



Town of Paradise Valley

6401 E Lincoln Dr
Paradise Valley, AZ 85253

Meeting Notice and Agenda Planning Commission

Tuesday, February 26, 2019

6:00 PM

Council Chambers

Special Meeting

1. CALL TO ORDER

2. ROLL CALL

Notice is hereby given that members of the Public Body will attend either in person or by telephone conference call, pursuant to A.R.S. §38-431(4).

3. EXECUTIVE SESSION

The Public Body may convene into an executive session at one or more times during the meeting as needed to confer with the Town Attorney for legal advice regarding any of the items listed on the agenda as authorized by A.R.S. §38-431.03.A.3.

4. STUDY SESSION ITEMS

Work/Study is open to the public however the following items are scheduled for discussion only. The Public Body will be briefed by staff and other Town representatives. There will be no votes and no final action taken on discussion items. The Public Body may give direction to staff and request that items be scheduled for consideration and final action at a later date. The order of discussion items and the estimated time scheduled to hear each item is subject to change.

**A. [19-082](#) Discussion of Major Special Use Permit Amendment (SUP-18-05)
7101 E Lincoln Drive - Smoke Tree Resort Study Session #8**

Staff Contact: Jeremy Knapp, Community Development Director, 480-348-3522

Attachments: [Attachment A - Application](#)
 [Attachment B - Vicinity Map & Related Maps](#)
 [Attachment C.1 - Revised Narrative and Plans \(02/12/2019 Application Booklet\)](#)
 [Attachment C.1a - Conceptual South Patio Plans](#)
 [Attachment C.1b - Quail Run Roadway Section](#)
 [Attachment C.2 - Traffic Impact Analysis](#)
 [Attachment C.3 - Parking Analysis and Comment Responses](#)
 [Attachment C.4 - Preliminary Drainage Report](#)
 [Attachment C.5 - Water Impact Study](#)
 [Attachment D - SUP Guidelines](#)
 [Attachment E - General Plan Policies](#)
 [Attachment F - SUP History](#)
 [Attachment G - Smoke Tree Statement of Direction](#)
 [Attachment H - Public Comments as of 02/13/2019](#)
 [Attachment I - Lincoln Median Access Report](#)
 [Attachment J - DRAFT Ordinance 2019-02](#)
 [Attachment K - Applicant's Redlines to DRAFT Ordinance 2019-02](#)

5. PUBLIC HEARINGS

The Public Body may take action on this item.

6. ACTION ITEMS

The Public Body may take action on this item.

7. CONSENT AGENDA

All items on the Consent Agenda are considered by the Public Body to be routine and will be enacted by a single motion. There will be no separate discussion of these items. If a Commissioner or member of the public desires discussion on any item it will be removed from the Consent Agenda and considered separately.

8. STAFF REPORTS

9. PUBLIC BODY REPORTS

10. FUTURE AGENDA ITEMS

11. ADJOURNMENT

AGENDA IS SUBJECT TO CHANGE

**Notice is hereby given that pursuant to A.R.S. §1-602.A.9, subject to certain specified statutory exceptions, parents have a right to consent before the State or any of its political subdivisions make a video or audio recording of a minor child. Meetings of the Planning Commission are audio and/or video recorded, and, as a result, proceedings in which children are present may be subject to such recording. Parents in order to exercise their rights may either file written consent with the Town Clerk to such recording, or take personal action to ensure that their child or children are not present when a recording may be made. If a child is present at the time a recording is made, the Town will assume that the rights afforded parents pursuant to A.R.S. §1-602.A.9 have been waived.*

The Town of Paradise Valley endeavors to make all public meetings accessible to persons with disabilities. With 72 hours advance notice, special assistance can also be provided for disabled persons at public meetings. Please call 480-948-7411 (voice) or 480-483-1811 (TDD) to request accommodation to participate in the Planning Commission meeting.



Action Report

File #: 19-082

TO: Chair and Planning Commission

FROM: Jeremy Knapp, Community Development Director

DATE: February 26, 2019

DEPARTMENT: Community Development

AGENDA TITLE:

**Discussion of Major Special Use Permit Amendment (SUP-18-05)
7101 E Lincoln Drive - Smoke Tree Resort Study Session #8**

REQUEST:

Gentree LLC, the property owner of the Smoke Tree Resort is seeking redevelopment of the property located at 7101 East Lincoln Drive (APN 174-64-003A) via a major amendment to the site's existing Special Use Permit - Resort zoning. The application is attached as Attachment A, below. The proposed redevelopment of this property will be a complete demolition of all existing structures and construction of a resort.

MEETING PURPOSE:

The primary purpose of this study session is to review the Stipulations (Attachment J and Attachment K).

UPDATED SUBMITTAL:

The updated documentation details:

1. Unit Count - Revision of the numbers of units from 180 to 165. The revised units are calculated as follows:
 - a. 120 Hotel Rooms
 - b. 30 Resort Residential Units
 - c. 15 Lock Offs
2. Height / Setback - Along the southern property line, the building height has been lowered from three stories and 36' to two stories and 24' in height (see Proposed Site Setbacks and Open Space Diagram exhibits in Attachment C.1). This 24' height is proposed at 20' from the south property line for the first 40' of the building depth. The max height of 44' has been situated in a horseshoe shape more towards the enter of the site. The height above 36' is shown as roof structure and hip roof design to screen mechanical equipment. The applicant has stated that a flat roof design could be used to bring height down but prefers the hipped roof.

3. Parking - The applicant has agreed to update the parking for the Resort Residential Units from 57 to 60 spaces, meeting the town guideline for parking of residential. In addition, the garage spaces will meet the 9' by 20' size requirement where overhangs cannot be provided in the garage.
4. Signage - Applicant has clarified that signage will not be placed in the Town's right-of-way unless an easement is requested by the applicant and granted by the town. The applicant has indicated that signage shown is for illustrative purposes and will comply with the SUP Guidelines.

The applicant submitted a revised packed addressing the Commission's concerns and (Attachment C.1). Any sheet that is new or updated in the application packet is marked in the lower right-hand corner with "Revised January XX, 2019". An updated Traffic Impact Analysis (Attachment C.2) and Parking Analysis (Attachment C.3) have also been submitted. Related to this project but completed in conjunction with Town Staff and the applicant's traffic engineer for Lincoln Medical Plaza, the Town Engineer has also made a recommendation for median design and site access for Lincoln Drive for both Smoke Tree Resort and Lincoln Medical Plaza (Attachment I). Staff will present the scope of the revisions to Planning Commission.

Stipulations have been drafted (Attachment J) for the proposal with several areas needing direction from the commission including the number of units, right-of-way, height, etc. The stipulations have been shared with the applicant and their redlines are attached (Attachment K).

BACKGROUND:

Council Statement of Direction

The Town Council issued a Statement of Direction (SOD) on October 25th, 2018. Height, use, landscaping, traffic, parking, and circulation were areas identified for review. On January 24th the Town Council approved an amended SOD to extend the Planning Commission's action date to March 6th. Attachment G is the revised SOD.

History and Conditions

Use of the property for guest services began prior to its annexation into the Town in 1961. At annexation, the property operated as a resort and restaurant in much the same configuration as it presently exists. The original Special Use Permit (SUP) was issued on March 13, 1969. There is limited information on past approvals and stipulations for this property. Historically, the property has not had many building permits issued or amendments to its Special Use Permit zoning. The latest activity included renovations to the restaurant in 2007 that never opened. Attached is a SUP History of the property.

General Plan/ Zoning

The subject property has a General Plan designation of "Resort/Country Club" pursuant to the Town's General Plan Land Use Map. The zoning on the property is "Special Use Permit - Resort". The proposed resort use is in conformance with this designation and zoning.

Several General Plan policies apply related to the request for redevelopment of the Smoke Tree

property. Primary policies that apply are the policies of Goal LU 2.1.2, Special Use Permit Property Revitalization, and several of the policies of Goal DA 2.2.1, Development Area Policy. The site is located in the East Lincoln Development Area that encourages moderate intensity, mixed-use, and context appropriate resort development that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts. Also, the General Plan encourages upgrading existing structures and properties to improve their physical condition to acceptable Town standards. Attachment E is a more exhaustive list of pertinent General Plan policies for consideration in review of this application request.

Enforcement

As of the date of this report, there are no known active code violations on the subject site.

DISCUSSION:

Town staff's initial review of SUP Amendments is to confirm completeness to a level satisfactory for SOD consideration. Additionally, staff reviews the material for initial comparison to the Town's Special Use Permit Guidelines and General Plan Policies to identify areas of conformance or deficiency as a baseline for SOD consideration. There are several aspects of the proposed project that do not meet the Town Special Use Permit Guidelines and/or may conflict with several policies of the Town's General Plan.

The applicant's proposed redevelopment of this resort property will be a complete demolition of all existing structures. The proposed resort site includes the following uses:

- 120 traditional hotel guest room keys for transient occupancy owned by the resort owner.
- 30 resort residential units at approximately 1,250 square feet, 15 with a lock-off feature and available for transient occupancy through the resort.
- Restaurant and bar/lounge in a similar location to the prior on-site restaurant.
- Accessory uses such as a fresh food market, café/eatery, micro-brewery, speakeasy, pop-up retail, coffee shop, florist, sandwicheria, bakery, and epicurean retail and sundries.
- Indoor and outdoor space for events, including a resort pavilion for banquets/meetings and pool areas.

Use

Proposed uses include 120 hotel rooms, 30 resort dwelling units with 15 lock offs, restaurant, market/retail, and meeting space described on Sheet 9 (narrative) that appear to align with the Special Use Permit zoning for SUP-Resort. The property is within a designated Development Area per the General Plan that encourages moderate intensity, mixed-use, and context appropriate resort development. Accessory uses such as the market, retail, florist and related uses must be accessory to the resort for the support and service of guests or visitors to functions at the site.

While the primary resort use will not change, more information is needed on the new accessory uses (retail and function space/event gardens) and the proposed resort residential to ensure such uses are accessory to the resort. When reviewing the resort residential component, consider FF&E for consistency with hotel, lock-off feature, parking, guest access, and availability through the hotel rental program to ensure these units are part of the resort.

Density

The applicant requests consideration for a density and lot coverage above the SUP Guidelines due to the site being $\frac{1}{4}$ the size of the 20-acre minimum for resorts, located in a Development Area, and adjoining non-residential uses on three sides. Proposed lot coverage of 34% with a floor area ratio of 62%.

Consideration should be given to lot coverage and floor area ratio while acknowledging the unique characteristics considered in the Development Area. The review shall address reasonable separation between incompatible uses and effective buffering of unwanted noise, light, traffic, views of the buildings offsite, and other adverse impacts. There shall be consideration of lowering the proposed lot coverage and floor area ratio and/or requiring specific mitigation measures.

The proposed 165 units (resort and residential) creates a density of approximately 34 units per acre. The Planning Commission shall take into consideration the 5.3 acre site area and reduce density on the west and south sides of the site. Consider how the density impacts safety and quality of life of town residents.

Height

As presented, the majority of the hotel buildings are 3-story at 44'0" in height, with some architectural elements at 48'0". The 44' height is approximately 60' from the south and 36' from the east property line. The remaining buildings are proposed at 36' or less.

Some elements of the buildings have been relocated or altered in order to comply with the Open Space Criteria as measured from the existing property lines particularly to the west side of the site (adjacent to residentially zoned property) and the north side of the site, adjacent to Lincoln Drive, although if this measurement were taken from the newly proposed property lines these may not comply. Also, the third story as originally proposed along the south side of the site (adjacent to Andaz resort) has been removed, although the revision doesn't comply with the OSC, it is substantially less intrusive.

Evaluation of the proposed height and its impact on adjacent properties is necessary. The minimum height is encouraged on the west side of the site closest to existing residential properties, transitioning to higher heights on the east side of the site adjacent to Lincoln Medical Plaza. A compelling reason must be given for heights proposed over 36', with such height to be limited in area and considered when necessary for mechanical screening and architectural elements. It is recommended that all heights be taken from existing finished grade. If any portion of the rooftop is visible off-site, care should be taken to minimize the impact. White roofing material is discouraged if visible off-site.

The Planning Commission shall consider the impact to adjoining properties of any encroachment outside of the imaginary plane suggested by the Open Space Criteria. Due to the size of this property being one quarter the suggested 20-acre size per the Special Use Permit Guideline and the location adjoining other commercial uses, a limited amount of encroachment may be permissible. Structures are suggested to generally stair-step from one-story/lowest height closer to the subject site property lines to not more than three-story/36 feet in height from Lincoln Drive, Quail Run Road, and the adjoining Andaz resort. The overall mass of the structures shall be reviewed to make sure it is of

appropriate scale and special consideration shall be given to the views from the south side bordering the Andaz resort and the west side bordering Quail Run Road.

Setbacks

Building C/M/E, J/K , and G are principal structures. The proposed setbacks for principal structures are 75' from Lincoln Dr (43' with full ROW dedication), 90' from Quail Run Rd (65' with full ROW dedication) , and 20' rear and east side.

Remaining proposed buildings have larger setbacks than the SUP Guideline of 40' such as 133' from Lincoln Dr (100' with full dedication), 120' from Quail Run Rd (95' with full dedication), 180' rear and 215' east side.

The Planning Commission shall explore appropriate setbacks along the east and south property lines considering the adjacent uses. The west side shall also be a focus because the property borders residential. Attention shall be paid to privacy and noise levels for these residents. Consideration should be given to a 100 foot SUP guideline setback to the adjacent residential property lines. The Commission shall also identify any mitigating circumstances that may buffer the development (e.g. the use of vegetation, modified setbacks or heights, reorientation of the structures, etc.).

Impact to Adjacent Uses

The proposal has the resort market (with outside tables) along the western side of the property near the existing residential uses, with the resort restaurant in direct line of sight from a residential property. Balconies for the hotel guest room keys and resort residential units also face west. In addition, the Planning Commission shall consider impacts including noise, light, traffic and any other adverse impacts, particularly for those existing residential properties west of the site along Quail Run Road. In particular, outdoor employee areas and service uses such as maintenance, maid service/laundry, trash collection/storage, mechanical equipment (roof/ground), and all other noise generating elements shall be studied. Relocation or buffering of uses shall be considered.

Landscaping

Proposed landscaping buffers of 16' to 32' along Lincoln Dr (includes portion in the right-of-way) and 12' along Quail Run within the right-of-way).

The submitted narrative explains that the existing vegetation condition is not recommended for salvage due to age, size, and diseased quality. Evaluation of the existing mature trees shall be reviewed.

Attention shall be paid to the landscaping along Lincoln Drive and along Quail Run Road. A landscape plan shall be required. Hardscaping and pedestrian access shall be considered with the landscape plan. Special attention shall be given to the Lincoln Drive frontage as this is a gateway to the Town. The Draft Visually Significant Corridors Plan shall be considered as well as cohesion with the planned landscape improvements along the north side of Lincoln Drive. A stipulation may be considered to ensure replacement of any landscaping should it die.

Infrastructure Improvements

Drainage and related improvements shall be reviewed. The applicant shall address and identify the

location of on-site retention and identify how the on-site retention may affect parking and circulation. Utility improvements that may have a visual impact or service level impact should be explained and mitigated. Water impact service study, utility information, and hydrology report shall be reviewed.

Will serve letters have been provided by EPCOR, CenturyLink, Cox, APS, and Southwest Gas. In addition, the Town is the sewer service provider and the site and will be extending the sewer line in the area with its own Capital Improvement Project. The Town will serve the site with sewer and a sewer buy back will be required for the property.

The Water Service Impact Study indicates that sufficient flow is available in the area but a waterline extension is required in Quail Run Road to service the property.

The Preliminary Drainage Report has been submitted as well. The report indicates the applicant will provide the required on site retention but more clarity is necessary on the existing drywell, how the stormwater in the garage will be handled, and how the off site flows are addressed across the site.

Traffic, Parking, Access, and Circulation

The proposed density and location within a heavily-traveled and mixed-use density area near the City of Scottsdale creates a heightened need for ensuring the proposed redevelopment does not have a negative impact on traffic safety, parking, and circulation. The Commission shall consider staffs review and recommendations regarding:

- Number of access points in/out of the site
- Emergency access to the site
- Location and screening of loading zones and dumpsters
- Coordination with Town improvements along Lincoln, i.e. the entry/exit and roadway medians
- Deceleration turn lane for eastbound traffic entering the site
- Cross-access easement(s) with Lincoln Medical Plaza and Andaz Resort.
- Sidewalk and other pedestrian circulation
- Necessary roadway dedication for Lincoln Drive and Quail Run Road
- Number of parking spaces, use of shared parking, and ride-share
- Full build-out of The Ritz-Carlton Resort Special Use Permit
- Coordination of improvements/impacts with neighboring non-residential properties
- Uses that generate quick turn-around trips such as a coffee shop or take-out food

The applicant is proposing the following for right-of-way:

65' ROW shown on Lincoln Drive. The mix of dedication and easement for this 65' ROW is dependent on the proposed uses of the areas. A 49' Dedication of ROW would be an acceptable option provided that the remaining 16' can be used for parking and circulation and that setbacks and other measurements are not re-indexed from the post-dedication ROW line. Several alternatives would also be acceptable, and the details of such dedications or easements are being discussed as part of a potential Development Agreement. A deceleration lane has been added to the Lincoln Drive frontage and the western most driveway, nearest Quail Run Road, has been removed.

25' ROW shown on Quail Run Road with improvements (street and gutter) shown on both sides,

including in Town owned ROW. The 25' Dedication would be an acceptable option provided that setbacks and other measurements are not re-indexed from the post-dedication ROW line. Several alternatives would also be acceptable, and the details of such dedications or easements are being discussed as part of a potential Development Agreement. The applicant is proposing to construction both sides of Quail Run Road to their southern driveway with two 11' lanes and two 2' curbs centered within the 50' right-of-way.

To clarify parking, four additional parking spaces have been added to the site for a total of 256 total parking spaces, 76 surface parking and 180 underground. The applicant has provided 2 parking spaces per residential unit in the garage. The Town Engineer provided comments to the applicant on the parking analysis and an update or response from the applicant is attached. The responses regarding the Traffic Impact Analysis and Parking Study are currently being reviewed by the Town Engineer.

The applicant has clarified that deliveries to the site will enter off the northernmost driveway on Quail Run Road and off-load near area Q labeled on the site plan, then continue through internal drives and exit out onto Lincoln Drive. A stipulation should be considered stating that deliveries should not stage or happen on an adjacent town right-of-way.

Signage

The proposed landscape plan shows 3 entry signs, more information is needed on impact of project sign location, dimensions, and illumination. Planning Commission review shall focus on the impact of project sign location, dimensions, and illumination on the resulting impact to the streetscape. The Commission shall look at the broader signage plan for Lincoln Drive including proposed gateway signs, identification signs, and Ritz-Carlton and Lincoln Medical Plaza signage, and any Andaz signage that may be re-located to Lincoln Drive.

The revised plans show one Street Corner Sign located at the southeast corner of Lincoln Drive and Quail Run Road. This sign has a total square footage of 81 square feet with a maximum height of 8'. The towns SUP guidelines permit this sign to a height of 8' but does restrict the maximum sign area to 40 square feet. As such, this particular sign does not meet the guidelines.

Two secondary street signs are proposed as well, one at the driveway entrance on Lincoln Drive and the other at the northernmost entrance on Quail Run Road. These signs are proposed at 38 square feet each with a height of 4'. The towns SUP guidelines permit one of these signs on Quail Run Road with a maximum height of 4' and a maximum sign area to 32 square feet. As such, these signs do not meet the guidelines either.

All signs have been relocated to be outside of town right-of-way.

Context Appropriate Design

The Planning Commission may require that the applicant provide more precise information pursuant to General Plan Section LU 2.1.2.5. This includes impact related to exterior lighting, screening of mechanical equipment, and the choice of material pallet of the improvements. This may include providing renderings as they relate to neighboring properties.

The applicant has provided east and west facing elevations as requested by the commission as well as photo simulations.

PUBLIC COMMENT AND NOTICING:

To date, several comments have been received in writing to staff. They can be found in their entirety in Attachment H in order of receipt as of 1PM on February 13, 2019. If additional comments are received between the packet being distributed and the Planning Commission meeting, they will be forwarded to the Commission via e-mail.

Moving forward, a mailing notification has been completed prior to the Planning Commission's March 5th hearing along with newspaper advertisement and property posting. The applicant will be holding their Citizen Review Meeting is scheduled for 6PM on the property at 7101 East Lincoln Drive on Monday February 18th, 2019, which meets the required minimum of 10 days prior to the Planning Commission hearing.

NEXT STEPS:

The revised SOD provides the Planning Commission until March 6th, 2019 to act on the application. The Planning Commissions Hearing is scheduled for March 5th.

ATTACHMENTS:

Attachment A - Application
Attachment B - Vicinity Map & Related Maps
Attachment C.1 - Revised Narrative and Plans (02/13/2019 Application Booklet)
Attachment C.1a - Conceptual South Patio Plans
Attachment C.1b - Quail Run Roadway Section
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Attachment K - Applicant's Redlines to DRAFT Ordinance 2019-02

C: Applicant
 Case File

**APPLICATION FOR SPECIAL USE PERMIT AND
MAJOR AMENDMENT TO THE SPECIAL USE PERMIT**

PARCEL NO.: 174-64-003A **DATE:** 5/4/18
(County Tax Assessor Number)

NAME OF SUBDIVISION OR PARCEL: _____

ADDRESS OR LOCATION OF PROPERTY: _____

7101 E. Lincoln Dr. Paradise Valley, AZ 85253

OWNER: Gentree, LLC
NAME

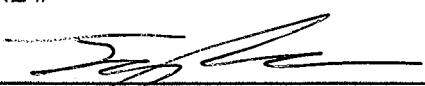
3620 E. Campbell Ave., Suite B (602)952-8811
ADDRESS PHONE #

SIGNATURE OF OWNER

AUTHORIZED AGENT: Taylor Robinson
NAME

3620 E. Campbell Ave., Suite B
ADDRESS

(602)952-8811 ()
PHONE # FAX #


SIGNATURE OF AUTHORIZED AGENT

**APPLICATION FOR SPECIAL USE PERMIT AND MAJOR
AMENDMENT TO SUP**

(REQUIRED) PLEASE PROVIDE A NARRATIVE/DESCRIPTION OF THE PROPOSAL

(Please Attach Additional Sheets as Necessary):

SEE BOOKLET

ADDITIONAL APPLICATIONS:

GUARD GATES	<u> </u>	<u> </u>
	YES	X
		<u> </u>
		NO
ROADWAY ABANDONMENT	<u> </u>	<u> </u>
	YES	X
		<u> </u>
		NO
REZONING	<u> </u>	<u> </u>
	YES	X
		<u> </u>
		NO
HILLSIDE	<u> </u>	<u> </u>
	YES	X
		<u> </u>
		NO

IF YES, SEE ADDITIONAL APPLICATIONS

When recorded, return to:

88012753-3-6-4--
morenoa

GENTREE, LLC
c/o Chester & Shein, P.C.
6720 North Scottsdale Road, Suite 261
Scottsdale, Arizona 85253
Attention: David E. Shein, Esq.

SPECIAL WARRANTY DEED

FOR THE CONSIDERATION of the sum of Ten Dollars (\$10.00) and other valuable consideration, the receipt and sufficiency of which are acknowledged, SMOKE TREE RESORT, LLC, an Arizona limited liability company (formerly known as Smoke Tree Resort Merger, LLC, an Arizona limited liability company, as successor by merger to Smoke Tree Resort, LLLP, an Arizona limited liability partnership and Smoke Tree Resort, an Arizona limited partnership) ("Grantor"), hereby grants, sells, and conveys to GENTREE, LLC, an Arizona limited liability company, the real property situated in Maricopa County, Arizona and described on **Exhibit A** (the "Property");

TOGETHER WITH all buildings, improvements and fixtures located thereon as of the date hereof and all right, title and interest, if any, that Grantor may have in and to all rights, privileges and all easements benefitting the Property, appurtenances pertaining thereto including all of Grantor's right, title and interest, if any, in and to all rights-of-way, open or proposed streets, alleys, easements, strips or gores of land adjacent thereto;

SUBJECT TO current taxes and assessments not yet due and payable, easements and restrictions of public record, and encroachments visible upon the Property;

And Grantor hereby binds itself and its successors and assigns to warrant and forever defend the title to the Property, as against all acts of Grantor herein and none other, subject to the matters above set forth.

[Signatures appear on the following page]

Dated as of April 2nd, 2018.

GRANTOR:

SMOKE TREE RESORT, LLC,
an Arizona limited liability company

By: [Signature]
Name: Eric Williams
Title: Authorized Signer

STATE OF ARIZONA)
) ss.
County of MARICOPA)

The foregoing instrument was acknowledged before me on April 2nd, 2018, by Eric Williams, the Authorized Signer of SMOKE TREE RESORT, LLC, an Arizona limited liability company, on behalf of the company.

[Signature]
Notary Public

My commission expires: 8/3/21

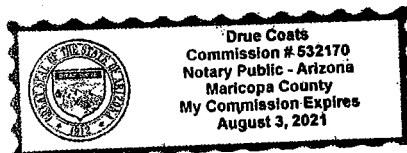


Exhibit A

(Legal Description of the Property)

PARCEL NO. 1:

The North half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

PARCEL NO. 2:

The North half of the South half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.



VICINITY MAP

Subject Property

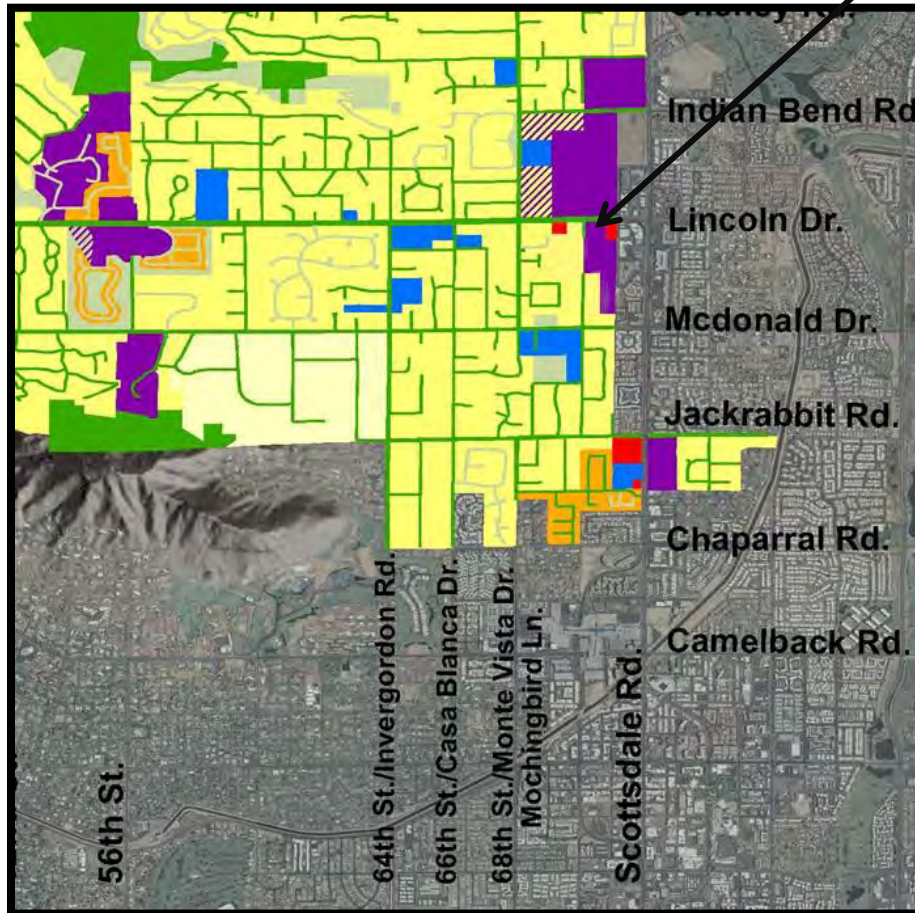


Smoke Tree Resort SUP
7101 E Lincoln Drive



GENERAL PLAN

Subject Property



Legend

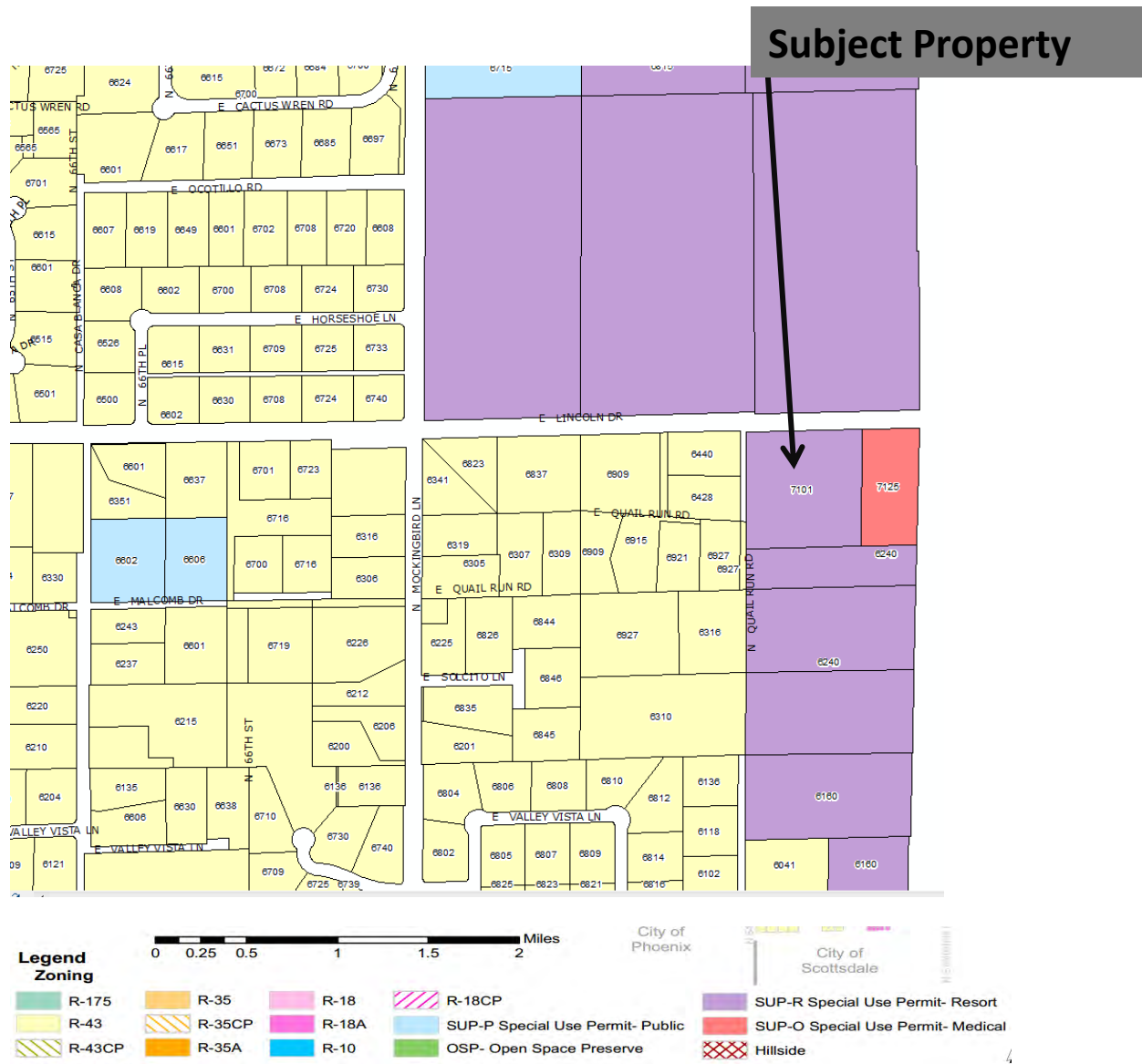
- | | |
|--|---------------------|
| Low Density Residential OR Resort/Country Club | Private Open Space |
| Private Open Space OR Resort/Country Club | Public Open Space |
| Very Low Density Residential | Medical Office |
| Low Density Residential | Public/Quasi Public |
| Medium Density Residential | Resort/Country Club |

Smoke Tree Resort SUP

7101 E Lincoln Drive



ZONING



Smoke Tree Resort SUP

7101 E Lincoln Drive



SMOKE TREE RESORT

SPECIAL USE PERMIT - MAJOR AMENDMENT APPLICATION

7101 E LINCOLN DRIVE
PARADISE VALLEY, AZ 85253

RE-SUBMITTAL JANUARY 09, 2019

RE-SUBMITTAL FEBRUARY 12, 2019





GENEVA HOLDINGS LLC	TAYLOR ROBINSON SAM ROBINSON
VENTANA HOTELS	JASON WALTON
STARK BUILDERS INC:.....	PAUL STARK
BEUS GILBERT	PAUL E. GILBERT
PHX ARCHITECTURE	ERIK PETERSON, AIA
CVL CONSULTANTS	FRED FLEET, P.E.
GREEY PICKETT	RUSSELL GREEY, RLA
CIVTECH.....	DAWN CARTIER,P.E., PTOE
LIGHT CONTROL	KEVIN FLOWER



PROJECT NARRATIVE	PAGE 4-10
SITE PLANS	PAGE 12-36
RENDERINGS & CONCEPTS	PAGE 38-48
CONSULTANT REPORTS & SUPPLEMENTAL	PAGE 50-74



The Smoke Tree Resort, located at 7101 East Lincoln Drive in the Town of Paradise Valley, is designated for Resort Use (SUP-R zoning) under the General Plan and within the designated East Lincoln Drive Development Areas (the "Resort"). Gentree LLC purchased the Resort in 2018 and is proposing a Major Amendment to the existing Special Use Permit that is harmonious with Town Plan Goal 2.2.

"Development Areas are meant to encourage new resort development and redevelopment that reflects the Town's needs for fiscal health, economic diversification, and quality of life."

Gentree LLC is comprised of Arizona-local member principals with development project experience of this scale and within the Hotel/Resort sector.

Originally opened in 1966 and operating in perpetuity since, the 5.3-acre Resort resides at the commercial interface of Lincoln Drive and Scottsdale Road. The Resort has historical presence at the entrance to the Town of Paradise Valley and serves as the gateway to the Town. Since inception, the Resort has yet to undergo any significant renovations or expansions beyond general maintenance and upkeep. Restaurant operations ceased over a decade ago. The Resort is notably dated in comparison to other resorts in the Town of Paradise Valley and has become a clear candidate for revitalization. The viability of the Resort today is dependent upon expansion of the guest room inventory coupled with a refurbishment of amenities.

The intent of this submittal is to set forth standards for Gentree LLC's revitalization of the Resort subject to the following key considerations:

- a) Alignment with pre-existing resort and accessory uses and building setbacks
- b) Given its size of less than 20 acres, guidelines and stipulations need to be modified.
- c) Acknowledgment of its proximity to the adjacent commercial corridor via an appropriate level of programmatic interaction
- d) Special consideration that this unique as the intimate site requires to make a revitalization viable



The vision for the transformation of the Resort is to welcome guests to a four-star “local-centric” hospitality experience in both form and substance. This is to be achieved through active forward-facing components and lifestyle programmatic aspects. The existing Resort often goes unnoticed in its unassuming character along Lincoln Drive, with only 23 of its 32 guest rooms currently in use. The revitalization of the Resort will retain its charming essence while providing the scale and quality of amenities sought by today’s traveler; the specifics of which include 120 guest rooms, 30 resort dwelling units; 15 of which will have a lock-off feature, special event venues, and a neighborhood local-centric fresh market & eatery concept. The relaxed, pedestrian friendly environment will not include the typical resort perimeter walls or gates; instead, setbacks that align with existing buildings are desired, including a bicycle/pedestrian path that shall weave the resort into the local tapestry.

Gentree LLC understands that thoughtful design, unified independent management, and attentive local stewardship are key ingredients for the success of this project at such a pivotal location and has engaged adjacent property owners in fruitful collaborative dialog, exploring synergistic opportunities along common property lines.



The Resort property occupies a tidy 5.363 acres of land at 7101 East Lincoln Drive in the Town of Paradise Valley. The existing Resort is comprised of 11 buildings, a closed restaurant, a pool and surrounding pool area, 2 bocce courts and 130 surface parking spaces. Attached exhibits reveal the current conditions with visuals of sight lines, existing oleander perimeters, and setbacks.

Setbacks: The attached setback exhibit outlines existing setbacks, which are proposed to be maintained in the revitalization of the property. The objective is to retain the existing building relationships along East Lincoln Drive and the 65-foot set back from the County roadway easement which is at the center line of East Lincoln Drive, by either keeping a portion of the existing building face intact or construction of a new building(s) along the existing northern foundation footer.

The East and South setbacks are proposed at 20' in conformance with the existing site conditions and in consideration of the abutting SUP property uses as a commercial office complex and resort, respectively.

The West setback is proposed at 50' from the property line.

East Lincoln Drive ("Lincoln"): Today, the property shows an existing 33' roadway easement along Lincoln and the two existing vehicular access points which allow right and left turns. The proposed plan shows the elimination of the Western driveway and the movement of the Eastern driveway to approximately 80' from the Eastern property line. This location may adjust as the Town finalizes their plans for Lincoln Drive. The proposed remaining access point on Lincoln Drive will provide full turning movements and a right-turn deceleration lane the dimensions of which will be based on the Smoke Tree Resort's Traffic and Impact Analysis with review by the Town Engineer.

Western Boundary: It is proposed to limit improvement of the western boundary access easement ("WBA") to only a section from Lincoln to a secondary access point for the Resort on the WBA to maintain the neighborhood-centric feel and functions of the revitalized interface. As shown on the plan, this improvement will provide for the Town's designated road design for this category of roadway. Improvements will include those shown on the Resort property as well as 11' of asphalt and 2' of curbing in the Town's currently owned right-of-way designated as Quail Run Road.

Heights: Per the setback diagram, the proposed buildings are to be no more than 3 stories and within three height tiers of 24', 36' and 44' as illustrated by shading in the exhibit. The 44' tier area is requested to accommodate the primary hotel facility, events pavilion and related roof structure design and screened equipment. This request is complimentary to the characteristics of other nearby developments to the North and East along Lincoln and derived in a methodology that yields consideration of adjacent property uses in context of the Town of Paradise Valley's Open Space Criteria ("OSC"). Specific to the OSC, the Resort is abutted on two sides (East and South) by Special Uses, for which the OSC is not intended to apply, and on the West boundary, as previously indicated, the Resort exceeds the OSC in relation to the residential lots.



PROJECT NARRATIVE - SITE



Coverage: Calculation of the proposed lot coverage is 34% with a floor area ratio of 62%. These calculations are based on the existing parcel boundaries per the legal description.

The SUP guideline of 25% maximum is for resorts greater than 20-acres and is not applicable here. At 5.3 acres, the Resort falls into a void of objective guidelines, therefore, the proposed plans have been thoughtfully derived in consideration of Goal 2.2 and Implementation Policy 2.2.3.3 which state:

“Encourage moderate intensity, mixed-use, and context appropriate resort development within the East Lincoln Drive Development Areas that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts.”

Ingress/Egress: The ingress and egress diagram illustrates the proposed access points for the Resort. The primary access point will remain on Lincoln Drive in the newly proposed locations. Two secondary access points are proposed along the western boundary. Civtech, Inc. has begun work on the related traffic study to provide more information on the points of access.

Sidewalk: The ingress and egress diagram illustrates a proposed pedestrian path integrating the Resort within the existing network of sidewalks and providing pedestrian connectivity to nearby commercial areas. Within the site, the pedestrian path transverses the forward-facing Resort area, connects the lobby/entrance, and is within the proposed landscaping easement along Lincoln.

Parking: The proposed revitalization plan will have a mix of surface and underground parking. The existing parking along Lincoln Drive is to be kept in place to allow for convenient local patron access to the forward-facing Resort features. Dedicated hotel guest, dwelling owner and valet parking will be available in a subterranean parking garage. Civtech, Inc. has begun work on the related parking study to provide more information on the following items: shared parking, parking for all proposed uses, overflow parking during special events, dedicated parking for the Resort Dwelling units and drop off/pick up circulation/parking since many persons may use ride share vehicles or means other than their private vehicle.

Emergency Vehicle Access: The ingress and egress diagram depicts the proposed Emergency Vehicle Access route, including an alternate entrance on the western boundary to the property south of the site. We would propose to share access North and East through the site for emergencies.

View Corridors: The revitalization of the Resort will allow for several view corridors into the site providing scenic features for the public, as well as adjacent residential and SUP properties.

Deliveries and Refuse Collection: In order to address safety concerns and avoid visual blight of deliveries and refuse collection from Lincoln Drive, deliveries will be stored in the subterranean garage and refuse will be stored in screened enclosures. Temporary loading and unloading from Quail Run Road will be restricted to specific times of the day per the Town's requirements.



Landscape Design: As evaluated by Greey Pickett, the existing landscape on site consists of mature Eucalyptus and Pines with exposed root systems that have begun losing their form due to mature branches splitting off. There are also Mexican Fan Palms, all of which are different ages and heights, and Oleander and Sage bush that have become woody due to age and over pruning. There is no native planting or cacti on site that would need to be salvaged. The salvageability of the existing trees is not recommended due to age, size, and diseased quality.

The proposed forward-facing landscaping palette is anticipated to be comprised of regionally appropriate selections, low water-use trees, shrubs, ground cover and accent plants to enhance the entry and provide shade for pedestrians. Landscape and related lighting along Lincoln Drive will be conforming with the Town guidelines.





PROJECT NARRATIVE - RESORT, DWELLINGS & DESIGN



Resort: The independent four-star Resort will be owned by Gentree LLC and operated by an affiliated resort operator:

- 120 Guest Room units with various categories of sizes and configurations
- 30 Dwelling Units, 15 of which will have a lock-off feature, and related rental pool (maximum in any scenario of combined 165 keys)
- Forward facing resort facility to include a combination of 3-5 of the following potential components: Fresh Market, Café/Eatery, Restaurant, Bar/Lounge, Micro-Brewery, Speakeasy, Private dining vignettes, Pop-up Retail, Coffee Shop, Florist, Sandwicheria, Bakery, Epicurean Retail and Sundries
- Resort Pavilion: appropriately sized for banquets, meetings, ceremonies, and special events
- Open space gardens and grounds
- Resort pool area(s)
- Resort Spa
- 256 parking stalls comprised of 76 surface and 180 subterranean garage

Resort Dwelling Units: In the tradition of other Town of Paradise Valley Resorts, a small number of resort dwelling units (30) will be marketed and sold to individual owners in compliance with Section 1102.2 of the Zoning Ordinance:

- Average size of approximately 1,250 sf, two bedrooms.
- 15 of the Resort dwelling units will have a lock-off feature.
- Participation in Resort rental program
- Multiple FF&E packages available (mandatory for rental program)
- Owner use only restrictions – unless in Resort rental program
- CC&R's in alignment with the Town of Paradise Valley's Zoning & Ordinance
- Rental program will abide by the Town's Bed and Non-Residential Rental Business Activity Tax code

Architectural Design: Within the property, each component will speak its own dialect, but all within a common design language. This is desired as a means to guide patrons through the variety of areas and purposes via the use of visual cues achieved via the architecture. The predominate architectural design pallet will be strongly rooted in Spanish Revival but accentuated with notably transitional components.



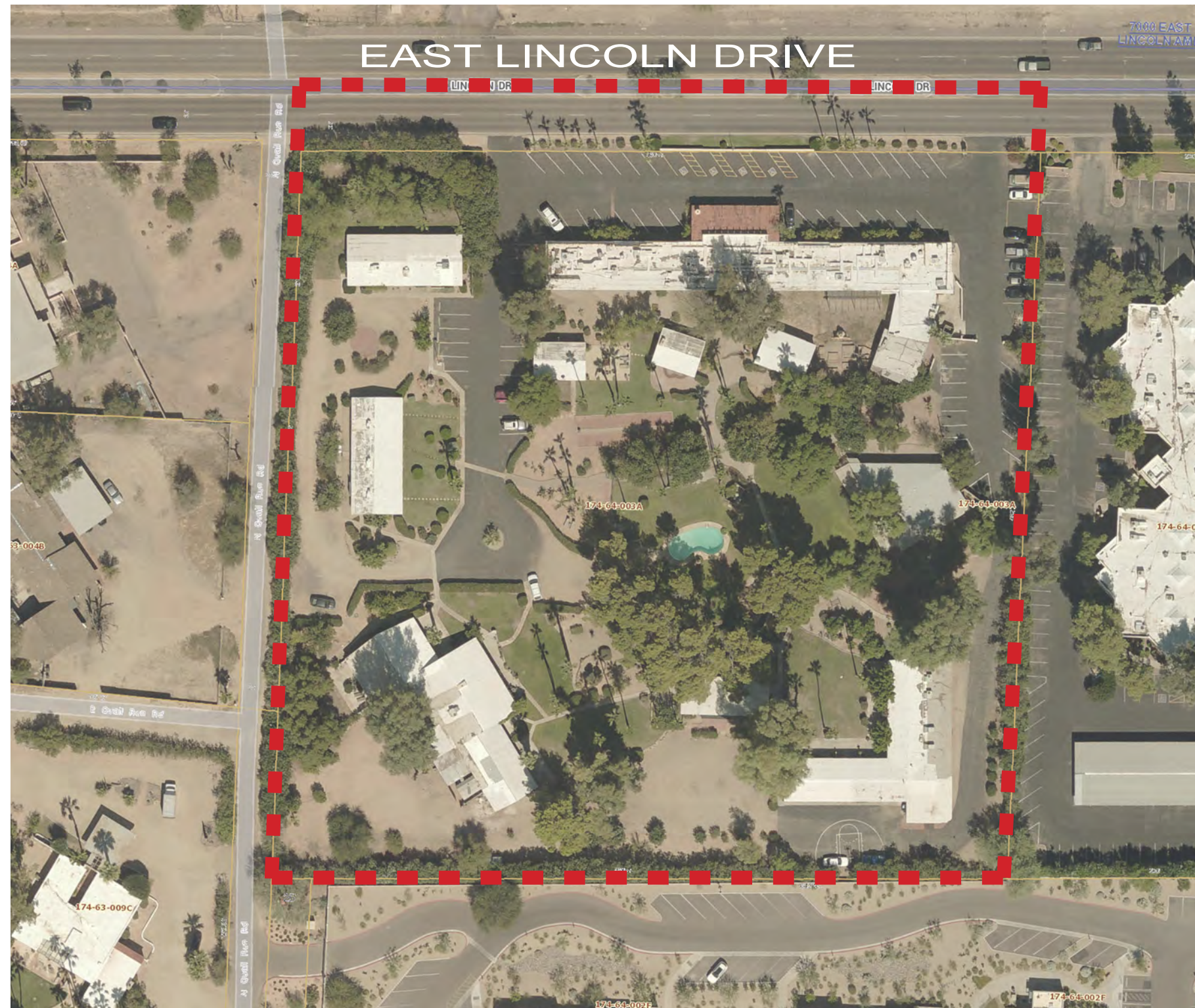
Until being acquired by Gentree LLC the historic Smoke Tree Resort had been operated and maintained continuously by the Williams family for over 50 years as a charming, small-scale retreat where the Town of Paradise Valley meets the City of Scottsdale. Development at this interface has well outpaced the venerable cluster of private rooms still maintained behind Dale Anderson's long-closed "Other Place". The time has come to revitalize this important contributor to The Town with the following updates:

- Additional hotel rooms with resort residence quality
- Neighborhood amenities: local-centric Café/Market/Restaurant/Bar
- On-site entertainment venues for small events and family gatherings
- Integrated landscaping and pedestrian corridors for neighborhood access
- Modern guest amenities and building design to compliment the pivotal site
- Tax Revenue increase estimated at twelve times current level

The local team of new owners and operator, together with PHX Architecture and renowned professionals, have crafted an exciting plan of moderate-intensity which synergies with the Town's need for fiscal health, economic diversification, and quality of life. Balancing the critical mass of modern day resort programming within the small scale of this 5-acre Lincoln Drive frontage site can be achieved within the flexibility of the current resort zoning and the East Lincoln Drive Development overlay to the best interests of the Town of Paradise Valley.



SITE PLANS



0' 40' 80' 160'



PROPOSED SITE PLAN - GROUND LEVEL



PROGRAM

- A. Pedestrian Entry
- B. Resort Reception Entry Plaza and Valet
- C. Resort Reception (Approx. 1,000 sf.)
- D. Resort Market (Approx. 2,500 sf.)
- E. Resort Restaurant (Approx. 3,500 sf.)
- F. Resort Clubhouse (Approx. 5,000 sf.)
- G. Resort Villas
- H. Surface Parking
- I. Resort Pool
- J. Resort Bedrooms (first 2 floors)
- K. Resort Residences (3rd floor)
- L. Underground parking access
- M. Resort Retail (Approx. 5,000 sf.)
- N. Resort Public Area (Approx. 3,500 sf.)
- O. Signage
- P. Garbage Bins w/Landscape buffer, walls & gates
- Q. Delivery Location
- R. Employee Break Area

HOTEL UNITS - 120 Units

- Connected building
- Rooms on first and second levels

RESORT RESIDENCES (30 Units)

VILLAS

- 12 units

RESORT PENTHOUSE RESIDENCES

- 18 Units
- 3rd Level of Resort buildings
- 60 Underground dedicated parking (2 per unit)

SURFACE PARKING

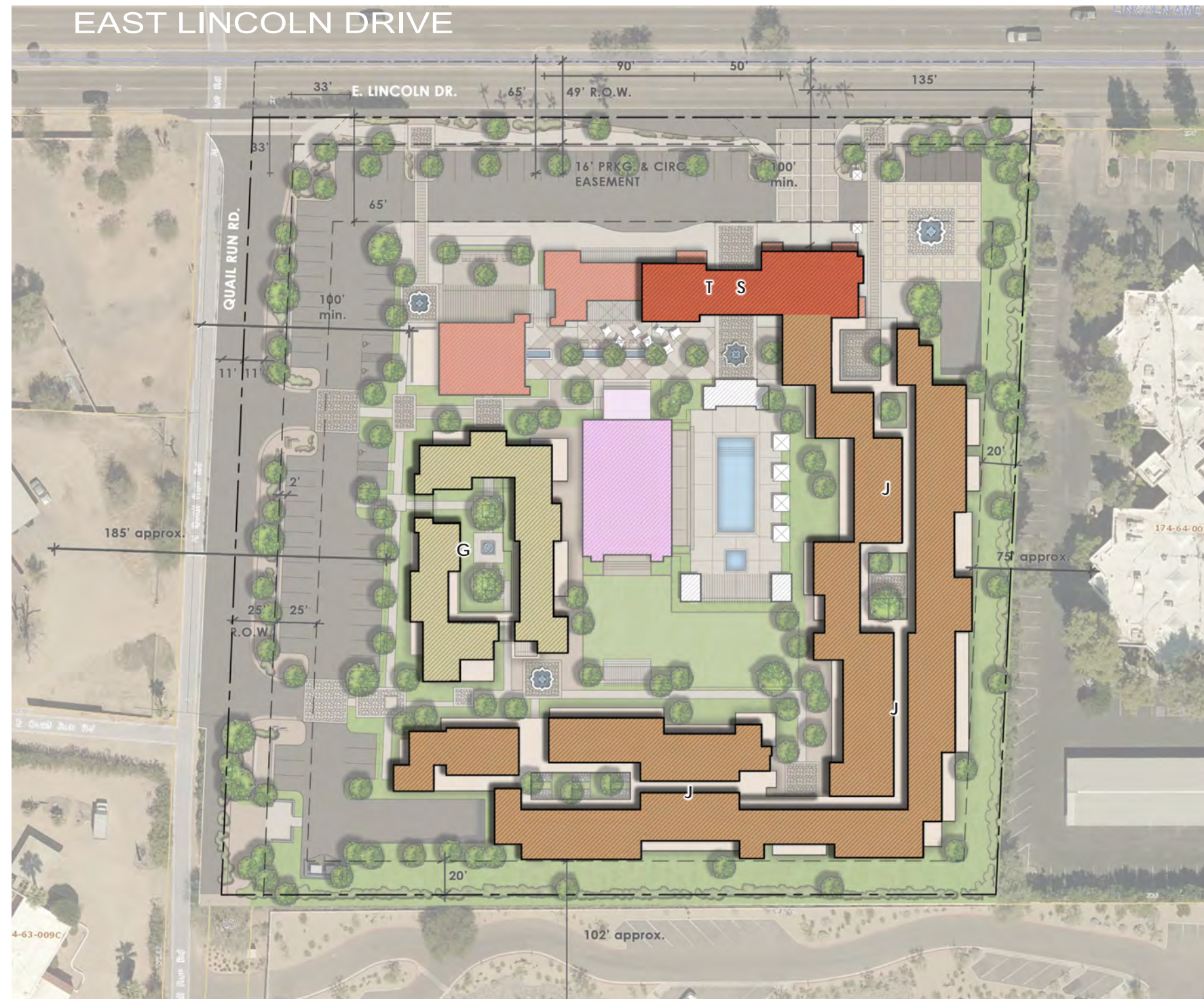
- 76 Spaces (4 ADA)



0' 40' 80' 160'



PROPOSED SITE PLAN - SECOND LEVEL



PROGRAM

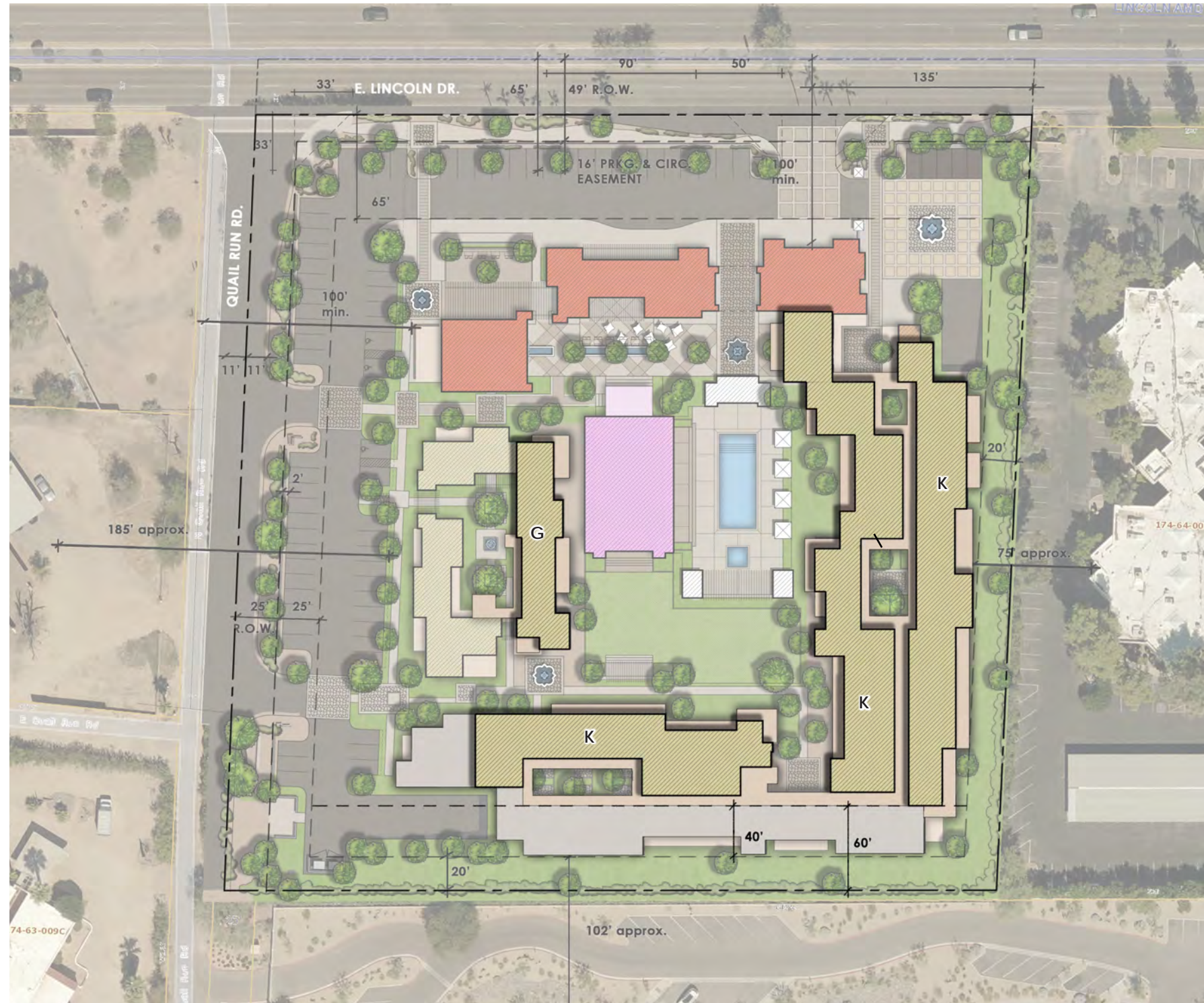
- G. Resort Villas
- J. Resort Guestrooms (First Two Floors)
- S. Resort Administration
- T. Resort Spa (Approx. 2,500 sf.)



0' 40' 80' 160'



PROPOSED SITE PLAN - THIRD LEVEL



PROGRAM

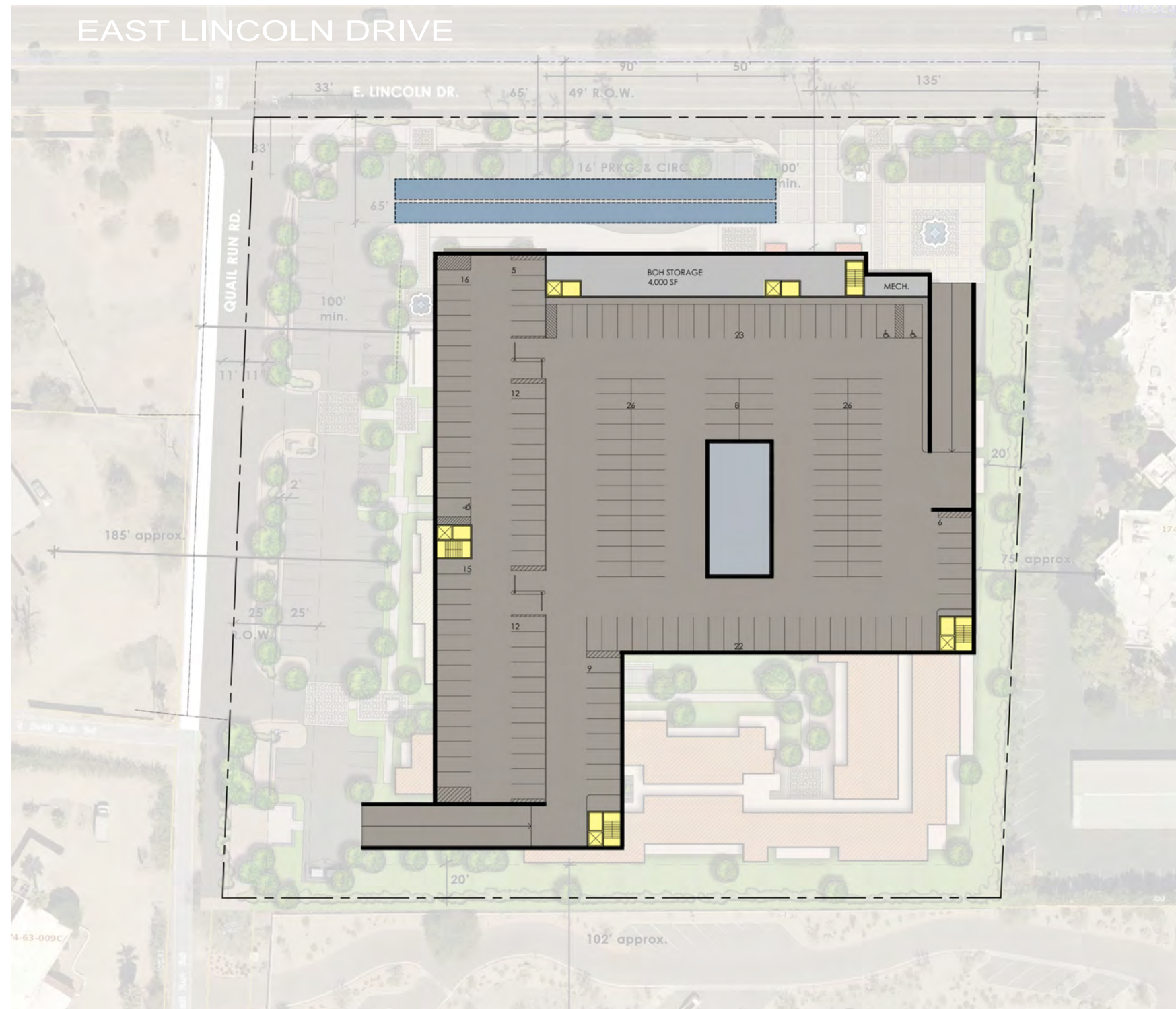
- G. Resort Villas
- K. Resort Residences (3rd Floor)



0' 40' 80' 160'



PROPOSED SITE PLAN - UNDERGROUND PLAN



PARKING COUNT

REQUIRED PARKING = 252 TOTAL PARKING SPACES
- 7 ADA SPACES TOTAL OF THE 252
- 60 DEDICATED RESORT RESIDENCE SPACES
(2 SPACES PER KEY)

PROVIDED PARKING = 256 TOTAL PARKING SPACES

- SURFACE PARKING = 76 SPACES
(4 ADA SPACES)
- UNDERGROUND PARKING = 180
(3 ADA SPACES)
PUBLIC = 120 SPACES
RESORT RESIDENCES = 60 SPACES

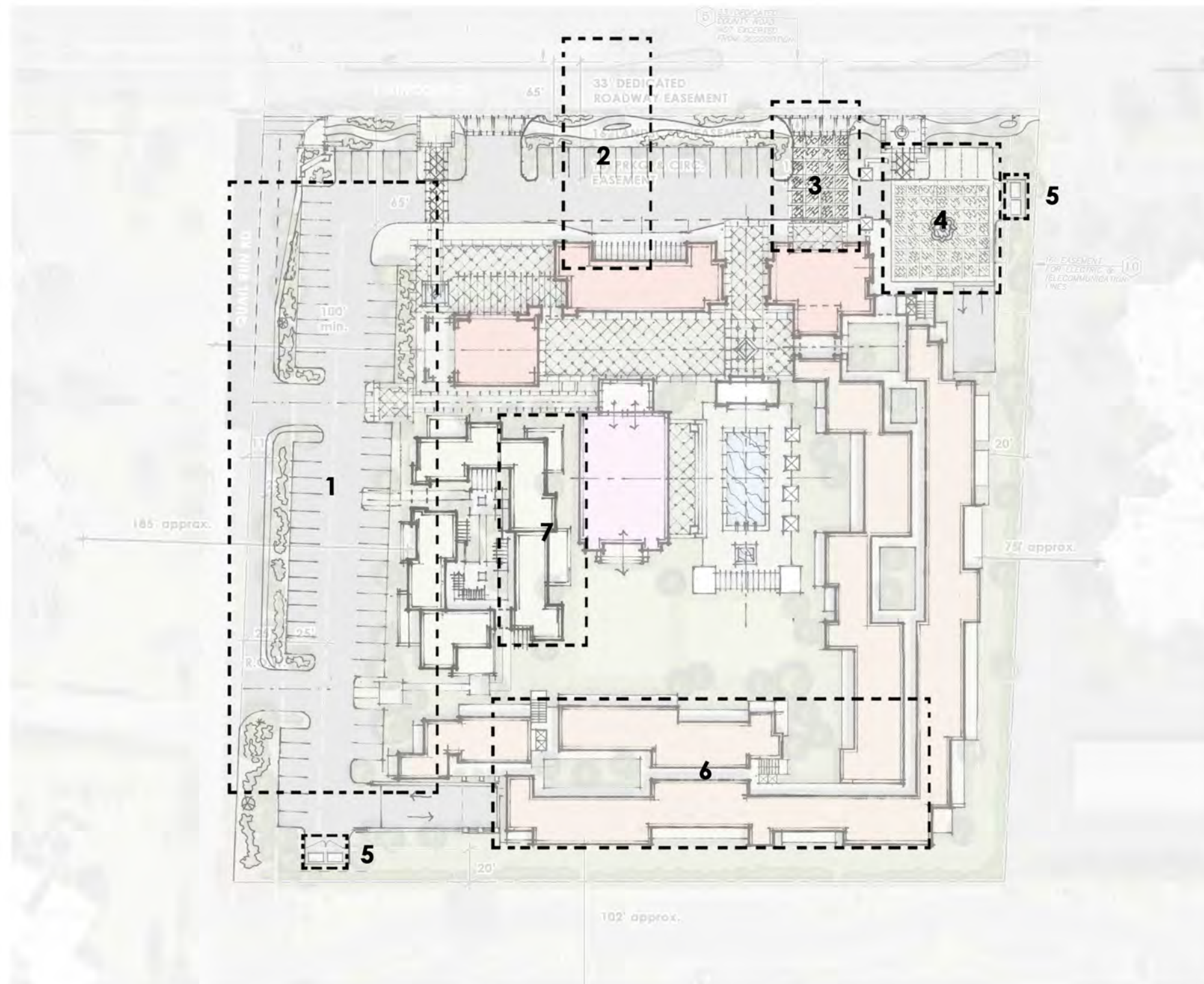
TOTAL = 256 SPACES

NOTE:
ALL UNDERGROUND PARKING STALL
STANDARD SPACES ARE 9' X 20' IN SIZE.



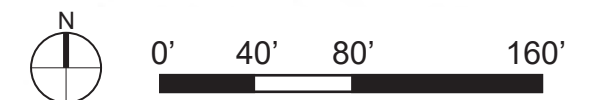


SITE PLAN REVISIONS



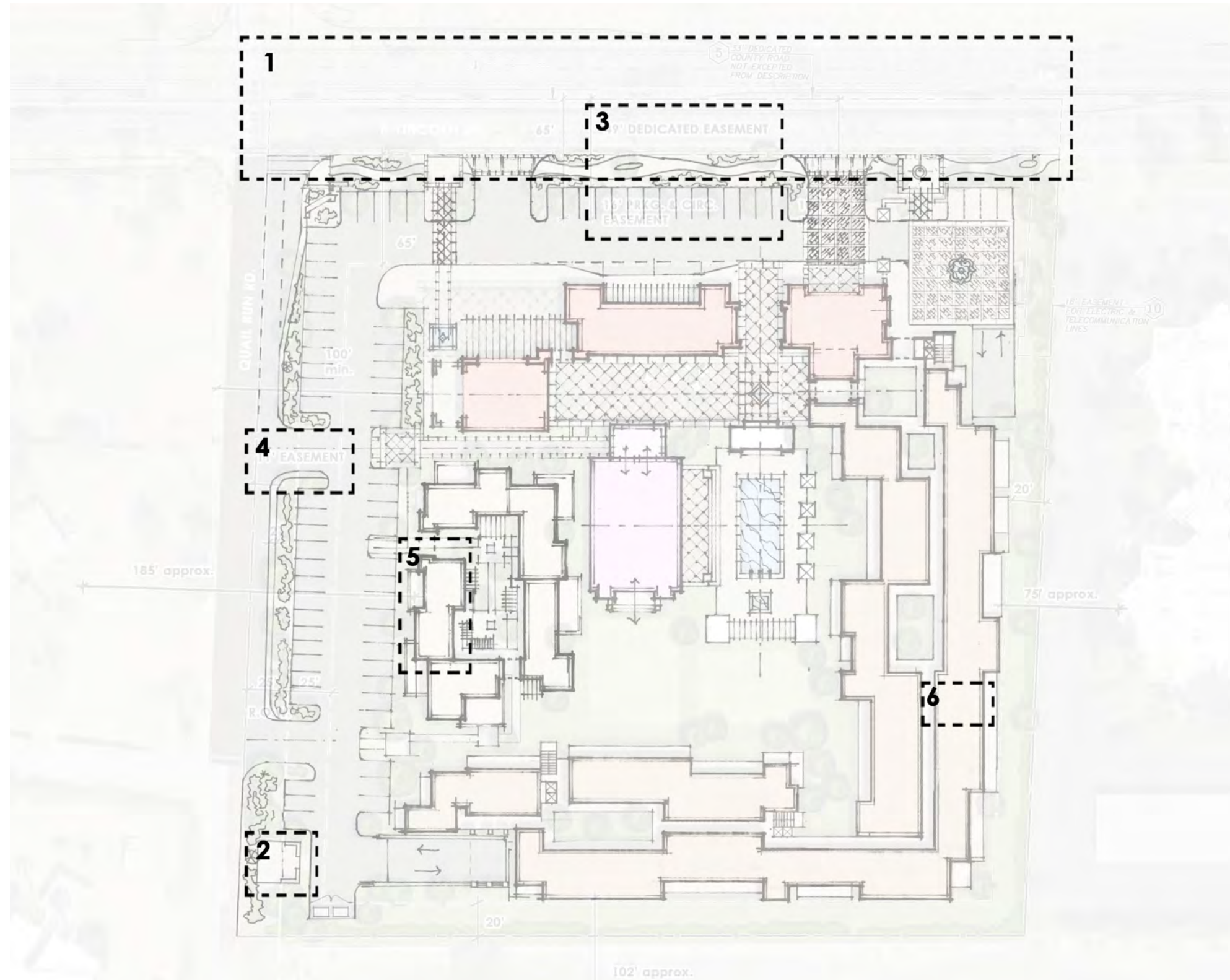
SITE PLAN REVISIONS 09-11-2018

1. Revised setback distances.
2. Revised setback and easement distances.
3. Relocation of vehicle entry point.
4. Creation of Hotel Autocourt and Revised Valet sequence.
5. Garbage containers locations added. Site walls, gates, and landscape buffer added.
6. Reconfiguration of Penthouse Residences to eliminate patios or balconies overlooking south parcel.
7. Added third level of residential units to balance loss of units in south edge third level (#6 in this list).
8. Massing model views from neighboring lots.
9. Supplemental Lighting plan.
10. Updated Landscape Plan
11. Updated Traffic Report





SITE PLAN REVISIONS



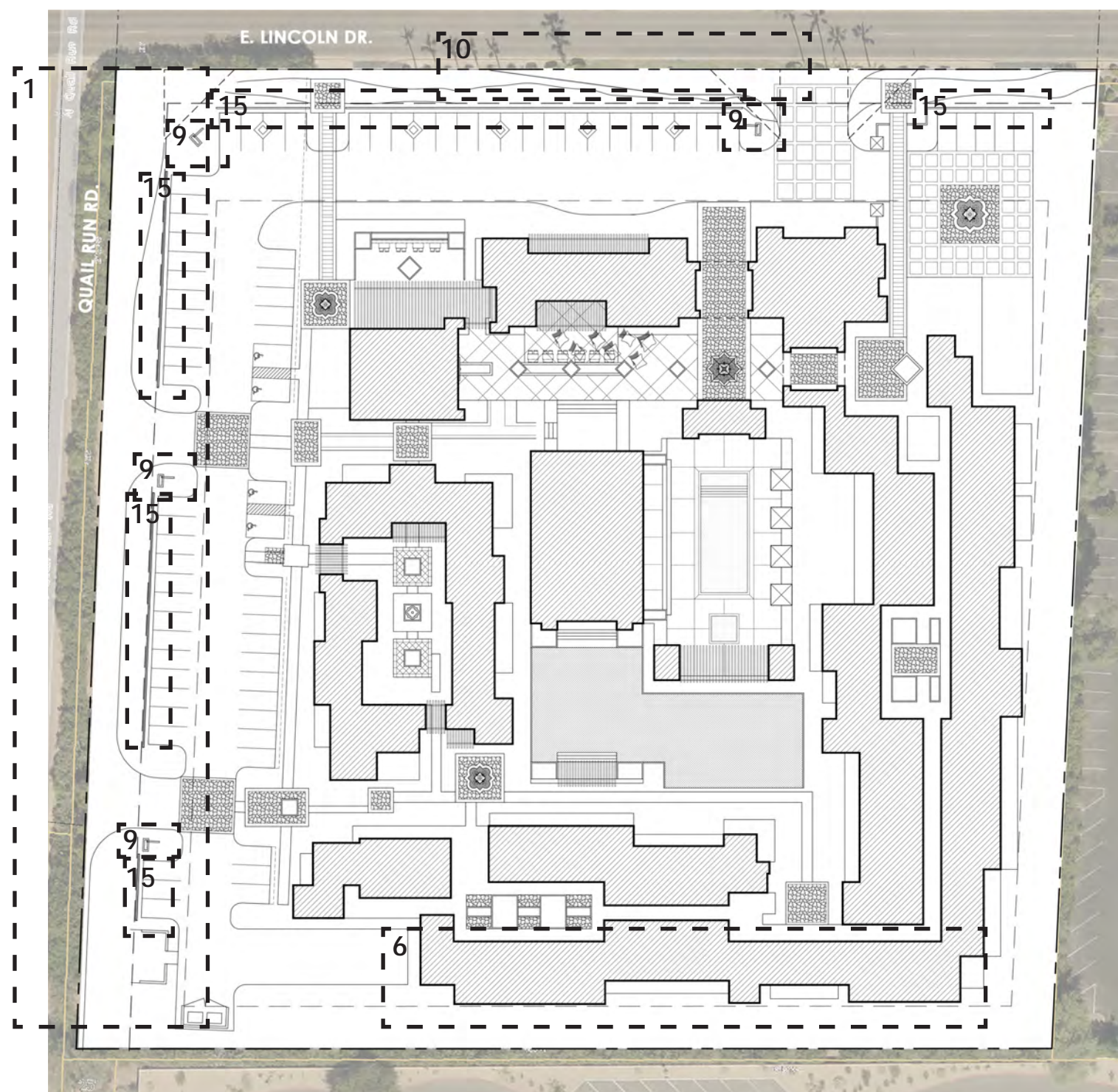
REVISIONS 01-09-2019

1. Added Lincoln Dr. civil survey.
2. Added Employee Break area.
3. Revised Lincoln Dr. dedicated easement wording.
4. Revised Quail Run easement wording.
5. Created concept Resort Residences floor plan.
6. Created concept room floor plan.
7. Added additional signage concept elevation.
8. Added blow up site plan with signage location.
9. Revised setback and heights plan.
10. New underground parking concept plan with proposed parking counts.
11. Revised concept sections. Added step down massing closer to setbacks.



SITE PLAN REVISIONS

REVISIONS 02-12-2019

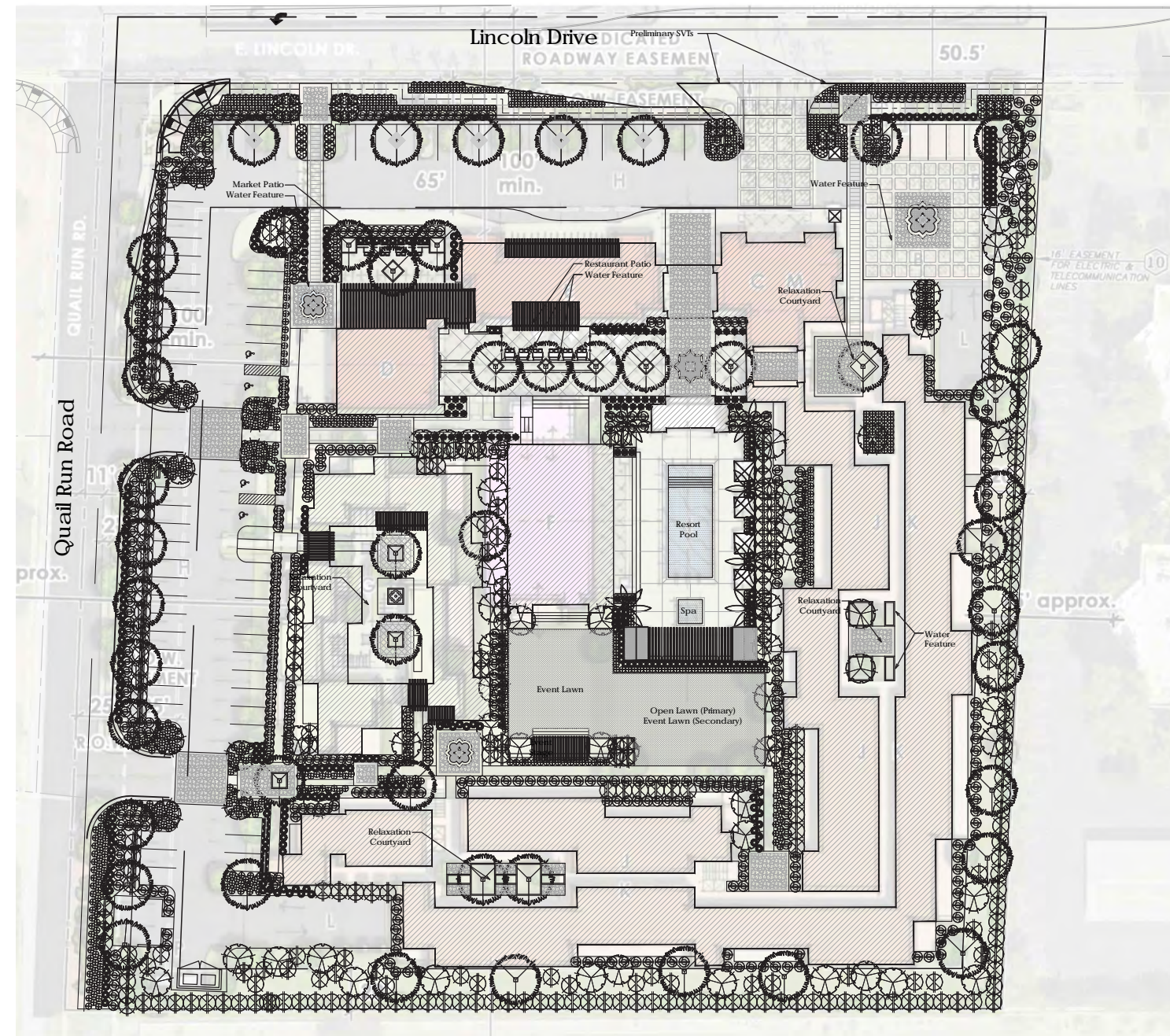


1. Quail Run Road - It is centered on the existing Property Line, which in turn should align with Palmerie Blvd across Lincoln Drive. Quail Run Road will be two lanes, 22' width of asphalt, 11' per lane, with an additional 2' curb on each side. The total width of improvements to be 26'. There will also be 12' of landscaping on the East side of the new curb.
2. Garage parking space sizes - where no overhang is possible, 9' x 20' spaces are to be provided. If overhang is possible, then up to 2' over overhang will be factored into the calculation.
3. Garage parking spaces count - 2 parking spaces per Dwelling Unit will be provided. Please refer to the attached preliminary parking study for detail.
4. Valet - In the event that the parking garage cannot accommodate sufficient cars, the parking garage may be converted to Valet Only to accommodate tandem or stacked parking. Preliminary review estimates a 15% increase in parking capacity from self-park to valet only.
5. Right of Way (ROW) dedications - as part of any potential ROW dedication, an acceptable landscape easement would be requested to accommodate for a future widening of any roadways and preserve the proposed surface parking.
6. South Property Line - Andaz - Open Space Criteria (OSC) - step the building back from the South property line - the building adjacent to the South property line has been redesigned per this request. The Set Back Exhibit has been revised to reflect a two-story building stepping back to a three-story maximum. A revised Open Space Criteria Section has been attached.
7. Density - Door count - total door count reduced to 165. As part of the redesign to move units away from the South Property line, 15 of the lock-off doors were eliminated to provide a more efficient use of space and access. The revised door count is comprised of 120 hotel doors, 30 residential doors of which 15 have a lock-off feature.
8. Open Space Criteria - the revised proposed Amendment complies with the OSC on the West boundary (which is adjacent to residential property) and the North boundary on Lincoln Drive, which is a Visually Significant Corridor, with limited encroachment on the South and East boundaries
9. Signage - Signage will not be placed in the ROW unless an applicable easement is granted by the Town.
10. Lincoln Drive access - the access has been shown in this location and may be fine-tuned depending on Council's final determination. Traffic counts and designs will be based on Smoke Tree Resort's use of the access point.
11. Civil Engineering - Drainage - Attached
12. Civil Engineering - Water impact service study - This item is in process and has been discussed with the Town Engineer.
13. Stipulations - Applicant comments - comments have been provided
14. Citizen Review Session - has been scheduled for Feb 18th, 2019 at 6:00pm on site. Official notices and mailings have been mailed and attached and cross referenced with the Town.
15. Parking screen walls have been added in front of all parking spaces along Lincoln and Quail Run Road that face the roadways.





PROPOSED LANDSCAPE PLAN



PLANT MATERIALS LEGEND

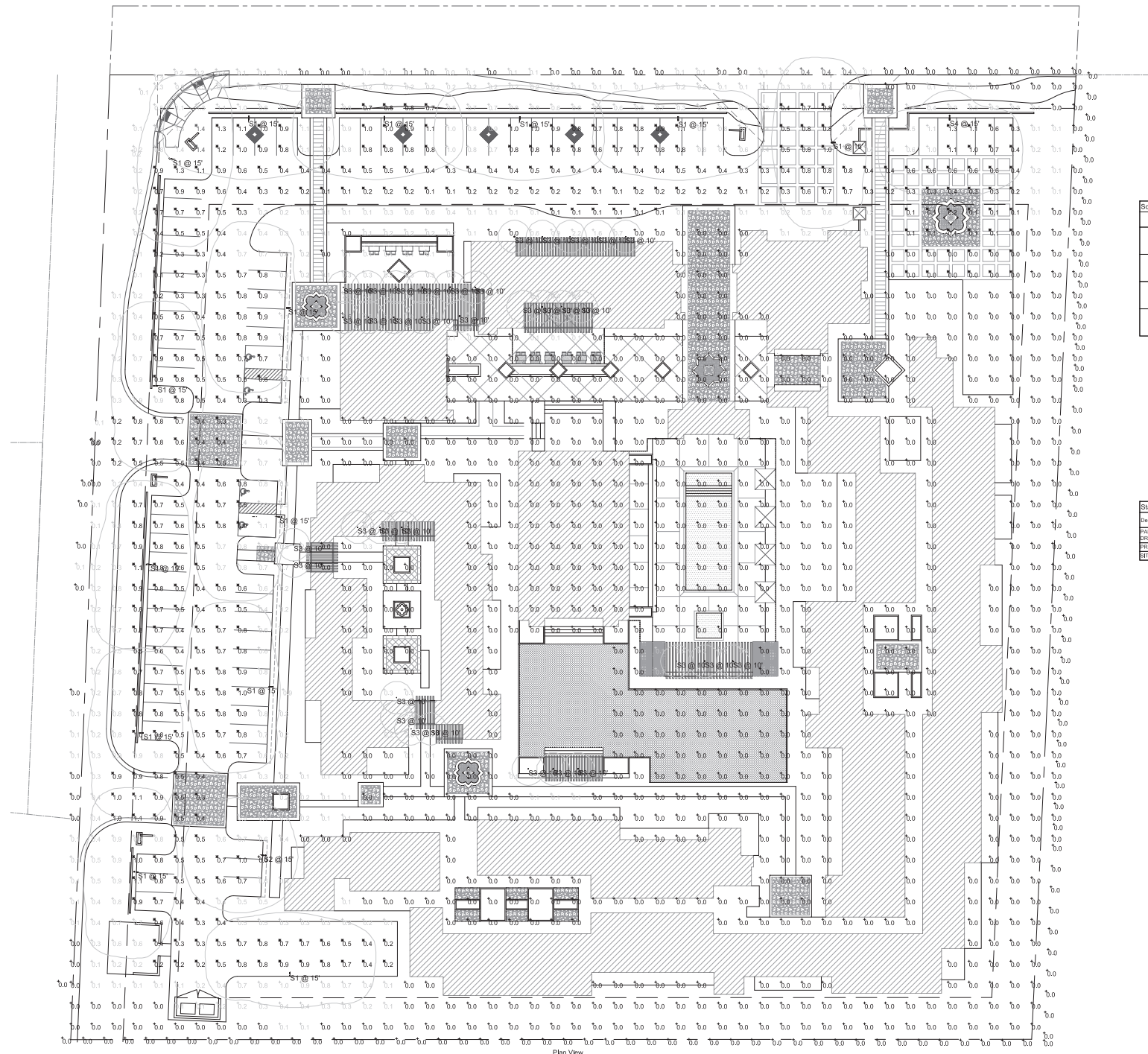
Sym.	Plant Type
Trees	
	Large / Medium Shade Tree 36" min. Box
	Accent Tree 36" min. Box
	Phoenix dactylifera (Date Palm) 16' min.
Shrubs / Ground Cover / Accent	
	Large Shrub 5 gal / 15 gal / 24" Box
	Medium Shrub 5 gal / 15 gal
	Small Shrub 5 gal / 15 gal
	Rose / Rose Garden 15 gal
	Ground Cover 1 gal / 5gal
	Accent Plants / Cacti 5 gal / 15 gal / 24" Box



0' 40' 80' 160'



PROPOSED SITE LIGHTING PLAN



Schedule										
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Beam	Lumens Per Lamp	Light Loss Factor
	S1	14	EATON- INVUE	EDM4014-LED-E175-SO BL BK 7030 LCF V46159	POLE MOUNTED AREA LIGHT AT 15' AFG	3000K LED	21	EDM4014-LED-E175-7030lm	128	0.9
	S2	1	EATON- INVUE	EDM4014-LED-E175-SO BL BK 7030 LCF V46159	POLE MOUNTED AREA LIGHT AT 15' AFG	3000K LED	21	EDM4014-LED-E175-7030lm	130	0.9
	S3	35	EATON- LUMIERE	203-FL-LED3035-12-8K- (HPI MOUNT)	ADJUSTABLE FLOODLIGHT WITH DIFFUSER LENS	3000K LED	1	203-FL-LED3035-12-6K-877lm	298	0.9
	S4	1	EATON- INVUE	EDM4014-LED-E175-SO BL BK 7030 LCF V46159	POLE MOUNTED AREA LIGHT AT 15' AFG	3000K LED	21	EDM4014-LED-E175-7030lm	128	0.9

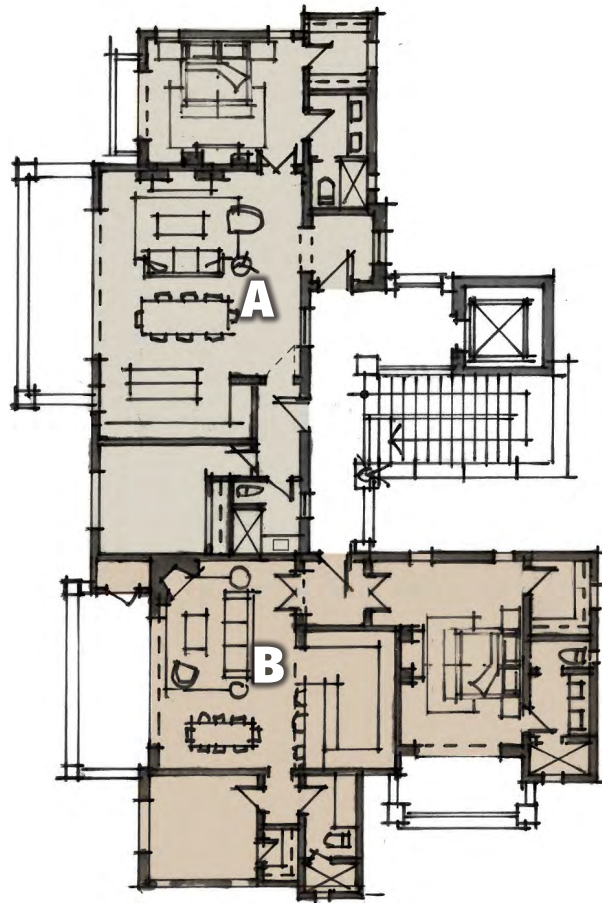
Statistics					
Description	Symbol	Avg	Max	Min	Avg/Min
PARKING AND DRIVE	X	0.6 fc	1.4 fc	0.0 fc	N/A
PROPERTY LINE	+	0.3 fc	0.4 fc	0.0 fc	N/A
SITE OVERALL	+	0.3 fc	2.0 fc	0.0 fc	N/A



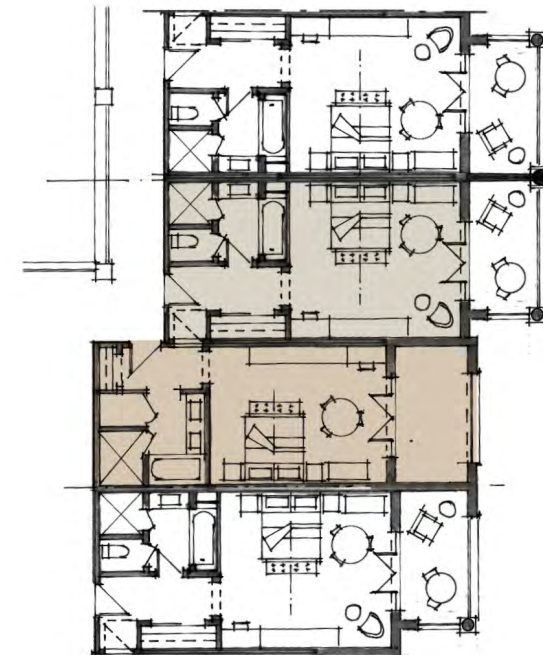
0' 40' 80' 160'



CONCEPT SITE PLAN - CONCEPT FLOOR PLANS



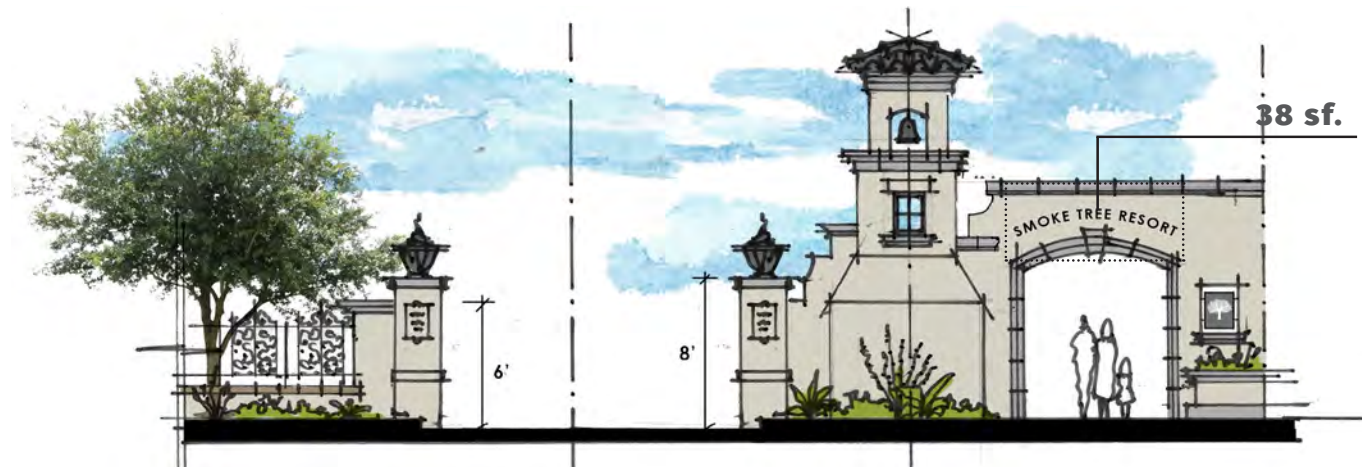
* Conceptual
RESORT RESIDENCE
Unit A - 1,200 sf.
Unit B - 1,200 sf.
esc. 1/8" = 1'-0"



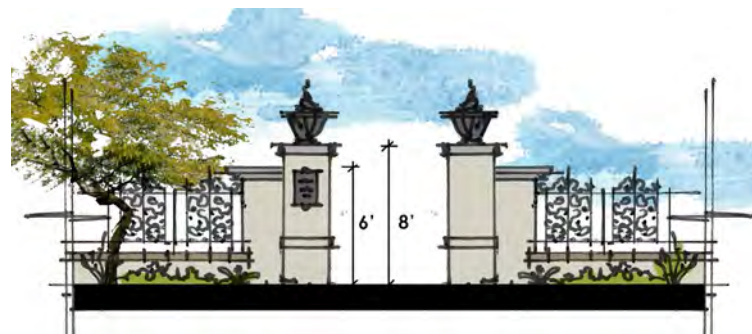
* Conceptual
HOTEL BEDROOMS
Room #1 - 450 sf.
Room #2 - 450 sf.
esc. 1/8" = 1'-0"



PROPOSED SIGNAGE PLAN



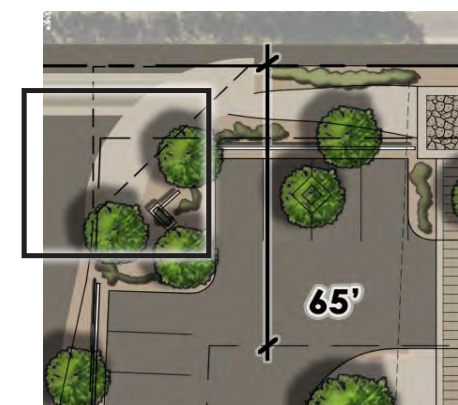
1. Hotel Auto Courtyard Access
esc. 3/16" = 1'-0"



