also included in Table 1. Adjustments for pass-by trips were not made, since the unadjusted traffic volumes in Table 1 are representative of the projected driveway volumes.

As shown in Table 1, the proposed project is expected to generate 2,620 daily trip-ends. Of that total, it is estimated that 211 trip-ends will occur during the evening peak hour (121

Figure 1
Location and Study Area

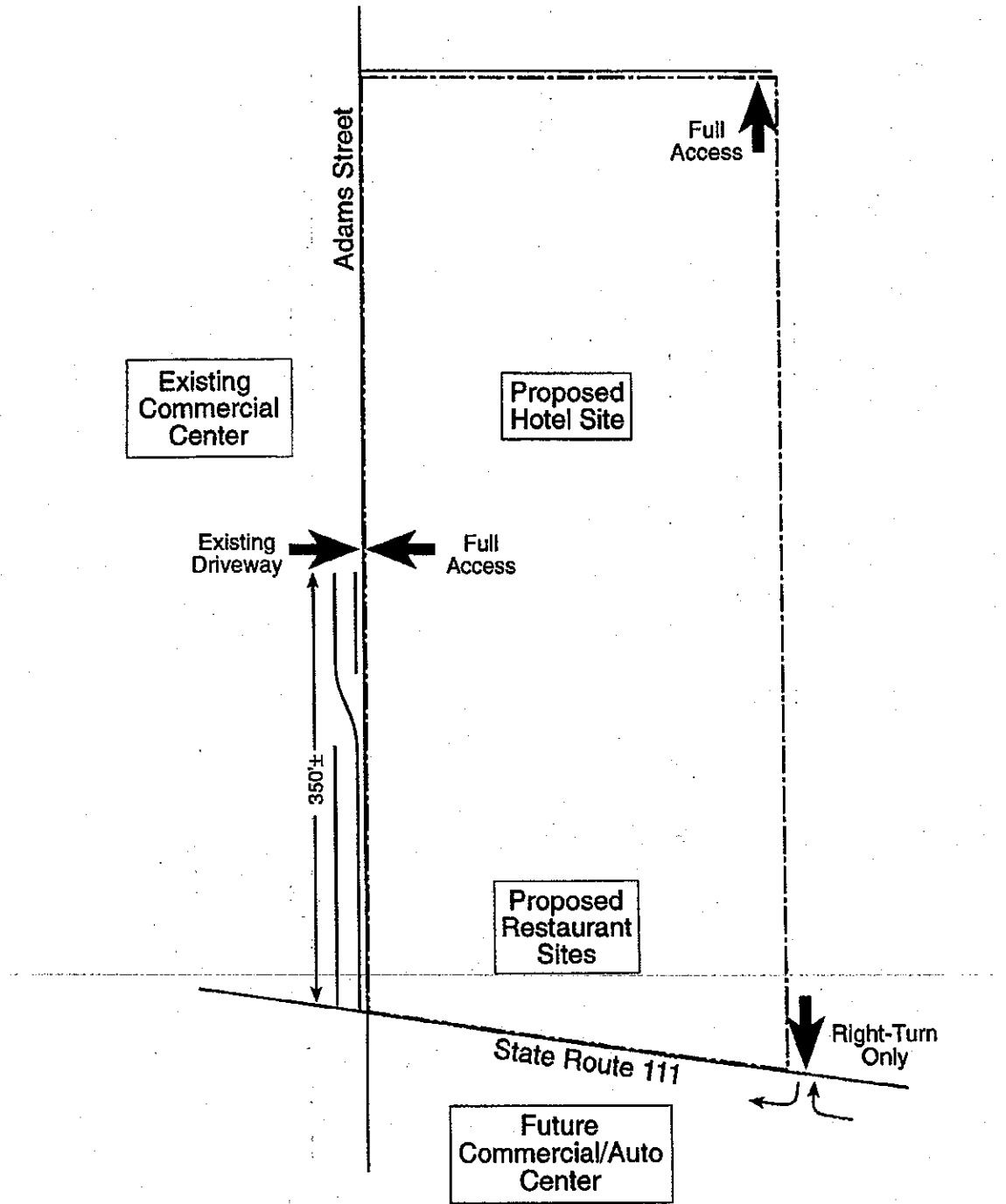
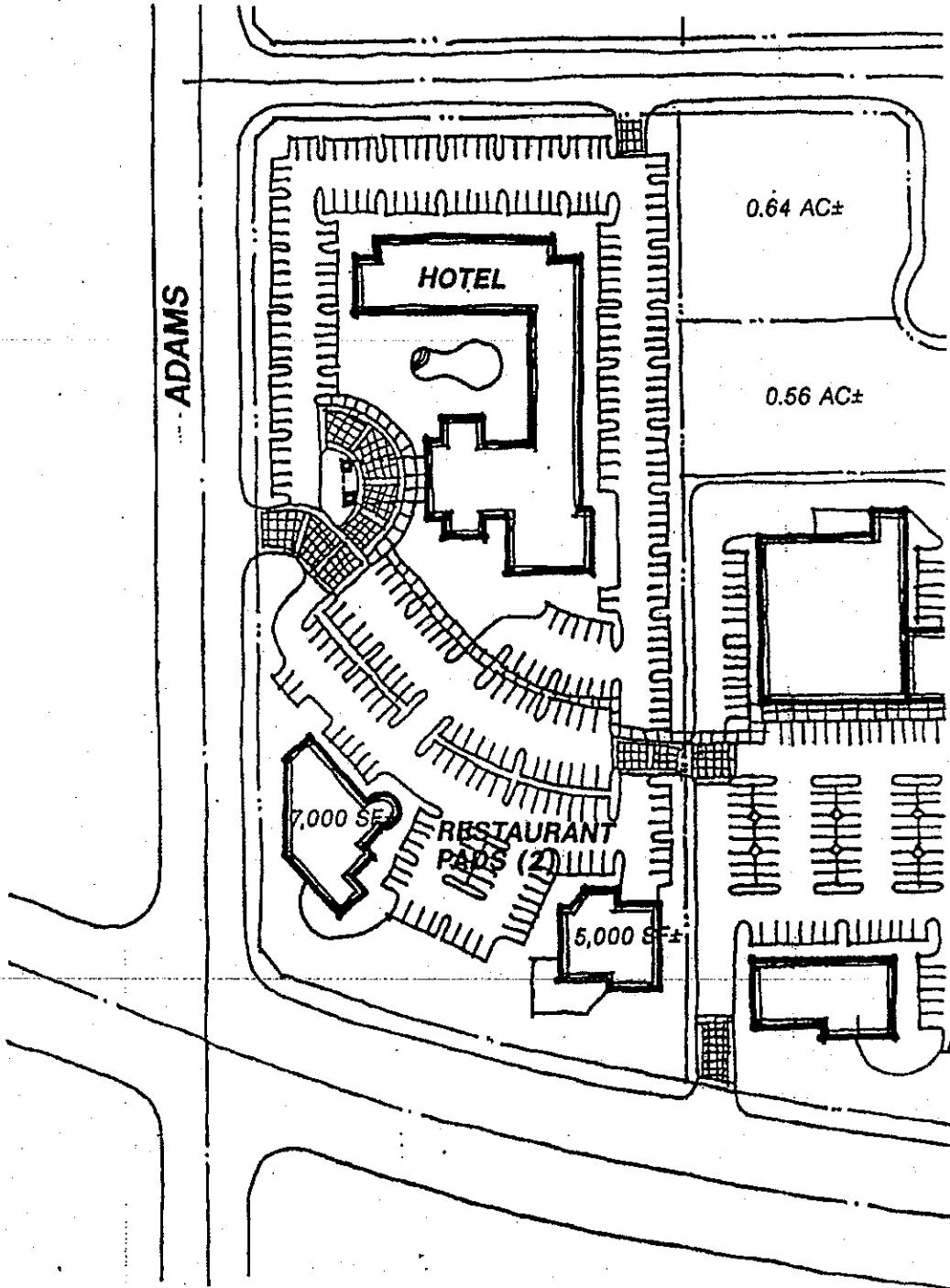