2. Hotel Courtyard Pedestrian Access
esc. 3/16" = 1'-0"



3. Street Corner Signage
esc. 3/16" = 1'-0"

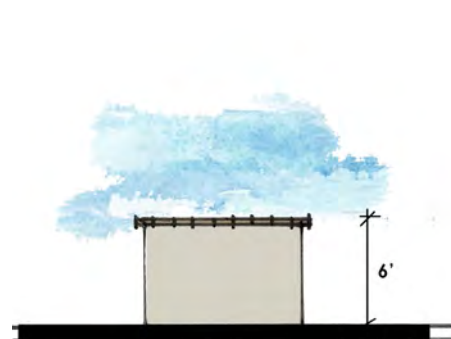




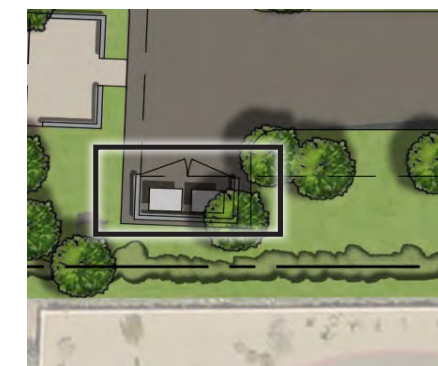
PROPOSED SIGNAGE PLAN



4. Street Signage
esc. 3/16" = 1'-0"

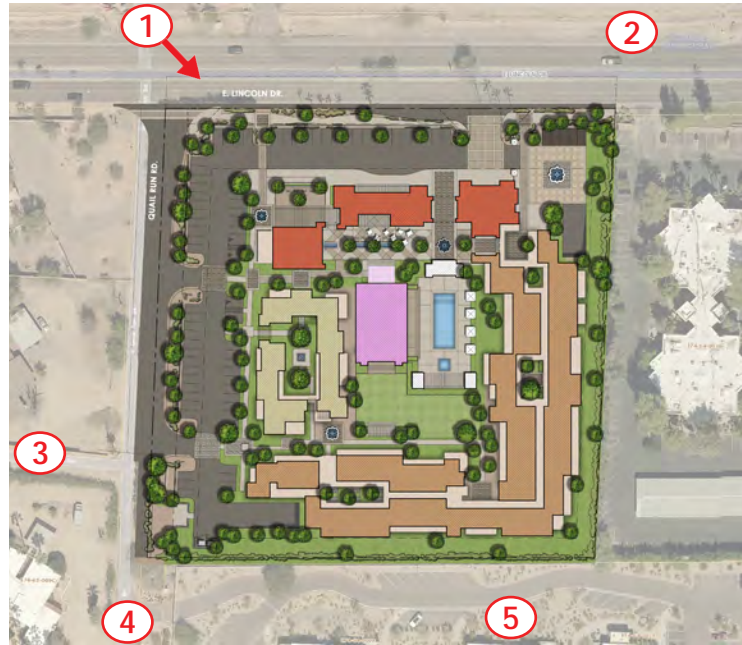


5. Garbage Enclosure Walls
esc. 3/16" = 1'-0"





1 PROPOSED EXTERIOR VIEW - LINCOLN EASTBOUND

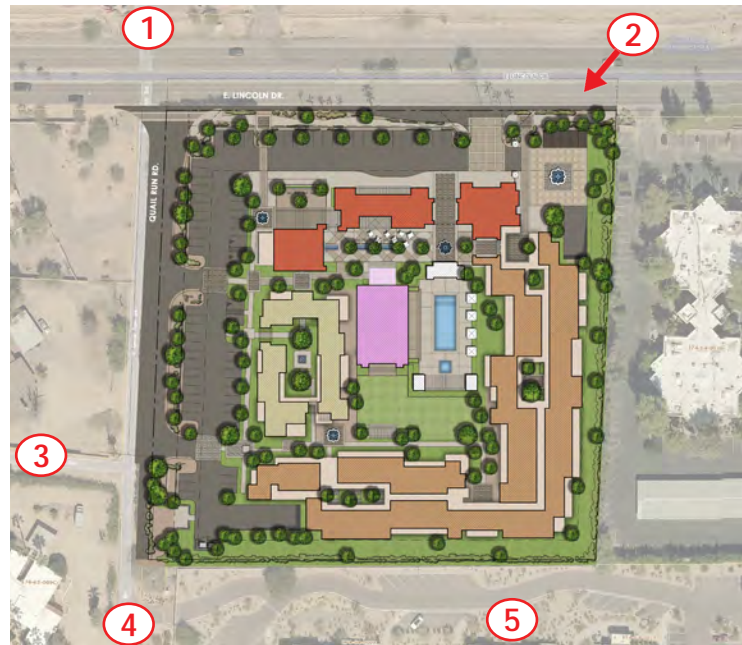


KEY MAP- NOT TO SCALE





2 PROPOSED EXTERIOR VIEW - LINCOLN WESTBOUND

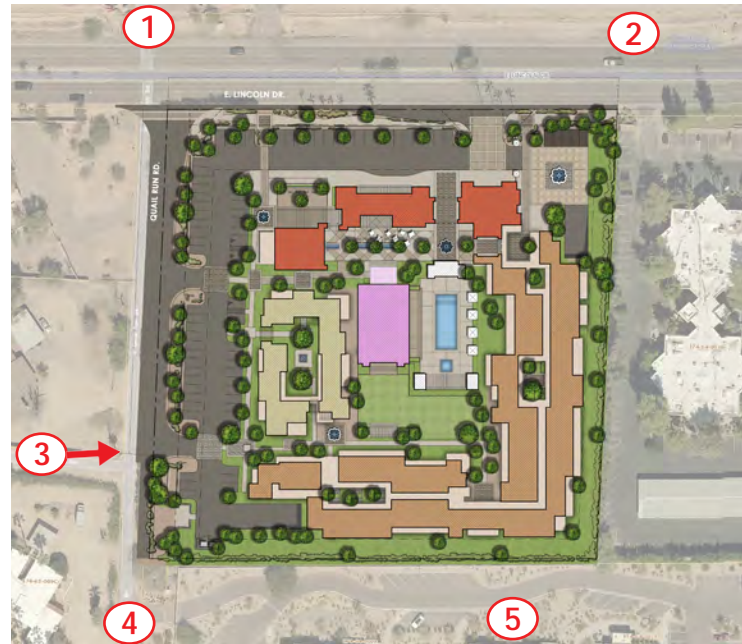


KEY MAP- NOT TO SCALE





3 PROPOSED EXTERIOR VIEW - QUAIL RUN LOOKING EAST

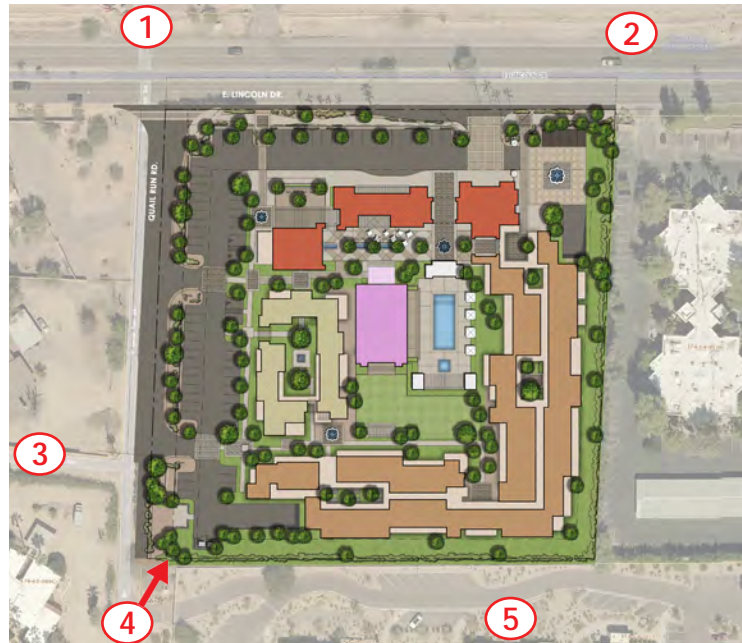


KEY MAP- NOT TO SCALE





4 PROPOSED EXTERIOR VIEW - QUAIL RUN LOOKING NORTH

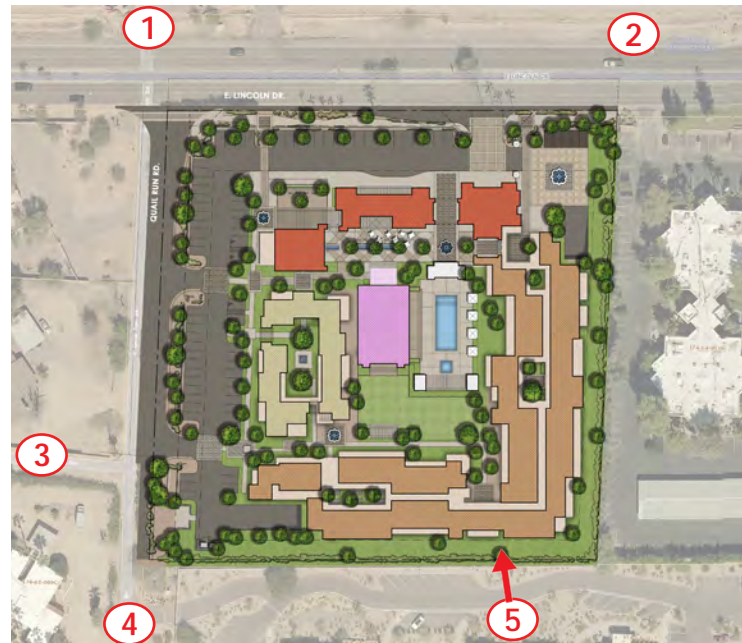


KEY MAP- NOT TO SCALE





5 PROPOSED EXTERIOR VIEW - ANDAZ VIEW NORTH



KEY MAP- NOT TO SCALE





EXTERIOR ELEVATIONS



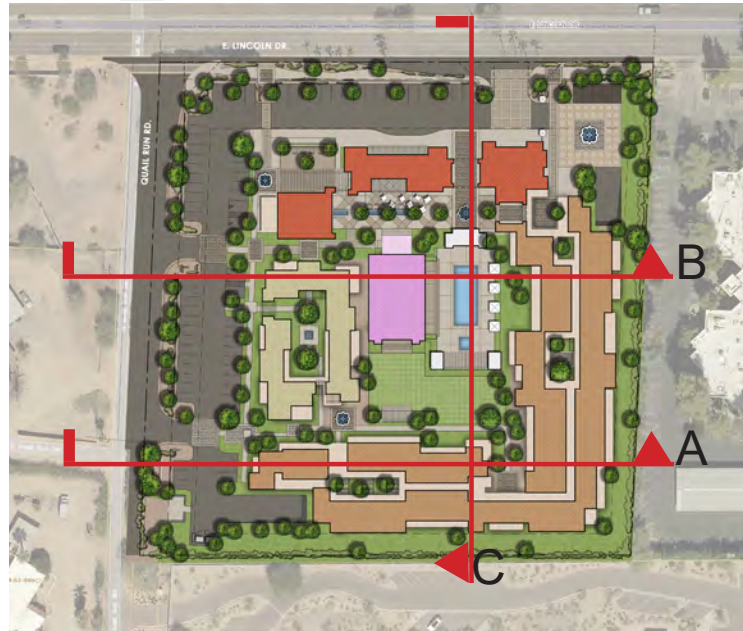
EAST ELEVATION - NOT TO SCALE



WEST ELEVATION - NOT TO SCALE



OPEN SPACE DIAGRAM - SITE SECTIONS



KEY MAP- NOT TO SCALE



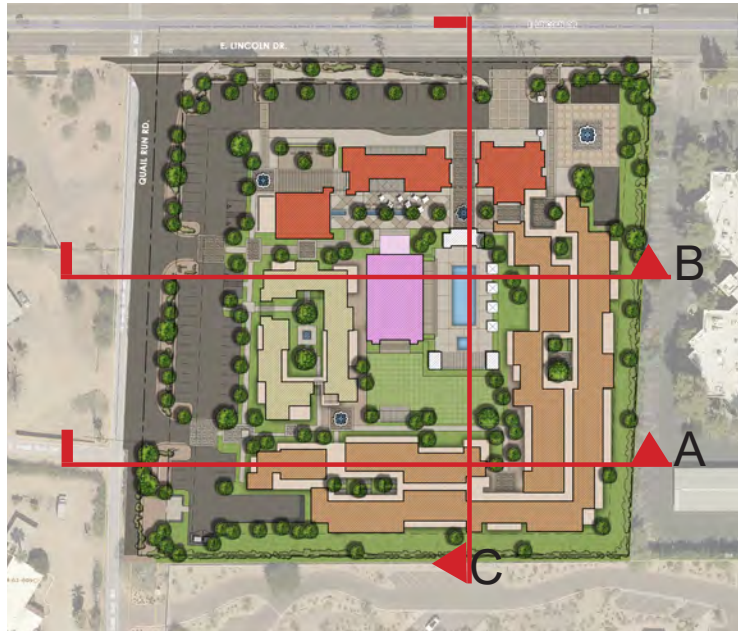
SECTION A



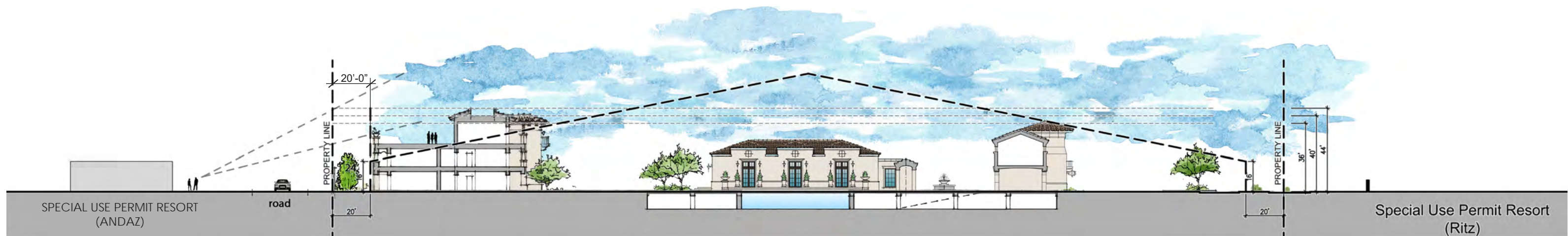
SECTION B



OPEN SPACE DIAGRAM - SITE SECTIONS



KEY MAP- NOT TO SCALE

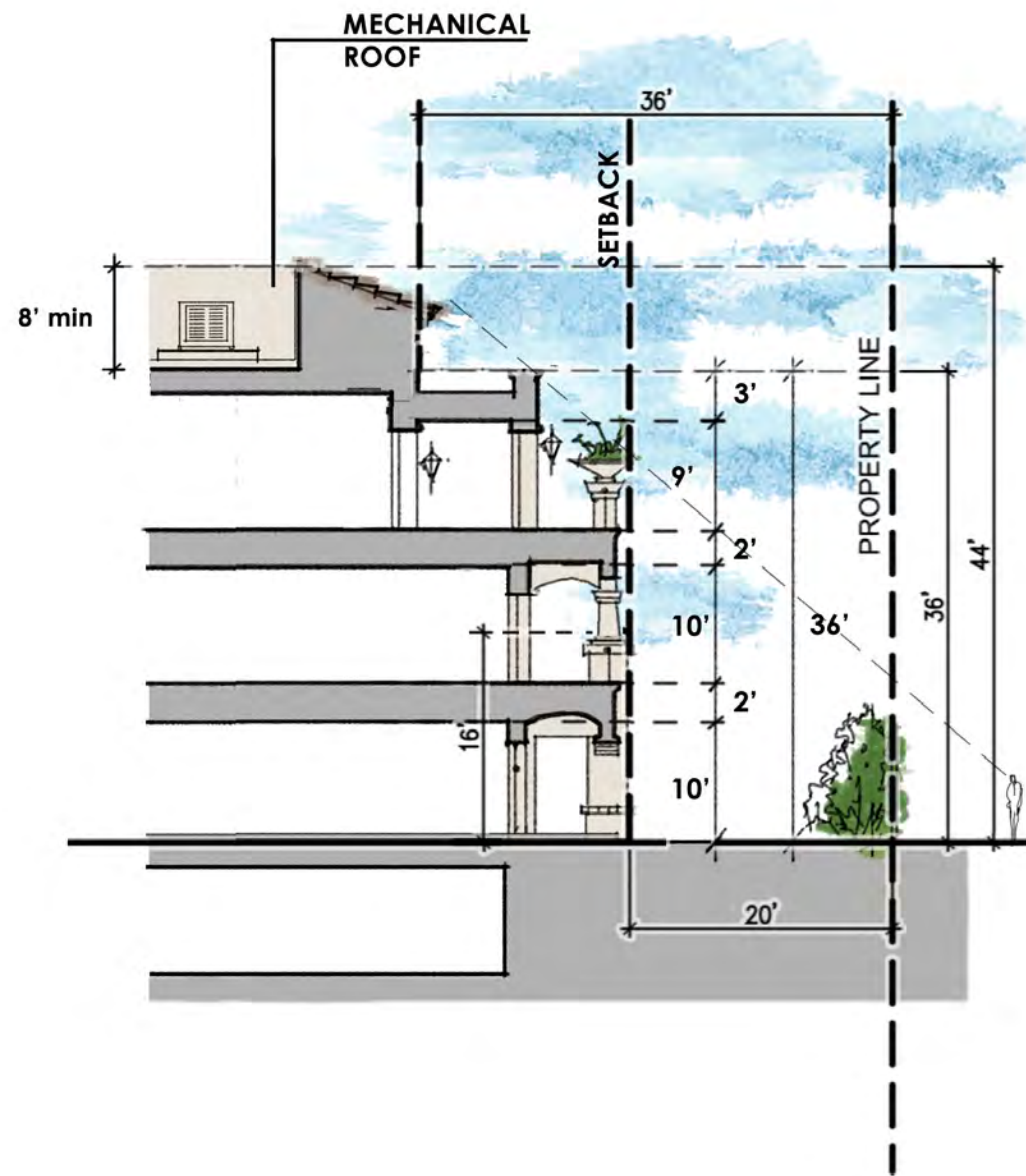
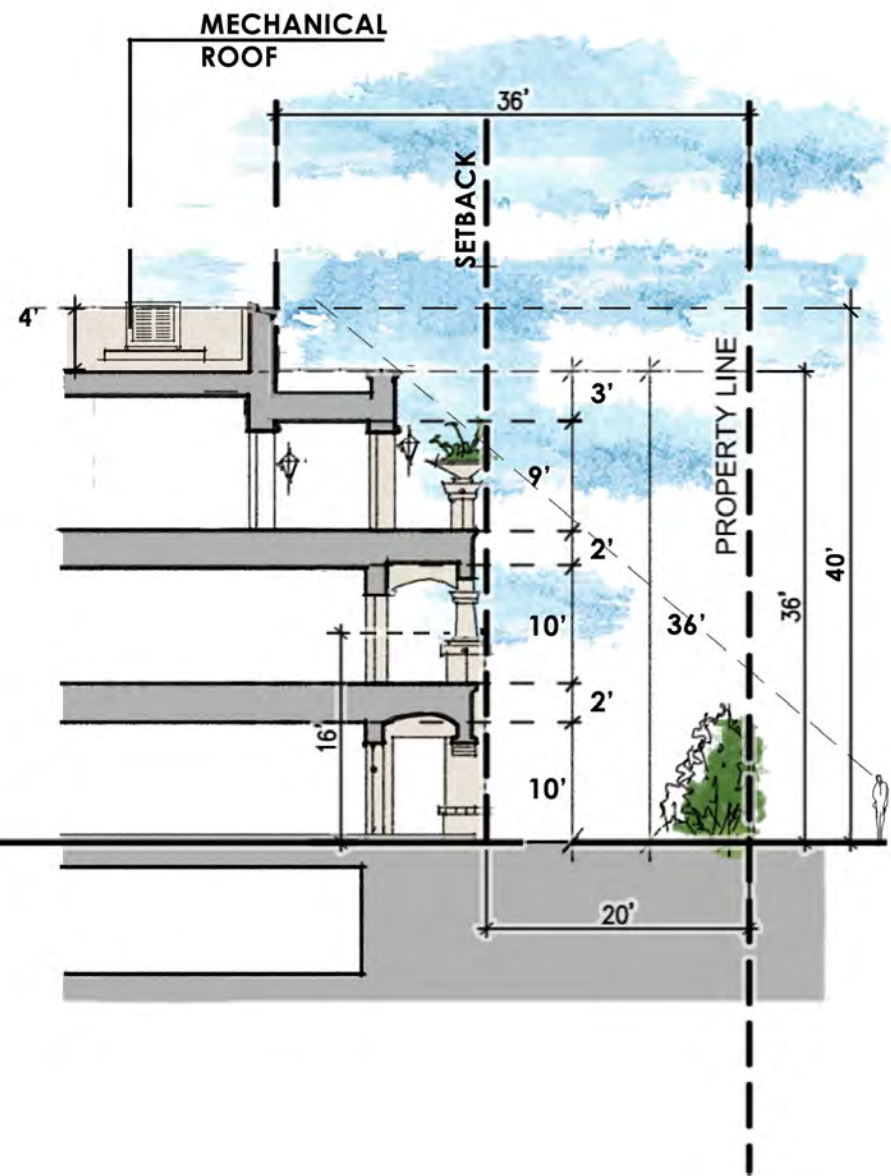


SECTION C

0' 25' 50' 100'

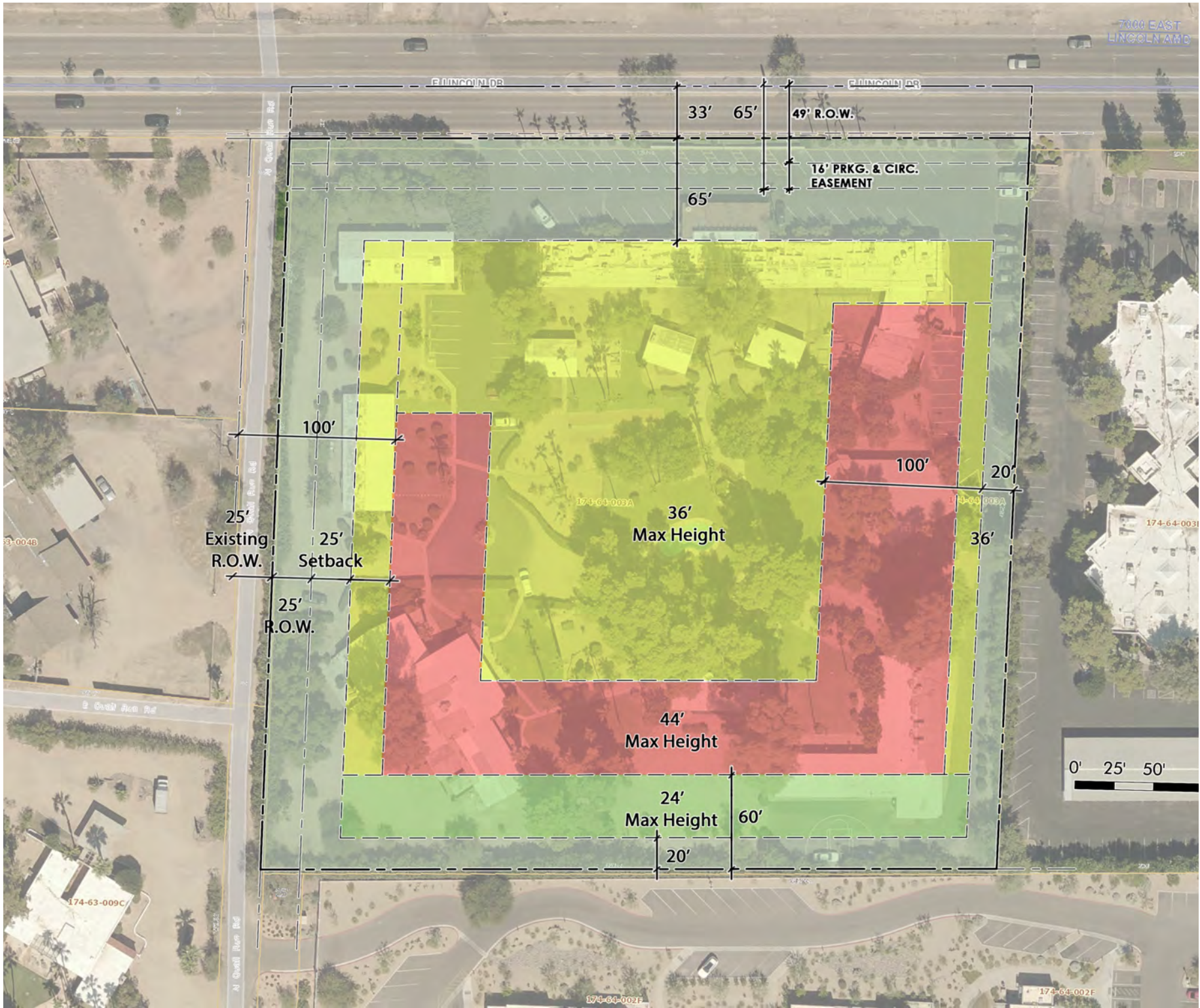


SCHEMATIC WALL SECTION

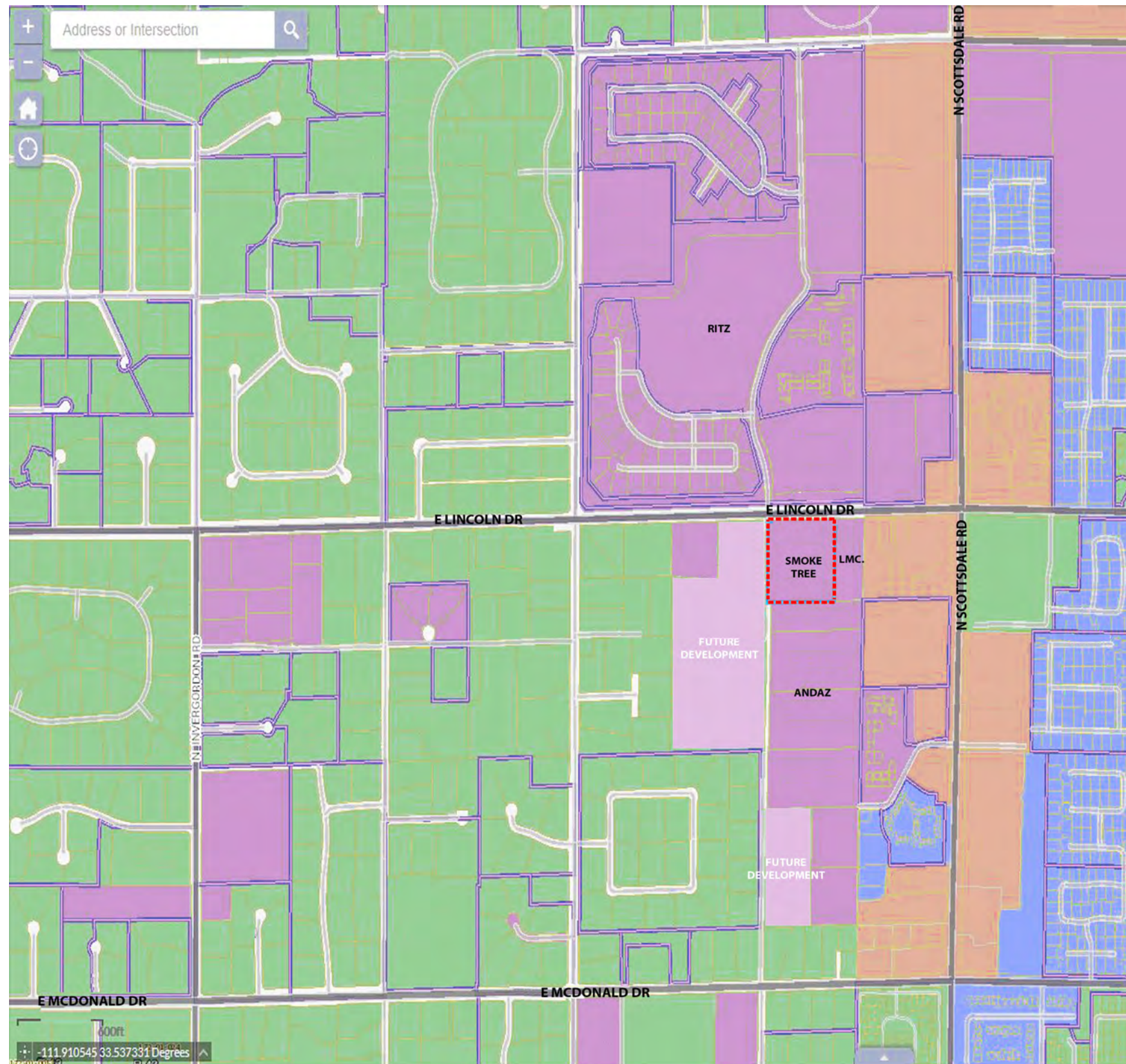








PROPOSED SITE SET BACKS



0' 40' 80' 160'



-  SUP/PUD
-  Commercial
-  High Density Residential
-  Low Density Residential

NOTE

Applicant altered the County Zoning Map to show residential parcels in the Development Area as "Future Development"





Smoke Tree Resort - Area Calculations			
		Total interior Area (sf)	Total Footprint Area(sf)
Total Areas		145,000 sf.	80,000 sf.
Site Gross Area		233,630 sf.	
Site Coverage	(Footprint Area / Site Gross Area * 100)	34.24 %	
F.A.R.	Total Interior Area / Site Gross Area * 100)	62.06 %	



RENDERINGS & CONCEPTS











DESIGN CONCEPT - RESORT ARCHITECTURAL FEATURES





DESIGN CONCEPT - RESORT ARCHITECTURAL FEATURES





DESIGN CONCEPT - POOL, LOBBY AND GUEST ROOMS



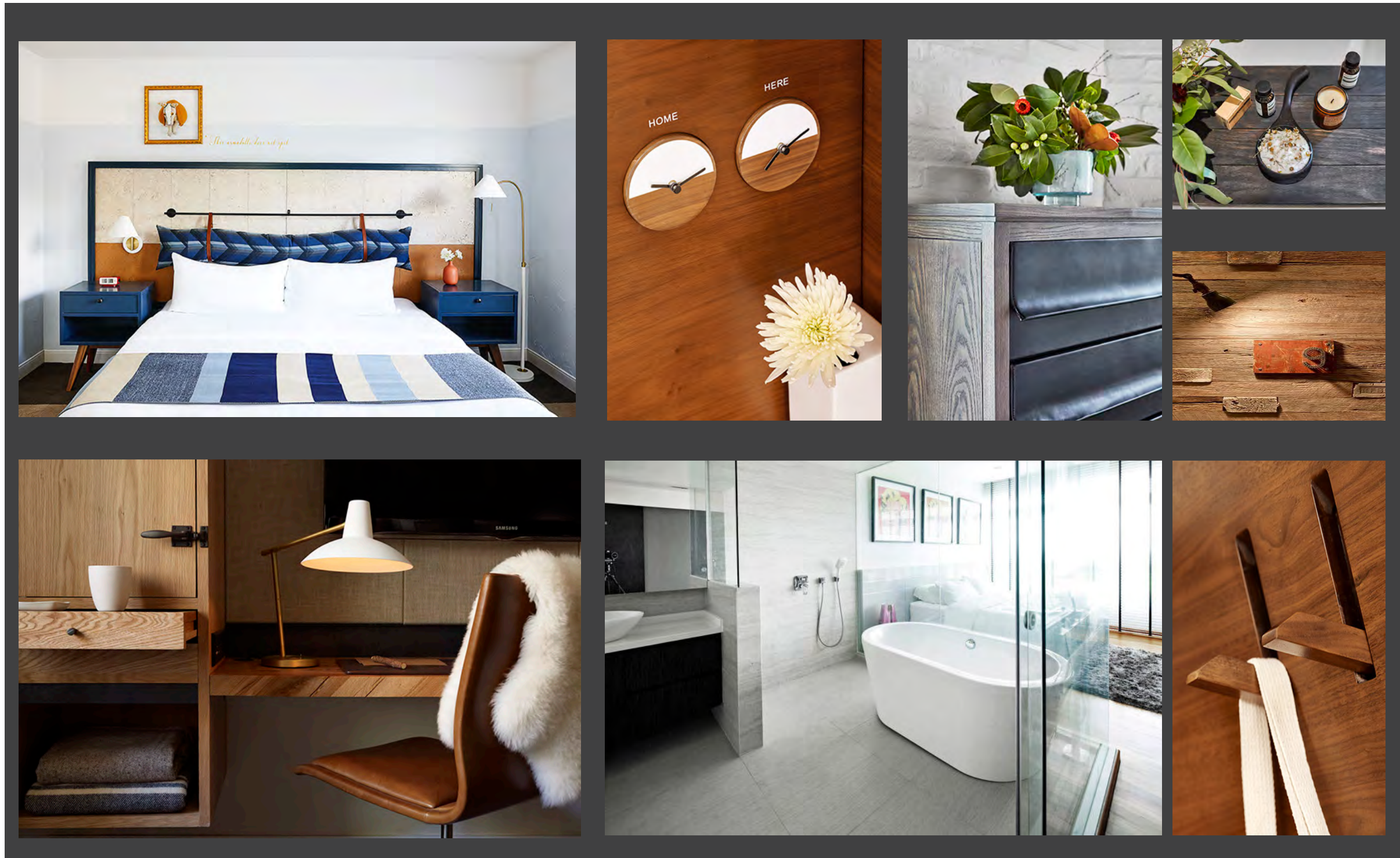


DESIGN CONCEPT - RESORT PAVILION





DESIGN CONCEPT - GUEST ROOMS



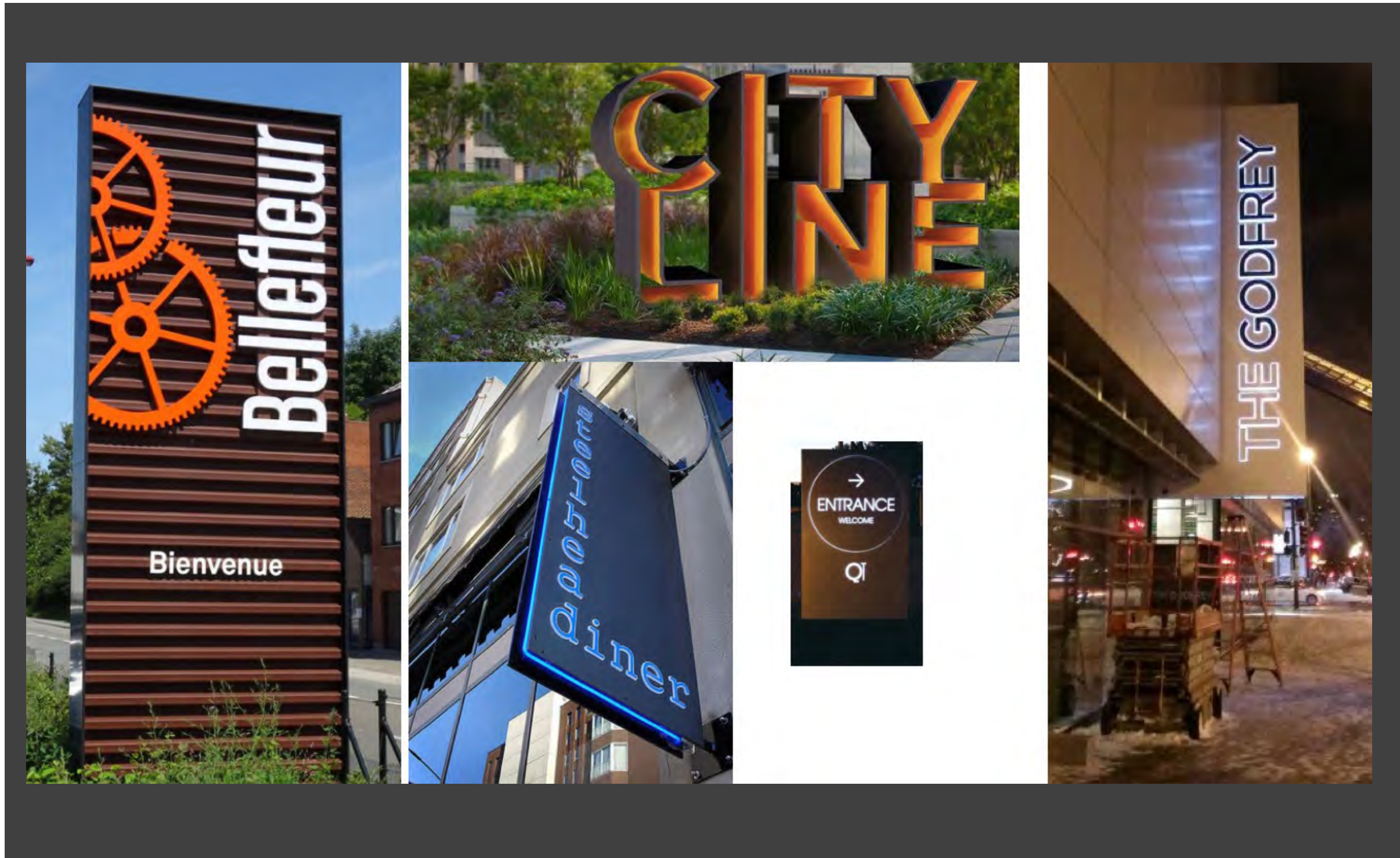


DESIGN CONCEPT - RETAIL BUILDING SIGNAGE





DESIGN CONCEPT - HOTEL BUILDING SIGNAGE





CONSULTANT REPORTS



Smoke Tree Resort

Traffic Impact Analysis

7101 E. Lincoln Drive
Town of Paradise Valley, Arizona

February 2019
Project No. 18-0550

Prepared For:

Beus Gilbert, PLC
701 N. 44th Street
Phoenix, Arizona 85008

For Submittal to:

Town of Paradise Valley

Prepared By:



10605 North Hayden Road
Suite 140
Scottsdale, Arizona 85260
480-659-4250

SMOKE TREE RESORT TRAFFIC IMPACT ANALYSIS

**7101 E Lincoln Drive
Town of Paradise Valley, Arizona**

Prepared for:
Beus Gilbert PLLC
701 N 44th Street
Phoenix, Arizona 85008

For Submittal to:
Town of Paradise Valley

Prepared By:



CivTech, Inc.
10605 North Hayden Road
Suite 140
Scottsdale, Arizona 85260
(480) 659-4250



February 2019

CivTech Project No. 18-0550

Full 152 page report has been submitted
to the Town of Paradise Valley.



February 12, 2019

Paul Mood
Town Engineer
Town of Paradise Valley
6401 East Lincoln Drive
Paradise Valley, Arizona 85253

Subject: *Comment Response Memorandum for Smoketree Resort Parking Study – Paradise Valley, Arizona*

Dear Mr. Mood:

CivTech has prepared this memo in order to address comments provided to Paradise Valley by a third party, Kimley-Horn and Associates, Inc. for the Smoketree Resort Parking Study that was previously submitted. CivTech has reviewed all of the comments and developed a response for each.

COMMENT RESPONSE

KH Comment 1: *Parking calculations should be based on full occupancy. Please include the 150 room keys that are proposed to be available.*

CivTech Response: Removing the 30 residential units (15 which will be able to be utilized by the hotel as optional rentals) and their 60 associated parking spaces provides a more conservative analysis of the parking for the resort. These 60 parking spaces will be reserved in the underground garage and will be gated from the remainder of the spaces leaving a total of 120 underground parking spaces and 76 surface parking spaces, a total of 196 spaces, to service the 120 guest rooms, 15 lock-off rental units and amenities. The shared parking model is being revised to consider 135 keys which includes the 120 guest rooms and 15 lock-off rental units. The 30 residences will not be considered within the shared model since they will have separate gated parking.

KH Comment 2: *Please provide documentation supporting the assumption of 50 square feet per every two seats in the meeting room.*

CivTech Response: The equivalent rate of 1 space per 50 square feet was first generated while working with previous Planning Commissioner Dolf Strom. Dolf was instrumental in shaping the methodology that has been carried through for all of the resort parking studies CivTech has completed. During the parking study preparation for both the Montelucia and the Hermosa Inn which were being prepared simultaneously, there was a large discussion about parking at both the planning commission and town council meetings. The question was raised by then commissioners and council members on the town's parking requirements, how they were established and how they compared to other jurisdictions. It was noted at that time that the parking requirements were greater than the surrounding area jurisdictions. They surrounding area jurisdictions were reviewed, the highest rate was taken, and then the rate was typically raised as part of the Town's requirements and guidelines. Working with Commissioner Strom, several ratio's, internal capture percentages and percentage by time of day values were applied.

CivTech Inc. • 10605 North Hayden Road • Suite 140 • Scottsdale, AZ 85260
Office 480-659-4250 • Fax 480-659-0566

Full 6 page report has been submitted to the Town of Paradise Valley.

REVISED FEBRUARY 12TH, 2019



SURVEY NOTES

- This survey and the description used are based on a Commitment for Title Insurance issued by Fidelity National Title Agency, Inc., issuing agent for Fidelity National Title Insurance Company, Order Number 88012753-088-B5, dated October 12, 2017.
- BASIS OF BEARING: The monument line of Lincoln Drive, also being the North line of the Southeast quarter of Section 10, using a bearing of North 88 degrees 36 minutes 34 seconds East.
- The Boundary information shown on this survey is based on a prior survey prepared by Alliance Land Surveying, LLC, dated October 6, 2012, recorded in Book 1127, Page, 5, M.C.R. The centerline and section monuments were not re-measured and are shown based on the prior survey. The Property corners for the subject property have been verified and exist in the ground as shown on this survey.
- The building square footage shown is based on exterior measurements of the building footprint at ground level and is not intended to reflect the interior or leaseable area of any building. The building footprint and dimensions depict the general configuration of the building(s).
- The utility information shown is limited to visible above ground evidence. This survey makes no attempt to depict any underground utilities and there is no guarantee or warranty to the exact location or presence of any underground utilities that may actually exist adjacent to or within the boundaries of the subject property. Prior to any excavation please call an underground utility locator or "BLUE STAKE" at (602)263-1100 for the precise location and extent of all utilities in the area.
- This Survey has been prepared exclusively for the parties stated in the certification for use in conjunction with the escrow referenced in Survey Note No. 1. Reproduction or use of this survey by any other party for any other transaction or purpose is unauthorized without written authorization from Alliance Land Surveying, LLC. The use of the word "certify" or "certification" by a person or firm that is registered or certified by the board is an expression of professional opinion regarding facts or findings that are the subject of the certification and does not constitute an express or implied warranty or guarantee (A.R.S. 32-151).

SCHEDULE "B" ITEMS

- Reservations contained in the Patent From: The United States of America Recording Date: June 17, 1915 Recording No: Book 115 of Deeds, Page 138 (AFFECTS SUBJECT PROPERTY - NOT PLOTTABLE)
- Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document: Purpose: roadway Recording Date: July 21, 1945 Recording No: Book 5 of Road Maps, Page 28 (PLOTTABLE MATTERS SHOWN HEREON)
- Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document: Purpose: roadway Recording Date: July 15, 1946 Recording No: Book 6 of Road Maps, Page 12 (PLOTTABLE MATTERS SHOWN HEREON)
- Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document: Purpose: electric lines and appurtenant facilities Recording Date: October 23, 1968 Recording No: Docket 7328, Page 755 (PLOTTABLE MATTERS SHOWN HEREON)
- A resolution in favor of the Town of Paradise Valley For: Relating to personal wireless service facilities, identifying possible site locations Recording Date: March 19, 1998 Recording No: 98-0213661 (AFFECTS SUBJECT PROPERTY - NOT PLOTTABLE)
- Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document: Purpose: utility Recording Date: June 07, 2005 Recording No: 2005-0760319 (PLOTTABLE MATTERS SHOWN HEREON)
- Matters shown on record of survey: Recording No.: Book 865 of Maps, Page 15 Recording No.: Book 1127 of Maps, Page 5 (DOCUMENT IS A RECORD OF SURVEY AND DOES NOT CREATE ANY PLOTTABLE EASEMENTS OVER THE SUBJECT PROPERTY)
- Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document: Purpose: utility Recording Date: September 09, 2008 Recording No: 2008-0778398 (PLOTTABLE MATTERS SHOWN HEREON)

LEGEND

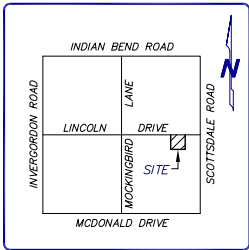
- Property Corner (See Monument Table)
- Property Line
- Fnd Survey Monument (See Monument Table)
- Schedule "B" Item
- 24 inch Vertical Curb & Gutter
- 6 inch Concrete Curb
- Indicates Driveway (means of access)
- Concrete Surface
- Fence
- Wall
- Overhead Electric Line
- Electric Box
- Electric Cabinet
- Electric Transformer
- Gas Meter
- Pool Equipment
- Guard Post or Gate Post
- Handicapped Space
- Light Pole
- Manhole
- Power Pole
- Power Pole W/ Underground Electric
- Sprinkler Hook-Up (fire department)
- Telephone River
- TV Junction Box
- Water Meter
- Water Valve
- Physical Access To & From Adjoining Property
- See Reference Documents

ALTA / N.S.P.S. LAND TITLE SURVEY

A PORTION OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA

TREE NO.	TREE TYPE	SIZE
1	TREE	16"
2	TREE	12"
3	EUCALYPTUS	24"
4	EUCALYPTUS	30"
5	PALM	30"
6	EUCALYPTUS	36"
7	PINE	30"
8	TREE	20"

BUILDING	HEIGHT	SQ. FEET	TYPE
1	11.5'	1,805	ONE STORY BLOCK
2	11.5'	8,372	ONE STORY BLOCK
3	11.5'	542	ONE STORY BLOCK
4	11.5'	469	ONE STORY BLOCK
5	11.5'	727	ONE STORY BLOCK
6	11.5'	1,801	ONE STORY BLOCK
7	11.5'	2,208	ONE STORY BLOCK
8	15.4'	5,276	ONE STORY BLOCK
9	11.5'	1,127	ONE STORY BLOCK
10	11.5'	4,721	ONE STORY BLOCK



VICINITY MAP
NOT TO SCALE

MONUMENT TABLE
1 GEN. OF SEC. 10 - FND BRASS CAP IN HANDHOLE
2 E. 1/4 COR. SEC. 10 - FND BRASS CAP IN HANDHOLE
3 SE. COR. SEC. 10 - FND BRASS CAP IN HANDHOLE
4 S. 1/4 COR. SEC. 10 - FND BRASS CAP FLUSH
5 FND PK NAIL & WASHER L.S. 34399 AS SHOWN ON (R1)
6 FND 1/2" REBAR W/CAP L.S. 21780 AS SHOWN ON (R1)
7 FND 1" IRON PIPE W/TAG L.S. 31020 PER (R1) - ALSO FND 1/2" REBAR NO I.D. - N. 06" W., 0.41" AS SHOWN ON (R1)
8 FND 1/2" REBAR NO I.D. 0.20" BELOW SURFACE AS SHOWN ON (R1)

PARCEL DESCRIPTION

PARCEL NO. 1:
The North half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.
EXCEPT the East 200 feet, thereof.

PARCEL NO. 2:
The North half of the South half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.
EXCEPT the East 200 feet, thereof.

SITE INFORMATION

ADDRESS: 7101 E. LINCOLN DRIVE, PARADISE VALLEY, ARIZONA

A.P.N.: 174-64-003-A

LAND AREA:
GROSS AREA = 5.363 ACRES - 233,630 SQ. FT.
NET AREA = 5.007 ACRES - 218,096 SQ. FT.
NET AREA IS THE GROSS AREA LESS EASEMENT (5) FOR COUNTY ROAD

STRIPED PARKING SPACE TABULATION:

Regular: 70
Handicapped: 4
Total: 74

REFERENCE DOCUMENTS

(R) R.O.S. PER BOOK 865, PAGE 15, M.C.R.
(R1) R.O.S. PER BOOK 1127, PAGE 5, M.C.R.

CERTIFICATION

TO:
Geneva Holdings, L.L.C., an Arizona limited liability company; Smoke Tree Resort, a limited partnership; Fidelity National Title Agency, Inc.; and Fidelity National Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 4, 7(a), 7(b)(1), 7(c), 8, 9, 13, and 14 of Table A thereof. The fieldwork was completed on October 23, 2017.

November 1, 2017
G. Bryan Goetzberger
R.L.S. 31020



SMOKE TREE RESORT
7101 E. LINCOLN DRIVE, PARADISE VALLEY, ARIZONA



SHEET: 1 OF 1 DATE: 11-1-17 JOB NO.: 171026



April 12, 2018

LEGAL DESCRIPTION FOR SMOKE TREE RESORT

PARCEL NO. 1:

The North Half of the Northwest Quarter of the Northeast Quarter of the Southeast Quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

PARCEL NO. 2:

The North Half of the South Half of the Northwest Quarter of the Northeast Quarter of the Southeast Quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.



N:\01\0315301\Admin\Legal Descriptions\LG OVERALL.docx

Page 1 of 1

4550 N 12th Street | Phoenix AZ 85014 | 602.264.6831 | (F) 602.264.0928





Smoke Tree Resort

Water Supply Narrative

The subject parcel is within the designated water service area of EPCOR Water and a copy of their “Will Serve” Letter is attached.

A Water Impact Service Study and a Certificate of Assured Water Supply will be prepared and made part of our formal application as we proceed thru the formal approval process.

Smoke Tree Resort

Drainage Narrative

The existing 5 acre resort parcel falls approximately four feet from west to east with no significant or defined drainage ways, such that the entire parcel experiences sheet flow from west to east with no defined inlet or outlet.

The proposed resort will honor the existing flow patterns in the area while providing stormwater retention in accordance with the proposed Town of Paradise Valley Storm Drain Design Manual based on a 100 year 2 hour storm with 2.2” of rainfall.

Smoke Tree Resort

Sewer Narrative

Sanitary sewer service to the proposed resort will be provided by the existing 8” gravity sewer line in Lincoln Drive.

A “Will Serve Letter” relative to this matter is presently being prepared by the Town Engineering Department.



February 11, 2019

SMOKE TREE RESORT


Town of Paradise Valley, AZ

Prepared for:


Gentree, LLC
3620 E Campbell Ave, Suite B
Phoenix, AZ 85018
(602) 952-8811

Prepared by:

CVL Consultants, Inc.
4550 N 12th Street
Phoenix, AZ 85014
(602) 264-6831



Job #:1-01-03153-01



PRELIMINARY DRAINAGE REPORT

Preliminary Drainage Report
For
Smoke Tree Resort
Paradise Valley, Arizona

February 11, 2019

Prepared for:

Gentree, LLC

3620 E Campbell Ave, Suite B

Phoenix, AZ 85018

(602) 952-8811

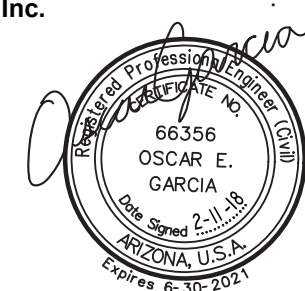
Prepared by:

Coe & Van Loo Consultants, Inc.

4550 N. 12th Street

Phoenix, AZ 85014

(602) 264-6831



CVL Job Number: 1-01-03153-01

Full 24 page report has been submitted
to the Town of Paradise Valley.

REVISED FEBRUARY 12TH, 2019



WATER SERVICE IMPACT STUDY

February 12, 2019

Smoke Tree Resort


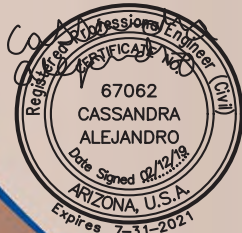
Paradise Valley, Arizona

Water Service Impact Study

Prepared for:
Gentree LLC
3620 East Campbell Avenue
Suite B
Phoenix, AZ 85018
Contact: Sam Robinson

Prepared by:
Coe & Van Loo Consultants, Inc.
4550 N. 12th Street
Phoenix, AZ 85014
Contact: Eric Laurin, P.E.
602.285.4722

Job # 1.01.0315301



WATER SERVICE IMPACT STUDY

Smoke Tree Resort
Water Service Impact Study

Coe & Van Loo Consultants, Inc.
Project No.: 1.01.0315301

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Appendices

- Appendix A: Water Quarter Section Map
- Appendix B: Fire Flow Test Results
- Appendix C: WaterCAD Results (Domestic)
- Appendix D: WaterCAD Results (Fire Flow)
- Appendix E: Water Quality Report



i

February 12, 2019

Full 53 page report has been submitted
to the Town of Paradise Valley.

REVISED FEBRUARY 12TH, 2019

SMOKE TREE RESORT 56



2355 West Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027 USA
epcor.com

April 5, 2018

Coe & Van Loo Consultants, Inc.
Attn: Fred Fleet, P.E.
4550 N. 12th Street
Phoenix, AZ 85014

Sent via e-mail to: fef_@cvlci.com

Re: Will-Serve Letter for Water Service
7101 E. Lincoln Drive, Paradise Valley
APN 174-64-003A

Dear Mr. Fleet;

This letter is in response to your request to EPCOR Water Arizona Inc. ("EPCOR") regarding EPCOR's willingness to provide water service to a proposed resort hotel to be located at 7101 E. Lincoln Drive in Paradise Valley (the "Development") as shown in **Exhibit A**. EPCOR provides the following information for your consideration:

1. EPCOR has confirmed that the Development is located within the area encompassed by EPCOR's Certificate of Convenience & Necessity ("CC&N") for water service as issued by the Arizona Corporation Commission.
2. Water service to the Development by EPCOR may be conditioned upon developer entering into a Main Extension Agreement (an "MXA") with EPCOR in a form acceptable to EPCOR, and upon EPCOR and developer fully performing its respective obligations under the MXA. The MXA, if needed, will provide, among other things, that developer will be responsible for constructing at its cost all water main extensions necessary to distribute water from EPCOR's water system to the individual service line connections in the Development. The design and construction of all such main extensions will be subject to EPCOR's approval, and ownership of the main extensions, together with related real property easement rights, must be transferred to EPCOR prior to the initiation of water service in the Development.
3. Based on the water service currently provided by EPCOR in the CC&N, EPCOR will have adequate water capacity for normal use in the Development upon EPCOR's and developer's fulfillment of its respective obligations under the MXA. Please note that EPCOR does not guarantee the adequacy of its water capacity for fire protection.
4. Developer will also be required, as a condition to EPCOR providing water service to the Development, to pay all required fees pursuant to EPCOR's tariffs and as may be provided in the MXA.

This letter assumes that construction of the main extensions within the Development will begin within one (1) year after the date of this letter.

If developer begins construction of any water mains in the Development or any other water service infrastructure intended to serve the Development without, in each instance, the prior written approval of such construction by EPCOR, developer will be proceeding with such construction at its own risk.

This letter does not independently create any rights or obligations in either developer or EPCOR, and is provided for information only. Any agreement between developer and EPCOR for water service in the Development must be memorialized in a written agreement executed and delivered by their respective authorized representatives.

For additional information, please contact me at (623) 445-2402 or at bfinke@epcor.com.

Sincerely,

Brad Finke, P.E.
Engineering Manager

Enclosure: Exhibit A – Location Description of Development

EXHIBIT A Location of Development





E·J | Flow Test Summary

Project Name: EJFT 16154
Project Address: 6720 N Scottsdale Rd, Scottsdale , AZ 85253
Date of Flow Test: 2016-09-30
Time of Flow Test: 7:25 AM
Data Reliable Until: 2017-03-30
Conducted By: Austin Gourley & Eder Cueva (EJ Flow Tests) 602.999.7637
Witnessed By: Lee Huddleston (EPCOR Water) 602.882.4846
City Forces Contacted: EPCOR Water (602.882.4846)

City of Scottsdale requires a maximum static pressure of 72 psi for use as a safety factor

Raw Flow Test Data		Data With A 40 PSI Safety Factor	
Static Pressure:	112.0 PSI	Static Pressure:	72.0 PSI
Residual Pressure:	100.0 PSI	Residual Pressure:	60.0 PSI
Flowing GPM:	2,374	Flowing GPM:	2,374
GPM @ 20 PSI:	7,131	GPM @ 20 PSI:	5,240

Hydrant F₁
Pitot Pressure (1): 50 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 2.5 inches
Pitot Pressure (2): 50 PSI
Coefficient of Discharge (2): 0.9
Hydrant Orifice Diameter (2): 2.5 inches



Static-Residual Hydrant
Flow Hydrant
Main Size
8 inches
Distance Between F₁ and R
382 ft (measured linearly)
Static-Residual Elevation
1306 ft (above sea level)
Flow Hydrant (F₁) Elevation
1306 ft (above sea level)
Elevation & distance values are approximate

E·J | Flow Test Summary

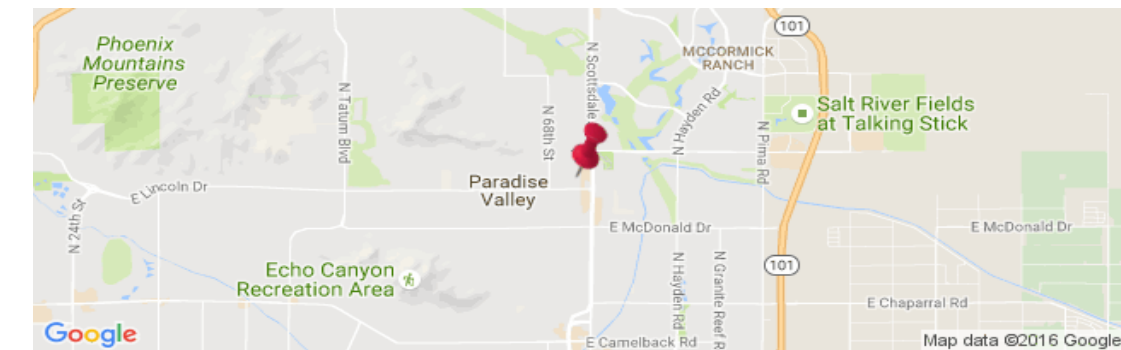
Static-Residual Hydrant



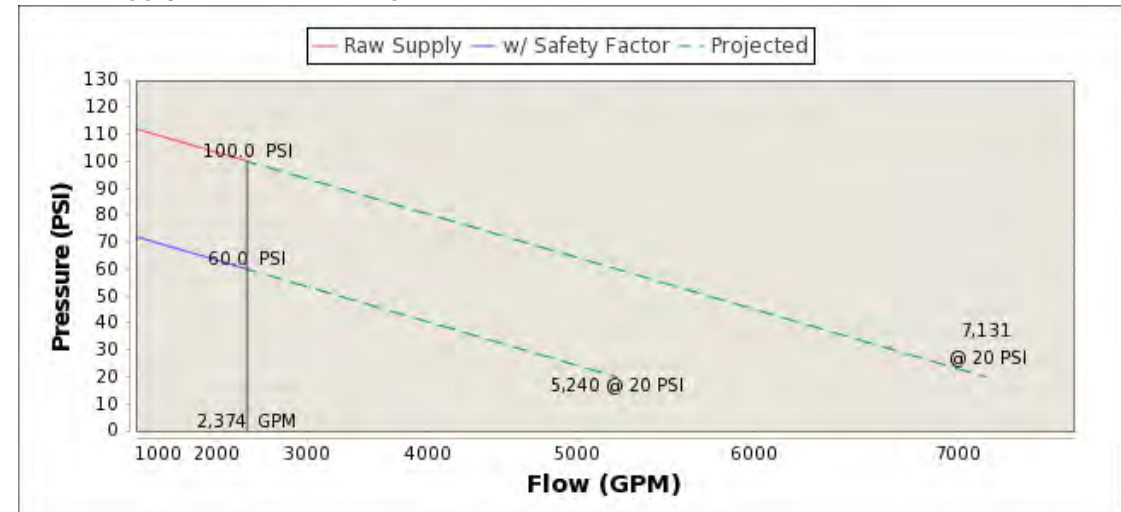
Flow Hydrant (only hydrant F1 shown for clarity)



Approximate Project Site



Water Supply Curve - N^{1.85} Graph



EJ Flow Tests, LLC
21505 North 78th Ave. | Suite 125 | Peoria, Arizona 85382 | (602) 999-7637 | www.ejengineering.com
John L. Echeverri | NICET Level IV 078493 SME | C-16 FP Contractor ROC 271705 AZ | NFPA CFPS 1915

EJ Flow Tests, LLC
21505 North 78th Ave. | Suite 125 | Peoria, Arizona 85382 | (602) 999-7637 | www.ejengineering.com
John L. Echeverri | NICET Level IV 078493 SME | C-16 FP Contractor ROC 271705 AZ | NFPA CFPS 1915



REVISED JANUARY 09TH, 2019

SMOKE TREE RESORT 59

Invue

Catalog #		Type
Project		S4
Comments		Date

with 10K/100A common — and differential — mode surge protection. LightBAR features and IP66 enclosure rating and performance greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

Finish
Housing is finished in five-stage super TGP polyester powder coat paint, 2.5 mil nominal thickness for superior protection against wear and tear. LightBAR™ cover plate are standard white and may be specified to match any of our luminaire housing. Standard colors include black, bronze, gray, black, dark aluminum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Notice

Choice of twelve patented, high-efficiency AccuLED Optic™ is suitable for operation in -40°C to 40°C ambient environments.

Solid State LED

DECORATIVE AREA LUMINAIRE

CERTIFICATION DATA
UL/NUL Listed
IP65 LightTight
LM79 / LM80 Compliant
20 Vibration Tested
ISO 9001

CONFIGURATIONS

SHADE

Ball
8 1/2" H x 24" W

MOUNTING OPTION

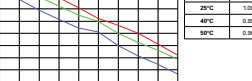
Height from ceiling equals calculated height of fixture plus pendant length and 3/8"

8. 10² 2.750 99

[illegible]

SLL/SLR	
	SLD Register

Ambient Temperature	Lumen Multiplier
10°C	1.0
25°C	1.0
35°C	0.9
45°C	0.8
55°C	0.7
65°C	0.6
75°C	0.5
85°C	0.4
95°C	0.3
105°C	0.2





Plant Palette Along Lincoln Drive

[illegible]

RESORT LIVING CHARACTER ZONE

Design Guidelines

Resort Living Plant List

Botanical Name Common Name	H	W	Seasonal Color	On TOPIV Plant List	Botanical Name Common Name	H	W	Seasonal Color	On TOPIV Plant List
<i>Bauhinia laurifolia</i> Arachoe Orchid Tree	6	6'	 	No	<i>Boerhaavia diffusa</i> Gaura	18"	3'	 	No
<i>Chrysopsis leucomelaena</i> Desert Yellow	25	25'	 	Yes	<i>Homalium vitiense</i> Purple Coral Tree	5	12'	 	No
<i>Cordia macrocarpa</i> Ironwood	30	25'	 	Yes	<i>Likiepia palmata</i> Hybrid Lantana	2	3'	 	Yes
<i>Fimbristemma</i> / Desert Mallow Plant / White Desert Mallow Plant	25	25'	 	No	<i>Melastomae capitata</i> Pink Mist Grass	3	3'	 	No
<i>Alocasia clematis</i> Chinese Pothos	40	25'	 	No	<i>Abutilon pictum</i> Palmist / Indian Mallow	5	5'	 	No
<i>Prosopis juliflora</i> Mimosa	40	35'	 	Yes	<i>Adiantum filix-foemina</i> Bastard Fern	2	4'	 	No
<i>Sapota indica</i> Indian Mountain Laurel	25	25'	 	No	<i>Clusia grandifolia</i> Dead End of Paradise	6	6'	 	Yes
<i>Verbesina fenestrata</i> Scented Acoria	35	35'	 	No	<i>Cassipouira pedunculata</i> Red Bird-of-Paradise	10	10'	 	Yes
<i>Wrightia religiosa</i> Chalk Tree	25	25'	 	No	<i>Datura metel</i> Skullcap	15	15'	 	No
<i>Agave americana</i> var. <i>Mediophaea</i> White Striped Century Plant	4'	8'	 	No	<i>Euphorbia corollata</i> var. <i>benicula</i> Verbena Iron Bush	5	5'	 	No
<i>Agave attenuata</i> Broom Agave	3'	3'	 	No	<i>Hesperaloe parviflora</i> Red Yucca	5	5'	 	No
<i>Agave</i> / Blue Globe Blue Globe Agave	2	3'	 	No	<i>Justicia spicigera</i> Firecracker Plant	3	5'	 	Yes
<i>Aloe distans</i> Aloe / Aloe Vera	3	3'	 	No	<i>Leucophyllum frutescens</i> Lantern Sage	5'	5'	 	No
<i>Acrocalymma subulata</i> Rat Tail Mallow	4'	4'	 	No	<i>Persea indica</i> Pineapple Tree	2	2'	 	No
<i>Caryota palmata</i> Sago Palm	20	5'	 	Yes	<i>Rumex crispus</i> Cape Purslane	5'	12'	 	No
<i>Echeveria agave</i> Cactus Plant	5	3'	 	No	<i>Sesuvia portulacastrum</i> African Sage	3	3'	 	Yes
<i>Ficus religiosa</i> Oleander	20	5'	 	Yes	<i>Sesuvia portulacastrum</i> Mexican Bush Sage	4	4'	 	No
<i>Bougainvillea spectabilis</i> Great Bougainvillea	10	20'	 	No	<i>Tecoma capensis</i> Cape Honeysuckle	5	5'	 	No
<i>Albizia leonensis</i> Silk Tree	18"	3'	 	No	<i>Thunbergia al</i>				

General Plant Palette (Per P.V. Guidelines)

[illegible]

1. BIRDS		
1	1. American crow	american crow
2	2. American chickadee	tufted titmouse
3	3. American chickadee	blue-winged teal
4	4. American chickadee	gray heron
5	5. American chickadee	gray heron
6	6. American chickadee	gray heron
7	7. American chickadee	gray heron
8	8. American chickadee	gray heron
9	9. American chickadee	gray heron
10	10. American chickadee	gray heron
11	11. American chickadee	gray heron
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2. MAMMALS		
1	1. American chickadee	american chickadee
2	2. American chickadee	american chickadee
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4	4. American chickadee	american chickadee
5	5. American chickadee	american chickadee
6	6. American chickadee	american chickadee
7	7. American chickadee	american chickadee
8	8. American chickadee	american chickadee
9	9. American chickadee	american chickadee
10	10. American chickadee</	



CenturyLink Engineering
135 W. Orion St. 1st Floor
Tempe, AZ 85283
BICS@Centurylink.com

April 16, 2018

Mr. Fred Fleet
Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, Arizona 85014

RE: CVL #1-01-03153-01

Mr. Fleet,

The above mentioned project is located in a parcel of land located in Section 10, Township 2N and Range 4E in Maricopa County.

In response to your "Service Availability" request for the above mentioned development located at 7101 East Lincoln Drive, Paradise Valley, AZ, this letter is to acknowledge that this subject property is within CenturyLink serving territory.

The tariff Rates and Regulations prescribed for service for this area are on file with your State Utilities Commission, and may be examined at your local CenturyLink Business Office.

Sincerely,

Stacey Alfier
CenturyLink Engineer II/Supervisor of Engineering Support
135 W Orion Street, 1st Floor
Tempe, AZ 85283
480/768-4294 (Office)
Stacey.Alfier@centurylink.com



April 17, 2018

Mr. Fred Fleet
Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, AZ 85014

Project: Commercial Project
7101 East Lincoln Drive
Scottsdale, AZ 85253
Parcel 174-64-003A
Map 127 2N 4E S:10 SE

Dear Mr. Fleet:

This letter is to confirm that Cox Communications is a licensed telecommunications operator for the City of Scottsdale in which this project resides. Cox Communications may be able to provide cable services or other required telecommunication services for this project, however, the final requirement of a service agreement will be necessary.

As you move forward with this project, please contact Angela Kiesgen, Cox Business Account Executive at (office) 623-322-7159 or (email) angela.kiesgen@cox.com who will be able to assist you with your telecommunications needs.

If you have any questions, please feel free to contact me.

Sincerely,

Annie Sandoval
Cox Business 623-328-2431



P.O. Box 53933
Phoenix, AZ 85072

4/18/2018

Mr. Fred Fleet
Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, AZ 85014

Re: 7101 East Lincoln Drive

Dear Fred,

The above referenced project is located in Arizona Public Service Company's electric service area. The Company extends its lines in accordance with the "Conditions Governing Extensions of Electric Distribution Lines and Services," Schedule 3, and the "Terms and Conditions for the Sale of Electric Service," Schedule 1, on file with the Arizona Corporation Commission at the time we begin installation of the electric facilities.

Application for the Company's electric service often involves construction of new facilities for various distances and costs depending upon customer's location, load size and load characteristics. With such variations, it is necessary to establish conditions under which Arizona Public Service will extend its facilities.

The enclosed Schedule 3 policy governs the extension of overhead and underground electric facilities to customers whose requirements are deemed by Arizona Public Service to be usual and reasonable in nature.

Please give me a call at 602-493-4468 so that we may set up an appointment to discuss the details necessary for your project.

Sincerely,

Heather Legg
Customer Project Manager
Customer Construction East

Enclosure



SOUTHWEST GAS CORPORATION

April 19, 2018

Mr. Fred Fleet
Coe & Van Loo Consultants, Inc.
4550 North 12th Street
Phoenix, AZ 85014

RE: Natural Gas Service to: 7101 East Lincoln Drive in Paradise Valley, AZ 85253

Dear Mr. Fred Fleet:

Thank you for your inquiry regarding gas availability for the above referenced project. Southwest Gas has natural gas facilities available to serve this project and can be extended to serve your project in accordance with our Rule Six as filed with the Arizona Corporation Commission. Southwest Gas currently has a 2.5" Distribution Pressure Gas main running east and west on Lincoln Dr.

Without reviewing the preliminary engineering plans on the project we cannot determine what fees would be required.

Southwest Gas is very interested in serving this project with the preferred fuel *natural gas*, and I look forward to working with you as the project progresses.

If you should have any questions or require additional information, please contact me at 602/768-8146, or email me at Laurie.Cleland@swgas.com.

Sincerely,

Laurie Cleland
Energy Analyst
Energy Solutions Department
Central Arizona Division

1600 E. Northern Avenue / Phoenix, Arizona 85020-3982
P.O. Box 52075 / Phoenix, Arizona 85072-2075 / (877) 860-6020
www.swgas.com



Original October 1, 2018 Updated February 12, 2019

Proposed Smoke Tree Resort SUP- Amendment Supplement

Resort Dwelling Units

Consistent with existing and currently approved Town of Paradise Valley Resorts, a small number of Resort Residences (30) will be marketed and sold to individual owners in compliance with Section 1102.2 of the Zoning Ordinance:

- Average size of approximately 1,250 sf, two bedrooms, 15 of which with lock off feature (lock-off included in 165 total door count).
- Access to Rental Program, defined by CC&Rs, and under unified management with Hotel.
- All Owner use period is covered under “In-Lieu Fee”; collected by the HOA.
 - CC&Rs in alignment with the Town of Paradise Valley’s Ordinances.
- FF&E packages available, mandatory FF&E required for Rental Program.
- Rental Program will abide by the Town’s Bed and Non-Residential Rental Business Activity Tax code
- Adaptation of the “In-Lieu Fee” concept from the Mountain Shadows SUP Development Agreement

Please refer to pages 24-32 of the Amended and Restated Development Agreement dated April 18, 2013 in connection with the Mountain Shadows Special Use Permit for additional detail.

Resort	Total Units	Guest Units	Resort Residences	Percentage for Sale
Proposed Smoke Tree Resort	165	135	30	18%
Ritz Carlton	458	200	258	56%
Andaz	201	201	0*	0%*
Mountain Shadows	331	183	148	45%
Sanctuary	174	161	54	31%
Montelucia	327	303	124	38%
Scottsdale Plaza	404	404	0	0%
Doubletree	378	378	0	0%
Hermosa Inn	49	49	0	0%
Camelback Inn	458	458	458	100%
Notes:				
* Cottonwoods (Andaz) SUP 12-08 had 27 Resort Residences under consideration before current ownership withdrew the request prior to approval				



**Affidavit of Notification
Notice of Citizen Review Meeting**

Rezoning Application No.: SUP-18-5

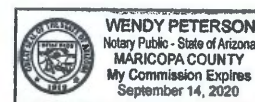
Applicant Name: Gentree, LLC by Cassandra Ayres, Beus Gilbert PLLC

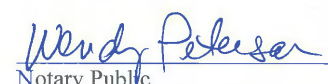
Location: 7101 E. Lincoln Drive, Paradise Valley, AZ 85253

I confirm that notice of the Citizen Review Meeting as required for the case noted above has been completed in accordance with Section 2-5-2(F) of the Town of Paradise Valley's Town Code.

 2.6.19
Application/Representative Signature Date

This instrument was acknowledged before me on this 6th day of February, 2019, by Cassandra Ayres. In witness whereof, I hereunto set my hand and official seal.




Notary Public
My commission expires: 9-14-2020

Affidavit of Notification(354183.1).docx



BEUS GILBERT

PLLC

ATTORNEYS AT LAW

701 NORTH 44TH STREET
PHOENIX, ARIZONA 85008-6504
FAX (480) 429-3100

Cassandra H. Ayres

DIRECT (480) 429-3010
E-Mail Address: cayres@beusgilbert.com

FILE NUMBER
39039.23

February 1, 2019

INVITATION TO CITIZEN REVIEW MEETING
SMOKE TREE RESORT
SPECIAL USE PERMIT – MAJOR AMENDMENT APPLICATION (SUP 18-05)

Dear Neighbor:

This letter is being sent to advise you that we will be hosting a citizen review meeting in connection with the Smoke Tree Resort Special Use Permit (“SUP”) Major Amendment Application on **Monday, February 18, 2019 at 6:00 p.m. at the Smoke Tree Resort (“Resort”) located at 7101 E. Lincoln Drive, Paradise Valley, Arizona 85253.** You are invited to attend to learn about the application and make your opinion known. Parking will be available in the Resort parking lot. If you have questions or comments, you may contact Cassandra Ayres, Beus Gilbert PLLC, at 480.429.3010 or cayres@beusgilbert.com.

The 5.36-acre Resort originally opened in 1966 and has operated continually since. Other than general maintenance and upkeep, the Resort has not had any significant upgrades since it first opened. The SUP proposes to take down the existing structures and construct a new 165-room, three-story resort hotel comprised of 120 hotel doors, 30 residential doors, and 15 lock-offs. The redevelopment also proposes resort related uses, such as a restaurant, event/meeting space, spa, pool, at grade and underground parking, and neighborhood market. The proposed maximum building heights of 24, 26, and 44 feet are to be tiered at various locations in order to protect adjacent neighbors and provide a buffer from typical sounds associated with resorts.

If you require additional information from the Town of Paradise Valley Planning and Development Department, please contact Jeremy Knapp, AICP, Community Development Director at 480.348.3522 or jknapp@paradisevalleyaz.gov. You may also contact the Town by writing to the Planning and Development Department at 6401 East Lincoln Drive, Paradise Valley, Arizona, 85253-4399, and referencing SUP 18-05. Your letter will be made part of the case file.

Please be advised that additional meetings and hearings before the Planning Commission and Town Council are planned to review this case on January 22, February 5, February 19, and March 5. The Planning Commission will make a recommendation on the SUP to the Town Council at the March 5 hearing. Town Council hearing dates to consider the Smoke Tree Resort have not been set yet.

Neighborhood Meeting Notification Letter(344790.1).docx

Smoke Tree Resort
Citizen Review Meeting
February 1, 2019

We look forward to maintaining an open and productive dialogue throughout this process. Thank you for your time and consideration. We look forward to seeing you.

Sincerely,

BEUS GILBERT PLLC

Cassandra H. Ayres

#344790v1<BeusGilbert> - Neighborhood Meeting Notification Letter



PUBLIC MAILING LIST

2012 REVOCABLE TRUST OF PAMELA K NOLAN 6166 N SCOTTSDALE RD UNIT C3002 SCOTTSDALE AZ 85253	3T PROPERTIES & INVESTMENT COMPANY LP 1137 ROOSEVELT AVE TRACY CA 95376	6617 INVESTORS LLC 6617 N SCOTTSDALE RD STE 1-1 SCOTTSDALE AZ 85250	BROOKE JOHN B (IMPROVEMENTS ONLY) 2628 GREENWICH ST SAN FRANCISCO CA 94123	BROWNFIELD EDWARD H/ ROBERTA F 1126 DRYDEN LANE CHARLOTTESVILLE VA 22903	BRUNACINI JEANNETTE L TR 1261 BONA TERRA LOOP NW ALBUQUERQUE NM 87114-1984
6909 QUAIL RUN LLC 6909 E LINCOLN DR PARADISE VALLEY AZ 85253	ALLAN S AND PATRICIA F WALLACE REV TRUST 7319 E MARLETTE AVE SCOTTSDALE AZ 85250	ANDREW B GREESS AND WENDY J GREESS TRUST 6314 N 73RD ST SCOTTSDALE AZ 85250	BURKE JAMES F 8221 N 23RD PL SCOTTSDALE AZ 85258	CAIRNS RICHARD A 6821 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	CAMERON DAVID (IMPROVEMENTS) PO BOX 6458 SCOTTSDALE AZ 85261
THE ANN R DOVE REVOCABLE TRUST 20 MOULTON DR SHELBYVILLE IL 62565	ARIZONA BANK 101 N TRYON ST CHARLOTTE NC 28255	ARIZONA BOARD OF REGENTS PO BOX 870401 TEMPE AZ 85287-0401	CARROLL JENNIFER 6166 N SCOTTSDALE RD UNIT C2006 SCOTTSDALE AZ 85253	CASA DE VALLEY VISTA LLC 6818 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	CASABELLA ASSOCIATION 7255 E HAMPTON AVE STE 101 MESA AZ 85209
ARIZONA BOARD OF REGENTS 1125 N VINE AVE STE 103 TUCSON AZ 85721	AYRES MICHAEL O/DELYTE BOX 59554 POTOMAC MD 20859	BAMBOO RANCH LIMITED LLC 6701 N SCOTTSDALE RD UNIT 32 SCOTTSDALE AZ 85250	CASABELLA ASSOCIATION 7255 E HAMPTON AVE STE 101 MESA AZ 85209	CASEY ARTHUR M JR/ MARJORIE M TR LEASE 7326 E MARLETTE AVE SCOTTSDALE AZ 85250	CHAPMAN CAROL A TR 7325 E CITRUS WY SCOTTSDALE AZ 85250
BANKSON KEN J/MAUREEN A 6150 N SCOTTSDALE RD UNIT 6 PARADISE VALLEY AZ 85253	BARBARA ANN TRINEN REVOCABLE TRUST 2371 T A RIODAN FLAGSTAFF AZ 86005	BARTHEL FAMILY TRUST/BARTHEL DONALD E/NANCY J 6166 N SCOTTSDALE AZ UNIT C2008 SCOTTSDALE AZ 85253	CLARK FAMILY TRUST 6166 N SCOTTSDALE RD UNIT C3008 SCOTTSDALE AZ 85253	CLAYTON W COADY LIVING TRUST 6909 E LINCOLN DR PARADISE VALLEY AZ 85253	COADY ENTERPRISES INC 6909 E LINCOLN DR PARADISE VALLEY AZ 85253
BAYSE MICHELLE MITCHELL/HAGEMANN BRUCE A 6817 COLUMBINE WY PLANO TX 75093	BECKER ROGER P/LAURIE A 6166 N SCOTTSDALE RD UNIT C2004 SCOTTSDALE AZ 85253	BELL AND 63RD INVESTMENTS LLC 3641 N 39TH AVE PHOENIX AZ 85019	COBB ALEXANDER M/CHRISTINE K 6805 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	COHEN S DAVID/DOROTHEE N 6166 N SCOTTSDALE RD UNIT C2005 SCOTTSDALE AZ 85253	COHILL SUSAN M TR 7316 E MCLELLAN BLVD SCOTTSDALE AZ 85250
BELLSTEDT NANCY JANE 5 PROSPECT CT CANMORE AB CANADA T1W2S4	BENADERET LINDA B 6166 N SCOTTSDALE RD UNIT A3003 SCOTTSDALE AZ 85253	BIRD RANDALL R 500 RED LANDS NEWPORT BEACH CA 92663	CONWAY DENNIS D/MARY C TR 585 3RD ST S WISCONSIN RAPID WI 54494	CORVENT GROUP INC 3044 BLOOR ST W STE 256 TORONTO ON CANADA M8X 1CA	CPVF III SCOTTSDALE FORUM LLC (LEASE) 7600 N CAPITAL OF TEXAS HWY AUSTIN TX 78731
BLAIK ROBERT M/DOROTHY E 6166 N SCOTTSDALE RD UNIT A2005 PARADISE VALLEY AZ 85253-5430	BONNEM KENNETH C/ FRIEDMAN MARTHA A 6825 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	BORGATA LLC 6621 NORTH SCOTTSDALE RD SCOTTSDALE AZ 85250	CUERNAVACA HOMEOWNERS ASSOC INC 532 E MARYLAND AVE STE F PHOENIX AZ 85012	DALLIS PETER N 7315 E MCLELLAN SCOTTSDALE AZ 85253	DAVID WINOGRAD AND WENDY WINOGRAD 2011 REVOCABLE LIVING TRUST 6166 N SCOTTSDALE RD UNIT C2007 PARADISE VALLEY AZ 85253
BOWERS FAMILY REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT C3004 SCOTTSDALE AZ 85253	BOYNTON SALLY H 6701 N SCOTTSDALE RD UNIT 5 SCOTTSDALE AZ 85250	BRAGA REVOCABLE LIVING TRUST 25513 PASEO DE CUMBRE MONTEREY CA 93940	DAVIS SANDRA C 650 54TH AVENUE CT GREELEY CO 80634	DEIHL FAMILY TRUST 6166 N SCOTTSDALE RD B1005 SCOTTSDALE AZ 85253	DERRICO CELIA/MANERI CAMILLE A 8231 E APPALOOSA TRL SCOTTSDALE AZ 85258
BRAGA STANLEY A/ VALERIE A TR/ETAL 25513 PASEO DE CUMBRE MONTEREY CA 93940	BRANCO TRUST 3201 SOUTH ST NO 181 LINCOLN NE 68502-3266	BRICK MICHELE/TIMOTHY P 6306 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	DEWEY DOUGLAS CRAIG/ SHELLEY KATHLEEN 689 TERRACE DR LAKE OSWEGO OR 97034	DHILLON REVOCABLE LIVING TRUST 6166 N SCOTTSDALE RD UNIT A1002 PARADISE VALLEY AZ 85253	DIANE MAE CHOLAKIAN FAMILY TRUST PO BOX 55833 VALENDIA CA 91385



PUBLIC MAILING LIST

DIETRICH GLORIA B 6166 N SCOTTSDALE RD UNIT A1006 SCOTTSDALE AZ 85253	DLS REVOCABLE TRUST/ETAL 925 LAKE ST S UNIT 302 KIRKLAND WA 98033	DONALD W MADL AND CAROLYN M MADL TRUST 6166 N SCOTTSDALE RD UNIT C3005 SCOTTSDALE AZ 85253	GENTREE LLC 3620 E CAMPBELL AVE STE 8 PHOENIX AZ 85018	GIEDRAITIS JOHN B/ CATHERINE N TR 6305 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	GIESA MICHAEL W TR 1023 FALLS PARC DR UNIT 5 SHEBOYGAN FALLS WI 53085
DONNA A STONE TRUST 6166 N SCOTTSDALE RD UNIT C3007 SCOTTSDALE AZ 85253	DOUGLAS ALAN COLE TRUST 6929 N HAYDEN RD SUITE C4-508 SCOTTSDALE AZ 85250	DOYLE D JAMES/PHYLLIS J TR 6807 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	GIRAUDO SHEELA/MARK 6844 E SOLCITO LN PARADISE VALLEY AZ 85253	GOLDBERG LARRY 6166 N SCOTTSDALE RD UNIT A2003 SCOTTSDALE AZ 85253	GORDON ANDREW W/CAROL L TR 6837 E LINCOLN DR PARADISE VALLEY AZ 85253
DUNIK BRIAN R/CATHERINE F 6701 N SCOTTSDALE RD LOT 30 SCOTTSDALE AZ 85250	EDMUND G ZITO AND PATRICIA M ZITO REV TRUST 6166 N SCOTTSDALE RD UNIT C 1006 SCOTTSDALE AZ 85253	EILTS PATRICIA S 6706 LUPINE CIR ARVADA CO 80007	GRAYTON LESLIE/ROBERT/THOMAS M/DEXTER STEVEN 12 TOMAH DR PEABODY MA 01960	GRI LINCOLN VILLAGE LLC 4350 EAST-WEST HIGHWAY STE 400 BETHESDA MD 20814	HADL JOHN/DIANA 3700 QUAIL CREEK CT LAWRENCE KS 66047
ELLEGARD KENNETH E/CHERYL O 6166 N SCOTTSDALE RD UNIT B2001 SCOTTSDALE AZ 85253-5434	ELLEGARD KENNETH E/CHERYL O 6166 N SCOTTSDALE RD UNIT B4003 SCOTTSDALE AZ 85253-5436	ELLIS MICHAEL/ANGELA 6166 N SCOTTSDALE RD UNIT C2001 SCOTTSDALE AZ 85251	HARKINS KAREN A 6226 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	HARMS ZUM SPRECKEL CORD/ JANE HARMS ZUM TR 19815 107TH AVE SW VASHON WA 98070	HARRIS THOMAS J/MARILYN J 6150 N SCOTTSDALE RD UNIT 37 PARADISE VALLEY AZ 85253
ENCLAVE AT BORGATA COMMON ELEMENT 2222 W PINNACLE PEAK RD STE 140 PHOENIX AZ 85027	ENCLAVE AT BORGATA LLC 2222 W PINNACLE PEAK RD STE 140 PHOENIX AZ 85027	ENCLAVE AT BORGATA LLC 6263 N SCOTTSDALE RD SUITE 216 SCOTTSDALE AZ 85250	HERD JAMES V/JANET/ WARE RAYMOND T/RENDA 2336 N ALDERCREST PL EAGLE ID 83616	HILLIS JEFFREY W/JENNIFER ANN TR 6136 N QUAIL RUN RD PARADISE VALLEY AZ 85253	HOLLIS TROY L/DEBORAH M 6166 N SCOTTSDALE RD UNIT C1001 SCOTTSDALE AZ 85251
EVERETT PROPERTIES LLC 3343 WYNDHAM CT EUGENE OR 97408	FALCONE SONIA M 120 N LASALLE ST CHICAGO IL 60602	FARRELLY JAMES K/STAPLES- FARRELLY SHARON 6166 N SCOTTSDALE RD UNIT C4003 SCOTTSDALE AZ 85253	HOLMES BRIAN G 89 BRAID BEND STOUFFVILLE ON CANADA L4A1R8	HONORA E LOGAN FAMILY TRUST 3709 RANCH VIEW CT RENO NV 89509	HOSKINS L JETT/LORETTA (LEASE) 7220 NE 14TH ST VANCOUVER WA 98664
FASSERO JEFFREY/CATHY 7313 E CITRUS WY SCOTTSDALE AZ 85250	FAUSTER III FAMILY TRUST 6701 N SCOTTSDALE RD LOT 9 SCOTTSDALE AZ 85250-4403	FIVE STAR LAND OWNER LLC 6720 N SCOTTSDALE RD STE 130 SCOTTSDALE AZ 85253	HOSKINS LIVING TRUST 7319 E CITRUS WY SCOTTSDALE AZ 85250	HOWARD WEISS FAMILY TRUST 6166 N SCOTTSDALE RD UNIT B1004 SCOTTSDALE AZ 85253	HPTRI CORPORATION PO BOX 579 LOUISVILLE TN 37777-0579
FIVE STAR RESORT OWNER LLC 6720 N SCOTTSDALE RD SUITE 130 SCOTTSDALE AZ 85253	FOUR E FAMILY LLC 10960 WILSHIRE BLVD 5TH FL LOS ANGELES CA 90024	FOXBORO RANCH LLC PO BOX 17331 MUNDS PARK AZ 86017	HRA LINCOLN SCOTTSDALE LP 2999 N 44TH ST STE 400 PHOENIX AZ 85018	HULICK EVELYN 7321 E SIRRA VISTA DR SCOTTSDLAE AZ 85250	HURWORTH SAMUEL G 713 GASMAN PORT ANGELES WA 98362
FRANK C SKRUPA RESIDENCE TRUST/ETAL 6212 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	FRED AND COLLEEN STEINBERG TRUST 6118 N QUAIL RUN RD PARADISE VALLEY AZ 85253-5321	FREDRICKSON ROBERT J 7314 E CLAREMOUNT ST SCOTTSDALE AZ 85250	J AND D MARQUARDT FAMILY TRUST PO BOX 92621 ANCHORAGE AK 99509	J SCOTT PROPERTIES LLC 4111 E MADISON ST SUITE 438 SEATTLE WA 98112	JAMEL GREENWAY LLC 4771 N 20TH ST SUITE 22 PHOENIX AZ 85016
GARREY D REID/PAMELA J 6611 N SCOTTSDALE RD SCOTTSDALE AZ 85250	GEE JILL S 6333 N SCOTTSDALE RD UNIT 1 SCOTTSDALE AZ 85250	GEGUZYS RONALD P JR/ LEATHA ANN 6341 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	JANAS ROBERT 6166 N SCOTTSDALE RD UNIT C1008 SCOTTSDALE AZ 85253	JANET S PALMER TRUST 6150 N SCOTTSDALE RD 34 SCOTTSDALE AZ 85253	JAYE MICHAEL/REGINA 6166 N SCOTTSDALE RD UNIT B3003 SCOTTSDALE AZ 85253



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JEFFREY A BEACH AND THERESA A BEACH LIV TRUST 13385 HIGHLANDS PL APT 1412 SAN DIEGO CA 92130	JILL A GOLD REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT A3007 SCOTTSDALE AZ 85253	JOEL LUTZ LIVING TRUST/ JUDITH LUTZ LIV TRUST 6150 N SCOTTSDALE RD UNIT 43 SCOTTSDALE AZ 85253	M T OFFICE BUILDINGS LLC 6623 N SCOTTSDALE RD SCOTTSDALE AZ 85250	MADELAINE R BERG REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT B2004 PARADISE VALLEY AZ 85253	MAHAY HEIDI 7760 E GAINNEY RANCH RD UNIT 24 SCOTTSDALE AZ 85258-1634
JOHN AND KELLY PARKER LIVING TRUST 6316 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	JOHNSTON STEVEN A/WENDY E 9311 OLYMPIC VIEW DR EDMONDS WA 98020	JOSHUA AND LORIN SWIFT TRUST 5126 E FLOWER ST PHOENIX AZ 85018	MAI JOHN 7301 E CLAREMONT ST SCOTTSDALE AZ 85250	MAJORS K WAYNE II/OSWALT SANDRA C 6350 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	MANERI CAMILLE A/DERRICO CELIA 6150 N SCOTTSDLAER RD STE 35 SCOTTSDALE AZ 85253
KAHLE MARK/MARILYN 19 BOBBIE LN WILLIAMSVILLE NY 14221	KAREN K SCHWARTZ REV TR/GARY R SCHWARTZ REV T 6166 N SCOTTSDALE RD SCOTTSDALE AZ 85253	KAREN MARIE LIERSCH LIVING TRUST 6701 N SCOTTSDALE RD UNIT 11 SCOTTSDALE AZ 85250	MARK AND GLORIA CHANEY JOINT LIVING TRUST 6701 E SCOTTSDALE RD LOT 38 SCOTTSDALE AZ 85250	MARK DANIEL DETMER & SHELLY ANN DETMER TRUST 6826 E SOLCITO LN PARADISE VALLEY AZ 85253	MARK H HOFFMAN AND DEBORAH M HOFFMAN REV TR 6166 N SCOTTSDALE RD UNIT B3002 SCOTTSDALE AZ 85253
KAURA ASHWANI K 7815 N IRONWOOD DR PARADISE VALLEY AZ 85253	KNOLL ALLAN/SANDRA 6166 N SCOTTSDALE RD UNIT B3006 SCOTTSDALE AZ 85253	KOE BETTY 6701 N SCOTTSDALE RD UNIT 29 SCOTTSDALE AZ 85250	MARLETTE 7313 LLC 7313 E MARLETTE AVE SCOTTSDALE AZ 85250	MARSHA L FINCH GST TR/LESLIE J SAVANT GST TR 205 REGAL LN EAST PEORIA IL 61611	MCCARTHY WILLIAM P/MCMULLEN ELIZABETH A TR 6309 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253
KOSIEC RICHARD/RICHMOND ROSEMARY COLLEEN 6333 N SCOTTSDALE RD UNIT 5 SCOTTSDALE AZ 85250	LANHAM AND BONE DECENDENTS REVOCABLE TRUST PO BOX 25 CRESSIN TX 76035	LARSON GREGG D/LISA 6166 N SCOTTSDALE RD UNIT B1006 SCOTTSDALE AZ 85253	MCLEES ROBERT E/NANCY R 6701 N SCOTTSDALE RD - LOT 12 SCOTTSDALE AZ 85250	MENSCH KATHRYN G 6126 N SCOTTSDALE RD NO 7 PARADISE VALLEY AZ 85253	MERKOS CHABAD-LUBAVITCH ORGANIZATION INC 6201 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253
LEGROW HAROLD R/MARY F 28 EDGEMERE RD LYNNFIELD MA 1940	LEWIS JULIANNE N TR 6044 N QUAIL RUN RD PARADISE VALLEY AZ 85253	LILIEN BRIAN/DENISE 6166 N SCOTTSDALE RD UNIT A 2002 SCOTTSDALE AZ 85253	MICHAEL AND KATHLEEN DEGROFF FAMILY TRUST 6701 N SCOTTSDALE RD LOT 28 SCOTTSDALE AZ 85250	MICHAEL L SHOEN FAMILY TRUST 6719 E MALCOMB DR PARADISE VALLEY AZ 85253	MICHAEL T HOGAN LIVING TRUST 6166 N SCOTTSDALE RD UNIT A2006 SCOTTSDALE AZ 85253-5430
LINCOLN SCOTTSDALE BUILDING LLC 6607 N SCOTTSDALE RD STE H100 SCOTTSDALE AZ 85250	LINDA CHRISTIAN REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT C3003 SCOTTSDALE AZ 85253	LINSCOTT HOTEL CORP LEASE 6333 N SCOTTSDALE RD SCOTTSDALE AZ 85250	MICHAELS JAMES/LINDA F 6166 N SCOTTSDALE RD UNIT A2001 PARADISE VALLEY AZ 85253	MICHAUD JANETTE M/JOSEPH E (LEASE) 7308 E ROSE LN SCOTTSDALE AZ 85253	MICHELLE D SCHECHNER REVOCABLE TRUST 6116 N SCOTTSDALE RD UNIT C1002 PARADISE VALLEY AZ 85253
LIPPERT MORRIS OLINS 6225 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	LIVI ANGIOLO 6316 E QUAIL RUN PARADISE VALLEY AZ 85253	LIVI PATRICIA 6316 E QUAIL RUN RD PARADISE VALLEY AZ 85253	MILLER SCOTT E/PHYLLIS P (LEASE) 7307 E CLAREMONT ST SCOTTSDALE AZ 85250	MILNE FAMILY TRUST 6166 N SCOTTSDALE RD UNIT B2006 SCOTTSDALE AZ 85253	MONTENEGRINO VINCENT J/ NATALIE 6740 E LINCOLN DR PARADISE VALLEY AZ 85253
LIVI PATRICIA 6921 E QUAIL RUN RD SCOTTSDALE AZ 85253	LMB II CONDO LLC 11615 MOHAWK LN LEAWOOD KS 66211	LOANSTAR CAPITAL LLC 6619 N SCOTTSDALE RD SCOTTSDALE AZ 85250	MONTOPOLI DUANE C/BARBARA P 108 CAMPION ROAD NORTH ANDOVER MA 01845-1221	MOORE LAURA E 9400 N FRYER RD PEORIA IL 61615	MURPHY MICHAEL T/NANNEN DAWN M TR 2543 E 21ST ST FREMONT NE 68025
LOVELADY TROY J 5808 E MORNING VISTA LN CAVE CREEK AZ 85331	LYONS MARK K/BETHANN B 6166 N SCOTTSDALE RD UNIT B1001 PARADISE VALLEY AZ 85253	M PAMELA PENN REVOCABLE TRUST PO BOX 24128 OKLAHOMA CITY OK 73124	MYKOL DOUGLAS B/DORENE E 222-A W BAY DR NW OLYMPIA WA 98502	NANCY A SOPER REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT B2007 SCOTTSDALE AZ 85253	NARAZONA CORPORATION PO BOX 61655 PHOENIX AZ 85082-1655



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NICASTRO CHERISSE M 6206 N MOCKINGBIRD LN PARADISE VALLEY AZ 85253	NORMAN WILLIAM FAIN II AND NANCY LEE FAIN REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT A3004 SCOTTSDALE AZ 85253	NOSTRAND ROBERT D/ SUZANNE KNIGHT 251 STEELE ST DENVER CO 80206	RICHARD G LAVIGNE TRUST 2523 HAVERTON RD SAINT PAUL MN 55120	RICHARD T WINTERMANTEL REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT A1008 SCOTTSDALE AZ 85253-5429	RINK GLENN R 6028 N QUAIL RUN RD PARADISE VALLEY AZ 85253
NOWAK JOYCE L LOMBARDO TR P O BOX 50786 MENDOTA MN 55150	OKINOW SANDRA L 11472 FAIRFIELD RD WEST UNIT 402 MINNETONKA MN 55305	OMEARA FAMILY TRUST 6701 N SCOTTSDALE RD UNIT 3 SCOTTSDALE AZ 85250	RN PROPERTIES LINCOLN PLAZA LLC 2021 E CAMELBACK STE A38 PHOENIX AZ 85016	ROBERT LEVIN REVOCABLE TRUST 3001 RIDGE RD HIGHLAND PARK IL 60035	ROBERT ONG HING AND ALICE Y HING FAMILY TRUST 6145 E JOSHUA TREE LN PARADISE VALLEY AZ 85253
ONEIL MICHAEL 50 VANDERBILT MOTOR PKWY COMMACK NY 11725	ORVIS PAUL W JR & CELIA C 234 FIDDLERS POINT DR ST AUGUSTINE FL 32080	PALMER JANET S TR 6150 N SCOTTSDALE RD 34 SCOTTSDALE AZ 85253	ROBERT SARVER TRUST 5710 N YUCCA RD PARADISE VALLEY AZ 85253	RODIN RICHARD S/ELLEN S 5610 WISCONSIN AVE UNIT 806 CHEVY CHASE MD 20815	ROGERS DAVID J/CAROLYN M TR 2745 HIGHLAND TRR SHEBOYGAN WI 53083
PARADISE VALLEY WATER CO 2355 W PINNACLE PEAK RD STE 300 PHOENIX AZ 85027	PARADISE VILLAGE ENTERPRISES LLC 6818 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	PARFET WILLIAM M/GENE V/MARK E 6701 N SCOTTSDALE RD UNIT 41 SCOTTSDALE AZ 85253	ROSS GENO G 6806 E HAPPY VISTA LN PARADISE VALLEY AZ 85253	RUTTLE CURT J/MARIA D H TR 6316 N QUAIL RUN RD PARADISE VALLEY AZ 85253	SANCHEZ JAIME & ASELA M DE 6823 E VALLEY VISTA LN PARADISE VALLEY AZ 85253
PATEL PRATAP P/KATIE P 284 ASHAROKEN AVE NORTHPORT NY 11768	PEGGY KEALEY OUSLEY TRUST 6166 N SCOTTSDALE RD UNIT 3008 SCOTTSDALE AZ 85253	PETER BLACK LIVING TRUST 6166 N SCOTTSDALE RD UNIT A1003 PARADISE VALLEY AZ 85253-5429	SANDRALOU HATKOFF REVOCABLE TRUST 7320 E CLAREMONT SCOTTSDALE AZ 85253	SANDS RESIDENTIAL LLC 8605 SANTA MONICA BLVD SUITE 7838 LOS ANGELES CA 90069	SANFORD ED R/ BROTMAN JUDITH ANN 6166 N SCOTTSDALE RD UNIT A2008 SCOTTSDALE AZ 85253
PFITZER KARL F/VICKIE RAE 6808 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	PLONE BARBARA A 100 LAKESHORE DR APT 551 NORTH PALM BEACH FL 33408	PNEUM INVESTMENTS LLC 6619 N SCOTTSDALE RD SCOTTSDALE AZ 85250	SANTELER RAYMOND III/GAIL 6166 N SCOTTSDALE RD UNIT C2002 BLDG C SCOTTSDALE AZ 85253-5439	SAVAGE FAMILY PARTNERSHIP LTD/SAVAGE JACK W 4037 COTSWALD CT DALLAS TX 75220	SCHIFFMAN FAMILY TRUST 7316 E SIERRA VISTA DR SCOTTSDALE AZ 85250
PRENTICE TAMALEE G 7314 E MALCOMB DR NO 3 SCOTTSDALE AZ 85260	PV HOTEL VENTURE SPE LLC 2929 ARCH ST PHILADELPHIA PA 19104	PV SCOTTSDALE HOTEL OWNER SPE LLC 2929 ARCH ST PHILADELPHIA PA 19104	SCHROECKENSTEIN DAVID C/CHRISTINE H 5000 FRANCE AVE SOUTH UNIT 26 EDINA MN 55410	SCOTT THOMAS E/JUNE L (LEASE) 7314 E MARLETTE AVE SCOTTSDALE AZ 85250	SCOTT WRIGHT SMITH REVOCABLE TRUST 6810 E VALLEY VISTA LN PARADISE VALLEY AZ 85253
RANDALL E BROWN AND ELIZABETH D BROWN JOINT REVOCABLE TRUST 38167 WEST DR UNIT 719 REHOBOTH BEACH DE 19971-1773	RANDOLPH SCOTT MAHONEY LIVING TRUST 6166 N SCOTTSDALE RD UNIT B3008 SCOTTSDALE AZ 85253	RANUCCI ROBERT J 6701 N SCOTTSDALE RD 39 SCOTTSDALE AZ 85250	SCOTTSDALE CITY OF 7447 E INDIAN SCHOOL RD STE 205 SCOTTSDALE AZ 85251	SCOTTSDALE SPECTRUM LLC 6730 N SCOTTSDALE RD SCOTTSDALE AZ 85253	SCRIBNER FAMILY TRUST 6166 N SCOTTSDALE RD UNIT A3002 PARADISE VALLEY AZ 85253-5431
RASMUSSEN LIVING TRUST 6102 N QUAIL RUN RD SCOTTSDALE AZ 85253	RED HILTON VILLAGE LLC (LEASE) ONE E WASHINGTON ST STE 300 PHOENIX AZ 85004	REED BRADFORD CUTLER LIVING TRUST 7349 N VIA PASEO DEL SUR STE 515 SCOTTSDALE AZ 85258	SHARPLES COLIN POUNSLY MILL BARN EAST SUSSEX ENGLAND TN22 5HP	SHELDON HEIDI 6701 N SCOTTSDALE RD UNIT 7 SCOTTSDALE AZ 85250	SHRIMPLIN MALCOLM R 6130 N SCOTTSDALE RD STE 15 SCOTTSDALE AZ 85250

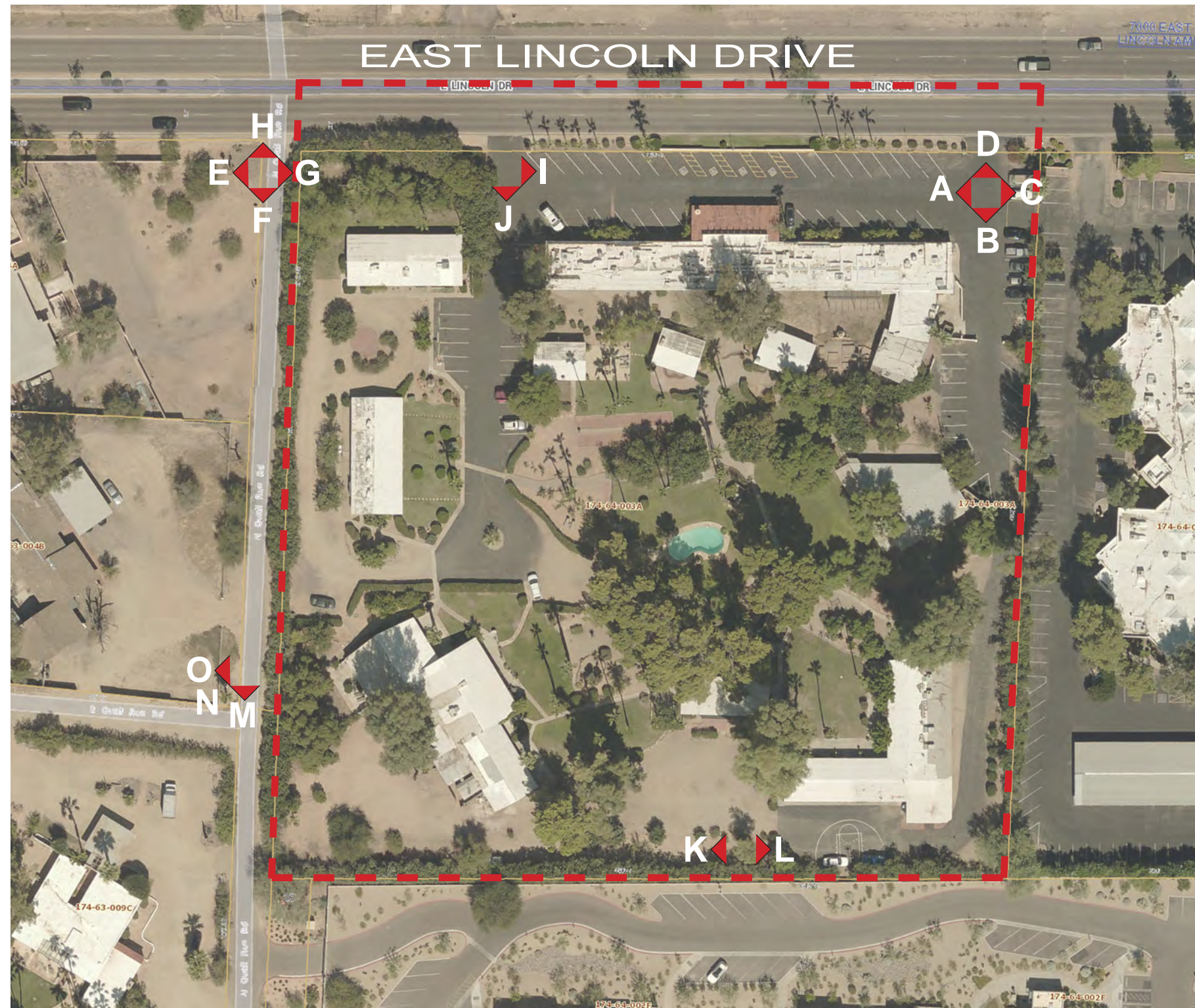


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SOLE AND SEPARATE LLC/ETAL 6809 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	SPIGNER BRUCE A/GENEVA MARIE 6748 E HORSESHOE LN PARADISE VALLEY AZ 85253	ST BARNABAS OF THE DESERT 6715 N MOCKINGBIRD LN SCOTTSDALE AZ 85253	WOOKEY BRENT A/CHRISTIE L 1617 12TH AVE NE WATERTOWN SD 57201	WOOLDRIK JOHN G/CAROLE 6166 N SCOTTSDALE RD UNIT C4005 SCOTTSDALE AZ 85253	WUNDERLICH LOUIS J/FRANCES L TR 6816 E VALLEY VISTA LN PARADISE VLY AZ 85253
STEVEN E SIVERSON AND MICHELE SIVERSON TRUST 9600 N 96TH ST APT 208 SCOTTSDALE AZ 85258	SUD ROHIT/PRITI 6835 E SOLCITO LN PARADISE VALLEY AZ 85253	SUNCHASE CENTURY LLC 5665 N SCOTTSDALE RD STE 135 SCOTTSDALE AZ 85250	YAMASHIRO DANIEL/KRISTINE 6812 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	YEUNG CHRISTOPHER/HELEN 6845 E SOLCITO LN PARADISE VALLEY AZ 85253	ZAIS FAMILY TRUST 6252 N 73RD ST SCOTTSDALE AZ 85250
SUNCHASE HOLDINGS INC 5665 N SCOTTSDALE RD STE 135 SCOTTSDALE AZ 85250	SUSAN MOORE SALTER SEPARATE PROPERTY TRUST 7328 E SIERRA VISTA DR SCOTTSDALE AZ 85250	SYLVIA L SHINE REVOCABLE TRUST PO BOX 737 SPENCER IA 51301	ZOE THAIS 7904 E CHAPARRAL RD STE A110-259 SCOTTSDALE AZ 85250		
THIRD AVENUE INVESTMENTS LLC 51 S MAIN ST SALT LAKE CITY UT 84111	THOMAS CRAMSIE TRUST/CRAMSIE JANICE E 6166 N SCOTTSDALE RD UNIT C3006 SCOTTSDALE AZ 85253	THOMAS H KENNEDY AND DIANNE M KENNEDY TRUST 7327 E SIERRA VISTA DR SCOTTSDALE AZ 85250			
TIOA MASTER LIMITED PARTNERSHIP LEASE 6333 W SCOTTSDALE RD SCOTTSDALE AZ 85250	TOOFAN MARC P/KERIC NATASHA 6802 E VALLEY VISTA LN PARADISE VALLEY AZ 85253	VAN BERKEL FAMILY REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT B4001 SCOTTSDALE AZ 85253			
VANMOORLEHEM CHAD 7313 E CLAREMONT ST SCOTTSDALE AZ 85250	VERMA AVTAR C/SATYA P PO BOX 28330 TEMPE AZ 85285	VICTOR C FARACI TRUST/DIANNE C FARRACI TRUST 6166 N SCOTTSDALE RD UNIT B3004 SCOTTSDALE AZ 85253			
VIKKI L RASKIN REVOCABLE TRUST 6166 N SCOTTSDALE RD UNIT B3005 SCOTTSDALE AZ 85253	W J SMALL GRANDCHILDRENS TRUST/ETAL 14100 N 83RD AVE STE 200 PEORIA AZ 85381	WALKER ANDREW J/ELIZABETH A 6150 N SCOTTSDALE RD 49 PARADISE VALLEY AZ 85253			
WARREN F AND NANCY J BRYANT TRUST 6846 E SOLCITO LN PARADISE VALLEY AZ 85253	WEBER WINSTON D/PHYLLIS D TR 16140 KENNEDY RD LOS GATOS CA 95032	WEISSBLUTH JOY 6264 N 73RD ST SCOTTSDALE AZ 85250			
WERNER HENRY H/SARA M 7302 E ROSE LN SCOTTSDALE AZ 85250	WEST ROBIN J 6701 N SCOTTSDALE RD NO 8 SCOTTSDALE AZ 85250	WILLIAM C WEESE TRUST 6166 N SCOTTSDALE RD UNIT B1002 SCOTTSDALE AZ 85253			



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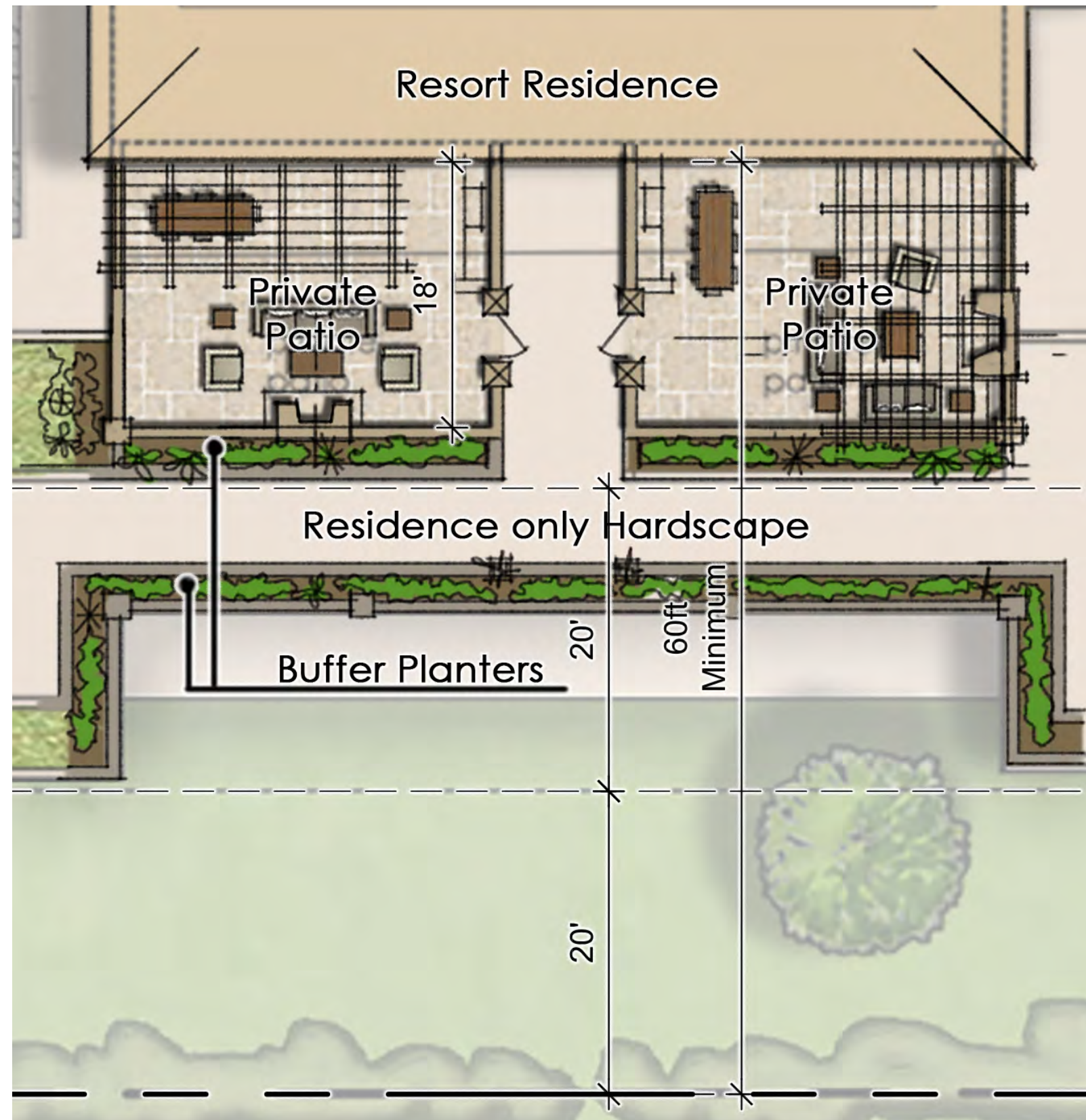


EXISTING SITE PHOTOS



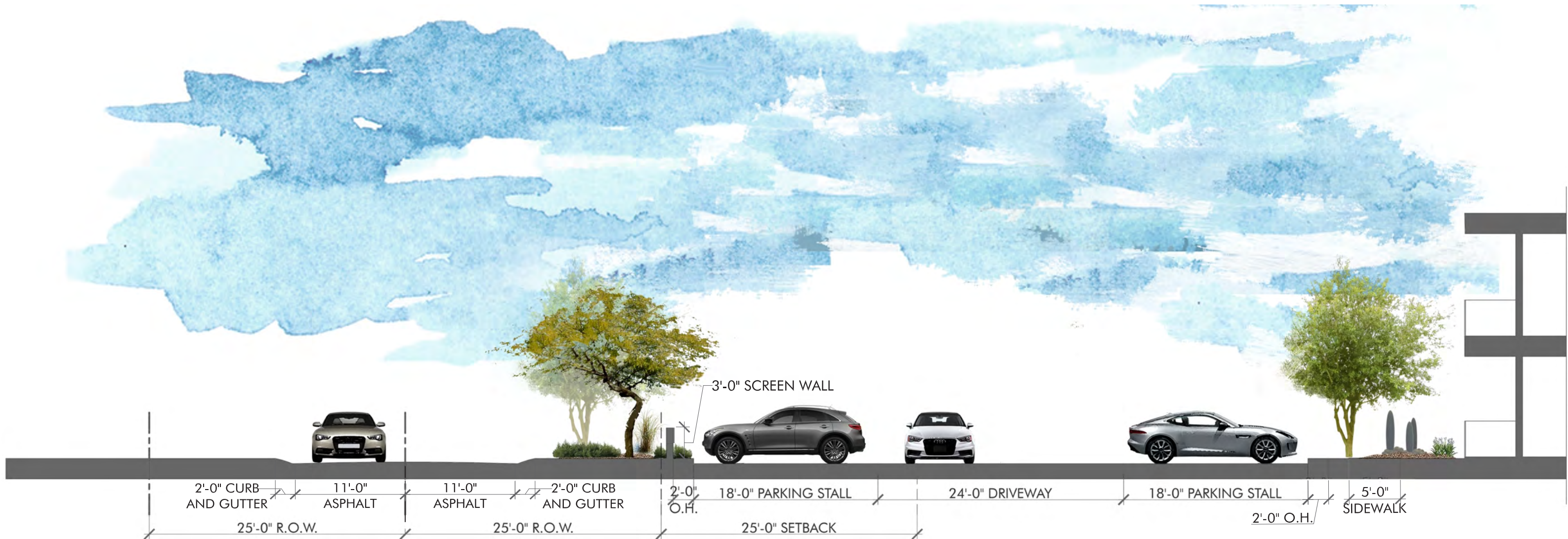








QUAIL RUN ROADWAY SECTION



Roadway Section is conceptual.



Smoke Tree Resort

Traffic Impact Analysis

7101 E. Lincoln Drive
Town of Paradise Valley, Arizona

February 2019
Project No. 18-0550

Prepared For:

Beus Gilbert, PLC
701 N. 44th Street
Phoenix, Arizona 85008

For Submittal to:

Town of Paradise Valley

Prepared By:



10605 North Hayden Road
Suite 140
Scottsdale, Arizona 85260
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SMOKE TREE RESORT TRAFFIC IMPACT ANALYSIS

**7101 E Lincoln Drive
Town of Paradise Valley, Arizona**

Prepared for:
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701 N 44th Street
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For Submittal to:
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February 2019

CivTech Project No. 18-0550

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EXECUTIVE SUMMARY

This report documents a traffic impact analysis performed for the proposed Smoke Tree Resort south of Lincoln Road between Mockingbird Lane and Scottsdale Road in the Town of Paradise Valley. The proposed development will consist of maximum of 120 hotel rooms and a maximum of 30 residential units of 1,200 SF each above the hotel rooms, of which 15 will have a lock-off feature.

CivTech, Inc. has been retained by Beus Gilbert PLLC to perform the traffic impact study for the proposed redevelopment. The purpose of this assessment is to address the traffic and transportation impacts of the proposed development on the surrounding streets and intersections.

The following conclusions have been documented in this study.

General

- The proposed development is anticipated to generate approximately 1,032 weekday daily trips, with 69 trips occurring in the AM peak hour and 101 trips occurring in the PM peak hour.

Existing Conditions

- The results of the existing conditions analysis indicates that all intersections currently operate at an overall acceptable level of service (LOS D or better), with the exception of the intersections of Apartment Driveway & Lincoln Drive and AJ's Driveway & Lincoln Drive under the existing lane configurations.
 - The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and existing Apartments. It is possible that a raised median will be installed along the length of Lincoln Drive.

Opening Year 2020

- The results of the 2020 opening year Synchro analysis indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:
 - The intersection of **Mockingbird Lane & Lincoln Drive** is expected to experience delay on the northbound and southbound approaches during the no build and the full build scenario. By increasing the southbound left turn phase from 9 seconds to 19 seconds and changing the northbound left turn phase from permissive to permissive-protected, the southbound approach delay is expected to decrease from 56 seconds per vehicle to 55.1 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 55.4 seconds per vehicle during the PM peak hour. The northbound approach delay is expected to decrease from 48 seconds per vehicle to 43.3 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 57.3 seconds per vehicle

in the PM peak hour, which is very close to what is considered an acceptable level of service.

- The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.
- The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the eastbound and westbound approaches during both the AM and PM peak hours for both the no build and full build scenarios. The intersection is expected to operate at an overall acceptable level of service (LOS D or better) during both the AM and PM peak hours of both scenarios, however, the eastbound and westbound approach delay could be improved by increasing the eastbound phase from 30 seconds to 32 seconds and increasing the westbound phase from 13 seconds to 21 seconds. This change is expected to decrease the overall intersection delay from 46.4 seconds per vehicle to 25 seconds per vehicle in the AM peak and increase the overall intersection delay from 44.9 seconds per vehicle to 52.1 seconds per vehicle in the PM peak hour. Although the PM peak hour overall intersection delay is expected to increase, the individual approach delays for the eastbound and westbound decrease significantly. The eastbound approach is expected to decrease from 82.8 seconds per vehicle to 16 seconds per vehicle and the westbound approach is expected to decrease from 63.8 seconds per vehicle to 23.7 seconds per vehicle during the PM peak hour.
- The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

Horizon year 2025

- The results of the 2025 horizon year Synchro analysis summarized in **Table 7** indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:
 - The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.
 - The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the southbound, eastbound and westbound approaches during both the AM and PM peak hours for both the no build

and full build scenarios. By decreasing the cycle length from 130 seconds to 120 seconds and optimizing the green times, the overall intersection delay is expected to decrease from 76 seconds per vehicle to 58.2 seconds per vehicle during the AM peak hour and decrease from 62.7 seconds per vehicle to 57.7 seconds per vehicle during the PM peak hour. Although this mitigation measure is expected to decrease the approach delays and the overall intersection delay, if this signal is coordinated with any others along Scottsdale Road, changing the cycle length will interfere with the coordination and would not be recommended. The City of Scottsdale has stated that they have plans to change the eastbound approach configuration to dual left turn lanes and a shared through/right turn lane. It is not known when this change will occur, but it could improve the delay if the intersection is retimed.

- The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

Queue Storage and Sight Distance

- According to the CivTech study done for the Ritz Carlton, the newly signalized intersection of Quail Run Road and Lincoln Drive will have eastbound/westbound left turn lanes and a westbound right turn lane striped with 150 feet of storage each. While 150 feet is being proposed due to the current development agreement with Five Star Development for the Ritz Carlton, less is required to meet the recommended AASHTO length. The recommended storage lengths are provided for horizon year 2025 using the total traffic projections.
 - The Smoke Tree Resort is requesting a new full access driveway located approximately 80 feet west of the eastern most property line. The Town of Paradise Valley has stated that an eastbound right turn deceleration lane is required at this driveway. Using AASHTO methodology only 25 feet of storage is required, however, 50 feet is the minimum that should be recommended per AASHTO standards with a 90 foot taper.
- There are no existing obstructions to sight distance within the project intersections or along the included corners of the proposed intersection. Adequate site distance must be provided at the intersections to allow safe left and right turning movements from the development
 - The contractor should ensure that sight visibility is provided at all proposed intersections according to the distances and that sight triangles at public intersections are maintained according to the Town Code. All vegetation and trees should be maintained according to Town of Paradise Valley regulations.

INTRODUCTION

Smoke Tree Resort is currently 26 individual suites and bungalows. The site is being redeveloped and is proposed as a hotel with a maximum of 120 hotel rooms and a maximum of 30 residential units of 1,200 SF each above the hotel rooms, of which 15 will have a lock-off feature. The site is located on the south side of Lincoln Drive between Mockingbird Lane and Scottsdale road.

Study Requirements

This study analyzes the traffic impact due to the proposed development on the surrounding street network. The study will be prepared in conformance with the Town of Paradise Valley's Traffic Impact Analysis (TIA) Criteria and Traffic Impact Statement (TIS) Criteria, May 2015. The specific objectives of the study are:

- ◆ To determine whether the planned street system in the vicinity of the site is adequate to accommodate the increased traffic that results from the proposed development.
- ◆ To recommend additional street improvements or traffic control devices, where necessary, and to mitigate the additional site-generated traffic

Study Area

This study is classified as a Category 1 TIA meaning the study area is defined as all signalized and major unsignalized intersections within a ¼ -mile radius of the site. The following study area intersections have been evaluated:

- Mockingbird Lane & Lincoln Drive
- Quail Run Road & Lincoln Drive
- Smoke Tree Driveway West & Lincoln Drive
- Smoke Tree Driveway East & Lincoln Drive
- Medical Office Driveway West & Lincoln Drive
- Medical Office Driveway East & Lincoln Drive
- Apartment Driveway & Lincoln Drive
- AJ's Driveway & Lincoln Drive
- Scottsdale Road & Lincoln Drive

Horizon Years

Per the study requirements, a Category 1 Traffic Impact and Mitigation Analysis is required. Analysis will be conducted on the current conditions, the opening year and opening plus five years.

It is assumed that development will open in October 2020. For purposes of this study, the development will be assumed fully built out by 2020. Therefore, the analysis years to be analyzed for this study include opening year 2020 and horizon year 2025. A location map of the study area is provided in **Figure 1**.

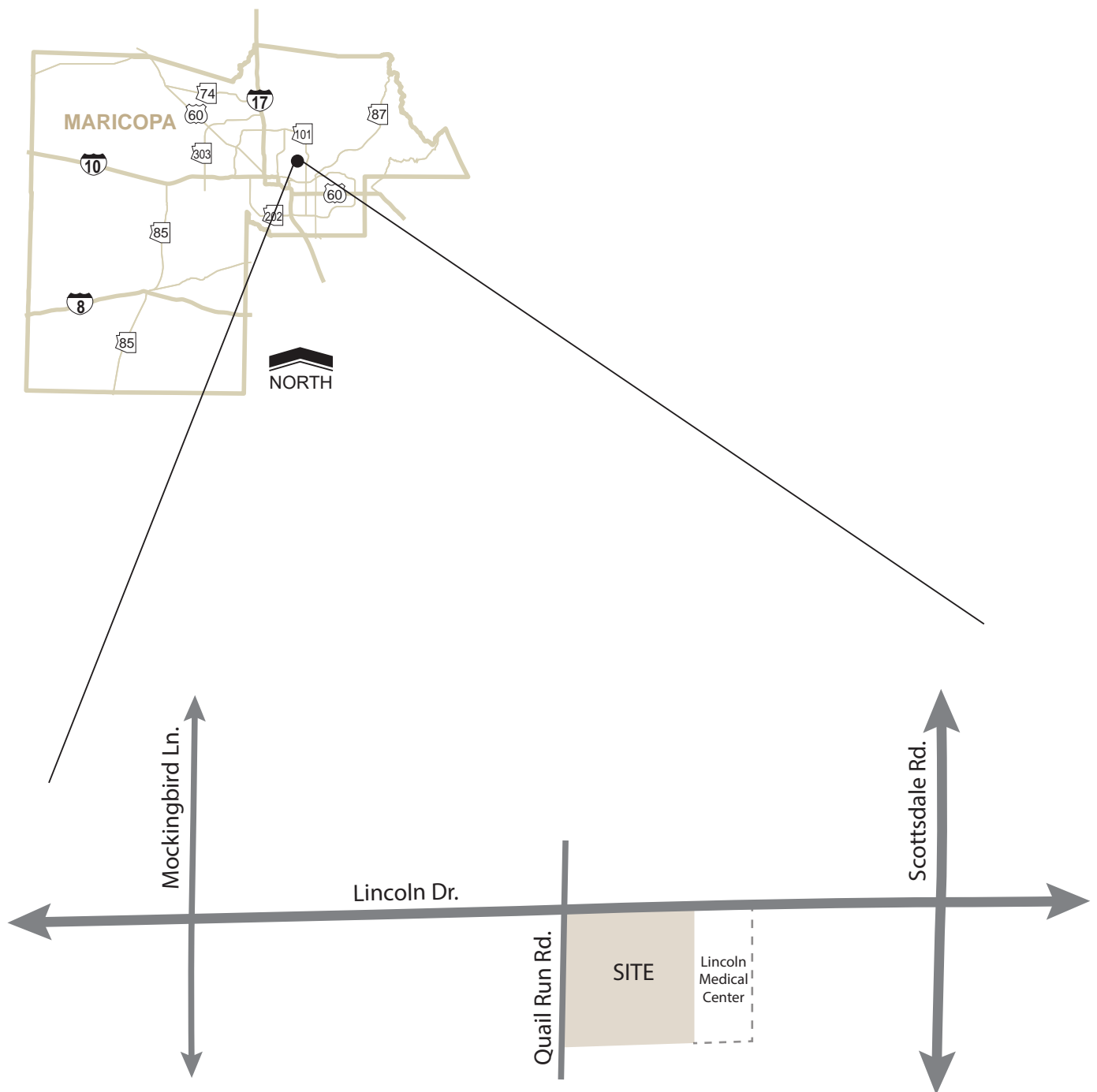


Figure 1: Vicinity Map

EXISTING CONDITIONS

SURROUNDING LAND USE

The surrounding area includes various land uses. Directly north of the site, on the north side of Lincoln Drive, is the site for the new Ritz Carlton luxury hotel. Bordering the site to the east is the site for the proposed Lincoln Medical Center expansion. West of the site are detached single-family homes. Northeast of the site is the Lincoln Scottsdale, multi-family apartment homes. Also within the vicinity of the site are many retail shops and restaurants.

EXISTING ROADWAY NETWORK

The existing roadway network analyzed in this study includes Mockingbird Lane, Lincoln Drive, Quail Run Road and Scottsdale Road.

Mockingbird Lane is a north-south three-lane road with one lane in each travelling direction and a continuous two-way-left-turn lane north of Lincoln Drive, and a two-lane road south of Lincoln Drive. Mockingbird Lane begins at the intersection with McDonald Road and continues north for approximately 2 miles before terminating at the intersection with Northern Avenue. The posted speed limit is 35 miles per hour (mph).

Lincoln Drive is an east-west four-lane road with two lanes in each travelling direction. Within the vicinity of the site, there are raised medians along portions of the road. Lincoln Drive begins just east of the State Route 51 freeway and continues east for approximately 7 miles before terminating at the intersection with Cattletrack Road, just west of the Arizona Canal. The posted speed limit is 40 mph within the vicinity of the site.

Quail Run Road is a north-south two-lane road with one lane in each travelling direction. Quail Run Road begins just north of a private property south of the site and continues north for approximately 0.15 miles before terminating at the intersection with Lincoln Drive. There is no posted speed limit.

Scottsdale Road is a north-south six-lane road with three lanes in each travelling direction within the vicinity of the site. There are broken, raised medians along the whole length of road. Scottsdale Road begins at the intersection with Rio Salado Parkway and continues north for approximately 18 miles before terminating at the intersection with Carefree Highway. The posted speed limit is 45 mph.

EXISTING INTERSECTION CONFIGURATION

The intersection of **Mockingbird Lane and Lincoln Drive** is a four-legged signalized intersection with protected left turns on the southbound and westbound approaches. The northbound and southbound approaches each have one dedicated left turn lane and a shared through and right turn lane. The eastbound and westbound approaches each have one dedicated left turn lane, one through lane, and one shared through and right turn lane. There are pedestrian crosswalks across all legs of the intersection.

The intersection of **Quail Run Road and Lincoln Drive** is a four-legged, stop-controlled intersection with free movements in the east and west directions. The northbound approach has one shared left turn/through/right turn lane. The eastbound approach has one through lane and one shared through and right turn lane. The westbound approach has two through lanes and a break in the median to allow for dedicated left turns. The southbound approach is currently a construction access point with one shared left turn/through/right turn lane.

The intersection of **Smoke Tree Driveway West and Lincoln Drive** is a three-legged, stop-controlled “T” intersection with free movements in the east and west directions. The northbound approach has one shared left turn and right turn lane. The eastbound approach has one through lane and one shared through and right turn lane. The westbound approach has two through lanes and a break in the median to allow for dedicated left turns.

The intersection of **Smoke Tree Driveway East and Lincoln Drive** is a three-legged, stop-controlled “T” intersection with free movements in the east and west directions. The northbound approach has one shared left turn and right turn lane. The eastbound approach has one through lane and one shared through and right turn lane. The westbound approach has two through lanes and a break in the median to allow for dedicated left turns.

The intersection of **Medical Office Driveway West and Lincoln Drive** is a three-legged, stop-controlled “T” intersection with free movements in the east and west directions. The northbound approach has one shared left turn and right turn lane. The eastbound approach has one through lane and one shared through and right turn lane. The westbound approach has two through lanes and a break in the median to allow for dedicated left turns.

The intersection of **Medical Office Driveway East and Lincoln Drive** is a three-legged, stop-controlled “T” intersection with free movements in the east and west directions. The northbound approach has one shared left turn and right turn lane. The eastbound approach has one through lane and one shared through and right turn lane. The westbound approach has two through lanes and a break in the median to allow for dedicated left turns.

The intersection of **Apartment Driveway and Lincoln Drive** is a four-legged, stop-controlled intersection with free movements in the east and west directions. The southbound approach consists of one dedicated left turn lane and one dedicated right turn lane. The eastbound approach consists of a two-way-left turn lane one through lane and one shared through and right turn lane. The northbound approach consists of one shared left turn and right turn lane. The westbound approach consists of a two-way left turn lane, on through lane and one shared through and right turn lane.

The intersection of **AJ’s Driveway and Lincoln Drive** is a four-legged, stop-controlled intersection with free movements in the east and west directions. The northbound approach has one shared left turn and right turn lane. The eastbound approach has a

two-way-left-turn lane, one through lane and one shared through and right turn lane. The southbound approach has one dedicated left turn lane and one dedicated right turn lane. The westbound approach has a dedicated left turn lane, one through lane and one shared through and right turn lane.

The intersection of **Scottsdale Road and Lincoln Drive** is a four-legged signalized intersection with split phasing on the eastbound and westbound approaches and protected left turns on the northbound and southbound approaches. The northbound approach has two dedicated left turn lanes, two through lanes and one shared through and right turn lane. The westbound approach has one dedicated left turn lane, one through lane and one shared through and right turn lane. The southbound approach has one dedicated left turn lane, three through lanes and one dedicated right turn lane. The eastbound approach has one dedicated left turn lane, one shared left turn and through lane and one dedicated right turn lane. There are pedestrian cross walks across all legs of the intersection.

The existing intersection configurations and traffic control is illustrated in **Figure 2**.

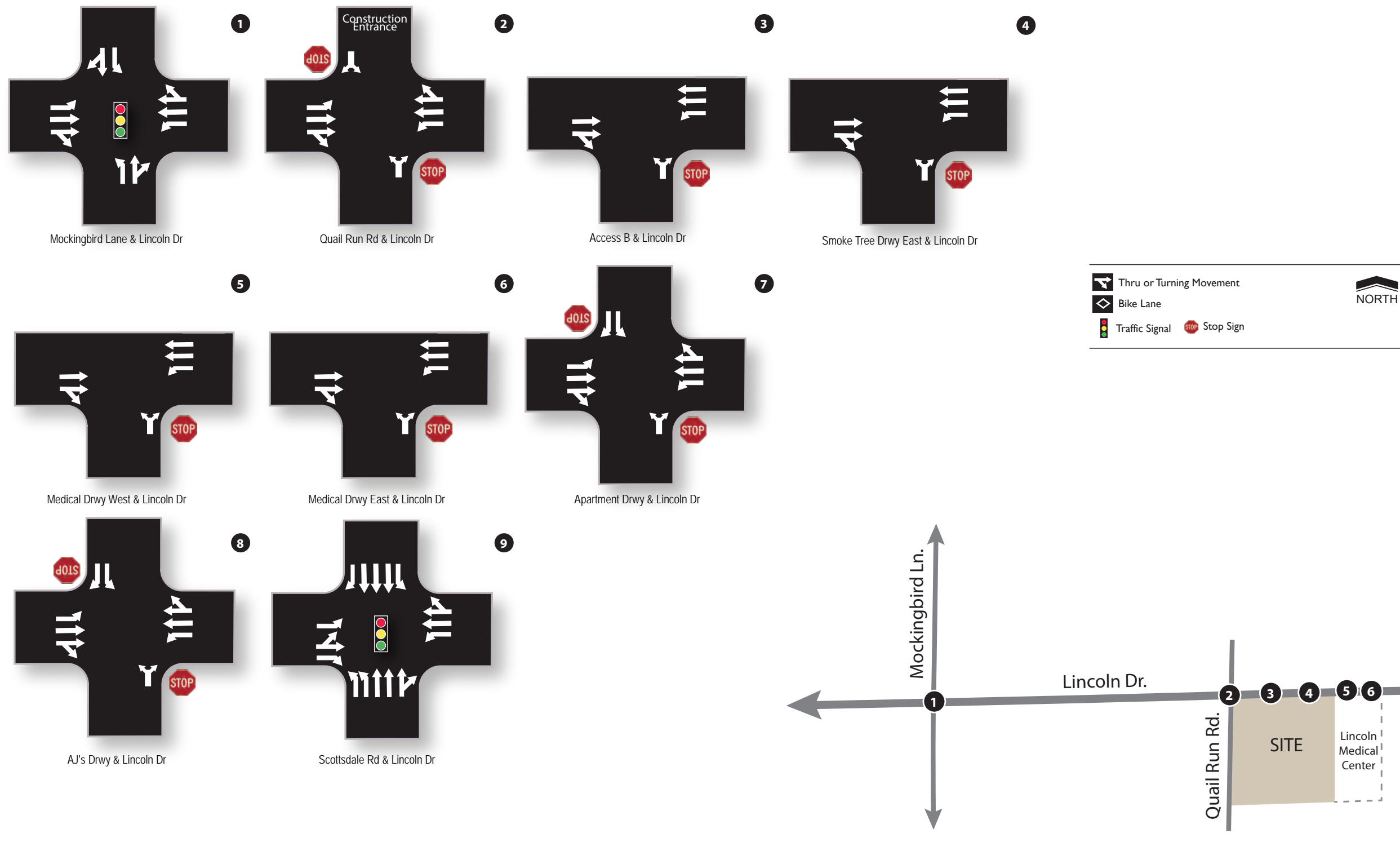


Figure 2: Existing Lane Configurations and Traffic Controls

EXISTING TRAFFIC VOLUMES

CivTech engaged Field Data Services of Arizona, Inc. to record traffic volumes at nine study intersections within the project vicinity. Peak hour volume turning movement counts were performed from 7:00-9:00 AM and 4:00-6:00 PM on Thursday, May 31, 2018. Peak hour turning movement counts were conducted at the following study intersections:

- Mockingbird Lane & Lincoln Drive
- Quail Run Road & Lincoln Drive
- Smoke Tree Driveway West & Lincoln Drive
- Smoke Tree Driveway East & Lincoln Drive
- Medical Office Driveway West & Lincoln Drive
- Medical Office Driveway East & Lincoln Drive
- Apartment Driveway & Lincoln Drive
- AJ's Driveway & Lincoln Drive
- Scottsdale Road & Lincoln Drive

The Town of Paradise Valley requires that a seasonal adjustment factor be applied to existing traffic counts taken outside of typical months. These traffic counts were conducted in May, and summer months typically have lower amounts of traffic due to school not being in session. The seasonal adjustment factor for the month of May is 1.01, however since they were conducted on the last day of the month, the adjustment factor for the month of June will be used to be more conservative. The seasonal adjustment factor for June is 1.03, this was applied to all traffic within the study area. Existing 2018 traffic volumes with the seasonal adjustment factor applied are presented in **Figure 3** for the weekday AM and PM peak hours. Raw traffic volume data obtained for this study have been included in **Appendix B**.

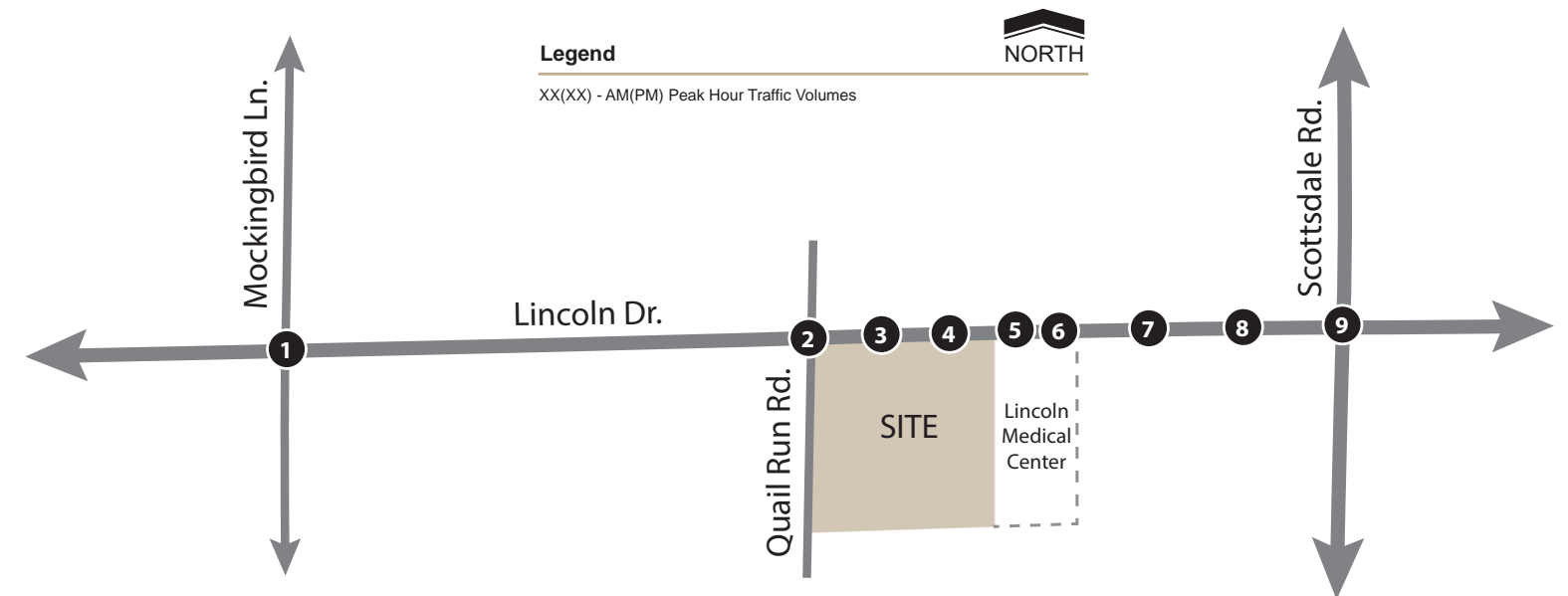
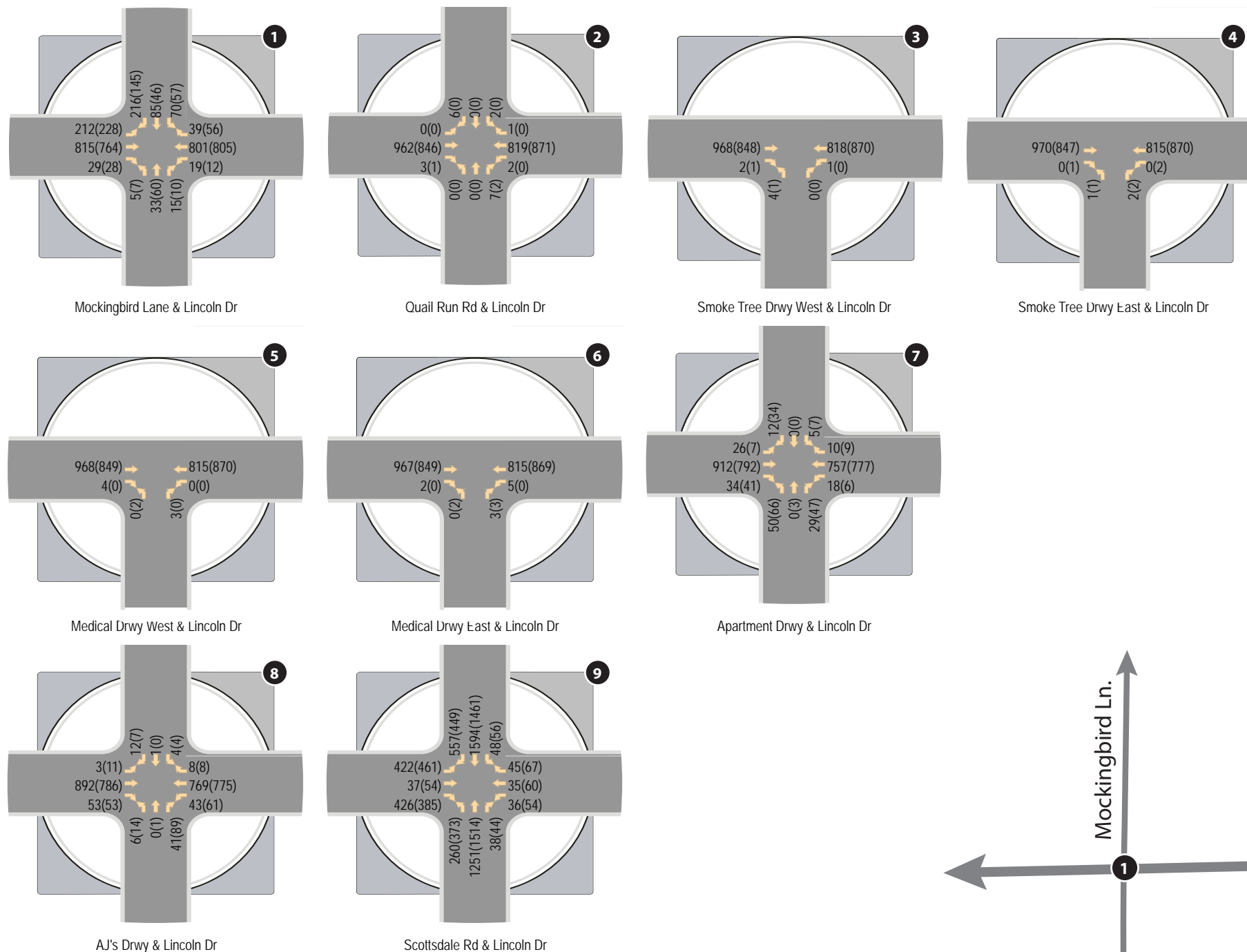


Figure 3: Seasonally Adjusted Existing Traffic Volumes

EXISTING CAPACITY ANALYSIS

Peak hour capacity analyses have been conducted for the study intersections based on existing intersection configurations and traffic volumes. All intersections have been analyzed using the methodologies presented in the *Highway Capacity Manual (HCM)*, *Special Report 209*, and Updated 2016 and using Synchro software, version 10.0 under the HCM 6th edition methodology.

The concept of level of service (LOS) uses qualitative measures that characterize operational conditions within the traffic stream. The individual levels of service are described by factors that include speed, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations A through F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions. Levels of service for intersections are defined in terms of delay ranges. **Table 1** lists the level of service criteria for signalized and unsignalized intersections, respectively.

Table 1: Level of Service Criteria

Level of Service	Control Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

Source: Exhibit 19-8, Exhibit 20-2, Exhibit 21-8 and Exhibit 22-8, *Highway Capacity Manual 2017*

Synchro 10.0 software calculates the LOS per the HCM 6th edition methodology. The 6th edition HCM documents the signalized LOS calculation methodology which takes into account lane geometry, traffic volumes and cycle length/phasing to compute LOS. Synchro analysis worksheets report individual movement delay/LOS and overall delay/LOS for signalized intersections; unsignalized intersection worksheets report the worst-case delay/LOS and the average overall intersection delay. Signal timing data for the intersection of Mockingbird Lane and Lincoln Drive was provided by the Town of Paradise Valley. Timing for the intersection of Scottsdale Road and Lincoln Drive was provided by the City of Scottsdale. Results of the existing level of service analyses are shown in **Table 2** for both AM and PM peak hours. The existing conditions analysis worksheets have been included in **Appendix C**.

Table 2: Existing Peak Hour Levels of Service

ID	Intersection	Intersection Control	Approach/ Movement	Existing LOS AM (PM)
1	Mockingbird Lane & Lincoln Drive	Signal	NB SB EB WB	D(E) E(E) B(A) B(B)
			Overall	C(B)
2	Quail Run Road & Lincoln Drive	2-way stop (NB/SB)	NB Shared SB Shared EB Left WB Left	B(B) C(A) A(A) B(A)
3	Smoke Tree Driveway West & Lincoln Drive	1-way stop (NB)	NB Shared WB Left	C(C) B(A)
4	Smoke Tree Driveway East & Lincoln Drive	1-way stop (NB)	NB Shared WB Left	C(B) A(A)
5	Medical Driveway West & Lincoln Drive	1-way stop (NB)	NB Shared WB Left	B(C) A(A)
6	Medical Driveway West & Lincoln Drive	1-way stop (NB)	NB Shared WB Left	B(C) B(A)
7	Apartment Driveway & Lincoln Drive	2-way stop (NB/SB)	NB Shared SB Left SB Right EB Left WB Left	F(F) F(E) B(B) A(A) B(A)
8	AJ's Driveway & Lincoln Drive	2-way stop (NB/SB)	NB Shared SB Left SB Right EB Left WB Left	C(D) F(F) B(B) A(A) B(B)
9	Scottsdale Road & Lincoln Drive	Signal	NB SB EB WB	C(C) D(C) E(E) E(F)
			Overall	D(D)

The results of the existing conditions analysis summarized in **Table 2** indicates that all intersections currently operate at an overall acceptable level of service (LOS D or better), with the exception of the intersections of Apartment Driveway & Lincoln Drive and AJ's Driveway & Lincoln Drive under the existing lane configurations depicted in **Figure 2**.

The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and existing Apartments. It is possible that a raised median will be installed along the length of Lincoln Drive.

PROPOSED DEVELOPMENT

SITE LOCATION

The proposed redevelopment will be located 7101 East Lincoln Drive in the Town of Paradise Valley, Arizona.

SITE ACCESS

There are three access points proposed for this development, described as follows:

- Access A is a proposed access from Quail Run Road to the Smoke Tree site. The intersection of Quail Run Road and Lincoln Drive will be signalized by build out year 2020, and it is expected that some vehicles will utilize Quail Run Road to access the Smoke Tree site. This access will be a full movement access on the western border of the site.
- Access B is a proposed full movement access point on Lincoln Drive located approximately 80 feet west of the eastern Smoke Tree property line. The two existing access points to the site will be removed and replaced with this single access.
- Access C is a proposed access from Quail Run Road to Smoke Tree south of the proposed Access A. This access is proposed to be full access, however, due to the location, it is unlikely that many vehicles will be using this driveway and therefore, it was not included in the analysis of this report.

The two existing Smoke Tree Driveways, intersections 3 and 4, will both be removed by opening year 2020 and replaces with a single, full movement access located approximately 80 feet west of the eastern property line.

The proposed site plan is provided in **Figure 4**.

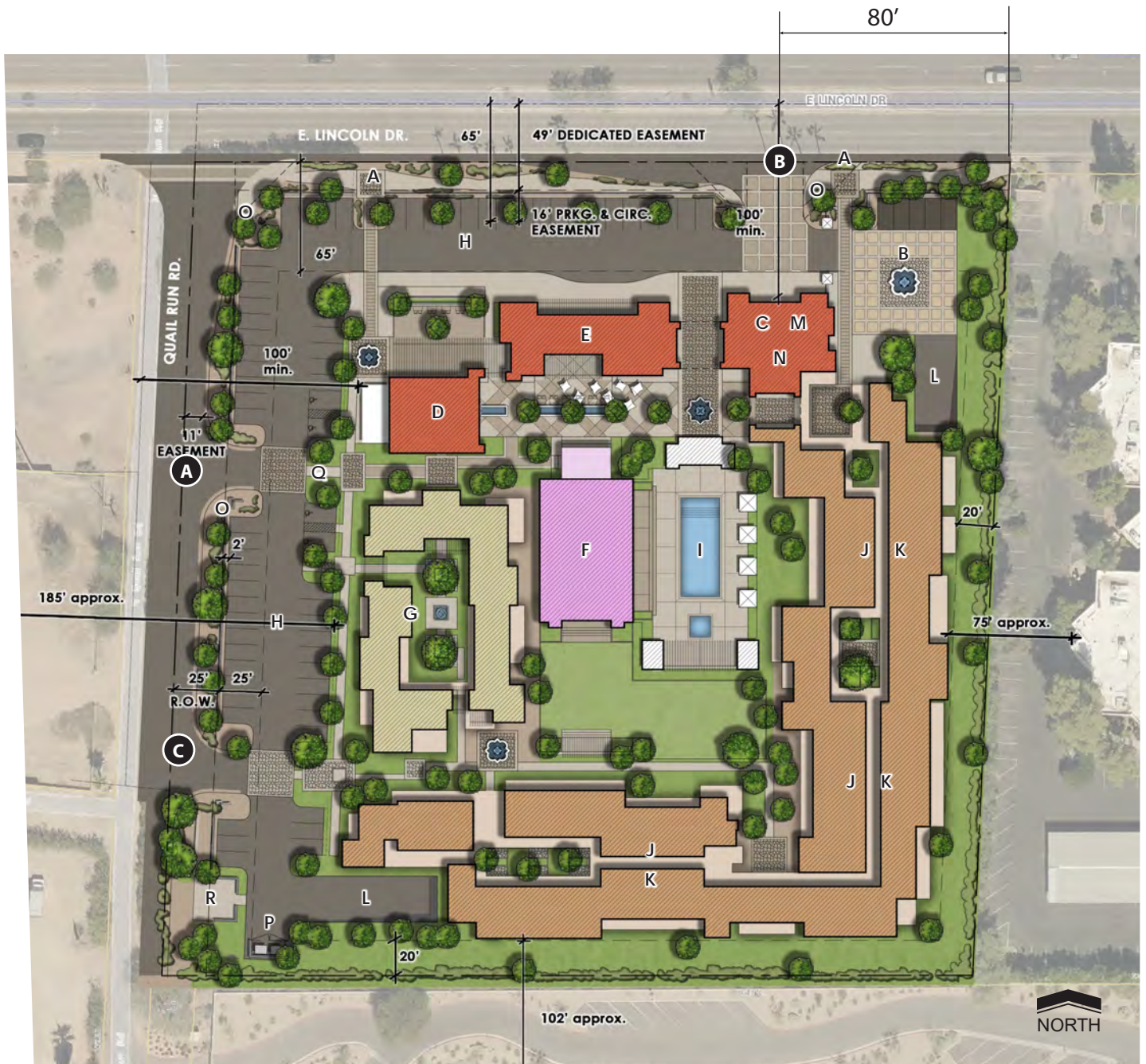


Figure 4: Site Plan and Access

TRIP GENERATION

The potential trip generation for the proposed development was estimated utilizing the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* and *Trip Generation Handbook, 3rd Edition*. The ITE *Trip Generation Manual* contains data collected by various transportation professionals for a wide range of different land uses. The data are summarized in the report and average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and peak hour trips.

Since the Smoke Tree Resort is a proposed redevelopment of the current resort, some of the existing traffic counts are existing trips generated by the site. To be conservative, these trips were not subtracted from the existing traffic counts, meaning that there will actually be less “new trips” than mentioned in this study.

The proposed development will consist of a maximum of 120 standard hotel rooms, 30 residential units/condos, 15 lock-off units that will be owned by individuals and rented out to the public, and a 3,500 square foot quality restaurant. The lock-off residential units have been included in the analysis as part of the total hotel room count to present a worst-case scenario where all rooms have been rented at the same time. They have been included in the hotel room count since it is assumed that the owners of each unit will not use this as their primary residence and will rent it out to guests. The restaurant will be on the resort site, but is not intended to serve guests of the resort completely. An internal capture reduction reduces the number of external trips being made to the site. It is assumed that approximately 50% of all visitors to the restaurant will be off site and the other 50% will be guests and residents of the resort. The hotel is not a standard hotel, ITE land use code 310, nor would it be considered a resort hotel, ITE land use code 330. Custom trip rates were established by averaging the trip rates for a standard hotel and a resort hotel for the AM and PM peak hours as well as the daily trips. **Table 3** depicts the trip generation summary for the proposed development. Trip generation calculations are provided in **Appendix D**.

Table 3: Trip Generation Summary

Proposed Use	ITE LUC	Size	Units	Weekday Trips						
				Daily	AM			PM		
				Total	In	Out	Total	In	Out	Total
Hotel	310/330	135	Rooms	700	38	15	53	29	39	68
Condos	220	30	Dwelling Units	186	3	12	15	13	7	20
Quality Restaurant	931	3,500	SF	294	0	3	3	18	9	27
Total Trips				1,180	41	30	71	60	55	115
Internal Capture Reduction (Quality Restaurants 50%)				(148)	(0)	(2)	(2)	(9)	(5)	(14)
Subtotals				1,032	41	28	69	51	50	101

As shown in **Table 3**, the proposed development is anticipated to generate approximately 1,032 weekday daily trips, with 69 trips occurring in the AM peak hour and 101 trips occurring in the PM peak hour.

TRIP DISTRIBUTION AND ASSIGNMENT

A single trip distribution pattern was assumed for the proposed development. It is expected that the resort development will generate trips based on future population within a 7-mile radius of the site. Future total population within a 7-mile radius of the site, as predicted by the 2020/2030 socio-economic data compiled by the Maricopa Association of Governments (MAG), was used as a basis to estimate trip distribution for the resort development.

The resulting trip distribution percentages for the study area are shown in **Table 4**. The trip distribution calculations are included in **Appendix E**.

Table 4: Site Trip Distribution

Direction (To/From)	Trip Distribution
North on Mockingbird Ln	6%
South on Mockingbird Ln	4%
West on Lincoln Dr	25%
North on Scottsdale Rd	35%
South on Scottsdale Rd	30%
Total	100%

Figure 5 illustrates the trip distribution percentages shown in **Table 4** on the existing roadway network with the study area. The percentages presented in **Figure 5** were applied to the site trips generated to determine the AM and PM peak hour site traffic at the intersections within the study area. The resulting site generated traffic for the proposed development are presented in **Figure 6**.

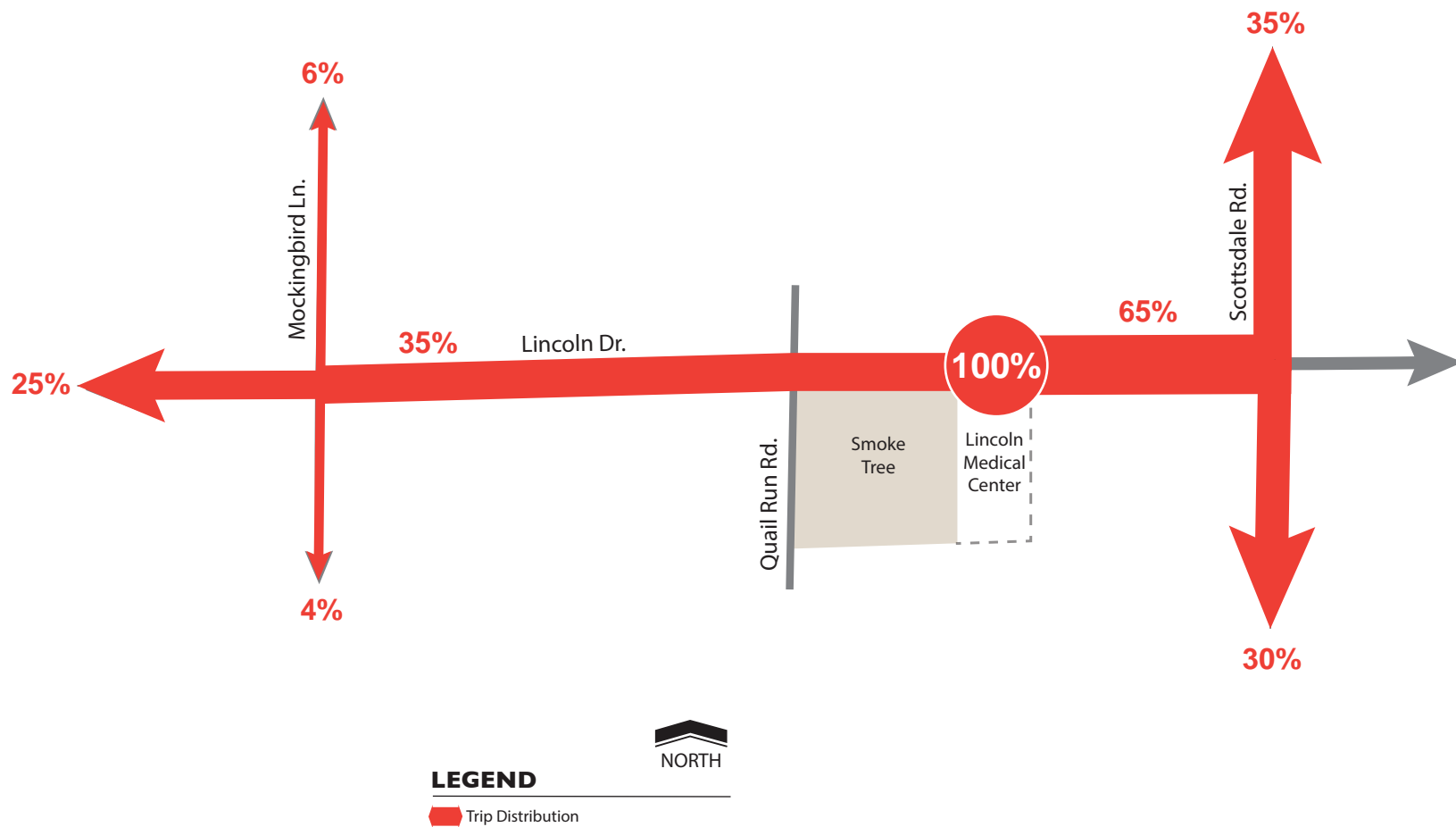


Figure 5: Trip Distribution

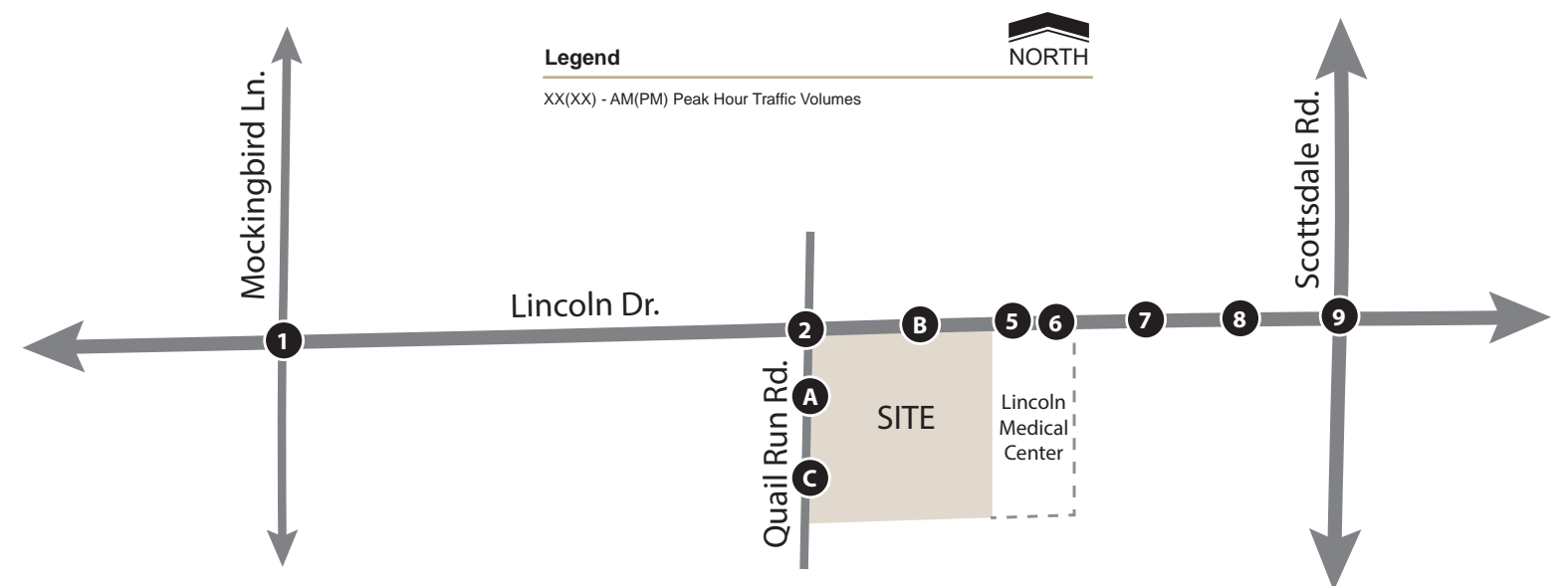
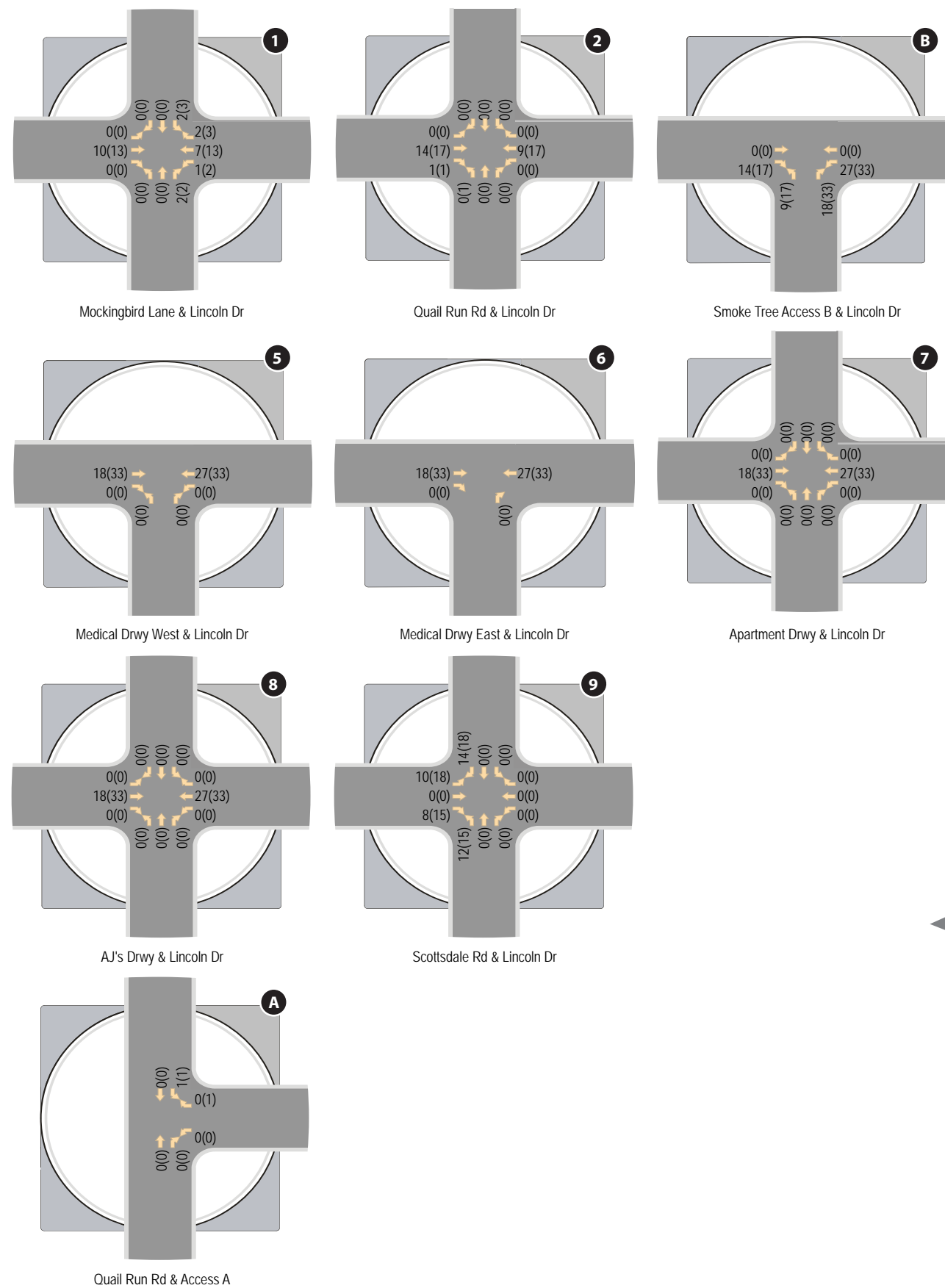


Figure 6: Site Generated Traffic Volumes

FUTURE BACKGROUND TRAFFIC

CivTech applied a growth rate to the seasonally adjusted traffic counts for this study in order to obtain the background traffic volumes along the adjacent roadway network. In reviewing the City of Scottsdale Traffic Counts Map, a 1.7% average growth rate was found within the proposed study area. **Table 5** shows the expansion factors used for the proposed opening year 2020 and horizon year 2025.

Table 5: Growth Rate Expansion Factors

Horizon Year	Expansion Factor
2020	1.034
2025	1.125

Applying the growth rate expansion factors to the seasonally adjusted existing traffic volumes predicts the volume of traffic anticipated on the surrounding area roads for opening year 2020 and horizon year 2025. Directly north of the proposed Smoke Tree Resort is the new Ritz Carlton Resort. Phase 1 of that development is expected to be open by 2020, meaning that it will be adding some site generated trips to the surrounding roadway network. Since CivTech was the company that performed the analysis for the Ritz Carlton in 2015, the site generated volumes expected for 2020 and 2025 were added to the grown existing volumes. Directly east of the proposed site is another proposed development, Lincoln Medical Center. It is expected that the Lincoln Medical expansion and the Smoke Tree Resort will begin and end construction at roughly the same time. Lincoln Medical Center is also expected to add additional traffic to the surrounding roadway network. The proposed site generated trips were assigned to the surrounding roadway network, and these trips were also added to the grown existing volumes.

The same methodology was used for both horizon years. Calculated background traffic for opening year 2020 and horizon year 2025 is presented in **Figure 7** and **Figure 8**, respectively. Seasonally adjusted existing traffic volumes, Ritz Carlton site volumes, Smoke Tree site volumes and more detailed background traffic calculations are included in **Appendix F**.

TOTAL TRAFFIC

Total traffic was determined by adding the site generated traffic to the projected background traffic. Total peak hour traffic volumes for the opening year 2020 and horizon year 2025 are shown in **Figure 9** and **Figure 10**, respectively.

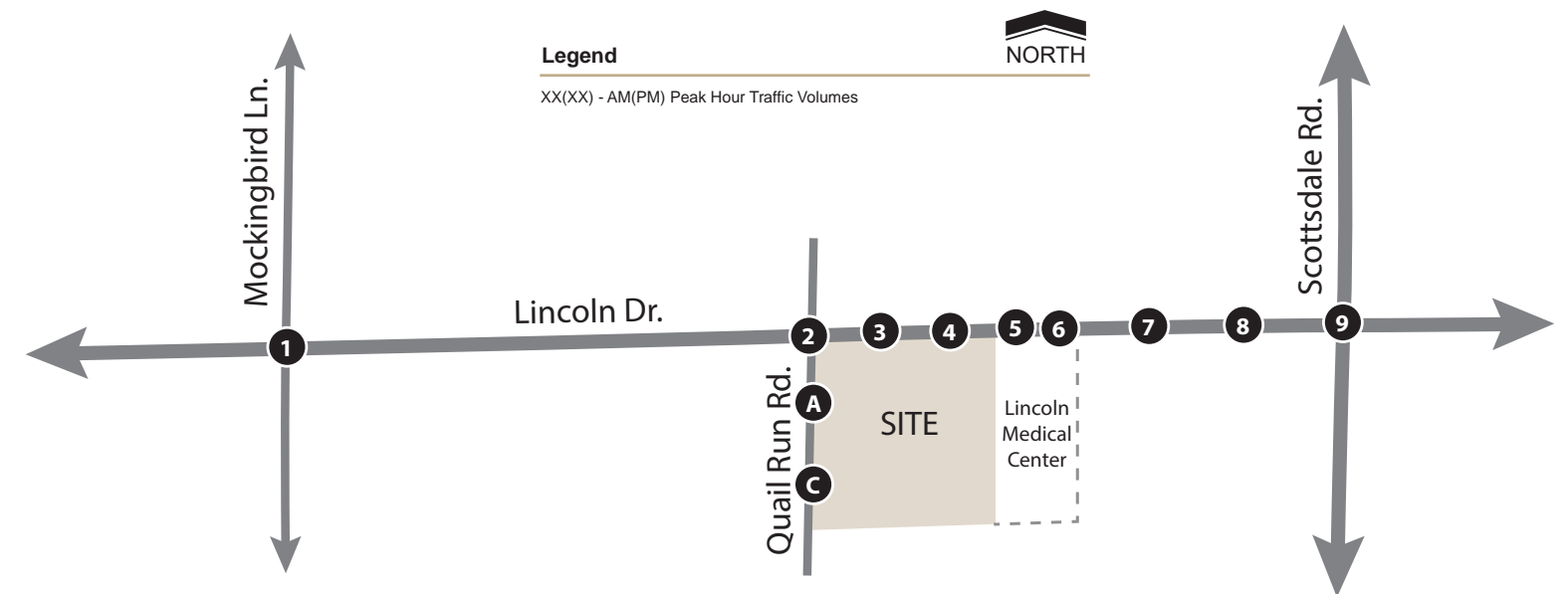
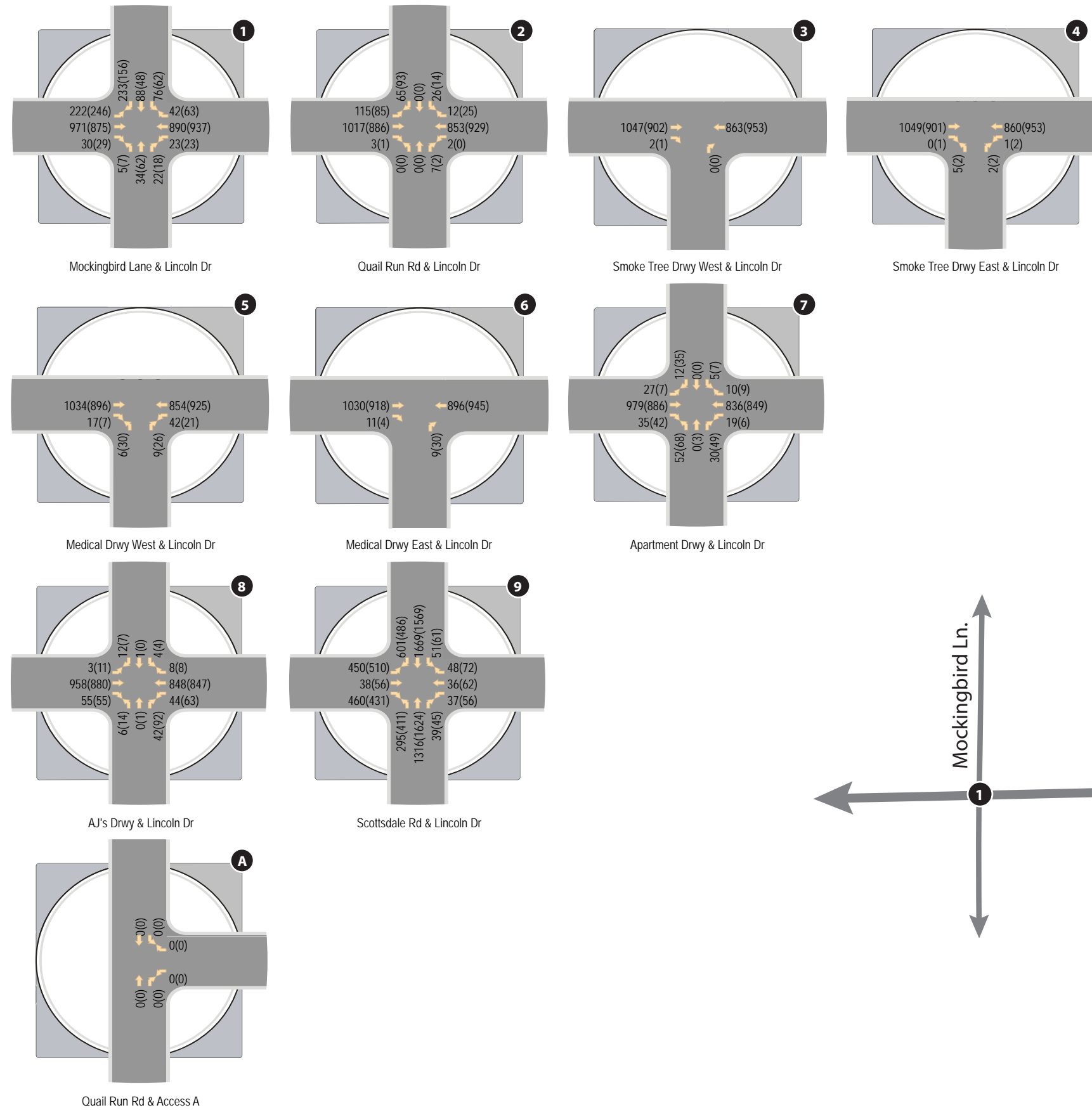


Figure 7: 2020 Background Traffic Volumes

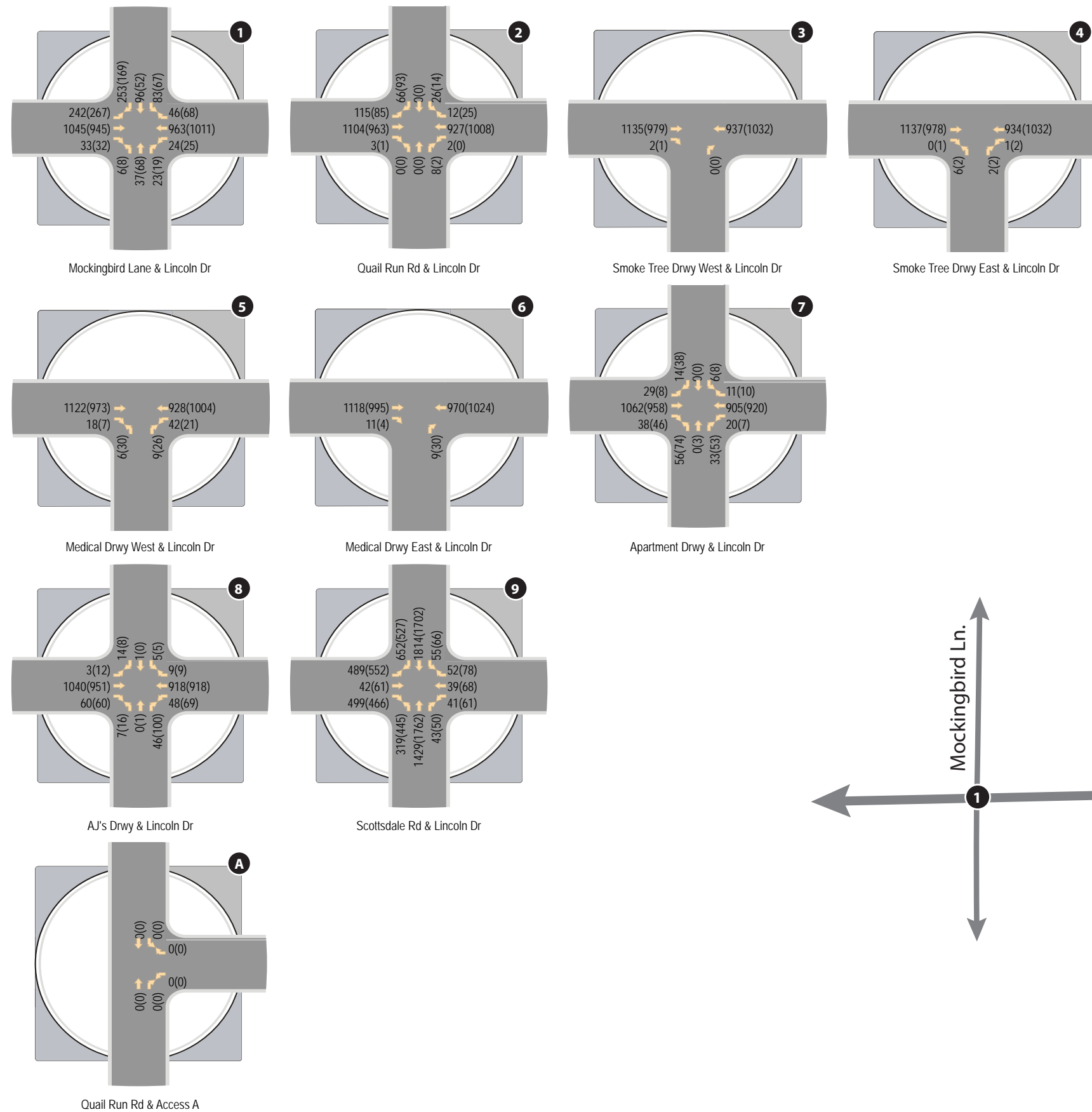


Figure 8: 2025 Background Traffic Volumes

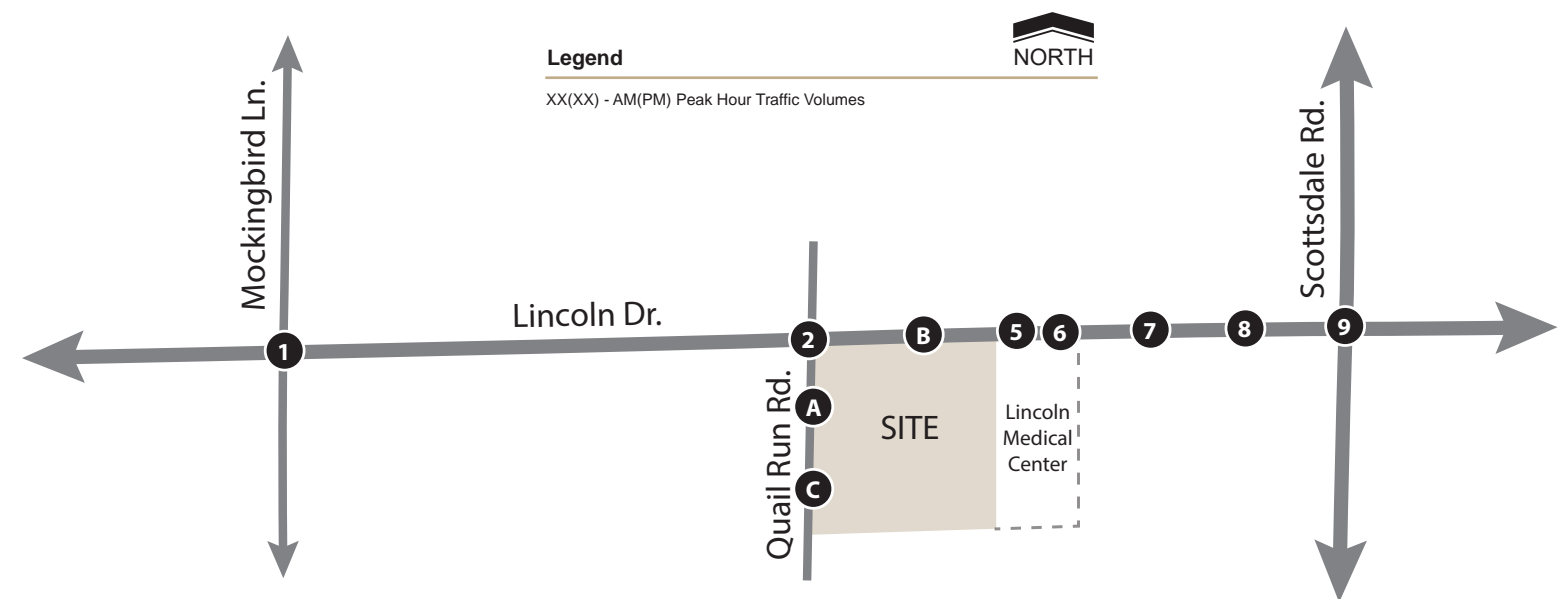
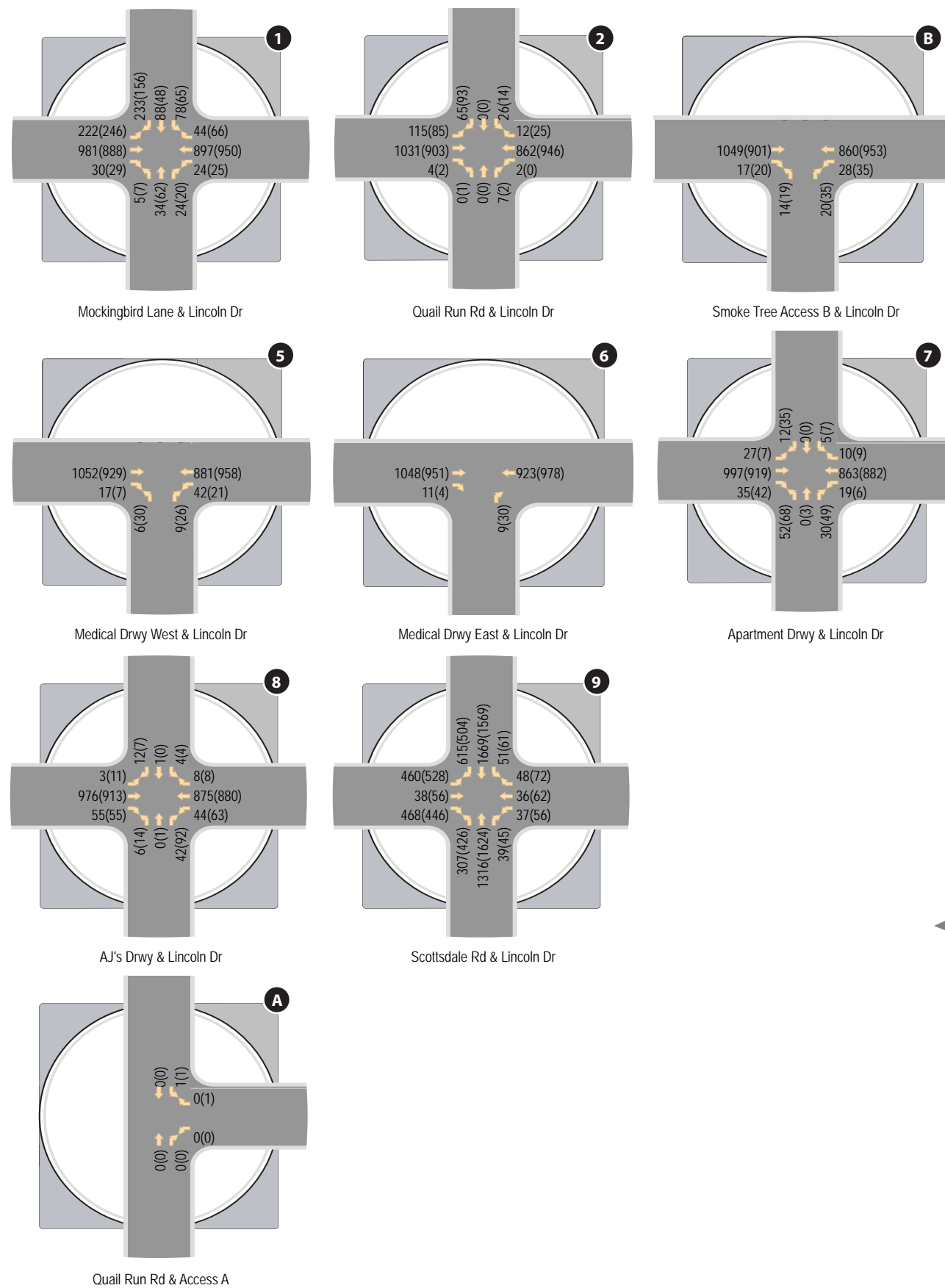


Figure 9: 2020 Total Traffic Volumes

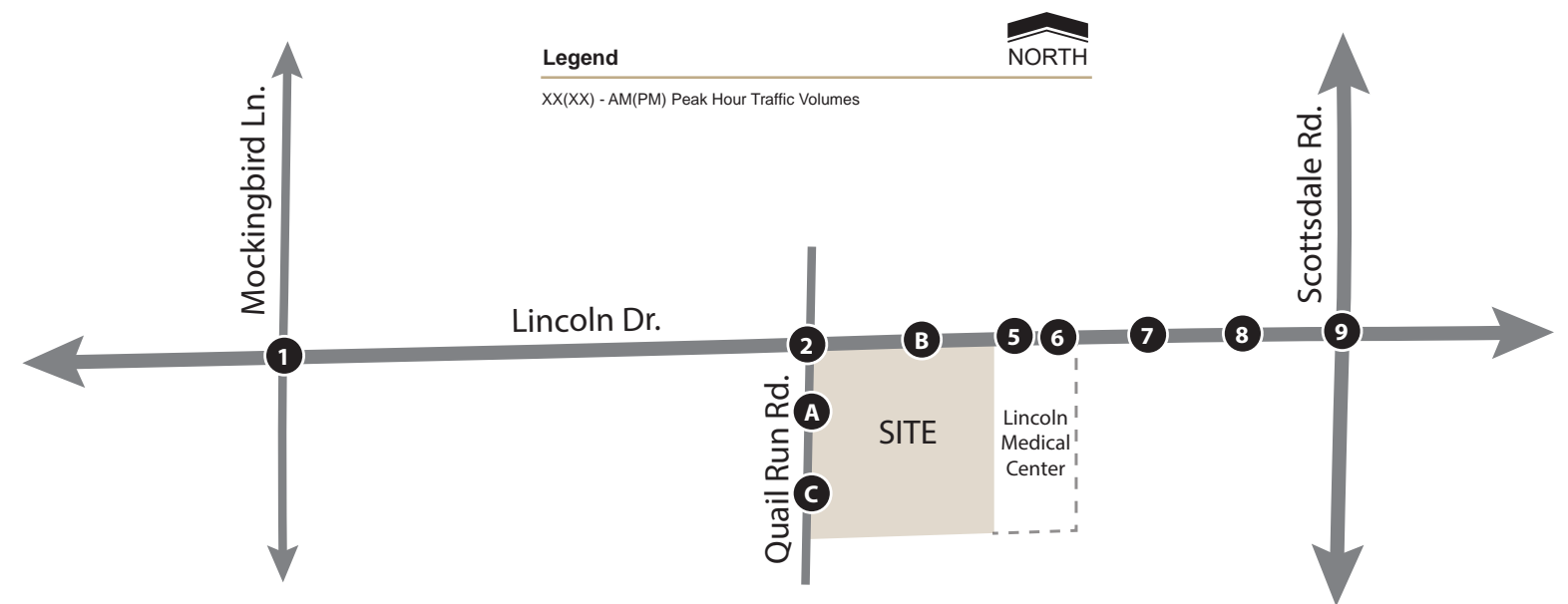
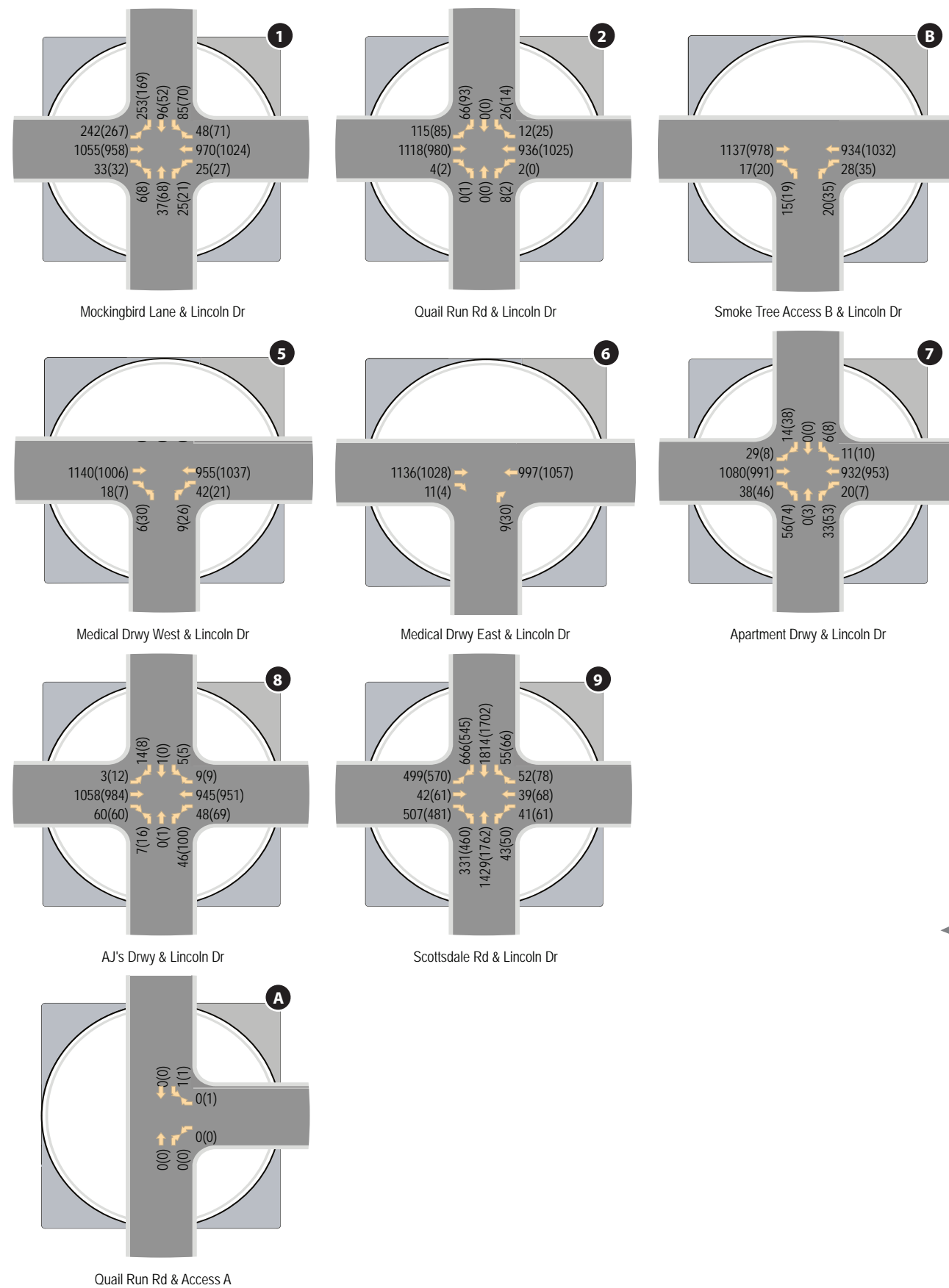


Figure 10: 2025 Total Traffic Volumes

TRAFFIC AND IMPROVEMENT ANALYSIS

INTERSECTION CAPACITY ANALYSIS

Peak hour capacity analyses have been conducted for all of the intersections within the study area. All study area intersections were analyzed using Synchro 10.0 analysis software and the methodologies previously presented. Signalized intersections were analyzed with signal timing presented by the Town of Paradise Valley and the City of Scottsdale. According to the City of Scottsdale, the intersection of Scottsdale Road & Lincoln Drive will be restriped in the future to operate with dual left turn lanes and a shared through/right turn lane. It is unknown by what year these improvements will be made, so all analysis will be conducted using the existing lane configurations. The overall intersection and approach levels of service are summarized in **Table 6** for the 2020 opening year and **Table 7** for the 2025 horizon. Detailed analysis worksheets can be found in **Appendix G** and **Appendix H**.

Table 6: 2020 Peak Hour Analysis

ID	Intersection	Intersection Control	Approach/ Movement	2020 LOS AM(PM)		
				No-Build	Build	Mitigated
1	Mockingbird Ln & Lincoln Dr	Signal	NB	D(E)	D(E)	D(D)
			SB	E(E)	E(E)	E(E)
			EB	B(A)	B(A)	B(B)
			WB	B(A)	B(A)	C(B)
			Overall	C(B)	C(B)	C(B)
2	Quail Run Rd & Lincoln Dr	Signal	NB	B(B)	B(B)	[Not Mitigated]
			SB	B(B)	B(B)	
			EB	B(A)	B(A)	
			WB	D(D)	D(D)	
			Overall	C(C)	C(C)	
3	Smoke Tree Drwy West & Lincoln Dr	1-way stop (NB)	NB Shared/Right WB Left	A(A) A(A)	-(-) -(-)	[Not Mitigated]
4	Smoke Tree Drwy East & Lincoln Dr	1-way stop (NB)	NB Shared WB Left	C(C) B(B)	-(-) -(-)	[Not Mitigated]
5	Medical Drwy West & Lincoln Dr	1-way stop (NB)	NB Shared WB Left	C(C) B(B)	C(C) B(B)	[Not Mitigated]
6	Medical Drwy East & Lincoln Dr	1-way stop (NB)	NB Shared/Right WB Left	B(B) B(A)	B(B) B(A)	[Not Mitigated]
7	Apartment Drwy & Lincoln Dr	2-way Stop (NB/SB)	NB Shared SB Left SB Right EB Left WB Left	F(F) F(F) B(B) B(B) B(B)	F(F) F(F) B(B) B(B) B(B)	[Not Mitigated]
8	AJ's Drwy & Lincoln Dr	2-way Stop (NB/SB)	NB Shared SB Left SB Right EB Left WB Left	C(D) F(F) B(B) B(B) B(B)	C(E) F(F) B(B) B(B) B(B)	[Not Mitigated]
9	Scottsdale Rd & Lincoln Dr	Signal	NB	C(C)	C(C)	D(D)
			SB	D(D)	D(D)	E(E)
			EB	F(E)	F(E)	E(E)
			WB	E(F)	E(F)	E(E)
			Overall	D(D)	D(D)	E(D)
A	Quail Run Rd & Access A	1-way stop (WB)	SB Left WB Right	-(-) -(-)	A(A) A(A)	[Not Mitigated]

ID	Intersection	Intersection Control	Approach/Movement	2020 LOS AM(PM)		
				No-Build	Build	Mitigated
B	Smoke Tree Access B & Lincoln Dr	1-way stop (NB)	NB Shared WB Left	-(-) -(-)	C(C) B(B)	[Not Mitigated]

The results of the 2020 opening year Synchro analysis summarized in **Table 6** indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:

The intersection of **Mockingbird Lane & Lincoln Drive** is expected to experience delay on the northbound and southbound approaches during the no build and the full build scenario. By increasing the southbound left turn phase from 9 seconds to 19 seconds and changing the northbound left turn phase from permissive to permissive-protected, the southbound approach delay is expected to decrease from 56 seconds per vehicle to 55.1 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 55.4 seconds per vehicle during the PM peak hour. The northbound approach delay is expected to decrease from 48 seconds per vehicle to 43.3 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 57.3 seconds per vehicle in the PM peak hour, which is very close to what is considered an acceptable level of service.

The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.

The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the eastbound and westbound approaches during both the AM and PM peak hours for both the no build and full build scenarios. The intersection is expected to operate at an overall acceptable level of service (LOS D or better) during both the AM and PM peak hours of both scenarios, however, the eastbound and westbound approach delay could be improved by increasing the eastbound phase from 30 seconds to 32 seconds and increasing the westbound phase from 13 seconds to 21 seconds. This change is expected to decrease the overall intersection delay from 46.4 seconds per vehicle to 25 seconds per vehicle in the AM peak and increase the overall intersection delay from 44.9 seconds per vehicle to 52.1 seconds per vehicle in the PM peak hour. Although the PM peak hour overall intersection delay is expected to increase, the individual approach delays for the eastbound and westbound decrease significantly. The eastbound approach is expected to decrease from 82.8 seconds per vehicle to 16 seconds per vehicle and the westbound approach is expected to decrease from 63.8 seconds per vehicle to 23.7 seconds per vehicle during the PM peak hour.

The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

The signal timing proposed for the 2020 mitigated scenario was applied to the 2025 horizon year.