Figure 2
Site Plan



Scale 1" = 135'

inbound and 90 outbound). During the morning peak hour, 185 trip-ends are expected to be generated (103 inbound and 82 outbound).

The adjacent parcel to the east could be developed with up to 80,000 square feet of commercial land uses. Development of this magnitude would generate an estimated 5,910 daily trip-ends. The trip generation during the evening peak hour would total 542 trip-ends (260 inbound and 282 outbound). The morning peak hour cumulative trip generation would include 140 trip-ends of which 85 would be inbound and 55 would be outbound.

Table 1
Estimated Unadjusted Traffic Generation^a

Land Use Category (ITE Code)	Land Use Quantity	Mid-Day Peak Hour			PM Peak Hour			Daily 2-Way
		In	Out	Total	In	Out	Total	
Proposed Project								
Hotel (310)	160 Occ Rm	45	29	74	43	38	81	1,060
Restaurant (832)	12,000 SF	58	53	111	78	52	130	1,560
Unadjusted Total ^b		103	82	185	121	90	211	2,620
Adjacent Parcel								
Commercial (820) ^b	80,000 SF	85	55	140	260	282	542	5,910

a. Based upon trip generation rates published by the ITE Trip Generation (Sixth Edition); 1997.

b. The "unadjusted" forecast does not incorporate any pass-by trip reductions

Project Access

The project is afforded access from three proposed driveways (one on Adams Street, one on SR 111, and one on a future industrial roadway located north of the project site). The driveway on Adams Street is located opposite the existing commercial driveway on the west side of Adams Street. The driveway proposed on SR 111 is restricted to right turns only and is located approximately 360 feet east of Adams Street. This driveway is proposed as a "common" or "shared" driveway on the eastern property line. It will serve the proposed project as well as future development on the neighboring property to the east. The spacing of this driveway will comply with the City's minimum required offset of 250 feet from the adjacent intersection.

Projected Traffic Volumes at the Adams Street Access

Project-Related Traffic

The project-related evening peak hour traffic volume includes 90 outbound peak hour trips. Upon development of the proposed project, the industrial roadway is expected to be constructed adjacent to the project site (but not extended east to Dune Palm Road). As a "worst case" analysis, access to the "shared" right-turn driveway on SR 111 serving the neighboring parcel was not assumed with build-out of the proposed project. However, an agreement with the neighboring parcel will probably allow the driveway to be constructed in conjunction with the proposed project. Approximately 90 percent of the exiting project traffic was projected to utilize the Adams Street access (81 westbound approach vehicles during the peak hour).

Project-Plus-Cumulative Development Traffic

The number of project-related outbound trips using the Adams Street access during the peak hour will decrease once the adjacent parcels are developed. The industrial roadway north of the project site will be extended east to Dune Palms Road. Access to additional driveways along SR 111 will become available through the adjacent commercial development. Assuming that 15 percent of the project-related traffic will utilize the right-turn access on SR 111 and another 10 percent will utilize the industrial roadway to reach Dune Palms Road, the westbound project-related traffic at the Adams Street access will drop to approximately 59 vehicles during the peak hour.

If the adjacent parcel is developed with only commercial uses, there is the potential for approximately 80,000 square feet of commercial building space. As shown in Table 1, this commercial development could generate 282 outbound trips during the evening peak hour.

The potential impact on the Adams Street access of the adjacent commercial development was determined by assigning a portion of the cumulative trip generation to each of the future access points. To accomplish this, the commercial site was divided into pieces and the traffic generated by each piece was assigned such that most of it utilized the closest access point. The farther away the access point, the smaller the percentage of commercial traffic that was assigned. It was determined that 20 percent of the traffic generated by the closest commercial uses, 10 percent of that from the further commercial uses and 5 percent of the traffic associated with the commercial uses directly adjacent to SR 111, would utilize the Adams Street driveway. In all, cumulative development was projected to contribute 33 westbound approach vehicles to the Adams Street driveway during the peak hour.

With the proposed project and the trips from the future cumulative development to the east, there would be approximately 92 vehicles on the westbound approach to the Adams Street access during the evening peak hour. If significant delays develop at this access, it would become less attractive and the number of vehicles from the commercial development would decrease as motorists sought faster alternatives.

Traffic Signal Warrants

To ensure a "worst case" analysis, the westbound approach volume at the site access on Adams Street was compared to the minimum minor leg threshold volume for the peak hour urban warrant for a one-lane minor street. This assumes that Adams Street will carry at least 1,650 vehicles per hour during the peak hour. (If the through volume on Adams Street is below 1,650 VPH, the threshold would be higher than this minimum). If Adams Street carries at least 1,650 VPH during the peak hour, urban signal warrants are met when the volume on the minor leg reaches 100 peak hour trips for a one-lane approach, or 150 peak hour trips for a two-lane approach.

The approach volumes at the Adams Street access may reach approximately 92 percent of the peak hour traffic signal warrant (with a one-lane approach), or 61 percent of the warrant with a two-lane approach. A traffic study will be prepared which addresses the impact of the cumulative commercial development on the Adams Street access. If the final development plan generates traffic volumes that exceed the signal warrants for a one-lane approach at the Adams Street access, measures will be taken to eliminate the need for a signal at this location. These could include: (1) speed bumps or raised decorative paving, (2) alternative access routes, and/or (3) the project access could be widened to include two approach lanes.

We hope that the information provided herein will be of value to the City of La Quinta in their review of the proposed Adam Street Hotel and Restaurants. Should questions or comments develop regarding the findings within this report, please do not hesitate to contact our offices at (949) 362-0020

Cordially,
ENDO ENGINEERING

Vicki Lee Endo

Vicki Lee Endo
Registered Professional
Traffic Engineer TR 1161