Table 7: 2025 Peak Hour Analysis

ID	Intersection	Intersection Control	Approach/Movement	2025 LOS AM(PM)		
				No-Build	Build	Mitigated
1	Mockingbird Ln & Lincoln Dr	Signal	NB	D(E)	D(D)	[Not Mitigated]
			SB	E(E)	E(E)	
			EB	B(A)	C(B)	
			WB	C(B)	D(C)	
			Overall	C(B)	C(C)	
2	Quail Run Rd & Lincoln Dr	Signal	NB	B(B)	B(B)	[Not Mitigated]
			SB	B(C)	B(B)	
			EB	A(A)	B(A)	
			WB	D(D)	D(C)	
			Overall	C(C)	C(B)	
3	Smoke Tree Drwy West & Lincoln Dr	1-way stop (NB)	NB Shared/Right	A(A)	-(-)	[Not Mitigated]
			WB Left	A(A)	-(-)	
4	Smoke Tree Drwy East & Lincoln Dr	1-way stop (NB)	NB Shared	C(C)	-(-)	[Not Mitigated]
			WB Left	B(B)	-(-)	
5	Medical Drwy West & Lincoln Dr	1-way stop (NB)	NB Shared	C(C)	C(C)	[Not Mitigated]
			WB Left	B(B)	B(B)	
6	Medical Drwy East & Lincoln Dr	1-way stop (NB)	NB Shared/Right	B(B)	B(B)	[Not Mitigated]
			WB Left	B(A)	B(A)	
7	Apartment Drwy & Lincoln Dr	2-way Stop (NB/SB)	NB Shared	F(F)	F(F)	[Not Mitigated]
			SB Left	F(F)	F(F)	
			SB Right	B(B)	B(B)	
			EB Left	B(B)	B(B)	
			WB Left	B(B)	B(B)	
8	AJ's Drwy & Lincoln Dr	2-way Stop (NB/SB)	NB Shared	D(F)	D(F)	[Not Mitigated]
			SB Left	F(F)	F(F)	
			SB Right	B(B)	B(B)	
			EB Left	B(B)	B(B)	
			WB Left	B(B)	B(B)	
9	Scottsdale Rd & Lincoln Dr	Signal	NB	C(D)	D(D)	D(E)
			SB	D(D)	F(E)	E(D)
			EB	F(F)	F(E)	E(E)
			WB	E(F)	E(E)	E(E)
			Overall	D(D)	E(E)	E(E)
A	Quail Run Rd & Access A	1-way stop (WB)	SB Left	-(-)	A(A)	[Not Mitigated]
			WB Right	-(-)	A(A)	
B	Smoke Tree Access B & Lincoln Dr	1-way stop (NB)	NB Shared	-(-)	C(C)	[Not Mitigated]
			WB Left	-(-)	B(B)	

The results of the 2025 horizon year Synchro analysis summarized in **Table 7** indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:

The intersection of **Mockingbird Lane & Lincoln Drive** is expected to have delay on the southbound approach during the AM and PM peak hours of both the no build and full build scenario. The delay is due to the volume of southbound right turning vehicles, however the approach delay is 55.4 seconds per vehicle during the AM peak hour of the full build scenario and 56.2 seconds per vehicle during the PM peak hour, which is lower than the no build scenario and very close to the threshold for an acceptable level of service (LOS D or better).

The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.

The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the southbound, eastbound and westbound approaches during both the AM and PM peak hours for both the no build and full build scenarios. By decreasing the cycle length from 130 seconds to 120 seconds and optimizing the green times, the overall intersection delay is expected to decrease from 76 seconds per vehicle to 58.2 seconds per vehicle during the AM peak hour and decrease from 62.7 seconds per vehicle to 57.7 seconds per vehicle during the PM peak hour. Although this mitigation measure is expected to decrease the approach delays and the overall intersection delay, if this signal is coordinated with any others along Scottsdale Road, changing the cycle length will interfere with the coordination and would not be recommended. The City of Scottsdale has stated that they have plans to change the eastbound approach configuration to dual left turn lanes and a shared through/right turn lane. It is not known when this change will occur, but it could improve the delay if the intersection is retimed.

The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

The proposed lane configurations are presented in **Figure 11**.

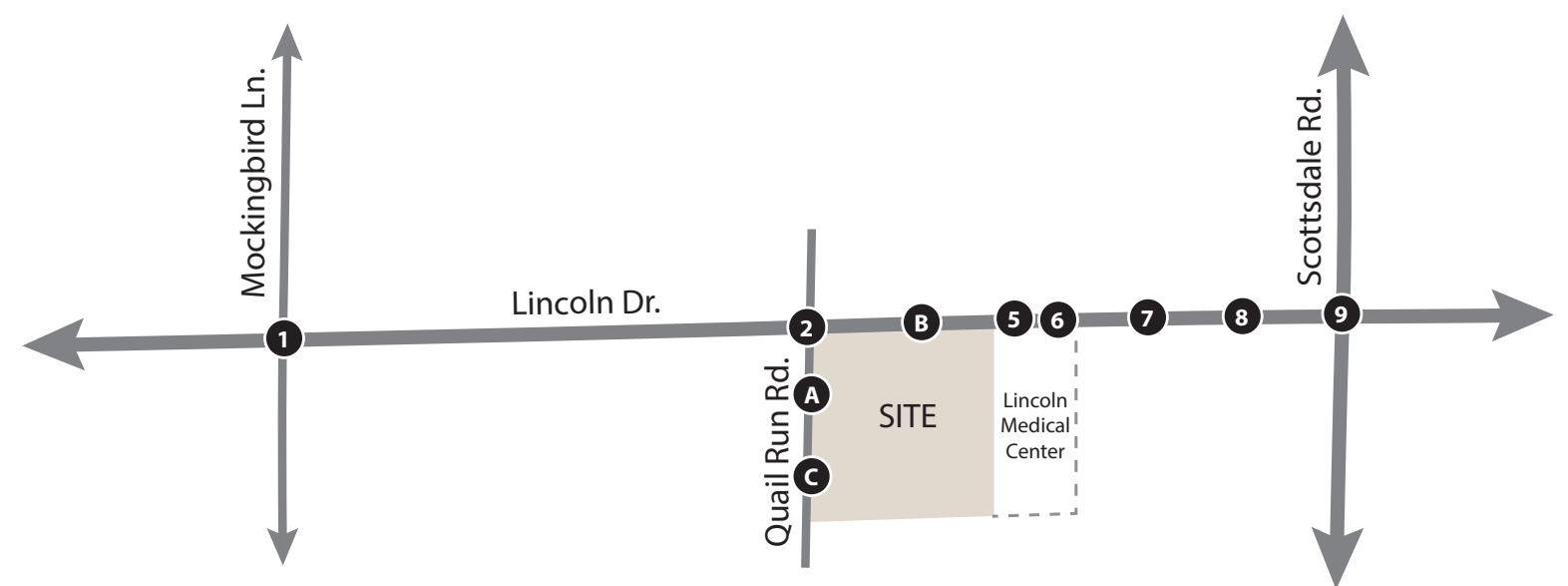
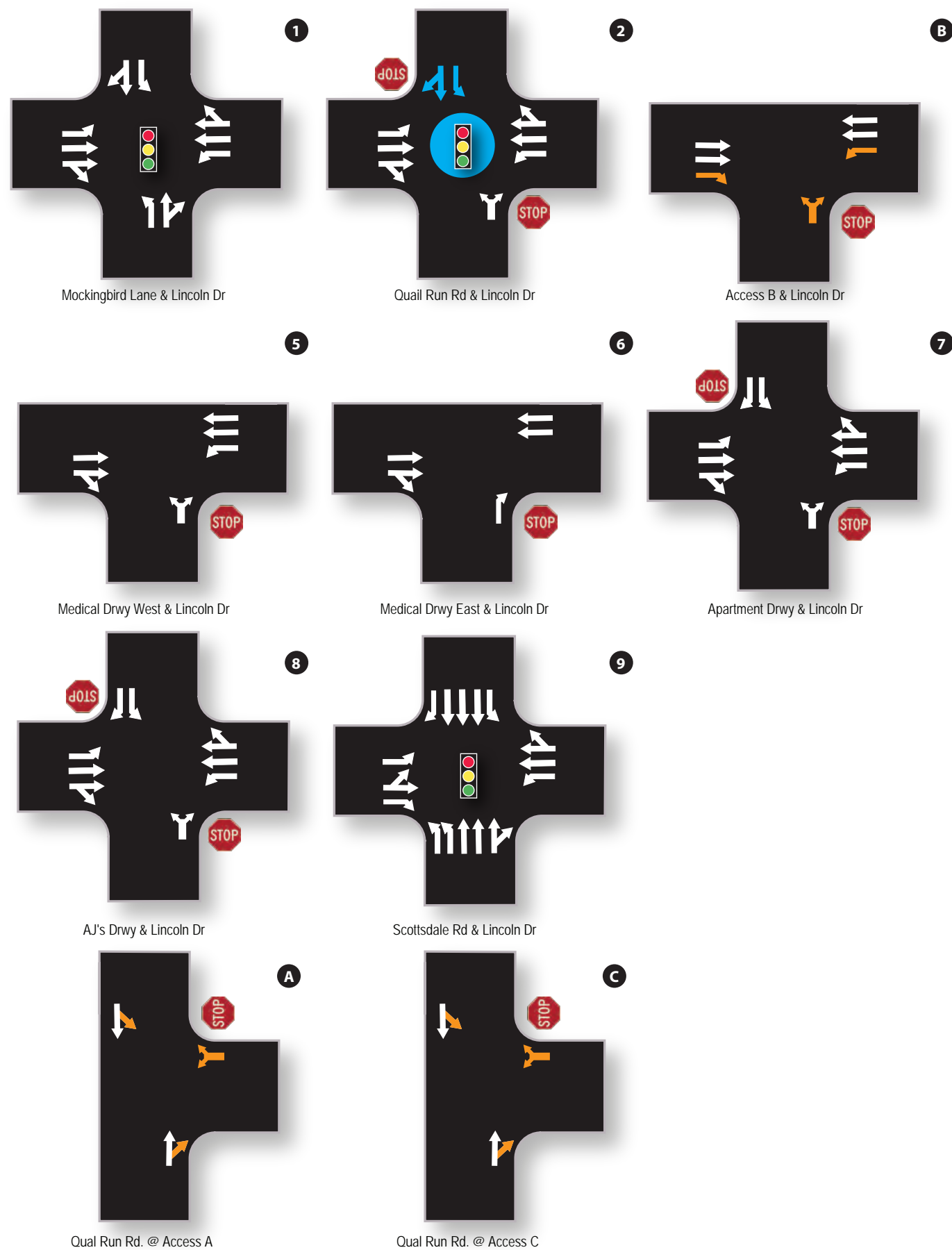


Figure 11: Proposed Lane Configurations and Traffic Controls

QUEUE LENGTH ANALYSIS

Adequate turn storage should be supplied on any approach where turn lanes are permitted and/or warranted. A queuing analysis was performed for all warranted/recommended and existing intersection turn lanes where site traffic is expected as well as left turn lanes adjacent to the site. According to the methodology documented in *A Policy on Geometric Design of Highways and Streets* (the AASHTO “Green Book”), the storage length for a turn lane is typically estimated as the length required to hold the average number of arriving vehicles per two minutes, where unsignalized, or per one-and-a half signal cycles, where signalized.¹ The formulas used for the calculations are shown below.

For signalized intersections, the storage length is determined by the following formula:

$$\text{Storage Length} = [1.5 \times (\text{veh/hr})/(\text{cycles/hr})] \times 25 \text{ feet}$$

For unsignalized intersections, the storage length is determined by the following formula:

$$\text{Storage Length} = [(\text{veh/hr})/(30 \text{ periods/hr})] \times 25 \text{ feet}$$

Using the traffic volumes and lane configurations projected for the 2025 horizon year, the resulting turn lane storage for turn movements affiliated with the site using AASHTO guidelines were calculated with a 130-second cycle length and are summarized in **Table 8**. Calculations for the queue storage length recommendations are provided in **Appendix I**.

Table 8: Queue Storage Lengths

ID	Intersection	Intersection Control	Movement	Queue Storage			
				Existing ⁽¹⁾	AASHTO	95 th Percentile	Recommended
1	Mockingbird Lane & Lincoln Dr	Signalized	NB Left	85'	25'	25'	85'
			SB Left	130'	175'	95'	130'
			EB Left	145'	500'	235'	(4)145'
			WB Left	100'	50'	30'	100'
2	Quail Run Rd & Lincoln Dr	Signalized	EB Left	-	225'	155'	150'
			WB Left	-	25'	25'	150'
			WB Right	-	50'	-	150'
9	Scottsdale Rd & Lincoln Dr	Signalized	NB Left	(2)550'	(2)850'	(2)345'	(2)550'
			SB Left	185'	125'	120'	185'
			EB Left	175'	1,050'	500'	(4)175'
			WB Left	90'	125'	100'	(5)90'
			SB Right	315'	1,225'	275'	(3)350'
			EB Right	175'	925'	350'	(4)175'
B	Smoke Tree Access B & Lincoln Dr	1-way stop (NB)	WB Left	-	50'	25'	50'
			EB Right	-	25'	-	50'

(1) Measured from stop bar to end of storage length

(2) Dual left turn lanes. Queue storage includes total storage length of both lanes

(3) Max storage length recommended for signalized intersection

¹ The American Association of Highway and Transportation Officials on pages 714-715 of its publication, *Geometric Design of Highways and Streets* (“AASHTO Green Book”), indicates that storage length for a turn lane, exclusive of taper, “should usually be based on one and one-half to two times the average number of vehicles that would store per cycle” at a signalized intersection.

- (4) Extending this turn will interfere with left turns into AJ's Fine Foods driveway
- (5) Not the responsibility of the developer

According to the CivTech study done for the Ritz Carlton, the newly signalized intersection of Quail Run Road and Lincoln Drive will have eastbound/westbound left turn lanes and a westbound right turn lane striped with 150 feet of storage each. The recommended storage lengths in **Table 8** are provided for horizon year 2025 using the total traffic projections.

The Smoke Tree Resort is requesting a new full access driveway located approximately 80 feet west of the eastern most property line. The Town of Paradise Valley has stated that an eastbound right turn deceleration lane is required at this driveway. Using AASHTO methodology only 25 feet of storage is required, however, 50 feet is the minimum that should be recommended per AASHTO standards with a 90 foot taper. A minimum of 75 feet of storage is recommended for the right turn deceleration lane, however, if interference with other turn lanes is expected with the 75 foot storage length, 50 feet would be an acceptable storage length.

SIGHT DISTANCE ANALYSIS

Adequate sight distance must be provided at intersections and site access driveways to allow safe turning movements. There must be sufficient unobstructed sight distance along both approaches of a street/driveway intersection and across their included corners to allow operators of vehicles to see each other in time to prevent a collision.

The Town of Paradise Valley maintains sight distance requirements within their City Code, standard details and development services guidelines. The Town of Paradise Valley measures sight distance using AASHTO methodology except that the sight triangle from the driveway is measured from the center of the egress lane, 14.5 feet back from the curb return line. Sight distance calculations according to AASHTO guidelines are summarized in **Table 9**.

Table 9: AASHTO Sight Distance Requirements

Roadway	Posted Speed Limit (mph)	Design Speed (mph)	Sight Distance Along Roadway		
			Left of Driveway (Case B2/B3)	Right of Driveway (Case B1)	On Major Road (Case F)
Quail Run Rd & Access A	-	30	290'	335'	245'
Smoke Tree Access B & Lincoln Dr	40	45	860'	930'	795'
Quail Run Rd & Access C	-	30	290'	335'	245'

There are no existing obstructions to sight distance within the project intersection or along the included corners of the proposed intersection. Adequate site distance must be provided at the intersections to allow safe left and right turning movements from the development. Recommended distances for these movements can be found in the table above.

The contractor should ensure that sight visibility is provided at all proposed intersections according to the distances shown in **Table 9** and that sight triangles at public

intersections are maintained according to the Town Code. All vegetation and trees should be maintained according to Town of Paradise Valley regulations. Sight distance worksheets have been included within **Appendix J**.

CONCLUSIONS

The following conclusions have been documented in this study.

General

- The proposed development is anticipated to generate approximately 1,032 weekday daily trips, with 69 trips occurring in the AM peak hour and 101 trips occurring in the PM peak hour.

Existing Conditions

- The results of the existing conditions analysis indicates that all intersections currently operate at an overall acceptable level of service (LOS D or better), with the exception of the intersections of Apartment Driveway & Lincoln Drive and AJ's Driveway & Lincoln Drive under the existing lane configurations.
 - The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and existing Apartments. It is possible that a raised median will be installed along the length of Lincoln Drive.

Opening Year 2020

- The results of the 2020 opening year Synchro analysis indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:
 - The intersection of **Mockingbird Lane & Lincoln Drive** is expected to experience delay on the northbound and southbound approaches during the no build and the full build scenario. By increasing the southbound left turn phase from 9 seconds to 19 seconds and changing the northbound left turn phase from permissive to permissive-protected, the southbound approach delay is expected to decrease from 56 seconds per vehicle to 55.1 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 55.4 seconds per vehicle during the PM peak hour. The northbound approach delay is expected to decrease from 48 seconds per vehicle to 43.3 seconds per vehicle during the AM peak hour and decrease from 58.7 seconds per vehicle to 57.3 seconds per vehicle in the PM peak hour, which is very close to what is considered an acceptable level of service.
 - The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.

- The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the eastbound and westbound approaches during both the AM and PM peak hours for both the no build and full build scenarios. The intersection is expected to operate at an overall acceptable level of service (LOS D or better) during both the AM and PM peak hours of both scenarios, however, the eastbound and westbound approach delay could be improved by increasing the eastbound phase from 30 seconds to 32 seconds and increasing the westbound phase from 13 seconds to 21 seconds. This change is expected to decrease the overall intersection delay from 46.4 seconds per vehicle to 25 seconds per vehicle in the AM peak and increase the overall intersection delay from 44.9 seconds per vehicle to 52.1 seconds per vehicle in the PM peak hour. Although the PM peak hour overall intersection delay is expected to increase, the individual approach delays for the eastbound and westbound decrease significantly. The eastbound approach is expected to decrease from 82.8 seconds per vehicle to 16 seconds per vehicle and the westbound approach is expected to decrease from 63.8 seconds per vehicle to 23.7 seconds per vehicle during the PM peak hour.
- The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

Horizon year 2025

- The results of the 2025 horizon year Synchro analysis summarized in **Table 7** indicates that all study intersections are anticipated to experience an acceptable level of service, with the exception of the following intersections:
 - The intersections of **Apartment Driveway & Lincoln Drive** and **AJ's Driveway & Lincoln Drive** experience delays in the northbound left turn approach and southbound left turn. Both of these approaches and driveways are driveways for AJ's Fine Foods and the existing Lincoln Apartments. The addition of Smoke Tree Resort is not the cause of these delays, which remains consistent with the existing condition.
 - The intersection of **Scottsdale Road & Lincoln Drive** is expected to experience delay on the southbound, eastbound and westbound approaches during both the AM and PM peak hours for both the no build and full build scenarios. By decreasing the cycle length from 130 seconds to 120 seconds and optimizing the green times, the overall intersection delay is expected to decrease from 76 seconds per vehicle to 58.2 seconds per vehicle during the AM peak hour and decrease from 62.7 seconds per vehicle to 57.7 seconds per vehicle during the PM peak hour. Although this mitigation measure is expected to decrease the approach delays and the overall intersection delay, if this signal is coordinated with any others along Scottsdale Road, changing the cycle length will interfere with the coordination and would not be recommended. The City of

Scottsdale has stated that they have plans to change the eastbound approach configuration to dual left turn lanes and a shared through/right turn lane. It is not known when this change will occur, but it could improve the delay if the intersection is retimed.

- The intersection of **Quail Run Road and Access A** reports a delay of zero seconds using the HCM 6th edition methodology. No LOS is reported in the included appendices, however zero seconds of delay would yield an LOS of A, shown in the table.

Queue Storage and Sight Distance

- According to the CivTech study done for the Ritz Carlton, the newly signalized intersection of Quail Run Road and Lincoln Drive will have eastbound/westbound left turn lanes and a westbound right turn lane striped with 150 feet of storage each. While 150 feet is being proposed due to the current development agreement with Five Star Development for the Ritz Carlton, less is required to meet the recommended AASHTO length. The recommended storage lengths are provided for horizon year 2025 using the total traffic projections.
 - The Smoke Tree Resort is requesting a new full access driveway located approximately 80 feet west of the eastern most property line. The Town of Paradise Valley has stated that an eastbound right turn deceleration lane is required at this driveway. Using AASHTO methodology only 25 feet of storage is required, however, 50 feet is the minimum that should be recommended per AASHTO standards with a 90 foot taper.
- There are no existing obstructions to sight distance within the project intersections or along the included corners of the proposed intersection. Adequate sight distance must be provided at the intersections to allow safe left and right turning movements from the development
 - The contractor should ensure that sight visibility is provided at all proposed intersections according to the distances and that sight triangles at public intersections are maintained according to the Town Code. All vegetation and trees should be maintained according to Town of Paradise Valley regulations.

LIST OF REFERENCES

Highway Capacity Manual. Transportation Research Board, Washington, D.C., 2000.

Manual on Uniform Traffic Control Devices. U.S. Department of Transportation, Federal Highways Administration, Washington, D.C., 2009.

Roadway Design Manual, Maricopa County Department of Transportation, Phoenix, Arizona, Revised April 2004.

Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, Washington, D.C., 2016.

Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington, D.C., 2016.

Ritz Carlton Master Plan, Paradise Valley Traffic Impact Analysis (TIA), CivTech, Scottsdale, AZ, March 2016.

Lincoln Medical Center, Paradise Valley Traffic Impact Analysis (TIA), CivTech, Scottsdale, AZ, November 2018.

TECHNICAL APPENDIX

APPENDIX A:	REVIEW COMMENTS AND RESPONSES
APPENDIX B:	EXISTING TRAFFIC COUNTS
APPENDIX C:	EXISTING PEAK HOUR ANALYSIS
APPENDIX D:	TRIP GENERATION
APPENDIX E:	TRIP DISTRIBUTION
APPENDIX F:	BACKGROUND TRAFFIC
APPENDIX G:	2020 PEAK HOUR ANALYSIS
APPENDIX H:	2025 PEAK HOUR ANALYSIS
APPENDIX I:	QUEUE STORAGE ANALYSIS
APPENDIX J:	SIGHT DISTANCE ANALYSIS

APPENDIX A

REVIEW COMMENTS AND RESPONSES

**Smoke Tree Resort
2ns Submittal**

CivTech, Inc.

Review Comments & Responses

Disposition Codes: (1) Will Comply (2) Will Evaluate (3) Delete Comment (4) Defer to Consultant/Owner

Reviewer Name, Agency: **Paul Mood, Town of Paradise Valley**

Item	Review Comment	(Code) & Response
1.	Applicant shall assume staff's recommendation for access onto Lincoln Drive which includes 65 feet of right-of-way, eliminated both existing driveways and adds a right turn deceleration lane and shared use driveway with the Lincoln Medical Plaza approximately 80 feet west of the eastern property line. The TIA should be updated accordingly	(1) The analysis and report text have been updated to reflect the change in access from the two existing driveways on Lincoln Drive to a single, full movement, shared driveway with Lincoln Medical Center. However, Lincoln Medical site traffic was not added to this shared driveway, but instead kept at their two existing driveways, per the instruction of the Town of Paradise Valley.
2.	A cross access easement with the Lincoln Medical Plaza shall be required	(2) Cross access may be included in the site design, but for the purpose of this study, Lincoln Medical site generated traffic was not assumed to be using the shared access, but instead kept their two original driveways.
3.	Update existing speed limit on Lincoln Drive from 35 mph to 40 mph in existing conditions and sight distance analysis sections	(1) Speed limit for Lincoln Drive has been updated from 35 mph to 40 mph



APPENDIX B

EXISTING TRAFFIC COUNTS

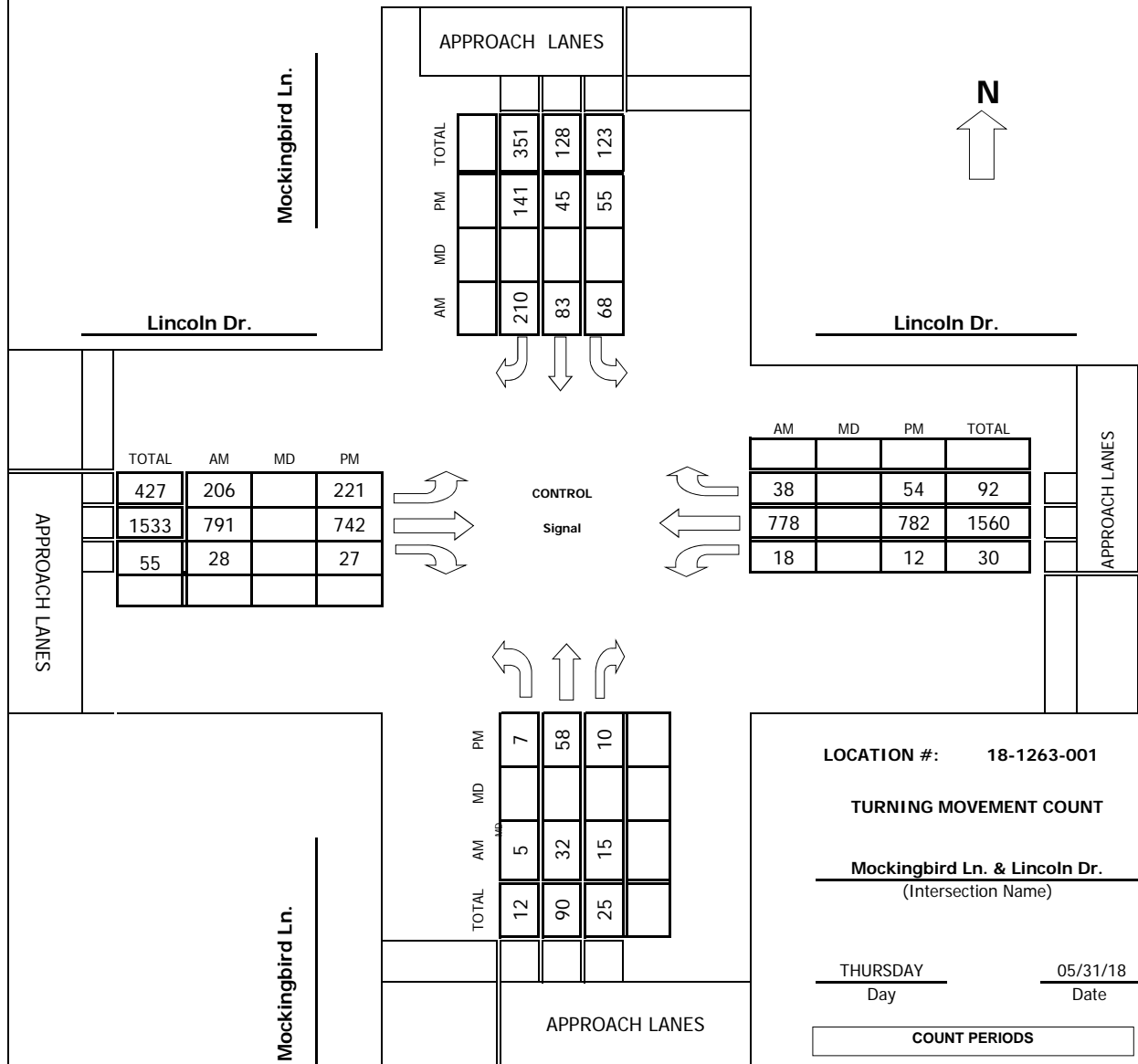
Prepared by:



FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1263-001

TMC SUMMARY OF Mockingbird Ln. & Lincoln Dr.



LOCATION #: 18-1263-001

TURNING MOVEMENT COUNT

Mockingbird Ln. & Lincoln Dr.
(Intersection Name)

THURSDAY 05/31/18
Day Date

COUNT PERIODS

AM	700AM	-	900AM
NOON	-		
PM	400PM	-	600PM

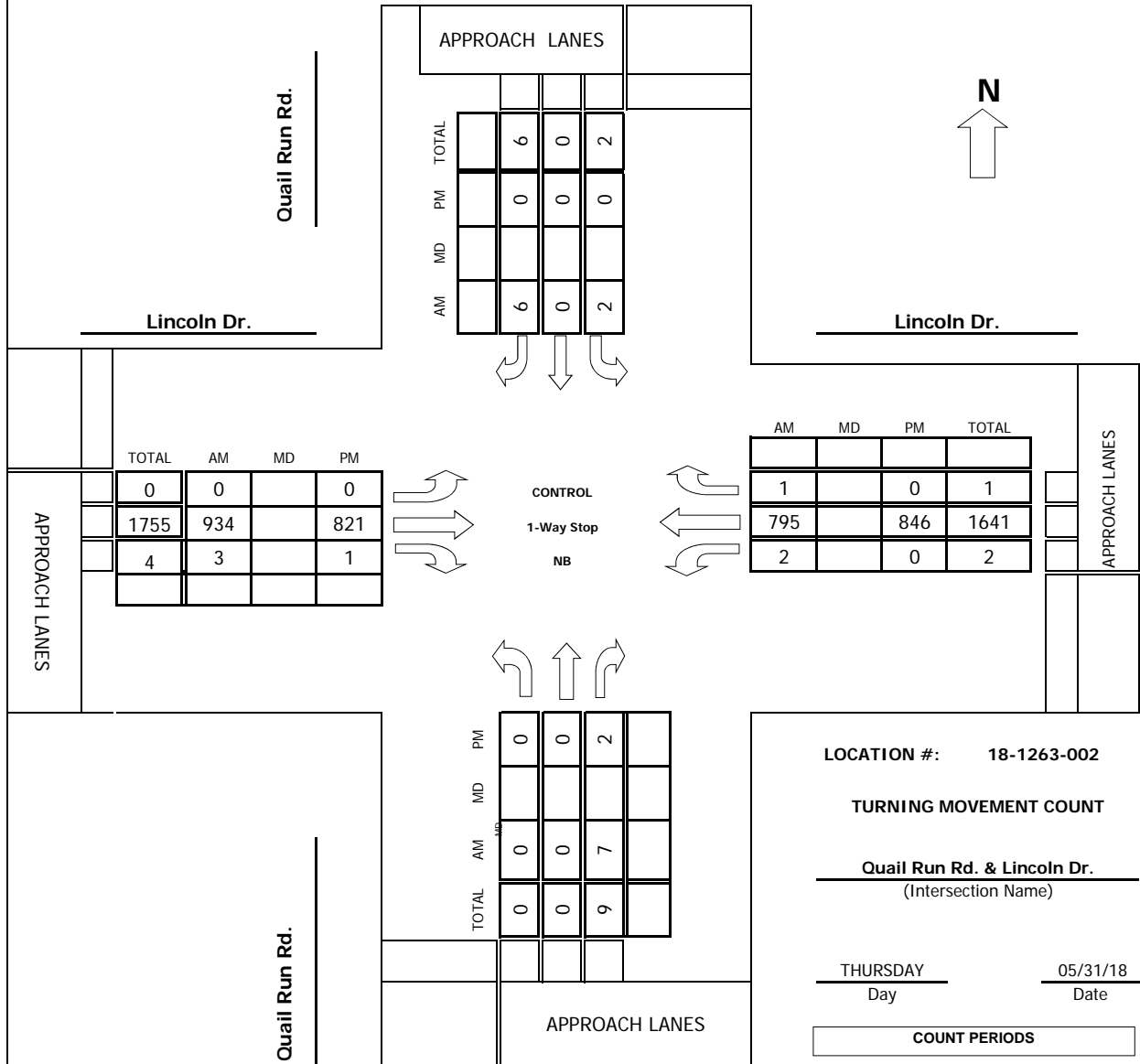
AM PEAK HOUR 745 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Project #: 18-1263-002

TMC SUMMARY OF Quail Run Rd. & Lincoln Dr.



LOCATION #: 18-1263-002

TURNING MOVEMENT COUNT

Quail Run Rd. & Lincoln Dr.
(Intersection Name)

THURSDAY
Day

05/31/18
Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

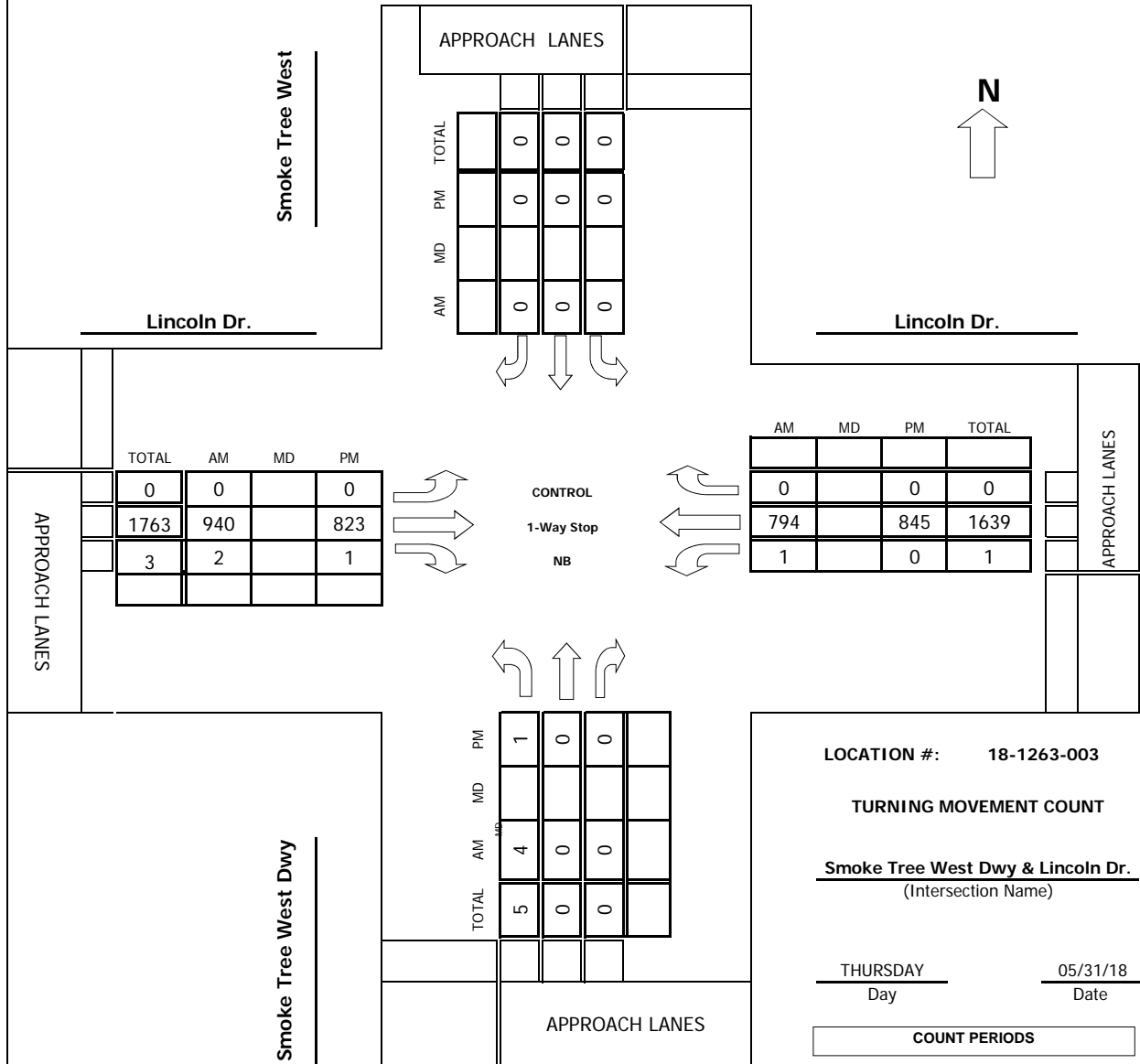
AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Project #: 18-1263-003

TMC SUMMARY OF Smoke Tree West Dwy & Lincoln Dr.



LOCATION #: 18-1263-003

TURNING MOVEMENT COUNT

Smoke Tree West Dwy & Lincoln Dr.
(Intersection Name)

THURSDAY 05/31/18
Day Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

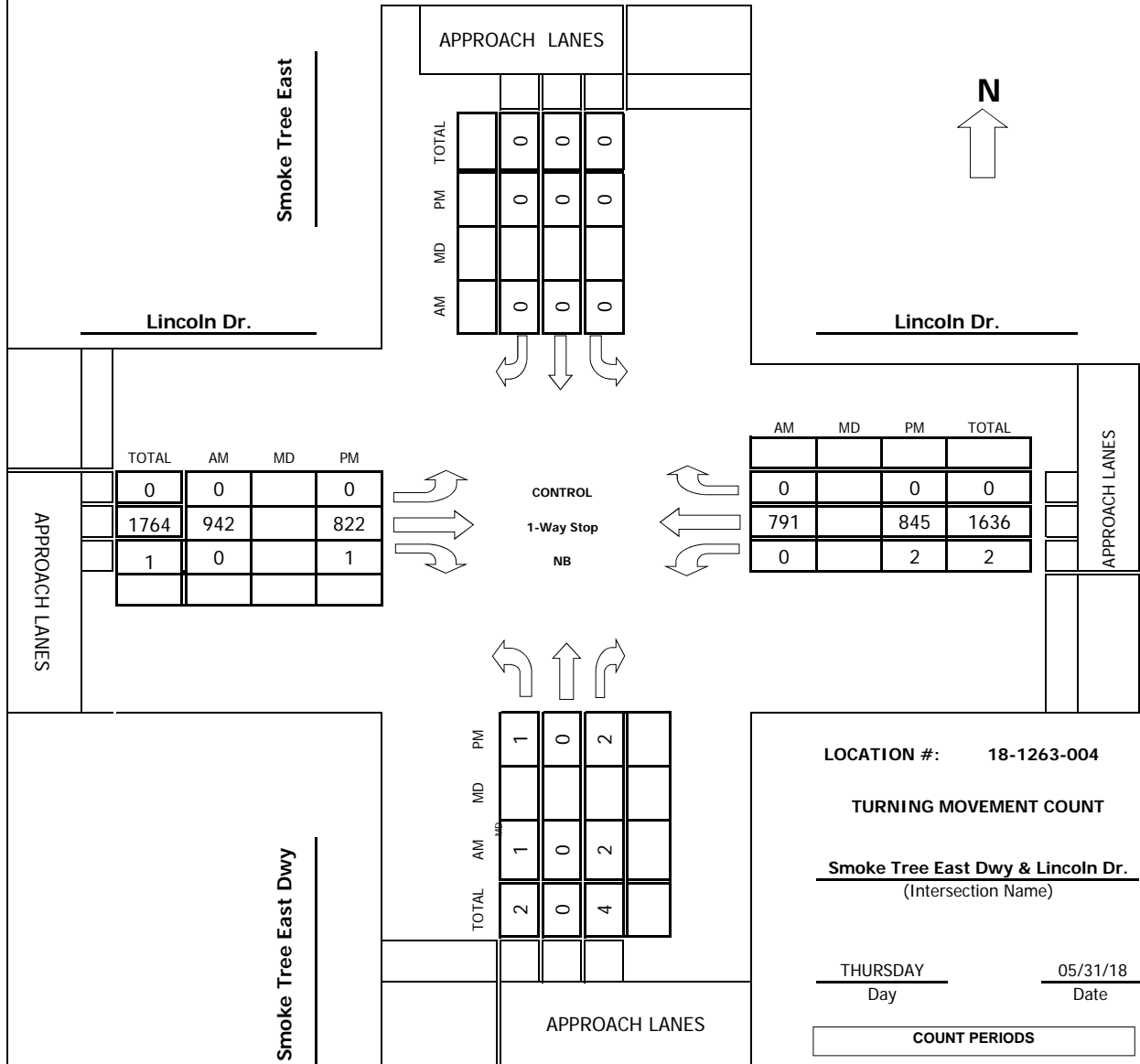
AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Project #: 18-1263-004

TMC SUMMARY OF Smoke Tree East Dwy & Lincoln Dr.



LOCATION #: 18-1263-004

TURNING MOVEMENT COUNT

Smoke Tree East Dwy & Lincoln Dr.
(Intersection Name)

THURSDAY **05/31/18**
Day Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Project #: 18-1263-005

TMC SUMMARY OF Medical Office West Dwy & Lincoln Dr.

Medical Office West Dwy

Lincoln Dr.

APPROACH LANES

TOTAL	0	0	0
PM	0	0	0
MD			
AM	0	0	0

↓ ↓ ↓

N

↑

Lincoln Dr.

APPROACH LANES

TOTAL	AM	MD	PM
0	0		0
1764	940		824
4	4		0

→ → →

CONTROL

1-Way Stop

NB

← ← ←

APPROACH LANES

AM	MD	PM	TOTAL
0		0	0
791		845	1636
0		0	0

← ← ←

Medical Office West Dwy

APPROACH LANES

TOTAL	AM	MD	PM
2	0		2
0	0		0
3	3		

↑ ↑ ↑

APPROACH LANES

LOCATION #: 18-1263-005

TURNING MOVEMENT COUNT

Medical Office West Dwy & Lincoln Dr.
(Intersection Name)

THURSDAY 05/31/18
Day Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Project #: 18-1263-006

TMC SUMMARY OF Medical Office East Dwy & Lincoln Dr.

Medical Office Ea:

Lincoln Dr.

APPROACH LANES			
TOTAL	AM	MD	PM
0	0	0	0
1763	939		824
2	2		0

Medical Office East Dw

TOTAL	AM	MD	PM
2	0	0	2
0	0	0	0
6	3		3

APPROACH LANES

CONTROL
1-Way Stop
NB

Lincoln Dr.

AM	MD	PM	TOTAL
0		0	0
791		844	1635
5		0	5

APPROACH LANES

LOCATION #: 18-1263-006

TURNING MOVEMENT COUNT

Medical Office East Dwy & Lincoln Dr.
(Intersection Name)

THURSDAY
Day

05/31/18
Date

COUNT PERIODS		
AM	700AM	- 900AM
NOON		-
PM	400PM	- 600PM

AM PEAK HOUR

800 AM

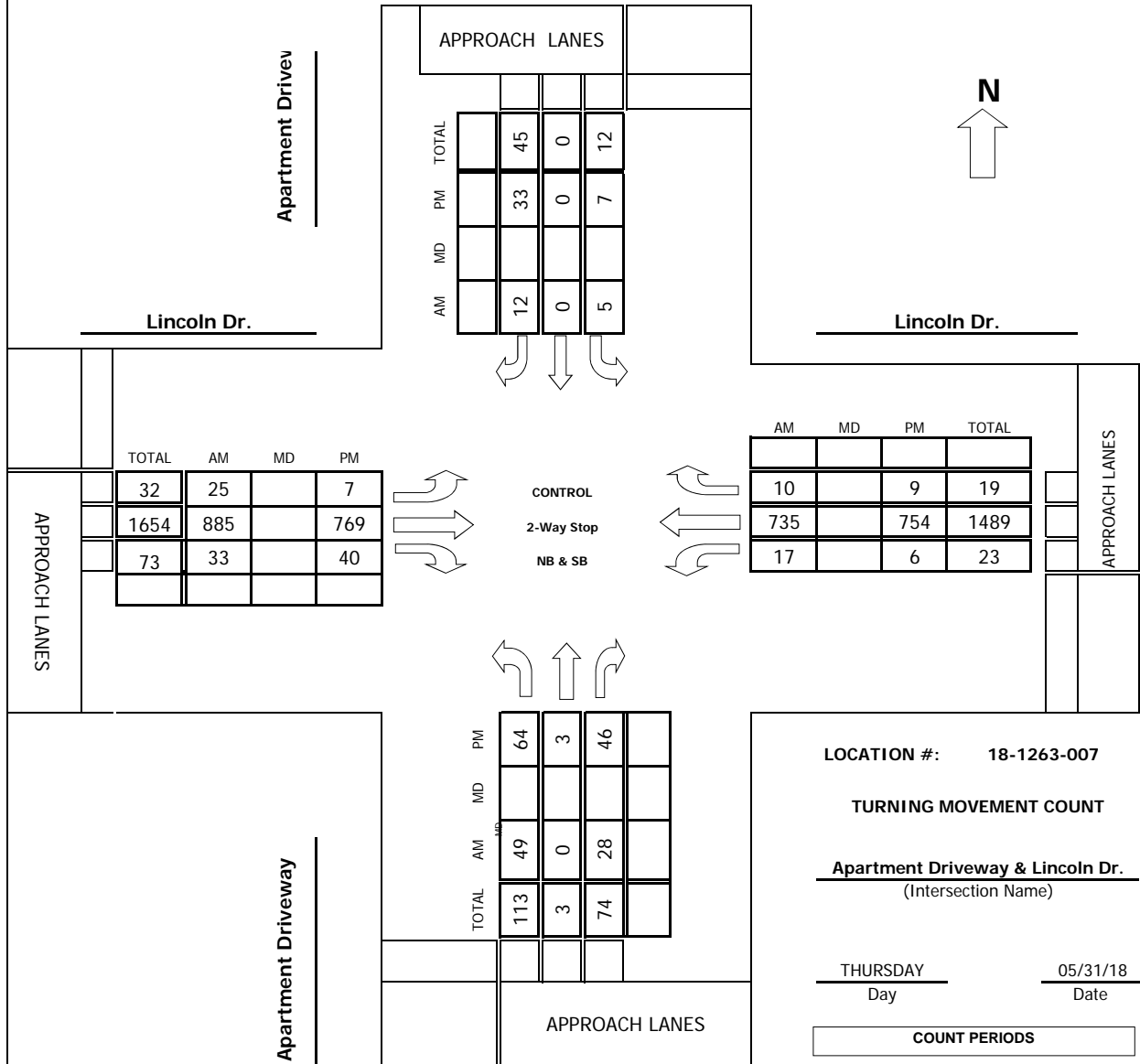
NOON PEAK HOUR

PM PEAK HOUR

445 PM

Project #: 18-1263-007

TMC SUMMARY OF Apartment Driveway & Lincoln Dr.



LOCATION #: 18-1263-007

TURNING MOVEMENT COUNT

Apartment Driveway & Lincoln Dr.
(Intersection Name)

THURSDAY **05/31/18**
Day Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

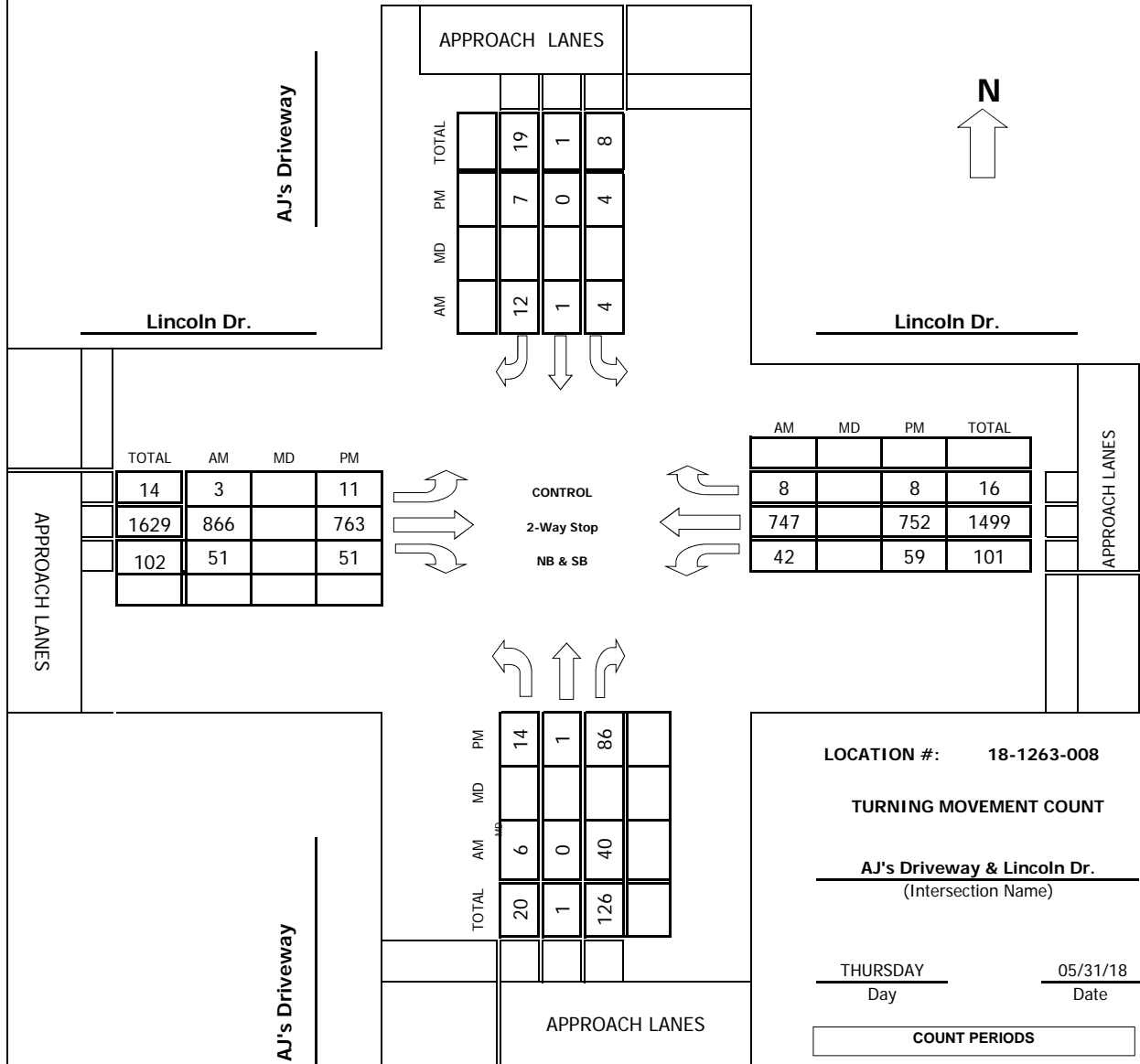
AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Project #: 18-1263-008

TMC SUMMARY OF AJ's Driveway & Lincoln Dr.



LOCATION #: 18-1263-008

TURNING MOVEMENT COUNT

AJ's Driveway & Lincoln Dr.
(Intersection Name)

THURSDAY
Day

05/31/18
Date

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

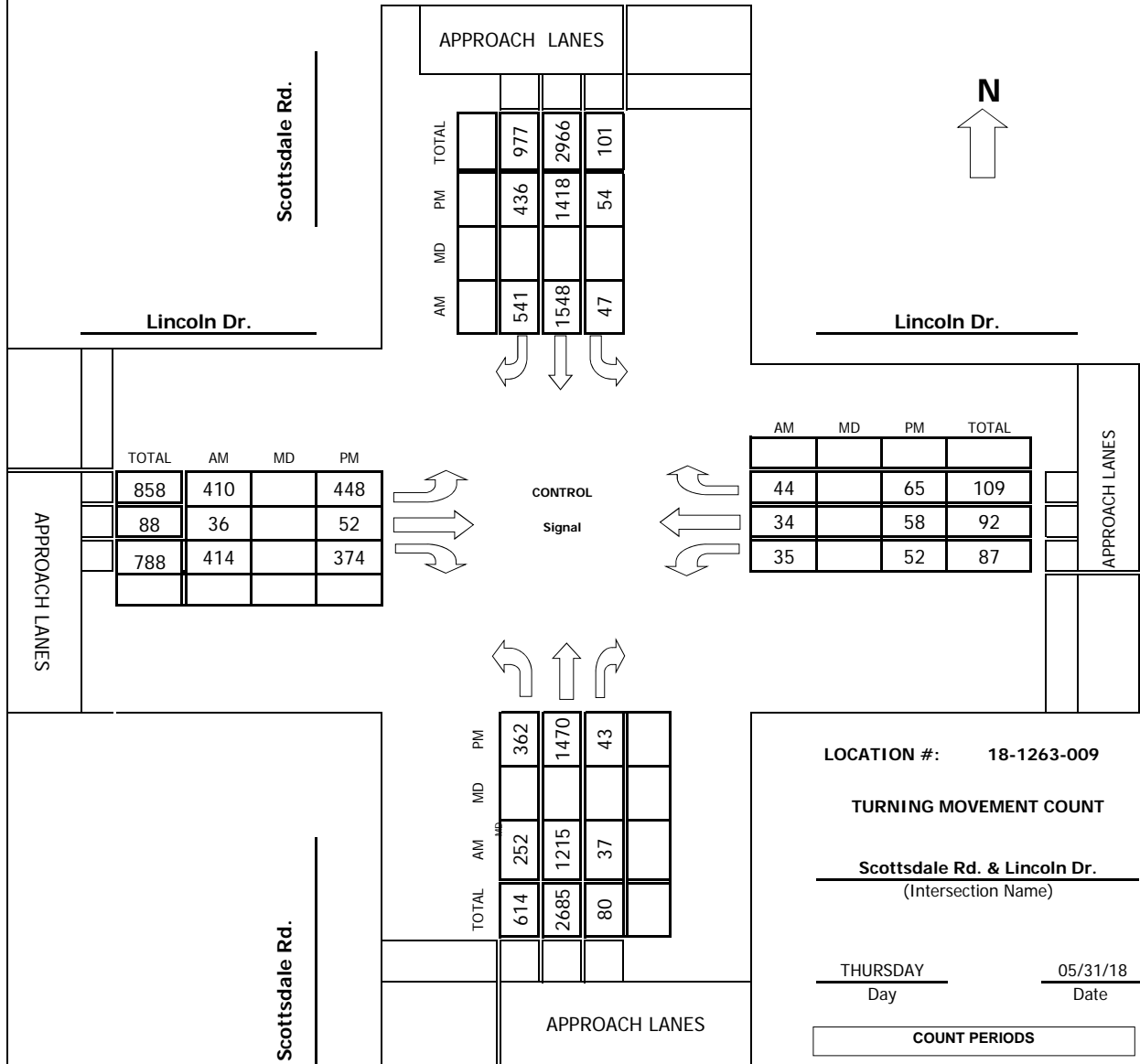
AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Project #: 18-1263-009

TMC SUMMARY OF Scottsdale Rd. & Lincoln Dr.



COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 745 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

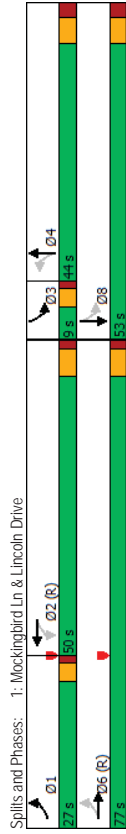
APPENDIX C

EXISTING PEAK HOUR ANALYSIS

Smoke Tree Resort
Existing AM

1: Mockingbird Ln & Lincoln Drive
Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	1	1	1	1	1	1	1	1
Traffic Volume (vph)	212	815	19	801	5	33	70	85
Future Volume (vph)	212	815	19	801	5	33	70	85
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	95.1	93.1	74.8	74.8	17.2	17.2	26.9	24.4
Actuated g/C Ratio	0.73	0.72	0.58	0.58	0.13	0.13	0.21	0.19
v/c Ratio	0.51	0.37	0.06	0.46	0.10	0.22	0.31	0.83
Control Delay	10.5	8.4	18.2	19.1	49.2	36.8	43.6	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	8.4	18.2	19.1	49.2	36.8	43.6	50.8
LOS	B	A	B	B	D	D	D	D
Approach Delay	8.8	8.8	19.0	19.0	38.1	38.1	49.4	49.4
Approach LOS	A	A	B	B	D	D	D	D
Intersection Summary								
Cycle Length: 130								
Actuated Cycle Length: 130								
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green								
Natural Cycle: 80								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.83								
Intersection Signal Delay: 19.7								
Intersection Capacity Utilization 69.1%								
Analysis Period (min) 15								



Smoke Tree Resort
Existing AM

1: Mockingbird Ln & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	1	1	1	1	1	1	1	1
Traffic Volume (veh/h)	212	815	19	801	5	33	15	70
Future Volume (veh/h)	212	815	19	801	5	33	15	70
Initial Q (Qb) veh	0	0	0	0	0	0	0	0
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	906	32	21	890	43	6	37
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap. veh/h	439	2371	84	393	1984	96	88	191
Arrive On Green	0.07	0.68	0.68	0.58	0.58	0.16	0.16	0.04
Sat Flow, veh/h	1781	3501	124	597	3450	167	1046	1213
Grp Volume(V), veh/h	236	460	478	21	458	475	6	54
Grp Sat Flow(s), veh/h	1781	1777	1848	597	1777	1840	1046	0
Q Serve(g/s), s	6.7	14.6	14.6	2.1	19.2	19.2	0.7	3.4
Cycle Q Clear(g_c), s	6.7	14.6	14.6	3.4	19.2	19.2	17.1	0.0
Prop In Lane	1.00	0.07	1.00	1.00	0.09	1.00	0.31	1.00
Lane Grp Cap(c), veh/h	439	1203	1252	393	1022	1058	88	0
V/C Ratio(X)	0.54	0.38	0.38	0.05	0.45	0.07	0.00	0.19
Avail Cap(c_a), veh/h	627	1203	1252	393	1022	1058	225	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(0)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	9.1	9.1	12.8	15.8	61.4	0.0	47.6
Incr Delay (d2), s/veh	1.0	0.9	0.9	0.3	1.4	0.3	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.7	5.7	6.0	0.3	8.1	8.4	0.2	1.6
Unsig. Movement Delay, s/veh								
LnGrp Delay(d), s/veh	12.4	10.1	10.0	13.0	17.2	61.7	0.0	47.9
LnGrp LOS	B	B	B	B	B	E	A	D
Approach Vol, veh/h	1174			954		60		412
Approach Delay, s/veh	10.5			17.1		49.3		55.8
Approach LOS	B			B		D		E
Timer - Assigned Phs	1	2	3	4	6	8		
Phs Duration (G+Y+Rc), s	13.3	80.8	9.0	27.0	94.0	36.0		
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5		
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5		
Max Q Clear Time (g_c+I1), s	8.7	21.2	6.7	19.1	16.6	27.4		
Green Ext Time (g_e), s	0.6	6.7	0.0	0.2	7.6	2.1		
Intersection Summary								
HCM 6th Ctrl Delay								
HCM 6th LOS								

Smoke Tree Resort
Existing AM

2: Quail Run Rd & Lincoln Drive
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
0.1													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	5	5		5	5			5			5		
Traffic Vol. veh/h	0	962	3	2	819	1	0	0	7	2	0	6	
Future Vol. veh/h	0	962	3	2	819	1	0	0	7	2	0	6	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	0	1069	3	2	910	1	0	0	8	2	0	7	
Major/Minor													
	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	911	0	0	1072	0	0	1530	1986	536	1450	1987	456	
Stage 1	-	-	-	-	-	-	-	1071	1071	-	915	915	-
Stage 2	-	-	-	-	-	-	-	459	915	-	535	1072	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Slg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Slg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	743	-	-	646	-	-	80	60	489	92	60	551	
Stage 1	-	-	-	-	-	-	236	295	-	294	350	-	
Stage 2	-	-	-	-	-	-	551	350	-	497	295	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	743	-	-	646	-	-	79	60	489	90	60	551	
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	60	-	90	60	-	
Stage 1	-	-	-	-	-	-	236	295	-	294	349	-	
Stage 2	-	-	-	-	-	-	543	349	-	489	295	-	
Approach													
	EB	WB				NB				SB			
HCM Control Delay, s	0	0				12.5				20.4			
HCM LOS					B				C				
Minor Lane/Major Mvmt													
	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	489	743	-	-	646	-	-	242					
HCM Lane V/C Ratio	0.016	-	-	-	0.003	-	-	0.037					
HCM Control Delay (s)	12.5	0	-	-	10.6	-	-	20.4					
HCM Lane LOS	B	A	-	-	B	-	-	C					
HCM 95th %ile Q(veh)	0	0	-	-	0	-	-	0.1					

Smoke Tree Resort
Existing AM

3: Smole Tree West & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
0													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	4P			4P		4P							
Traffic Vol. veh/h	968	2	1	818	4	0							
Future Vol. veh/h	968	2	1	818	4	0							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	25	-	0	-							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1076	2	1	909	4	0							
Major/Minor	Major1	Major2				Minor1							
Conflicting Flow All	0	0	1078	0	1534	539							
Stage 1	-	-	-	-	1077	-							
Stage 2	-	-	-	-	457	-							
Critical Hdwy	-	-	4.14	-	6.84	6.94							
Critical Hdwy Slg 1	-	-	-	-	5.84	-							
Critical Hdwy Slg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	2.22	-	3.52	3.32							
Pot Cap-1 Maneuver	-	-	643	-	107	487							
Stage 1	-	-	-	-	288	-							
Stage 2	-	-	-	-	604	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	643	-	107	487							
Mov Cap-2 Maneuver	-	-	-	-	218	-							
Stage 1	-	-	-	-	287	-							
Stage 2	-	-	-	-	604	-							
Approach	EB	WB				NB							
HCM Control Delay, s	0	0				21.9							
HCM LOS					C								
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	218	-	-	643	-								
HCM Lane V/C Ratio	0.02	-	-	0.002	-								
HCM Control Delay (s)	21.9	-	-	10.6	-								
HCM Lane LOS	C	-	-	B	-								
HCM 95th %tile Q(veh)	0.1	-	-	0	-								

Smoke Tree Resort
Existing AM

4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh						0						
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4A	4A	W						
Traffic Vol. veh/h	970	0	0	815	1	2						
Future Vol. veh/h	970	0	0	815	1	2						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1078	0	0	906	1	2						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1078	0	1531	539						
Stage 1	-	-	-	-	1078	-						
Stage 2	-	-	-	-	-	453						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	643	-	108	487						
Stage 1	-	-	-	-	288	-						
Stage 2	-	-	-	-	607	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	643	-	108	487						
Mov Cap-2 Maneuver	-	-	-	-	219	-						
Stage 1	-	-	-	-	288	-						
Stage 2	-	-	-	-	607	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0					15.5					
HCM LOS							C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	346	-	-	-	643	-						
HCM Lane V/C Ratio	0.01	-	-	-	-	-						
HCM Control Delay (s)	15.5	-	-	-	0	-						
HCM Lane LOS	C	-	-	-	A	-						
HCM 95th %ile Q(veh)	0	-	-	-	0	-						

Smoke Tree Resort
Existing AM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh						0						
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4A	4A	W						
Traffic Vol. veh/h	968	4	0	815	0	3						
Future Vol. veh/h	968	4	0	815	0	3						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1076	4	0	906	0	3						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1080	0	1531	540						
Stage 1	-	-	-	-	1078	-						
Stage 2	-	-	-	-	-	453						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	641	-	108	486						
Stage 1	-	-	-	-	288	-						
Stage 2	-	-	-	-	607	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	641	-	108	486						
Mov Cap-2 Maneuver	-	-	-	-	219	-						
Stage 1	-	-	-	-	288	-						
Stage 2	-	-	-	-	607	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0					12.5					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBT						
Capacity (veh/h)	486	-	-	-	641	-						
HCM Lane V/C Ratio	0.007	-	-	-	-	-						
HCM Control Delay (s)	12.5	-	-	-	0	-						
HCM Lane LOS	B	-	-	-	A	-						
HCM 95th %ile Q(veh)	0	-	-	-	0	-						

Smoke Tree Resort
Existing AM

6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
0.1													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	4B		5	815	0	3							
Traffic Vol. veh/h	967	2	5	815	0	3							
Future Vol. veh/h	967	2	5	815	0	3							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	25	-	0	-							
Veh in Median Storage, #	0	-	-	-	0	0							
Grade, %	0	-	-	-	0	0							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1074	2	6	906	0	3							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	1076	0	1540	538							
Stage 1	-	-	-	-	1075	-							
Stage 2	-	-	-	-	465	-							
Critical Hdwy	-	-	4.14	-	6.84	6.94							
Critical Hdwy Stg 1	-	-	-	-	5.84	-							
Critical Hdwy Stg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	2.22	-	3.52	3.32							
Pot Cap-1 Maneuver	-	-	644	-	106	488							
Stage 1	-	-	-	-	289	-							
Stage 2	-	-	-	-	599	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	644	-	105	488							
Mov Cap-2 Maneuver	-	-	-	-	216	-							
Stage 1	-	-	-	-	286	-							
Stage 2	-	-	-	-	599	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0.1	12.4										
HCM LOS	B												
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	488	-	-	644	-								
HCM Lane V/C Ratio	0.007	-	-	0.009	-								
HCM Control Delay (s)	12.4	-	-	10.6	-								
HCM Lane LOS	B	-	-	B	-								
HCM 95th %ile Q(veh)	0	-	-	0	-								

Smoke Tree Resort
Existing AM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
5.8													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	4B	4B		5	4B		0	4B		5		4	
Traffic Vol. veh/h	26	912	34	18	757	10	50	0	29	5	0	12	
Future Vol. veh/h	26	912	34	18	757	10	50	0	29	5	0	12	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	29	1013	38	20	841	11	56	0	32	6	0	13	
Major/Minor													
Major1			Major2			Minor1			Minor2				
Conflicting Flow All			852			0			1551			1452	
Stage 1			-			-			1090			887	
Stage 2			-			-			461			892	
Critical Hdwy			4.14			-			7.54			6.54	
Critical Hdwy Slg 1			-			-			6.54			5.54	
Critical Hdwy Slg 2			-			-			6.54			5.54	
Follow-up Hdwy			2.22			-			3.52			4.02	
Pct Cap-1 Maneuver			783			-			77			61	
Stage 1			-			-			230			289	
Stage 2			-			-			550			358	
Platoon blocked, %			-			-			71			57	
Mov Cap-1 Maneuver			783			-			71			57	
Mov Cap-2 Maneuver			-			-			71			57	
Stage 1			-			-			221			278	
Stage 2			-			-			521			347	
Approach													
EB			WB			NB			SB				
HCM Control Delay, s			0.3			0.2			124.4			23.4	
HCM LOS						F			C				
Minor Lane/Major Mvmt													
NBLn1			EBL			EBT			WBL			WBR	
Capacity (veh/h)			104			783			658			82	
HCM Lane V/C Ratio			0.844			0.037			0.03			0.068	
HCM Control Delay (s)			124.4			9.8			10.6			52.1	
HCM Lane LOS			F			A			B			F	
HCM 95th %ile Q(veh)			4.8			0.1			0.1			0.2	

Smoke Tree Resort Existing AM

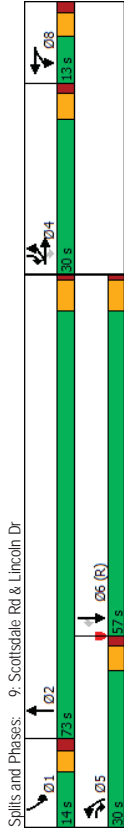
8: AJ's Drwy & Lincoln Dr HCM 6th TWSC

Intersection	1												
Init Delay, s/veh													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	3	4	4	3	4	4	6	6	0	41	4	1	12
Traffic Vol, veh/h	3	892	53	43	769	8	6	0	41	4	1	12	
Future Vol, veh/h	3	892	53	43	769	8	6	0	41	4	1	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	-
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	991	59	48	854	9	7	0	46	4	1	13	
Major/Minor	Major1	Major2				Minor1				Minor2			
Conflicting Flow All	863	0	0	1050	0	0	1551	1986	525	1457	2011	432	
Stage 1	-	-	-	-	-	-	-	1027	1027	-	955	955	-
Stage 2	-	-	-	-	-	-	-	524	959	-	502	1056	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	775	-	-	659	-	-	77	60	497	91	58	572	
Stage 1	-	-	-	-	-	-	251	310	-	278	335	-	
Stage 2	-	-	-	-	-	-	504	334	-	520	300	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	775	-	-	659	-	-	70	55	497	78	54	572	
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	55	-	78	54	-	
Stage 1	-	-	-	-	-	-	250	309	-	277	311	-	
Stage 2	-	-	-	-	-	-	455	310	-	471	299	-	
Approach	EB	WB				NB				SB			
HCM Control Delay, s	0	0.6				20.9				22			
HCM LOS					C				C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	279	775	-	-	659	-	-	-	78	572			
HCM Lane V/C Ratio	0.187	0.004	-	-	0.073	-	-	-	0.057	0.023			
HCM Control Delay (s)	20.9	9.7	-	-	10.9	-	-	-	53.9	11.4			
HCM Lane LOS	C	A	-	-	B	-	-	-	F	B			
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	-	0.2	0.1			

Smoke Tree Resort Existing AM

9: Scottsdale Rd & Lincoln Dr Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4
Traffic Volume (vph)	422	37	426	36	35	260	1251	48	1594	557
Future Volume (vph)	422	37	426	36	35	260	1251	48	1594	557
Turn Type	Split	NA	pm+ov	Split	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	4	4	5	8	8	5	2	1	6	4
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	73.0	14.0	57.0	30.0
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead									
Lead-Lag Optimize?	Lead									
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)	23.0	23.0	39.9	7.2	7.2	16.9	72.2	7.5	60.6	89.3
Actuated g/C Ratio	0.18	0.18	0.31	0.06	0.06	0.13	0.56	0.06	0.47	0.69
v/c Ratio	0.85	0.86	0.89	0.41	0.39	0.65	0.51	0.52	0.75	0.53
Control Delay	77.2	77.4	44.6	72.1	34.3	60.0	19.6	77.2	32.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	77.4	44.6	72.1	34.3	60.0	19.6	77.2	32.1	8.4
LOS	E	E	D	E	C	E	B	E	C	A
Approach Delay	61.6									
Approach LOS	E									
Intersection Summary	Intersection Summary									
Cycle Length: 130	Cycle Length: 130									
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green	Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green									
Natural Cycle: 90	Natural Cycle: 90									
Control Type: Actuated-Coordinated	Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.89	Maximum v/c Ratio: 0.89									
Intersection Signal Delay: 33.8	Intersection Signal Delay: 33.8									
Intersection Capacity Utilization 77.0%	Intersection Capacity Utilization 77.0%									
Analysis Period (min) 15	Analysis Period (min) 15									



Smoke Tree Resort
Existing AM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (veh/h)	422	37	426	36	35	45	260	1251	38	48	1594	557
Future Volume (veh/h)	422	37	426	36	35	45	260	1251	38	48	1594	557
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pb1)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	498	0	473	40	39	50	289	1390	42	53	1771	619
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	0	458	95	95	85	348	2336	71	68	2015	924
Arrive On Green	0.19	0.00	0.19	0.05	0.05	0.05	0.10	0.46	0.46	0.04	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5093	154	1781	5106	1585
Grp Volume(v), veh/h	498	0	473	40	39	50	289	929	503	53	1771	619
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702	1585
Q Serve(g, s), s	17.1	0.0	24.5	2.8	2.8	4.0	10.7	26.4	26.4	3.8	41.8	34.7
Cycle Q Clear(g, c), s	17.1	0.0	24.5	2.8	2.8	4.0	10.7	26.4	26.4	3.8	41.8	34.7
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	458	95	95	85	348	1561	845	68	2015	924
V/C Ratio(X)	0.74	0.00	1.03	0.42	0.41	0.59	0.83	0.60	0.60	0.78	0.88	0.67
Avail Cap(c, a), veh/h	671	0	458	101	101	90	651	1762	954	119	2015	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Fill(r)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	0.0	46.2	59.6	59.6	60.1	57.4	26.2	26.2	62.0	36.5	18.5
Incr Delay (d2), s/veh	3.9	0.0	50.4	1.1	1.1	5.4	2.0	0.2	0.4	6.9	5.9	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOf(50%), veh/h	8.0	0.0	21.1	1.3	1.3	1.7	4.8	10.7	11.6	1.9	18.2	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.7	0.0	96.6	60.7	60.6	65.5	59.3	26.4	26.6	68.8	42.3	22.4
LnGrp LOS	D	A	F	E	E	E	E	C	C	E	D	C
Approach Vol, veh/h	971			129				1721			2443	
Approach Delay, s/veh	74.6			62.5				32.0			37.9	
Approach LOS	E			E				C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	65.3		30.0	18.6	57.0		12.5				
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7		5.6				
Max Green Sailing (Gmax), s	* 8.7	67.3		24.5	24.5	51.3		7.4				
Max Q Clear Time (g_c+I1), s	5.8	28.4		26.5	12.7	43.8		6.0				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.4	2.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				43.3								
HCM 6th LOS				D								

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

11/16/2018

CWTech BR

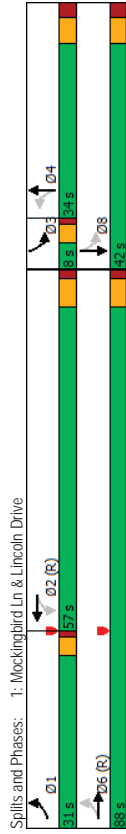
Synchro 10 Report

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Smoke Tree Resort Existing PM

1: Mockingbird Ln & Lincoln Drive Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	228	764	12	805	7	60	57	46
Future Volume (vph)	228	764	12	805	7	60	57	46
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	4.0	15.0	15.0	15.0	7.0	7.0	4.0	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	31.0	88.0	57.0	57.0	34.0	34.0	8.0	42.0
Total Split (%)	23.8%	67.7%	43.8%	43.8%	26.2%	26.2%	6.2%	32.3%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	102.4	100.4	84.3	84.3	10.7	10.7	19.6	17.1
Actuated g/C Ratio	0.79	0.77	0.65	0.65	0.08	0.08	0.15	0.13
v/c Ratio	0.53	0.32	0.03	0.42	0.10	0.51	0.37	0.66
Control Delay	8.1	5.3	11.8	13.0	55.7	63.3	53.2	32.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	5.3	11.8	13.0	55.7	63.3	53.2	32.6
LOS	A	A	B	B	E	E	D	C
Approach Delay	5.9	5.9	13.0	13.0	62.6	62.6	37.3	37.3
Approach LOS	A	A	B	B	E	E	D	D
Intersection Summary								
Cycle Length: 130								
Actuated Cycle Length: 130								
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green								
Natural Cycle: 90								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.66								
Intersection Signal Delay: 14.2								
Intersection Capacity Utilization 61.8%								
Analysis Period (min) 15								



Smoke Tree Resort Existing PM

1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	228	764	12	805	7	60	10	57
Future Volume (veh/h)	228	764	12	805	7	60	10	57
Initial Q (Qb) veh	0	0	0	0	0	0	0	0
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	849	31	13	894	62	8	67
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap. veh/h	484	2635	96	471	2222	154	84	139
Arrive On Green	0.06	0.75	0.75	0.66	0.66	0.66	0.09	0.09
Sat Flow, veh/h	1781	3497	128	631	3371	234	1170	1567
Grp Volume(V), veh/h	253	431	449	13	471	485	8	78
Grp Sat Flow(s), veh/h	1781	1777	1847	631	1777	1828	1170	1824
Q Serve(g.s) s	5.6	10.3	10.3	0.9	16.0	16.0	0.9	5.3
Cycle Q Clear(g_c) s	5.6	10.3	10.3	0.9	16.0	16.0	0.9	5.3
Prop In Lane	1.00	0.07	1.00	1.00	0.13	1.00	0.14	1.00
Lane Grp Cap(c), veh/h	484	1339	1392	471	1171	1205	84	162
V/C Ratio(X)	0.52	0.32	0.32	0.03	0.40	0.10	0.08	0.36
Avail Cap(c_a), veh/h	740	1339	1392	471	1171	1205	228	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	5.2	5.2	7.7	10.3	10.3	62.3	56.4
Incr Delay (d2), s/veh	0.9	0.6	0.6	0.1	1.0	1.0	0.5	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.0	3.7	3.8	0.1	6.4	6.6	0.3	2.5
Unsig. Movement Delay, s/veh								
LnGrp Delay(d) s/veh	8.3	5.8	5.8	7.8	11.3	11.3	62.8	58.6
LnGrp LOS	A	A	A	B	B	B	E	D
Approach Vol, veh/h	1133			969			86	275
Approach Delay, s/veh	6.4			11.3			59.0	60.0
Approach LOS	A			B			E	E
Timer - Assigned Phs	1	2	3	4	6	8		
Phs Duration (G+Y+Rc), s	12.3	91.7	8.0	18.0	104.0	26.0		
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5		
Max Green Selling (Gmax), s	27.0	51.0	4.0	27.5	82.0	35.5		
Max Q Clear Time (g_c+H), s	7.6	18.0	6.0	11.2	12.3	18.3		
Green Ext Time (g_e), s	0.7	7.5	0.0	0.3	6.9	1.1		
Intersection Summary								
HCM 6th Ctrl Delay								
HCM 6th LOS								

Intersection													
Init Delay, s/veh													
0													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	5	5	5	5	5	5	5	5	5	5	5	5	
Traffic Vol. veh/h	0	846	1	0	871	0	0	0	0	2	0	0	
Future Vol. veh/h	0	846	1	0	871	0	0	0	0	2	0	0	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mmt Flow	0	940	1	0	968	0	0	0	0	2	0	0	
Major/Minor	Major1	Major2	Minor1				Minor2						
Conflicting Flow All	968	0	0	941	0	0	1425	1909	471	1438	1909	484	
Stage 1	-	-	-	-	-	-	941	941	-	968	968	-	
Stage 2	-	-	-	-	-	-	484	968	-	470	941	-	
Critical Hwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	707	-	-	724	-	-	96	68	539	94	68	529	
Stage 1	-	-	-	-	-	-	283	340	-	273	330	-	
Stage 2	-	-	-	-	-	-	533	330	-	543	340	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	707	-	-	724	-	-	96	68	539	94	68	529	
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	68	-	94	68	-	
Stage 1	-	-	-	-	-	-	283	340	-	273	330	-	
Stage 2	-	-	-	-	-	-	533	330	-	541	340	-	
Approach	EB	WB	NB	SB									
HCM Control Delay, s	0	0	11.7	0									
HCM LOS			B	A									
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	539	707	-	-	724	-	-	-					
HCM Lane V/C Ratio	0.004	-	-	-	-	-	-	-					
HCM Control Delay (s)	11.7	0	-	0	-	-	-	0					
HCM Lane LOS	B	A	-	-	A	-	-	A					
HCM 95th %ile Q(veh)	0	0	-	0	-	-	-	-					

Intersection																
Init Delay, s/veh																
0																
Movement	EBT	EBR	WBL	WBT	NBL	NBR										
Lane Configurations	4T	4T	4T	4T	4T	4T										
Traffic Vol. veh/h	848	1	0	870	1	0										
Future Vol. veh/h	848	1	0	870	1	0										
Conflicting Peds. #/hr	0	0	0	0	0	0										
Sign Control	Free	Free	Free	Free	Stop	Stop										
RT Channelized	-	None	-	None	-	None										
Storage Length	-	-	25	-	0	-										
Veh in Median Storage, #	0	-	-	0	0	-										
Grade, %	0	-	-	0	0	-										
Peak Hour Factor	90	90	90	90	90	90										
Heavy Vehicles, %	2	2	2	2	2	2										
Mvmt Flow	942	1	0	967	1	0										
Major/Minor	Major1	Major2	Minor1	Minor2												
Conflicting Flow All	0	0	943	0	1427	472										
Stage 1	-	-	-	-	943	-										
Stage 2	-	-	-	-	484	-										
Critical Hdwy	-	-	4.14	-	6.84	6.94										
Critical Hdwy Slg 1	-	-	-	-	5.84	-										
Critical Hdwy Slg 2	-	-	-	-	5.84	-										
Follow-up Hdwy	-	-	2.22	-	3.52	3.32										
Pot Cap-1 Maneuver	-	-	723	-	126	538										
Stage 1	-	-	-	-	339	-										
Stage 2	-	-	-	-	585	-										
Platoon blocked, %	-	-	-	-	-	-										
Mov Cap-1 Maneuver	-	-	723	-	126	538										
Mov Cap-2 Maneuver	-	-	-	-	248	-										
Stage 1	-	-	-	-	339	-										
Stage 2	-	-	-	-	585	-										
Approach	EB	WB	NB													
HCM Control Delay, s	0	0	19.6													
HCM LOS	C															
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT											
Capacity (veh/h)	248	-	-	-	723	-										
HCM Lane V/C Ratio	0.004	-	-	-	-	-										
HCM Control Delay (s)	19.6	-	-	-	0	-										
HCM Lane LOS	C	-	-	-	A	-										
HCM 95th %ile Q(veh)	0	-	-	-	0	-										

Smoke Tree Resort
Existing PM

4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4P		5	4A		W					
Traffic Vol. veh/h	847	1	2	870	1	2					
Future Vol. veh/h	847	1	2	870	1	2					
Conflicting Peds. #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	941	1	2	967	1	2					
Major/Minor											
	Major1	Major2	Minor1								
Conflicting Flow All	0	0	942	0	1430	471					
Stage 1	-	-	-	-	942	-					
Stage 2	-	-	-	-	-	488					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	724	-	125	539					
Stage 1	-	-	-	-	340	-					
Stage 2	-	-	-	-	583	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	724	-	125	539					
Mov Cap-2 Maneuver	-	-	-	-	247	-					
Stage 1	-	-	-	-	339	-					
Stage 2	-	-	-	-	583	-					
Approach											
EB	EB	WB	NB								
HCM Control Delay, s	0	0	14.4								
HCM LOS	B										
Minor Lane/Major Mvmt											
NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	387	-	-	724							
HCM Lane V/C Ratio	0.009	-	-	0.003							
HCM Control Delay (s)	14.4	-	-	10							
HCM Lane LOS	B	-	-	A							
HCM 95th %ile Q(veh)	0	0	-	0							

Smoke Tree Resort
Existing PM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4P			4A		W					
Traffic Vol, veh/h	849	0	0	870	2	0					
Future Vol, veh/h	849	0	0	870	2	0					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	943	0	0	967	2	0					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	943	0	1427	472					
Stage 1	-	-	-	-	943	-					
Stage 2	-	-	-	-	484	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Sig 1	-	-	-	-	5.84	-					
Critical Hdwy Sig 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	723	-	126	538					
Stage 1	-	-	-	-	339	-					
Stage 2	-	-	-	-	585	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	723	-	126	538					
Mov Cap-2 Maneuver	-	-	-	-	248	-					
Stage 1	-	-	-	-	339	-					
Stage 2	-	-	-	-	585	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0	19.6								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	248	-	-	723	-						
HCM Lane V/C Ratio	0.009	-	-	-	-						
HCM Control Delay (s)	19.6	-	-	0	-						
HCM Lane LOS	C	-	-	A	-						
HCM 95th %tile Q(veh)	0	-	-	0	-						

Intersection													
Init Delay, s/veh													
0													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	4B		5	4A	W								
Traffic Vol. veh/h	849	0	0	869	2	3							
Future Vol. veh/h	849	0	0	869	2	3							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	25	-	0	-							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	943	0	0	966	2	3							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	943	0	1426	472							
Stage 1	-	-	-	-	943	-							
Stage 2	-	-	-	-	-	483							
Critical Hdwy	-	-	4.14	-	6.84	6.94							
Critical Hdwy Slg 1	-	-	-	-	5.84	-							
Critical Hdwy Slg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	2.22	-	3.52	3.32							
Pot Cap-1 Maneuver	-	-	723	-	126	538							
Stage 1	-	-	-	-	339	-							
Stage 2	-	-	-	-	586	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	723	-	126	538							
Mov Cap-2 Maneuver	-	-	-	-	248	-							
Stage 1	-	-	-	-	339	-							
Stage 2	-	-	-	-	586	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0	15										
HCM LOS							C						
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	367	-	-	723	-								
HCM Lane V/C Ratio	0.015	-	-	-	-								
HCM Control Delay (s)	15	-	-	0	-								
HCM Lane LOS	C	-	-	A	-								
HCM 95th %ile Q(veh)	0	-	-	0	-								

Intersection													
Init Delay, s/veh													
7.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	5	4B		5	4A			4B		5		W	
Traffic Vol. veh/h	7	792	41	6	777	9	66	3	47	7	0	34	
Future Vol. veh/h	7	792	41	6	777	9	66	3	47	7	0	34	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	None	-	None	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	8	880	46	7	863	10	73	3	52	8	0	38	
Major/Minor	Major1	Major2	Minor1				Minor2						
Conflicting Flow All	873	0	0	926	0	0	1365	1806	463	1340	-	437	
Stage 1	-	-	-	-	-	-	919	919	-	882	-	-	
Stage 2	-	-	-	-	-	-	446	887	-	458	-	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94	
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32	
Pot Cap-1 Maneuver	768	-	-	734	-	-	106	78	546	111	0	567	
Stage 1	-	-	-	-	-	-	292	348	-	307	0	-	
Stage 2	-	-	-	-	-	-	561	360	-	552	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	768	-	-	734	-	-	97	76	546	96	-	567	
Mov Cap-2 Maneuver	-	-	-	-	-	-	97	76	-	96	-	-	
Stage 1	-	-	-	-	-	-	289	345	-	304	-	-	
Stage 2	-	-	-	-	-	-	519	356	-	489	-	-	
Approach	EB	WB	NB				SB						
HCM Control Delay, s	0.1	0.1	109.5				17.6						
HCM LOS							F C						
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	144	768	-	-	734	-	-	-	96				
HCM Lane V/C Ratio	0.895	0.01	-	-	0.009	-	-	-	0.081				
HCM Control Delay (s)	109.5	9.7	-	-	10	-	-	-	45.8				
HCM Lane LOS	F	A	-	-	A	-	-	-	E				
HCM 95th %ile Q(veh)	6.1	0	-	-	0	-	-	-	0.3				

Smoke Tree Resort Existing PM

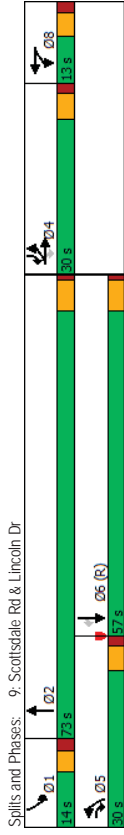
8: AJ's Drwy & Lincoln Dr HCM 6th TWSC

Intersection	2.1												
Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Movement	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	
Lane Configurations	11	786	53	61	775	8	14	1	89	4	0	7	
Traffic Vol, veh/h	11	786	53	61	775	8	14	1	89	4	0	7	
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	
Conflicting Peds, #/hr	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
Sign Control	-	-	None	-	-	None	-	-	None	-	-	None	
RT Channelized	25	-	-	25	-	-	-	-	-	0	-	0	
Storage Length	-	0	-	-	0	-	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	-	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mmt Flow	12	873	59	68	861	9	16	1	99	4	0	8	
Major/Minor	Major1	Major2				Minor1				Minor2			
Conflicting Flow All	870	0	0	932	0	0	1494	1933	466	1463	-	435	
Stage 1	-	-	-	-	-	-	-	927	927	-	1002	-	
Stage 2	-	-	-	-	-	-	-	567	1006	-	461	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94	
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Follow-up Hdwy	2.22	-	2.22	-	2.22	-	3.52	4.02	3.32	3.52	-	3.32	
Pot Cap-1 Maneuver	770	-	730	-	-	-	85	65	543	90	0	569	
Stage 1	-	-	-	-	-	-	289	345	-	260	0	-	
Stage 2	-	-	-	-	-	-	476	317	-	550	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	770	-	730	-	-	-	77	58	543	67	-	569	
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	58	-	67	-	-	
Stage 1	-	-	-	-	-	-	284	339	-	256	-	-	
Stage 2	-	-	-	-	-	-	426	288	-	441	-	-	
Approach	EB	WB	NB										SB
HCM Control Delay, s	0.1	0.8		25.7		D		30		D			
HCM LOS													
Minor Lane/Major Mmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	287	770	-	-	730	-	-	67	569				
HCM Lane V/C Ratio	0.403	0.016	-	-	0.093	-	-	0.066	0.014				
HCM Control Delay (s)	25.7	9.8	-	-	10.4	-	-	62.5	11.4				
HCM Lane LOS	D	A	-	-	B	-	-	F	B				
HCM 95th %ile Q(veh)	1.9	0	-	-	0.3	-	-	0.2	0				

Smoke Tree Resort Existing PM

9: Scottsdale Rd & Lincoln Dr Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4
Traffic Volume (vph)	461	54	385	54	60	373	1514	56	1461	449
Future Volume (vph)	461	54	385	54	60	373	1514	56	1461	449
Turn Type	Split	NA	pm+ov	Split	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4
Detector Phase	4	4	4	4	4	4	4	4	4	4
Switch Phase	4	4	4	4	4	4	4	4	4	4
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	73.0	14.0	57.0	30.0
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead									
Lead-Lag Optimize?	Lead									
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None
Act Elct Green (s)	23.9	23.9	43.7	7.3	7.3	19.9	71.1	7.7	56.6	86.2
Actuated g/C Ratio	0.18	0.18	0.34	0.06	0.06	0.15	0.55	0.06	0.44	0.66
v/c Ratio	0.93	0.91	0.74	0.61	0.86	0.79	0.62	0.60	0.73	0.46
Control Delay	88.8	85.1	29.5	84.9	38.1	64.2	22.3	82.1	33.6	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.8	85.1	29.5	84.9	38.1	64.2	22.3	82.1	33.6	9.9
LOS	F	F	C	F	D	E	C	F	C	A
Approach Delay	62.4									
Approach LOS	E									
Intersection Summary	Intersection Summary									
Cycle Length: 130	Cycle Length: 130									
Actuated Cycle Length: 130	Actuated Cycle Length: 130									
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green	Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green									
Natural Cycle: 90	Natural Cycle: 90									
Control Type: Actuated-Coordinated	Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.93	Maximum v/c Ratio: 0.93									
Intersection Signal Delay: 36.6	Intersection Signal Delay: 36.6									
Intersection Capacity Utilization 71.5%	Intersection Capacity Utilization 71.5%									
Analysis Period (min) 15	Analysis Period (min) 15									



Smoke Tree Resort
Existing PM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (veh/h)	461	54	385	54	60	67	373	1514	44	56	1461	449
Future Volume (veh/h)	461	54	385	54	60	67	373	1514	44	56	1461	449
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pb1)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	555	0	428	60	67	74	414	1682	49	62	1623	499
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	0	516	101	101	90	473	2491	73	79	2015	924
Arrive On Green	0.19	0.00	0.19	0.06	0.06	0.06	0.14	0.49	0.49	0.04	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5099	149	1781	5106	1585
Grp Volume(v), veh/h	555	0	428	60	67	74	414	1123	608	62	1623	499
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1844	1781	1702	1585
Q Serve(g, s), s	19.5	0.0	24.5	4.3	4.8	6.0	15.3	32.7	32.7	4.5	36.7	24.9
Cycle Q Clear(g, c), s	19.5	0.0	24.5	4.3	4.8	6.0	15.3	32.7	32.7	4.5	36.7	24.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	516	101	101	90	473	1663	901	79	2015	924
V/C Ratio(X)	0.83	0.00	0.83	0.59	0.66	0.82	0.87	0.68	0.68	0.78	0.81	0.54
Avail Cap(c, a), veh/h	671	0	516	101	101	90	651	1762	954	119	2015	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Fill(r)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	0.0	40.5	59.8	60.1	60.6	55.0	25.4	25.4	61.5	34.9	16.5
Incr Delay (d2), s/veh	7.9	0.0	10.3	6.2	12.2	40.6	7.7	0.7	1.4	8.7	3.6	2.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/h	9.4	0.0	14.1	2.1	2.5	3.4	7.2	13.2	14.5	2.2	15.7	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.6	0.0	50.8	66.0	72.3	101.2	62.7	26.1	26.7	70.2	38.5	18.8
LnGrp LOS	E	A	D	E	E	F	E	C	C	E	D	B
Approach Vol, veh/h	983			201				2145			2184	
Approach Delay, s/veh	55.2			81.1				33.4			34.9	
Approach LOS	E			F				C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	69.2		30.0	23.3	57.0		13.0				
Change Period (Y+Rc), s	*	5.3		5.5	5.5	5.7		5.6				
Max Green Sailing (Gmax), s	* 8.7	67.3		24.5	24.5	51.3		7.4				
Max Q Clear Time (g_c+I1), s	6.5	34.7		26.5	17.3	38.7		8.0				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.5	2.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				39.6								
HCM 6th LOS				D								

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

11/16/2018

CWTech BR

Synchro 10 Report

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APPENDIX D

TRIP GENERATION

Smoke Tree Resort

Proposed

Trip Generation

February 2019

Appendix D

Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *Trip Generation Handbook*, 3rd Edition. These references will be referred to as *Manual and Handbook*, respectively. The *Manual* contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the Manual when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Hotel and Lock-off Units	135 Rooms	310/330	Standard Hotel/Resort Hotel
Residential Units	30 Dwelling Units	220	Multifamily Housing (Low-Rise)
Quality Restaurant	3.500 1,000 square feet	931	Quality Restaurant

Box 2 - Define Site Context

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - **Rural**, **General Urban/Suburban**, **Dense Multi-Urban Use** and **Center City Core**. This worksheet uses the following abbreviations, respectively: **R**, **G**, **D**, and **C**. The *Manual* does not have data for all settings of all land use codes. See the table on the next page titled "Site Context and Time Periods" - if this table is not provided, the "General Urban/Suburban" setting is used by default.

Box 3 - Define Analysis Objectives Types of Trips & Time Period

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Smoke Tree Resort

Proposed

Trip Generation

February 2019

Appendix D

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the *Box 5 through 8* approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the *Handbook* has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("FC"), or Custom ("C"))

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Hotel and Lock-off Units	WA: []	FC: $T=0.38 \times X - 28.58$ [0.17]	FC: $T=0.52 \times X - 55.42$ [0.11]	
Residential Units	FC: $T=7.56 \times X - 40.86$ [6.20]	FC: $\text{LN}(T)=0.95 \times \text{LN}(X) - 0.51$ [0.51]	FC: $\text{LN}(T)=0.89 \times \text{LN}(X) - 0.02$ [0.67]	
Quality Restaurant	WA: $T=X \times 83.84$ [83.84]	WA: $T=X \times 0.73$ [0.73]	WA: $T=X \times 7.8$ [7.80]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Hotel and Lock-off Units	50%	350	350	700	72%	38	15	53	43%	29	39	68	
Residential Units	50%	93	93	186	23%	3	12	15	63%	13	7	20	
Quality Restaurant	50%	147	147	294	0%	0	3	3	67%	18	9	27	
Totals		590	590	1,180		41	30	71		60	55	115	

Box 6 - Convert Baseline Vehicle Trips to Person Trips

If no vehicle trip reductions are to be applied, this portion may be ignored. The *Handbook* states "There are not enough samples to derive precise percentages by mode...however, for all but one, ...the motor vehicle percentage of total person trips is at least 96 percent." and "[vehicle occupancy for] many of the most commonly analyzed land use codes are not [available]." This form assumes that the total baseline vehicle trips for all land use codes accounts for 90% of total person trips. Unless otherwise specified, this form later reverses the conversion in Box 8.

Box 7 - Estimate Internal Person Trips, External Walk/Bike Trips, Transit Person Trips, External Person Trips (Internal Capture)

Internal capture occurs for mixed-use developments when a portion of the trips generated by the site are expected to have the both the origin and destination within the site. Internal capture is not dependent on mode choice. The table below presents the internal capture percentages and trips in units of vehicle trips. CivTech can provide trips in units of persons if requested.

Adjustments for Internal Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	Percent	In	Out	Total	Percent	In	Out	Total	Percent	In	Out	Total	
Hotel and Lock-off Units	0%	0	0	0	0%	0	0	0	0%	0	0	0	
Residential Units	0%	0	0	0	0%	0	0	0	0%	0	0	0	
Quality Restaurant	50%	74	74	148	50%	0	2	2	50%	9	5	14	
Totals		74	74	148		0	2	2		9	5	14	

Box 8 - Convert Person Trips to Final Vehicle Trips

The vehicle occupancy and baseline alternate mode are now factored out from the external trips in vehicles, after any adjustments for internal capture and additional alternate mode from Box 7. In Box 6, vehicle trips were considered to account for 90% of total person trips. Alternate mode trips in addition to the baseline, if any, are accounted for in Box 7. It is estimated that vehicle trips should be reduced by an additional 0% due to carpooling. The final external trips in vehicles is multiplied by $90\% - 0\% = 90\%$ to produce the external vehicle trips.

External Vehicular Trips

Proposed Use	ADT			AM Peak Hour			PM Peak Hour			(not used)
	In	Out	Total	In	Out	Total	In	Out	Total	
Totals	516	516	1,032	41	28	69	51	50	101	

Box 10 - Estimate Vehicle Trip Subsets Pass-by/Diverted Trips, Truck Trips (Pass-By Trips)

Some trips may be classified as "pass-by" trips, where some vehicle trips generated by the study site are already traveling on an adjacent road and make a stop while passing by. These trips do not add traffic volume to the roadway. The *Handbook* does not specify that a 'pair' of pass-by trips must enter and exit the same driveway. The current edition of the *Handbook* indicates that pass-by trips should have directional distribution applied (%in/%out), though reviewers often comment when pass-by trip "pairs" do not occur within a the specified time period. This is likely due to ease of calculation and traditional methodology found in the first edition of the *Handbook*. As such, the analyst may ignore the direction distribution divide the total pass-by trip volume by 2 to apply pass-by "pairs". In addition, the analyst may consider pass-by rates at a reduced rate. Data is not available for all land use codes and all periods, assumptions are highlighted. The percentage is applied to total external vehicle trips.

APPENDIX E

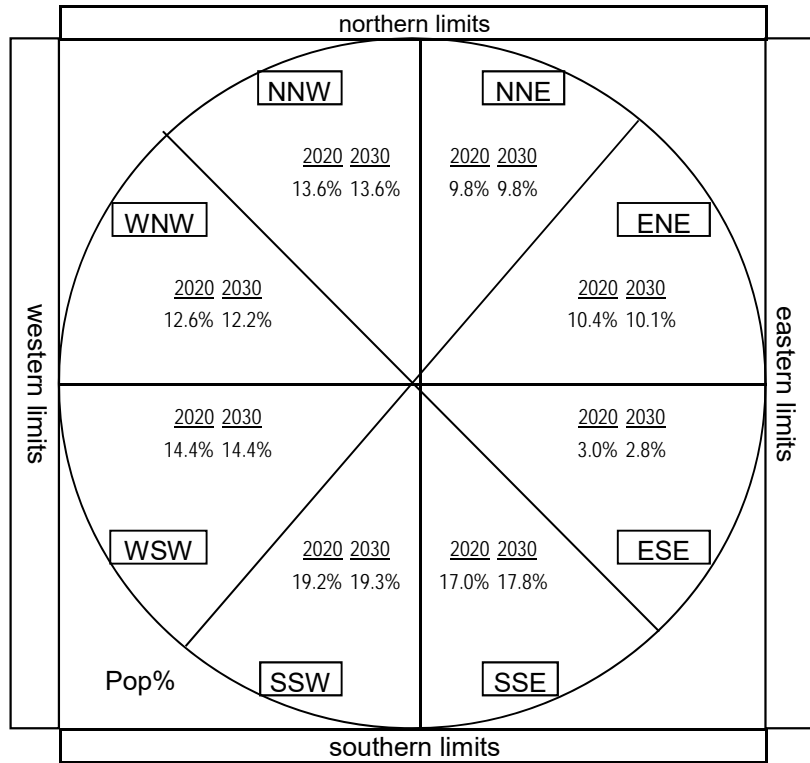
TRIP DISTRIBUTION

Quadrant	2020				2030			
	Population	Percent			Population	Percent		
North Northwest	65,355	13.6%			70,346	13.6%		
North Northeast	46,994	9.8%			50,587	9.8%		
North	112,348	23.4%			120,934	23.4%		
East Northeast	49,891	10.4%			52,124	10.1%		
East Southeast	14,233	3.0%			14,712	2.8%		
East	64,123	13.4%			66,836	12.9%		
South Southeast	81,730	17.0%			92,480	17.8%		
South Southwest	92,361	19.2%			99,928	19.3%		
South	174,091	36.2%			192,407	37.1%		
West Southwest	69,372	14.4%			74,834	14.4%		
West Northwest	60,317	12.6%			63,387	12.2%		
West	129,689	27.0%			138,221	26.6%		
Totals	480,252	100.0%			518,398	100.0%		

Radius

Population radius: 10 miles

Select Analysis Year (2020, 2030, 2040,2050)
2020



From NNW
From North

[illegible]

[illegible]

49,891	52,124
--------	--------

From ESE

14,712

66,836

[illegible]

From WSW
From West

[illegible]

APPENDIX F

BACKGROUND TRAFFIC

Location of counts: Scottsdale Road between Indian Bend and Lincoln

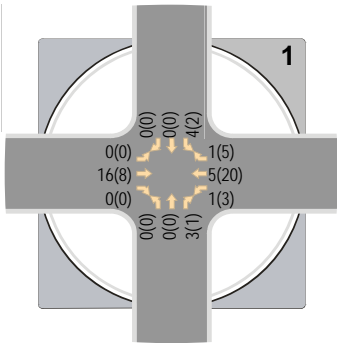
Source(s): <https://www.scottsdaleaz.gov/transportation/studies-reports/traffic-volume>

	Year	Volume	Avg Growth Rate to 2012	Expansion Factor to 2012
Beginning	2012	43,500		
End	2014	45,000	1.7%	0.967

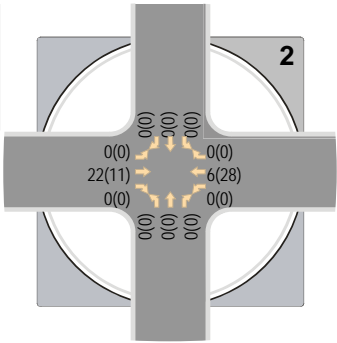
Growth Rate Used 1.7%
Per-Year Multiplier 1.017

Year	Expansion Factor(s)
2018	1.000
2019	1.017
2020	1.034 <- Expansion factor to opening
2021	1.052
2022	1.070
2023	1.088
2024	1.106
2025	1.125 <- Expansion factor to 5 years after opening
2026	1.144
2027	1.164
2028	1.184
2029	1.204
2030	1.224
2031	1.245
2032	1.266
2033	1.288
2034	1.310
2035	1.332
2036	1.354
2037	1.378
2038	1.401

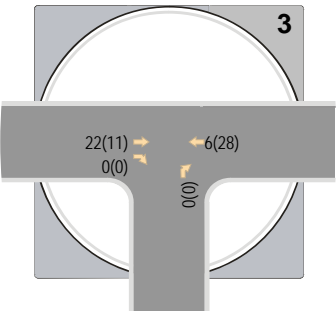
Lincoln medical site



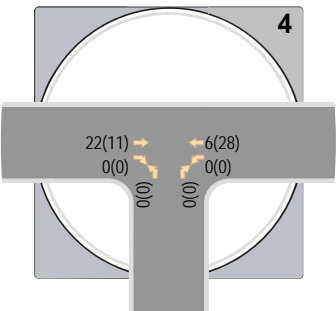
Mockingbird Lane & Lincoln Dr



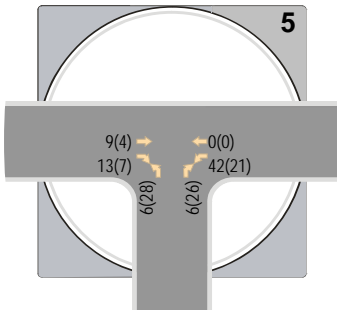
Quail Run Rd & Lincoln Dr



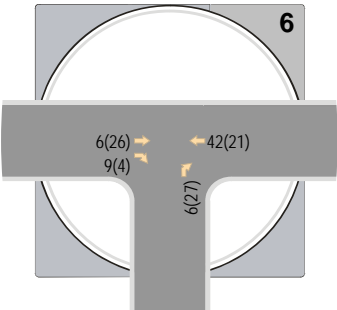
Smoke Tree Drwy West & Lincoln Dr



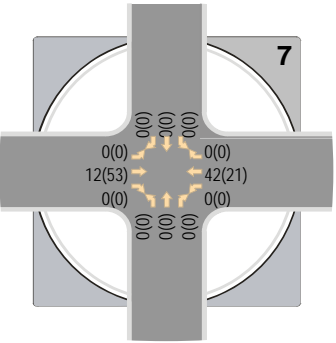
Smoke Tree Drwy East & Lincoln Dr



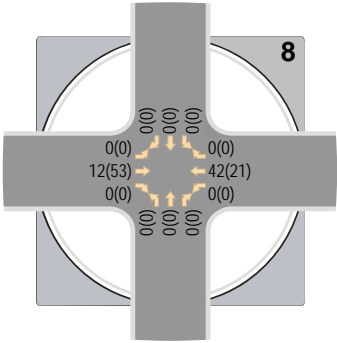
Medical Drwy West & Lincoln Dr



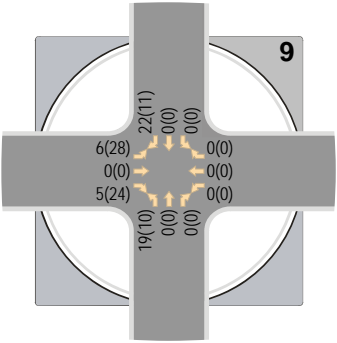
Medical Drwy East & Lincoln Dr



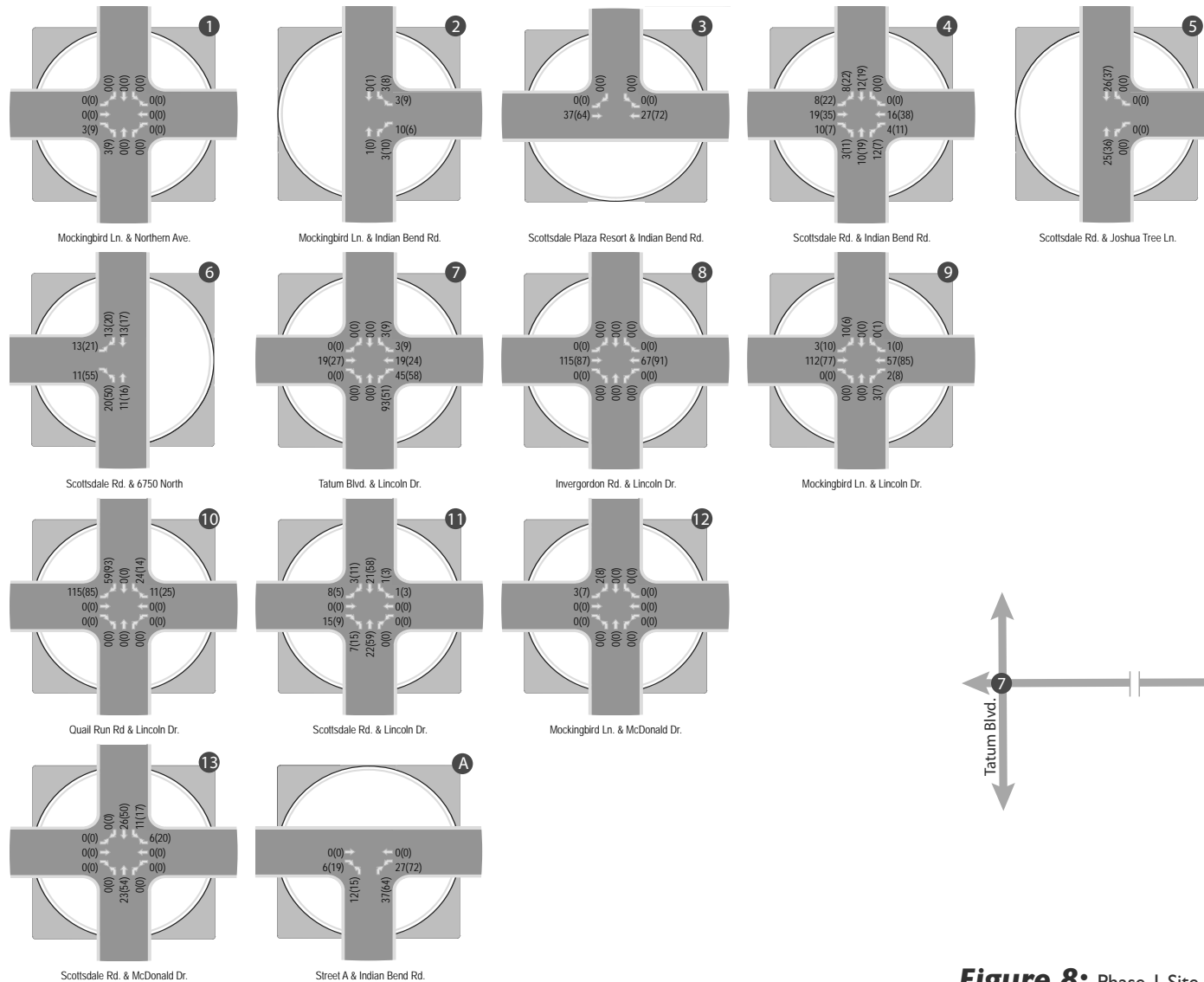
Apartment Drwy & Lincoln Dr



AJ's Drwy & Lincoln Dr



Scottsdale Rd & Lincoln Dr



LEGEND

XX(XX) - AM(PM) Peak Hour Traffic Volumes

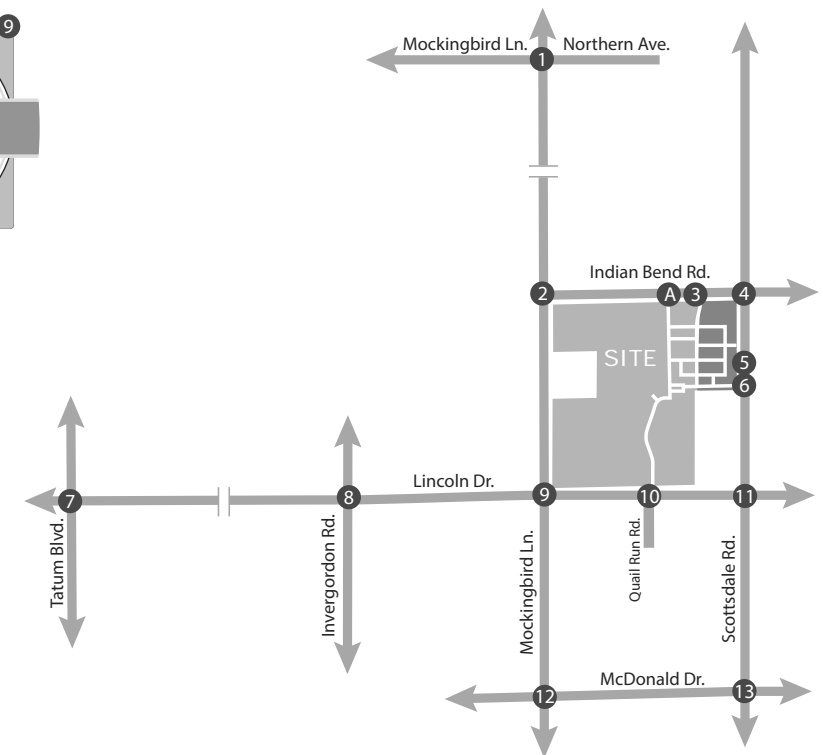


Figure 8: Phase I Site Generated Traffic Volumes without Palmeraie Access A

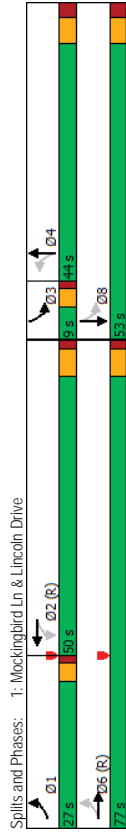
APPENDIX G

2020 PEAK HOUR ANALYSIS

Smoke Tree Resort 2020 Background AM

1: Mockingbird Ln & Lincoln Drive Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	222	971	23	890	5	34	76	88
Future Volume (vph)	222	971	23	890	5	34	76	88
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	93.3	91.3	70.1	70.1	17.4	17.4	28.7	26.2
Actuated g/C Ratio	0.72	0.70	0.54	0.54	0.13	0.13	0.22	0.20
v/c Ratio	0.57	0.45	0.10	0.55	0.08	0.24	0.30	0.84
Control Delay	13.0	10.1	18.3	25.3	46.2	32.4	41.8	50.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	10.1	18.3	25.3	46.2	32.4	41.8	50.2
LOS	B	B	B	C	D	C	D	D
Approach Delay	10.6	25.1	33.7	48.6				
Approach LOS	B	C	C	D				
Intersection Summary								
Cycle Length: 130								
Actuated Cycle Length: 130								
Offset: 0 (0%), Referenced to phase 2(WBTL and 6EBTL, Start of Green								
Natural Cycle: 90								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.84								
Intersection Signal Delay: 22.1								
Intersection Capacity Utilization 74.7%								
Analysis Period (min) 15								



Smoke Tree Resort 2020 Background AM

1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	222	971	30	890	42	5	34	76
Future Volume (veh/h)	222	971	30	890	42	5	34	76
Initial Q (Qb) veh	0	0	0	0	0	0	0	0
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1079	33	26	989	47	6	38
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap. veh/h	397	2334	71	316	1919	91	88	184
Arrive On Green	0.08	0.66	0.66	0.56	0.56	0.17	0.17	0.04
Sat Flow, veh/h	1781	3520	108	507	3454	164	1024	677
Grp Volume(V), veh/h	247	545	567	26	509	527	6	62
Grp Sat Flow(s), veh/h	1781	1777	1851	507	1777	1841	1024	0
Q Serve(g/s), s	7.4	19.4	19.4	3.4	23.2	23.2	0.7	4.0
Cycle Q Clear(g_c), s	7.4	19.4	19.4	8.8	23.2	23.2	18.9	4.0
Prop In Lane	1.00	0.06	1.00	1.00	0.09	1.00	0.39	1.00
Lane Grp Cap(c), veh/h	397	1178	1227	316	987	1023	88	300
V/C Ratio(X)	0.62	0.46	0.46	0.08	0.52	0.52	0.07	0.21
Avail Cap(c), veh/h	576	1178	1227	316	987	1023	208	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	10.6	10.6	16.2	18.0	61.3	0.0	46.2
Incr Delay (d2), s/veh	1.6	1.3	1.3	0.3	1.1	0.3	0.0	0.5
Initial Q Delay(Q3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	30	7.7	8.0	0.4	9.7	10.0	0.2	1.8
Unsig. Movement Delay, s/veh								
LnGrp Delay(d), s/veh	15.4	12.0	11.9	16.5	19.1	61.6	0.0	46.6
LnGrp LOS	B	B	B	B	B	E	A	D
Approach Vol, veh/h	1359			1062			68	441
Approach Delay, s/veh	12.6			19.0			47.9	56.1
Approach LOS	B			B			D	E
Timer - Assigned Phs	1	2	3	4	6	8		
Phs Duration (G+Y+Rc), s	14.0	78.2	9.0	28.8	92.2	37.8		
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5		
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5		
Max Q Clear Time (g_c+I1), s	9.4	25.2	7.0	20.9	21.4	29.2		
Green Ext Time (g_e), s	0.6	7.1	0.0	0.2	9.8	2.2		
Intersection Summary								
HCM 6th Ctrl Delay								
HCM 6th LOS								

Smoke Tree Resort
2020 Background AM

3: Smoke Tree West & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4B		5	4A	W	W						
Traffic Vol. veh/h	1047	2	0	863	0	0						
Future Vol. veh/h	1047	2	0	863	0	0						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1163	2	0	959	0	0						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1165	0	1644	583						
Stage 1	-	-	-	-	1164	-						
Stage 2	-	-	-	-	480	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	595	-	90	456						
Stage 1	-	-	-	-	259	-						
Stage 2	-	-	-	-	588	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	595	-	90	456						
Mov Cap-2 Maneuver	-	-	-	-	197	-						
Stage 1	-	-	-	-	259	-						
Stage 2	-	-	-	-	588	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0					0					
HCM LOS	A											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	-	-	-	-	595	-						
HCM Lane V/C Ratio	-	-	-	-	-	-						
HCM Control Delay (s)	0	-	-	0	-	-						
HCM Lane LOS	A	-	-	-	A	-						
HCM 95th %tile Q(veh)	-	-	-	0	-	-						

Smoke Tree Resort
2020 Background AM

4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh		0.1										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↑↑		↖	↑↑		↗						
Traffic Vol, veh/h	1049	0	1	860	5	2						
Future Vol, veh/h	1049	0	1	860	5	2						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1166	0	1	956	6	2						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1166	0	1646	583						
Stage 1	-	-	-	-	1166	-						
Stage 2	-	-	-	-	480	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	595	-	90	456						
Stage 1	-	-	-	-	259	-						
Stage 2	-	-	-	-	588	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	595	-	90	456						
Mov Cap-2 Maneuver	-	-	-	-	197	-						
Stage 1	-	-	-	-	258	-						
Stage 2	-	-	-	-	588	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0					20.8					
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	235	-	-	-	595	-						
HCM Lane V/C Ratio	0.033	-	-	-	0.002	-						
HCM Control Delay (s)	20.8	-	-	-	11.1	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.1	-	-	-	0	-						

Smoke Tree Resort
2020 Background AM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh		0.4										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4P	4P	W						
Traffic Vol, veh/h	1034	17	42	854	6	9						
Future Vol, veh/h	1034	17	42	854	6	9						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1149	19	47	949	7	10						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1168	0	1728	584						
Stage 1	-	-	-	-	1159	-						
Stage 2	-	-	-	-	-	569						
Critical Hwy	-	-	4.14	-	6.84	6.94						
Critical Hwy Slg 1	-	-	-	-	5.84	-						
Critical Hwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	594	-	79	455						
Stage 1	-	-	-	-	261	-						
Stage 2	-	-	-	-	530	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	594	-	73	455						
Mov Cap-2 Maneuver	-	-	-	-	175	-						
Stage 1	-	-	-	-	240	-						
Stage 2	-	-	-	-	530	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.5	18.8									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	277	-	-	594	-							
HCM Lane V/C Ratio	0.06	-	-	0.079	-							
HCM Control Delay (s)	18.8	-	-	11.6	-							
HCM Lane LOS	C	-	-	B	-							
HCM 95th %ile Q(veh)	0.2	-	-	0.3	-							

Smoke Tree Resort
2020 Background AM

6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh		0.1										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↑↑		↖	↑↑		↗						
Traffic Vol, veh/h	1030	11	5	896	0	9						
Future Vol, veh/h	1030	11	5	896	0	9						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	-	0	0						
Grade, %	0	-	-	-	0	0						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1144	12	6	996	0	10						
Major/Minor	Major1		Major2		Minor1							
Conflicting Flow All	0	0	1156	0	1660	578						
Stage 1	-	-	-	-	1150	-						
Stage 2	-	-	-	-	510	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	600	-	88	459						
Stage 1	-	-	-	-	264	-						
Stage 2	-	-	-	-	568	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	600	-	87	459						
Mov Cap-2 Maneuver	-	-	-	-	196	-						
Stage 1	-	-	-	-	261	-						
Stage 2	-	-	-	-	568	-						
Approach	EB		WB		NB							
HCM Control Delay, s	0		0.1		13							
HCM LOS					B							
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBL	WBT						
Capacity (veh/h)	459		-	-	600	-						
HCM Lane V/C Ratio	0.022		-	-	0.009	-						
HCM Control Delay (s)	13		-	-	11.1	-						
HCM Lane LOS	B		-	-	B	-						
HCM 95th %ile Q(veh)	0.1		-	-	0	-						

Smoke Tree Resort
2020 Background AM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection		9.2												
Int Delay, s/veh														
Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔↔↔	↔↔	↔↔	↔↔	↔↔		↔↔		↔↔	↔↔	↔↔	↔↔	
Traffic Vol, veh/h		27	979	35	19	836	10	52	0	30	5	0	12	
Future Vol, veh/h		27	979	35	19	836	10	52	0	30	5	0	12	
Conflicting Peds, #/hr		0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control		Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized		-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length		25	-	25	-	-	-	-	-	-	0	-	0	
Veh in Median Storage, #		-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %		-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor		90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %		2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow		30	1088	39	21	929	11	58	0	33	6	0	13	
Major/Minor		Major1	Major2			Minor1			Minor2					
Conflicting Flow All		940	0	0	1127	0	0	1675	2150	564	1581	-	470	
Stage 1		-	-	-	-	-	-	-	1168	1168	-	977	-	
Stage 2		-	-	-	-	-	-	-	507	982	-	604	-	
Critical Hwy		4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94	
Critical Hwy Slg 1		-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Critical Hwy Slg 2		-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Follow-up Hwy		2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32	
Pot Cap-1 Maneuver		725	-	-	616	-	-	62	48	469	73	0	540	
Stage 1		-	-	-	-	-	-	206	266	-	269	0	-	
Stage 2		-	-	-	-	-	-	516	325	-	452	0	-	
Platoon blocked, %		-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver		725	-	-	616	-	-	-	57	44	469	64	-	
Mov Cap-2 Maneuver		-	-	-	-	-	-	-	57	44	-	64	-	
Stage 1		-	-	-	-	-	-	-	198	255	-	258	-	
Stage 2		-	-	-	-	-	-	-	486	314	-	403	-	
Approach		EB	WB				NB				SB			
HCM Control Delay, s		0.3	0.2				212.8				27.9			
HCM LOS							F				D			
Minor Lane/Major Mvmt		NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)		84	725	-	-	616	-	-	64	540				
HCM Lane V/C Ratio		1.085	0.041	-	-	0.034	-	-	0.087	0.025				
HCM Control Delay (s)		212.8	10.2	-	-	11.1	-	-	66.5	11.8				
HCM Lane LOS		F	B	-	-	B	-	-	F	B				
HCM 95th %ile Q(veh)		6.3	0.1	-	-	0.1	-	-	0.3	0.1				
Notes														
-: Volume exceeds capacity	\$: Delay exceeds 300s													
	+: Computation Not Defined													
	*: All major volume in platoon													

Smoke Tree Resort
2020 Background AM

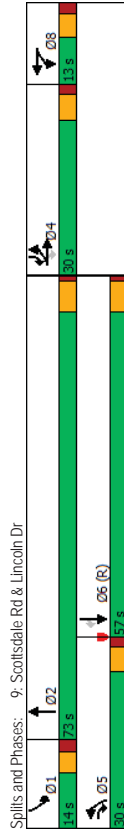
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection		1.1															
Int Delay, s/veh																	
Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Traffic Vol, veh/h	3	958	55	44	848	8	6	0	42	4	1	12					
Future Vol, veh/h	3	958	55	44	848	8	6	0	42	4	1	12					
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free				
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None				
Storage Length	25	-	-	25	-	-	0	-	-	0	-	-	0				
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-	-	0	-				
Grade, %	-	0	-	-	0	-	0	-	0	-	-	0	-				
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90				
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2				
Mvmt Flow	3	1064	61	49	942	9	7	0	47	4	1	13					
Major/Minor	Major1	Major2				Minor1				Minor2							
Conflicting Flow All	951	0	0	1125	0	0	1671	2150	563	1583	2176	476					
Stage 1	-	-	-	-	-	-	-	1101	1101	-	1045	1045	-				
Stage 2	-	-	-	-	-	-	-	570	1049	-	538	1131	-				
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94					
Critical Hdwy Slg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-				
Critical Hdwy Slg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-				
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32					
Pot Cap-1 Maneuver	718	-	-	617	-	-	63	48	470	73	46	535					
Stage 1	-	-	-	-	-	-	226	286	-	245	304	-	-				
Stage 2	-	-	-	-	-	-	474	303	-	495	277	-	-				
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	718	-	-	617	-	-	56	44	470	62	42	535					
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	44	-	62	42	-	-				
Stage 1	-	-	-	-	-	-	225	285	-	244	280	-	-				
Stage 2	-	-	-	-	-	-	424	279	-	444	276	-	-				
Approach	EB	WB				NB				SB							
HCM Control Delay, s	0	0.6				23.8				25.8							
HCM LOS						C				D							
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2								
Capacity (veh/h)	244	718	-	-	617	-	-	-	62	535							
HCM Lane V/C Ratio	0.219	0.005	-	-	0.079	-	-	-	0.072	0.025							
HCM Control Delay (s)	23.8	10	-	-	11.3	-	-	-	67.5	11.9							
HCM Lane LOS	C	B	-	-	B	-	-	-	F	B							
HCM 95th %ile Q(veh)	0.8	0	-	-	0.3	-	-	-	0.2	0.1							

Smoke Tree Resort
2020 Background AM













9: Scottsdale Rd & Lincoln Dr
Timings

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	450	38	460	37	36	48	295	1316	51	1669
Traffic Volume (vph)	450	38	460	37	36	48	295	1316	51	1669
Future Volume (vph)	450	38	460	37	36	48	295	1316	51	1669
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	30.0	30.0	30.0	13.0	13.0	30.0	73.0	14.0	57.0	30.0
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead									
Lead-Lag Optimize?	None									
Recall Mode	None									
Act Effct Green (s)	23.6	23.6	42.3	7.2	7.2	18.7	71.5	7.6	58.1	87.4
Actuated g/C Ratio	0.18	0.18	0.33	0.06	0.06	0.14	0.55	0.06	0.45	0.67
v/c Ratio	0.89	0.88	0.91	0.42	0.40	0.66	0.54	0.55	0.82	0.59
Control Delay	81.3	80.8	47.0	72.5	33.9	58.8	20.4	79.0	35.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.3	80.8	47.0	72.5	33.9	58.8	20.4	79.0	35.9	10.8
LOS	F	F	D	E	C	E	C	E	D	B
Approach Delay	64.5									
Approach LOS	E									
Intersection Summary										
Cycle Length: 130										
Actuated Cycle Length: 130										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 90										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 0.91										
Intersection Signal Delay: 36.1										
Intersection Capacity Utilization 80.6%										
Analysis Period (min) 15										



Smoke Tree Resort
2020 Background AM

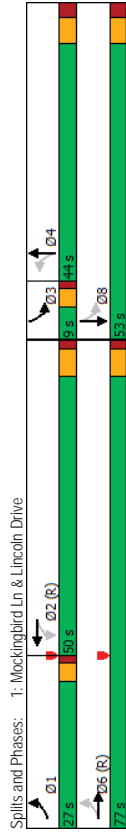
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	38	460	37	36	48	295	1316	39	51	1669	601
Future Volume (veh/h)	450	38	460	37	36	48	295	1316	39	51	1669	601
Initial Q (Obs) veh	0	0	0	0	0	0	0	0	0	0	0	0
Per-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	530	0	511	41	40	53	328	1462	43	57	1854	668
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	671	0	477	95	95	85	388	2382	70	73	2015	924
Arrive On Green	0.19	0.00	0.19	0.05	0.05	0.11	0.47	0.04	0.39	0.39	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5098	150	1781	5106	1585
Grp Volume(v), veh/h	530	0	511	41	40	53	328	976	529	57	1854	668
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702	1585
Q Serve(g,s) s	18.4	0.0	24.5	2.9	2.8	4.3	12.1	27.9	27.9	4.1	44.9	39.5
Cycle Q Clear(g,c) s	18.4	0.0	24.5	2.9	2.8	4.3	12.1	27.9	27.9	4.1	44.9	39.5
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	477	95	95	85	388	1590	861	73	2015	924
V/C Ratio(X)	0.79	0.00	1.07	0.43	0.42	0.63	0.85	0.61	0.61	0.78	0.92	0.72
Avail Cap(c,a), veh/h	671	0	477	101	101	90	651	1762	954	119	2015	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	45.5	59.6	59.6	60.3	56.6	25.9	25.9	61.7	37.4	19.5
Incr Delay (d2), s/veh	5.8	0.0	61.9	1.1	1.1	8.2	2.2	0.3	0.6	6.5	8.4	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	8.8	0.0	23.4	1.3	1.3	1.9	5.4	11.3	12.3	2.0	20.0	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	0.0	107.4	60.8	60.7	68.4	58.8	26.2	26.5	68.2	45.8	24.4
LnGrp LOS	E	A	F	E	E	E	E	C	C	E	D	C
Approach Vol, veh/h	1041											
Approach Delay, s/veh	81.3											
Approach LOS	F											
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	10.6	66.4	30.0	20.1	57.0	12.5						
Change Period (Y+Rc), s	*5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Setting (Gmax), s	*8.7	67.3	24.5	24.5	51.3	7.4						
Max Q Clear Time (g_c+I1), s	6.1	29.9	26.5	14.1	46.9	6.3						
Green Ext Time (p_c), s	0.0	2.2	0.0	0.5	1.9	0.0						
Intersection Summary												
HCM 6th Ctrl Delay	46.0											
HCM 6th LOS	D											
Notes												

Smoke Tree Resort 2020 Background PM

1: Mockingbird Ln & Lincoln Drive Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	246	875	23	937	7	62	62	48
Future Volume (vph)	246	875	23	937	7	62	62	48
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	101.1	99.1	76.2	76.2	11.2	11.2	20.9	18.4
Actuated g/C Ratio	0.78	0.76	0.59	0.59	0.09	0.09	0.16	0.14
v/c Ratio	0.58	0.37	0.08	0.54	0.09	0.54	0.37	0.64
Control Delay	11.3	6.1	10.2	19.4	54.9	61.4	51.4	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	6.1	10.2	19.4	54.9	61.4	51.4	27.7
LOS	B	A	B	B	D	E	D	C
Approach Delay	7.2	19.2	19.2	60.8	33.2			
Approach LOS	A	B	B	E	C			



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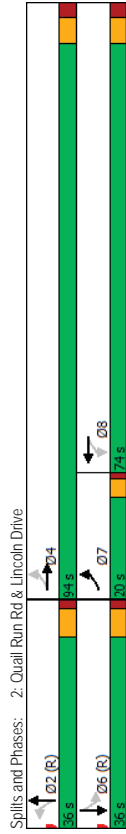
1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	246	875	23	937	63	7	62	48
Future Volume (veh/h)	246	875	23	937	63	7	62	48
Initial Q (Qb) veh	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	972	32	26	1041	70	8	69
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap. veh/h	468	2610	86	416	2172	146	86	127
Arrive On Green	0.07	0.74	0.74	0.85	0.85	0.09	0.09	0.04
Sat Flow, veh/h	1781	3511	116	561	3379	227	1155	1394
Grp Volume(V), veh/h	273	492	512	26	547	8	89	69
Grp Sat Flow(s), veh/h	1781	1777	1850	561	1777	1829	1155	0
Q Serve(g/s), s	6.4	12.8	12.8	0.9	9.8	9.8	0.9	6.2
Cycle Q Clear(g_c), s	6.4	12.8	12.8	0.9	9.8	9.8	0.9	6.2
Prop In Lane	1.00	0.06	1.00	1.00	0.12	1.00	0.22	1.00
Lane Grp Cap(c), veh/h	468	1321	1375	416	1142	1176	86	164
V/C Ratio(X)	0.58	0.37	0.37	0.06	0.48	0.09	0.54	0.38
Avail Cap(c,a), veh/h	658	1321	1375	416	1142	1176	314	0
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	5.9	5.9	3.4	4.1	62.0	0.0	56.5
Incr Delay (d2), s/veh	1.2	0.8	0.8	0.2	0.8	0.5	0.0	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.4	4.6	4.8	0.1	2.8	2.9	0.3	2.9
Unsig. Movement Delay, s/veh								
LnGrp Delay(d), s/veh	8.0	6.7	6.7	3.6	4.9	62.5	0.0	59.3
LnGrp LOS	A	A	A	A	A	E	A	D
Approach Vol, veh/h	1277			1137		97		295
Approach Delay, s/veh	7.0			4.8		59.5		58.7
Approach LOS	A			A		E		E
Timer - Assigned Phs	1	2	3	4	6	8		
Phs Duration (G+Y+Rc), s	13.1	89.6	9.0	18.3	102.7	27.3		
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5		
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5		
Max Q Clear Time (g_c+lt), s	8.4	11.8	6.5	11.3	14.8	19.4		
Green Ext Time (g_e), s	0.7	9.5	0.0	0.5	8.4	1.5		
Intersection Summary								
HCM 6th Ctrl Delay								
HCM 6th LOS								

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2: Quail Run Rd & Lincoln Drive
Timings

	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Configurations	85	886	929	0	14	0
Traffic Volume (vph)	85	886	929	0	14	0
Future Volume (vph)	85	886	929	0	14	0
Turn Type	pm-pl	NA	NA	NA	Perm	NA
Protected Phases	7	4	8	2	6	6
Permitted Phases	4	4	8	2	6	6
Declar Phase	7	4	8	2	6	6
Switch Phase						
Minimum Initial (s)	3.5	15.0	15.0	7.0	7.0	7.0
Minimum Split (s)	8.0	28.0	28.0	33.0	33.0	33.0
Total Split (s)	20.0	94.0	74.0	36.0	36.0	36.0
Total Split (%)	15.4%	72.3%	56.9%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	67.4	64.9	50.7	52.6	52.6	52.6
Actuated g/C Ratio	0.52	0.50	0.39	0.40	0.40	0.40
v/c Ratio	0.42	0.56	0.77	0.00	0.03	0.13
Control Delay	30.0	35.1	38.2	0.0	28.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	35.1	38.2	0.0	28.5	0.3
LOS	C	D	D	A	C	A
Approach Delay	34.7	38.2				4.1
Approach LOS	C	D	D	A		A



Smoke Tree Resort
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2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	85	886	1	0	929	25	0	0	2	14	0	93
Traffic Volume (veh/h)	85	886	1	0	929	25	0	0	2	14	0	93
Future Volume (veh/h)	85	886	1	0	929	25	0	0	2	14	0	93
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	984	1	0	1032	28	0	0	2	16	0	103
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	183	1554	2	55	1230	33	0	0	756	730	0	756
Arrive On Green	0.10	0.85	0.85	0.00	0.35	0.35	0.00	0.00	0.48	0.48	0.00	0.48
Sat Flow, veh/h	1781	3643	4	571	3534	96	0	0	1585	1415	0	1585
Grp Volume(v), veh/h	94	480	505	0	519	541	0	0	2	16	0	103
Grp Sat Flow(s), veh/h	1781	1777	1870	571	1777	1853	0	0	1585	1415	0	1585
Q Serve(g.s), s	4.3	11.2	11.2	0.0	35.0	35.0	0.0	0.0	0.1	0.8	0.0	4.7
Cycle Q Clear(g.c), s	4.3	11.2	11.2	0.0	35.0	35.0	0.0	0.0	0.1	0.9	0.0	4.7
Prop In Lane	1.00	0.00	1.00	1.00	0.05	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	183	758	798	55	619	645	0	0	756	730	0	756
V/C Ratio(X)	0.51	0.63	0.63	0.00	0.84	0.84	0.00	0.00	0.00	0.02	0.00	0.14
Avail Cap(c.a), veh/h	317	1196	1258	153	923	962	0	0	756	730	0	756
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.93	0.93	0.93	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	6.3	6.3	0.0	39.0	39.0	0.0	0.0	17.8	18.0	0.0	19.0
Incr Delay (d2), s/veh	2.1	0.8	0.8	0.0	4.5	4.3	0.0	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	1.8	2.5	2.6	0.0	15.9	16.6	0.0	0.0	0.0	0.3	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	7.1	7.1	0.0	43.5	43.3	0.0	0.0	17.8	18.1	0.0	19.4
LnGrp LOS	C	A	A	A	D	D	A	A	B	B	A	B
Approach Vol, veh/h	1079			1060			2		119			
Approach Delay, s/veh	9.1			43.4			17.8		19.2			
Approach LOS	A			D			B		B			
Timer - Assigned Phs	2	4	4	6	7	8						
Phs Duration (G+Y+Rc), s	68.0	62.0	62.0	68.0	10.2	51.8						
Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	4.0	6.5						
Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	16.0	67.5						
Max Q Clear Time (g_c+lt), s	2.1	13.2	13.2	6.7	6.3	37.0						
Green Ext Time (g_e), s	0.0	8.2	8.2	0.6	0.1	8.3						
Intersection Summary												
HCM 6th Ctrl Delay	25.7											
HCM 6th LOS	C											

Smoke Tree Resort
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3: Smoke Tree West & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4P	4P	5	4A	4A	W					
Traffic Vol. veh/h	902	1	0	953	0	0					
Future Vol. veh/h	902	1	0	953	0	0					
Conflicting Peds. #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1002	1	0	1059	0	0					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1003	0	1533	502					
Stage 1	-	-	-	-	1003	-					
Stage 2	-	-	-	-	530	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Sig 1	-	-	-	-	5.84	-					
Critical Hdwy Sig 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	686	-	107	515					
Stage 1	-	-	-	-	315	-					
Stage 2	-	-	-	-	555	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	686	-	107	515					
Mov Cap-2 Maneuver	-	-	-	-	227	-					
Stage 1	-	-	-	-	315	-					
Stage 2	-	-	-	-	555	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0	0	0	0						
HCM LOS	A										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	-	-	-	686	-						
HCM Lane V/C Ratio	-	-	-	-	-						
HCM Control Delay (s)	0	-	-	0	-						
HCM Lane LOS	A	-	-	A	-						
HCM 95th %ile Q(veh)	-	-	-	0	-						

Smoke Tree Resort
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4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4P	4P	5	4A	4A	W					
Traffic Vol, veh/h	901	1	2	953	2	2					
Future Vol, veh/h	901	1	2	953	2	2					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1001	1	2	1059	2	2					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1002	0	1536	501					
Stage 1	-	-	-	-	1002	-					
Stage 2	-	-	-	-	534	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	687	-	107	515					
Stage 1	-	-	-	-	316	-					
Stage 2	-	-	-	-	552	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	687	-	107	515					
Mov Cap-2 Maneuver	-	-	-	-	227	-					
Stage 1	-	-	-	-	315	-					
Stage 2	-	-	-	-	552	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0	16.6								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	315	-	-	687	-						
HCM Lane V/C Ratio	0.014	-	-	0.003	-						
HCM Control Delay (s)	16.6	-	-	10.3	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0	-	-	0	-						

Smoke Tree Resort
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5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.7											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4A	4A	W						
Traffic Vol. veh/h	896	7	21	925	30	26						
Future Vol. veh/h	896	7	21	925	30	26						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	996	8	23	1028	33	29						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1004	0	1560	502						
Stage 1	-	-	-	-	1000	-						
Stage 2	-	-	-	-	560	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	686	-	103	515						
Stage 1	-	-	-	-	317	-						
Stage 2	-	-	-	-	535	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	686	-	99	515						
Mov Cap-2 Maneuver	-	-	-	-	216	-						
Stage 1	-	-	-	-	306	-						
Stage 2	-	-	-	-	535	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.2	20.4									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	296	-	-	-	686	-						
HCM Lane V/C Ratio	0.21	-	-	-	0.034	-						
HCM Control Delay (s)	20.4	-	-	-	10.4	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.8	-	-	-	0.1	-						

Smoke Tree Resort
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6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Int Delay, s/veh			0.2										
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	4P	4P	5	4A	4A	W							
Traffic Vol, veh/h	918	4	0	945	2	30							
Future Vol, veh/h	918	4	0	945	2	30							
Conflicting Peds, #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	25	-	0	-							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1020	4	0	1050	2	33							
Major/Minor	Major1	Major2					Minor1						
Conflicting Flow All	0	0	1024	0	1547	512							
Stage 1	-	-	-	-	1022	-							
Stage 2	-	-	-	-	525	-							
Critical Hdwy	-	-	4.14	-	6.84	6.94							
Critical Hdwy Slg 1	-	-	-	-	5.84	-							
Critical Hdwy Slg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	2.22	-	3.52	3.32							
Pot Cap-1 Maneuver	-	-	674	-	105	507							
Stage 1	-	-	-	-	308	-							
Stage 2	-	-	-	-	558	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	674	-	105	507							
Mov Cap-2 Maneuver	-	-	-	-	224	-							
Stage 1	-	-	-	-	308	-							
Stage 2	-	-	-	-	558	-							
Approach	EB	WB					NB						
HCM Control Delay, s	0	0					13.3						
HCM LOS	B												
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	470	-	-	-	674	-							
HCM Lane V/C Ratio	0.076	-	-	-	-	-							
HCM Control Delay (s)	13.3	-	-	-	0	-							
HCM Lane LOS	B	-	-	-	A	-							
HCM 95th %ile Q(veh)	0.2	-	-	-	0	-							

Smoke Tree Resort
2020 Background PM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection																
Init Delay, s/veh																
13.1	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗				
Traffic Vol. veh/h	7 886	42 6 849	9 68	3 49	7 0	35										
Future Vol. veh/h	7 886	42 6 849	9 68	3 49	7 0	35										
Conflicting Peds. #/hr	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0				
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0				
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0				
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90				
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2				
Mmt Flow	8 984	47 7 943	10 76	3 54	8 0	39										

Smoke Tree Resort
2020 Background PM

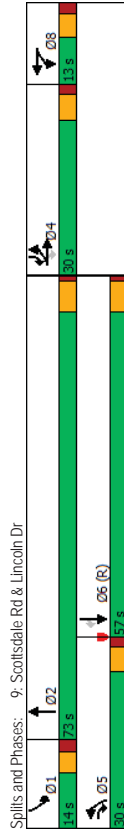
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection																
Init Delay, s/veh																
2.4	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗				
Traffic Vol. veh/h	11 880	55 63 847	8 14	1 92	4 0	7										
Future Vol. veh/h	11 880	55 63 847	8 14	1 92	4 0	7										
Conflicting Peds. #/hr	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0				
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0				
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0				
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90				
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2				
Mmt Flow	12 978	61 70 941	9 16	1 102	4 0	8										

Smoke Tree Resort
2020 Background PM













9: Scottsdale Rd & Lincoln Dr
Timings

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	510	56	431	56	62	411	1624	61	1569	486
Traffic Volume (vph)	510	56	431	56	62	411	1624	61	1569	486
Future Volume (vph)	510	56	431	56	62	411	1624	61	1569	486
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	30.0	30.0	30.0	13.0	13.0	30.0	73.0	14.0	57.0	30.0
Total Split (s)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead									
Lead-Lag Optimize?	None									
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None
Act Effct Green (s)	24.5	24.5	45.7	7.3	7.3	21.2	70.4	7.9	54.6	84.8
Actuated g/C Ratio	0.19	0.19	0.35	0.06	0.06	0.16	0.54	0.06	0.42	0.65
v/c Ratio	0.99	0.99	0.80	0.63	0.58	0.82	0.68	0.64	0.82	0.50
Control Delay	100.1	100.6	33.0	86.8	37.9	64.6	23.7	85.4	37.6	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.1	100.6	33.0	86.8	37.9	64.6	23.7	85.4	37.6	11.3
LOS	F	F	C	F	D	E	C	F	D	B
Approach Delay	71.2									
Approach LOS	E									
Intersection Summary	Intersection Summary									
Cycle Length: 130	Cycle Length: 130									
Actuated Cycle Length: 130	Actuated Cycle Length: 130									
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green	Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green									
Natural Cycle: 90	Natural Cycle: 90									
Control Type: Actuated-Coordinated	Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.99	Maximum v/c Ratio: 0.99									
Intersection Signal Delay: 40.3	Intersection Signal Delay: 40.3									
Intersection Capacity Utilization 82.1%	Intersection Capacity Utilization 82.1%									
Analysis Period (min) 15	Analysis Period (min) 15									



Smoke Tree Resort
2020 Background PM

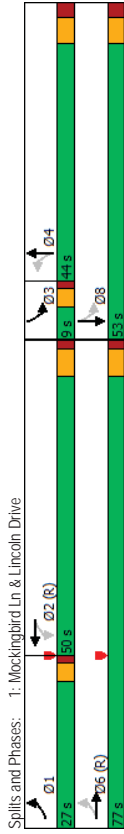
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	56	431	56	62	72	411	1624	45	61	1569	486
Future Volume (veh/h)	510	56	431	56	62	72	411	1624	45	61	1569	486
Initial Q (Obs) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No											
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	611	0	479	62	69	80	457	1804	50	68	1743	540
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	671	0	535	101	101	90	515	2537	70	87	2015	924
Arrive On Green	0.06	0.00	0.06	0.06	0.06	0.06	0.15	0.50	0.05	0.39	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5107	141	1781	5106	1585
Grp Volume(V), veh/h	611	0	479	62	69	80	457	1202	652	68	1743	540
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1845	1781	1702	1585
Q Serve(Q_s), s	22.2	0.0	24.5	4.4	5.0	6.5	16.9	35.7	35.8	4.9	40.8	28.0
Cycle Q Clear(g, c), s	22.2	0.0	24.5	4.4	5.0	6.5	16.9	35.7	35.8	4.9	40.8	28.0
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(C), veh/h	671	0	535	101	101	90	515	1691	916	87	2015	924
V/C Ratio(X)	0.91	0.00	0.90	0.61	0.68	0.89	0.89	0.71	0.71	0.78	0.87	0.58
Avail Cap(c, a), veh/h	671	0	535	101	101	90	651	1762	955	119	2015	924
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(0)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.9	0.0	46.1	59.9	60.1	60.9	54.2	25.5	25.5	61.2	36.2	17.1
Incr Delay (d2), s/veh	16.2	0.0	17.0	7.6	14.4	57.9	10.3	1.1	2.0	13.9	5.3	27.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/hln	12.2	0.0	16.7	2.2	2.6	4.1	8.1	14.5	15.9	2.6	17.7	16.2
Unsig. Movement Delay, s/veh	76.0											
LnGrp Delay(d),s/veh	E	A	E	E	E	F	E	C	C	E	D	B
LnGrp LOS	E	A	E	E	E	F	E	C	C	E	D	B
Approach Vol, veh/h	1090											
Approach Delay, s/veh	70.4											
Approach LOS	E											
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	11.6	70.3	30.0	24.9	57.0	13.0						
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Setting (Gmax), s	* 8.7	67.3	24.5	24.5	51.3	7.4						
Max Q Clear Time (g_c+I1), s	6.9	37.8	26.5	18.9	42.8	8.5						
Green Ext Time (p_c), s	0.0	2.9	0.0	0.5	2.5	0.0						
Intersection Summary	Intersection Summary											
HCM 6th Ctrl Delay	44.1											
HCM 6th LOS	D											
Notes	User approved pedestrian interval to be less than phase max green. User approved volume balancing among the lanes for turning movement. * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.											

Smoke Tree Resort 2020 Total AM

1: Mockingbird Ln & Lincoln Drive Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (vph)	222	981	24	898	5	34	78	88
Future Volume (vph)	222	981	24	898	5	34	78	88
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	93.3	91.3	70.1	70.1	17.4	17.4	28.7	26.2
Actuated g/C Ratio	0.72	0.70	0.54	0.54	0.13	0.13	0.22	0.20
v/c Ratio	0.98	0.45	0.11	0.55	0.08	0.25	0.32	0.84
Control Delay	13.3	10.2	18.5	25.6	46.2	31.3	42.1	50.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	10.2	18.5	25.6	46.2	31.3	42.1	50.2
LOS	B	B	B	C	D	C	D	D
Approach Delay	10.7	25.4	32.6	48.6				
Approach LOS	B	C	C	D				



Smoke Tree Resort 2020 Total AM

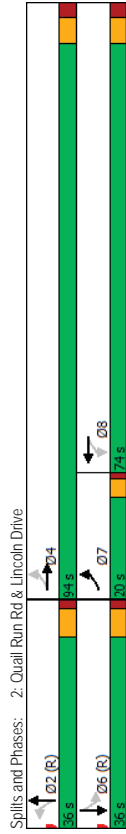
1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (veh/h)	222	981	30	24	898	44	5	34	24	78	88	233
Future Volume (veh/h)	222	981	30	24	898	44	5	34	24	78	88	233
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0	0
Per-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1090	33	27	998	49	6	38	27	87	98	259
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	394	2335	71	312	1915	94	88	175	124	310	109	289
Arrive On Green	0.08	0.66	0.66	0.56	0.56	0.56	0.17	0.17	0.17	0.04	0.24	0.24
Sat Flow, veh/h	1781	3521	107	502	3447	169	1024	1017	723	1781	454	1200
Grp Volume(V), veh/h	247	550	573	27	514	533	6	0	65	87	0	357
Grp Sat Flow(s), veh/h	1781	1777	1851	502	1777	1840	1024	0	1740	1781	0	1654
Q Serve(g/s), s	7.4	19.6	19.6	3.6	23.5	23.5	0.7	0.0	4.2	5.0	0.0	27.2
Cycle Q Clear(g_c), s	7.4	19.6	19.6	9.3	23.5	23.5	18.9	0.0	4.2	5.0	0.0	27.2
Prop In Lane	1.00	0.06	1.00	1.00	0.09	1.00	0.04	1.00	0.73	1.00	0.00	0.73
Lane Grp Cap(c), veh/h	394	1178	1227	312	987	1022	88	0	299	310	0	398
V/C Ratio(X)	0.63	0.47	0.47	0.09	0.52	0.52	0.07	0.00	0.22	0.28	0.00	0.90
Avail Cap(c), veh/h	572	1178	1227	312	987	1022	208	0	502	310	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.55	0.55	0.55	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	10.7	10.7	16.4	18.1	18.1	61.3	0.0	46.3	41.3	0.0	47.8
Incr Delay (d2), s/veh	1.6	1.3	1.3	0.3	1.1	1.0	0.3	0.0	0.4	0.5	0.0	11.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	3.0	7.8	8.2	0.4	9.8	10.2	0.2	0.0	1.9	2.3	0.0	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	12.0	12.0	16.7	19.2	19.1	61.6	0.0	46.7	41.8	0.0	59.5
LnGrp LOS	B	B	B	B	B	B	E	A	D	D	A	E
Approach Vol, veh/h	1370			1074			71				444	
Approach Delay, s/veh	12.7			19.1			48.0				56.0	
Approach LOS	B			B			D				E	
Timer - Assigned Phs	1	2	3	4	6	6	8					
Phs Duration (G+Y+Rc), s	14.0	78.2	9.0	28.8	92.2	37.8						
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5						
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5						
Max Q Clear Time (g_c+H), s	9.4	25.5	7.0	20.9	21.6	29.2						
Green Ext Time (g_e), s	0.6	7.1	0.0	0.2	9.9	2.2						
Intersection Summary												
HCM 6th Ctrl Delay							22.3					
HCM 6th LOS							C					

Smoke Tree Resort 2020 Total AM

2: Quail Run Rd & Lincoln Drive Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	115	1030	2	863	1	0	26	0
Traffic Volume (vph)	115	1030	2	863	1	0	26	0
Future Volume (vph)	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	7	4	8	8	2	2	6	6
Protected Phases	4	4	8	8	2	2	6	6
Permitted Phases	7	4	8	8	2	2	6	6
Declar Phase	7	4	8	8	2	2	6	6
Switch Phase	3.5	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Initial (s)	8.0	28.0	28.0	28.0	33.0	33.0	33.0	33.0
Minimum Split (s)	20.0	94.0	74.0	74.0	36.0	36.0	36.0	36.0
Total Split (s)	15.4%	72.3%	56.9%	56.9%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	2.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time (s)	4.0	6.5	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	64.3	61.8	46.6	46.6	55.7	55.7	55.7	55.7
Actuated g/C Ratio	0.49	0.48	0.36	0.36	0.43	0.43	0.43	0.43
v/c Ratio	0.53	0.68	0.02	0.77	0.01	0.05	0.09	0.09
Control Delay	30.0	35.9	26.0	43.2	0.0	26.3	0.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	35.9	26.0	43.2	0.0	26.3	0.2	0.2
LOS	C	D	C	D	A	A	C	A
Approach Delay	35.3	43.1	43.1	43.1	7.7	7.7	7.7	7.7
Approach LOS	D	D	D	D	A	A	A	A



Smoke Tree Resort 2020 Total AM

2: Quail Run Rd & Lincoln Drive HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	115	1030	4	2	863	12	1	0	7	26	0	65
Traffic Volume (veh/h)	115	1030	4	2	863	12	1	0	7	26	0	65
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb) veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Per-Bike Adj(A_pbT)	No	No	No	No	No	No	No	No	No	No	No	No
Parking Bus, Adj	No	No	No	No	No	No	No	No	No	No	No	No
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	1144	4	2	959	13	1	0	8	29	0	72
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	210	1506	5	187	1152	16	94	22	681	745	0	775
Arrive On Green	0.13	0.83	0.83	0.32	0.32	0.32	0.49	0.00	0.49	0.49	0.00	0.49
Sat Flow, veh/h	1781	3632	13	490	3590	49	130	44	1393	1407	0	1585
Grp Volume(V), veh/h	128	560	588	2	475	497	9	0	29	0	72	72
Grp Sat Flow(s), veh/h	1781	1777	1868	490	1777	1862	1567	0	0	1407	0	1585
Q Serve(g.s), s	6.1	18.9	18.9	0.4	32.2	32.2	0.0	0.0	0.0	0.9	0.0	3.2
Cycle Q Clear(g.c), s	6.1	18.9	18.9	7.1	32.2	32.2	0.4	0.0	0.0	1.3	0.0	3.2
Prop In Lane	1.00	0.01	1.00	1.00	0.03	0.11	0.89	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	210	737	775	187	570	597	797	0	0	745	0	775
V/C Ratio(X)	0.61	0.76	0.76	0.01	0.83	0.83	0.01	0.00	0.00	0.04	0.00	0.09
Avail Cap(c.a), veh/h	317	1196	1257	285	923	967	797	0	0	745	0	775
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	8.1	8.1	34.8	40.9	40.9	17.1	0.0	0.0	17.3	0.0	17.8
Incr Delay (d2), s/veh	2.6	1.5	1.4	0.0	3.6	3.4	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.5	3.6	3.7	0.0	14.6	15.2	0.1	0.0	0.0	0.5	0.0	1.2
Unsig. Movement Delay, s/veh	31.4	9.6	9.5	34.9	44.5	44.3	17.1	0.0	0.0	17.4	0.0	18.0
LnGrp Delay(d), s/veh	C	A	A	C	D	D	B	A	A	B	A	B
LnGrp LOS	C	A	A	C	D	D	B	A	A	B	A	B
Approach Vol, veh/h	1276	974	974	44.4	17.1	17.1	17.1	17.1	17.1	17.8	17.8	17.8
Approach Delay, s/veh	11.7	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4
Approach LOS	B	B	B	D	D	D	B	B	B	B	B	B
Timer - Assigned Phs	2	4	4	4	6	6	7	8	8	8	8	8
Phs Duration (G+Y+Rc), s	69.6	60.4	60.4	69.6	69.6	69.6	122.2	48.2	48.2	48.2	48.2	48.2
Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	6.0	6.0	4.0	6.5	6.5	6.5	6.5	6.5
Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	30.0	30.0	16.0	67.5	67.5	67.5	67.5	67.5
Max Q Clear Time (g_c+lt), s	2.4	20.9	20.9	2.4	2.4	2.4	8.1	34.2	34.2	34.2	34.2	34.2
Green Ext Time (g_e), s	0.0	10.5	10.5	0.4	0.4	0.4	0.2	7.5	7.5	7.5	7.5	7.5
Intersection Summary	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
HCM 6th Ctrl Delay	C	C	C	C	C	C	C	C	C	C	C	C
HCM 6th LOS	C	C	C	C	C	C	C	C	C	C	C	C

Smoke Tree Resort
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4: Smoke Tree Access B & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh	0.5											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4B	5	4A	4A	W	W						
Traffic Vol. veh/h	1049	17	26	860	15	22						
Future Vol. veh/h	1049	17	26	860	15	22						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1166	19	29	956	17	24						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1185	0	1712	593						
Stage 1	-	-	-	-	1176	-						
Stage 2	-	-	-	-	536	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	585	-	81	449						
Stage 1	-	-	-	-	255	-						
Stage 2	-	-	-	-	551	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	585	-	77	449						
Mov Cap-2 Maneuver	-	-	-	-	180	-						
Stage 1	-	-	-	-	242	-						
Stage 2	-	-	-	-	551	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.3	20.1									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	280	-	-	-	585	-						
HCM Lane V/C Ratio	0.147	-	-	-	0.049	-						
HCM Control Delay (s)	20.1	-	-	-	11.5	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.5	-	-	-	0.2	-						

Smoke Tree Resort
2020 Total AM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh		0.4										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4B	5	4A	4A	W	W						
Traffic Vol, veh/h	1054	17	42	879	6	9						
Future Vol, veh/h	1054	17	42	879	6	9						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1171	19	47	977	7	10						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1190	0	1764	595						
Stage 1	-	-	-	-	1181	-						
Stage 2	-	-	-	-	583	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	582	-	75	447						
Stage 1	-	-	-	-	254	-						
Stage 2	-	-	-	-	521	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	582	-	69	447						
Mov Cap-2 Maneuver	-	-	-	-	170	-						
Stage 1	-	-	-	-	233	-						
Stage 2	-	-	-	-	521	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.5	19.2									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	271	-	-	-	582	-						
HCM Lane V/C Ratio	0.062	-	-	-	0.08	-						
HCM Control Delay (s)	19.2	-	-	-	11.7	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.2	-	-	-	0.3	-						

Smoke Tree Resort
2020 Total AM

6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Int Delay, s/veh													
0.1													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	4B			4A		7							
Traffic Vol. veh/h	1050	11	5	921	0	9							
Future Vol. veh/h	1050	11	5	921	0	9							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	-	-	-	0							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1167	12	6	1023	0	10							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	1179	0	-	590							
Stage 1	-	-	-	-	-	-							
Stage 2	-	-	-	-	-	-							
Critical Hdwy	-	-	4.14	-	-	6.94							
Critical Hdwy Slg 1	-	-	-	-	-	-							
Critical Hdwy Slg 2	-	-	-	-	-	-							
Follow-up Hdwy	-	-	2.22	-	-	3.32							
Pot Cap-1 Maneuver	-	-	588	-	0	451							
Stage 1	-	-	-	-	0	-							
Stage 2	-	-	-	-	0	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	588	-	-	451							
Mov Cap-2 Maneuver	-	-	-	-	-	-							
Stage 1	-	-	-	-	-	-							
Stage 2	-	-	-	-	-	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0.1	13.2										
HCM LOS	B												
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	451	-	-	588	-								
HCM Lane V/C Ratio	0.022	-	-	0.009	-								
HCM Control Delay (s)	13.2	-	-	11.2	-								
HCM Lane LOS	B	-	-	B	-								
HCM 95th %ile Q(veh)	0.1	-	-	0	-								

Smoke Tree Resort
2020 Total AM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
9.9													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	
Traffic Vol. veh/h	27	999	35	19	861	10	52	0	30	5	0	12	
Future Vol. veh/h	27	999	35	19	861	10	52	0	30	5	0	12	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	None	-	-	None	-	-	-	None	
Storage Length	25	-	25	-	-	-	-	-	-	0	-	0	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	30	1110	39	21	957	11	58	0	33	6	0	13	
Major/Minor	Major1	Major2	Minor1				Minor2						
Conflicting Flow All	968	0	0	1149	0	0	1711	2200	575	1620	-	484	
Stage 1	-	-	-	-	-	-	-	1190	1190	-	1005	-	
Stage 2	-	-	-	-	-	-	-	521	1010	-	615	-	
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94	
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32	
Pot Cap-1 Maneuver	707	-	-	604	-	-	59	44	461	68	0	529	
Stage 1	-	-	-	-	-	-	199	259	-	259	0	-	
Stage 2	-	-	-	-	-	-	507	316	-	445	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	707	-	-	604	-	-	~54	41	461	59	-	529	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~54	41	-	59	-	-	
Stage 1	-	-	-	-	-	-	191	248	-	248	-	-	
Stage 2	-	-	-	-	-	-	477	305	-	395	-	-	
Approach	EB	WB	NB				SB						
HCM Control Delay, s	0.3	0.2	236.3				29.7						
HCM LOS	F												
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	80	707	-	-	604	-	-	59	529				
HCM Lane V/C Ratio	1.139	0.042	-	-	0.035	-	-	0.094	0.025				
HCM Control Delay (s)	236.3	10.3	-	-	11.2	-	-	72.3	12				
HCM Lane LOS	F	B	-	-	B	-	-	F	B				
HCM 95th %ile Q(veh)	6.6	0.1	-	-	0.1	-	-	0.3	0.1				
Notes													
- Volume exceeds capacity \$: Delay exceeds 300s +/- Computation Not Defined *: All major volume in platoon													

Smoke Tree Resort
2020 Total AM

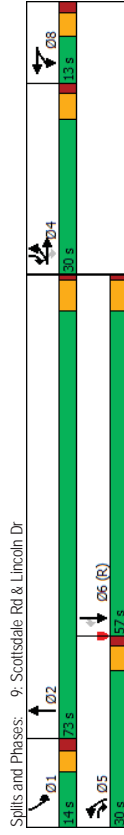
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection	Major1	Major2	Minor1	Minor2	Minor3
Init Delay, s/veh	979	0	1708	2201	574
Conflicting Flow All	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	4.14	-	7.54	6.54	6.94
Critical Hdwy Slg 1	-	-	6.54	5.54	6.54
Critical Hdwy Slg 2	-	-	6.54	5.54	6.54
Follow-up Hdwy	2.22	-	3.52	4.02	3.32
Platoon blocked, %	701	-	59	44	462
Stage 1	-	-	219	279	235
Stage 2	-	-	465	293	487
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	701	-	53	40	462
Mov Cap-2 Maneuver	-	-	53	40	57
Stage 1	-	-	218	278	234
Stage 2	-	-	415	269	436
Approach	EB	WB	NB	SB	SB
HCM Control Delay, s	0	0.5	24.8	27.4	27.4
HCM LOS	C	C	D	D	D
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBR
Capacity (veh/h)	235	701	-	604	-
HCM Lane V/C Ratio	0.227	0.005	-	0.081	-
HCM Control Delay (s)	24.8	10.2	-	11.5	-
HCM Lane LOS	C	B	-	B	-
HCM 95th %ile Q(veh)	0.8	0	-	0.3	-

Smoke Tree Resort
2020 Total AM

9: Scottsdale Rd & Lincoln Dr
Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4
Traffic Volume (vph)	461	38	469	37	36	307	1316	51	1669	615
Future Volume (vph)	461	38	469	37	36	307	1316	51	1669	615
Turn Type	Split	NA	pm-ov	Split	NA	Prot	NA	Prot	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	4	4	5	8	8	5	2	1	6	4
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	73.0	14.0	57.0	30.0
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	C-Max	None
Recall Mode	23.8	23.8	43.1	7.2	7.2	19.3	71.3	7.6	57.4	86.8
Act Effct Green (s)	0.18	0.18	0.33	0.06	0.06	0.15	0.55	0.06	0.44	0.67
Actuated g/C Ratio	0.90	0.90	0.91	0.42	0.40	0.67	0.54	0.55	0.83	0.61
Control Delay	93.2	92.7	39.4	72.5	33.9	58.4	20.5	79.0	36.8	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	92.7	39.4	72.5	33.9	58.4	20.5	79.0	36.8	11.6
LOS	F	F	D	E	C	E	C	E	D	B
Approach Delay	67.0	E	D	D	D	D	C	C	C	C
Approach LOS	E	D	D	D	D	D	C	C	C	C
Intersection Summary										
Cycle Length: 130										
Actuated Cycle Length: 130										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 90										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 0.91										
Intersection Signal Delay: 37.1										
Intersection Capacity Utilization 81.1%										
Analysis Period (min) 15										



Smoke Tree Resort
2020 Total AM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Traffic Volume (veh/h)	461	38	469	37	36	48	307	1316	39	51	1669	615
Future Volume (veh/h)	461	38	469	37	36	48	307	1316	39	51	1669	615
Initial Q (Q _{bb}) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbi})	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	542	0	521	41	40	53	341	1462	43	57	1854	683
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	0	483	95	95	85	401	2401	71	73	2015	924
Arrive On Green	0.19	0.00	0.19	0.05	0.05	0.05	0.12	0.47	0.47	0.04	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5098	150	1781	5106	1585
Grp Volume(v), veh/h	542	0	521	41	40	53	341	976	529	57	1854	683
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702	1585
Q Serve(g, s), s	18.9	0.0	24.5	2.9	2.8	4.3	12.6	27.7	27.7	4.1	44.9	41.0
Cycle Q Clear(g, q), s	18.9	0.0	24.5	2.9	2.8	4.3	12.6	27.7	27.7	4.1	44.9	41.0
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	483	95	95	85	401	1603	868	73	2015	924
V/C Ratio(X)	0.81	0.00	1.08	0.43	0.42	0.63	0.85	0.61	0.61	0.78	0.92	0.74
Avail Cap(c), veh/h	671	0	483	101	101	90	651	1762	954	119	2015	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	45.2	59.6	59.6	60.3	56.4	25.5	25.5	61.7	37.4	19.9
Incr Delay (d2), s/veh	6.7	0.0	64.1	1.1	1.1	8.2	3.0	0.3	0.6	6.5	8.4	5.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	9.1	0.0	24.0	1.3	1.3	1.9	5.7	11.2	12.2	2.0	20.0	24.0
Unsig. Movement Delay, s/veh	57.2	0.0	109.3	60.8	60.7	68.4	59.4	25.8	26.1	68.2	45.8	25.1
LnGrp Delay(d), s/veh	E	A	F	E	E	E	E	C	C	E	D	C
LnGrp LOS	E	A	F	E	E	E	E	C	C	E	D	C
Approach Vol, veh/h	1063			134				1846			2594	
Approach Delay, s/veh	82.8			63.8				32.1			40.8	
Approach LOS	F			E				C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	66.9		30.0	20.6	57.0		12.5				
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7		5.6				
Max Green Sailing (Gmax), s	* 8.7	67.3		24.5	24.5	51.3		7.4				
Max Q Clear Time (g, c+1), s	6.1	29.7		26.5	14.6	46.9		6.3				
Green Ext Time (p, c), s	0.0	2.2		0.0	0.5	1.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				46.4								
HCM 6th LOS				D								

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Smoke Tree Resort
2020 Total AM

10: Quail Run Rd & Access A
HCM 6th TWSC

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Ini Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Vol, veh/h	0	1	0	0	1	0
Future Vol, veh/h	0	1	0	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	0	1	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hwy	6.42	6.22	-	-	4.12	-
Critical Hwy Stg 1	5.42	-	-	-	-	-
Critical Hwy Stg 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	-	-	2.218	-
Pd Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	-	0				
HCM LOS						
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-
HCM 95th %ile Q(veh)	-	-	-	-	-	-

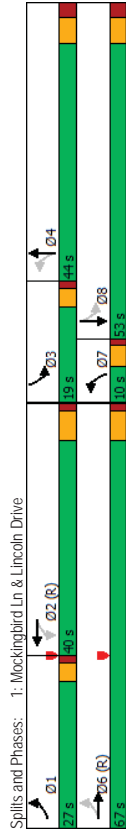
Smoke Tree Resort

2020 Total AM Mitigated

1: Mockingbird Ln & Lincoln Drive

Timings

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	222	981	24	898	5	34	78	88
Future Volume (vph)	222	981	24	898	5	34	78	88
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	2	2	7	4	3	8
Permitted Phases	6	6	2	2	4	8	8	8
Detector Phase	1	6	2	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	5.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	9.5	33.5	8.0	33.5
Total Split (s)	27.0	67.0	40.0	40.0	10.0	44.0	19.0	53.0
Total Split (%)	20.8%	51.5%	30.8%	30.8%	7.7%	33.8%	14.6%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	3.5	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	1.0	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	91.3	89.3	68.7	68.7	19.9	14.2	30.7	26.2
Actuated g/C Ratio	0.70	0.69	0.53	0.53	0.15	0.11	0.24	0.20
v/c Ratio	0.61	0.46	0.11	0.56	0.05	0.30	0.27	0.84
Control Delay	16.5	11.8	15.2	19.1	32.0	34.2	38.7	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	11.8	15.2	19.1	32.0	34.2	38.7	50.3
LOS	B	B	B	B	C	C	D	D
Approach Delay	12.7		19.0		34.0		48.0	
Approach LOS	B	B	B	B	C	C	D	D



Smoke Tree Resort

2020 Total AM Mitigated

1: Mockingbird Ln & Lincoln Drive

HCM 6th Signalized Intersection Summary

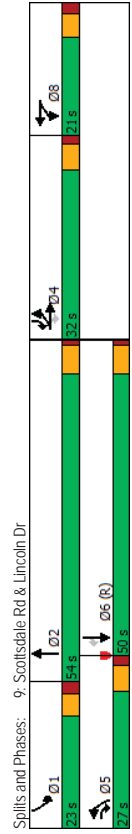
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	222	981	30	24	898	44	5	34
Future Volume (veh/h)	222	981	30	24	898	44	5	34
Initial Q (Ob) veh	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	1090	33	27	998	49	6	38
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap, veh/h	369	2186	66	282	1747	86	101	204
Arrive On Green	0.08	0.62	0.62	0.51	0.51	0.01	0.20	0.05
Sat Flow, veh/h	1781	3521	107	502	3447	169	1781	1017
Grp Volume(V), veh/h	247	550	573	27	514	533	6	65
Grp Sat Flow(s), veh/h	1781	1777	1851	502	1777	1840	1781	0
Q Serve(g,s) s	8.3	22.1	22.1	4.1	26.1	26.1	0.3	4.0
Cycle Q Clear(g,c), s	8.3	22.1	22.1	11.3	26.1	26.1	0.3	4.0
Prop In Lane	1.00	0.06	1.00	0.09	1.00	0.09	0.42	1.00
Lane Grp Cap(c), veh/h	369	1103	1149	282	901	933	101	349
V/C Ratio(X)	0.67	0.50	0.50	0.10	0.57	0.06	0.00	0.19
Avail Cap(c,a), veh/h	535	1103	1149	282	901	933	163	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.55	0.55	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	13.5	13.5	20.7	22.3	42.7	0.0	43.1
Incr Delay (d2), s/veh	2.1	1.6	1.5	0.4	1.5	1.4	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	3.5	9.1	9.5	0.5	11.2	11.6	0.2	0.0
Unsig. Movement Delay, s/veh	19.5	15.1	15.1	21.1	23.7	43.0	0.0	43.4
LnGrp Delay(d), s/veh	B	B	B	C	C	D	A	D
LnGrp LOS	B	B	B	C	C	D	A	D
Approach Vol, veh/h	1370		1074		71		444	
Approach Delay, s/veh	15.9		23.6		43.4		55.1	
Approach LOS	B	B	C		D		E	
Timer - Assigned Phs	1	2	3	4	6	7	8	
Phs Duration (G+Y+Rc), s	14.8	71.9	10.7	32.6	86.7	5.5	37.8	
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	4.5	6.5	
Max Green Selling (Gmax), s	23.0	34.0	15.0	37.5	61.0	5.5	46.5	
Max Q Clear Time (g_c+lt), s	10.3	28.1	6.9	6.0	24.1	2.3	29.2	
Green Ext Time (g_e), s	0.6	3.3	0.1	0.3	9.5	0.0	2.2	
Intersection Summary								
HCM 6th Ctrl Delay			25.2					
HCM 6th LOS			C					
Notes								

User approved pedestrian interval to be less than phase max green.

Smoke Tree Resort
2020 Total AM Mitigated

9: Scottsdale Rd & Lincoln Dr
Timings

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group											
Lane Configurations	4	4	4	4	4	4	4	4	4	4	
Traffic Volume (vph)	461	38	469	37	36	307	1316	51	1669	615	
Future Volume (vph)	461	38	469	37	36	307	1316	51	1669	615	
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov	
Protected Phases	4	4	5	8	8	5	2	1	6	4	
Permitted Phases	4	4	4	8	8	5	2	1	6	4	
Detector Phase	4	4	5	8	8	5	2	1	6	4	
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0	
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0	
Total Split (s)	32.0	32.0	27.0	21.0	21.0	27.0	54.0	23.0	50.0	32.0	
Total Split (%)	24.6%	24.6%	20.8%	16.2%	16.2%	20.8%	41.5%	17.7%	38.5%	24.6%	
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0	
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5	
Lead/Lag							Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None	
Act Effct Green (s)	24.9	24.9	42.4	8.1	8.1	17.4	68.3	8.6	57.2	87.8	
Actuated g/C Ratio	0.19	0.19	0.33	0.06	0.06	0.13	0.53	0.07	0.44	0.68	
v/c Ratio	0.86	0.86	0.82	0.37	0.37	0.74	0.57	0.49	0.83	0.57	
Control Delay	95.4	95.1	34.7	67.7	32.0	63.9	23.3	71.6	37.1	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	95.4	95.1	34.7	67.7	32.0	63.9	23.3	71.6	37.1	7.2	
LOS	F	F	C	E	C	E	C	E	D	A	
Approach Delay											
Approach LOS											
Intersection Summary											
Cycle Length: 130											
Actuated Cycle Length: 130											
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green											
Natural Cycle: 90											
Control Type: Actuated-Coordinated											
Maximum v/c Ratio: 0.86											
Intersection Signal Delay: 37.4											
Intersection Capacity Utilization 81.1%											
Analysis Period (min) 15											



Smoke Tree Resort
2020 Total AM Mitigated

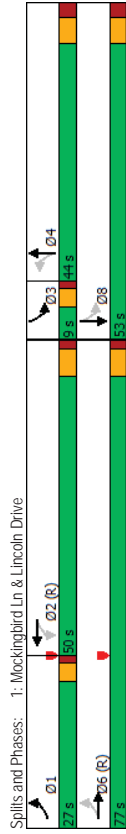
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement											
Lane Configurations	4	4	4	4	4	4	4	4	4	4	
Traffic Volume (veh/h)	461	38	469	37	36	48	307	1316	39	51	1669
Future Volume (veh/h)	461	38	469	37	36	48	307	1316	39	51	1669
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	542	0	521	41	40	53	341	1462	43	57	1854
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	726	0	506	95	85	399	2123	62	74	1740	863
Arrive On Green	0.20	0.00	0.20	0.05	0.05	0.12	0.42	0.42	0.04	0.34	0.34
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5098	150	1781	5106
Grp Volume(v), veh/h	542	0	521	41	40	53	341	976	529	57	1854
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702
Q Serve(g,s) s	18.6	0.0	26.5	2.9	2.8	4.3	12.6	30.5	30.5	4.1	44.3
Cycle Q Clear(g,c), s	18.6	0.0	26.5	2.9	2.8	4.3	12.6	30.5	30.5	4.1	44.3
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	726	0	506	95	85	399	2123	62	74	1740	863
V/C Ratio(X)	0.75	0.00	1.03	0.43	0.42	0.63	0.86	0.69	0.69	0.77	1.07
Avail Cap(c,a), veh/h	726	0	506	211	210	188	572	1417	768	243	1740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	44.2	59.6	59.6	60.3	56.4	31.0	31.0	61.7	42.9
Incr Delay (d2), s/veh	3.8	0.0	47.8	1.1	1.1	2.8	6.3	1.2	2.2	6.4	41.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	8.6	0.0	22.8	1.3	1.3	1.8	5.8	12.7	13.9	2.0	25.1
Unsig. Movement Delay, s/veh											
LnGrp Delay(d), s/veh	52.4	0.0	92.1	60.8	60.7	63.1	62.7	32.2	33.2	68.1	84.3
LnGrp LOS	D	A	F	E	E	E	E	C	C	E	F
Approach Vol, veh/h	1063			134				1846			2594
Approach Delay, s/veh	71.8			61.6				38.1			69.9
Approach LOS	E			E				D			E
Timer - Assigned Phs	1	2		4	5	6		8			
Phs Duration (G+Y+Rc), s	10.7	59.8		32.0	20.5	50.0		12.5			
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7		5.6			
Max Green Selling (Gmax), s	* 18	48.3		26.5	21.5	44.3		15.4			
Max Q Clear Time (g_c+I1), s	6.1	32.5		28.5	14.6	46.3		6.3			
Green Ext Time (p_c), s	0.0	2.1		0.0	0.4	0.0		0.2			
Intersection Summary											
HCM 6th Ctrl Delay				59.7							
HCM 6th LOS				E							
Notes											
User approved pedestrian interval to be less than phase max green.											
User approved volume balancing among the lanes for turning movement.											
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.											

Smoke Tree Resort
2020 Total PM

1: Mockingbird Ln & Lincoln Drive
Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	246	888	25	949	7	62	65	48
Traffic Volume (vph)	246	888	25	949	7	62	65	48
Future Volume (vph)	246	888	25	949	7	62	65	48
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	101.1	99.1	76.2	76.2	11.2	11.2	20.9	18.4
Actuated g/C Ratio	0.78	0.76	0.59	0.59	0.09	0.09	0.16	0.14
v/c Ratio	0.59	0.38	0.09	0.55	0.09	0.55	0.39	0.64
Control Delay	11.8	6.2	10.4	19.8	54.7	61.1	51.9	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	6.2	10.4	19.8	54.7	61.1	51.9	27.6
LOS	B	A	B	B	D	E	D	C
Approach Delay	7.4	7.4	19.6	19.6	60.6	60.6	33.5	33.5
Approach LOS	A	A	B	B	E	E	C	C
Intersection Summary								
Cycle Length: 130								
Actuated Cycle Length: 130								
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green								
Natural Cycle: 90								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.64								
Intersection Signal Delay: 16.9								
Intersection Capacity Utilization 67.8%								
Analysis Period (min) 15								



Smoke Tree Resort
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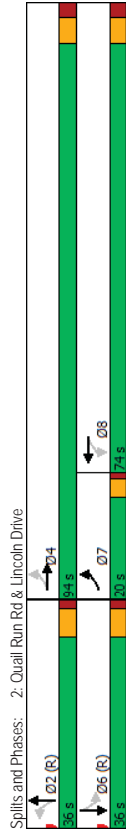
1: Mockingbird Ln & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	246	888	29	25	949	66	7	62	20	65	48	156
Traffic Volume (veh/h)	246	888	29	25	949	66	7	62	20	65	48	156
Future Volume (veh/h)	246	888	29	25	949	66	7	62	20	65	48	156
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	987	32	28	1054	73	8	69	22	72	53	173
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	462	2612	85	411	2167	150	86	124	39	179	62	202
Arrive On Green	0.07	0.74	0.74	0.85	0.85	0.85	0.09	0.09	0.09	0.04	0.16	0.16
Sat Flow, veh/h	1781	3513	114	553	3372	233	1155	1359	433	1781	386	1258
Grp Volume(V), veh/h	273	999	520	28	555	572	8	91	72	0	226	0
Grp Sat Flow(s), veh/h	1781	1777	1850	553	1777	1828	1155	0	1792	1781	0	1644
Q Serve(g.s), s	6.4	13.0	13.0	1.0	10.1	10.1	0.9	0.0	6.3	4.7	0.0	17.4
Cycle Q Clear(g.c), s	6.4	13.0	13.0	1.0	10.1	10.1	0.9	0.0	6.3	4.7	0.0	17.4
Prop In Lane	1.00	0.06	1.00	1.00	0.13	1.00	0.24	1.00	0.24	1.00	0.77	0.77
Lane Grp Cap(c), veh/h	462	1321	1375	411	1142	1175	86	0	163	179	0	264
V/C Ratio(X)	0.59	0.38	0.38	0.07	0.49	0.49	0.09	0.00	0.56	0.40	0.00	0.86
Avail Cap(c.a), veh/h	653	1321	1375	411	1142	1175	314	0	517	179	0	588
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.54	0.54	0.54	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	5.9	5.9	3.4	4.1	4.1	62.0	0.0	56.6	49.8	0.0	53.1
Incr Delay (d2), s/veh	1.2	0.8	0.8	0.2	0.8	0.8	0.5	0.0	2.9	1.4	0.0	7.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.4	4.7	4.9	0.1	2.8	2.9	0.3	0.0	3.0	2.2	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	6.8	6.7	3.6	4.9	4.9	62.5	0.0	59.5	51.2	0.0	61.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	D	A	E
Approach Vol, veh/h	1292			1155			99		59.8		298	
Approach Delay, s/veh	7.0			4.9			58.7		58.7		58.7	
Approach LOS	A			A			E		E		E	
Timer - Assigned Phs	1	2	3	4	6	6	8					
Phs Duration (G+Y+Rc), s	13.1	89.6	9.0	18.3	102.7	27.3						
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5						
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5						
Max Q Clear Time (g_c+lt), s	8.4	12.1	6.7	11.3	15.0	19.4						
Green Ext Time (g_e), s	0.7	9.7	0.0	0.5	8.6	1.5						
Intersection Summary												
HCM 6th Ctrl Delay												
HCM 6th LOS												

Smoke Tree Resort
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2: Quail Run Rd & Lincoln Drive
Timings

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	85	904	945	1	0	14	0
Traffic Volume (vph)	85	904	945	1	0	14	0
Future Volume (vph)	85	904	945	1	0	14	0
Turn Type	pm-pl	NA	NA	Perm	NA	Perm	NA
Protected Phases	7	4	8	2	2	6	6
Permitted Phases	4	4	8	2	2	6	6
Detector Phase	7	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	3.5	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	8.0	28.0	28.0	33.0	33.0	33.0	33.0
Total Split (s)	20.0	94.0	74.0	36.0	36.0	36.0	36.0
Total Split (%)	15.4%	72.3%	56.9%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	68.0	65.5	51.3	52.0	52.0	52.0	52.0
Actuated g/C Ratio	0.52	0.50	0.39	0.40	0.40	0.40	0.40
v/c Ratio	0.42	0.56	0.77	0.00	0.03	0.13	0.13
Control Delay	29.9	35.0	44.1	0.0	28.9	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	35.0	44.1	0.0	28.9	0.3	0.3
LOS	C	C	D	A	C	A	A
Approach Delay							
Approach LOS	C	C	D	A	A	A	A



Smoke Tree Resort
2020 Total PM

2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	85	904	2	0	945	25	1	0	2	14	0
Traffic Volume (veh/h)	85	904	2	0	945	25	1	0	2	14	0
Future Volume (veh/h)	85	904	2	0	945	25	1	0	2	14	0
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	0
Per-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	1004	2	0	1050	28	1	0	2	16	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	182	1571	3	55	1250	33	251	17	462	726	0
Arrive On Green	0.09	0.86	0.86	0.00	0.35	0.35	0.47	0.00	0.47	0.00	0.47
Sat Flow, veh/h	1781	3639	7	560	3536	94	453	36	978	1415	0
Grp Volume(v), veh/h	94	490	516	0	528	550	3	0	16	0	103
Grp Sat Flow(s), veh/h	1781	1777	1869	560	1777	1853	1468	0	0	1415	0
Q Serve(g.s), s	4.3	10.9	10.9	0.0	35.5	35.5	4.8	0.0	0.0	0.0	4.8
Cycle Q Clear(g_c), s	4.3	10.9	10.9	0.0	35.5	35.5	4.8	0.0	0.0	0.0	4.8
Prop In Lane	1.00	0.00	1.00	0.00	0.05	0.33	0.67	1.00	0.00	0.00	1.00
Lane Grp Cap(c), veh/h	182	767	807	55	628	655	730	0	0	726	0
V/C Ratio(X)	0.52	0.64	0.64	0.00	0.84	0.84	0.00	0.00	0.00	0.02	0.00
Avail Cap(c_a), veh/h	317	1196	1258	148	923	962	730	0	0	726	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.93	0.93	0.93	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	28.4	5.8	5.8	0.0	38.6	38.6	18.2	0.0	0.0	18.3	0.0
Incr Delay (d2), s/veh	2.1	0.8	0.8	0.0	4.6	4.5	0.0	0.0	0.0	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	1.8	2.4	2.5	0.0	16.2	16.8	0.1	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh											
LnGrp Delay(d) s/veh	30.5	6.6	6.6	0.0	43.3	43.1	18.2	0.0	0.0	18.4	0.0
LnGrp LOS	C	A	A	A	D	D	B	A	A	B	A
Approach Vol, veh/h	1100			1078			3			119	
Approach Delay, s/veh	8.6			43.2			18.2			19.6	
Approach LOS	A			D			B			B	
Timer - Assigned Phs	2	4	4	6	7	8					
Phs Duration (G+Y+Rc), s	67.4	62.6	62.6	67.4	10.2	52.5					
Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	4.0	6.5					
Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	16.0	67.5					
Max Q Clear Time (g_c+H), s	6.8	12.9	12.9	6.8	6.3	37.5					
Green Ext Time (g_e), s	0.0	8.5	8.5	0.6	0.1	8.5					
Intersection Summary											
HCM 6th Ctrl Delay			25.4								
HCM 6th LOS			C								

Smoke Tree Resort
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4: Smoke Tree Access B & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh						0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4B		5	4A	W	W					
Traffic Vol. veh/h	901	20	36	953	18	34					
Future Vol. veh/h	901	20	36	953	18	34					
Conflicting Peds. #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1001	22	40	1059	20	38					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1023	0	1622	512					
Stage 1	-	-	-	-	1012	-					
Stage 2	-	-	-	-	610	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	674	-	94	507					
Stage 1	-	-	-	-	312	-					
Stage 2	-	-	-	-	505	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	674	-	88	507					
Mov Cap-2 Maneuver	-	-	-	-	202	-					
Stage 1	-	-	-	-	294	-					
Stage 2	-	-	-	-	505	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0.4	18.1								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	333	-	-	674	-						
HCM Lane V/C Ratio	0.174	-	-	0.059	-						
HCM Control Delay (s)	18.1	-	-	10.7	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0.6	-	-	0.2	-						

Smoke Tree Resort
2020 Total PM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh											
0.7											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↑↑		↖	↑↑		↗					
Traffic Vol, veh/h	928	7	21	959	30	26					
Future Vol, veh/h	928	7	21	959	30	26					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1031	8	23	1066	33	29					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1039	0	1614	520					
Stage 1	-	-	-	-	1035	-					
Stage 2	-	-	-	-	579	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	665	-	95	501					
Stage 1	-	-	-	-	303	-					
Stage 2	-	-	-	-	524	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	665	-	92	501					
Mov Cap-2 Maneuver	-	-	-	-	207	-					
Stage 1	-	-	-	-	292	-					
Stage 2	-	-	-	-	524	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0.2	21.1								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	285	-	-	665	-						
HCM Lane V/C Ratio	0.218	-	-	0.035	-						
HCM Control Delay (s)	21.1	-	-	10.6	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0.8	-	-	0.1	-						

Smoke Tree Resort
2020 Total PM

6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
0.2													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	↔↔			↔↔		↖							
Traffic Vol. veh/h	950	4	0	979	2	30							
Future Vol. veh/h	950	4	0	979	2	30							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	-	-	-	0							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1056	4	0	1088	2	33							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	-	-	1602	530							
Stage 1	-	-	-	-	1058	-							
Stage 2	-	-	-	-	544	-							
Critical Hdwy	-	-	-	-	6.84	6.94							
Critical Hdwy Slg 1	-	-	-	-	5.84	-							
Critical Hdwy Slg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	-	-	3.52	3.32							
Pot Cap-1 Maneuver	-	0	-	96	493								
Stage 1	-	0	-	295	-								
Stage 2	-	0	-	546	-								
Platoon blocked, %	-	-	-	-	-								
Mov Cap-1 Maneuver	-	-	-	-	96	493							
Mov Cap-2 Maneuver	-	-	-	-	214	-							
Stage 1	-	-	-	-	295	-							
Stage 2	-	-	-	-	546	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0	12.8										
HCM LOS	B												
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT									
Capacity (veh/h)	493	-	-	-									
HCM Lane V/C Ratio	0.068	-	-	-									
HCM Control Delay (s)	12.8	-	-	-									
HCM Lane LOS	B	-	-	-									
HCM 95th %ile Q(veh)	0.2	-	-	-									

Smoke Tree Resort
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7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
15.8													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗		↖↗	↖↗		↖↗	↖↗	↖↗	↖↗	↖↗	↖↗	
Traffic Vol. veh/h	7 918	42	6 883	9	68	3 49	7	0	35				
Future Vol. veh/h	7 918	42	6 883	9	68	3 49	7	0	35				
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	25	-	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	8 1020	47	7 981	10	76	3 54	8	0	39				
Major/Minor	Major1	Major2	Minor1	Minor2									
Conflicting Flow All	991	0	0 1067	0	1565	2065	534	1528	-	496			
Stage 1	-	-	-	-	-	1060	1060	-	1000	-			
Stage 2	-	-	-	-	-	505	1005	-	528	-			
Critical Hdwy	4.14	-	4.14	-	7.54	6.54	6.94	7.54	-	6.94			
Critical Hdwy Slg 1	-	-	-	-	6.54	5.54	-	6.54	-	-			
Critical Hdwy Slg 2	-	-	-	-	6.54	5.54	-	6.54	-	-			
Follow-up Hdwy	2.22	-	2.22	-	3.52	4.02	3.32	3.52	-	3.32			
Pot Cap-1 Maneuver	693	-	649	-	~75	54	491	80	0	519			
Stage 1	-	-	-	-	239	299	-	261	0	-			
Stage 2	-	-	-	-	518	317	-	502	0	-			
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-			
Mov Cap-1 Maneuver	693	-	649	-	~68	53	491	67	-	519			
Mov Cap-2 Maneuver	-	-	-	-	~68	53	-	67	-	-			
Stage 1	-	-	-	-	236	295	-	258	-	-			
Stage 2	-	-	-	-	474	314	-	436	-	-			
Approach	EB	WB	NB	SB									
HCM Control Delay, s	0.1	0.1	258	21.4									
HCM LOS	F C												
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	104	693	-	-	649	-	-	67	519				
HCM Lane V/C Ratio	1.282	0.011	-	-	0.01	-	-	0.116	0.075				
HCM Control Delay (s)	258	10.3	-	-	10.6	-	-	65.7	12.5				
HCM Lane LOS	F	B	-	-	B	-	-	F	B				
HCM 95th %ile Q(veh)	9.1	0	-	-	0	-	-	0.4	0.2				
Notes													
- Volume exceeds capacity \$: Delay exceeds 300s +/- Computation Not Defined *: All major volume in platoon													

Smoke Tree Resort
2020 Total PM

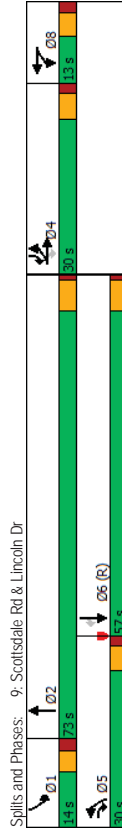
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection	Major1	Major2	Minor1	Minor2	Minor3
Init Delay, s/veh	2.5				
Movement	EBL EBT EBR WBL WBT WBR NBL NBT SBL SBT SBR				
Lane Configurations	11 912 55 63 881 8 14 1 92 4 0 7				
Traffic Vol, veh/h	11 912 55 63 881 8 14 1 92 4 0 7				
Future Vol, veh/h	0 0 0 0 0 0 0 0 0 0 0 0				
Conflicting Peds, #/hr	0 0 0 0 0 0 0 0 0 0 0 0				
Sign Control	Free Free Free Free Free Free Free Free Free Free Free Free				
RT Channelized	- - None - - None - - None - - None - - None				
Storage Length	25 - - 25 - - 25 - - 25 - - 25 - - 25 - -				
Veh in Median Storage, #	- 0 - - 0 - - 0 - - 0 - - 0 - - 0 - -				
Grade, %	- 0 - - 0 - - 0 - - 0 - - 0 - - 0 - -				
Peak Hour Factor	90 90 90 90 90 90 90 90 90 90 90 90				
Heavy Vehicles, %	2 2 2 2 2 2 2 2 2 2 2 2				
Mmt Flow	12 1013 61 70 979 9 16 1 102 4 0 8				
Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	988 0 0 1074 0 0 1698 2196				
Stage 1	- - - - - - - - - - - - - - - -				
Stage 2	- - - - - - - - - - - - - - - -				
Critical Hdwy	414 - - 414 - - 754 654 694 754 - 694				
Critical Hdwy Slg 1	- - - - - - - - - - - - - - - -				
Critical Hdwy Slg 2	- - - - - - - - - - - - - - - -				
Follow-up Hdwy	222 - - 222 - - 352 402 332 352 - 332				
Plat Cap-1 Maneuver	695 - - 645 - - 60 44 488 64 0 521				
Stage 1	- - - - - - - - - - - - - - - -				
Stage 2	- - - - - - - - - - - - - - - -				
Platoon blocked, %	- - - - - - - - - - - - - - - -				
Mov Cap-1 Maneuver	695 - - 645 - - 54 39 488 45 - 521				
Mov Cap-2 Maneuver	- - - - - - - - - - - - - - - -				
Stage 1	- - - - - - - - - - - - - - - -				
Stage 2	- - - - - - - - - - - - - - - -				
Approach	EB NB WB SB				
HCM Control Delay, s	0.1 0.7				
HCM LOS	E E				
Minor Lane/Major Mmt	NBLn1 EBL EBT EBR WBL WBT WBR SBLn1 SBLn2				
Capacity (veh/h)	226 695 - - 645 - - 45 521				
HCM Lane V/C Ratio	0.526 0.018 - - 0.109 - - 0.099 0.015				
HCM Control Delay (s)	37.3 10.3 - - 11.3 - - 93.6 12				
HCM Lane LOS	E B - - B - - F B				
HCM 95th %ile Q(veh)	2.8 0.1 - - 0.4 - - 0.3 0				

Smoke Tree Resort
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9: Scottsdale Rd & Lincoln Dr
Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Traffic Volume (vph)	527	56	446	56	62	427	1624	61	1569	505
Future Volume (vph)	527	56	446	56	62	427	1624	61	1569	505
Turn Type	Split	NA	pm+ov	Split	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	73.0	14.0	57.0	30.0
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	3.6	4.0	4.7	3.3	4.7	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	None	C-Max	None
Act Elct Green (s)	24.5	24.5	46.1	7.3	7.3	21.6	70.4	7.9	54.3	84.5
Actuated g/C Ratio	0.19	0.19	0.35	0.06	0.06	0.17	0.54	0.06	0.42	0.65
v/c Ratio	1.02	1.02	0.82	0.63	0.88	0.83	0.68	0.64	0.82	0.53
Control Delay	111.5	111.1	22.9	86.8	37.9	65.6	23.7	85.4	38.0	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.5	111.1	22.9	86.8	37.9	65.6	23.7	85.4	38.0	11.8
LOS	F	F	C	F	D	E	C	F	D	B
Approach Delay										
Approach LOS										
Intersection Summary										
Cycle Length: 130										
Actuated Cycle Length: 130										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 90										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 1.02										
Intersection Signal Delay: 41.0										
Intersection Capacity Utilization 83.0%										
Analysis Period (min) 15										



Smoke Tree Resort
2020 Total PM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	527	56	46	56	62	72	427	1624	45	61	1569	505
Traffic Volume (veh/h)	527	56	46	56	62	72	427	1624	45	61	1569	505
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Q _{bb}) veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A _{pbi})	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	No	No	No	No	No	No	No	No	No	No	No	No
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	630	0	496	62	69	80	474	1804	50	68	1743	561
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	0	543	101	101	90	532	2561	71	87	2015	924
Arrive On Green	0.06	0.00	0.06	0.06	0.06	0.06	0.15	0.50	0.50	0.05	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5107	141	1781	5106	1585
Grp Volume(v), veh/h	630	0	496	62	69	80	474	1202	652	68	1743	561
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1845	1781	1702	1585
Q Serve(g, s), s	22.9	0.0	24.5	4.4	5.0	6.5	17.5	35.4	35.4	4.9	40.8	29.7
Cycle Q Clear(g, q), s	22.9	0.0	24.5	4.4	5.0	6.5	17.5	35.4	35.4	4.9	40.8	29.7
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	543	101	101	90	532	1707	925	87	2015	924
V/C Ratio(X)	0.94	0.00	0.91	0.61	0.68	0.89	0.89	0.70	0.70	0.78	0.87	0.61
Avail Cap(c), veh/h	671	0	543	101	101	90	651	1762	955	119	2015	924
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.2	0.0	46.0	59.9	60.1	60.9	53.9	25.0	25.0	61.2	36.2	17.5
Incr Delay (d2), s/veh	20.7	0.0	19.7	7.6	14.4	57.9	11.3	1.0	1.9	13.9	5.3	3.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	12.9	0.0	17.6	2.2	2.6	4.1	8.4	14.3	15.7	2.6	17.7	17.2
Unsig. Movement Delay, s/veh	80.9	0.0	65.7	67.5	74.6	118.8	65.2	26.0	26.9	75.1	41.4	20.4
LnGrp Delay(d), s/veh	F	A	E	E	E	F	E	C	C	E	D	C
LnGrp LOS	F	A	E	E	E	F	E	C	C	E	D	C
Approach Vol, veh/h	1126	211	211	211	211	211	211	2328	34.2	37.4	2372	374
Approach Delay, s/veh	74.2	89.3	89.3	89.3	89.3	89.3	89.3	34.2	34.2	37.4	37.4	37.4
Approach LOS	E	E	E	E	E	F	F	C	C	D	D	D
Timer - Assigned Phs	1	2	2	4	5	6	8					
Phs Duration (G+Y+Rc), s	11.6	70.9	30.0	25.5	57.0	13.0						
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Sailing (Gmax), s	* 8.7	67.3	24.5	24.5	51.3	7.4						
Max Q Clear Time (g, c+1), s	6.9	37.4	26.5	19.5	42.8	8.5						
Green Ext Time (p, c), s	0.0	2.9	0.0	0.0	0.5	2.5						
Intersection Summary												
HCM 6th Ctrl Delay			44.9									
HCM 6th LOS			D									

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Smoke Tree Resort
2020 Total PM

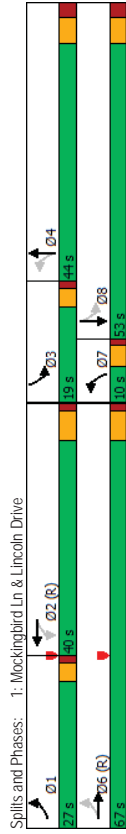
10: Quail Run Rd & Access A
HCM 6th TWSC

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Ini Delay, s/veh	0	0	0	0	0	0
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Vol, veh/h	0	1	0	0	1	0
Future Vol, veh/h	0	1	0	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	-
Storage Length	0	0	0	0	0	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	0	1	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hwy	6.42	6.22	-	-	4.12	-
Critical Hwy Stg 1	5.42	-	-	-	-	-
Critical Hwy Stg 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	-	-	2.218	-
Pd Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	-	0				
HCM LOS						
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-
HCM 95th %ile Q(veh)	-	-	-	-	-	-

Smoke Tree Resort 2020 Total PM Mitigated

1: Mockingbird Ln & Lincoln Drive Timings

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	246	888	25	949	7	62	65	48
Future Volume (vph)	246	888	25	949	7	62	65	48
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	2	2	7	4	3	8
Permitted Phases	6	6	2	2	4	8	8	8
Detector Phase	1	6	2	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	5.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	9.5	33.5	8.0	33.5
Total Split (s)	27.0	67.0	40.0	40.0	10.0	44.0	19.0	53.0
Total Split (%)	20.8%	51.5%	30.8%	30.8%	7.7%	33.8%	14.6%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	3.5	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	1.0	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	96.5	94.5	72.2	72.2	17.6	11.2	25.5	21.0
Actuated g/C Ratio	0.74	0.73	0.56	0.56	0.14	0.09	0.20	0.16
v/c Ratio	0.65	0.40	0.10	0.58	0.05	0.55	0.28	0.59
Queue Delay	17.6	8.4	8.5	16.5	38.1	61.1	43.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS	B	A	A	B	D	E	D	C
Approach Delay	10.3	16.3	16.3	16.3	59.2	29.2	29.2	29.2
Approach LOS	B	B	B	B	E	E	C	C



Smoke Tree Resort 2020 Total PM Mitigated

1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

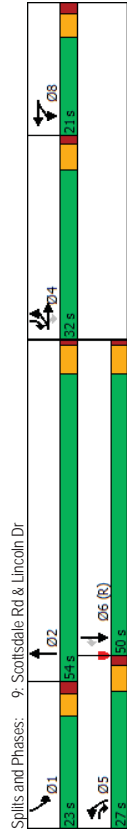
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	246	888	29	25	949	66	7	62
Future Volume (veh/h)	246	888	29	25	949	66	7	62
Initial Q (Ob) veh	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	987	32	28	1054	73	8	69
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap, veh/h	396	2456	80	377	1992	138	103	173
Arrive On Green	0.08	0.70	0.70	0.59	0.59	0.01	0.13	0.13
Sat Flow, veh/h	1781	3513	114	553	3372	233	1781	1359
Grp Volume(V), veh/h	273	999	520	28	552	72	8	91
Grp Sat Flow(s), veh/h	1781	1777	1850	553	1777	1828	1781	0
Q Serve(g, s)	7.4	15.3	15.3	2.9	24.2	0.5	0.0	6.1
Cycle Q Clear(g, s)	7.4	15.3	15.3	4.1	24.2	0.5	0.0	6.1
Prop In Lane	1.00	0.06	1.00	1.00	0.13	1.00	0.24	1.00
V/C Ratio(X)	0.69	0.40	0.40	0.07	0.53	0.08	0.40	0.30
Avail Cap(C, a), veh/h	573	1242	1293	377	1050	1080	161	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	8.2	8.2	12.0	15.8	49.3	0.0	52.1
Incr Delay (d2), s/veh	2.1	1.0	0.9	0.2	1.0	0.3	0.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	3.0	5.9	6.1	0.4	9.9	10.2	0.2	0.0
Unsig. Movement Delay, s/veh	15.6	9.1	9.1	12.2	16.9	49.6	0.0	53.3
LnGrp Delay(d), s/veh	B	A	A	B	B	D	A	D
LnGrp LOS	B	A	A	B	B	D	A	D
Approach Vol, veh/h	1292	1155	16.7	1155	53.0	298	57.3	E
Approach Delay, s/veh	10.5	16.7	16.7	16.7	53.0	298	57.3	E
Approach LOS	B	B	B	B	D	D	E	E
Timer - Assigned Phs	1	2	3	4	6	7	8	
Phs Duration (G+Y+Rc), s	14.1	82.8	10.0	23.1	96.9	5.8	27.3	
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	4.5	6.5	
Max Green Selling (Gmax), s	23.0	34.0	15.0	37.5	61.0	5.5	46.5	
Max Q Clear Time (g_c+I), s	9.4	26.2	6.4	8.1	17.3	2.5	19.4	
Green Ext Time (g_e), s	0.7	4.4	0.1	0.5	8.4	0.0	1.5	
Intersection Summary								
HCM 6th Ctrl Delay		19.4						
HCM 6th LOS		B						
Notes								

User approved pedestrian interval to be less than phase max green.

Smoke Tree Resort
2020 Total PM Mitigated

9: Scottsdale Rd & Lincoln Dr
Timings

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	527	56	446	56	62	427	1624	61	1569	505
Traffic Volume (vph)	527	56	446	56	62	427	1624	61	1569	505
Future Volume (vph)	527	56	446	56	62	427	1624	61	1569	505
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	32.0	32.0	27.0	21.0	21.0	27.0	54.0	23.0	50.0	32.0
Total Split (%)	24.6%	24.6%	20.8%	16.2%	16.2%	20.8%	41.5%	17.7%	38.5%	24.6%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	C-Max	None
Recall Mode	26.4	26.4	48.4	9.3	9.3	22.0	65.0	9.4	50.0	82.1
Act Effct Green (s)	0.20	0.20	0.37	0.07	0.07	0.17	0.50	0.07	0.38	0.63
Actuated g/C Ratio	0.95	0.95	0.73	0.49	0.49	0.82	0.73	0.54	0.89	0.51
v/c Ratio	101.2	101.1	20.1	70.6	32.6	64.0	29.2	72.5	44.8	9.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	101.2	101.1	20.1	70.6	32.6	64.0	29.2	72.5	44.8	9.0
Total Delay	F	F	C	E	C	E	C	E	D	A
Approach Delay	66.0			43.8			36.3		37.2	
Approach LOS	E			D			D		D	



Smoke Tree Resort
2020 Total PM Mitigated

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	527	56	446	56	62	427	1624	61	1569	505
Traffic Volume (veh/h)	527	56	446	56	62	427	1624	45	61	1569
Future Volume (veh/h)	527	56	446	56	62	427	1624	45	61	1569
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	630	0	496	62	69	80	474	1804	50	68
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	726	0	564	120	107	526	2276	63	87	1740
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.15	0.45	0.05	0.34
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5107	141	1781
Grp Volume(V), veh/h	1781	0	1585	1781	1777	1585	1728	1845	1781	1702
Grp Sat Flow(s), veh/h	22.8	0.0	26.5	4.4	4.9	6.4	17.5	39.3	39.4	4.9
Cycle Q Clear(g, c), s	22.8	0.0	26.5	4.4	4.9	6.4	17.5	39.3	39.4	4.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00
Lane Grp Cap(c), veh/h	726	0	564	120	107	526	1517	822	87	1740
V/C Ratio(X)	0.87	0.00	0.88	0.52	0.58	0.75	0.90	0.79	0.78	1.00
Avail Cap(c, a), veh/h	726	0	564	211	210	188	572	1517	822	243
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	0.0	44.8	58.6	58.8	59.5	54.2	30.9	61.1	42.9
Incr Delay (d2), s/veh	10.4	0.0	14.3	1.3	1.6	3.9	15.9	2.7	4.9	5.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOf(50%) veh/h	12.0	0.0	16.8	2.0	2.3	2.7	8.8	16.5	18.4	2.4
Unsig. Movement Delay, s/veh	69.3	0.0	59.1	59.8	60.4	63.4	70.0	33.6	35.9	66.7
LnGrp Delay(d), s/veh	E	A	E	E	E	E	E	C	D	E
LnGrp LOS	E	A	E	E	E	E	E	C	D	E
Approach Vol, veh/h	1126			211			2328		2372	
Approach Delay, s/veh	64.8			61.4			41.7		55.4	
Approach LOS	E			E			D		E	
Timer - Assigned Phs	1	2		4	5	6	8			
Phs Duration (G+Y+Rc), s	11.7	63.6		32.0	25.3	50.0	14.4			
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7	5.6			
Max Green Selling (Gmax), s	* 18	48.3		26.5	21.5	44.3	15.4			
Max Q Clear Time (g_c+I1), s	6.9	41.4		28.5	19.5	46.3	8.4			
Green Ext Time (g_e), s	0.0	2.2		0.0	0.3	0.0	0.3			
Intersection Summary										
HCM 6th Ctrl Delay			52.1							
HCM 6th LOS			D							
Notes										
User approved pedestrian interval to be less than phase max green.										
User approved volume balancing among the lanes for turning movement.										
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.										

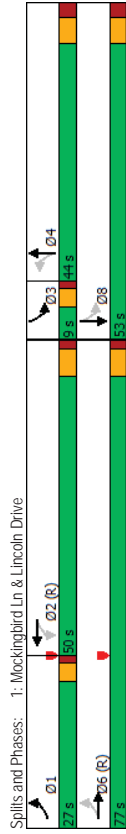
APPENDIX H

2025 PEAK HOUR ANALYSIS

Smoke Tree Resort
2025 Background AM

1: Mockingbird Ln & Lincoln Drive
Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Traffic Volume (vph)	242	1045	24	963	6	37	83	96	
Future Volume (vph)	242	1045	24	963	6	37	83	96	
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA	
Protected Phases	1	6	2	2	4	4	3	8	
Permitted Phases	6	6	2	2	4	4	3	8	
Detector Phase	1	6	2	2	4	4	3	8	
Switch Phase									
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0	
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5	
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0	
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%	
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	
Act Effct Green (s)	90.6	88.6	65.5	65.5	19.6	19.6	31.4	28.9	
Actuated g/C Ratio	0.70	0.68	0.50	0.50	0.15	0.15	0.24	0.22	
v/c Ratio	0.66	0.50	0.12	0.63	0.09	0.23	0.30	0.85	
Control Delay	21.5	12.0	22.8	30.5	44.3	30.9	39.7	50.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.5	12.0	22.8	30.5	44.3	30.9	39.7	50.6	
LOS	C	B	C	C	D	C	D	D	
Approach Delay	13.7	30.3	32.1	32.1	48.5	48.5			
Approach LOS	B	C	C	C	D	D			
Intersection Summary									
Cycle Length: 130									
Actuated Cycle Length: 130									
Offset: 0 (0%), Referenced to phase 2(WBTL and 6EBTL, Start of Green									
Natural Cycle: 90									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.85									
Intersection Signal Delay: 25.4									
Intersection Capacity Utilization 78.5%									
Analysis Period (min) 15									



Smoke Tree Resort
2025 Background AM

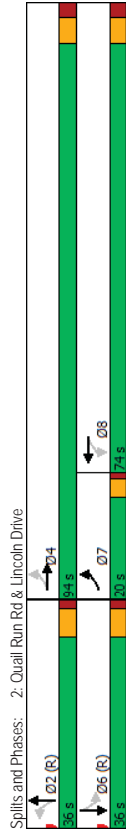
1: Mockingbird Ln & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Traffic Volume (veh/h)	242	1045	33	24	963	46	6	37	
Future Volume (veh/h)	242	1045	33	24	963	46	6	37	
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No	No	No	No	No	No	No	No	
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	269	1161	37	27	1070	51	7	41	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	
Cap. veh/h	347	2265	72	274	1821	87	88	204	
Arrive On Green	0.09	0.64	0.64	0.35	0.35	0.19	0.19	0.04	
Sat Flow, veh/h	1781	3515	112	467	3453	165	996	1070	
Grp Volume(V), veh/h	269	587	611	27	550	571	7	67	
Grp Sat Flow(s), veh/h	1781	1777	1850	467	1777	1841	996	0	
Cycle Q Clear(g_c), s	8.6	22.8	22.8	5.4	32.9	32.9	0.9	4.2	
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	347	1145	1192	274	937	971	88	0	
V/C Ratio(X)	0.78	0.51	0.51	0.10	0.59	0.59	0.08	0.20	
Avail Cap(c), veh/h	508	1145	1192	274	937	971	186	0	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	
Upstream Filter(0)	1.00	1.00	1.00	0.55	0.55	0.55	1.00	1.00	
Uniform Delay (d), s/veh	20.5	12.3	12.3	26.8	30.5	30.5	61.3	0.0	
Incr Delay (d2), s/veh	4.5	1.6	1.6	0.4	1.5	1.4	0.4	0.0	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%) veh/h	4.4	9.2	9.6	0.7	15.3	15.8	0.2	0.0	
Unsig. Movement Delay, s/veh									
LnGrp Delay(d), s/veh	25.0	13.9	13.9	27.2	32.0	31.9	61.6	0.0	
LnGrp LOS	C	B	B	C	C	C	E	A	
Approach Vol, veh/h	1467			1148			74	480	
Approach Delay, s/veh	15.9			31.8			46.2	56.4	
Approach LOS	B			C			D	E	
Timer - Assigned Phs	1	2	3	4	6	8			
Phs Duration (G+Y+Rc), s	15.2	74.6	9.0	31.2	89.8	40.2			
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5			
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5			
Max Q Clear Time (g_c+I1), s	10.6	34.9	7.0	23.4	24.8	31.5			
Green Ext Time (g_e), s	0.6	5.0	0.0	0.2	10.9	2.2			
Intersection Summary									
HCM 6th Ctrl Delay									
HCM 6th LOS									

Smoke Tree Resort
2025 Background AM

2: Quail Run Rd & Lincoln Drive
Timings

	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations	115	1104	2	927	0	26	0
Traffic Volume (vph)	115	1104	2	927	0	26	0
Future Volume (vph)	pm+pt	NA	Perm	NA	NA	Perm	NA
Turn Type	7	4	8	8	2	6	6
Protected Phases	4	8	8	8	2	6	6
Permitted Phases	7	4	8	8	2	6	6
Declarator Phase	7	4	8	8	2	6	6
Switch Phase	3.5	15.0	15.0	15.0	7.0	7.0	7.0
Minimum Initial (s)	8.0	28.0	28.0	28.0	33.0	33.0	33.0
Minimum Split (s)	20.0	94.0	74.0	74.0	36.0	36.0	36.0
Total Split (s)	15.4%	72.3%	56.9%	56.9%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	2.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.5	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	67.4	64.9	50.0	50.0	52.6	52.6	52.6
Actuated g/C Ratio	0.52	0.50	0.38	0.38	0.40	0.40	0.40
v/c Ratio	0.54	0.70	0.02	0.77	0.01	0.05	0.09
Control Delay	28.5	35.5	21.5	38.6	0.0	28.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	35.5	21.5	38.6	0.0	28.2	0.2
LOS	C	D	C	D	A	C	A
Approach Delay	34.9	38.6	38.6	38.6	8.2	8.2	8.2
Approach LOS	C	D	D	D	A	A	A



Smoke Tree Resort
2025 Background AM

2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	115	1104	3	2	927	12	0	8	26
Traffic Volume (veh/h)	115	1104	3	2	927	12	0	8	26
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0
Initial Q (Qb) veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	No	No	No	No	No	No	No	No	No
Work Zone On Approach	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Sat Flow, veh/h	128	1227	3	2	1030	13	0	9	29
Adj Flow Rate, veh/h	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	2	2	2	2	2	2	2	2	2
Percent Heavy Veh, %	208	1582	4	191	1231	16	0	743	710
Cap. veh/h	0.12	0.87	0.87	0.34	0.34	0.34	0.00	0.47	0.00
Arrive On Green	1781	3637	9	453	3594	45	0	1885	1406
Sat Flow, veh/h	128	599	631	2	509	534	0	9	29
Grp Volume(v), veh/h	1781	1777	1869	453	1777	1862	0	0	1585
Grp Sat Flow(s), veh/h	5.9	17.6	17.6	0.4	34.3	34.3	0.0	0.4	1.5
Q Serve(g.s), s	5.9	17.6	17.6	5.9	34.3	34.3	0.0	0.4	1.9
Cycle Q Clear(g_c), s	1.00	0.00	1.00	0.00	0.02	0.00	1.00	1.00	1.00
Prop In Lane	208	773	813	191	609	638	0	743	710
Lane Grp Cap(c), veh/h	0.62	0.78	0.78	0.01	0.84	0.84	0.00	0.01	0.04
V/C Ratio(X)	317	1196	1258	271	923	967	0	0	743
Avail Cap(c_a), veh/h	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
HCM Platoon Ratio	0.87	0.87	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Upstream Filter(i)	28.2	5.9	32.0	39.4	39.4	0.0	0.0	18.4	18.9
Uniform Delay (d), s/veh	2.6	1.5	1.4	0.0	4.3	4.1	0.0	0.0	0.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	2.5	2.9	3.1	0.0	15.6	16.3	0.0	0.2	0.5
%ile BackQ(50%) veh/h	Unsig. Movement Delay, s/veh	30.7	7.4	7.4	32.0	43.7	43.5	0.0	18.5
Unsig. Movement Delay, s/veh	LnGrp Delay(d) s/veh	C	A	A	C	D	D	A	A
LnGrp Delay(d) s/veh	LnGrp LOS	1358	9.6	1045	43.5	18.5	19.4	102	19.4
Approach Vol, veh/h	Approach Delay, s/veh	A	A	A	D	B	B	B	B
Approach LOS	Timer - Assigned Phs	2	4	4	6	7	8	8	8
Phs Duration (G+Y+Rc), s	Phs Duration (G+Y+Rc), s	67.0	63.0	63.0	67.0	12.0	51.0	51.0	51.0
Change Period (Y+Rc), s	Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	4.0	6.5	6.5	6.5
Max Green Selling (Gmax), s	Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	16.0	67.5	67.5	67.5
Max Q Clear Time (g_c+lt), s	Max Q Clear Time (g_c+lt), s	2.4	19.6	19.6	5.3	7.9	36.3	36.3	36.3
Green Ext Time (g_e), s	Green Ext Time (g_e), s	0.0	11.9	11.9	0.4	0.2	8.2	8.2	8.2
Intersection Summary	Intersection Summary	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
HCM 6th Ctrl Delay	HCM 6th Ctrl Delay	C	C	C	C	C	C	C	C
HCM 6th LOS	HCM 6th LOS	C	C	C	C	C	C	C	C

Smoke Tree Resort
2025 Background AM

3: Smoke Tree West & Lincoln Dr
HCM 6th TWSC

Intersection											
Int Delay, s/veh		0									
Movement		EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations		↔↔		↔	↔↔		↔↔				
Traffic Vol, veh/h		1135	2	0	937	0	0				
Future Vol, veh/h		1135	2	0	937	0	0				
Conflicting Peds, #/hr		0	0	0	0	0	0				
Sign Control		Free	Free	Free	Free	Stop	Stop				
RT Channelized		-	None	-	None	-	None				
Storage Length		-	-	25	-	0	-				
Veh in Median Storage, #		0	-	-	0	0	-				
Grade, %		0	-	-	0	0	-				
Peak Hour Factor		90	90	90	90	90	90				
Heavy Vehicles, %		2	2	2	2	2	2				
Mvmt Flow		1261	2	0	1041	0	0				
Major/Minor		Major1		Major2		Minor1					
Conflicting Flow All		0	0	1263	0	1783	632				
Stage 1		-	-	-	-	1262	-				
Stage 2		-	-	-	-	-	521				
Critical Hdwy		-	-	4.14	-	6.84	6.94				
Critical Hdwy Sig 1		-	-	-	-	5.84	-				
Critical Hdwy Sig 2		-	-	-	-	5.84	-				
Follow-up Hdwy		-	-	2.22	-	3.52	3.32				
Platoon Cap-1 Maneuver		-	-	546	-	73	423				
Stage 1		-	-	-	-	230	-				
Stage 2		-	-	-	-	561	-				
Platoon blocked, %		-	-	-	-	-	-				
Mov Cap-1 Maneuver		-	-	546	-	73	423				
Mov Cap-2 Maneuver		-	-	-	-	175	-				
Stage 1		-	-	-	-	230	-				
Stage 2		-	-	-	-	561	-				
Approach		EB		WB		NB					
HCM Control Delay, s		0		0		0					
HCM LOS		A									
Minor Lane/Major Mvmt		NBLn1		EBT		EBR		WBL		WBT	
Capacity (veh/h)		-		-		-		546		-	
HCM Lane V/C Ratio		-		-		-		-		-	
HCM Control Delay (s)		0		-		-		0		-	
HCM Lane LOS		A		-		-		A		-	
HCM 95th %ile Overt		-		-		-		0		-	

Smoke Tree Resort
2025 Background AM

4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh		0.1									
Movement											
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR					
Traffic Vol, veh/h	1137	0	1	934	6	2					
Future Vol, veh/h	1137	0	1	934	6	2					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	25	-	0	-	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1263	0	1	1038	7	2					
Major/Minor											
	Major1		Major2		Minor1						
Conflicting Flow All	0	0	1263	0	1784	632					
Stage 1	-	-	-	-	1263	-					
Stage 2	-	-	-	-	521	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Platoon blocked, %	-	-	546	-	73	423					
Stage 1	-	-	-	-	230	-					
Stage 2	-	-	-	-	561	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	546	-	73	423					
Mov Cap-2 Maneuver	-	-	-	-	175	-					
Stage 1	-	-	-	-	230	-					
Stage 2	-	-	-	-	561	-					
Approach											
HCM Control Delay, s	0	0	0	0	23.4						
HCM LOS	C										
Minor Lane/Major Mvmt											
NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	205	-	-	546	-						
HCM Lane V/C Ratio	0.043	-	-	0.002	-						
HCM Control Delay (s)	23.4	-	-	11.6	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0.1	-	-	0	-						

Smoke Tree Resort
2025 Background AM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh		0.4										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	1	1	1	1						
Traffic Vol. veh/h	1122	18	42	928	6	9						
Future Vol. veh/h	1122	18	42	928	6	9						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1247	20	47	1031	7	10						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1267	0	1867	634						
Stage 1	-	-	-	-	1257	-						
Stage 2	-	-	-	-	610	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Sig 1	-	-	-	-	5.84	-						
Critical Hdwy Sig 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	544	-	64	422						
Stage 1	-	-	-	-	231	-						
Stage 2	-	-	-	-	505	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	544	-	58	422						
Mov Cap-2 Maneuver	-	-	-	-	154	-						
Stage 1	-	-	-	-	211	-						
Stage 2	-	-	-	-	505	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.5	20.5									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	249	-	-	544	-							
HCM Lane V/C Ratio	0.067	-	-	0.086	-							
HCM Control Delay (s)	20.5	-	-	12.2	-							
HCM Lane LOS	C	-	-	B	-							
HCM 95th %ile Q(veh)	0.2	-	-	0.3	-							

Smoke Tree Resort
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6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh		0.1										
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↑↑		↖	↑↑	↗							
Traffic Vol, veh/h	1118	11	6	970	0	9						
Future Vol, veh/h	1118	11	6	970	0	9						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	-	0	0						
Grade, %	0	-	-	-	0	0						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1242	12	7	1078	0	10						
Major/Minor	Major1	Major2		Minor1								
Conflicting Flow All	0	0	1254	0	1801	627						
Stage 1	-	-	-	-	1248	-						
Stage 2	-	-	-	-	553	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	551	-	71	426						
Stage 1	-	-	-	-	234	-						
Stage 2	-	-	-	-	540	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	551	-	70	426						
Mov Cap-2 Maneuver	-	-	-	-	173	-						
Stage 1	-	-	-	-	231	-						
Stage 2	-	-	-	-	540	-						
Approach	EB	WB		NB								
HCM Control Delay, s	0	0.1		13.7								
HCM LOS	B											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	426	-	-	551	-							
HCM Lane V/C Ratio	0.023	-	-	0.012	-							
HCM Control Delay (s)	13.7	-	-	11.6	-							
HCM Lane LOS	B	-	-	B	-							
HCM 95th %tile Q(veh)	0.1	-	-	0	-							

Smoke Tree Resort
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7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection												
Init Delay, s/veh												
16.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol. veh/h	29	1062	38	20	905	11	56	0	33	6	0	14
Future Vol. veh/h	29	1062	38	20	905	11	56	0	33	6	0	14
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mmt Flow	32	1180	42	22	1006	12	62	0	37	7	0	16
Major/Minor	Major1	Major2	Minor1				Minor2					
Conflicting Flow All	1018	0	0	1222	0	0	1812	2327	611	1710	-	509
Stage 1	-	-	-	-	-	-	1265	1265	-	1056	-	-
Stage 2	-	-	-	-	-	-	547	1062	-	654	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	2.22	-	2.22	-	3.52	4.02	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	677	-	-	566	-	-	-	49	37	437	59	0
Stage 1	-	-	-	-	-	-	179	239	-	241	0	-
Stage 2	-	-	-	-	-	-	489	298	-	422	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	677	-	-	566	-	-	-	44	34	437	51	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	44	34	-	51	-
Stage 1	-	-	-	-	-	-	-	171	228	-	230	-
Stage 2	-	-	-	-	-	-	-	456	286	-	368	-
Approach	EB	WB	NB				SB					
HCM Control Delay, s	0.3	0.2	\$ 393.8				34.4					
HCM LOS					F				D			
Minor Lane/Major Mmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	66	677	-	-	566	-	-	-	51	509		
HCM Lane V/C Ratio	1.498	0.048	-	-	0.039	-	-	-	0.131	0.031		
HCM Control Delay (s)	\$ 393.8	10.6	-	-	11.6	-	-	-	85.9	12.3		
HCM Lane LOS	F	B	-	-	B	-	-	-	F	B		
HCM 95th %ile Q(veh)	8.5	0.1	-	-	0.1	-	-	-	0.4	0.1		
Notes												
- Volume exceeds capacity \$ Delay exceeds 300s + Computation Not Defined *: All major volume in platoon												

Smoke Tree Resort
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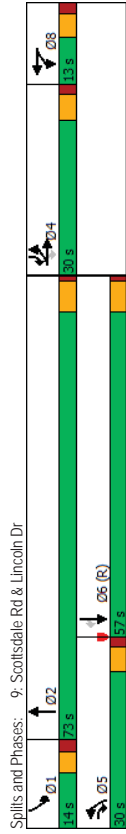
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection																
Init Delay, s/veh																
1.3																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔				
Traffic Vol. veh/h	3	1040	60	48	918	9	7	0	46	5	1	14				
Future Vol. veh/h	3	1040	60	48	918	9	7	0	46	5	1	14				
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0				
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free				
RT Channelized	-	-	None	-	None	-	-	-	None	-	-	None				
Storage Length	25	-	-	25	-	-	-	-	-	-	-	0				
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0				
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0				
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90				
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2				
Mvmt Flow	3	1156	67	53	1020	10	8	0	51	6	1	16				
Major/Minor	Major1	Major2	Minor1				Minor2									
Conflicting Flow All	1030	0	0	1223	0	1813	2332	612	1715	2360	515					
Stage 1	-	-	-	-	-	-	1196	1196	-	1131	1131	-				
Stage 2	-	-	-	-	-	-	617	1136	-	584	1229	-				
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94				
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-				
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-				
Follow-up Hdwy	2.22	-	2.22	-	-	-	3.52	4.02	3.32	3.52	4.02	3.32				
Pot Cap-1 Maneuver	670	-	-	566	-	-	49	36	436	58	35	505				
Stage 1	-	-	-	-	-	-	198	258	-	217	277	-				
Stage 2	-	-	-	-	-	-	444	275	-	465	248	-				
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	670	-	-	566	-	-	43	32	436	47	32	505				
Mov Cap-2 Maneuver	-	-	-	-	-	-	43	32	-	47	32	-				
Stage 1	-	-	-	-	-	-	197	257	-	216	251	-				
Stage 2	-	-	-	-	-	-	388	249	-	409	247	-				
Approach	EB	WB	NB				SB									
HCM Control Delay, s	0	0.6	30.7				33.2									
HCM LOS					D				D							
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2							
Capacity (veh/h)	198	670	-	-	566	-	-	-	47	505						
HCM Lane V/C Ratio	0.297	0.005	-	-	0.094	-	-	-	0.118	0.031						
HCM Control Delay (s)	30.7	10.4	-	-	12	-	-	-	91.6	12.4						
HCM Lane LOS	D	B	-	-	B	-	-	-	F	B						
HCM 95th %ile Q(veh)	1.2	0	-	-	0.3	-	-	-	0.4	0.1						

Smoke Tree Resort
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9: Scottsdale Rd & Lincoln Dr
Timings

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	4	4	4	4	4	4	4	4	4	4	
Traffic Volume (vph)	489	42	499	41	39	319	1429	55	1814	652	
Future Volume (vph)	489	42	499	41	39	319	1429	55	1814	652	
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov	
Protected Phases	4	4	5	8	8	5	2	1	6	4	
Permitted Phases	4	4	4	8	8	5	2	1	6	4	
Detector Phase	4	4	5	8	8	5	2	1	6	4	
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0	
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0	
Minimum Split (s)	30.0	30.0	30.0	13.0	13.0	30.0	73.0	14.0	57.0	30.0	
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%	
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0	
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5	
Lead/Lag	Lead										
Lead-Lag Optimize?	None										
Recall Mode	None										
Act Effct Green (s)	24.3	24.3	44.8	7.2	7.2	20.5	70.7	7.7	55.6	85.6	
Actuated g/C Ratio	0.19	0.19	0.34	0.06	0.06	0.16	0.54	0.06	0.43	0.66	
v/c Ratio	0.94	0.94	0.94	0.47	0.43	0.65	0.59	0.59	0.93	0.66	
Control Delay	88.8	88.7	50.9	75.4	33.9	56.8	21.7	81.5	44.4	13.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	88.8	88.7	50.9	75.4	33.9	56.8	21.7	81.5	44.4	13.7	
LOS	F	F	D	E	C	E	C	F	D	B	
Approach Delay	70.4										
Approach LOS	E										
Intersection Summary											
Cycle Length: 130											
Actuated Cycle Length: 130											
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green											
Natural Cycle: 90											
Control Type: Actuated-Coordinated											
Maximum v/c Ratio: 0.94											
Intersection Signal Delay: 40.7											
Intersection Capacity Utilization 85.8%											
Analysis Period (min) 15											



Smoke Tree Resort
2025 Background AM

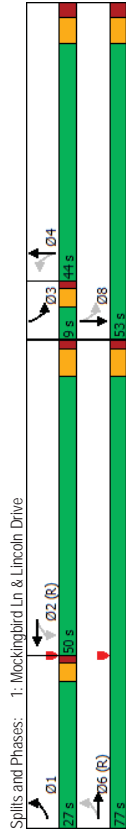
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	4	4	4	4	4	4	4	4	4	4	
Traffic Volume (veh/h)	489	42	499	41	39	319	1429	43	55	1814	
Future Volume (veh/h)	489	42	499	41	39	319	1429	43	55	1814	
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	
Pod-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No										
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	577	0	554	46	43	58	354	1588	48	61	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	
Cap. veh/h	671	0	489	95	95	85	414	2404	73	78	
Arrive On Green	0.06	0.00	0.06	0.05	0.05	0.12	0.47	0.47	0.04	0.39	
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5093	154	1781	
Grp Volume(V), veh/h	577	0	554	46	43	58	354	1061	575	61	
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	
Q Serve(g/s), s	20.9	0.0	24.5	3.3	3.1	4.7	13.1	31.1	4.4	51.3	
Cycle Q Clear(g_c), s	20.9	0.0	24.5	3.3	3.1	4.7	13.1	31.1	4.4	51.3	
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	
Lane Grp Cap(c), veh/h	671	0	489	95	95	85	414	1607	870	78	
V/C Ratio(X)	0.86	0.00	1.13	0.48	0.45	0.68	0.86	0.66	0.66	0.78	
Avail Cap(c_a), veh/h	671	0	489	101	101	90	651	1762	954	119	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	59.3	0.0	50.8	59.8	59.7	60.4	56.1	26.3	26.3	61.5	
Incr Delay (d2), s/veh	10.4	0.0	83.0	1.4	1.2	14.2	3.9	0.6	1.1	7.7	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%) veh/h	11.0	0.0	26.4	1.5	1.4	2.2	5.9	12.6	13.8	2.2	
Unsig. Movement Delay, s/veh											
LnGrp Delay(d) s/veh	69.7	0.0	133.7	61.2	60.9	74.7	60.0	26.9	27.4	69.2	
LnGrp LOS	E	A	F	E	E	E	C	C	E	F	
Approach Vol, veh/h	1131										
Approach Delay, s/veh	101.0										
Approach LOS	F										
Timer - Assigned Phs	1	2		4	5	6					
Phs Duration (G+Y+Rc), s	11.0	67.1		30.0	21.1	57.0					
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7					
Max Green Selling (Gmax), s	* 8.7	67.3		24.5	24.5	51.3					
Max Q Clear Time (g_c+I1), s	6.4	33.1		26.5	15.1	53.3					
Green Ext Time (p_c), s	0.0	2.5		0.0	0.5	0.0					
Intersection Summary											
HCM 6th Ctrl Delay	55.0										
HCM 6th LOS	D										
Notes											
User approved pedestrian interval to be less than phase max green.											
User approved volume balancing among the lanes for turning movement.											
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.											

Smoke Tree Resort
2025 Background PM

1: Mockingbird Ln & Lincoln Drive
Timings

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (vph)	267	945	25	1011	8	68	67	52
Future Volume (vph)	267	945	25	1011	8	68	67	52
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases	1	6	2	2	4	4	3	8
Permitted Phases	6	6	2	2	4	4	3	8
Detector Phase	1	6	2	2	4	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	7.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	33.5	33.5	8.0	33.5
Total Split (s)	27.0	77.0	50.0	50.0	44.0	44.0	9.0	53.0
Total Split (%)	20.8%	59.2%	38.5%	38.5%	33.8%	33.8%	6.9%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	2.5	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	6.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	100.6	98.6	73.6	73.6	11.7	11.7	21.4	18.9
Actuated g/C Ratio	0.77	0.76	0.57	0.57	0.09	0.09	0.16	0.15
v/c Ratio	0.66	0.41	0.10	0.60	0.12	0.57	0.40	0.69
Control Delay	18.8	6.6	12.1	22.4	55.8	62.3	51.7	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	6.6	12.1	22.4	55.8	62.3	51.7	31.4
LOS	B	A	B	C	E	E	D	C
Approach Delay	9.2	22.1	22.1	22.1	61.7	61.7	36.1	36.1
Approach LOS	A	C	C	C	E	E	D	D



Smoke Tree Resort
2025 Background PM

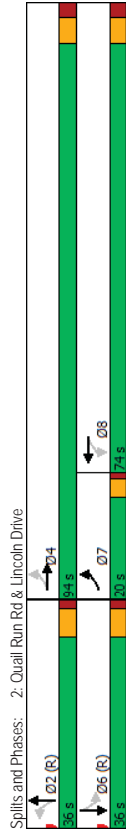
1: Mockingbird Ln & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Traffic Volume (veh/h)	267	945	32	25	1011	68	19	67
Future Volume (veh/h)	267	945	32	25	1011	68	19	67
Initial Q (Qb) veh	0	0	0	0	0	0	0	0
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	297	1050	36	28	1123	76	21	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2
Cap, veh/h	397	2562	88	375	2101	142	87	146
Arrive On Green	0.08	0.73	0.73	0.62	0.62	0.10	0.10	0.04
Sat Flow, veh/h	1781	3505	120	519	3378	228	1134	390
Grp Volume(V), veh/h	297	532	554	28	590	609	9	74
Grp Sat Flow(s), veh/h	1781	1777	1849	519	1777	1829	1134	0
Q Serve(g/s), s	7.4	15.0	15.0	2.8	24.5	24.5	1.0	6.6
Cycle Q Clear(g_c), s	7.4	15.0	15.0	3.7	24.5	24.5	10.9	6.6
Prop In Lane	1.00	0.07	1.00	1.00	0.12	1.00	0.22	1.00
Lane Grp Cap(c), veh/h	397	1299	1351	375	1105	1138	87	187
V/C Ratio	0.75	0.41	0.41	0.07	0.53	0.10	0.52	0.38
Avail Cap(c), veh/h	573	1299	1351	375	1105	1138	296	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter	1.00	1.00	1.00	0.54	0.54	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	6.7	6.7	10.1	13.9	62.0	0.0	55.2
Incr Delay (d2), s/veh	3.2	1.0	0.9	0.2	1.0	0.5	0.0	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	4.0	5.5	5.7	0.3	9.8	10.1	0.3	3.1
Unsig. Movement Delay, s/veh								
LnGrp Delay(d), s/veh	17.0	7.7	7.6	10.4	14.9	62.5	0.0	57.4
LnGrp LOS	B	A	A	B	B	E	A	D
Approach Vol, veh/h	1383			1227		106		320
Approach Delay, s/veh	9.7			14.8		57.8		57.6
Approach LOS	A			B		E		E
Timer - Assigned Phs	1	2	3	4	6	8		
Phs Duration (G+Y+Rc), s	14.1	86.9	9.0	20.0	101.0	29.0		
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	6.5		
Max Green Selling (Gmax), s	23.0	44.0	5.0	37.5	71.0	46.5		
Max Q Clear Time (g_c+H), s	9.4	26.5	6.7	12.9	17.0	20.9		
Green Ext Time (g_e), s	0.7	8.1	0.0	0.5	9.5	1.6		
Intersection Summary								
HCM 6th Ctrl Delay								
HCM 6th LOS								

Smoke Tree Resort
2025 Background PM

2: Quail Run Rd & Lincoln Drive
Timings

	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Configurations	85	963	1008	0	14	0
Traffic Volume (vph)	85	963	1008	0	14	0
Future Volume (vph)	85	963	1008	0	14	0
Turn Type	pm-pl	NA	NA	NA	Perm	NA
Protected Phases	7	4	8	2	6	6
Permitted Phases	4	4	8	2	6	6
Detector Phase	7	4	8	2	6	6
Switch Phase						
Minimum Initial (s)	3.5	15.0	15.0	7.0	7.0	7.0
Minimum Split (s)	8.0	28.0	28.0	33.0	33.0	33.0
Total Split (s)	20.0	94.0	74.0	36.0	36.0	36.0
Total Split (%)	15.4%	72.3%	56.9%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Yes	Yes	Yes
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	71.0	68.5	54.4	49.0	49.0	49.0
Actuated g/C Ratio	0.55	0.53	0.42	0.38	0.38	0.38
v/c Ratio	0.43	0.57	0.78	0.00	0.03	0.14
Control Delay	28.9	34.6	36.1	0.0	30.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	34.6	36.1	0.0	30.9	0.4
LOS	C	C	D	A	C	A
Approach Delay		34.2	36.1			4.5
Approach LOS		C	D			A



Smoke Tree Resort
2025 Background PM

2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	85	963	1	0	1008	25	0	0	2	14	0	93
Traffic Volume (veh/h)	85	963	1	0	1008	25	0	0	2	14	0	93
Future Volume (veh/h)	85	963	1	0	1008	25	0	0	2	14	0	93
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbt)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	1070	1	0	1120	28	0	0	2	16	0	103
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	180	1645	2	55	1326	33	0	0	717	695	0	717
Arrive On Green	0.09	0.90	0.90	0.00	0.37	0.37	0.00	0.00	0.45	0.45	0.00	0.45
Sat Flow, veh/h	1781	3643	3	527	3543	89	0	0	1885	1415	0	1585
Grp Volume(v), veh/h	94	522	549	0	562	586	0	0	2	16	0	103
Grp Sat Flow(s), veh/h	1781	1777	1870	527	1777	1854	0	0	1585	1415	0	1585
Q Serve(g.s), s	4.1	9.0	9.0	0.0	37.6	37.6	0.0	0.0	0.1	0.8	0.0	4.9
Cycle Q Clear(g.c), s	4.1	9.0	9.0	0.0	37.6	37.6	0.0	0.0	0.1	0.9	0.0	4.9
Prop In Lane	1.00	0.00	1.00	0.00	1.00	0.05	0.00	0.00	1.00	1.00	0.00	1.00
Lane Grp Cap(c), veh/h	180	802	844	55	665	694	0	0	717	695	0	717
V/C Ratio(X)	0.52	0.65	0.65	0.00	0.84	0.84	0.00	0.00	0.00	0.02	0.00	0.14
Avail Cap(c.a), veh/h	316	1196	1258	132	923	963	0	0	717	695	0	717
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.92	0.92	0.92	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	3.9	3.9	0.0	37.2	37.2	0.0	0.0	19.5	19.8	0.0	20.8
Incrr Delay (d2), s/veh	2.2	0.8	0.8	0.0	5.3	5.3	0.0	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	1.7	1.8	1.9	0.0	17.2	17.9	0.0	0.0	0.0	0.3	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.0	4.7	4.7	0.0	42.5	42.3	0.0	0.0	19.5	19.8	0.0	21.3
LnGrp LOS	C	A	A	A	D	D	A	A	A	B	A	C
Approach Vol, veh/h	1165			1148			2				119	
Approach Delay, s/veh	6.7			42.4			19.5				21.1	
Approach LOS	A			D			B				C	
Timer - Assigned Phs	2	4	4	6	7	8						
Phs Duration (G+Y+Rc), s	64.8	65.2	64.8	10.0	55.2							
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	4.0	6.5						
Max Green Selling (Gmax), s	30.0	87.5	30.0	16.0	67.5							
Max Q Clear Time (g_c+lt), s	2.1	11.0	6.9	6.1	39.6							
Green Ext Time (g_c), s	0.0	9.4	0.6	0.1	9.0							
Intersection Summary												
HCM 6th Ctrl Delay			24.3									
HCM 6th LOS			C									

Smoke Tree Resort
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3: Smoke Tree West & Lincoln Dr
HCM 6th TWSC

Intersection											
Int Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↕↕		↕	↕↕		↕↕					
Traffic Vol, veh/h	979	1	0	1032	0	0					
Future Vol, veh/h	979	1	0	1032	0	0					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1088	1	0	1147	0	0					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1089	0	1663	545					
Stage 1	-	-	-	-	1089	-					
Stage 2	-	-	-	-	574	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Sig 1	-	-	-	-	5.84	-					
Critical Hdwy Sig 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	636	-	88	482					
Stage 1	-	-	-	-	284	-					
Stage 2	-	-	-	-	527	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	636	-	88	482					
Mov Cap-2 Maneuver	-	-	-	-	204	-					
Stage 1	-	-	-	-	284	-					
Stage 2	-	-	-	-	527	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0	0								
HCM LOS	A										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	-	-	-	636	-						
HCM Lane V/C Ratio	-	-	-	-	-						
HCM Control Delay (s)	0	-	-	0	-						
HCM Lane LOS	A	-	-	A	-						
HCM 95th %ile Q(veh)	-	-	-	0	-						

Smoke Tree Resort
2025 Background PM

4: Smoke Tree East & Lincoln Dr
HCM 6th TWSC

Intersection											
Int Delay, s/veh											
0											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↕↕		↕	↕↕		↕↕					
Traffic Vol, veh/h	978	1	2	1032	2	2					
Future Vol, veh/h	978	1	2	1032	2	2					
Conflicting Peds. #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1087	1	2	1147	2	2					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1088	0	1666	544					
Stage 1	-	-	-	-	1088	-					
Stage 2	-	-	-	-	578	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	637	-	87	483					
Stage 1	-	-	-	-	284	-					
Stage 2	-	-	-	-	524	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	637	-	87	483					
Mov Cap-2 Maneuver	-	-	-	-	203	-					
Stage 1	-	-	-	-	283	-					
Stage 2	-	-	-	-	524	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0	17.8								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	286	-	-	637	-						
HCM Lane V/C Ratio	0.016	-	-	0.003	-						
HCM Control Delay (s)	17.8	-	-	10.7	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %tile Q(veh)	0	-	-	0	-						

Smoke Tree Resort
2025 Background PM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.7											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4A	4A	W						
Traffic Vol. veh/h	973	7	21	1004	30	26						
Future Vol. veh/h	973	7	21	1004	30	26						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1081	8	23	1116	33	29						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1089	0	1689	545						
Stage 1	-	-	-	-	1085	-						
Stage 2	-	-	-	-	604	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	636	-	84	482						
Stage 1	-	-	-	-	285	-						
Stage 2	-	-	-	-	508	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	636	-	81	482						
Mov Cap-2 Maneuver	-	-	-	-	194	-						
Stage 1	-	-	-	-	275	-						
Stage 2	-	-	-	-	508	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0.2					22.4					
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	268	-	-	-	636	-						
HCM Lane V/C Ratio	0.232	-	-	-	0.037	-						
HCM Control Delay (s)	22.4	-	-	-	10.9	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.9	-	-	-	0.1	-						

Smoke Tree Resort
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6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.2											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4P	4P	5	4A	4A	W						
Traffic Vol. veh/h	995	4	0	1024	2	30						
Future Vol. veh/h	995	4	0	1024	2	30						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1106	4	0	1138	2	33						
Major/Minor	Major1	Major2					Minor1					
Conflicting Flow All	0	0	1110	0	1677	555						
Stage 1	-	-	-	-	1108	-						
Stage 2	-	-	-	-	569	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	625	-	86	475						
Stage 1	-	-	-	-	278	-						
Stage 2	-	-	-	-	530	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	625	-	86	475						
Mov Cap-2 Maneuver	-	-	-	-	201	-						
Stage 1	-	-	-	-	278	-						
Stage 2	-	-	-	-	530	-						
Approach	EB	WB					NB					
HCM Control Delay, s	0	0					13.9					
HCM LOS	B											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBT						
Capacity (veh/h)	438	-	-	-	625	-						
HCM Lane V/C Ratio	0.081	-	-	-	-	-						
HCM Control Delay (s)	13.9	-	-	-	0	-						
HCM Lane LOS	B	-	-	-	A	-						
HCM 95th %ile Q(veh)	0.3	-	-	-	0	-						

Smoke Tree Resort
2025 Background PM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection		24															
Init Delay, s/veh																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗					
Traffic Vol. veh/h	8	958	46	7	920	10	74	3	53	8	0	38					
Future Vol. veh/h	8	958	46	7	920	10	74	3	53	8	0	38					
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free					
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	None					
Storage Length	25	-	-	25	-	-	-	-	-	-	0	-					
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0					
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0					
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2					
Mmt Flow	9	1064	51	8	1022	11	82	3	59	9	0	42					
Major/Minor	Major1	Major2	Minor1				Minor2										
Conflicting Flow All	1033	0	0	1115	0	0	1635	2157	558	1596	-	517					
Stage 1	-	-	-	-	-	-	1108	1108	-	1044	-	-					
Stage 2	-	-	-	-	-	-	527	1049	-	552	-	-					
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94					
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-					
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-					
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32					
Pot Cap-1 Maneuver	668	-	-	622	-	-	-	67	47	473	71	0	503				
Stage 1	-	-	-	-	-	-	224	284	-	245	0	-					
Stage 2	-	-	-	-	-	-	502	303	-	486	0	-					
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-					
Mov Cap-1 Maneuver	668	-	-	622	-	-	-	60	46	473	58	-	503				
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	60	46	-	58	-	-				
Stage 1	-	-	-	-	-	-	221	280	-	242	-	-					
Stage 2	-	-	-	-	-	-	454	299	-	415	-	-					
Approach	EB	WB	NB				SB										
HCM Control Delay, s	0.1	0.1										24.1					
HCM LOS				F								C					
Minor Lane/Major Mmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2								
Capacity (veh/h)	92	668	-	-	622	-	-	58	503								
HCM Lane V/C Ratio	1.57	0.013	-	-	0.013	-	-	0.153	0.084								
HCM Control Delay (s)	\$ 382.4	10.5	-	-	10.9	-	-	78	12.8								
HCM Lane LOS	F	B	-	-	B	-	-	F	B								
HCM 95th %ile Q(veh)	11.3	0	-	-	0	-	-	0.5	0.3								
Notes																	
- Volume exceeds capacity	\$ Delay exceeds 300s																
- Volume exceeds capacity	+ : Computation Not Defined																
- Volume exceeds capacity	*: All major volume in platoon																

Notes
- : Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Smoke Tree Resort
2025 Background PM

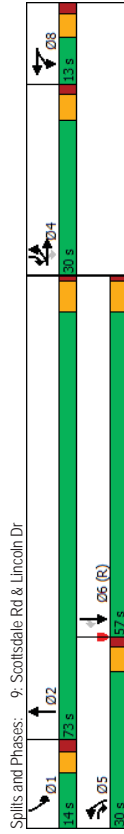
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection																	
3.6																	
Init Delay, s/veh																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗					
Traffic Vol, veh/h	12	951	60	69	918	9	16	1	100	5	0	8					
Future Vol, veh/h	12	951	60	69	918	9	16	1	100	5	0	8					
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free					
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None					
Storage Length	25	-	-	25	-	-	-	-	-	-	0	-					
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-					
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-					
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2					
Mvmt Flow	13	1057	67	77	1020	10	18	1	111	6	0	9					
Major/Minor		Major1				Major2				Minor1				Minor2			
Conflicting Flow All		1030	0	0	1124	0	0	1781	2301	562	1734	-	515				
Stage 1		-	-	-	-	-	-	-	1117	1117	-	1179	-				
Stage 2		-	-	-	-	-	-	-	664	1184	-	555	-				
Critical Hdwy		4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94				
Critical Hdwy Sig 1		-	-	-	-	-	-	6.54	5.54	-	6.54	-	-				
Critical Hdwy Sig 2		-	-	-	-	-	-	6.54	5.54	-	6.54	-	-				
Follow-up Hdwy		2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32				
Pot Cap-1 Maneuver		670	-	-	617	-	-	52	38	470	56	0	505				
Stage 1		-	-	-	-	-	-	221	281	-	202	0	-				
Stage 2		-	-	-	-	-	-	416	261	-	484	0	-				
Platoon blocked, %		-	-	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver		670	-	-	617	-	-	46	33	470	37	-	505				
Mov Cap-2 Maneuver		-	-	-	-	-	-	46	33	-	37	-	-				
Stage 1		-	-	-	-	-	-	217	276	-	198	-	-				
Stage 2		-	-	-	-	-	-	358	228	-	361	-	-				
Approach		EB		WB		NB		SB									
HCM Control Delay, s		0.1		0.8		52.4		53.3									
HCM LOS						F		F									
Minor Lane/Major Mvmt		NBLn1		EBL		EBR		WBL		WBT		WBR		SBLn1 SBLn2			
Capacity (veh/h)		198		670		-		-		617		-		37 505			
HCM Lane V/C Ratio		0.657		0.02		-		-		0.124		-		0.15 0.018			
HCM Control Delay (s)		52.4		10.5		-		-		11.7		-		118.8 12.3			
HCM Lane LOS		F		B		-		B		-		F		B			
HCM 95th %ile Qvch		3.9		0.1		-		-		0.4		-		0.5 0.1			

Smoke Tree Resort
2025 Background PM

9: Scottsdale Rd & Lincoln Dr
Timings

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	552	61	466	61	466	61	466	61	466	61	466
Traffic Volume (vph)	552	61	466	61	466	61	466	61	466	61	466
Future Volume (vph)	552	61	466	61	466	61	466	61	466	61	466
Turn Type	Split	NA	pm-ov	Split	NA	pm-ov	Split	NA	pm-ov	Split	NA
Protected Phases	4	4	5	8	8	5	2	1	6	4	
Permitted Phases	4	4	5	8	8	5	2	1	6	4	
Detector Phase	4	4	5	8	8	5	2	1	6	4	
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0	
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0	
Minimum Split (s)	30.0	30.0	30.0	13.0	13.0	30.0	73.0	14.0	57.0	30.0	
Total Split (%)	23.1%	23.1%	23.1%	10.0%	10.0%	23.1%	56.2%	10.8%	43.8%	23.1%	
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0	
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5	
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag	
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	C-Max	None	
Recall Mode	24.5	24.5	46.7	7.3	7.3	22.2	70.3	8.0	53.7	83.9	
Act Effct Green (s)	0.19	0.19	0.36	0.06	0.06	0.17	0.54	0.06	0.41	0.65	
Actuated g/C Ratio	1.07	1.07	0.85	0.69	0.62	0.84	0.74	0.67	0.90	0.55	
v/c Ratio	119.1	121.1	37.3	92.9	39.0	66.0	25.4	88.3	43.0	12.6	
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Queue Delay	119.1	121.1	37.3	92.9	39.0	66.0	25.4	88.3	43.0	12.6	
Total Delay	F	F	D	F	D	E	C	F	D	B	
Approach Delay	84.3	F	F	54.9	D	D	C	C	D	D	
Approach LOS	F	F	F	D	D	D	C	C	D	D	



Smoke Tree Resort
2025 Background PM

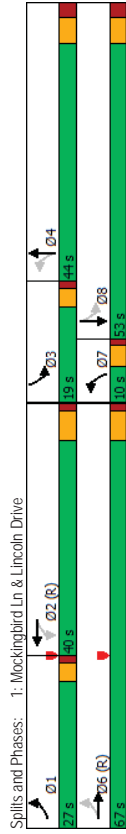
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	552	61	466	61	466	61	466	61	466	61	466
Traffic Volume (veh/h)	552	61	466	61	466	61	466	61	466	61	466
Future Volume (veh/h)	552	61	466	61	466	61	466	61	466	61	466
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	662	0	518	68	76	87	494	1958	56	73	1891
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	671	0	551	101	101	90	551	2569	73	93	2015
Arrive On Green	0.06	0.00	0.06	0.06	0.06	0.06	0.16	0.50	0.05	0.39	0.39
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5102	146	1781	5106
Grp Volume(V), veh/h	662	0	518	68	76	87	494	1305	709	73	1891
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1844	1781	1702
Q Serve(g, s)	24.1	0.0	24.5	4.9	5.5	7.1	18.2	40.1	40.3	5.3	46.3
Cycle Q Clear(g, s)	24.1	0.0	24.5	4.9	5.5	7.1	18.2	40.1	40.3	5.3	46.3
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	671	0	551	101	101	90	551	1714	929	93	2015
V/C Ratio(X)	0.99	0.00	0.94	0.67	0.75	0.96	0.90	0.76	0.76	0.79	0.94
Avail Cap(c, a), veh/h	671	0	551	101	101	90	551	1762	955	119	2015
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.8	0.0	46.1	60.1	60.4	61.2	53.6	26.0	26.0	60.9	37.8
Incr Delay (d2), s/veh	31.0	0.0	24.0	13.1	24.0	82.2	12.5	1.7	3.2	17.6	10.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	14.5	0.0	18.9	2.6	3.1	4.9	8.9	16.3	18.1	2.8	20.8
Unsig. Movement Delay, s/veh	91.8	0.0	70.0	73.2	84.4	143.4	66.1	27.7	29.2	78.5	47.8
LnGrp Delay(d), s/veh	F	A	E	E	F	F	E	C	E	D	C
LnGrp LOS	F	A	E	E	F	F	E	C	E	D	C
Approach Vol, veh/h	1180	231	103.3	103.3	103.3	103.3	35.7	42.6	25.0	42.6	25.0
Approach Delay, s/veh	82.3	F	F	F	F	F	D	D	D	D	D
Approach LOS	F	F	F	F	F	F	D	D	D	D	D
Timer - Assigned Phs	1	2	2	4	5	6	8				
Phs Duration (G+Y+Rc), s	12.1	71.2	30.0	26.2	57.0	13.0					
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6					
Max Green Selling (Gmax), s	* 8.7	67.3	24.5	24.5	51.3	7.4					
Max Q Clear Time (g_c+I1), s	7.3	42.3	26.5	20.2	48.3	9.1					
Green Ext Time (p_c), s	0.0	3.3	0.0	0.5	1.5	0.0					
Intersection Summary											
HCM 6th Ctrl Delay	49.3	D									
HCM 6th LOS	D										
Notes											
User approved pedestrian interval to be less than phase max green.											
User approved volume balancing among the lanes for turning movement.											
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.											

Smoke Tree Resort 2025 Total AM

1: Mockingbird Ln & Lincoln Drive Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (vph)	242	1055	25	971	6	37	85	96
Future Volume (vph)	242	1055	25	971	6	37	85	96
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	2	2	7	4	3	8
Permitted Phases	6	6	2	2	4	8	8	8
Detector Phase	1	6	2	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	5.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	9.5	33.5	8.0	33.5
Total Split (s)	27.0	67.0	40.0	40.0	10.0	44.0	19.0	53.0
Total Split (%)	20.8%	51.5%	30.8%	30.8%	7.7%	33.8%	14.6%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	3.5	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	1.0	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	88.6	86.6	64.1	64.1	21.9	16.2	33.4	28.9
Actuated g/C Ratio	0.68	0.67	0.49	0.49	0.17	0.12	0.26	0.22
v/c Ratio	0.72	0.52	0.13	0.65	0.05	0.29	0.27	0.85
Control Delay	28.3	13.9	19.5	23.8	30.3	33.0	36.6	50.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	13.9	19.5	23.8	30.3	33.0	36.6	50.6
LOS	C	B	B	C	C	C	D	D
Approach Delay								
Approach LOS	B	C	C	C	C	C	D	D



Smoke Tree Resort 2025 Total AM

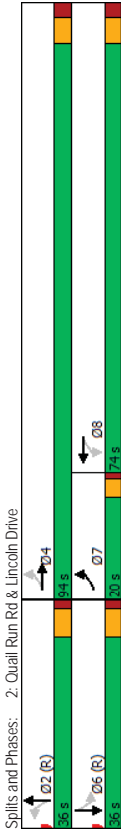
1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (veh/h)	242	1055	33	25	971	48	6	37	25	85	96	253
Future Volume (veh/h)	242	1055	33	25	971	48	6	37	25	85	96	253
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	1172	37	28	1079	53	7	41	28	94	107	281
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	325	2114	67	241	1643	81	103	226	154	399	118	311
Arrive On Green	0.09	0.60	0.60	0.32	0.32	0.32	0.01	0.22	0.22	0.05	0.26	0.26
Sat Flow, veh/h	1781	3516	111	462	3447	169	1781	1036	707	1781	456	1198
Grp Volume(V), veh/h	269	592	617	28	556	576	7	0	69	94	0	388
Grp Sat Flow(s), veh/h	1781	1777	1850	462	1777	1840	1781	0	1743	1781	0	1655
Q Serve(g/s), s	9.6	25.9	25.9	6.0	35.0	35.1	0.4	0.0	4.2	5.2	0.0	29.5
Cycle Q Clear(g_c), s	9.6	25.9	25.9	15.8	35.0	35.1	0.4	0.0	4.2	5.2	0.0	29.5
Prop In Lane	1.00	0.06	1.00	0.06	1.00	0.09	1.00	0.41	1.00	0.72	0.00	0.72
Lane Grp Cap(c), veh/h	325	1068	1112	241	847	877	103	0	380	399	0	429
V/C Ratio(X)	0.83	0.55	0.55	0.12	0.66	0.66	0.07	0.00	0.18	0.24	0.00	0.90
Avail Cap(c_a), veh/h	474	1068	1112	241	847	877	163	0	503	508	0	592
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.55	0.55	0.55	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	15.5	15.5	32.2	35.1	35.1	41.3	0.0	41.4	35.0	0.0	46.6
Incr Delay (d2), s/veh	7.8	2.1	2.0	0.5	2.2	2.1	0.3	0.0	0.2	0.3	0.0	13.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	4.7	10.8	11.3	0.8	16.5	17.0	0.2	0.0	1.8	2.3	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.5	17.6	17.5	32.8	37.3	37.2	41.6	0.0	41.6	35.3	0.0	60.3
LnGrp LOS	C	B	B	C	D	D	D	A	D	D	A	E
Approach Vol, veh/h	1478			1160			76			482		
Approach Delay, s/veh	20.1			37.1			41.6			55.4		
Approach LOS	C			D			D			E		
Timer - Assigned Phs	1	2	3	4	6	7	8					
Phs Duration (G+Y+Rc), s	16.2	68.0	11.0	34.8	84.2	5.6	40.2					
Change Period (Y+Rc), s	4.0	6.0	4.0	6.5	6.0	4.5	6.5					
Max Green Selling (Gmax), s	23.0	34.0	15.0	37.5	61.0	5.5	46.5					
Max Q Clear Time (g_c+H), s	11.6	37.1	7.2	6.2	27.9	2.4	31.5					
Green Ext Time (g_e), s	0.6	0.0	0.1	0.3	10.3	0.0	2.2					
Intersection Summary												
HCM 6th Ctrl Delay				32.1								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

Smoke Tree Resort
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2: Quail Run Rd & Lincoln Drive
Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	115	1117	2	937	1	0	26	0
Traffic Volume (vph)	115	1117	2	937	1	0	26	0
Future Volume (vph)	pm+pl	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	7	4	8	8	2	2	6	6
Protected Phases	4	8	8	8	2	2	6	6
Permitted Phases	4	8	8	8	2	2	6	6
Declar Phase	7	4	8	8	2	2	6	6
Switch Phase	3.5	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Initial (s)	8.0	28.0	28.0	28.0	33.0	33.0	33.0	33.0
Minimum Split (s)	20.0	94.0	74.0	74.0	36.0	36.0	36.0	36.0
Total Split (s)	15.4%	72.3%	56.9%	56.9%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	2.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Fict Green (s)	67.7	65.2	50.4	50.4	52.3	52.3	52.3	52.3
Actuated g/C Ratio	0.52	0.50	0.39	0.39	0.40	0.40	0.40	0.40
v/c Ratio	0.55	0.70	0.02	0.77	0.01	0.05	0.09	0.09
Control Delay	33.2	42.4	29.0	44.3	0.0	28.4	0.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	42.4	29.0	44.3	0.0	28.4	0.2	0.2
LOS	C	D	C	D	A	A	C	A
Approach Delay	41.6	44.2	44.2	44.2	8.2	8.2	8.2	8.2
Approach LOS	D	D	D	D	A	A	A	A



Smoke Tree Resort
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2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	115	1117	4	2	937	12	1	0	8	26	0	66
Traffic Volume (veh/h)	115	1117	4	2	937	12	1	0	8	26	0	66
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb) veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Peak-Bike Adj(A, pbT)	No	No	No	No	No	No	No	No	No	No	No	No
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	1241	4	2	1041	13	1	0	9	29	0	73
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	208	1567	5	182	1217	15	83	21	668	721	0	749
Arrive On Green	0.12	0.86	0.86	0.45	0.45	0.45	0.47	0.00	0.47	0.47	0.00	0.47
Sat Flow, veh/h	1781	3633	12	447	3594	45	112	45	1413	1406	0	1585
Grp Volume(V), veh/h	128	607	638	2	515	539	10	0	29	0	73	73
Grp Sat Flow(s), veh/h	1781	1777	1868	447	1777	1862	1570	0	0	1406	0	1585
Q Serve(g.s), s	6.0	19.3	19.3	0.4	33.7	33.7	0.0	0.0	0.0	0.9	0.0	3.3
Cycle Q Clear(g.c), s	6.0	19.3	19.3	7.6	33.7	33.7	0.4	0.0	0.0	1.3	0.0	3.3
Prop In Lane	1.00	0.01	1.00	0.02	0.10	0.02	0.10	0.00	0.90	1.00	0.00	1.00
Lane Grp Cap(c), veh/h	208	766	806	182	602	631	773	0	0	721	0	749
V/C Ratio(X)	0.61	0.79	0.79	0.01	0.86	0.86	0.01	0.00	0.00	0.04	0.00	0.10
Avail Cap(c.a), veh/h	317	1196	1257	262	923	967	773	0	0	721	0	749
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	6.4	6.4	28.0	32.9	32.9	18.2	0.0	0.0	18.4	0.0	19.0
Incr Delay (d2), s/veh	2.5	1.7	1.6	0.0	5.0	4.8	0.0	0.0	0.0	0.1	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	2.5	3.2	3.3	0.0	14.2	14.9	0.2	0.0	0.0	0.5	0.0	1.3
Unsig. Movement Delay, s/veh	30.7	8.1	8.0	28.0	37.9	37.7	18.2	0.0	0.0	18.5	0.0	19.2
LnGrp Delay(d), s/veh	C	A	A	C	D	D	B	A	A	B	A	B
LnGrp LOS	C	A	A	C	D	D	B	A	A	B	A	B
Approach Vol, veh/h	1373	1056	1056	1056	1056	1056	10	10	102	190	102	190
Approach Delay, s/veh	10.2	37.8	37.8	37.8	37.8	37.8	18.2	18.2	18.2	19.0	19.0	19.0
Approach LOS	B	B	B	B	B	B	B	B	B	B	B	B
Timer - Assigned Phs	2	4	4	4	6	6	7	8	8	8	8	8
Phs Duration (G+Y+Rc), s	67.4	62.6	62.6	67.4	120	120	50.5	50.5	50.5	50.5	50.5	50.5
Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	16.0	16.0	67.5	67.5	67.5	67.5	67.5	67.5
Max Q Clear Time (g_c+lt), s	2.4	21.3	21.3	2.4	5.3	5.3	8.0	8.0	8.0	8.0	8.0	8.0
Green Ext Time (g_e), s	0.0	12.1	12.1	0.0	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2
Intersection Summary	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
HCM 6th Ctrl Delay	C	C	C	C	C	C	C	C	C	C	C	C
HCM 6th LOS	C	C	C	C	C	C	C	C	C	C	C	C

Smoke Tree Resort
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4: Smoke Tree Access B & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.5											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4B		1	4A		W						
Traffic Vol. veh/h	1137	17	26	934	16	22						
Future Vol. veh/h	1137	17	26	934	16	22						
Conflicting Peds. #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1263	19	29	1038	18	24						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1282	0	1850	641						
Stage 1	-	-	-	-	1273	-						
Stage 2	-	-	-	-	577	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	537	-	66	417						
Stage 1	-	-	-	-	227	-						
Stage 2	-	-	-	-	525	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	537	-	62	417						
Mov Cap-2 Maneuver	-	-	-	-	160	-						
Stage 1	-	-	-	-	215	-						
Stage 2	-	-	-	-	525	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.3	22.4									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	249	-	-	-	537	-						
HCM Lane V/C Ratio	0.17	-	-	-	0.054	-						
HCM Control Delay (s)	22.4	-	-	-	12.1	-						
HCM Lane LOS	C	-	-	-	B	-						
HCM 95th %ile Q(veh)	0.6	-	-	-	0.2	-						

Smoke Tree Resort
2025 Total AM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.4											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	4B	5	4A	4A	W	W						
Traffic Vol, veh/h	1142	18	42	953	6	9						
Future Vol, veh/h	1142	18	42	953	6	9						
Conflicting Peds, #/hr	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	25	-	0	-						
Veh in Median Storage, #	0	-	-	0	0	-						
Grade, %	0	-	-	0	0	-						
Peak Hour Factor	90	90	90	90	90	90						
Heavy Vehicles, %	2	2	2	2	2	2						
Mvmt Flow	1269	20	47	1059	7	10						
Major/Minor	Major1	Major2	Minor1									
Conflicting Flow All	0	0	1289	0	1903	645						
Stage 1	-	-	-	-	1279	-						
Stage 2	-	-	-	-	624	-						
Critical Hdwy	-	-	4.14	-	6.84	6.94						
Critical Hdwy Slg 1	-	-	-	-	5.84	-						
Critical Hdwy Slg 2	-	-	-	-	5.84	-						
Follow-up Hdwy	-	-	2.22	-	3.52	3.32						
Pot Cap-1 Maneuver	-	-	534	-	61	415						
Stage 1	-	-	-	-	225	-						
Stage 2	-	-	-	-	496	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	534	-	56	415						
Mov Cap-2 Maneuver	-	-	-	-	150	-						
Stage 1	-	-	-	-	205	-						
Stage 2	-	-	-	-	496	-						
Approach	EB	WB	NB									
HCM Control Delay, s	0	0.5	20.9									
HCM LOS	C											
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	243	-	-	534	-							
HCM Lane V/C Ratio	0.069	-	-	0.087	-							
HCM Control Delay (s)	20.9	-	-	12.4	-							
HCM Lane LOS	C	-	-	B	-							
HCM 95th %ile Q(veh)	0.2	-	-	0.3	-							

Smoke Tree Resort
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6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh 0.1													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	↔↔			↔↔		↔							
Traffic Vol. veh/h	1138	11	6	995	0	9							
Future Vol. veh/h	1138	11	6	995	0	9							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	-	-	-	0							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1264	12	7	1106	0	10							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	1276	0	-	638							
Stage 1	-	-	-	-	-	-							
Stage 2	-	-	-	-	-	-							
Critical Hdwy	-	-	4.14	-	-	6.94							
Critical Hdwy Stg 1	-	-	-	-	-	-							
Critical Hdwy Stg 2	-	-	-	-	-	-							
Follow-up Hdwy	-	-	2.22	-	-	3.32							
Pot Cap-1 Maneuver	-	-	540	-	0	419							
Stage 1	-	-	-	-	0	-							
Stage 2	-	-	-	-	0	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	540	-	-	419							
Mov Cap-2 Maneuver	-	-	-	-	-	-							
Stage 1	-	-	-	-	-	-							
Stage 2	-	-	-	-	-	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0.1	13.8										
HCM LOS	B												
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	419	-	-	540	-								
HCM Lane V/C Ratio	0.024	-	-	0.012	-								
HCM Control Delay (s)	13.8	-	-	11.8	-								
HCM Lane LOS	B	-	-	B	-								
HCM 95th %ile Q(veh)	0.1	-	-	0	-								

Smoke Tree Resort
2025 Total AM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh												17.8	
Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	29	4	4	29	4	4	4	4	29	4	4		
Traffic Vol. veh/h	29	1082	38	20	930	11	56	0	33	6	0	14	
Future Vol. veh/h	29	1082	38	20	930	11	56	0	33	6	0	14	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	-	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	1202	42	22	1033	12	62	0	37	7	0	16	
Major/Minor	Major1	Major2	Minor1				Minor2						
Conflicting Flow All	1045	0	0	1244	0	0	1848	2376	622	1748	-	523	
Stage 1	-	-	-	-	-	-	-	1287	1287	-	1083	-	-
Stage 2	-	-	-	-	-	-	-	561	1089	-	665	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94	
Critical Hdwy Sig 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Critical Hdwy Sig 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-	
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32	
Pot Cap-1 Maneuver	661	-	-	555	-	-	46	34	430	55	0	499	
Stage 1	-	-	-	-	-	-	174	233	-	232	0	-	
Stage 2	-	-	-	-	-	-	480	290	-	416	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	661	-	-	555	-	-	42	31	430	47	-	499	
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	31	-	47	-	-	
Stage 1	-	-	-	-	-	-	166	222	-	221	-	-	
Stage 2	-	-	-	-	-	-	447	278	-	362	-	-	
Approach	EB	WB	NB				SB						
HCM Control Delay, s	0.3	0.2	\$ 428.6				36.9				E		
HCM LOS	F												
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	63	661	-	-	555	-	-	-	47	499			
HCM Lane V/C Ratio	1.57	0.049	-	-	0.04	-	-	-	0.142	0.031			
HCM Control Delay (s)	\$ 428.6	10.7	-	-	11.8	-	-	-	93.9	12.4			
HCM Lane LOS	F	B	-	-	B	-	-	-	F	B			
HCM 95th %ile Q(veh)	8.7	0.2	-	-	0.1	-	-	-	0.5	0.1			
Notes													
- Volume exceeds capacity \$ Delay exceeds 300s +/- Computation Not Defined *: All major volume in platoon													

Smoke Tree Resort
2025 Total AM

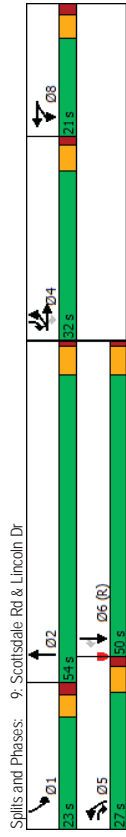
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Init Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	3	1060	60	48	943	9	7	0	46	5	1	14
Traffic Vol. veh/h	3	1060	60	48	943	9	7	0	46	5	1	14
Future Vol. veh/h	3	1060	60	48	943	9	7	0	46	5	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mmt Flow	3	1178	67	53	1048	10	8	0	51	6	1	16
Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	1058	0	0	1245	0	0	1849	2382	623	1754	2410	529
Stage 1	-	-	-	-	-	-	-	1218	1218	-	1159	1159
Stage 2	-	-	-	-	-	-	-	631	1164	-	595	1251
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pl Cap-1 Maneuver	654	-	-	555	-	-	46	34	429	54	32	494
Stage 1	-	-	-	-	-	-	191	251	-	208	268	-
Stage 2	-	-	-	-	-	-	436	267	-	458	242	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	654	-	-	555	-	-	40	31	429	44	29	494
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	31	-	44	29	-
Stage 1	-	-	-	-	-	-	190	250	-	207	243	-
Stage 2	-	-	-	-	-	-	380	242	-	402	241	-
Approach	EB	WB	NB	SB								
HCM Control Delay, s	0	0.6	32.6	35.1								
HCM LOS	D	D	D	E								
Minor Lane/Major Mmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	188	654	-	-	555	-	-	44	494			
HCM Lane V/C Ratio	0.313	0.005	-	-	0.096	-	-	0.126	0.031			
HCM Control Delay (s)	32.6	10.5	-	-	12.2	-	-	98.3	12.5			
HCM Lane LOS	D	B	-	-	B	-	-	F	B			
HCM 95th %ile Q(veh)	1.3	0	-	-	0.3	-	-	0.4	0.1			

Smoke Tree Resort
2025 Total AM

9: Scottsdale Rd & Lincoln Dr
Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Traffic Volume (vph)	500	42	508	41	39	331	1429	55	1814	666
Future Volume (vph)	500	42	508	41	39	331	1429	55	1814	666
Turn Type	Split	NA	pm+ov	Split	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	32.0	32.0	27.0	21.0	21.0	27.0	54.0	23.0	50.0	32.0
Total Split (%)	24.6%	24.6%	20.8%	16.2%	16.2%	20.8%	41.5%	17.7%	38.5%	24.6%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	C-Max	None
Recall Mode	25.7	25.7	44.6	8.4	8.4	18.9	67.0	8.9	54.7	86.1
Act Elct Green (s)	0.20	0.20	0.34	0.06	0.06	0.15	0.52	0.07	0.42	0.66
Actuated g/C Ratio	0.91	0.91	0.86	0.40	0.38	0.74	0.63	0.51	0.94	0.64
v/c Ratio	99.8	99.8	38.6	68.3	31.3	61.9	25.2	72.1	46.8	9.7
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	99.8	99.8	38.6	68.3	31.3	61.9	25.2	72.1	46.8	9.7
Total Delay	F	F	D	E	C	E	C	E	D	A
LOS	F	F	D	E	C	E	C	E	D	A
Approach Delay	70.2	E	42.9	D	D	C	C	D	D	D
Approach LOS	E	E	D	D	D	C	C	D	D	D
Intersection Summary										
Cycle Length: 130										
Actuated Cycle Length: 130										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 90										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 0.94										
Intersection Signal Delay: 42.1										
Intersection Capacity Utilization 86.3%										
ICU Level of Service E										
Analysis Period (min) 15										



Smoke Tree Resort
2025 Total AM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	4	4	4	4	4	4	4	4	4	4	4
Traffic Volume (veh/h)	500	42	508	41	39	52	331	1429	43	55	1814	666
Future Volume (veh/h)	500	42	508	41	39	52	331	1429	43	55	1814	666
Initial Q (Q _{bb}) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbi})	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	590	0	564	46	43	58	368	1388	48	61	2016	740
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	726	0	518	95	95	85	425	2145	65	79	1740	863
Arrive On Green	0.07	0.00	0.07	0.05	0.05	0.05	0.12	0.42	0.42	0.04	0.34	0.34
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5093	154	1781	5106	1585
Grp Volume(v), veh/h	590	0	564	46	43	58	368	1061	575	61	2016	740
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702	1585
Q Serve(g, s), s	21.2	0.0	26.5	3.3	3.1	4.7	13.6	34.1	34.1	4.4	44.3	44.3
Cycle Q Clear(g, c), s	21.2	0.0	26.5	3.3	3.1	4.7	13.6	34.1	34.1	4.4	44.3	44.3
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	726	0	518	95	95	85	425	1434	776	79	1740	863
V/C Ratio(X)	0.81	0.00	1.09	0.48	0.45	0.68	0.87	0.74	0.74	0.78	1.16	0.86
Avail Cap(c, a), veh/h	726	0	518	211	210	188	572	1434	776	243	1740	863
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Fill(r)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	0.0	49.9	59.8	59.7	60.4	55.9	31.6	31.6	61.5	42.9	23.6
Incr Delay (d2), s/veh	6.5	0.0	65.7	1.4	1.2	3.6	8.3	1.8	3.4	6.0	78.3	10.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/h	10.9	0.0	25.4	1.5	1.4	2.0	6.4	14.3	15.8	2.1	31.0	27.2
Unsig. Movement Delay, s/veh	64.7	0.0	115.6	61.2	60.9	64.0	64.2	33.5	35.0	67.5	121.1	34.3
LnGrp Delay(d), s/veh	E	A	F	E	E	E	E	C	C	E	F	C
LnGrp LOS	E	A	F	E	E	E	E	C	C	E	F	C
Approach Vol, veh/h	1154			147				2004			2817	
Approach Delay, s/veh	89.6			62.2				39.5			97.2	
Approach LOS	F			E				D			F	
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	11.0	60.5	32.0	21.5	50.0	12.6						
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Sailing (Gmax), s	* 18	48.3	26.5	21.5	44.3	15.4						
Max Q Clear Time (g, c+1), s	6.4	36.1	28.5	15.6	46.3	6.7						
Green Ext Time (p, c), s	0.0	2.3	0.0	0.4	0.0	0.2						
Intersection Summary												
HCM 6th Ctrl Delay			76.0									
HCM 6th LOS			E									

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Smoke Tree Resort
2025 Total AM

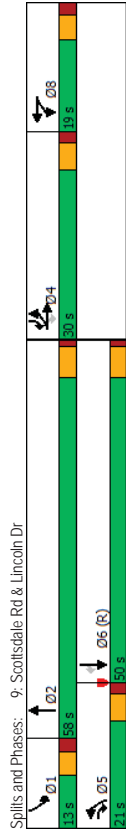
10: Quail Run Rd & Access A
HCM 6th TWSC

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Ini Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Vol, veh/h	0	1	0	0	1	0
Future Vol, veh/h	0	1	0	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	0	1	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hwy	6.42	6.22	-	-	4.12	-
Critical Hwy Stg 1	5.42	-	-	-	-	-
Critical Hwy Stg 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	-	-	2.218	-
Pd Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	-	0				
HCM LOS						
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-
HCM 95th %ile Q(veh)	-	-	-	-	-	-

Smoke Tree Resort
2025 Total AM Mitigated

9: Scottsdale Rd & Lincoln Dr
Timings

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	500	42	508	41	39	331	1429	43	55	1814
Traffic Volume (vph)	500	42	508	41	39	331	1429	43	55	1814
Future Volume (vph)	500	42	508	41	39	331	1429	43	55	1814
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	30.0	30.0	21.0	19.0	19.0	21.0	58.0	13.0	50.0	30.0
Total Split (%)	25.0%	25.0%	17.5%	15.8%	15.8%	17.5%	48.3%	10.8%	41.7%	25.0%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead									
Lead-Lag Optimize?	None									
Recall Mode	None									
Act Effct Green (s)	23.8	23.8	40.7	8.2	8.2	16.9	59.7	8.2	48.8	78.3
Actuated g/C Ratio	0.20	0.20	0.34	0.07	0.07	0.14	0.50	0.07	0.41	0.65
v/c Ratio	0.90	0.90	0.89	0.38	0.37	0.76	0.65	0.50	0.98	0.63
Control Delay	77.0	77.0	35.4	62.1	28.9	60.3	25.1	67.8	50.5	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	77.0	35.4	62.1	28.9	60.3	25.1	67.8	50.5	8.4
LOS	E	E	D	E	C	E	C	E	D	A
Approach Delay	56.9									
Approach LOS	E									
Intersection Summary	Intersection Length: 120									
Cycle Length: 120	Actuated Cycle Length: 120									
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green	Natural Cycle: 90									
Control Type: Actuated-Coordinated	Maximum v/c Ratio: 0.98									
Intersection Signal Delay: 40.3	Intersection LOS: D									
Intersection Capacity Utilization 86.3%	ICU Level of Service E									
Analysis Period (min) 15										



Smoke Tree Resort
2025 Total AM Mitigated

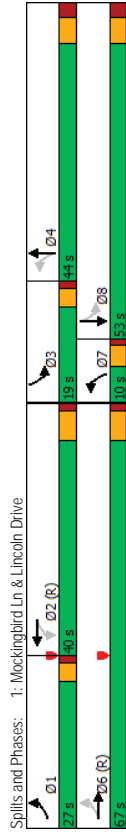
9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	500	42	508	41	39	52	331	1429	43	55	1814	666
Traffic Volume (veh/h)	500	42	508	41	39	52	331	1429	43	55	1814	666
Future Volume (veh/h)	500	42	508	41	39	52	331	1429	43	55	1814	666
Initial Q (Ob), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No											
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	590	0	564	46	43	58	368	1588	48	61	2016	740
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	727	0	517	103	103	92	422	2286	69	78	1885	909
Arrive On Green	0.20	0.00	0.20	0.06	0.06	0.06	0.12	0.45	0.45	0.04	0.37	0.37
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5093	154	1781	5106	1585
Grp Volume(v), veh/h	590	0	564	46	43	58	368	1061	575	61	2016	740
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1843	1781	1702	1585
Q Serve(Q_s), s	19.0	0.0	24.5	3.0	2.8	4.3	12.6	30.0	30.0	4.1	44.3	44.3
Cycle Q Clear(g_c), s	19.0	0.0	24.5	3.0	2.8	4.3	12.6	30.0	30.0	4.1	44.3	44.3
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	727	0	517	103	103	92	422	1528	827	78	1885	909
V/C Ratio(X)	0.81	0.00	1.09	0.45	0.42	0.63	0.87	0.69	0.69	0.78	1.07	0.81
Avail Cap(c_a), veh/h	727	0	517	199	198	177	446	1528	827	114	1885	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	0.0	40.4	54.7	54.6	55.3	51.8	26.5	26.5	56.8	37.8	20.4
Incr Delay (d2), s/veh	6.4	0.0	66.5	1.1	1.0	2.7	15.5	1.2	2.1	10.4	42.2	7.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackQ(50%) veh/h	9.0	0.0	24.6	1.4	1.3	1.8	6.3	12.2	13.4	2.1	25.4	24.5
Unsig. Movement Delay, s/veh	52.0											
LnGrp Delay(d), s/veh	D	A	F	E	E	E	E	C	C	E	F	C
LnGrp LOS	D	A	F	E	E	E	E	C	C	E	F	C
Approach Vol, veh/h	1154											
Approach Delay, s/veh	78.8											
Approach LOS	E											
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	10.6	59.6	30.0	20.1	50.0	12.5						
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Setting (Gmax), s	* 7.7	52.3	24.5	15.5	44.3	13.4						
Max Q Clear Time (g_c+I), s	6.1	32.0	26.5	14.6	46.3	6.3						
Green Ext Time (g_e), s	0.0	2.4	0.0	0.1	0.0	0.2						
Intersection Summary												
HCM 6th Ctrl Delay	58.2											
HCM 6th LOS	E											
Notes												

Smoke Tree Resort 2025 Total PM

1: Mockingbird Ln & Lincoln Drive Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (vph)	267	958	27	1023	8	68	70	52
Future Volume (vph)	267	958	27	1023	8	68	70	52
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	2	2	7	4	3	8
Permitted Phases	6	6	2	2	4	8	8	8
Detector Phase	1	6	2	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	3.5	15.0	15.0	15.0	5.0	7.0	3.5	7.0
Minimum Split (s)	8.0	27.0	27.0	27.0	9.5	33.5	8.0	33.5
Total Split (s)	27.0	67.0	40.0	40.0	10.0	44.0	19.0	53.0
Total Split (%)	20.8%	51.5%	30.8%	30.8%	7.7%	33.8%	14.6%	40.8%
Yellow Time (s)	3.0	4.5	4.5	4.5	3.5	4.0	3.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.5	1.0	2.5	1.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.5	6.5	4.0	6.5
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	95.6	93.6	69.2	69.2	18.2	11.8	26.4	21.9
Actuated g/C Ratio	0.74	0.72	0.53	0.53	0.14	0.09	0.20	0.17
v/c Ratio	0.73	0.43	0.12	0.65	0.06	0.57	0.30	0.63
Control Delay	29.7	9.2	10.7	19.9	37.6	61.9	42.9	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	9.2	10.7	19.9	37.6	61.9	42.9	27.4
LOS	C	A	B	B	D	E	D	C
Approach Delay	13.5		19.6		59.9		31.1	
Approach LOS	B	B	B	B	E	E	C	C



Smoke Tree Resort 2025 Total PM

1: Mockingbird Ln & Lincoln Drive HCM 6th Signalized Intersection Summary

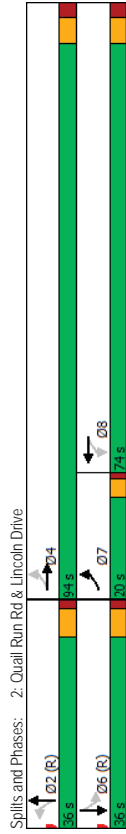
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Traffic Volume (veh/h)	267	958	32	27	1023	71	8	68	21	70	52	169
Future Volume (veh/h)	267	958	32	27	1023	71	8	68	21	70	52	169
Initial Q (Ob) veh	0	0	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	297	1064	36	30	1137	79	9	76	23	78	58	188
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	347	2404	81	337	1914	133	106	190	58	257	67	217
Arrive On Green	0.09	0.69	0.69	0.38	0.38	0.38	0.01	0.14	0.14	0.05	0.17	0.17
Sat Flow, veh/h	1781	3507	119	513	3371	234	1781	1378	417	1781	388	1257
Grp Volume(V), veh/h	297	539	561	30	599	617	9	99	78	0	246	0
Grp Sat Flow(s), veh/h	1781	1777	1849	513	1777	1828	1781	0	1795	1781	0	1644
Q Serve(g, s) s	8.6	17.8	17.8	5.0	35.1	35.1	0.6	0.0	6.5	4.7	0.0	18.9
Cycle Q Clear(g, c), s	8.6	17.8	17.8	7.5	35.1	35.1	0.6	0.0	6.5	4.7	0.0	18.9
Prop In Lane	1.00	0.06	1.00	1.00	0.13	1.00	0.23	1.00	0.76	0.00	0.76	0.00
Lane Grp Cap(c), veh/h	347	1218	1268	337	1009	1038	106	0	248	257	0	284
V/C Ratio(X)	0.86	0.44	0.44	0.09	0.59	0.59	0.09	0.00	0.40	0.30	0.00	0.86
Avail Cap(c, a), veh/h	507	1218	1268	337	1009	1038	162	0	518	375	0	588
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	1.00	1.00	0.53	0.53	0.53	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	9.2	9.2	20.6	28.3	28.3	48.1	0.0	51.1	43.5	0.0	52.3
Incr Delay (d2), s/veh	9.5	1.2	1.1	0.3	1.4	1.3	0.3	0.0	1.0	0.7	0.0	7.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	6.3	6.9	7.2	0.7	16.2	16.7	0.3	0.0	3.0	2.2	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.2	10.4	10.4	20.8	29.6	29.6	48.5	0.0	52.1	44.1	0.0	60.0
LnGrp LOS	C	B	B	C	C	C	D	A	D	D	A	E
Approach Vol, veh/h	1397			1246			108				324	
Approach Delay, s/veh	14.8			29.4			51.8				56.2	
Approach LOS	B	B	B	C			D				E	

User approved pedestrian interval to be less than phase max green.

Smoke Tree Resort
2025 Total PM

2: Quail Run Rd & Lincoln Drive
Timings

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	85	981	1024	1	0	14	0
Traffic Volume (vph)	85	981	1024	1	0	14	0
Future Volume (vph)	85	981	1024	1	0	14	0
Turn Type	pm-pl	NA	NA	Perm	NA	Perm	NA
Protected Phases	7	4	8	2	2	6	6
Permitted Phases	4	4	8	2	2	6	6
Detector Phase	7	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	3.5	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	8.0	28.0	28.0	33.0	33.0	33.0	33.0
Total Split (s)	20.0	94.0	74.0	36.0	36.0	36.0	36.0
Total Split (%)	15.4%	72.3%	56.9%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	3.0	4.0	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.5	2.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	71.6	69.1	55.1	48.4	48.4	48.4	48.4
Actuated g/C Ratio	0.55	0.53	0.42	0.37	0.37	0.37	0.37
v/c Ratio	0.43	0.58	0.78	0.00	0.03	0.14	0.14
Control Delay	29.8	34.5	44.3	0.0	31.2	0.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	34.5	44.3	0.0	31.2	0.4	0.4
LOS	C	C	D	A	C	A	A
Approach Delay							
Approach LOS							
Intersection Summary							
Cycle Length: 130							
Actuated Cycle Length: 130							
Offset: 0 (0%), Referenced to phase 2:NBL and 6:SBTL, Start of Green							
Natural Cycle: 70							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 0.78							
Intersection Signal Delay: 37.5							
Intersection Capacity Utilization 61.3%							
Analysis Period (min) 15							



Smoke Tree Resort
2025 Total PM

2: Quail Run Rd & Lincoln Drive
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	85	981	2	0	1024	25	1	0	2	14	0	93
Traffic Volume (veh/h)	85	981	2	0	1024	25	1	0	2	14	0	93
Future Volume (veh/h)	85	981	2	0	1024	25	1	0	2	14	0	93
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	1090	2	0	1138	28	1	0	2	16	0	103
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	183	1569	3	55	1251	31	251	17	462	727	0	749
Arrive On Green	0.09	0.86	0.86	0.00	0.71	0.71	0.47	0.00	0.47	0.47	0.00	0.47
Sat Flow, veh/h	1781	3639	7	516	3544	87	453	36	979	1415	0	1585
Grp Volume(v), veh/h	94	532	560	0	570	596	3	0	0	16	0	103
Grp Sat Flow(s), veh/h	1781	1777	1869	516	1777	1855	1468	0	0	1415	0	1585
Q Serve(g.s), s	4.3	13.4	13.4	0.0	34.3	34.3	0.0	0.0	0.0	0.0	0.0	4.8
Cycle Q Clear(g_c), s	4.3	13.4	13.4	0.0	34.3	34.3	4.8	0.0	0.0	0.7	0.0	4.8
Prop In Lane	1.00	0.00	1.00	0.00	0.05	0.33	0.07	0.00	0.67	1.00	0.00	1.00
Lane Grp Cap(c), veh/h	183	766	806	55	627	655	731	0	0	727	0	749
V/C Ratio(X)	0.51	0.69	0.69	0.00	0.91	0.91	0.00	0.00	0.00	0.02	0.00	0.14
Avail Cap(c_a), veh/h	318	1196	1258	141	923	963	731	0	0	727	0	749
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	0.91	0.91	0.91	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	6.0	6.0	0.0	17.4	17.4	18.1	0.0	0.0	18.3	0.0	19.3
Incr Delay (d2), s/veh	2.0	1.0	1.0	0.0	9.4	9.1	0.0	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	1.8	2.7	2.8	0.0	9.3	9.7	0.1	0.0	0.0	0.3	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d) s/veh	30.2	7.0	7.0	0.0	26.8	26.5	18.1	0.0	0.0	18.3	0.0	19.7
LnGrp LOS	C	A	A	A	C	C	B	A	A	B	A	B
Approach Vol, veh/h	1186			1166			3			119		
Approach Delay, s/veh	8.9			26.7			18.1			19.5		
Approach LOS	A			C			B			B		
Timer - Assigned Phs	2	4	4	6	7	8						
Phs Duration (G+Y+Rc), s	67.4	62.6	62.6	67.4	10.2	52.4						
Change Period (Y+Rc), s	6.0	6.5	6.5	6.0	4.0	6.5						
Max Green Selling (Gmax), s	30.0	87.5	87.5	30.0	16.0	67.5						
Max Q Clear Time (g_c+lt), s	6.8	15.4	15.4	6.8	6.3	36.3						
Green Ext Time (g_e), s	0.0	9.7	9.7	0.6	0.1	9.6						
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

Smoke Tree Resort
2025 Total PM

4: Smoke Tree Access B & Lincoln Dr
HCM 6th TWSC

Intersection											
Init Delay, s/veh 0.7											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	4B		5	4A	4A	W					
Traffic Vol. veh/h	978	20	36	1032	18	34					
Future Vol. veh/h	978	20	36	1032	18	34					
Conflicting Peds. #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1087	22	40	1147	20	38					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1109	0	1752	555					
Stage 1	-	-	-	-	1098	-					
Stage 2	-	-	-	-	654	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	625	-	77	475					
Stage 1	-	-	-	-	281	-					
Stage 2	-	-	-	-	479	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	625	-	72	475					
Mov Cap-2 Maneuver	-	-	-	-	180	-					
Stage 1	-	-	-	-	263	-					
Stage 2	-	-	-	-	479	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0.4	19.7								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	303	-	-	625	-						
HCM Lane V/C Ratio	0.191	-	-	0.064	-						
HCM Control Delay (s)	19.7	-	-	11.2	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0.7	-	-	0.2	-						

Smoke Tree Resort
2025 Total PM

5: Lincoln Medical West & Lincoln Dr
HCM 6th TWSC

Intersection											
Int Delay, s/veh											
0.7											
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↑↑		↖	↑↑		↗					
Traffic Vol, veh/h	1005	7	21	1038	30	26					
Future Vol, veh/h	1005	7	21	1038	30	26					
Conflicting Peds, #/hr	0	0	0	0	0	0					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	-	25	-	0	-					
Veh in Median Storage, #	0	-	-	0	0	-					
Grade, %	0	-	-	0	0	-					
Peak Hour Factor	90	90	90	90	90	90					
Heavy Vehicles, %	2	2	2	2	2	2					
Mvmt Flow	1117	8	23	1153	33	29					
Major/Minor	Major1	Major2	Minor1								
Conflicting Flow All	0	0	1125	0	1744	563					
Stage 1	-	-	-	-	1121	-					
Stage 2	-	-	-	-	623	-					
Critical Hdwy	-	-	4.14	-	6.84	6.94					
Critical Hdwy Slg 1	-	-	-	-	5.84	-					
Critical Hdwy Slg 2	-	-	-	-	5.84	-					
Follow-up Hdwy	-	-	2.22	-	3.52	3.32					
Pot Cap-1 Maneuver	-	-	617	-	78	470					
Stage 1	-	-	-	-	273	-					
Stage 2	-	-	-	-	497	-					
Platoon blocked, %	-	-	-	-	-	-					
Mov Cap-1 Maneuver	-	-	617	-	75	470					
Mov Cap-2 Maneuver	-	-	-	-	185	-					
Stage 1	-	-	-	-	263	-					
Stage 2	-	-	-	-	497	-					
Approach	EB	WB	NB								
HCM Control Delay, s	0	0.2	23.4								
HCM LOS	C										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	257	-	-	617	-						
HCM Lane V/C Ratio	0.242	-	-	0.038	-						
HCM Control Delay (s)	23.4	-	-	11.1	-						
HCM Lane LOS	C	-	-	B	-						
HCM 95th %ile Q(veh)	0.9	-	-	0.1	-						

Smoke Tree Resort
2025 Total PM

6: Lincoln Medical East & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
0.2													
Movement	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	↔↔			↔↔		↔							
Traffic Vol. veh/h	1027	4	0	1058	2	30							
Future Vol. veh/h	1027	4	0	1058	2	30							
Conflicting Peds. #/hr	0	0	0	0	0	0							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	-	-	-	0							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	90	90	90	90	90	90							
Heavy Vehicles, %	2	2	2	2	2	2							
Mvmt Flow	1141	4	0	1176	2	33							
Major/Minor	Major1	Major2	Minor1										
Conflicting Flow All	0	0	-	-	1731	573							
Stage 1	-	-	-	-	1143	-							
Stage 2	-	-	-	-	588	-							
Critical Hdwy	-	-	-	-	684	6.94							
Critical Hdwy Slg 1	-	-	-	-	5.84	-							
Critical Hdwy Slg 2	-	-	-	-	5.84	-							
Follow-up Hdwy	-	-	-	-	3.52	3.32							
Pot Cap-1 Maneuver	-	0	-	79	463	-							
Stage 1	-	0	-	266	-	-							
Stage 2	-	0	-	518	-	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	-	-	79	463							
Mov Cap-2 Maneuver	-	-	-	-	192	-							
Stage 1	-	-	-	-	266	-							
Stage 2	-	-	-	-	518	-							
Approach	EB	WB	NB										
HCM Control Delay, s	0	0	13.4										
HCM LOS			B										
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT									
Capacity (veh/h)	463	-	-	-									
HCM Lane V/C Ratio	0.072	-	-	-									
HCM Control Delay (s)	13.4	-	-	-									
HCM Lane LOS	B	-	-	-									
HCM 95th %ile Q(veh)	0.2	-	-	-									

Smoke Tree Resort
2025 Total PM

7: Apartment Drwy & Lincoln Dr
HCM 6th TWSC

Intersection													
Init Delay, s/veh													
27													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔↔	↔↔	↔	↔↔	↔↔	↔	↔	↔	↔	↔	↔	↔	
Traffic Vol. veh/h	8	990	46	7	954	10	74	3	53	8	0	38	
Future Vol. veh/h	8	990	46	7	954	10	74	3	53	8	0	38	
Conflicting Peds. #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	25	-	-	25	-	-	-	-	-	0	-	0	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	9	1100	51	8	1060	11	82	3	59	9	0	42	
Major/Minor	Major1	Major2	Minor1	Minor2									
Conflicting Flow All	1071	0	0	1151	0	1690	2231	576	1652	-	536	-	
Stage 1	-	-	-	-	-	1144	1144	-	1082	-	-	-	
Stage 2	-	-	-	-	-	546	1087	-	570	-	-	-	
Critical Hdwy	4.14	-	-	4.14	-	7.54	6.54	6.94	7.54	-	6.94	-	
Critical Hdwy Sig 1	-	-	-	-	-	6.54	5.54	-	6.54	-	-	-	
Critical Hdwy Sig 2	-	-	-	-	-	6.54	5.54	-	6.54	-	-	-	
Follow-up Hdwy	2.22	-	-	2.22	-	3.52	4.02	3.32	3.52	-	3.32	-	
Pot Cap-1 Maneuver	647	-	-	603	-	-	61	42	460	65	0	489	
Stage 1	-	-	-	-	-	213	273	-	232	0	-	-	
Stage 2	-	-	-	-	-	490	290	-	474	0	-	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	647	-	-	603	-	-	55	41	460	52	-	489	
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	41	-	52	-	-	
Stage 1	-	-	-	-	-	210	269	-	229	-	-	-	
Stage 2	-	-	-	-	-	442	286	-	403	-	-	-	
Approach	EB	WB	NB	SB									
HCM Control Delay, s	0.1	0.1	\$ 443.8	26.1									
HCM LOS			F	D									
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2				
Capacity (veh/h)	85	647	-	-	603	-	-	52	489				
HCM Lane V/C Ratio	1.699	0.014	-	-	0.013	-	-	0.171	0.086				
HCM Control Delay (s)	\$ 443.8	10.6	-	-	11	-	-	88	13.1				
HCM Lane LOS	F	B	-	-	B	-	-	F	B				
HCM 95th %ile Q(veh)	12	0	-	-	0	-	-	0.6	0.3				
Notes													
- Volume exceeds capacity	\$ Delay exceeds 300s												
- Computation Not Defined	*: All major volume in platoon												

Smoke Tree Resort
2025 Total PM

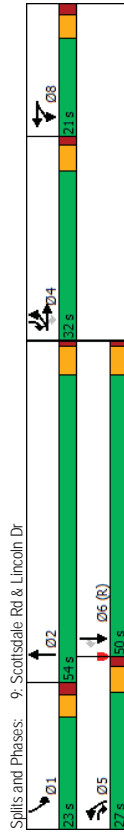
8: AJ's Drwy & Lincoln Dr
HCM 6th TWSC

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int'l Delay, s/veh	4.1											
Lane Configurations	12	983	60	69	952	9	16	1	100	5	0	8
Traffic Vol. veh/h	12	983	60	69	952	9	16	1	100	5	0	8
Future Vol. veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mmt Flow	13	1092	67	77	1058	10	18	1	111	6	0	9
Major/Minor	Major1	Major2	Minor1	Minor2	Minor1	Minor2	Minor1	Minor2	Minor1	Minor2	Minor1	Minor2
Conflicting Flow All	1068	0	0	1159	0	0	1835	2374	580	1790	-	534
Stage 1	-	-	-	-	-	-	-	1152	1217	-	-	-
Stage 2	-	-	-	-	-	-	-	683	1222	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Slg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Slg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32
Pl Cap-1 Maneuver	648	-	-	599	-	-	47	34	458	51	0	491
Stage 1	-	-	-	-	-	-	210	270	192	0	-	-
Stage 2	-	-	-	-	-	-	405	250	-	472	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	648	-	-	599	-	-	41	29	458	33	-	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	29	-	33	-	-
Stage 1	-	-	-	-	-	-	206	265	-	188	-	-
Stage 2	-	-	-	-	-	-	347	218	-	349	-	-
Approach	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	62.9	59.6	0.1	0.8	62.9	59.6	0.1	0.8	62.9	59.6
HCM LOS	F	F	F	F	F	F	F	F	F	F	F	F
Minor Lane/Major Mmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn1	SBLn2	SBLn1
Capacity (veh/h)	182	648	-	-	599	-	-	-	33	491	-	-
HCM Lane V/C Ratio	0.714	0.021	-	-	0.128	-	-	-	0.168	0.018	-	-
HCM Control Delay (s)	62.9	10.7	-	-	11.9	-	-	-	135	12.5	-	-
HCM Lane LOS	F	B	-	-	B	-	-	-	F	B	-	-
HCM 95th %ile Q(veh)	4.5	0.1	-	-	0.4	-	-	-	0.5	0.1	-	-

Smoke Tree Resort
2025 Total PM

9: Scottsdale Rd & Lincoln Dr
Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	569	61	481	61	68	461	1762	66	1702	546
Traffic Volume (vph)	569	61	481	61	68	461	1762	66	1702	546
Future Volume (vph)	Split	NA	pm-ov	Split	NA	Prot	NA	Prot	NA	pm-ov
Turn Type	4	4	5	8	8	5	2	1	6	4
Protected Phases	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4
Detector Phase	4	4	4	4	4	4	4	4	4	4
Switch Phase	4	4	4	4	4	4	4	4	4	4
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Total Split (s)	32.0	32.0	27.0	21.0	21.0	27.0	54.0	23.0	50.0	32.0
Total Split (%)	24.6%	24.6%	20.8%	16.2%	16.2%	20.8%	41.5%	17.7%	38.5%	24.6%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	None	None
Recall Mode	26.5	26.5	49.8	9.7	9.7	23.3	64.1	9.7	48.2	80.4
Act Effct Green (s)	0.20	0.20	0.38	0.07	0.07	0.18	0.49	0.07	0.37	0.62
Actuated g/C Ratio	1.02	1.02	0.77	0.52	0.50	0.83	0.81	0.55	1.00	0.57
v/c Ratio	116.0	115.7	24.0	71.2	32.4	63.8	32.3	72.8	62.7	11.4
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	116.0	115.7	24.0	71.2	32.4	63.8	32.3	72.8	62.7	11.4
Total Delay	F	F	C	E	C	E	C	E	E	B
LOS	F	F	C	E	C	E	C	E	E	B
Approach Delay	76.1	E	43.9	D	D	D	D	D	D	D
Approach LOS	E	E	D	D	D	D	D	D	D	D
Intersection Summary										
Cycle Length: 130										
Actuated Cycle Length: 130										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 100										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 1.02										
Intersection Signal Delay: 50.6										
Intersection Capacity Utilization 87.8%										
ICU Level of Service E										
Analysis Period (min) 15										



Smoke Tree Resort
2025 Total PM

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	4	4	4	4	4	4	4	4	4	4	4
Traffic Volume (veh/h)	569	61	481	61	68	78	461	1762	50	66	1702	546
Future Volume (veh/h)	569	61	481	61	68	78	461	1762	50	66	1702	546
Initial Q (Q _{bb}) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbi})	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	681	0	534	68	76	87	512	1958	56	73	1891	607
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	726	0	580	128	128	114	559	2306	66	93	1740	863
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.16	0.45	0.45	0.05	0.34	0.34
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5102	146	1781	5106	1585
Grp Volume(v), veh/h	681	0	534	68	76	87	512	1305	709	73	1891	607
Grp Sat Flow(s), veh/hln	1781	0	1585	1781	1777	1585	1728	1702	1844	1781	1702	1585
Q Serve(g, s), s	24.7	0.0	26.5	4.8	5.4	7.0	19.0	44.3	44.5	5.3	44.3	36.7
Cycle Q Clear(g, q), s	24.7	0.0	26.5	4.8	5.4	7.0	19.0	44.3	44.5	5.3	44.3	36.7
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.08	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	726	0	580	128	128	114	559	1538	833	93	1740	863
V/C Ratio(X)	0.94	0.00	0.92	0.53	0.59	0.76	0.92	0.85	0.85	0.78	1.09	0.70
Avail Cap(c, a), veh/h	726	0	580	211	210	188	572	1538	833	243	1740	863
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.8	0.0	44.7	58.2	58.5	59.2	53.6	31.7	31.7	60.9	42.9	21.8
Incr Delay (d2), s/veh	19.5	0.0	19.9	1.3	1.6	3.9	18.8	4.4	7.9	5.4	49.3	4.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	13.9	0.0	18.8	2.2	2.5	2.9	9.7	18.8	21.3	2.5	26.3	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.3	0.0	64.6	59.5	60.1	63.1	72.5	36.1	39.7	66.2	92.2	26.6
LnGrp LOS	E	A	E	E	E	E	E	D	D	E	F	C
Approach Vol, veh/h	1215		231				2526				2571	
Approach Delay, s/veh	72.9		61.1				44.5				76.0	
Approach LOS	E		E				D				E	
Timer - Assigned Phs	1	2	4	5	6	8						
Phs Duration (G+Y+Rc), s	12.1	64.4	32.0	26.5	50.0	15.0						
Change Period (Y+Rc), s	* 5.3	5.7	5.5	5.5	5.7	5.6						
Max Green Sailing (Gmax), s	* 18	48.3	26.5	21.5	44.3	15.4						
Max Q Clear Time (g, c+1), s	7.3	46.5	28.5	21.0	46.3	9.0						
Green Ext Time (p, c), s	0.0	1.0	0.0	0.1	0.0	0.4						
Intersection Summary												
HCM 6th Ctrl Delay			62.7									
HCM 6th LOS			E									

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Smoke Tree Resort
2025 Total PM

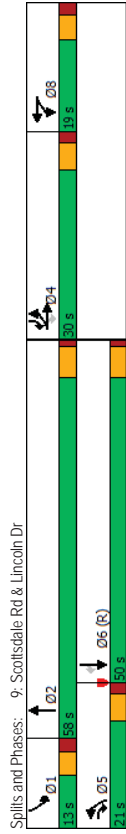
10: Quail Run Rd & Access A
HCM 6th TWSC

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Ini Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Vol, veh/h	0	1	0	0	1	0
Future Vol, veh/h	0	1	0	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	0	1	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hwy	6.42	6.22	-	-	4.12	-
Critical Hwy Stg 1	5.42	-	-	-	-	-
Critical Hwy Stg 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	-	-	2.218	-
Pl Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	-	0				
HCM LOS						
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-
HCM 95th %ile Q(veh)	-	-	-	-	-	-

Smoke Tree Resort
2025 Total PM Mitigated

9: Scottsdale Rd & Lincoln Dr
Timings

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	569	61	481	61	68	461	1762	66	1702	546
Traffic Volume (vph)	569	61	481	61	68	461	1762	66	1702	546
Future Volume (vph)	569	61	481	61	68	461	1762	66	1702	546
Turn Type	Split	NA	pm-ov	Split	NA	Prdt	NA	Prdt	NA	pm-ov
Protected Phases	4	4	5	8	8	5	2	1	6	4
Permitted Phases	4	4	5	8	8	5	2	1	6	4
Detector Phase	4	4	5	8	8	5	2	1	6	4
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	10.0	5.0	10.0	7.0
Minimum Initial (s)	13.0	13.0	13.0	13.0	13.0	13.0	16.7	11.0	16.0	13.0
Minimum Split (s)	30.0	30.0	21.0	19.0	19.0	21.0	58.0	13.0	50.0	30.0
Total Split (s)	25.0%	25.0%	17.5%	15.8%	15.8%	17.5%	48.3%	10.8%	41.7%	25.0%
Yellow Time (s)	4.0	4.0	4.0	3.6	3.6	4.0	4.7	3.3	4.7	4.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	1.5	1.0	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.6	5.6	5.5	5.7	5.3	5.7	5.5
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	None	None	None	None	None	None	None	None	C-Max	None
Recall Mode	24.5	24.5	44.0	9.4	9.4	19.5	57.8	8.4	44.3	74.5
Act Effct Green (s)	0.20	0.20	0.37	0.08	0.08	0.16	0.48	0.07	0.37	0.62
Actuated g/C Ratio	1.01	1.01	0.82	0.49	0.49	0.92	0.83	0.59	1.01	0.56
Control Delay	100.0	99.6	29.0	64.6	29.9	72.4	31.6	73.2	60.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.0	99.6	29.0	64.6	29.9	72.4	31.6	73.2	60.5	9.2
LOS	F	F	C	E	C	E	C	E	E	A
Approach Delay	69.2			40.1			39.9		48.7	
Approach LOS	E			D			D		D	
Intersection Summary										
Cycle Length: 120										
Actuated Cycle Length: 120										
Offset: 0 (0%), Referenced to phase 6 SBT, Start of Green										
Natural Cycle: 100										
Control Type: Actuated-Coordinated										
Maximum v/c Ratio: 1.01										
Intersection Signal Delay: 48.9										
Intersection Capacity Utilization 87.8%										
Analysis Period (min) 15										



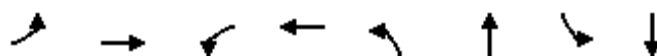
Smoke Tree Resort
2025 Total PM Mitigated

9: Scottsdale Rd & Lincoln Dr
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	569	61	481	61	68	461	1762	66	1702	546
Traffic Volume (veh/h)	569	61	481	61	68	461	1762	66	1702	546
Future Volume (veh/h)	569	61	481	61	68	461	1762	66	1702	546
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0
Pod-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	681	0	534	68	76	87	512	1958	56	73
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2
Cap. veh/h	727	0	528	130	130	116	446	2285	65	93
Arrive On Green	0.20	0.00	0.20	0.07	0.07	0.07	0.13	0.45	0.05	0.37
Sat Flow, veh/h	3563	0	1585	1781	1777	1585	3456	5102	146	1781
Grp Volume(V), veh/h	681	0	534	68	76	87	512	1305	709	73
Grp Sat Flow(s), veh/h	1781	0	1585	1781	1777	1585	1728	1702	1844	1781
Q Serve(g/s), s	22.6	0.0	24.5	4.4	5.0	6.5	15.5	41.2	41.4	4.9
Cycle Q Clear(g_c), s	22.6	0.0	24.5	4.4	5.0	6.5	15.5	41.2	41.4	4.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	727	0	528	130	130	116	446	1524	826	93
V/C Ratio(X)	0.94	0.00	1.01	0.52	0.59	0.75	1.15	0.86	0.86	0.79
Avail Cap(c), veh/h	727	0	528	199	198	177	446	1524	826	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	40.0	53.6	53.9	54.6	52.3	29.7	29.7	56.2
Incr Delay (d2), s/veh	19.2	0.0	41.8	1.2	1.6	3.7	89.4	4.8	8.6	19.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%) veh/h	11.9	0.0	21.5	2.0	2.3	2.7	12.2	17.4	19.8	2.7
Unsig. Movement Delay, s/veh	66.2	0.0	81.8	54.8	55.4	58.2	141.7	34.5	38.3	75.9
LnGrp Delay(d), s/veh	E	A	F	D	E	E	F	C	D	E
LnGrp LOS	E	A	F	D	E	E	F	C	D	E
Approach Vol, veh/h	1215			231			2526			2571
Approach Delay, s/veh	73.1			56.3			57.3			50.9
Approach LOS	E			E			E			D
Timer - Assigned Phs	1	2		4	5	6	8			
Phs Duration (G+Y+Rc), s	11.6	59.4		30.0	21.0	50.0	14.4			
Change Period (Y+Rc), s	* 5.3	5.7		5.5	5.5	5.7	5.6			
Max Green Selling (Gmax), s	* 7.7	52.3		24.5	15.5	44.3	13.4			
Max Q Clear Time (g_c+I1), s	6.9	43.4		26.5	17.5	46.3	8.5			
Green Ext Time (g_e), s	0.0	2.7		0.0	0.0	0.0	0.3			
Intersection Summary										
HCM 6th Ctrl Delay				57.7						
HCM 6th LOS				E						
Notes										
User approved pedestrian interval to be less than phase max green.										
User approved volume balancing among the lanes for turning movement.										
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.										

APPENDIX I

QUEUE STORAGE ANALYSIS










Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	1209	28	1132	7	69	94	388
v/c Ratio	0.75	0.52	0.13	0.63	0.05	0.29	0.27	0.85
Control Delay	30.1	14.1	8.6	11.4	29.7	34.6	36.4	49.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	14.1	8.6	11.4	29.7	34.6	36.4	49.1
Queue Length 50th (ft)	86	235	1	23	5	36	64	225
Queue Length 95th (ft)	231	473	m29	#729	13	68	85	310
Internal Link Dist (ft)		105		1255		475		337
Turn Bay Length (ft)	150		95		80		135	
Base Capacity (vph)	430	2345	221	1794	299	422	588	730
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.52	0.13	0.63	0.02	0.16	0.16	0.53

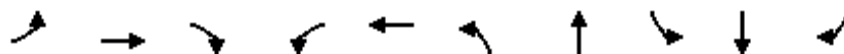
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

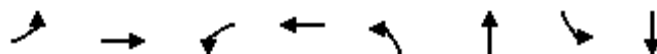
							
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	128	1245	2	1054	10	29	73
v/c Ratio	0.55	0.70	0.02	0.77	0.01	0.05	0.09
Control Delay	35.4	35.7	21.5	38.4	0.0	28.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	35.7	21.5	38.4	0.0	28.4	0.2
Queue Length 50th (ft)	73	416	1	402	0	15	0
Queue Length 95th (ft)	151	626	6	426	0	42	0
Internal Link Dist (ft)		1255		319	137		291
Turn Bay Length (ft)	25		25				
Base Capacity (vph)	297	2382	149	1834	689	562	798
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.52	0.01	0.57	0.01	0.05	0.09
Intersection Summary							



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	300	303	564	46	101	368	1636	61	2016	740
v/c Ratio	0.90	0.90	0.89	0.38	0.37	0.76	0.65	0.50	0.98	0.63
Control Delay	77.0	77.0	35.4	62.1	28.9	60.3	25.1	67.8	50.5	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	77.0	35.4	62.1	28.9	60.3	25.1	67.8	50.5	8.4
Queue Length 50th (ft)	238	241	228	35	16	142	347	46	560	133
Queue Length 95th (ft)	#404	#408	#317	73	45	194	436	91	#732	274
Internal Link Dist (ft)		389			130		477		335	
Turn Bay Length (ft)	175			90		275		185		
Base Capacity (vph)	343	346	641	197	412	497	2524	130	2067	1175
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.88	0.88	0.23	0.25	0.74	0.65	0.47	0.98	0.63

Intersection Summary

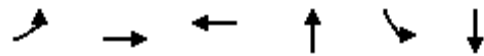
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



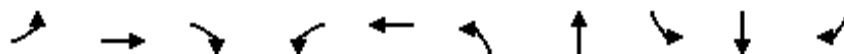
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	297	1100	30	1216	9	99	78	246
v/c Ratio	0.76	0.43	0.11	0.63	0.05	0.57	0.30	0.62
Control Delay	30.7	9.2	3.3	6.4	37.2	62.3	42.7	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	9.2	3.3	6.4	37.2	62.3	42.7	25.8
Queue Length 50th (ft)	115	190	1	22	6	72	54	70
Queue Length 95th (ft)	230	291	m8	578	20	127	91	164
Internal Link Dist (ft)		105		1255		475		337
Turn Bay Length (ft)	150		95		80		135	
Base Capacity (vph)	441	2534	263	1915	313	408	566	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.43	0.11	0.63	0.03	0.24	0.14	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	94	1092	1166	3	16	103
v/c Ratio	0.43	0.58	0.78	0.00	0.03	0.14
Control Delay	28.4	19.9	35.7	0.0	31.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	19.9	35.7	0.0	31.2	0.4
Queue Length 50th (ft)	41	264	436	0	9	0
Queue Length 95th (ft)	92	289	458	0	29	0
Internal Link Dist (ft)		1255	319	137		291
Turn Bay Length (ft)	25					
Base Capacity (vph)	292	2382	1831	648	524	749
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.46	0.64	0.00	0.03	0.14
Intersection Summary						



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	348	352	534	68	163	512	2014	73	1891	607
v/c Ratio	1.01	1.01	0.82	0.49	0.49	0.92	0.83	0.59	1.01	0.56
Control Delay	100.0	99.6	29.0	64.6	29.9	72.4	31.6	73.2	60.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.0	99.6	29.0	64.6	29.9	72.4	31.6	73.2	60.5	9.2
Queue Length 50th (ft)	~292	~295	210	52	30	202	503	55	~540	138
Queue Length 95th (ft)	#495	#501	#346	97	63	#344	597	#120	#658	232
Internal Link Dist (ft)		389			130		477		335	
Turn Bay Length (ft)	175			90		275		185		
Base Capacity (vph)	343	347	654	197	440	558	2441	130	1877	1080
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.01	0.82	0.35	0.37	0.92	0.83	0.56	1.01	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Signalized Intersection 2025

Average Vehicle Length (ft): 25

Cycles: 2

Intersection Cycle Length (sec): 130

Equation Used: storage length = $2 \times (\text{vehicles/hour}) / (\text{cycles/hour}) \times \text{average vehicle length}$

Intersection	Approach	AM Peak (veh/hr)	Midday Peak	PM Peak (veh/hr)	Max vehs per 2 cycles	Max trucks per 2 cycles	Storage Length
Mockingbird Lane & Lincoln Dr	NB Left	6	0	8	1	0	25'
	SB Left	85	0	70	7	0	175'
	EB Left	242	0	267	20	0	500'
	WB Left	25	0	27	2	0	50'
	NB Right	25	0	21	2	0	50'
	SB Right	253	0	169	19	0	475'
	EB Right	33	0	32	3	0	75'
	WB Right	48	0	71	6	0	150'
Quail Run Rd & Lincoln Dr	NB Left	1	0	1	1	0	25'
	SB Left	26	0	14	2	0	50'
	EB Left	115	0	85	9	0	225'
	WB Left	2	0	0	1	0	25'
	NB Right	8	0	2	1	0	25'
	SB Right	66	0	93	7	0	175'
	EB Right	4	0	2	1	0	25'
	WB Right	12	0	25	2	0	50'
Scottsdale Rd & Lincoln Dr	NB Left	331	0	461	34	0	850'
	SB Left	55	0	66	5	0	125'
	EB Left	500	0	569	42	0	1050'
	WB Left	41	0	61	5	0	125'
	NB Right	43	0	50	4	0	100'
	SB Right	666	0	546	49	0	1225'
	EB Right	508	0	481	37	0	925'
	WB Right	52	0	78	6	0	150'

Unsignalized Intersection 2025

Average Vehicle Length (ft): 25

Equation Used: storage length = 2 x (vehicles/hour)/(60 minutes/hour) x average vehicle length

Intersection	Approach	AM Peak (veh/hr)	Midday Peak	PM Peak (veh/hr)	Veh per 2 minutes	Trucks per 2 minutes	Storage Length
Smoke Tree Access B & Lincoln Dr	NB Left	16	0	18	1	0	25'
	SB Left	0	0	0	0	0	0'
	EB Left	0	0	0	0	0	0'
	WB Left	26	0	36	2	0	50'
	NB Right	22	0	34	2	0	50'
	SB Right	0	0	0	0	0	0'
	EB Right	17	0	20	1	0	25'
	WB Right	0	0	0	0	0	0'

APPENDIX J

SIGHT DISTANCE ANALYSIS

Smoke Tree

Sight Distance Analysis

Location: Smoke Tree Access B & Lincoln Dr

Assumptions and/or Givens

Elements of Design from AASHTO

6th Edition

AASHTO Ref

Driver Eye Height		
Passenger Vehicle	3.50 ft	§3.2.6, p 3-14
Truck	7.60 ft	§3.2.6, p 3-14
Object Height		
Stopping Sight Distance	2.00 ft	§3.2.6, p 3-14
Passing Sight Distance	3.50 ft	§3.2.6, p 3-14
Vehicle Height	4.25 ft	§3.2.6, p 3-14
Driver Eye Location		
From Edge of Major Rd Traveled Way	14.50 ft	9.5.3, B1
Deceleration Rate (a)		
Passenger Vehicle	11.20 ft/sec ²	§3.2.2, p 3-3
Truck	N/A ft	
Brake reaction time (t)	2.50 sec	§3.2.2, p 3-4

Site Specific Data (Bike & turn lanes are outside traveled way and are not considered)

Major Street Design Speed (V_{major})	45	MPH
Grades - Approaching Minor Street from: (— = approaching downhill)		
Left (G_L)	0.00	%
Right (G_R)	0.00	%
Approach Grade Adjustment Factor	Left 1.0	Tbl 9-4, p 9-35
	Right 1.0	
Major Road Through Lanes on Each Approach	2.0	(Use 1 for RI/RO/[LI] only)
Median Width (in "Lane Equivalents")	12.0	(Use 0 for RI/RO/[LI] only)
Minor Road Approach Upgrade, if >3%	0.00	%
Minor Road Access (check restricted)		
	LI	LO/Th RO

Stopping Sight Distance = Brake Reaction Distance + Braking Distance

Neglecting Effect of Grade

$$d = 1.47Vt + 1.075 \frac{V^2}{a} \quad \text{Eq 3-2, p 3-4}$$

Calculated d= 359.8 ft
Design d= 360 ft

With Effect of Grade

$$d = 1.47Vt + \frac{V^2}{30 \left(\left(\frac{a}{32.2} \right) \pm G \right)} \quad \text{Eq 3-3, p 3-5}$$

Calculated d= 359.1 ft - left
360 ft - right
Design d= 359.1 ft - left
360 ft - right

SSD's do not consider design for truck operations, since better visibility is considered to offset longer braking distance.

§3.2.2, p 3-6



Smoke Tree

Location: Smoke Tree Access B & Lincoln Dr

Sight Distance Analysis

Intersection Sight Distances

Case B—Intersections with Stop Control on the Minor Road

AASHTO Ref
§9.5.3, p 9-36

Case B1—Left Turn from the Minor Road

§9.5.3, p 9-36

Design Vehicle	Time Gap (t_g)	
Passenger Car	7.5 sec	Tbl 9-5, p 9-37
Single-Unit Truck	9.5 sec	Tbl 9-5, p 9-37
Combination Truck	11.5 sec	Tbl 9-5, p 9-37
Time gap adjustments		
Add'l lanes to cross (1 st is assumed)		
Passenger Car	0.5 sec	See Notes
Trucks	0.7 sec	below
Minor Approach Upgrade (Per each 1%>3%)	0.2 sec	Tbl 9-5, p 9-37
Site data		
Major Road Lanes on Left Approach	2.0	§9.5.3, p 9-37
Minor Road Approach Upgrade, if >3%	0 %	§9.5.3, p 9-37

Time Gap based on site data

Design Vehicle Gap+Adj for Approach Grade>3%+Adjs for Add'l Lanes & Median

Passenger Car	14.0 sec
Single-Unit Truck	18.6 sec
Combination Truck	20.6 sec

ISD to left & right along Major Road $ISD=1.47V_{major}t_g$ (ft) Eq 9-1, p 9-37

		ISD to Left and Right
Passenger Car	calculated ISD=	926.1 ft
	design ISD=	930 ft
Single-Unit Truck	calculated ISD=	1230.4 ft
	design ISD=	1235 ft
Combination Truck	calculated ISD=	1362.7 ft
	design ISD=	1365 ft



Smoke Tree

Location: Smoke Tree Access B & Lincoln Dr

Sight Distance Analysis

Intersection Sight Distances (cont'd)

<u>Case B2—Right Turn from the Minor Road</u>	AASHTO Ref
&	§9.5.3, p 9-40
<u>Case B3—Crossing Maneuver from the Minor Road</u>	§9.5.3, p 9-43

Design Vehicle	Time Gap (t_g)	
Passenger Car	6.5 sec	Tbl 9-7, p 9-40
Single-Unit Truck	8.5 sec	Tbl 9-7, p 9-40
Combination Truck	10.5 sec	Tbl 9-7, p 9-40

Time gap adjustments - Case B-3 Only*

Add'l lanes to cross (1st is assumed)

Passenger Car	0.5 sec	See Notes
Trucks	0.7 sec	below
Minor Approach Upgrade (Per each 1%>3%)	0.1 sec	Tbl 9-7, p 9-40

Site data

Major Road Lanes on Left Approach	2.0	§9.5.3, p 9-40
Minor Road Approach Upgrade, if >3%	0 %	§9.5.3, p 9-40

Time Gap based on site data (sec)

	B2 & B3	B3 Only
<i>Design Vehicle Gap+Adj for Approach Grade>3%(+Adjs for Add'l Lanes & Median for B3)</i>		
Passenger Car	13.0	13.5
Single-Unit Truck	17.6	18.3
Combination Truck	19.6	20.3

ISD to left (B2/B3) & right (B3) along Major Rd $ISD = 1.47 V_{major} t_g$ (ft) Eq 9-1, p 9-37

			ISD to Left (B2 & B3)	ISD to right (B3 Only)
Passenger Car	calculated ISD=		860.0	893.0
	design ISD=		860	895
Single-Unit Truck	calculated ISD=	1164.2		1210.5
	design ISD=	1165		1215
Combination Truck	calculated ISD=	1296.5		1342.8
	design ISD=	1300		1345

*Number of major road lanes is irrelevant in Case B2.

The differences between Case B1 and Cases B2 & B3 are reduced time gaps and time gap adjustment for the minor approach upgrade. §9.5.3, p 9-43



Smoke Tree

Location: Smoke Tree Access B & Lincoln Dr

Sight Distance Analysis

Intersection Sight Distances (cont'd)

Case F—Left Turns from the Major Road

AASHTO Ref
§9.5.3, p 9-51

Design Vehicle	Time Gap (t_g)	
Passenger Car	5.5 sec	bl 9-13, p 9-51
Single-Unit Truck	6.5 sec	bl 9-13, p 9-51
Combination Truck	7.5 sec	bl 9-13, p 9-51
Time gap adjustments		
Add'l lanes to cross (1 assumed)		
Passenger Car	0.5 sec	See Notes to
Trucks	0.7 sec	bl 9-13, p 9-51
Site data		
Opposing Lanes (adj'd for x-wide median)	13.0	
Time Gap based on site data		
Design Vehicle Gap+Adj for Add'l Opposing Lanes		
Passenger Car	12.0 sec	
Single-Unit Truck	15.6 sec	
Combination Truck	16.6 sec	
ISD to front along Major Road	$ISD = 1.47V_{major}t_g$ (ft)	Eq 9-1, p 9-37
Passenger Car	calculated ISD= 793.8 ft design ISD= 795 ft	
Single-Unit Truck	calculated ISD= 1031.9 ft design ISD= 1035 ft	
Combination Truck	calculated ISD= 1098.1 ft design ISD= 1100 ft	

The differences between Case F and Cases B1, B2 & B3 are reduced time gaps and no time gap adjustment for any minor approach upgrade. §9.5.3, p 9-43

SIGHT DISTANCE SUMMARY

Sight Distance Type	Governing Case	Car	SU Truck	Combo Truck
Stopping				
Without effect of grade		360	N/A	N/A
With effect of grade on left		360	N/A	N/A
With effect of grade on right		360	N/A	N/A
Intersection				
To Right	B1	930	1235	1365
To Left	B2/B3	860	1165	1300
On Major Road	F	795	1035	1100



Smoke Tree Resort
Location: Quail Run Road

Sight Distance Analysis

Assumptions and/or Given

Elements of Design from AASHTO

	6th Edition	AASHTO Ref
Driver Eye Height		
Passenger Vehicle	3.50 ft	§3.2.6, p 3-14
Truck	7.60 ft	§3.2.6, p 3-14
Object Height		
Stopping Sight Distance	2.00 ft	§3.2.6, p 3-14
Passing Sight Distance	3.50 ft	§3.2.6, p 3-14
Vehicle Height	4.25 ft	§3.2.6, p 3-14
Driver Eye Location		
From Edge of Major Rd Traveled Way	14.50 ft	9.5.3, B1
Deceleration Rate (a)		
Passenger Vehicle	11.20 ft/sec ²	§3.2.2, p 3-3
Truck	N/A ft	
Brake reaction time (t)	2.50 sec	§3.2.2, p 3-4

Site Specific Data (Bike & turn lanes are outside traveled way and are not considered)

Major Street Design Speed (V_{major})	30	MPH
Grades - Approaching Minor Street from: (— = approaching downhill)		
Left (G_L)		%
Right (G_R)		%
Approach Grade Adjustment Factor	Left 1.0 Right 1.0	Tbl 9-4, p 9-35
Major Road Through Lanes on Each Approach	1.0	(Use 1 for RI/RO/[LI] only)
Median Width (in "Lane Equivalents")	0.0	(Use 0 for RI/RO/[LI] only)
Minor Road Approach Upgrade, if >3%		%
Minor Road Access (check restricted)		
	LI	LO/Th RO

Stopping Sight Distance = Brake Reaction Distance + Braking Distance

Neglecting Effect of Grade

$$d = 1.47Vt + 1.075 \frac{V^2}{a}$$

Eq 3-2, p 3-4

Calculated d= 196.7 ft
Design d= 200 ft

With Effect of Grade

$$d = 1.47Vt + \frac{V^2}{30 \left(\left(\frac{a}{32.2} \right) \pm G \right)}$$

Eq 3-3, p 3-5

Calculated d= 196.3 ft - left
200 ft - right
Design d= 196.3 ft - left
200 ft - right

SSD's do not consider design for truck operations, since better visibility is considered to offset longer braking distance.

§3.2.2, p 3-6



Smoke Tree Resort
Location: Quail Run Road

Sight Distance Analysis

Intersection Sight Distances

Case B—Intersections with Stop Control on the Minor Road

AASHTO Ref
§9.5.3, p 9-36

Case B1—Left Turn from the Minor Road

§9.5.3, p 9-36

Design Vehicle	Time Gap (t_g)	
Passenger Car	7.5 sec	Tbl 9-5, p 9-37
Single-Unit Truck	9.5 sec	Tbl 9-5, p 9-37
Combination Truck	11.5 sec	Tbl 9-5, p 9-37

Time gap adjustments

Add'l lanes to cross (1 st is assumed)		
Passenger Car	0.5 sec	See Notes
Trucks	0.7 sec	below
Minor Approach Upgrade (Per each 1%>3%)	0.2 sec	Tbl 9-5, p 9-37

Site data

Major Road Lanes on Left Approach	1.0	§9.5.3, p 9-37
Minor Road Approach Upgrade, if >3%	0 %	§9.5.3, p 9-37

Time Gap based on site data

Design Vehicle Gap+Adj for Approach Grade>3%+Adjs for Add'l Lanes & Median

Passenger Car	7.5 sec
Single-Unit Truck	9.5 sec
Combination Truck	11.5 sec

ISD to left & right along Major Road $ISD = 1.47V_{major}t_g$ (ft) Eq 9-1, p 9-37

		ISD to Left and Right
Passenger Car	calculated ISD= 330.8 ft design ISD= 335 ft	
Single-Unit Truck	calculated ISD= 419.0 ft design ISD= 420 ft	
Combination Truck	calculated ISD= 507.2 ft design ISD= 510 ft	



Smoke Tree Resort
Location: Quail Run Road

Sight Distance Analysis

Intersection Sight Distances (cont'd)

Case B2—Right Turn from the Minor Road
&
Case B3—Crossing Maneuver from the Minor Road

AASHTO Ref
§9.5.3, p 9-40

§9.5.3, p 9-43

Design Vehicle	Time Gap (t_g)	
Passenger Car	6.5 sec	Tbl 9-7, p 9-40
Single-Unit Tuck	8.5 sec	Tbl 9-7, p 9-40
Combination Truck	10.5 sec	Tbl 9-7, p 9-40

Time gap adjustments - Case B-3 Only*		
Add'l lanes to cross (1 st is assumed)		
Passenger Car	0.5 sec	See Notes
Trucks	0.7 sec	below
Minor Approach Upgrade (Per each 1%>3%)	0.1 sec	Tbl 9-7, p 9-40

Site data		
Major Road Lanes on Left Approach	1.0	§9.5.3, p 9-40
Minor Road Approach Upgrade, if >3%	0 %	§9.5.3, p 9-40

Time Gap based on site data (sec)		
	<u>B2 & B3</u>	<u>B3 Only</u>
<i>Design Vehicle Gap+Adj for Approach Grade>3% (+Adjs for Add'l Lanes & Median for B3)</i>		
Passenger Car	6.5	6.5
Single-Unit Tuck	8.5	8.5
Combination Truck	10.5	10.5

ISD to left (B2/B3) & right (B3) along Major Rd $ISD=1.47V_{major}t_g$ (ft) Eq 9-1, p 9-37

		ISD to Left ISD to right	
		(B2 & B3)	(B3 Only)
Passenger Car	calculated ISD=	286.7	286.7
	design ISD=	290	290
Single-Unit Tuck	calculated ISD=	374.9	374.9
	design ISD=	375	375
Combination Truck	calculated ISD=	463.1	463.1
	design ISD=	465	465

*Number of major road lanes is irrelevant in Case B2.

The differences between Case B1 and Cases B2 & B3 are reduced time gaps and time gap adjustment for the minor approach upgrade. §9.5.3, p 9-43



Smoke Tree Resort
Location: Quail Run Road

Sight Distance Analysis

Intersection Sight Distances (cont'd)

AASHTO Ref
§9.5.3, p 9-51

Case F—Left Turns from the Major Road

Design Vehicle	Time Gap (t_g)	
Passenger Car	5.5 sec	bl 9-13, p 9-51
Single-Unit Tuck	6.5 sec	bl 9-13, p 9-51
Combination Truck	7.5 sec	bl 9-13, p 9-51

Time gap adjustments		
Add'l lanes to cross (1 assumed)		
Passenger Car	0.5 sec	See Notes to
Trucks	0.7 sec	bl 9-13, p 9-51

Site data	
Opposing Lanes (adj'd for x-wide median)	0.0

Time Gap based on site data	
<i>Design Vehicle Gap+Adj for Add'l Opposing Lanes</i>	
Passenger Car	5.5 sec
Single-Unit Tuck	6.5 sec
Combination Truck	7.5 sec

ISD to front along Major Road	$ISD=1.47V_{major}t_g$ (ft)	Eq 9-1, p 9-37
Passenger Car	calculated ISD= 242.6 ft	
	design ISD= 245 ft	
Single-Unit Tuck	calculated ISD= 286.7 ft	
	design ISD= 290 ft	
Combination Truck	calculated ISD= 330.8 ft	
	design ISD= 335 ft	

The differences between Case F and Cases B1, B2 & B3 are reduced time gaps and no time gap adjustment for any minor approach upgrade. §9.5.3, p 9-43

SIGHT DISTANCE SUMMARY

Sight Distance Type	Governing Case	Car	SU Truck	Combo Truck
Stopping				
Without effect of grade		200	N/A	N/A
With effect of grade on left		200	N/A	N/A
With effect of grade on right		200	N/A	N/A
Intersection				
To Right	B1	335	420	510
To Left	B2/B3	290	375	465
On Major Road	F	245	290	335





February 12, 2019

Paul Mood
Town Engineer
Town of Paradise Valley
6401 East Lincoln Drive
Paradise Valley, Arizona 85253

Subject: *Comment Response Memorandum for Smoketree Resort Parking Study – Paradise Valley, Arizona*

Dear Mr. Mood:

CivTech has prepared this memo in order to address comments provided to Paradise Valley by a third party, Kimley-Horn and Associates, Inc. for the Smoketree Resort Parking Study that was previously submitted. CivTech has reviewed all of the comments and developed a response for each.

COMMENT RESPONSE

KH Comment 1: *Parking calculations should be based on full occupancy. Please include the 150 room keys that are proposed to be available.*

CivTech Response: Removing the 30 residential units (15 which will be able to be utilized by the hotel as optional rentals) and their 60 associated parking spaces provides a more conservative analysis of the parking for the resort. These 60 parking spaces will be reserved in the underground garage and will be gated from the remainder of the spaces leaving a total of 120 underground parking spaces and 76 surface parking spaces, a total of 196 spaces, to service the 120 guest rooms, 15 lock-off rental units and amenities. The shared parking model is being revised to consider 135 keys which includes the 120 guest rooms and 15 lock-off rental units. The 30 residences will not be considered within the shared model since they will have separate gated parking.

KH Comment 2: *Please provide documentation supporting the assumption of 50 square feet per every two seats in the meeting room.*

CivTech Response: The equivalent rate of 1 space per 50 square feet was first generated while working with previous Planning Commissioner Dolf Strom. Dolf was instrumental in shaping the methodology that has been carried through for all of the resort parking studies CivTech has completed. During the parking study preparation for both the Montelucia and the Hermosa Inn which were being prepared simultaneously, there was a large discussion about parking at both the planning commission and town council meetings. The question was raised by then commissioners and council members on the town's parking requirements, how they were established and how they compared to other jurisdictions. It was noted at that time that the parking requirements were greater than the surrounding area jurisdictions. The surrounding area jurisdictions were reviewed, the highest rate was taken, and then the rate was typically raised as part of the Town's requirements and guidelines. Working with Commissioner Strom, several ratio's, internal capture percentages and percentage by time of day values were applied.

Commissioner Strom spent weeks working with the consulting engineers to develop these values based on local data knowing that the Town's code would result in overparking but also not wanting to receive any neighborhood complaints about a lack of parking. An example of the surrounding area parking requirements in regards to the assumption of 50 square feet per every two seats in a meeting room is shown in the Table below. The final determination of 50 square feet was based on the utilization of banquet and meeting rooms in the Town. These rooms are primarily set with large round tables, even when being used for meetings.

Location	Land Use	Code Location	Parking Rate
City of Phoenix	Conference/Meeting	Section 4-603	1 space/50 sf
City of Scottsdale	Conference/Meeting	Table 9.103.A	1 space/50 sf
City of Tempe	Public Assembly - Entertainment	Section 702 C	1 space/125 sf

KH Comment 3: *The Town code requirement for guest rooms is 1.2 spaces per unit. The parking study recommended using a rate of 1.05 based on an interpretation of ITE Parking Generation, 4th Edition land use 310 Hotel. The ITE code has a lot of variables against using the rate including:*

- Old data
- Limited number of studies
- Average size of hotel is not similar to our facility
- Studies mostly conducted in California
- ITE 310 is based on the peak parking observed and not the supply. Based on a collection of data. So, the application of shared parking in addition to utilizing an ITE rate may not be appropriate. Kimley-Horn is recommending the Town not accept a rate less than the Town's code without supporting documentation or study of similar sites with similar land use data.

CivTech Response: Hotel was chosen to best represent The Smoketree Resort. According to the 5th Edition of Parking Generation, page 201, "A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as a full-service restaurant, cocktail lounge, meeting rooms, banquet room, and convention facilities. It typically provides a swimming pool or another recreational facility such as a fitness room. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses." Therefore, the rates published by ITE already include all of the uses that are expected to park separately using the Town's Code. The combined rate proposed for the Smoketree Resort (1.45 spaces/key traditional parking and 1.67 spaces/key for valet only) surpasses the recommended average values presented in Parking Generation and nearly meets the 85th percentile recommendation for a weekend which is higher than the rate for a weekday.

The current trends for parking, especially at hotels, is a reduction in rate. This is primarily attributable to the ease of ride hailing which can now be completed with a smartphone while tracking the driver which provides user reliability. This is evidenced in ITE's 5th Edition of Parking Generation which was just released in January of 2019. This version shows that the rates have decreased, especially during the weekday. On the weekend, which has less data points, the lower range of the rate decreased significantly. These rates still include older data which supported higher drive in rates for the Hotel. The City of Scottsdale is allowing the use of 0.8 parking spaces/key to account for the changing trend. When evaluating the final parking recommended for Smoketree, re-evaluated using the responses to these comments, an overall parking rate of 1.45 spaces/key is calculated. This falls within the mid-range of Resort Hotel (LUC 330) parking rates which range from 0.55-2.17 on a weekday and 0.64-2.11 on a weekend. The average rates for a Resort Hotel are 1.06 spaces/key and 0.73 spaces/key on a weekday and weekend, respectively. According to Parking Generation, "A resort hotel is similar to a hotel (Land Use 310) in that it provides sleeping accommodations, full service restaurants, cocktail lounges, retail shops, and guest services. The primary difference is that a resort hotel caters to the tourist and vacation industry, often providing a wide variety of recreational facilities/programs (golf courses, tennis courts, beach access, or other amenities) rather than convention and meeting business. Smoketree does not provide for golf or other recreational amenities on site, thus suggesting the Hotel (LUC 310) is the best data fit for the site.

KH Comment 4:

- *Include the third outdoor venue (Area B Promenade Venue #1) in the parking study analysis. The site plan shows four separate assembly areas. It seems inconsistent to have four separate areas and not assume they could be used independently. Provide documentation that supports the conclusion that the four venues cannot be rented separately or account for the separate venues in the parking analysis.*
- *Provide document provisions ensuring the level of interaction assumed for the meeting rooms.*

CivTech Response: Smoketree's intent is to utilize the area as analyzed in the CivTech parking analysis. The outdoor event space (Event Lawn Venues 1 and 2) will not be used simultaneously and only one or the other can be used in combination with the Pavillion. This therefore applies a 50 percent internal capture for both meetings and events since they cannot occur at the same time. Prohibition of using these areas simultaneous with the other areas may be provided in the stipulations for the project.

As mentioned above, the interaction (internal capture) assumed for the meeting space was determined using local information from several Paradise Valley hotel operators at the time the Montelucia and Hermosa Inn parking studies were being completed. Since both were hotels prior to redevelopment or upgrade, they had existing utilization. In addition, interviews were held with the other area resorts and data was again supplied by Marriot for the Ritz Carlton parking study. This effort was reviewed thoroughly by Commissioner Strom.

The interaction assumed for the meeting rooms is consistent with the interaction noted at other resorts and most specifically Mountain Shadows.

	Restaurant (Internal)	Restaurant (external)	Retail (Internal)	Retail (external)	Spa	Fitness	Meeting Space	Event Space
Smoketree	60%	50%	100%	50%	90%	90%	50%*	50%
Ritz Carlton	75%	75%	-	80%	90%	100%	50%	50%
Mountain Shadows	60%	50%	100%	50%	90%	90%	50%*	100%
Sanctuary	75%	75%	75%	75%	60%	-	10%	10%
Hermosa Inn	75%	25%	-	-	90%	90%	75%	75%

*The event space is shown with 100% internal capture to eliminate parking generated from the use of the outdoor event space. This is due to the restriction on using any of these spaces simultaneously. It is assumed that 50% of the people using the event space will be staying at the resort. The rate and parking space needs are captured by the parking generated by the Pavillions.

KH Comment 5: *There is an inconsistency in the fitness center internal capture assumption. Table 2 on Page 3 of 7 of the Parking Study shows a 90% internal capture reduction for the fitness center. The calculations included in the Appendix show a 100% internal capture reduction for the fitness center. Is the fitness center truly an amenity for guests or is this facility available to non-guests?*

CivTech Response: The fitness center will not be available to non-guests. However, to maintain some flexibility in the case that fitness can be used with the spa, the internal capture will be updated to 90% in the calculations.

KH Comment 6:

· For the restaurant uses, document your net calculation of building space for buildings E and F.
· Since these are standalone facilities, document how you determined internal capture versus external utilization. Provide additional description of restaurant, retail, and coffee facilities.

CivTech Response: These plans are very preliminary and there are not more detailed plans developed for the restaurant facilities – the parking study will be updated using the same assumptions once more detailed plans are developed. Please see the above table. It was assumed that the internal restaurant would be less likely to attract non-guests while the external restaurant would be more likely to attract non-guests. The rates chosen are similar to Mountain Shadows and provide for more utilization by off-site patrons than Ritz Carlton or the Sanctuary.

KH comment 7: *The beginning of the first sentence on Page 4 of 7 says “Per Paradise Valley’s SUP Guidelines,”. There have been CivTech assumptions and adjustments to Town SUP. Update this sentence accordingly.*

CivTech Response: This sentence will be updated.

KH Comment 8: *We are concerned that the 15% may not be achievable. Please provide a valet parking plan showing the ability to increase parking supply. The configuration of the underground parking and constraints of a single circulation aisle may limit the ability to significantly increase the available parking supply.*

CivTech Response: The garage plans are preliminary at this time. However, the town has utilized the 15% estimate for valet parking on Ritz Carlton, Mountain Shadows, Sanctuary, Hermosa Inn, and other resort projects. This has been a historical standard of utilization after showing that more than 20% can be achieved through valet plans originally requested. The town, understanding that final design plans are not typically completed at the time of zoning, allowed the inclusion of the 15% increase for valet instead of creating a valet plan for an un-designed location. A formal valet plan could be submitted once the garage plans and site plan are formalized. The addition of valet parking is likely to result in an additional 29 spaces.

KH Comment 9:

In the shared parking calculations, removing employees is not relevant because the employees aren't there at night when the peak parking occurs. Hotel guest/rooms need the space for full capacity.

CivTech Response: The recommended parking shown in the study includes employees and bullet 4 under the Conclusions states the same parking trend as mentioned in Comment 9. The removal of employee calculation provides a number of parking spaces that can be utilized by patrons at other times of the day or if employees park off-site. The calculation provides guidance for the hotel operator since including employees in the hotel rate assumes that they park at the same peaks. As mentioned above, they park at different times, heavier during the weekdays and less on nights and weekends.

Employee office parking is accounted for separately, but application of shared parking and hourly percentages based on ITE Parking Generation, 4th Edition Code 701, suburban office, is not an appropriate assumption. Hotel employees generally do not leave the resort during lunchtime or other times as suburban office employees may do. Resorts typically need those office positions to be held consistently throughout the day.

CivTech Response: The hourly variation used for employees suggests that 90% will arrive by 8AM, 100% by 9AM and will stay at 100% through 3PM. The rate then decreases to 90% at 4PM and then gradually lessens to 55% through 9PM. The shared parking percentages do account for the employees being on site all-day without a reduction for lunch, etc. No changes are proposed to the rates utilized in the evaluation.

· Retail hourly percentages are different than restaurant hourly percentages and should be separated in shared parking analysis.

CivTech Response: ITE does not provide hourly parking percentages for retail land uses that resemble the use of this location. The retail uses that could be most similar to this in scale would be Apparel Store which provides weekday percentages between the hours of 11AM and 8PM only. A proposed hourly distribution for the retail uses will be provided for review. Retail and restaurant use will be separated in the shared parking analysis after approval of the hourly variation for this small-scale retail. This will not result in a major revision to the parking recommendations. The retail parking, at 100% utilization, is limited to 3.33 spaces.

Thank you for consideration of these responses. We would like to set up a meeting to coordinate the changes to the parking study. Should you wish to discuss this information further, please contact me at (480) 659-4250.

Sincerely

CivTech



Dawn Cartier, PE, PTOE
President



November 20, 2018

Taylor Robinson
Geneva Holdings, LLC
3620 East Campbell Ave, Suite B
Phoenix, AZ 85018



RE: Parking Study for Smoketree Resort – Paradise Valley, Arizona

Dear Mr. Robinson:

CivTech has been retained to prepare a parking study for Smoketree Resort which will be redeveloped. The site is located at 7101 E. Lincoln Drive, Scottsdale, AZ 85253; south of Lincoln Drive and east of Quail Run Road. The project is the first step in revitalizing the resort, which is currently operating in its existing condition.

The project is submitting for a Special Use Permit (SUP) within The Town of Paradise Valley. This SUP anticipates the preparation of a parking study prepared and sealed by a licensed engineer that will consider, among other things, internal capture and time-of-day usage.

CivTech has completed a parking study to clarify any disparity between the number of spaces required and the number of spaces provided including a shared parking analysis. The results of this analysis are documented in this memorandum.

PROPOSED DEVELOPMENT

The proposed project will consist of a resort hotel and resort residential dwelling units with 180 total keys allocated as follows: 120 dedicated resort hotel rooms, 30 resort residential dwelling units, and 30 potential lock-off rooms. The 120 dedicated hotel rooms will be considered "hotel keys" under the Special Use Permit. Although the 120 dedicated hotel rooms and 30 potential lock-off rooms indicate that up to 150 keys could be available, the resort will not rent more than 120 keys simultaneously. The project also includes a standalone retail market restaurant and the resort hotel will include fitness and event/meeting amenities. The proposed project will provide 180 parking spaces, not including the dedicated parking spaces for the resort residential dwelling units and potential lock-off rooms. The resort residential and potential lock-off rooms will have their own dedicated 60 parking spaces. An exhibit illustrating the provided parking is attached to the letter statement.

PARADISE VALLEY PARKING REQUIREMENTS

The Town of Paradise Valley provides for parking ratios in their Special Use Permit Guidelines. **Table 1** summarizes the parking ratio requirements for each component of a resort hotel.

Table 1: Parking Requirements per the Town SUP Guidelines

SUP	Category	Parking Requirement
i.	Each Hotel Key	1.2 spaces
ii.	Each dwelling unit*	2 spaces
iii.	Restaurant	1 space per 50 SF of net dining area
iv.	Meeting Rooms/Auditoriums/Group Assembly	1 space per two seats of public area (assumed to be 50 square feet)
v.	Retail	1 space per 300 SF of net sales area
vi-a.	Office	1 space per 300 SF of net occupied space
vi-b.	Service Establishment/Spa/Fitness/Sales Establishments	1 space per 300 SF of net occupied space

*A dwelling unit is any Resort Unit that is not a Hotel Key.

GUEST ROOM PARKING RATE

The location of the Smoketree Resort is more urban in nature than many other resorts located in the Town. The Resort is located in close proximity to all of the commercial uses on the corners of Scottsdale Road and Lincoln Drive. Bus Route 72 provides access north and south on Scottsdale Road connecting to location such as medical, shopping (Kierland, Scottsdale Quarter, Scottsdale Fashion Square, education (Arizona State University, Sky Song), and other entertainment uses. Route 72 is available every 20 minutes during the weekday from 4 AM until 12 PM. On the weekend, Route 72 is available from 5 AM until 11 PM every 30 minutes. This accessibility allows other options for transportation beyond the use of a vehicle. A reduced parking rate of 1.05 spaces per key is being considered for the guest rooms associated with the Smoketree Resort. Employee parking accounts for 0.25 spaces per room while 0.80 spaces per room are considered for the guest parking.

Justification for the lower rate can be found in the Institute of Transportation Engineering's (ITE) *Parking Generation* which more closely resembles the parking need experienced in the downtown area today. ITE Land Use Code, 310, Hotel, shows a range of rates from 0.75-1.02 vehicles per room during the weekday with a 95 percent confidence interval. The study includes data from both suburban locations (12 study sites) and urban locations (5 total sites for weekday data but only two considered for the overall data compilation due to lack of information). The data was separated into Suburban parking rates and Urban parking rates but no data plot was provided for the urban rates "due to disjointed data sets with counts spread over several discontinuous time periods". (page 73, ITE Parking Generation, 4th Edition). It is assumed that the higher rates of the confidence interval more closely match the parking requirements in the Smoketree Resort area. Therefore, a rate of 1.05 parking spaces per room is proposed.

INTERNAL CAPTURE – PARKING UTILIZATION

The determination of parking requirements for a resort should also consider the utilization of many uses within the resort by the same patron staying in the resort. To consider this, parking required for each use is prorated by assigning a percentage indicating the overlap from guests already staying within the resort (“onsite demand”) vs. drawing new trips (vehicles) from non-guests (“offsite demand”). All parking for guest rooms and employees were determined to be completely “off-site”. Parking generated by all other uses was assumed to be used by Resort occupants (“on-site”) and non-Resort occupants (“off-site”). Therefore, overlap percentages were applied to these uses to account for the “on-site” occupants who will already be parked as part of the resort guest room rate or within the Smoketree Resort Residential units. This occurrence is known as internal capture. **Table 2** summarizes the internal capture reduction for each use based on conversation with the developer and internal capture rates applied at other resorts within the Town.

Table 2: Internal Capture Reduction

SUP	Category	Internal Capture Reduction
i.	Guest unit	0%
ii.	Dwelling unit	0%
iii.	Restaurant-separate building	60%
iv.	Meeting Rooms	50%
v.	Retail-associated with Resort Hotel	100%
v.	Retail - separate building	50%
vi-a.	Office/Service Area-Employee	0%
vi-b.	Office/Service Area-Public	100%
vi-c.	Office/Service Area-Fitness	90%

A detailed summary of the parking demand based on the requirements within the Town’s Special Use Permit Guidelines and the applied internal capture for each use is shown in the Attachments. **Table 3** summarizes the parking demand per land use.

Table 3: Parking Demand Summary per Town of PV SUP Guidelines

Category	Parking Demand with Internal Capture Reduction
Resort Residences	60.00
Resort Guestrooms ⁽¹⁾	126.00
Resort Employee Office	3.33
Resort Meeting/Banquet Space	50.00
Resort Food & Beverage	16.80
Resort Fitness	0.00
Resort Retail	8.33
TOTAL	265

(1) Rate considers 0.25 spaces/key for employees and 0.80 spaces/key for guests

Per Paradise Valley's SUP Guidelines, the proposed Smoketree resort has a total parking demand of 265 parking spaces. This parking demand does not account for shared parking. A shared parking analysis has been conducted and is described in the following section. The Resort Residences will have their own dedicated 60 parking spaces, and therefore are not included in the shared parking analysis. Therefore 205 parking spaces are required for the resort operation prior to the application of shared parking.

SHARED PARKING ANALYSIS

For projects with a variety of land uses, the parking demand for each land use would peak at different hours. Therefore, the actual number of spaces needed at a given hour is less than cumulative parking demand. *Shared Parking* Urban Land Institute [ULI] describes shared

"Shared parking is defined as a parking space that can be used to serve two or more individual land uses without conflict or encroachment. The opportunity to implement shared parking is the result of two conditions:

- Variations in the peak accumulation of parked vehicles as the result of different activity patterns of adjacent or nearby land uses (by hour, by day, by season)
- Relationships among land use activities that result in people's attraction to two or more land uses on a single auto trip to a given area or development"

Parking hourly percentages have been established for the weekday and weekend for the different land uses within the proposed Smoketree Resort project. *ITE Parking Generation* manual is the primary source for the hourly percentages. Hourly percentages from *ITE Parking Generation, 4th Edition* were utilized when available. Other sources were utilized for the hotel restaurant and conference/meeting space, since *ITE Parking Generation, 4th Edition* does not provide hourly percentages for these specific uses. The sources utilized for the hourly percentages in the shared parking model are summarized in **Table 4**.

Table 4: Hourly Percentages utilized for the Shared Parking Model

Land Use	Source for Hourly Percentages
Resort Guest Rooms	Hourly percentages are from <i>ITE Parking Generation, 4th Edition</i> for ITE Code 310 (Hotel, Suburban).
Resort Employee/ Office	Hourly percentages are from <i>ITE Parking Generation, 4th Edition</i> for ITE Code 701 (Office, Weekday).
Off-site Restaurant	Hourly percentages are from <i>ITE Parking Generation, 4th Edition</i> for ITE Code 932 (High-Turnover Sit-Down Restaurant, Family Restaurant)
Resort Meetings/Conference	<i>ITE Parking Generation, 4th Edition</i> does not provide hourly percentages for conference/meeting space. Hourly percentages from <i>Urban Land Institute's Shared Parking, 2nd Edition</i> for Hotel Conference/Banquet were utilized.
Resort Fitness	Hourly percentages are from <i>ITE Parking Generation, 4th Edition</i> for ITE Code 492 (Health/Fitness Club).
Resort Employees (when subtracting from parking demand)	Percentages from <i>Urban Land Institute's Shared Parking, 2nd Edition</i> for Hotel Employee were utilized.

Detailed worksheets with the shared parking analyses for the weekday and weekend are included as attachments to this letter statement.

The proposed project is determining the amount of parking necessary to support their uses. While the current plan indicates there will be 180 parking spaces available, there is some flexibility in the plan to provide more spaces if necessary. There is also an option to share parking with other adjacent uses that may not need parking when the resort reaches its peak demand. The resort residential will have its own dedicated 60 parking spaces, and therefore is not included in the shared parking analysis.

Per the analysis, the peak parking demand on a weekday is estimated to be 174 spaces at 9:00 PM, resulting in a surplus of 6 parking spaces. The peak parking demand on the weekend is estimated to be 172 at 9:00 PM, resulting in a surplus of 8 parking spaces.

An increase of 15 percent may be applied to the available parking when providing valet services. Before applying the 15 percent increase, the employee parking was subtracted from the hourly traffic demand assuming that employees would not park via valet. Per *ULI's Shared Parking*, the recommended parking ratio for employees is 0.25 spaces per room on weekdays and 0.18 spaces per room on weekends. The 0.25 ratio results in 30 designated employee parking spaces. Thirty employee parking spaces were applied for the weekday and weekend analyses. The hourly percentages in *ULI's Shared Parking* were applied to distribute the employee parking and subtract them from the overall demand in the shared parking analysis.

The employee parking for the resort peaks during the day on a weekday and is less during the evening and on a weekend. Therefore, 30 parking spaces were subtracted from the available parking spaces from 8 AM to 5 PM resulting in 150 parking spaces available for non-employees. Based on the hotel employee hourly percentages, the evening peak employee parking is 18 parking spaces. As a result, 18 parking spaces were designated for employees during the evening and early morning hours resulting in 162 parking spaces available for non-employees. Valet parking allows for parking efficiency therefore the 150 and 162 traditional parking spaces available for non-employees in a no valet scenario would equate to 172 and 186 available parking spaces for non-employees in a valet only scenario.

Once the employee parking which was removed from the initial calculation is added back in, there are a total of 202 available parking spaces between 8 AM and 5 PM and 204 available parking spaces between the hours of 6 PM and midnight in the valet only scenario.

With a valet service, there would be a surplus of 28 parking spaces at the resorts peak demand on a weekday and a surplus of 32 parking spaces at 9:00 PM during the weekend.

HOTEL OCCUPANCY HISTORY

Data compiled from Smith Research Travel for Paradise Valley hotels include historical occupancy rates from 2009 to May 2015. A table with the data is included as an attachment. Per the table, the maximum occupancy occurred in March 2013 and was 92.7%. March is historically the highest month with an average of 86.9% over the 7 years of data. The data also include average occupancy rates per the day of week. February and March are the only months that had a day of week average occupancy greater than 90%. In February, it was only on Wednesday (91%). March had average occupancies of 91.6%, 94.0%, and 92.0% on Wednesday, Thursday and Saturday respectively. Therefore, the occupancy on the remaining days of the year is expected to be less than 90% with a 61% average occupancy during the

summer months (June through September). The shared parking analysis is based on 100% occupancy, and therefore represents the worst-case scenario.

PARKING TRENDS – DRIVE IN RATE

Many travelers to resorts are opting to use ride services such as Uber and Lyft in addition to Taxi's. Ride hailing services have become more predictable and easier to use. As a greater shift in personal travel is switching to ride hailing, the need for parking spaces at retail, hotel, and other venues is decreasing. While there is no specific rate for the number of travelers which choose ride hailing, most resorts suggest that it could be as high as 30-40 percent. Data collected at the Biltmore Resort suggests that 40 percent of their patrons arrive via ride hailing services. Just over 25 percent of the patrons of the Phoenician Resort arrive via ride hailing services. Actual measurements for the number of patrons arriving for check-in at the existing Smoketree Resort will be collected and may be considered in future updates to this study.

CONCLUSIONS

- The proposed project will consist of a resort hotel with 120 key units, resort residential with 30 units, a restaurant in a stand along building and a retail/coffee area in a standalone building. The retail/coffee building is intended to service resort guests only. The resort hotel will include fitness and event/meeting amenities.
- On-site parking will provide 180 parking spaces, not including the resort residential. The resort residential is proposed with its own dedicated 60 parking spaces, and therefore was not included in the shared parking analysis. An exhibit illustrating the provided parking is attached.
- Per the parking requirements of the Town's SUP guidelines and the shared parking analysis, the peak parking demand on a weekday is estimated to be 174 spaces at 9:00 PM, resulting in a surplus of 6 parking spaces. The peak parking demand on the weekend is estimated to be 172 at 9:00 PM, resulting in a surplus of 8 parking spaces.
- An increase of 15 percent may be applied to the available parking when providing valet services. Before applying the 15 percent increase, the employee parking was subtracted from the hourly traffic demand assuming that employees would not park via valet. The employee parking for the resort peaks during the day on a weekday and is less during the evening and on a weekend. Therefore, 30 parking spaces were designated for employees from 8 AM to 5 PM resulting in 150 parking spaces designated for non-employees. Based on the hotel employee hourly percentages, the evening peak employee parking is 18 parking spaces. As a result, 18 parking spaces were designated for employees during the evening and early morning hours resulting in 162 parking spaces available for non-employees.
- Valet parking allows for parking efficiency therefore the 150 and 162 traditional parking spaces available for non-employees in a no valet scenario would equate to 172 and 186 available parking spaces for non-employees in a valet only scenario.
- With a valet service, there would be a surplus of 28 parking spaces at the resorts peak demand on a weekday and a surplus of 32 parking spaces at 9:00 PM during the weekend.
- The typical monthly and daily occupancies will not necessitate a 100% valet operation.

- The parking rate may be further modified once drive-in rate information has been collected at the existing (operational) Smoketree Resort. While the long-term trend indicates that fewer patrons will drive and park, opting for other ride hailing services, it is difficult to predict the percentage reduction in parking. The short-term parking trend can already be seen at existing resorts.
- Smoketree Resort is currently discussing options for parking the residential units with the Town of Paradise Valley. Updates to this parking study may be required to reflect parking rate changes and/or decisions about the inclusion of additional keys beyond the 120 evaluated herein.

Should you wish to discuss this information further, please contact me at (480) 659-4250.

Sincerely,

CivTech



Dawn D. Cartier, P.E., PTOE
Project Engineer

Attachments:

Parking Demand
Shared Parking Analysis
Parking Exhibit
Occupancy Data
ITE Parking Generation Rate - Hotel

Table 1 (excerpted from Town of Paradise Valley SUP Guidelines & ITE Parking Generation, 4th Ed.)

SUP	Category	Parking Requirement
i.	Each Hotel Key**	1.05 spaces
ii.	Each dwelling unit*	2 spaces
iii.	Restaurant	1 space per 50 SF of net dining area
iv.	Meeting Rooms/Auditoriums/Group Assembly	1 space per two seats of public area (assumed to be 50 square feet)
v.	Retail	1 space per 300 SF of net sales area
vi-a.	Office	1 space per 300 SF of net occupied space
vi-b.	Service Establishment/Spa/Fitness/Sales Establishments	1 space per 300 SF of net occupied space

*A dwelling unit is any Resort Unit that is not a Hotel Key.

** Revised parking rate providing 0.8 guest spaces/key and 0.25 employee spaces/key

Table 2 (excerpted from similar resorts in the Town of Paradise Valley)

SUP	Category	Internal Capture Reduction
i.	Guest unit	0%
ii.	Dwelling unit	0%
iii.	Restaurant-associated with Resort Hotel/Clubhouse	60%
iii.	Restaurant-Poolside Grill	75%
iii.	Restaurant-separate building	50%
iv.	Meeting Rooms	50%
iv.	Auditoriums	50%
iv.	Group Assembly	75%
v.	Retail-associated with Resort Hotel/Clubhouse	100%
v.	Retail - separate building	50%
vi-a.	Office/Service Area-Employee	0%
vi-b.	Office/Service Area-Public	100%
vi-c.	Office/Service Area-Spa/Fitness	90%

18-0550					11/15/2018			
SUP	CATEGORY	Parking Requirement ⁽¹⁾		Keys/Units	NET INTERIOR (SF)	COVERED EXTERIOR (SF)	Internal Capture ⁽²⁾	Net Parking Spaces after Internal Capture Reduction
Dwelling Units								
Apartments		Lockable Entries						
i	1 Bedroom Suite	2.0 spaces per	1 Unit	30		-	0%	60.00
Total				30				60.00
Hotel								
i	Guestrooms	1.05 spaces per	1 Unit	120		-	0%	126.00
Total				120				126.00
Administrative								
vi-a	Executive Office	1 spaces per	300 SF	-	250	-	0%	0.83
vi-a	HR/Accounting Office	1 spaces per	300 SF	-	250	-	0%	0.83
vi-a	Sales Office	1 spaces per	300 SF	-	250	-	0%	0.83
vi-b	Front Desk	1 spaces per	300 SF	-	250	-	100%	0.00
vi-a	Misc Office	1 spaces per	300 SF	-	250	-	0%	0.83
Total				0	1,250			3.33
Lobby/Public Areas								
x	Circulation	0 spaces per	0 SF	-	0	-	0%	0.00
x	Lobby	0 spaces per	0 SF	-	2,000	-	0%	0.00
x	Drop-Off	0 spaces per	0 SF	-		0	0%	0.00
x	Restrooms	0 spaces per	0 SF	-	0	-	0%	0.00
Total				0	2,000	0		0.00
Meeting Space								
x	Pre-Function Space	0 spaces per	0 SF	-	0	-		0.00
iv	Pavilion	1 spaces per	50 SF	-	5,000	-	50%	50.00
Total				0	5,000	0		50.00
Outdoor Event Space (100% capture rate, since it's used in conjunction with meeting space)								
iv	Event Lawn - Venue 1	1 spaces per	50 SF	-	5,000	0	100%	0.00
iv	Event Lawn - Venue 2	1 spaces per	50 SF	-	3,000	0	100%	0.00
Total				0	8,000	0		0.00
Back of House								
x	Valet/Bag+Bell	0 spaces per	0 SF	-	0	-	0%	0.00
x	Housekeeping	0 spaces per	0 SF	-	0	-	0%	0.00
x	Employee Area	0 spaces per	0 SF	-	0	-	0%	0.00
x	Receiving/Eng/Sec	0 spaces per	0 SF	-	0	-	0%	0.00
x	Loading dock	0 spaces per	0 SF	-	0	0	0%	0.00
Total				0	0	0		0.00
Stand Alone Food and Beverage								
iii	Restaurant	1 spaces per	50 SF	-	2,100	0	60%	16.80
Total				0	2,100	0		16.80
Retail Space								
v	Retail Space	1 spaces per	300 SF	-	0	-	100%	0.00
Total				0	0	0		0.00
Stand Along Retail/Coffee								
iii	Restaurant	1 spaces per	50 SF	-	500	-	50%	5.00
v	Retail	1 spaces per	300 SF	-	2,000	-	50%	3.33
Total				0	2,500	0		8.33
Fitness								
vi	Fitness	1 spaces per	150 SF	-	2,500	0.00	100%	0.00
Total				0	2,500	0		0.00
GRAND TOTAL								265

1. Parking Ratios from Table 1 of Town of Paradise Valley Ordinance & Revised rates per ITE Parking Generation

2. Internal Capture Percentages from other similar operating resorts

18-0550
PEAK USE SHARED PARKING CALCULATIONS-WEEKDAY

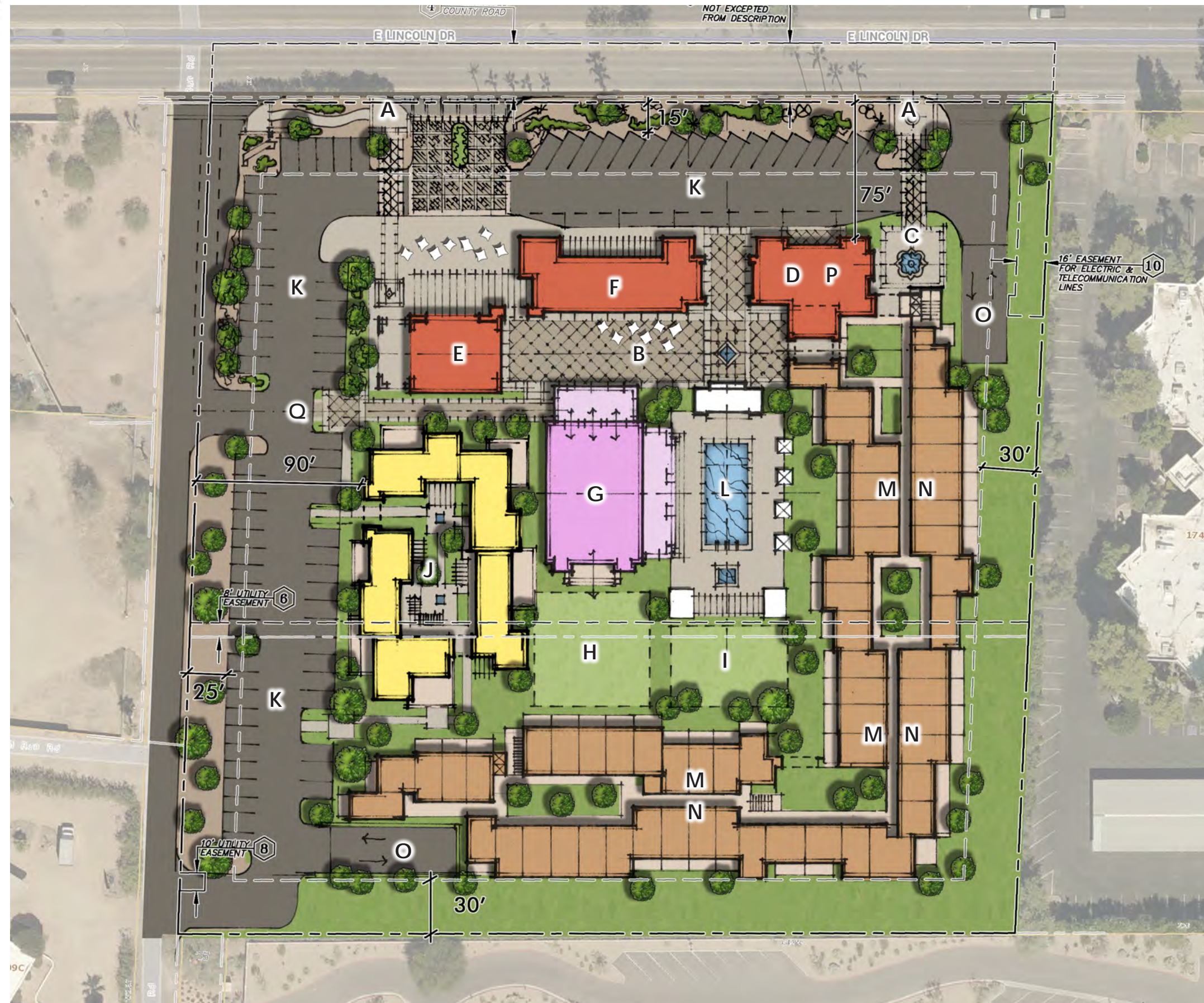
Land Use	Hotel Guest Rooms ⁽¹⁾		Hotel Restaurant ⁽²⁾		Hotel Employee/ Office ⁽³⁾		Off-site Restaurant & Retail ⁽⁴⁾		Hotel Meetings & Conference ⁽⁵⁾		Hotel Fitness ⁽⁶⁾		Removing Employees from Parking Demand ⁽⁷⁾ (0.25 spaces per room)		NET Parking Demand (with Emp)	NET Parking Demand (w.o. Emp)	Parking WITHOUT employees (30 of the 180 parking spaces are designated for employees from 8 AM- 5 PM, which is the peak employee period and 18 parking spaces are designated during other times)			Parking available at full occupancy and peak events, employees could self park 202 parking spaces. ⁽⁹⁾	Parking Surplus/ Shortage with Valet at full occupancy
Parking Demand	126.00		17.00		3.00		8.00		50.00		0.00		-30.00		204	174					
Time of Day	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	PEAK Parking Demand (with Emp)	PEAK Parking Demand (w.o. Emp)	Parking available minus Emp ⁽⁸⁾	Parking with Valet w.o. Emp (15% increase)	Parking Surplus/ Shortage with Valet (w.o. Emp)		
6:00 AM	100%	126.00	0%	0.00	0%	0.00	26%	2.08	0%	0.00	20%	0.00	5%	-1.50	129	127	162	186	59	202	73
7:00 AM	96%	120.96	10%	1.70	59%	1.77	44%	3.52	0%	0.00	20%	0.00	30%	-9.00	128	119	162	186	67	202	74
8:00 AM	90%	113.40	30%	5.10	79%	2.37	57%	4.56	30%	15.00	20%	0.00	90%	-27.00	141	114	150	173	59	202	61
9:00 AM	87%	109.62	10%	1.70	95%	2.85	76%	6.08	60%	30.00	26%	0.00	90%	-27.00	151	124	150	173	49	202	51
10:00 AM	82%	103.32	10%	1.70	100%	3.00	85%	6.80	60%	30.00	51%	0.00	100%	-30.00	145	115	150	173	58	202	57
11:00 AM	77%	97.02	5%	0.85	98%	2.94	92%	7.36	60%	30.00	48%	0.00	100%	-30.00	139	109	150	173	64	202	63
12:00 PM	77%	97.02	100%	17.00	90%	2.70	100%	8.00	65%	32.50	42%	0.00	100%	-30.00	158	128	150	173	45	202	44
1:00 PM	75%	94.50	100%	17.00	77%	2.31	90%	7.20	65%	32.50	47%	0.00	100%	-30.00	154	124	150	173	49	202	48
2:00 PM	73%	91.98	33%	5.61	84%	2.52	53%	4.24	65%	32.50	38%	0.00	100%	-30.00	137	107	150	173	66	202	65
3:00 PM	70%	88.20	10%	1.70	81%	2.43	42%	3.36	65%	32.50	41%	0.00	100%	-30.00	129	99	150	173	74	202	73
4:00 PM	71%	89.46	10%	1.70	72%	2.16	42%	3.36	65%	32.50	61%	0.00	90%	-27.00	130	103	150	173	70	202	72
5:00 PM	70%	88.20	30%	5.10	46%	1.38	76%	6.08	100%	50.00	84%	0.00	75%	-22.50	151	129	150	173	44	202	51
6:00 PM	74%	93.24	55%	9.35	25%	0.75	83%	6.64	100%	50.00	91%	0.00	60%	-18.00	160	142	162	186	44	202	42
7:00 PM	75%	94.50	60%	10.20	0%	0.00	63%	5.04	100%	50.00	100%	0.00	55%	-16.50	160	144	162	186	42	202	42
8:00 PM	79%	99.54	70%	11.90	0%	0.00	66%	5.28	100%	50.00	50%	0.00	55%	-16.50	167	151	162	186	35	202	35
9:00 PM	85%	107.10	67%	11.39	0%	0.00	63%	5.04	100%	50.00	0%	0.00	55%	-16.50	174	158	162	186	28	202	28
10:00 PM	87%	109.62	60%	10.20	0%	0.00	48%	3.84	50%	25.00	0%	0.00	45%	-13.50	149	136	162	186	50	202	53
11:00 PM	97%	122.22	40%	6.80	0%	0.00	44%	3.52	0%	0.00	0%	0.00	45%	-13.50	133	120	162	186	66	202	69
MIDNIGHT	100%	126.00	30%	5.10	0%	0.00	0%	0.00	0%	0.00	0%	0.00	30%	-9.00	132	123	162	186	63	202	70
															174.00	158.00	28.00			28.00	

1. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 310 (Hotel, Weekday Suburban).
2. *ITE Parking Generation, 4th Edition* does not provide hourly percentages for a Hotel Restaurant. Hourly percentages from *Urban Land Institute's Shared Parking, 2nd Edition* for Hotel Restaurant/Lounge were utilized.
3. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 701 (Office, Weekday Suburban).
4. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 932 (High-Turnover Sit-Down Restaurant, Weekday at a Family Restaurant)
5. *ITE Parking Generation, 4th Edition* does not provide hourly percentages for conference/meeting space. Hourly percentages from *Urban Land Institute's Shared Parking, 2nd Edition* for Hotel Conference/Banquet were utilized.
6. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 492 (Health/Fitness Club, Weekday).
7. Hourly percentages from Urban Land Institute's Shared Parking, 2nd Edition for Hotel Employees were utilized.
8. 30 spaces are allotted for employees from 8-5 resulting in 150 spaces available (180-30=150). 18 spaces are allotted the other hours, resulting in 162 spaces available (180-18=162). Employees peak during the day on a weekday.
9. At full occupancy and peak event periods, employees could still self park. When applying a 15% increase to 150 park spaces and adding back self parking for employees, 202 parking spaces are available.

18-0550
PEAK USE SHARED PARKING CALCULATIONS-WEEKEND

Land Use	Hotel Guest Rooms ⁽¹⁾		Hotel Restaurant ⁽²⁾		Hotel Employee/ Office ⁽³⁾		Off-site Restaurant & Retail ⁽⁴⁾		Hotel Meetings & Conference ⁽⁵⁾		Hotel Fitness ⁽⁶⁾		Removing Employees from Parking Demand ⁽⁷⁾ (0.25 spaces per room)		NET Parking Demand (with Emp)	NET Parking Demand (w.o. Emp)	Parking WITHOUT employees (30 of the 180 parking spaces are designated for employees from 8 AM-5 PM, which is the peak employee period and 18 parking spaces are designated during other times)			Parking available at full occupancy and peak events, employees could self park 202 parking spaces. ⁽⁹⁾	Parking Surplus/ Shortage with Valet for Emp at full occupancy
Parking Demand	126.00		17.00		3.00		8.00		50.00		0.00		-30.00		204	174					
Time of Day	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	% of Peak	# of Spaces	PEAK Parking Demand (with Emp)	PEAK Parking Demand (w.o Emp)	Parking available minus Emp ⁽⁸⁾	Parking with Valet w.o Emp (15% increase)	Parking Surplus/ Shortage with Valet (w.o. Emp)		
6:00 AM	100%	126.00	0%	0.00	0%	0.00	20%	1.60	0%	0.00	0%	0.00	5%	-1.50	128	127	162	186	59	202	74
7:00 AM	96%	120.96	10%	1.70	59%	1.77	30%	2.40	0%	0.00	0%	0.00	30%	-9.00	127	118	162	186	68	202	75
8:00 AM	90%	113.40	30%	5.10	79%	2.37	51%	4.08	30%	15.00	76%	0.00	90%	-27.00	140	113	150	173	60	202	62
9:00 AM	87%	109.62	10%	1.70	95%	2.85	73%	5.84	60%	30.00	94%	0.00	90%	-27.00	151	124	150	173	49	202	51
10:00 AM	82%	103.32	10%	1.70	100%	3.00	94%	7.52	60%	30.00	95%	0.00	100%	-30.00	146	116	150	173	57	202	56
11:00 AM	77%	97.02	5%	0.85	98%	2.94	100%	8.00	60%	30.00	100%	0.00	100%	-30.00	139	109	150	173	64	202	63
12:00 PM	77%	97.02	100%	17.00	90%	2.70	93%	7.44	65%	32.50	87%	0.00	100%	-30.00	157	127	150	173	46	202	45
1:00 PM	75%	94.50	100%	17.00	77%	2.31	84%	6.72	65%	32.50	82%	0.00	100%	-30.00	154	124	150	173	49	202	48
2:00 PM	73%	91.98	33%	5.61	84%	2.52	63%	5.04	65%	32.50	78%	0.00	100%	-30.00	138	108	150	173	65	202	64
3:00 PM	70%	88.20	10%	1.70	81%	2.43	39%	3.12	65%	32.50	73%	0.00	100%	-30.00	128	98	150	173	75	202	74
4:00 PM	71%	89.46	10%	1.70	72%	2.16	48%	3.84	65%	32.50	77%	0.00	90%	-27.00	130	103	150	173	70	202	72
5:00 PM	70%	88.20	30%	5.10	46%	1.38	55%	4.40	100%	50.00	72%	0.00	75%	-22.50	150	127	150	173	46	202	52
6:00 PM	74%	93.24	55%	9.35	25%	0.75	63%	5.04	100%	50.00	68%	0.00	60%	-18.00	159	141	162	186	45	202	43
7:00 PM	75%	94.50	60%	10.20	0%	0.00	74%	5.92	100%	50.00	94%	0.00	55%	-16.50	161	145	162	186	41	202	41
8:00 PM	79%	99.54	70%	11.90	0%	0.00	55%	4.40	100%	50.00	0%	0.00	55%	-16.50	166	150	162	186	36	202	36
9:00 PM	85%	107.10	67%	11.39	0%	0.00	39%	3.12	100%	50.00	0%	0.00	55%	-16.50	172	156	162	186	30	202	30
10:00 PM	87%	109.62	60%	10.20	0%	0.00	40%	3.20	50%	25.00	0%	0.00	45%	-13.50	149	135	162	186	51	202	53
11:00 PM	97%	122.22	40%	6.80	0%	0.00	53%	4.24	0%	0.00	0%	0.00	45%	-13.50	134	120	162	186	66	202	68
MIDNIGHT	100%	126.00	30%	5.10	0%	0.00	0%	0.00	0%	0.00	0%	0.00	30%	-9.00	132	123	162	186	63	202	70
															172.00	156.00	150.00	30.00		30.00	

1. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 310 (Hotel, Weekday Suburban. Weekend data are not provided in ITE).
2. *ITE Parking Generation, 4th Edition* does not provide hourly percentages for a Hotel Restaurant. Hourly percentages from *Urban Land Institute's Shared Parking, 2nd Edition* for Hotel Restaurant/Lounge were utilized.
3. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 701 (Office, Weekend Suburban. Weekend data are not provided in ITE).
4. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 932 (High-Turnover Sit-Down Restaurant, Weekend at a Family Restaurant)
5. *ITE Parking Generation, 4th Edition* does not provide hourly percentages for conference/meeting space. Hourly percentages from *Urban Land Institute's Shared Parking, 2nd Edition* for Hotel Conference/Banquet were utilized.
6. Hourly percentages are from *ITE Parking Generation, 4th Edition* for ITE Code 492 (Health/Fitness Club, Weekend).
7. Hourly percentages from Urban Land Institute's Shared Parking, 2nd Edition for Hotel Employees were utilized.
8. 30 spaces are allotted for employees from 8-5 resulting in 150 spaces available (180-30=150). 18 spaces are allotted the other hours, resulting in 162 spaces available (180-18=162). Employees peak during the day on a weekday.
9. At full occupancy and peak event periods, employees could still self park. When applying a 15% increase to 150 park spaces and adding back self parking for employees, 202 parking spaces are available.



PROGRAM

- A. Pedestrian Entry
- B. Promenade - Venue #1
- C. Hotel Entry Plaza
- D. Hotel Reception (2,000 sf.)
- E. Market (2,500 sf.)
- F. Restaurant / Retail (3,500 sf.)
- G. Pavilion (5,000 sf.)
- H. Event Lawn - Venue #2 (5,000 sf.)
- I. Event Lawn - Venue #3 (3,000 sf.)
- J. Resort Villas
- K. Surface Parking
- L. Hotel Pool
- M. Hotel Bedrooms (first 2 floors)
- N. Resort Residences (3rd floor)
- O. Underground parking access
- P. Administration (2nd floor)
- Q. Event Drop Off

HOTEL UNITS - 120 Units (60 per level)

- Connected building
- On first and second levels
- Hotel Room Area 51,000 sf.
- Building footprint = 40,000 sf (includes hallways, service and balconies)

RESORT RESIDENCES

VILLAS

- 10 units / 10,800 sf
- 1,200 sf. per Villa

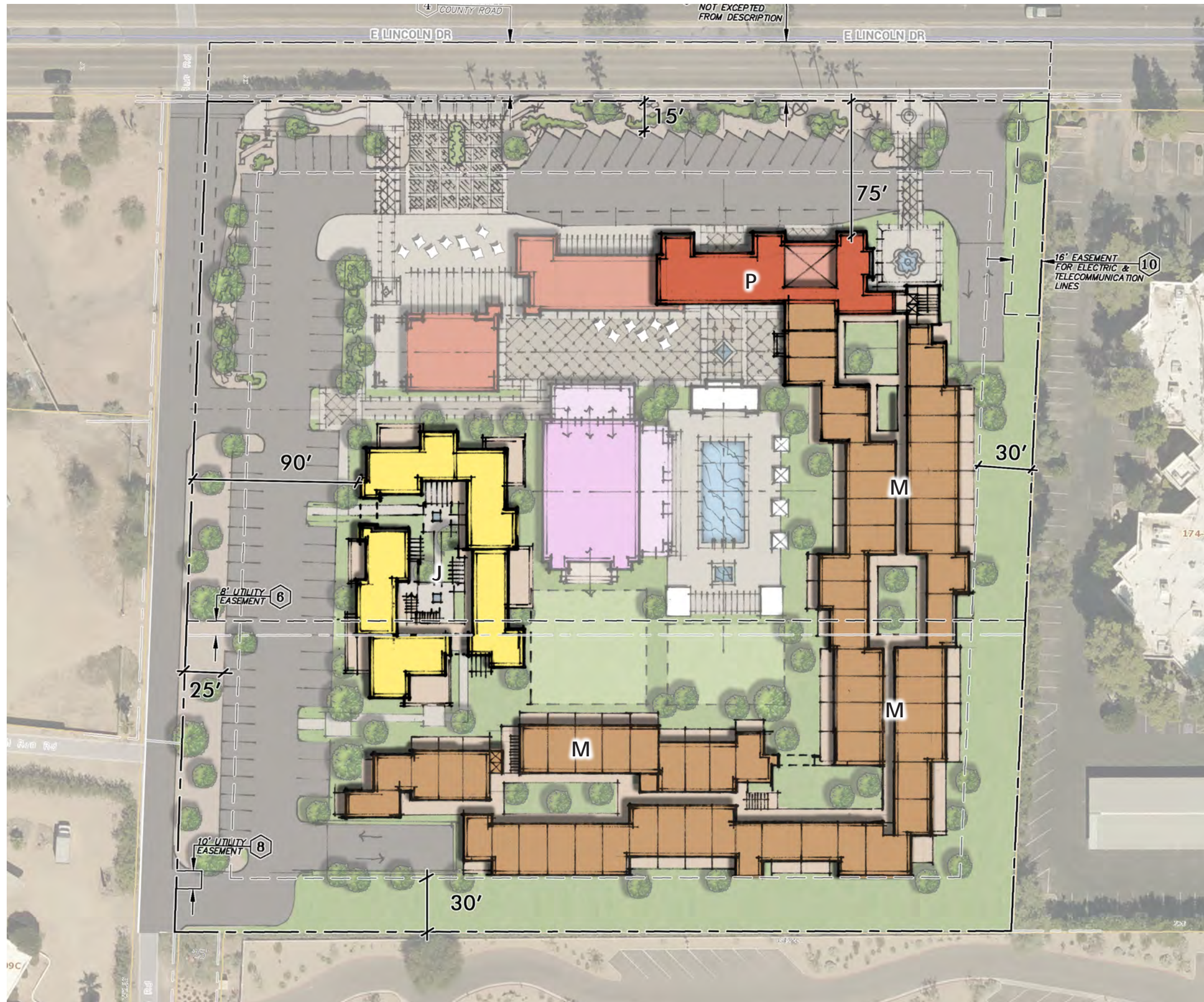
HOTEL TOP RESIDENCES

- 20 Units / 25,200 sf.
- 3rd Level of Hotel buildings
- 1,200 sf per Residence
- Exterior uncover parking

SURFACE PARKING = 83 Spaces

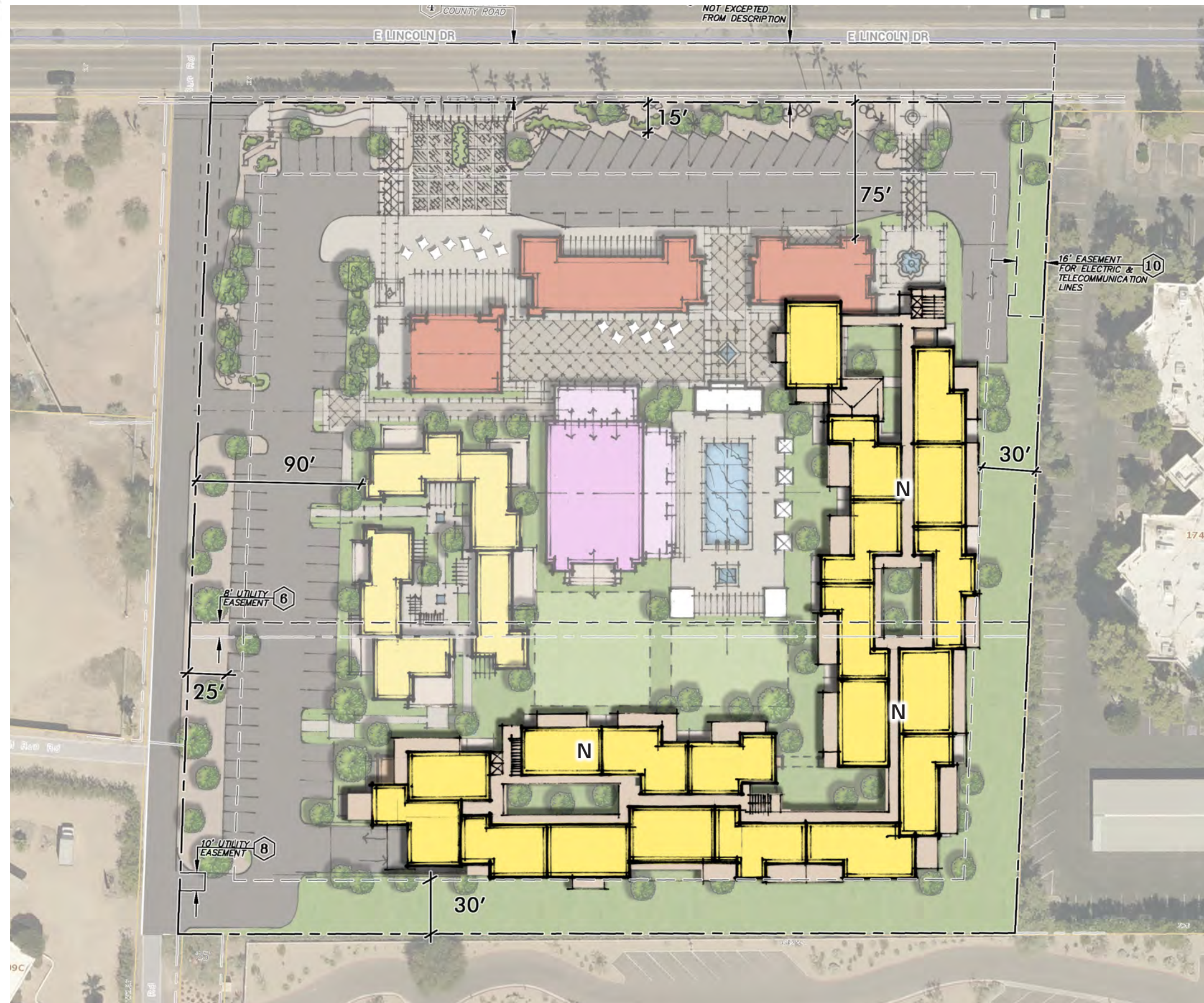


0' 25' 50' 100'



PROGRAM

- J. Resort Villas
- M. Hotel Bedrooms (first 2 floors)
- P. Administration (2nd floor)



PROGRAM

N. Resort Residences (3rd floor)



0' 25' 50' 100'

Smoketree Resort
Occupancy by Month and Day of Week

Occupancy (%) -- Paradise Valley Resorts per Smith Travel Research												
	January	February	March	April	May	June	July	August	September	October	November	December
2009	59.2	66.0	77.9	67.6	70.8	57.7	52.1	54.5	58.7	69.3	68.4	58.6
2010	74.4	80.9	88.0	79.3	71.4	66.4	51.6	53.8	61.4	74.9	75.3	54.2
2011	74.0	81.6	89.0	82.7	70.5	65.5	59.0	56.8	61.4	68.0	72.8	56.6
2012	74.2	82.7	90.2	75.6	69.6	68.0	54.2	70.2	61.6	74.2	67.6	56.7
2013	79.8	83.4	92.7	84.4	73.2	69.8	58.2	61.1	64.1	74.2	74.2	63.2
2014	69.1	82.0	83.0	76.8	72.7	65.9	63.0	66.8	65.8	73.8	69.3	60.7
2015	73.9	82.6	87.7	80.8	73.2							
Avg	72.1	79.9	86.9	78.2	71.7	65.5	56.4	60.6	62.2	72.4	71.3	58.3

Resort Parking	January	February	March	April	May	June	July	August	September	October	November	December
@ 100% Occupancy	220	220	220	220	220	220	220	220	220	220	220	220
w/ Driver Rate @ 50%	110	110	110	110	110	110	110	110	110	110	110	110
@ Avg. Occupancy	158	175	191	172	157	144	124	133	137	159	156	128
w/ Driver Rate @ 50%*	79	88	95	86	79	72	62	66	68	80	78	64

Occupancy (%) -- Paradise Valley Resorts per Smith Travel Research								Total Month
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
Jun - 14	47.0	63.1	75.7	73.3	65.2	69.6	72.7	65.9
Jul - 14	46.1	59.3	64.5	62.2	61.6	70.9	76.1	63.0
Aug - 14	54.9	63.5	69.1	66.2	61.3	70.9	80.1	66.8
Sep - 14	55.6	65.5	70.9	69.5	65.5	63.1	68.9	65.8
Oct - 14	55.4	77.1	82.8	77.0	71.8	73.9	78.1	73.8
Nov - 14	48.5	63.3	68.5	79.3	78.7	79.3	72.1	69.3
Dec - 14	54.5	55.1	59.3	66.9	60.8	60.8	67.9	60.7
Jan - 15	55.4	70.3	81.7	87.5	80.0	72.1	70.0	73.9
Feb - 15	78.6	76.7	86.8	91.0	86.4	80.9	77.5	82.6
Mar - 15	79.1	84.0	88.7	91.6	94.0	87.3	92.1	87.7
Apr - 15	61.6	83.2	88.7	86.3	83.3	78.1	82.2	80.8
May - 15	64.9	69.8	77.3	72.5	67.9	77.7	81.1	73.2
Total Year	58.5	69.1	75.8	76.7	73.1	73.7	76.5	71.9

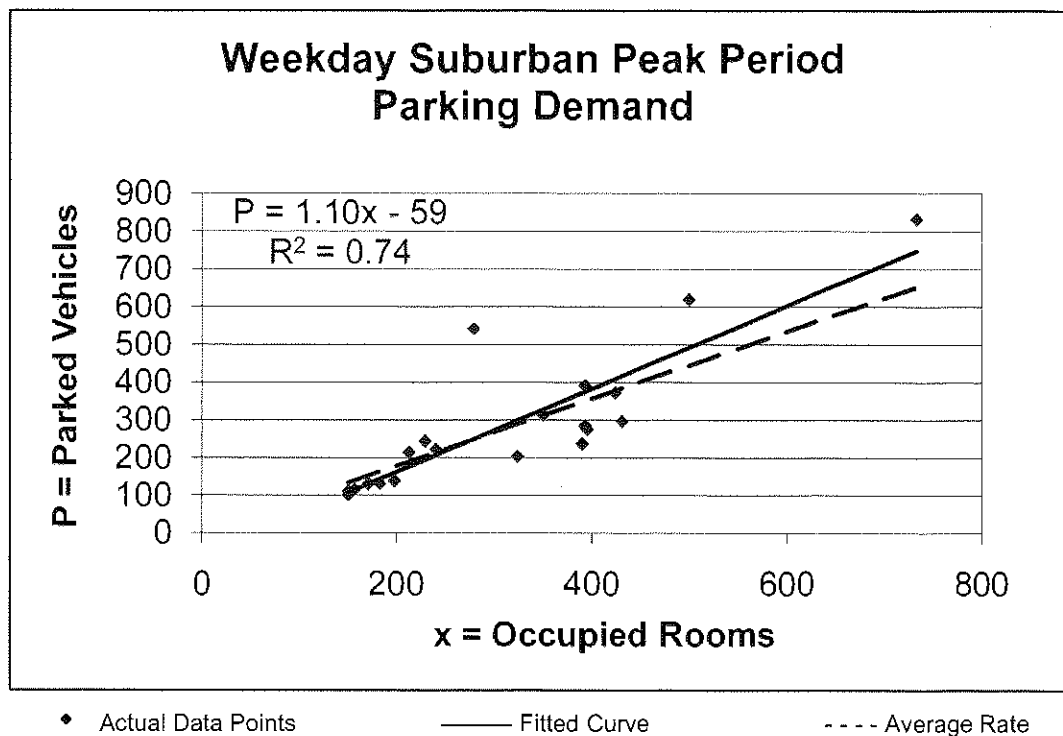
Resort Parking	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Month
@ 100% Occupancy	220	220	220	220	220	220	220	220
w/ Driver Rate @ 50%	110	110	110	110	110	110	110	110
@ Avg. Occupancy	128	152	166	168	161	162	168	158
w/ Driver Rate @ 50%*	64	76	83	84	80	81	84	79

* The Sanctuary averages a 50% drive-in rate of occupied rooms.

Land Use: 310 Hotel

Average Peak Period Parking Demand vs. Occupied Rooms On a: Weekday Location: Suburban

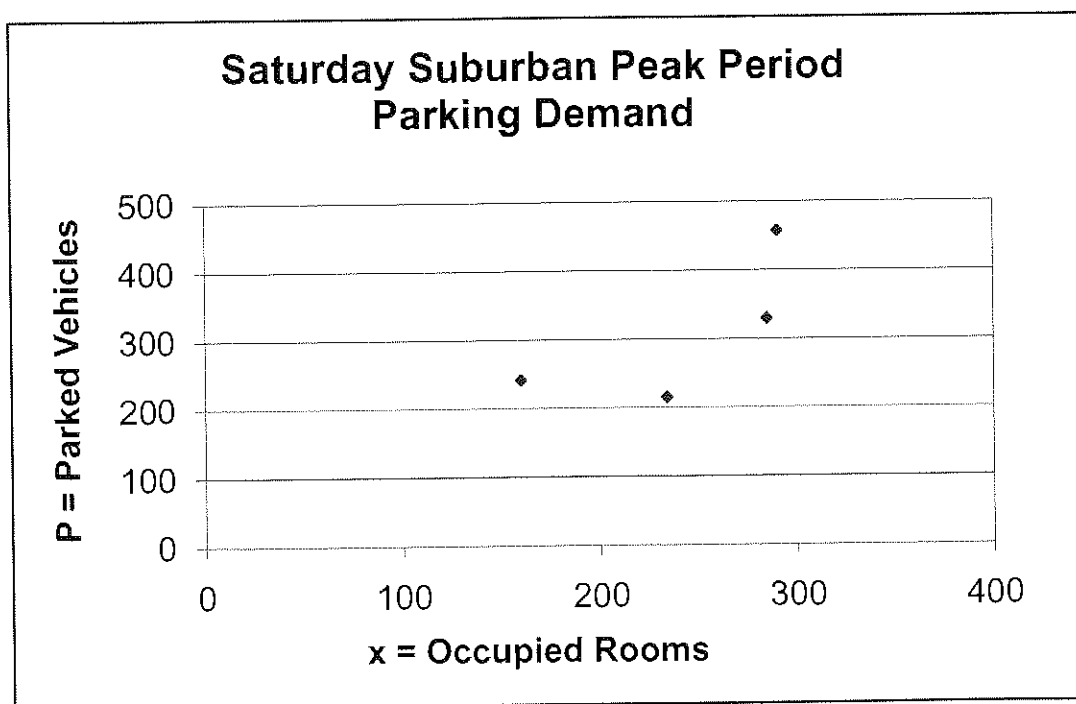
Statistic	Peak Period Demand
Peak Period	12:00–1:00 p.m.; 7:00–10:00 p.m.; 11:00 p.m.–5:00 a.m.
Number of Study Sites	20
Average Size of Study Sites	315 occupied rooms
Average Peak Period Parking Demand	0.89 vehicles per occupied room
Standard Deviation	0.31
Coefficient of Variation	35%
95% Confidence Interval	0.75–1.02 vehicles per occupied room
Range	0.61–1.94 vehicles per occupied room
85th Percentile	1.08 vehicles per occupied room
33rd Percentile	0.72 vehicles per occupied room



Land Use: 310 Hotel

Average Peak Period Parking Demand vs. Occupied Rooms On a: Saturday Location: Suburban

Statistic	Peak Period Demand
Peak Period	7:00–8:00 p.m.; 9:00–10:00 p.m.
Number of Study Sites	4
Average Size of Study Sites	242 occupied rooms
Average Peak Period Parking Demand	1.20 vehicles per occupied room
Standard Deviation	0.31
Coefficient of Variation	26%
Range	0.92–1.57 vehicles per occupied room
85th Percentile	1.54 vehicles per occupied room
33rd Percentile	1.15 vehicles per occupied room



◆ Actual Data Points

February 11, 2019

SMOKE TREE RESORT

Town of Paradise Valley, AZ

Prepared for:

Gentree, LLC

3620 E Campbell Ave, Suite B
Phoenix, AZ 85018
(602) 952-8811

Prepared by:

CVL Consultants, Inc.

4550 N 12th Street
Phoenix, AZ 85014
(602) 264-6831



Job #:1-01-03153-01

Preliminary Drainage Report

For

Smoke Tree Resort

Paradise Valley, Arizona

February 11, 2019

Prepared for:

Gentree, LLC

3620 E Campbell Ave, Suite B

Phoenix, AZ 85018

(602) 952-8811

Prepared by:

Coe & Van Loo Consultants, Inc.

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**Preliminary Drainage Report for
Smoke Tree Resort**

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APPENDICES

- Appendix A NOAA Rainfall Data
Appendix B Runoff Coefficients, Retention and Drywell Calculations

FIGURES

- Figure 1 Location & Vicinity Map
Figure 2 FIRM Map



1.0 INTRODUCTION

1.1 SCOPE

Coe & Van Loo Consultants, Inc. (CVL) has been contracted by Gentree, LLC to provide engineering services in support of the proposed improvements to Smoke Tree Resort, herein referred to as the site. The purpose of this report is to provide on-site and off-site hydrologic and hydraulic analysis for the proposed development.

This report is focused on providing design information, evaluation, and analysis for statistical flood events up to and including the 100-year storm. The scope of this assessment does not include, neither did CVL's client request that, evaluation of storm-water runoff resulting from storm events exceeding the 100-year frequency event. Hence, it should be noted that a storm event exceeding the 100-year frequency may cause or create the risk of greater flood impact than is addressed and presented in this assessment.

The procedures used herein are derived from, and performed with, currently accepted engineering methodologies and practices.

1.2 REGULATORY JURISDICTION

The development is designed to meet the drainage requirements as stated in the Town of Paradise Valley's *Storm Drain Design Manual (1987)* [1] and Flood Control District of Maricopa County (FCDMC), *Drainage Design Manuals for Maricopa County, Arizona, Volume I, Hydrology* [2], *Volume II, Hydraulics* [3], and *Drainage Policies and Standards Manual for Maricopa County, Arizona* [4].

2.0 SITE CONDITIONS

2.1 LOCATION

The site is located within the Town of Paradise Valley, Maricopa County, Arizona. The site is bordered on the north by Lincoln Drive, on the east by commercial property, on the south by the Andaz Resort Hotel and on the west by Quail Run Road and custom residences. Furthermore, the site is located within Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Arizona.

2.2 EXISTING CONDITIONS

A field reconnaissance of the 5.3-acre resort and its surroundings was performed on February 5th, 2019. It was observed that the site and surrounding properties are flat and generally drain to east then to the north towards Lincoln Drive. The resort's landscaping is characterized by hedges around all but the north perimeter, mature trees throughout the site and open space consisting of lawn and dirt drive lanes and parking.

2.3 PROPOSED CONDITIONS

The resort was originally opened in 1966 and has yet to undergo any significant renovations beyond general maintenance measures. The resort is notably dated and in need of renovations and refurbishment of amenities. The vision for the transformation of the Smoke Tree Resort is to welcome guests to a four-star "local-centric" hospitality experience in both form and substance. This is to be achieved through active forward-facing components and lifestyle programmatic aspects. The existing resort often goes unnoticed in its unassuming character along Lincoln Drive, with only 23 of its 32 guest rooms currently in use. The revitalization of the site will retain its charming essence while providing the scale and quality of amenities sought by today's traveler; the specifics of which include 150 guest rooms, 30 resort dwelling units, special event venues, and a neighborhood local-centric fresh market & eatery concept. The relaxed, pedestrian friendly environment will not include the typical resort perimeter walls or gates; instead, setbacks that align with existing buildings are desired, including a bicycle/pedestrian path that shall weave the resort into the local tapestry.

3.0 FLOOD ZONE INFORMATION

The Maricopa County, Arizona and Incorporated Areas Flood Insurance Rate Map (FIRM), panel numbers 04013C1770L, Map Revised October 16, 2013 [5], indicates the site falls within Zone "D."

Zone "D" is defined by FEMA as:

"The Zone D designation is used for areas where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. The Zone D designation is also used when a community incorporates portions of another community's area where no map has been prepared."

Refer to Figure 2 for a copy of the Flood Insurance Rate Map (FIRM).

4.0 OFFSITE AND ONSITE RUNOFF

4.1 OFFSITE RUNOFF MANAGEMENT PLAN

The offsite watershed affecting the site is urbanized by mainly low density custom residential lots to the west. These residential lots are flat with no concentrated flow paths. During the field reconnaissance, it was observed that some of the custom residences with perimeter block walls have weepholes in order to keep flow moving through their sites while others do not. At a meeting with the Paradise Valley Town Engineer on January 30th, 2019, it was agreed that the proposed site would handle offsite runoff similarly by allowing it to move through the site. The proposed site will consist of small drainage swales and/or weepholes along the west and east perimeter walls to ensure offsite flows are safely conveyed through the site. Additionally, Quail Run Road will be fully improved with curb and gutter from Lincoln Drive to the south boundary of the site. These additional improvements will further reduce the amount of offsite runoff impacting the site from the west.

4.2 ONSITE RUNOFF MANAGEMENT PLAN

The resort was developed in 1966 when drainage regulations were non-existent. The site has a single small drain/drywell located just south of the abandoned restaurant building for localized flow. The remainder of the site is graded to drain to the east. The site currently provides no onsite retention. The proposed improvements to the resort will utilize parking and drive corridors as drainage pathways to drain flow to the east and north where runoff will be captured by grated catch basins. These catch basins will drain to underground retention basins in the form of 12-ft diameter pipes. Onsite retention will be provided for the pre vs. post condition. Basins will be designed to dispose of the storm water within 36 hours through drywells. Rainfall data was taken from NOAA Atlas 14 (see Appendix A). Retention and drywell calculations can be found in Appendix B. Runoff coefficients based on land use [1] for pre-development and post-development condition (see Appendix B).

5.0 STORM WATER POLLUTION PREVENTION PLAN

During final engineering design, the Storm Water Pollution Prevention Plan (SWPPP) will be prepared and submitted for approval.

6.0 SUMMARY AND CONCLUSIONS

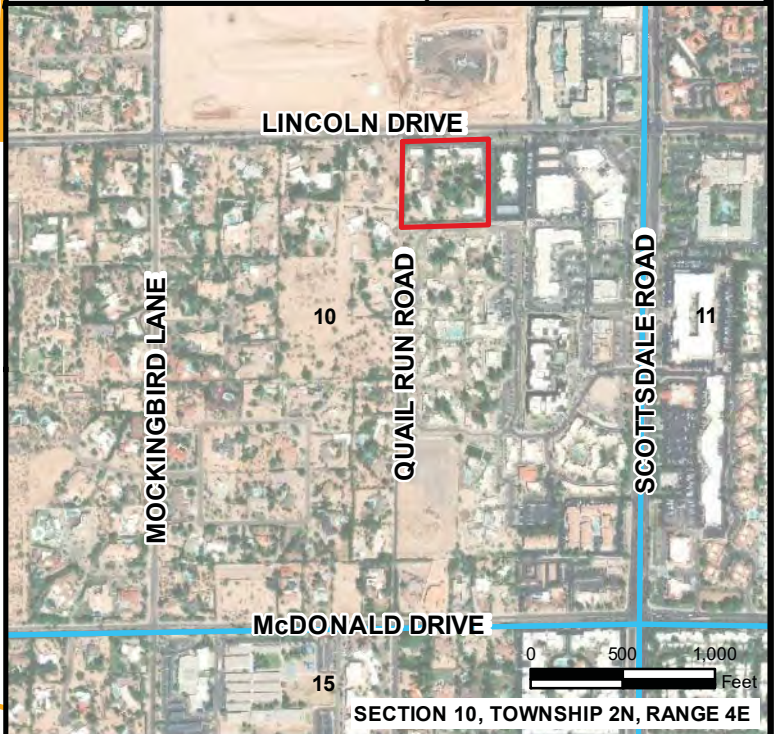
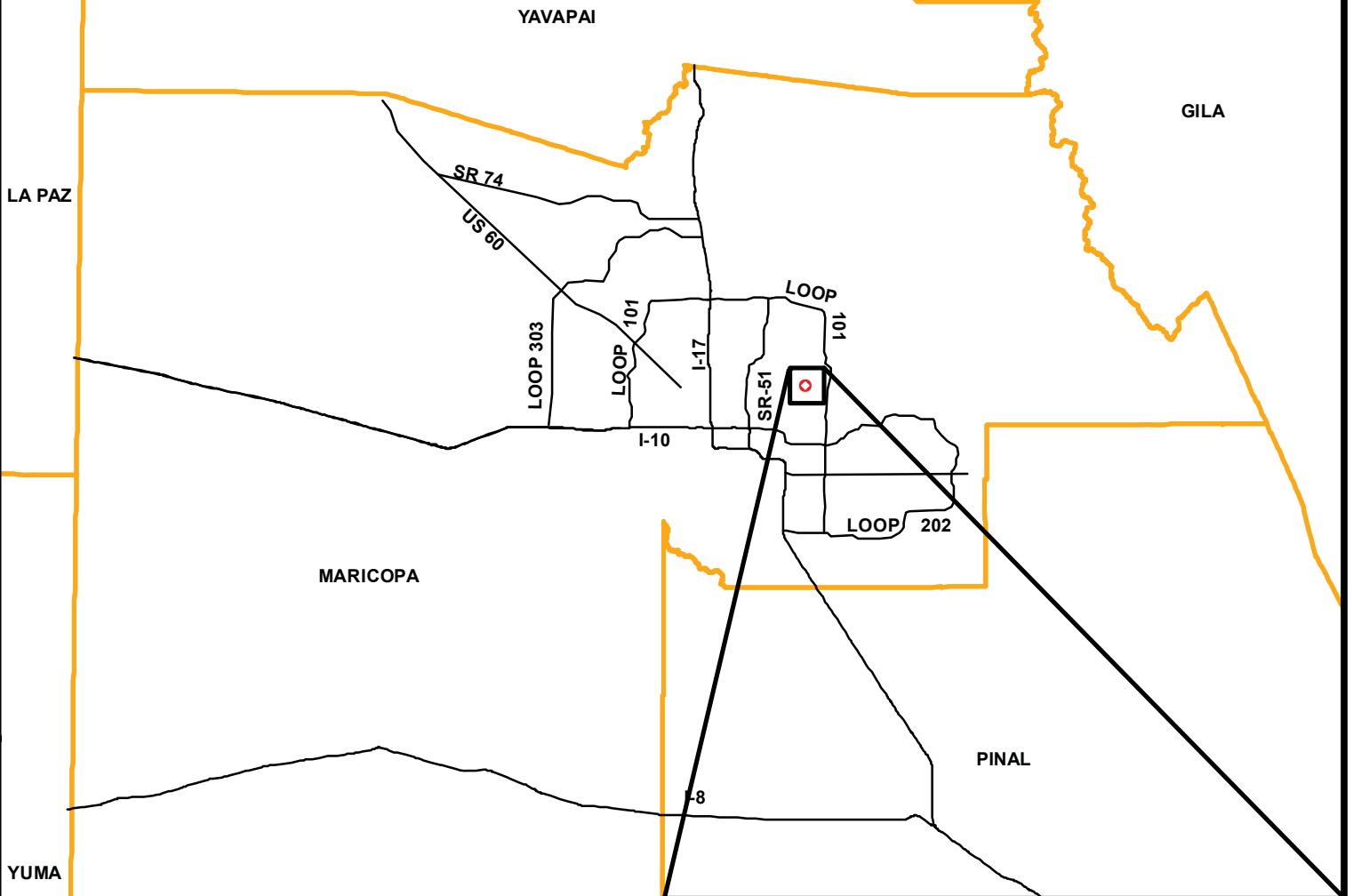
1. Retention will be provided for pre-development versus post-development conditions.
2. Underground retention basins will be designed to drain within 36 hours.
3. According to the FIRM panel number 04013C1770L, Map Revised: October 16, 2013, the site is located in Zone "D."
4. All finished floor elevations (FFE) will be at least 14 inches above the lowest drainage outfall for the site.

7.0 REFERENCES

- [1] Town of Paradise Valley, "Storm Drain Design Manual," March 12, 1987.
- [2] Flood Control District of Maricopa County, "Drainage Design Manual for Maricopa County, Arizona, Volume I, Hydrology," December 14, 2018.
- [3] Flood Control District of Maricopa County, Arizona, "Drainage Design Manual for Maricopa County, Volume II, Hydraulics," December 14, 2018.
- [4] Flood Control District of Maricopa County, "Drainage Policies and Standards," Revised August 22, 2018.
- [5] Federal Emergency Management Agency (FEMA), "National Flood Insurance Program, Flood Insurance Rate Map, Maricopa County, Arizona and Incorporated Areas, Panel Number 04013C1770L," Revised October 16, 2013.

FIGURES

CVL



Legend



SITE

— FREEWAY/MAJOR ROADS

— COUNTY BOUNDARY



SECTION ID



0 10 20
Miles



4550 NORTH 12TH STREET
PHOENIX, ARIZONA 85014
TELEPHONE (602) 264-6831

SMOKE TREE RESORT

VICINITY & LOCATION MAP

JOB NO.

01-03153-01

FIGURE 1

Legend

SMOKE TREE RESORT

ORSESHOE LN

10

LINCOLN DRIVE

E

LINCOLN

DR

24536-1

SCOTTS DALE ROAD

ROSE LN

EQUAIL
RUN
RD

EQUAIL
RUN
RD

ZONE D

QUAIL RUN ROAD

E VALLEY
VISTA
LN

TOWN OF PARADISE VALLEY
040049

24547-1

McDONALD DRIVE

DU1341

N KIVA LN

64TH ST

N 68TH PL

70TH

E

PL

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1770L

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,

ARIZONA

AND INCORPORATED AREAS

PANEL 1770 OF 4425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	FIRM#	PANEL	SHEET
MARICOPA COUNTY	04002	1770	L
PARADISE VALLEY TOWN OF	04004	1770	L
250788A CITY OF	04002	1770	L

Revised: Use the Map Number shown below should be used after 2012 100-0000. The Community Number shown above should be used on insurance policies for the subject community.



MAP NUMBER
04013C1770L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency



4550 NORTH 12TH STREET
PHOENIX, ARIZONA 85014
TELEPHONE (602) 264-6831

SMOKE TREE RESORT

JOB NO.

1.01.03153.01

FLOOD INSURANCE RATE MAP

FIGURE 2

APPENDICES

CVL

APPENDIX A
NOAA Atlas 14 Rainfall Data



NOAA Atlas 14, Volume 1, Version 5
Location name: Paradise Valley, Arizona, USA*
Latitude: 33.5306°, Longitude: -111.9293°
Elevation: 1310.38 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.186 (0.156-0.228)	0.243 (0.204-0.298)	0.331 (0.275-0.403)	0.397 (0.329-0.482)	0.487 (0.397-0.589)	0.556 (0.447-0.668)	0.627 (0.495-0.752)	0.700 (0.543-0.837)	0.796 (0.602-0.954)	0.870 (0.645-1.04)
10-min	0.284 (0.237-0.347)	0.371 (0.311-0.454)	0.503 (0.419-0.613)	0.605 (0.500-0.734)	0.742 (0.604-0.896)	0.847 (0.681-1.02)	0.955 (0.754-1.15)	1.07 (0.827-1.27)	1.21 (0.916-1.45)	1.32 (0.981-1.59)
15-min	0.352 (0.294-0.430)	0.459 (0.386-0.562)	0.624 (0.519-0.760)	0.750 (0.620-0.910)	0.919 (0.749-1.11)	1.05 (0.844-1.26)	1.18 (0.935-1.42)	1.32 (1.02-1.58)	1.50 (1.14-1.80)	1.64 (1.22-1.97)
30-min	0.473 (0.396-0.579)	0.619 (0.520-0.757)	0.840 (0.699-1.02)	1.01 (0.835-1.23)	1.24 (1.01-1.50)	1.41 (1.14-1.70)	1.60 (1.26-1.91)	1.78 (1.38-2.13)	2.02 (1.53-2.42)	2.21 (1.64-2.65)
60-min	0.586 (0.490-0.717)	0.766 (0.643-0.937)	1.04 (0.865-1.27)	1.25 (1.03-1.52)	1.53 (1.25-1.85)	1.75 (1.41-2.10)	1.97 (1.56-2.37)	2.20 (1.71-2.63)	2.50 (1.89-3.00)	2.74 (2.03-3.29)
2-hr	0.680 (0.577-0.814)	0.881 (0.748-1.06)	1.18 (0.995-1.41)	1.40 (1.17-1.67)	1.71 (1.42-2.03)	1.95 (1.59-2.30)	2.19 (1.76-2.59)	2.44 (1.92-2.88)	2.77 (2.13-3.27)	3.03 (2.28-3.60)
3-hr	0.748 (0.632-0.906)	0.959 (0.814-1.17)	1.26 (1.06-1.52)	1.49 (1.25-1.80)	1.83 (1.50-2.18)	2.09 (1.70-2.49)	2.37 (1.89-2.82)	2.65 (2.08-3.15)	3.05 (2.32-3.62)	3.37 (2.50-4.01)
6-hr	0.900 (0.777-1.07)	1.14 (0.985-1.35)	1.46 (1.25-1.72)	1.71 (1.46-2.01)	2.06 (1.73-2.40)	2.33 (1.93-2.71)	2.62 (2.13-3.04)	2.91 (2.33-3.38)	3.30 (2.58-3.84)	3.61 (2.75-4.21)
12-hr	1.00 (0.875-1.17)	1.27 (1.10-1.48)	1.61 (1.39-1.87)	1.87 (1.61-2.17)	2.23 (1.90-2.58)	2.50 (2.10-2.89)	2.78 (2.31-3.21)	3.07 (2.51-3.54)	3.45 (2.75-4.01)	3.75 (2.94-4.38)
24-hr	1.19 (1.05-1.38)	1.52 (1.33-1.75)	1.96 (1.72-2.27)	2.32 (2.02-2.68)	2.81 (2.44-3.24)	3.20 (2.75-3.68)	3.60 (3.08-4.15)	4.02 (3.41-4.63)	4.60 (3.85-5.30)	5.06 (4.20-5.84)
2-day	1.29 (1.13-1.48)	1.65 (1.45-1.90)	2.16 (1.90-2.49)	2.58 (2.25-2.96)	3.15 (2.74-3.62)	3.61 (3.11-4.14)	4.10 (3.51-4.70)	4.60 (3.91-5.28)	5.31 (4.46-6.10)	5.87 (4.88-6.77)
3-day	1.37 (1.20-1.57)	1.75 (1.54-2.01)	2.31 (2.02-2.65)	2.76 (2.40-3.16)	3.38 (2.94-3.87)	3.89 (3.35-4.45)	4.43 (3.79-5.07)	4.99 (4.24-5.72)	5.79 (4.86-6.63)	6.43 (5.34-7.39)
4-day	1.45 (1.27-1.66)	1.86 (1.63-2.13)	2.45 (2.15-2.80)	2.93 (2.56-3.35)	3.62 (3.14-4.13)	4.17 (3.59-4.76)	4.76 (4.07-5.43)	5.39 (4.57-6.16)	6.27 (5.26-7.16)	6.99 (5.80-8.01)
7-day	1.63 (1.43-1.87)	2.08 (1.82-2.39)	2.76 (2.40-3.17)	3.30 (2.87-3.79)	4.08 (3.52-4.67)	4.70 (4.04-5.37)	5.36 (4.57-6.14)	6.07 (5.13-6.96)	7.07 (5.90-8.10)	7.87 (6.51-9.04)
10-day	1.76 (1.54-2.02)	2.25 (1.98-2.58)	2.98 (2.60-3.40)	3.56 (3.10-4.07)	4.38 (3.80-4.99)	5.04 (4.34-5.72)	5.74 (4.91-6.53)	6.47 (5.50-7.37)	7.50 (6.29-8.54)	8.33 (6.92-9.50)
20-day	2.17 (1.91-2.47)	2.79 (2.46-3.18)	3.69 (3.25-4.20)	4.37 (3.83-4.96)	5.29 (4.62-6.00)	6.00 (5.21-6.80)	6.72 (5.81-7.63)	7.45 (6.41-8.47)	8.44 (7.20-9.61)	9.20 (7.79-10.5)
30-day	2.54 (2.23-2.89)	3.27 (2.87-3.72)	4.31 (3.78-4.90)	5.11 (4.47-5.79)	6.17 (5.37-7.00)	7.00 (6.07-7.92)	7.84 (6.77-8.87)	8.70 (7.47-9.83)	9.86 (8.40-11.2)	10.7 (9.10-12.2)
45-day	2.93 (2.59-3.32)	3.78 (3.33-4.28)	4.98 (4.39-5.64)	5.87 (5.17-6.64)	7.05 (6.18-7.97)	7.94 (6.93-8.98)	8.84 (7.68-10.00)	9.74 (8.43-11.0)	10.9 (9.39-12.4)	11.8 (10.1-13.5)
60-day	3.23 (2.86-3.64)	4.17 (3.70-4.71)	5.49 (4.86-6.19)	6.45 (5.70-7.28)	7.71 (6.79-8.68)	8.64 (7.57-9.73)	9.57 (8.36-10.8)	10.5 (9.12-11.8)	11.7 (10.1-13.2)	12.6 (10.8-14.3)

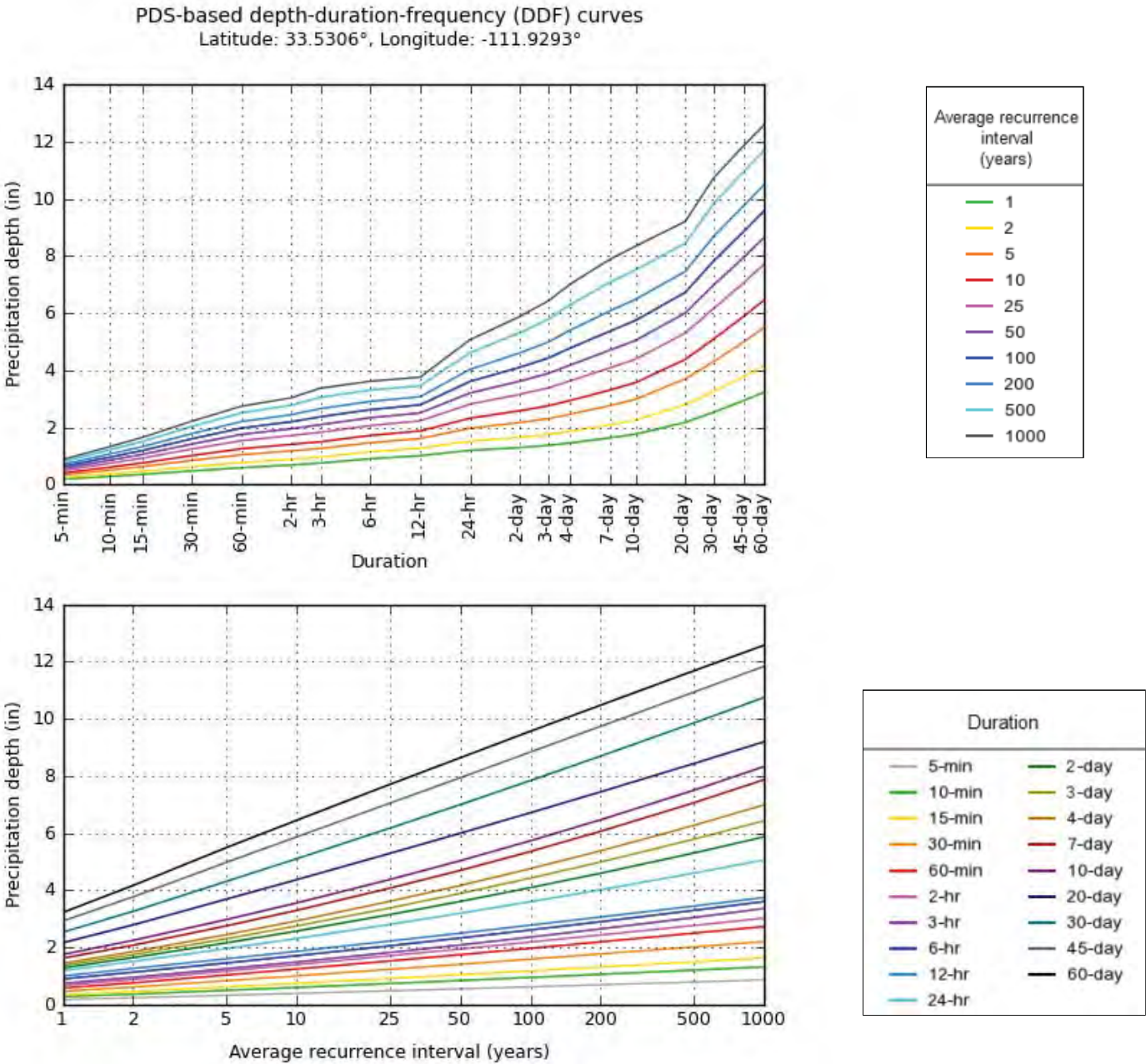
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

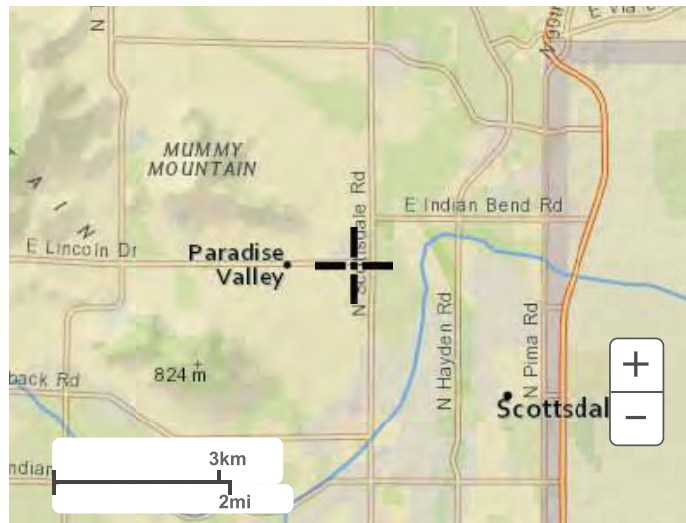
[Back to Top](#)

PF graphical



Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

APPENDIX B

Runoff Coefficients, Retention and Drywell Calculations

Used for Post-Development Conditions

RUNOFF CO-EFFICIENTS FOR USE WITH THE RATIONAL FORMULA $Q = CIA$

<u>Land Use</u>	<u>"C" Value</u>
Paved Street or Parking Lot	0.95
Commercial Areas	0.90
Residential Areas (Average lot zoning)	0.45
Townhouses	0.55
Apartments and Condominiums	0.65
Parks and Grassed Areas (no irrigation)	0.20
Railroad Yards	0.25
Undeveloped Desert	0.35
Mountain Terrain — slopes greater than 10%	0.70
Industrial Areas	0.90
Agricultural Areas	0.20

Used for Pre-Development Conditions

SMOKE TREE RESORT

Retention Volume Calculations

Pre vs. Post										
Development Condition	Drainage ⁽¹⁾ Area A (acres)	Drainage ⁽¹⁾ Area A (feet ²)	Runoff ⁽²⁾ Coefficient C	Precipitation ⁽³⁾ Depth P (inches)	Volume ⁽⁴⁾ Required V _{req} (acre-ft)	Volume ⁽⁴⁾ Required V _{req} (cubic feet)	Retention Basin/Tank ID	12' Dia. Underground Tank (LF)	Volume ⁽⁵⁾ Provided V _{prov} (acre-ft)	Volume ⁽⁵⁾ Provided V _{prov} (cubic feet)
PRE	4.89	212,908	0.90	2.19	0.80	34,970				
POST			0.55	2.19	0.49	21,371	RET	121	0.31	13,685
DIFFERENCE					0.31	13,600			0.31	13,685

Reference: [1] Storm Drain Design Manual for Town of Paradise Valley (1987)

Notes:

1. Drainage sub-basin delineated per Drainage Map (Plate 1).
2. Runoff coefficient values of 0.55 for Townhomes and 0.90 for Commercial per Town of Paradise Valley Storm Drain Design Manual (see Appendix B).
3. Precipitation depth per NOAA Atlas 14 rainfall data (see Appendix A).
4. $V_{req} = A \times C \times (P/12) = \text{Volume required}$
5. $V_{prov} = 12' \text{ Diameter Pipe LF} \times \pi (6')^2$

SMOKE TREE RESORT

Drywell Calculations

Retention Basin ID	Volume Required to Drain ⁽²⁾ (ft ³)	Soil Infiltration Rate ⁽³⁾ (ft ³ /hr/ft ²)	Flowrate Required to Drain Within 36 hrs ⁽⁴⁾ (cfs)	Drywell Flow Rate ⁽⁵⁾ (cfs)	Number Of Drywells Required ⁽⁶⁾	Number Of Drywells Provided*
RET	13,685	0.00	0.11	0.10	2	1
				TOTAL	2	1

Notes:

- (1) Bottom area per preliminary grading and drainage plans prepared by CVL Consultants, Inc.
- (2) Volume required to drain = Volume provided for retention basins.
- (3) Soil infiltration rate at the bottom of a compacted basin is below the minimum requirement of 0.5in/hr per DPSM Std 6.10.12, Hence, no infiltration was assumed.
- (4) Flowrate Required to Drain Basin Within 36 hrs = (Volume Required to Drain)/(36 x 3600)
- (5) Drywell flow rate assumed to be minimum required per DPSM Std 6.10.13. Field test should be performed to calculate actual dry well flow rate.
- (6) (Number Of Dry Well(s) Required)=(Flowrate Required to Drain Basin Within 36 hrs)/(Dry Well Flowrate Capacity)

Note to contractor:

*Initially one drywell will be installed and field tests performed per the DPSM Standard 6.10.12 to check the actual flow rate of drywell.
 Drywells will be provided and tested until the percolation requirement is achieved per DPSM Standard 6.10.12.
 The amount of drywells needed shall be changed in accordance to the newly calculated flow rate.

PLATE

CVL

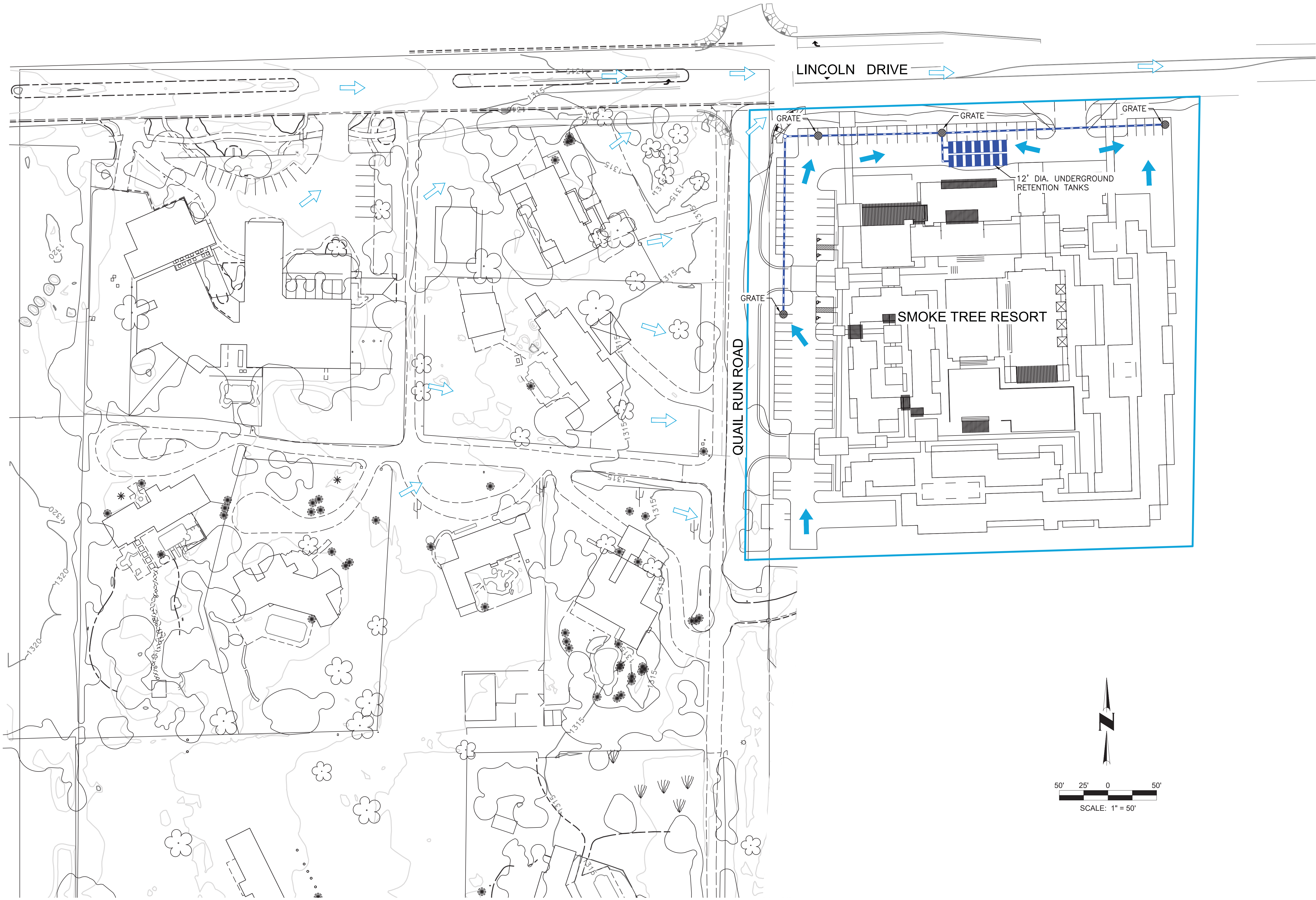


PLATE	DRAINAGE MAP		NO.		REVISION		DATE
SMOKE TREE RESORT TOWN OF PARADISE VALLEY, ARIZONA		Coe & Van Loo Consultants, Inc.					
1 SHEET OF 1		CVL Contact: OSCAR GARCIA					
© 2019 Coe & Van Loo Consultants, Inc. All rights reserved to reproduction in any format		CVL Project #: SMOKE TREE					

CELEBRATING 60 YEARS
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Phoenix, Arizona 85014
Phone: 602-294-8931
www.cvlga.com

PROJECT NO. 101-03153-01

February 12, 2019

Smoke Tree Resort

Paradise Valley, Arizona

Water Service Impact Study

Prepared for:

Gentree LLC

3620 East Campbell Avenue

Suite B

Phoenix, AZ 85018

Contact: Sam Robinson

Prepared by:

Coe & Van Loo Consultants, Inc.

4550 N. 12th Street

Phoenix, AZ 85014

Contact: Eric Laurin, P.E.

602.285.4722



Job # 1.01.0315301

WATER SERVICE IMPACT STUDY

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Appendix B: Fire Flow Test Results
Appendix C: WaterCAD Results (Domestic)
Appendix D: WaterCAD Results (Fire Flow)
Appendix E: Water Quality Report



EXECUTIVE SUMMARY

The proposed Smoke Tree Resort is remodel of an existing resort. The development will be constructed on 5.36 acres of existing special use permit resort land on the southeast corner of East Lincoln Drive and Quail Run Road. The property lies within the Town of Paradise Valley. Water service to the property is provided by EPCOR Water. A 12-inch waterline in Quail Run Road and a 16-inch waterline in East Lincoln Drive exist to serve the development.

Demand calculations were prepared based on the design requirement for EPCOR Water. Fire flow demands are per the 2018 International Fire Code with City of Phoenix Amendments. The calculated demands are as follow

- Average Day Demand : 67,410 gpd (46.81 gpm)
- Maximum Day Demand: 121,338 gpd (84.26 gpm)
- Peak Hour Demand: 202,230 gpd (140.44 gpm)
- Maximum Day + Fire Flow Demands: 1,592.63 gpm

Modeling of the system was conducted utilizing WaterCAD version 8i software. Pressures in the proposed development were found to range between 84 and 94 psi for the ADD, MDD, and PHD scenarios. Pressures during Fire Flow for all fire flow scenarios were above 10 psi.

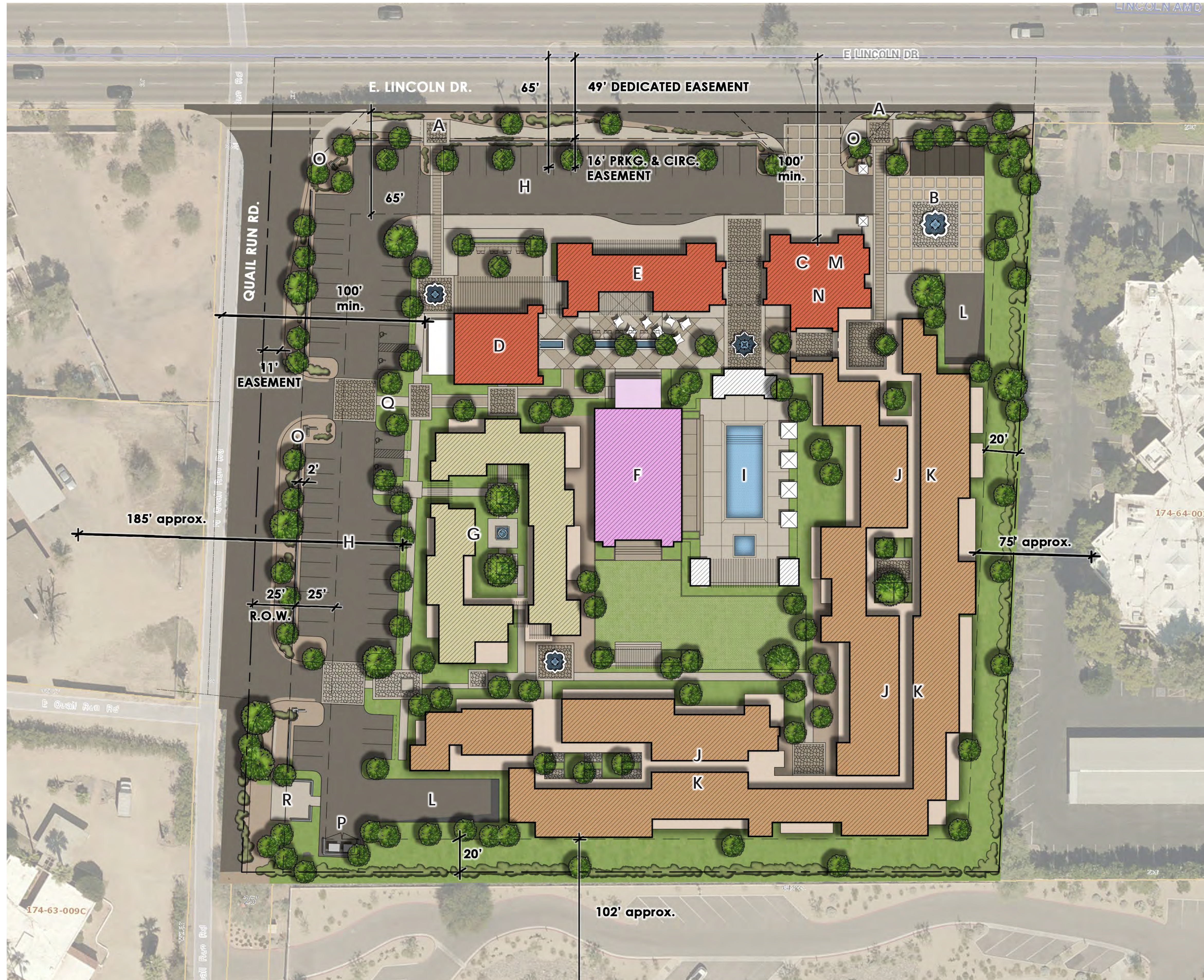
1.0 INTRODUCTION

1.1 General Description

Smoke Tree Resort is a proposed 5.36 acre remodel of a resort with a special use permit for resort uses located in Paradise Valley, Arizona. A total of 135 rental rooms and 30 multi-family (condos) dwelling units (DU) are planned. This study addresses the water service connections and fire protection requirements for the proposed development. EPCOR Water will provide water service to the development. EPCOR Water design standards in the *Developer and Engineering Guide*, Dated January 2015 will be used to determine domestic water demands. The Town of Paradise Valley will provide fire protection service to the site. Fire flow standards will be based on the Town of Paradise Valley design standards.

1.2 Project Location

Smoke Tree Resort is located in Section 10 of Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian. The development is bordered by East Lincoln Drive to the north and Quail Run Road to the west. See Figure 1 and 2.



PROGRAM

- A. Pedestrian Entry
- B. Resort Reception Entry Plaza and Valet
- C. Resort Reception (1,000 sf.)
- D. Resort Market (2,500 sf.)
- E. Resort Restaurant (3,500 sf.)
- F. Resort Clubhouse (5,000 sf.)
- G. Resort Villas
- H. Surface Parking
- I. Resort Pool
- J. Resort Bedrooms (first 2 floors)
- K. Resort Residences (3rd floor)
- L. Underground parking access
- M. Resort Retail (5,000 sf.)
- N. Resort Public Area (3,500 sf.)
- O. Signage
- P. Garbage Bins w/Landscape buffer, walls & gates
- Q. Delivery Location
- R. Employee Break Area

HOTEL UNITS - 120 Units

- Connected building
- Rooms on first and second levels

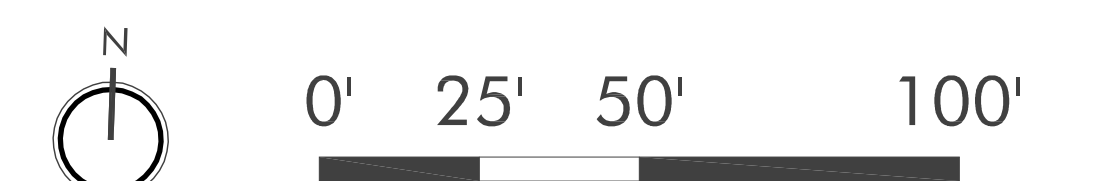
RESORT RESIDENCES (30 Units)

- VILLAS**
- 12 units

- RESORT PENTHOUSE RESIDENCES**
- 18 Units
 - 3rd Level of Resort buildings
 - 60 Underground dedicated parking (2 per unit)

SURFACE PARKING

- 76 Spaces (4 ADA)



2.0 WATER SYSTEM DESIGN CRITERIA

The following criteria will be used in developing the water study.

2.1 Design Criteria

This water study is based on criteria from the Town of Paradise Valley and EPCOR Water's *Developer & Engineering Guide*, dated January, 2015. The following criteria were used in developing this plan:

- Demand factors
 - Resort Average Day Demand = 446 gpd/room
 - Multi Family Average Day Demand = 240 gpd/dwelling unit
 - Max day factor = 1.8 x Average Day Demand
 - Peak hour factor = 3.0 x Average Day Demand
- Pressure requirements
 - Minimum
 - 20 psi at the meter
 - Maximum = 120 psi
- Velocity
 - Maximum
 - 5 fps for maximum day demand
 - 7 fps for peak hour demand
 - 10 fps for maximum day demand plus fire flow
- Unit friction head loss
 - Maximum = 10ft/1,000 ft of distribution lines
- Hazen-Williams Coefficient = 130
- Fire Flows = 2,000 gpm

3.0 EXISTING INFRASTRUCTURE

3.1 Existing Waterlines

Adjacent existing waterlines to the development include a 16-inch waterline in East Lincoln Drive and an 8-inch waterline in North Quail Run Road. The nearest fire hydrants are located directly east on East Lincoln Drive. See Figure 2.

See Appendix A for an EPCOR Water quarter section for this area.

3.2 Water Quality

Appendix E contains a copy of the 2017 Water Quality Report. No violations were reported.

4.0 PROPOSED INFRASTRUCTURE

4.1 Water Demands

The water demands for Smoke Tree Resort may be seen below in Table 1.

Table 1 – Smoke Tree Resort Water Demands

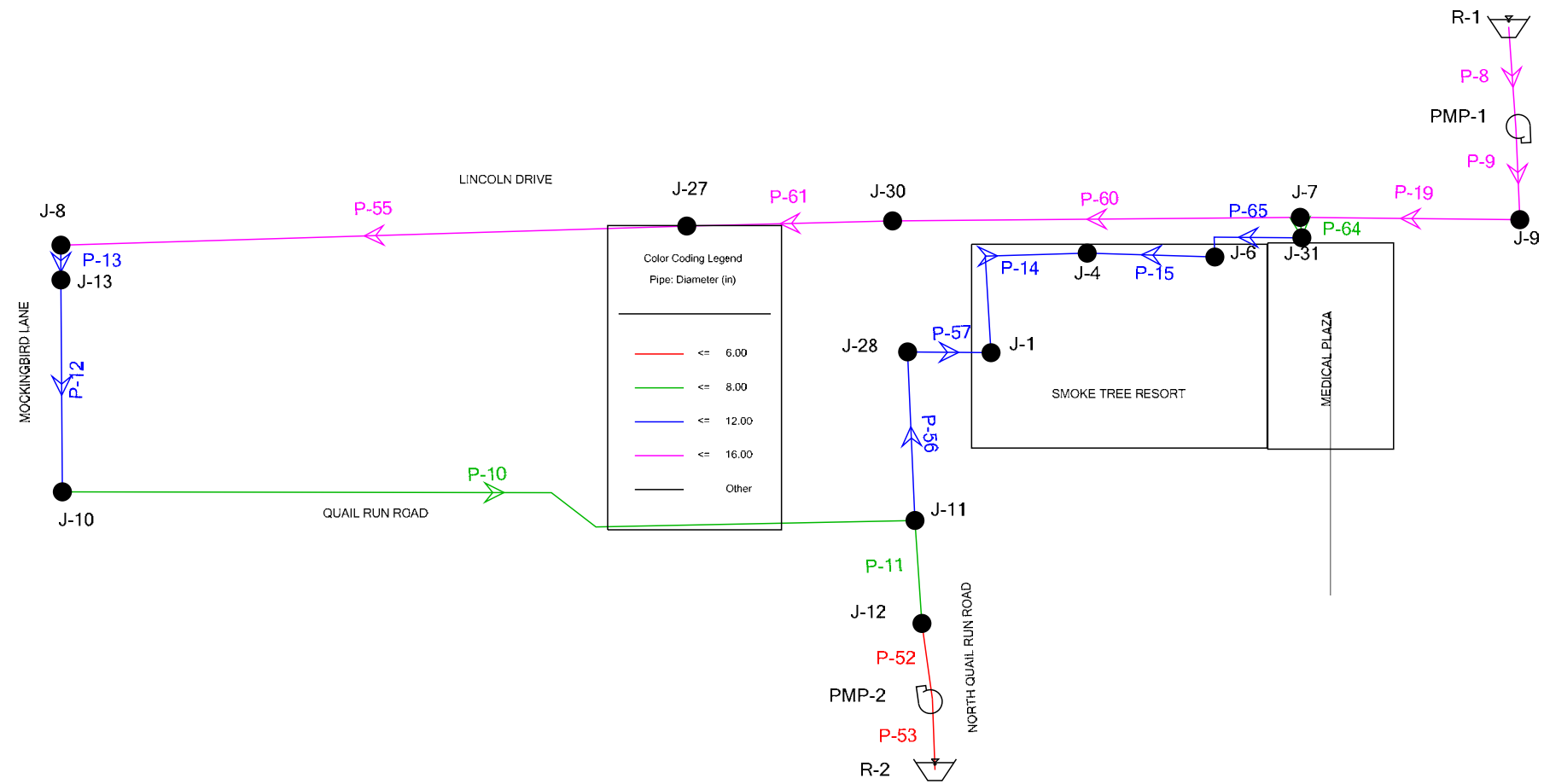
Number of Rooms	Unit Factor (gpd/unit)	ADD (gpd)	MDF	MDD (gpd)	PHF	PHD (gpd)
135	446	60,210	1.8	108,378	3.0	180,630
30	240	7,200	1.8	12,960	3.0	21,600
Total	-	67,410	-	121,338	-	202,230

Fire flow demands of 2,000 gpm will be modeled.

4.2 Proposed On-Site Water Infrastructure

A proposed 12-inch waterline is to extend north from the existing 8-inch waterline in North Quail Run Road to the development's southwest entrance. The proposed 12-inch waterline will follow the western and northern parking areas of Smoke Tree Resort to connect to the 8-inch waterline that extends south from the 16-inch waterline in Lincoln Road to the north of the Medical Plaza. See Figure 3. Connection to this 8-inch waterline would require a replacement of the existing 8-inch x 6-inch reducer with an 8-inch to 12-inch tee and a 12-inch x 6-inch reducer to allow for the Medical Plaza to use their existing water meter connected to the 6-inch waterline. See Appendix A: Paradise Valley Water Company Block Map PV – 407 for a detailed map of this connection.

Scenario: Peak Hour
Active Scenario: Peak Hour



5.0 WATER SYSTEM MODELING

5.1 Network Analysis Domestic Demands

The network analysis for the proposed development's distribution system was completed using WaterCAD V8i. A model was created and modified as necessary to demonstrate that the existing and proposed water infrastructure meets the water system design criteria. All networks were analyzed for average day, maximum day and peak hour demand conditions. The existing conditions were determined by a fire flow test completed on October 11, 2018. Results from this fire flow test may be seen in Appendix B.

The pipes were sized based on pressure requirements for average day, max day, and peak hour as described in Section 2.0.

Input parameters of the water distribution system modeling include:

- Pipe Diameters (inches)
- Elevations of Nodes/Junctions (feet)
- System Water Demands (gpm)
- Hazen-Williams, C=130

Output parameters include but are not limited to:

- Velocities (fps)
- Pressure (psi)
- Head Loss (feet)
- Flow Rates (gpm)

5.2 Modeling Results Domestic Demands

The detailed results of the WaterCAD analysis for the domestic demands are presented in Appendix C. Table 2 summarize the results.

Table 2 – Water Model Results Summary for Domestic Demands

Scenario	Flow (gpm)	Pressure (psi)				Maximum Velocity (fps)	Pipe ID
		Minimum	Node	Maximum	Node		
Average Day	46.81	84.76	J-10	93.84	J-9	0.25	P-64
Max Day	84.26	84.75	J-10	93.84	J-9	0.45	P-64
Peak Hour	140.44	84.73	J-10	93.82	J-9	0.76	P-64

5.3 Network Analysis Fire Flows

The network analysis was performed as described in subsection 5.1 above. The detailed results of the Water CAD analysis for the fire flow scenario are shown in Appendix D. Table 3 summarizes the results.

Table 3 – Water Model Results Summary for Fire Flow Demands

Fire Flow Available (gpm)	Pressure (psi)				Maximum Velocity (fps)	Pipe ID
	Minimum	Node	Maximum	Node		
2,140.44	85.61	J-1	87.62	J-6	11.83	P-64

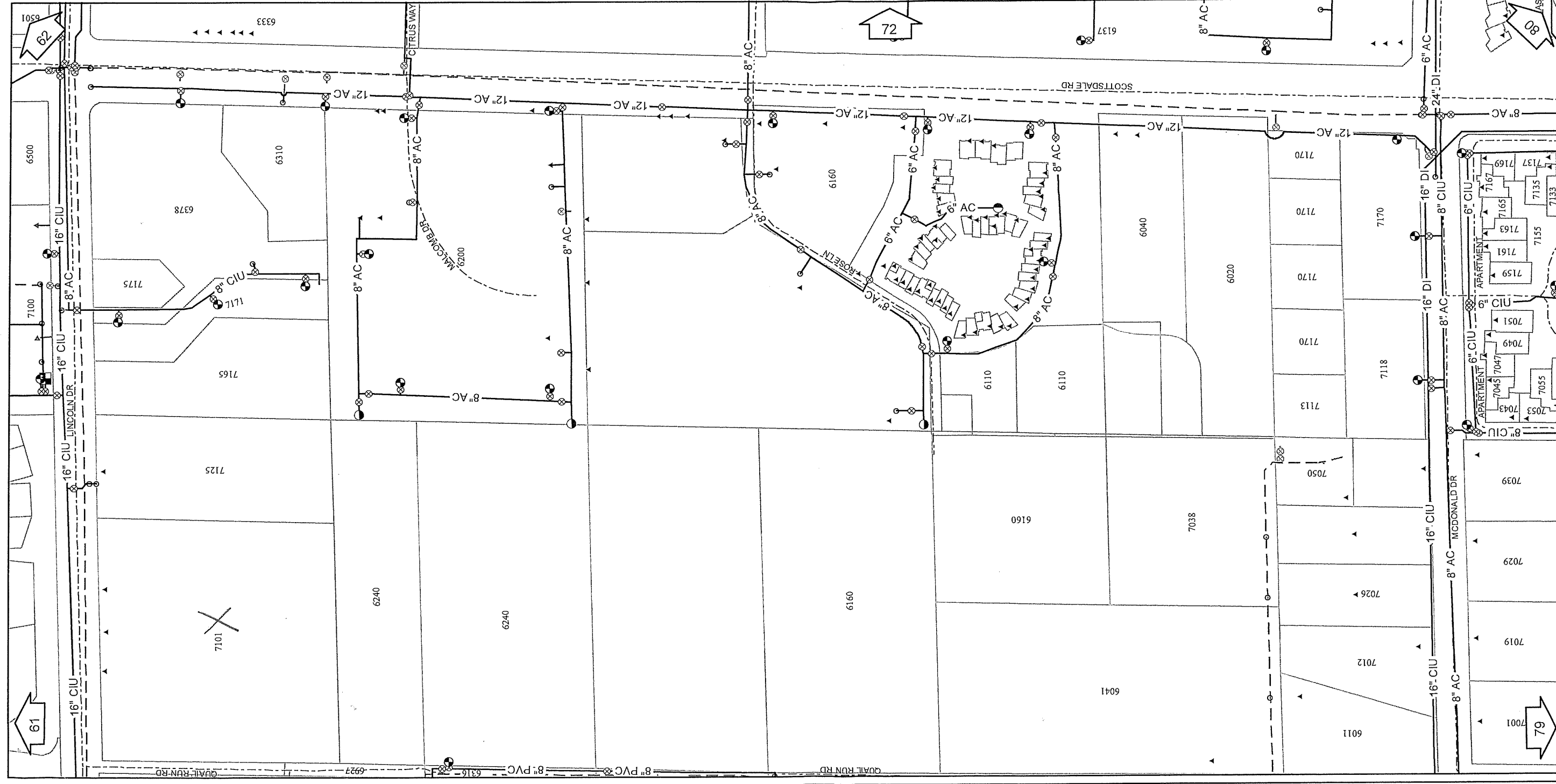
6.0 SUMMARY

This Water Service Impact Study presents the proposed water system connections, and an overview of existing infrastructure surrounding the project site. The following summarizes CVL's findings of the proposed water system to serve Smoke Tree Resort.

- The water service connections will be made to the existing EPCOR Water system.
- An existing adjacent waterline to Smoke Tree Resort consist of an 8-inch waterline in North Quail Run Road and a 16-inch waterline to the north on East Lincoln Drive.
- Demands from the Smoke Tree Resort are:
 - Average Day Demand: 0.0674 MGD
 - Max Day Demand: 0.1214 MGD
 - Peak Hour Demand: 0.2023 MGD
- Pressures within the proposed development are approximately 84-94 psi for all domestic demand scenarios which is within the Town of Paradise Valley's pressure requirements. Individual PRVs are required at lots experiencing pressures greater than 80 psi.
- The nearest fire hydrants to the proposed development is to the east of Smoke Tree Resort.
- Velocities in the existing system are greater than the 10 fps maximum requirement. The maximum velocity that occurs when a fire flow of 2,140.44 gpm is modeled at the site is 11.83 fps within P-64, the 8-inch waterline that extends south from the 16-inch waterline in Lincoln Road to the north of the Medical Plaza.
- The existing water infrastructure exceeds the maximum velocity requirement of 10 fps during maximum day demand plus fire flow. A waiver to allow velocities greater than 10 fps during maximum day demand plus fire flow within the 8-inch waterline that extends south from the 16-inch waterline in Lincoln Road to the north of the Medical Plaza is needed to allow this connection to be acceptable to the Town of Paradise Valley and EPCOR Water.
- Individual PRVs are needed for all sites where pressures at above 80 psi occur.

APPENDIX A

Water Quarter Section Map



WATER FEATURES

- | Street Valves | |
|---------------|------------------------|
| | Air Release |
| | Ball (Blow-off) |
| | Double Check |
| | Pressure Regulate |
| | Gate, Butterfly Open |
| | Gate, Butterfly Closed |
| Other | |
| | Customer Meter |
| | Hydrant |
| | Cap/Reducer |
| | Pump Station |
| | Tank |
| | Well |
| | Water Treatment Plant |
| | System Interconnection |

Lateral Service

_____ All Types
(Domestic Not Shown
For Map Clarity)

Mains

- _____ Distribution
 _____ Plant
 _____ Transmission

Abandoned Features

- — — — — Mains/Laterals
- All Other Features
Shown 50% Grey

Mapgrid: 21-44



EPCOR Water
EASTERN DIVISION

22

RIGHT

Brad sent flow tests.
Fred sent to me



A horizontal scale bar with a black background and white markings. It is labeled 'SCALE' at the top and 'Feet' at the bottom. The bar has three main segments: a white segment from 0 to 100 feet, a black segment from 100 to 150 feet, and a white segment from 150 to 200 feet. The numbers 0, 100, and 200 are printed in white at the top of the bar.

AREA BOUNDARIES



Service Area

LAND FEATURES

Street Centerline

Lotlines

TYPICAL LOT

ADDRESS
NUMBER

123

MAP PAGES

60	61	62
70	71	72
78	79	80

2N4E SE10

SE 1/4 SECTION 10

Mapgrid: 21-44



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EPCOR MAKES NO CLAIMS CONCERNING THE ACCURACY
OF THIS MAP NOR ASSUMES ANY LIABILITY RESULTING
FROM THE USE OF THE INFORMATION HEREON.

71 PARADISE VALLEY WATER

THE

REVISÉ: MAY 2014

APPENDIX B

Fire Flow Test Results



Flow Test Summary

Project Name: EJFT 18296-1
Project Address: 7125 E Lincoln Dr, Paradise Valley, AZ 85253
Date of Flow Test: 2018-10-11
Time of Flow Test: 7:45 AM
Data Reliable Until: 2019-04-11
Conducted By: Eder Cueva & Tayler Lynch (EJ Flow Tests) 602.999.7637
Witnessed By: Garren Willey (EPCOR) 480.450.4670
City Forces Contacted: EPCOR Water (480.450.4670)

Raw Flow Test Data

Static Pressure: 104.0 PSI
Residual Pressure: 99.0 PSI
Flowing GPM: 2,831
GPM @ 20 PSI: 12,989

Data with a 10 % Safety Factor

Static Pressure: 93.6 PSI
Residual Pressure: 88.6 PSI
Flowing GPM: 2,831
GPM @ 20 PSI: 12,094

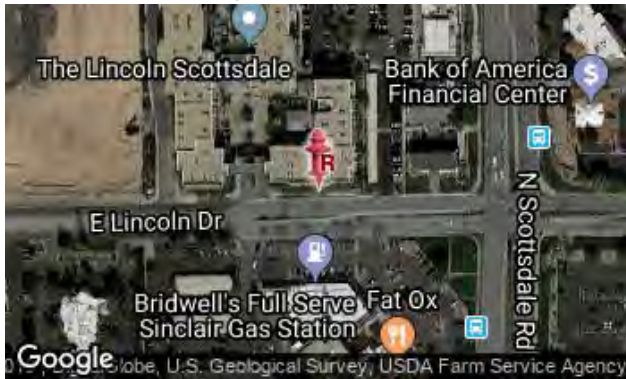
Hydrant F₁

Pitot Pressure (1): 63 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 4 inches
Additional Coefficient 0.83 on orifice #1



Static-Residual Hydrant
Flow Hydrant
Distance Between F₁ and R
249 ft (measured linearly)
Static-Residual Elevation
1304 ft (above sea level)
Flow Hydrant (F₁) Elevation
1306 ft (above sea level)
Elevation & distance values are approximate

Static-Residual Hydrant



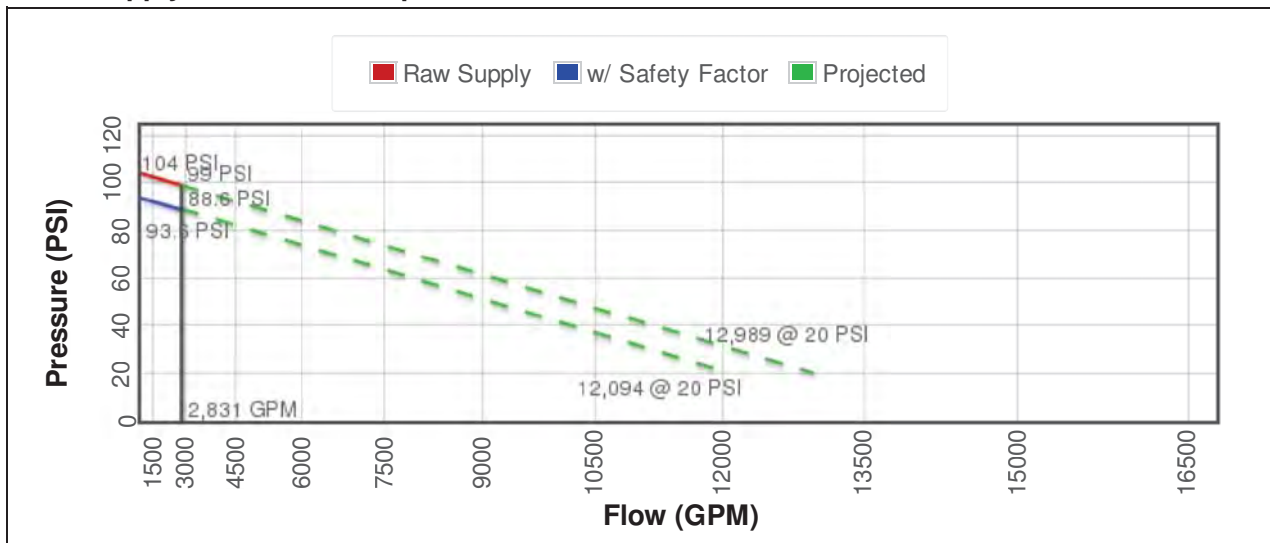
Flow Hydrant (only hydrant F1 shown for clarity)



Approximate Project Site



Water Supply Curve $N^{1.85}$ Graph





Flow Test Summary

Project Name: EJFT 18296-2
Project Address: 7125 E Lincoln Dr, Paradise Valley, AZ 85253
Date of Flow Test: 2018-12-11
Time of Flow Test: 7:55 AM
Data Reliable Until: 2019-06-11
Conducted By: Eder Cueva & Tayler Lynch (EJ Flow Tests) 602.999.7637
City Forces Contacted: EPCOR Water (480.450.4670)

Raw Flow Test Data

Static Pressure: 92.0 PSI
Residual Pressure: 70.0 PSI
Flowing GPM: 1,501
GPM @ 20 PSI: 2,848

Data with a 10 % Safety Factor

Static Pressure: 82.8 PSI
Residual Pressure: 60.8 PSI
Flowing GPM: 1,501
GPM @ 20 PSI: 2,645

Hydrant F₁

Pitot Pressure (1): 20 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 2.5 inches
Pitot Pressure (2): 20 PSI
Coefficient of Discharge (2): 0.9
Hydrant Orifice Diameter (2): 2.5 inches



Static-Residual Hydrant

Flow Hydrant

Distance Between F₁ and R
1036 ft (measured linearly)

Static-Residual Elevation
1316 ft (above sea level)

Flow Hydrant (F₁) Elevation
1315 ft (above sea level)

Elevation & distance values are approximate

EJ Flow Tests, LLC

21505 North 78th Ave. | Suite 130 | Peoria, Arizona 85382 | (602) 999-7637 | www.ejengineering.com
John L. Echeverri | NICET Level IV 078493 SME | C-16 FP Contractor ROC 271705 AZ | NFPA CFPS 1915
www.flowtestsummary.com

Static-Residual Hydrant



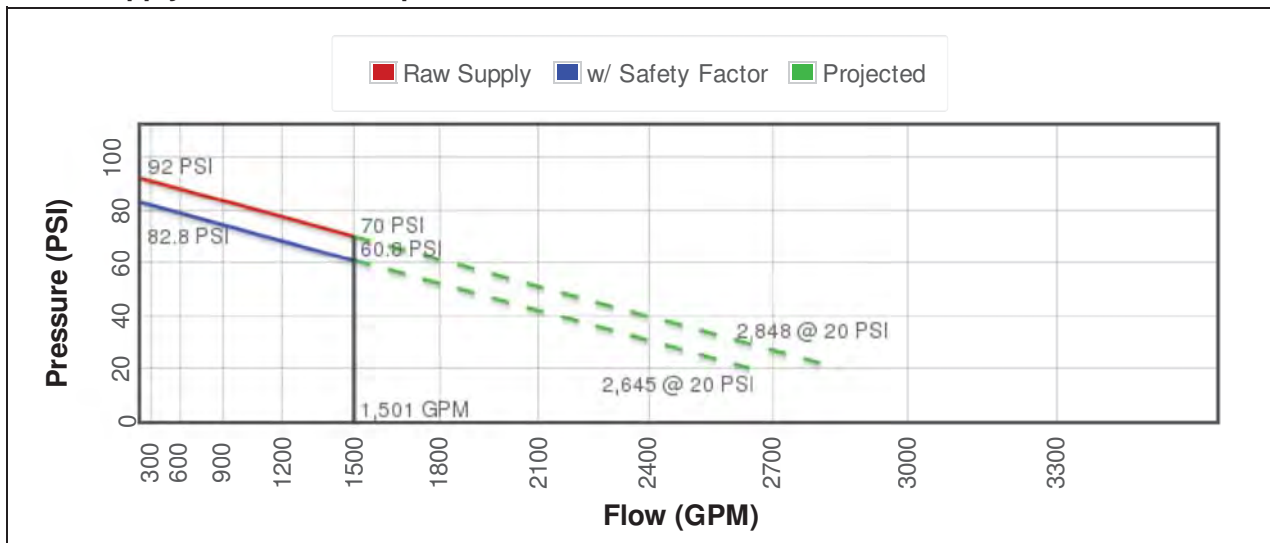
Flow Hydrant (only hydrant F1 shown for clarity)



Approximate Project Site



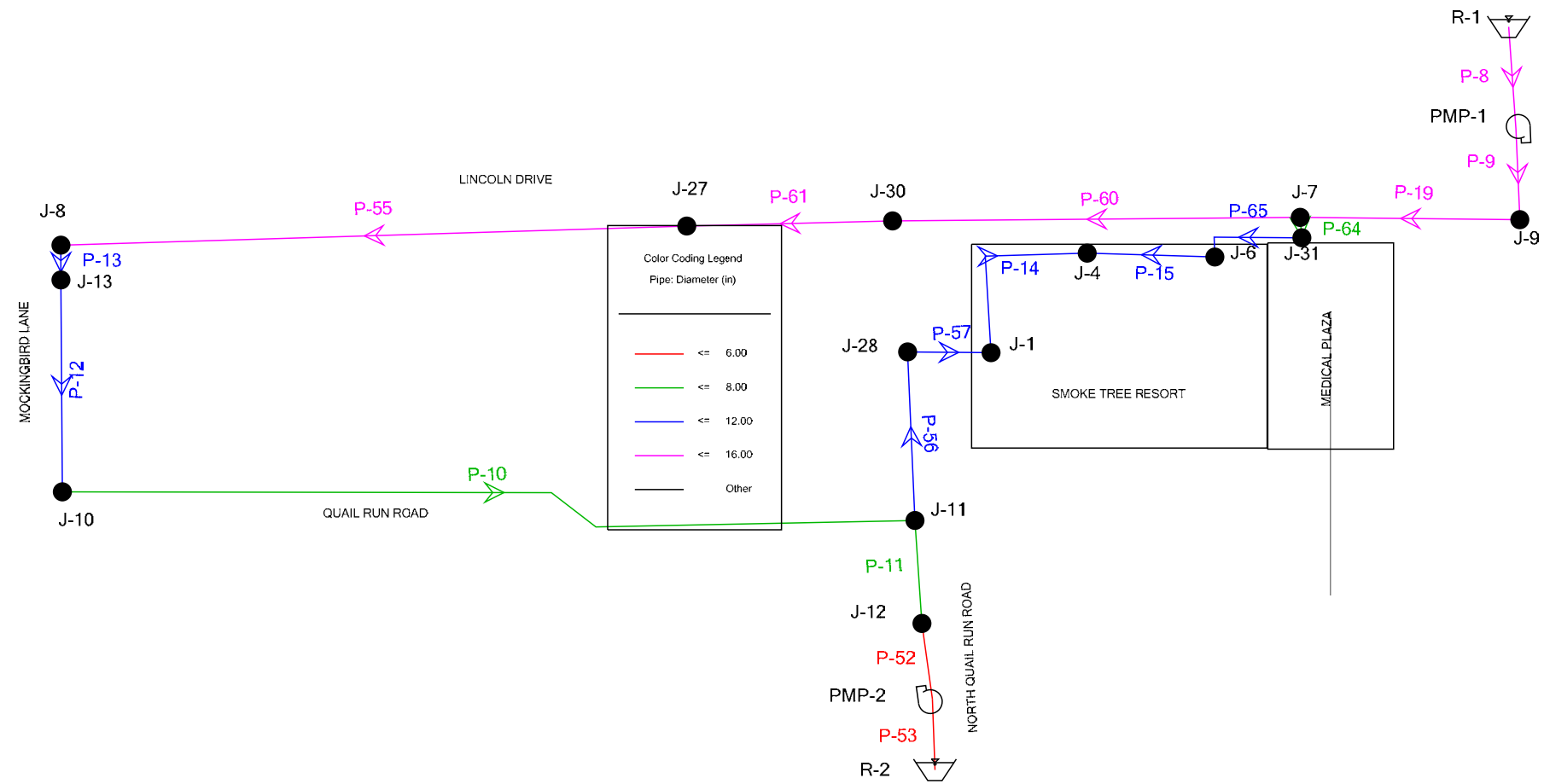
Water Supply Curve $N^{1.85}$ Graph



APPENDIX C

WaterCAD Results (Domestic)

Scenario: Peak Hour
Active Scenario: Peak Hour



FlexTable: Pipe Table

Active Scenario: Ave Day

Label	Start Node	Stop Node	Length (User Defined) (ft)	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-64	J-7	J-31	12	6	8.00	Copper	135.0	39.59	0.25	0.0000
P-15	J-4	J-6	200	40	12.00	Ductile Iron	130.0	-39.59	0.11	0.0000
P-65	J-31	J-6	127	34	12.00	Copper	135.0	39.59	0.11	0.0000
P-8	R-1	PMP-1	0	32	16.00	Cast iron	130.0	46.81	0.07	0.0000
P-9	PMP-1	J-9	0	29	16.00	Cast iron	130.0	46.81	0.07	0.0000
P-19	J-9	J-7	260	69	16.00	Ductile Iron	130.0	46.81	0.07	0.0000
P-10	J-10	J-11	1,330	273	8.00	PVC	150.0	7.22	0.05	0.0000
P-12	J-10	J-13	640	67	12.00	Ductile Iron	130.0	-7.22	0.02	0.0000
P-13	J-13	J-8	20	11	12.00	Ductile Iron	130.0	-7.22	0.02	0.0000
P-14	J-1	J-4	480	63	12.00	Ductile Iron	130.0	7.22	0.02	0.0000
P-56	J-11	J-28	307	53	12.00	Ductile Iron	130.0	7.22	0.02	0.0000
P-57	J-1	J-28	75	26	12.00	Ductile Iron	130.0	-7.22	0.02	0.0000
P-55	J-27	J-8	1,007	198	16.00	Cast iron	130.0	7.22	0.01	0.0000
P-60	J-7	J-30	490	129	16.00	Cast iron	130.0	7.22	0.01	0.0000
P-61	J-30	J-27	325	65	16.00	Cast iron	130.0	7.22	0.01	0.0000
P-53	R-2	PMP-2	0	22	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-52	PMP-2	J-12	0	24	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-11	J-12	J-11	0	33	8.00	PVC	150.0	0.00	0.00	0.0000

FlexTable: Junction Table

Active Scenario: Ave Day

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10	1,329.00	0.00	1,524.90	84.76
J-8	1,324.00	0.00	1,524.90	86.92
J-13	1,324.00	0.00	1,524.90	86.92
J-11	1,318.00	0.00	1,524.90	89.52
J-12	1,318.00	0.00	1,524.90	89.52
J-27	1,317.00	0.00	1,524.90	89.95
J-28	1,316.00	0.00	1,524.90	90.38
J-30	1,314.69	0.00	1,524.90	90.95
J-1	1,314.00	0.00	1,524.90	91.25
J-6	1,313.00	0.00	1,524.90	91.68
J-4	1,312.00	46.81	1,524.90	92.11
J-31	1,310.00	0.00	1,524.90	92.98
J-7	1,309.00	0.00	1,524.90	93.41
J-9	1,308.00	0.00	1,524.90	93.84

FlexTable: Reservoir Table

Active Scenario: Ave Day

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,308.00	46.81	1,308.00
R-2	1,316.00	0.00	1,316.00

FlexTable: Pipe Table

Active Scenario: Max Day

Label	Start Node	Stop Node	Length (User Defined) (ft)	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-64	J-7	J-31	12	6	8.00	Copper	135.0	71.26	0.45	0.0001
P-15	J-4	J-6	200	40	12.00	Ductile Iron	130.0	-71.26	0.20	0.0000
P-65	J-31	J-6	127	34	12.00	Copper	135.0	71.26	0.20	0.0000
P-8	R-1	PMP-1	0	32	16.00	Cast iron	130.0	84.26	0.13	0.0000
P-9	PMP-1	J-9	0	29	16.00	Cast iron	130.0	84.26	0.13	0.0000
P-19	J-9	J-7	260	69	16.00	Ductile Iron	130.0	84.26	0.13	0.0000
P-10	J-10	J-11	1,330	273	8.00	PVC	150.0	13.00	0.08	0.0000
P-12	J-10	J-13	640	67	12.00	Ductile Iron	130.0	-13.00	0.04	0.0000
P-13	J-13	J-8	20	11	12.00	Ductile Iron	130.0	-13.00	0.04	0.0000
P-14	J-1	J-4	480	63	12.00	Ductile Iron	130.0	13.00	0.04	0.0000
P-56	J-11	J-28	307	53	12.00	Ductile Iron	130.0	13.00	0.04	0.0000
P-57	J-1	J-28	75	26	12.00	Ductile Iron	130.0	-13.00	0.04	0.0000
P-55	J-27	J-8	1,007	198	16.00	Cast iron	130.0	13.00	0.02	0.0000
P-60	J-7	J-30	490	129	16.00	Cast iron	130.0	13.00	0.02	0.0000
P-61	J-30	J-27	325	65	16.00	Cast iron	130.0	13.00	0.02	0.0000
P-53	R-2	PMP-2	0	22	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-52	PMP-2	J-12	0	24	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-11	J-12	J-11	0	33	8.00	PVC	150.0	0.00	0.00	0.0000

FlexTable: Junction Table

Active Scenario: Max Day

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10	1,329.00	0.00	1,524.89	84.75
J-8	1,324.00	0.00	1,524.89	86.91
J-13	1,324.00	0.00	1,524.89	86.91
J-11	1,318.00	0.00	1,524.88	89.51
J-12	1,318.00	0.00	1,524.88	89.51
J-27	1,317.00	0.00	1,524.89	89.94
J-28	1,316.00	0.00	1,524.88	90.37
J-30	1,314.69	0.00	1,524.89	90.94
J-1	1,314.00	0.00	1,524.88	91.24
J-6	1,313.00	0.00	1,524.88	91.67
J-4	1,312.00	84.26	1,524.88	92.10
J-31	1,310.00	0.00	1,524.88	92.97
J-7	1,309.00	0.00	1,524.89	93.40
J-9	1,308.00	0.00	1,524.89	93.84

FlexTable: Reservoir Table

Active Scenario: Max Day

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,308.00	84.26	1,308.00
R-2	1,316.00	0.00	1,316.00

FlexTable: Pipe Table

Active Scenario: Peak Hour

Label	Start Node	Stop Node	Length (User Defined) (ft)	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-64	J-7	J-31	12	6	8.00	Copper	135.0	118.77	0.76	0.0003
P-15	J-4	J-6	200	40	12.00	Ductile Iron	130.0	-118.77	0.34	0.0000
P-65	J-31	J-6	127	34	12.00	Copper	135.0	118.77	0.34	0.0000
P-8	R-1	PMP-1	0	32	16.00	Cast iron	130.0	140.44	0.22	0.0000
P-9	PMP-1	J-9	0	29	16.00	Cast iron	130.0	140.44	0.22	0.0000
P-19	J-9	J-7	260	69	16.00	Ductile Iron	130.0	140.44	0.22	0.0000
P-10	J-10	J-11	1,330	273	8.00	PVC	150.0	21.67	0.14	0.0000
P-12	J-10	J-13	640	67	12.00	Ductile Iron	130.0	-21.67	0.06	0.0000
P-13	J-13	J-8	20	11	12.00	Ductile Iron	130.0	-21.67	0.06	0.0000
P-14	J-1	J-4	480	63	12.00	Ductile Iron	130.0	21.67	0.06	0.0000
P-56	J-11	J-28	307	53	12.00	Ductile Iron	130.0	21.67	0.06	0.0000
P-57	J-1	J-28	75	26	12.00	Ductile Iron	130.0	-21.67	0.06	0.0000
P-55	J-27	J-8	1,007	198	16.00	Cast iron	130.0	21.67	0.03	0.0000
P-60	J-7	J-30	490	129	16.00	Cast iron	130.0	21.67	0.03	0.0000
P-61	J-30	J-27	325	65	16.00	Cast iron	130.0	21.67	0.03	0.0000
P-53	R-2	PMP-2	0	22	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-52	PMP-2	J-12	0	24	6.00	Asbestos Cement	140.0	0.00	0.00	0.0000
P-11	J-12	J-11	0	33	8.00	PVC	150.0	0.00	0.00	0.0000

FlexTable: Junction Table
Active Scenario: Peak Hour

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-10	1,329.00	0.00	1,524.85	84.73
J-8	1,324.00	0.00	1,524.85	86.90
J-13	1,324.00	0.00	1,524.85	86.90
J-11	1,318.00	0.00	1,524.83	89.49
J-12	1,318.00	0.00	1,524.83	89.49
J-27	1,317.00	0.00	1,524.85	89.93
J-28	1,316.00	0.00	1,524.83	90.35
J-30	1,314.69	0.00	1,524.85	90.92
J-1	1,314.00	0.00	1,524.83	91.22
J-6	1,313.00	0.00	1,524.84	91.65
J-4	1,312.00	140.44	1,524.83	92.08
J-31	1,310.00	0.00	1,524.85	92.95
J-7	1,309.00	0.00	1,524.85	93.39
J-9	1,308.00	0.00	1,524.86	93.82

FlexTable: Reservoir Table
Active Scenario: Peak Hour

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,308.00	140.44	1,308.00
R-2	1,316.00	0.00	1,316.00

APPENDIX D

WaterCAD Results (Fire Flow)

Fire Flow Node FlexTable: Fire Flow Report

Active Scenario: Residential Fire Flow

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/ Minimum Pressure (System)	Pipe w/ Maximum Velocity	Velocity of Maximum Pipe (ft/s)
J-7	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-8	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-9	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-10	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-11	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-12	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-13	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-27	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-28	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-30	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-31	False	2,000.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-1	True	2,000.00	2,001.00	20.00	85.61	81.10	J-10	P-64	10.40
J-4	True	2,000.00	2,085.26	20.00	87.48	81.23	J-10	P-64	11.26
J-6	True	2,000.00	2,001.00	20.00	87.62	81.30	J-10	P-64	11.83

FlexTable: Reservoir Table

Active Scenario: Residential Fire Flow

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,308.00	84.26	1,308.00
R-2	1,316.00	0.00	1,316.00

FlexTable: Pump Table

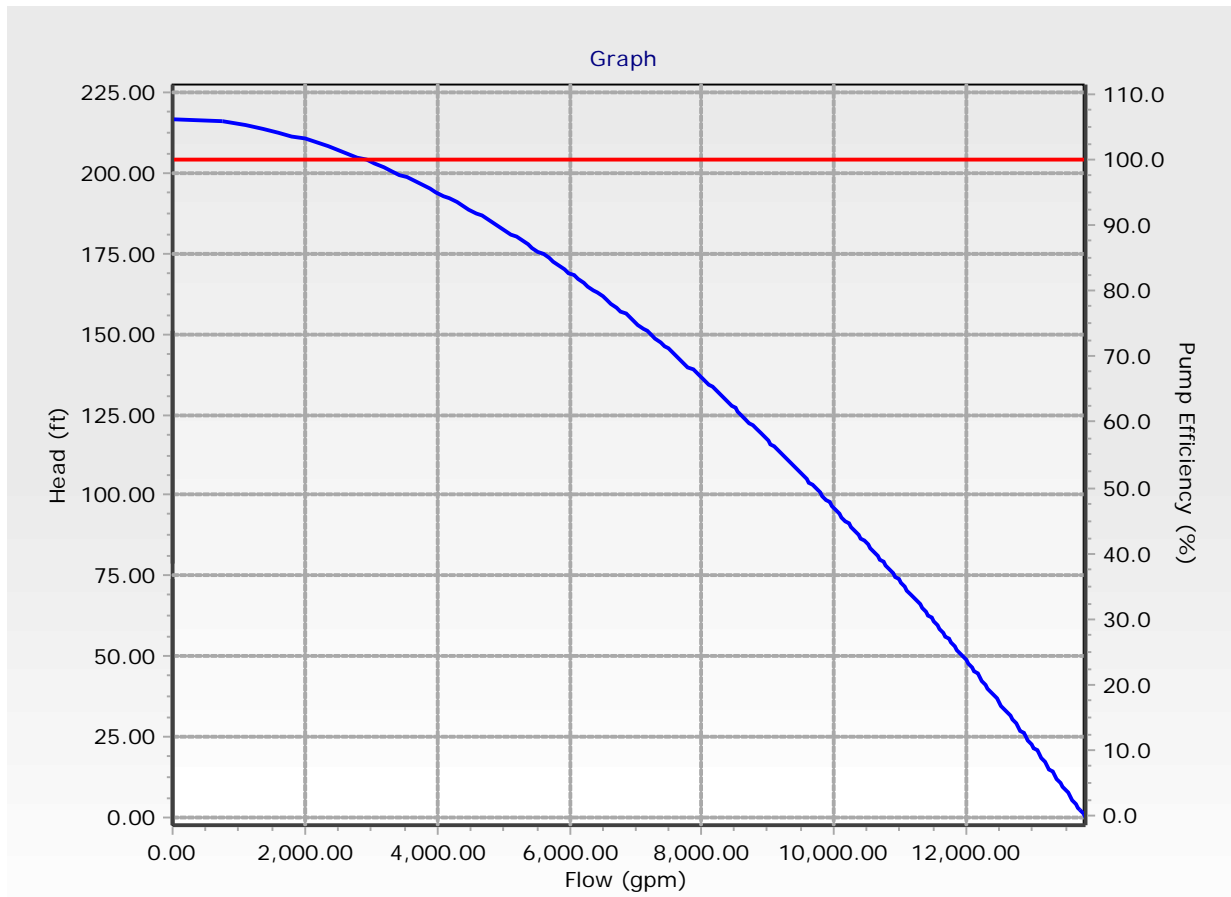
Active Scenario: Residential Fire Flow

Label	Elevation (ft)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,307.00	1,308.00	1,524.89	84.26	216.89
PMP-2	1,315.00	1,316.00	1,524.88	0.00	0.00

Pump Definition Detailed Report: Pump Definition - 1 Active Scenario: Residential Fire Flow

Element Details			
ID	50	Notes	
Label	Pump Definition - 1		
Pump Definition Type			
Pump Definition Type	Standard (3 Point)	Design Head	204.67 ft
Shutoff Flow	0.00 gpm	Maximum Operating Flow	12,094.00 gpm
Shutoff Head	216.91 ft	Maximum Operating Head	46.20 ft
Design Flow	2,831.00 gpm		
Pump Efficiency Type			
Pump Efficiency Type	Constant Efficiency	Motor Efficiency	100.0 %
Constant Efficiency	100.0 %	Is Variable Speed Drive?	False
Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: Pump Definition - 1
Active Scenario: Residential Fire Flow

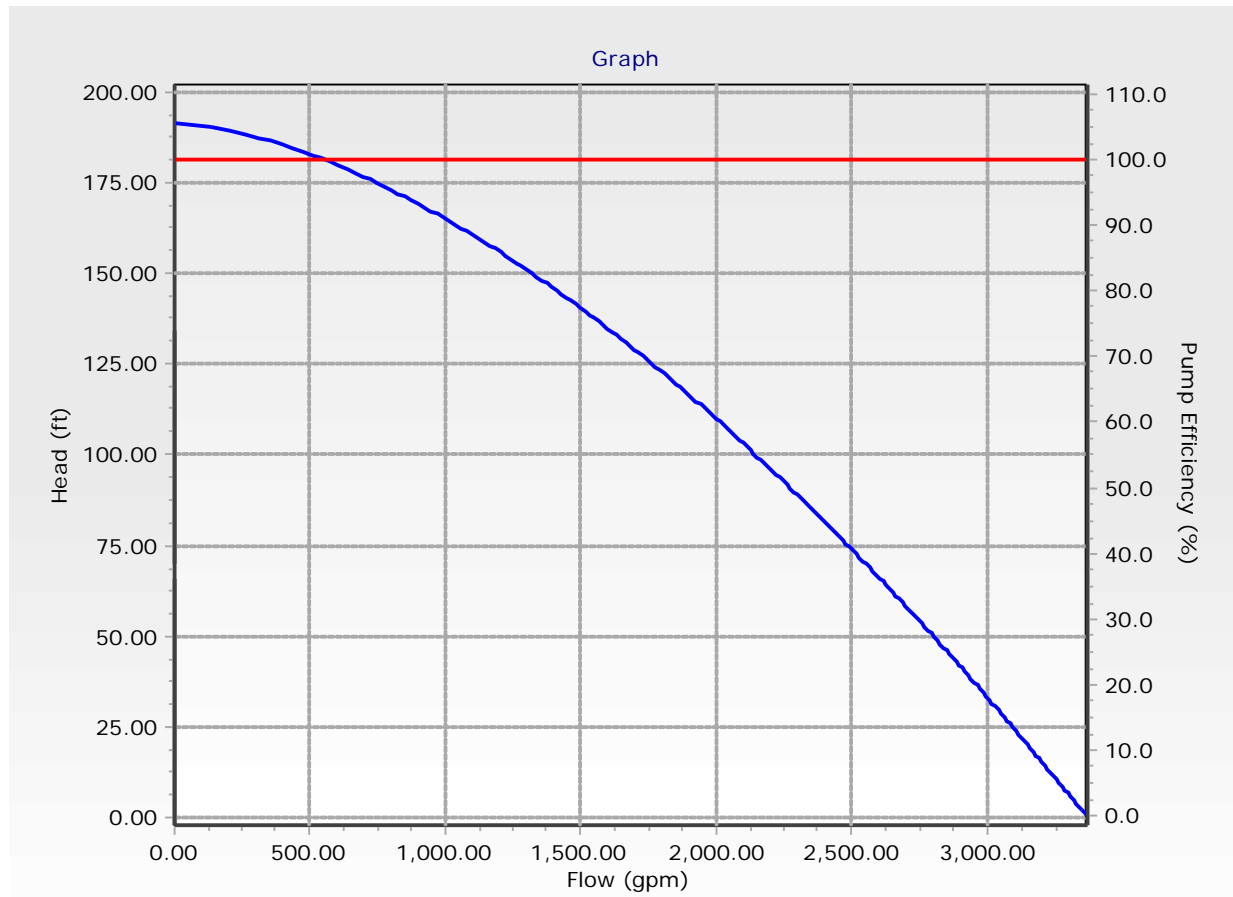


Pump Definition Detailed Report: Pump Definition - 2

Active Scenario: Residential Fire Flow

Element Details			
ID	137	Notes	
Label	Pump Definition - 2		
Pump Definition Type			
Pump Definition Type	Standard (3 Point)	Design Head	140.45 ft
Shutoff Flow	0.00 gpm	Maximum Operating Flow	2,848.00 gpm
Shutoff Head	191.27 ft	Maximum Operating Head	46.20 ft
Design Flow	1,501.00 gpm		
Pump Efficiency Type			
Pump Efficiency Type	Constant Efficiency	Motor Efficiency	100.0 %
Constant Efficiency	100.0 %	Is Variable Speed Drive?	False
Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: Pump Definition - 2
Active Scenario: Residential Fire Flow



APPENDIX E

Water Quality Report

PARADISE VALLEY / SCOTTSDALE



2017 WATER QUALITY REPORT

epcor.com



PWS ID AZ0407056

Safety. Quality. Community. You'll hear these words spoken often around EPCOR.

Water. It's life.

At EPCOR, we're committed to providing you safe, quality, reliable drinking water every day. It's our mission, and it's an honor. Water fuels our daily routine, quenches our thirst and breathes life into our meals.

But we can't take it for granted. Our water system needs a steward, one who's there behind the scenes 24 hours a day, 7 days a week to manage, maintain and invest in it.

EPCOR takes this responsibility seriously. From daily water quality checks that ensure safety and quality to investing in your water system, we're ensuring that water will be available for years to come, whether your water source is deep underground or from rivers and lakes.

In addition to monitoring the water that comes out of your tap, we're also maintaining and improving the miles of pipelines, water mains, wells and hydrants that make up your water system. We're ensuring that water isn't wasted, and that it's a resource that will be there for the long term.

Because every drop matters.

Sincerely,



Joe Gysel

President, EPCOR USA, Inc.

YOU WANT TO KNOW WHAT'S IN THE WATER YOU'RE DRINKING

As your water service provider, we're committed to ensuring the quality and safety of that water. That's why you are receiving this annual water quality report from us. We hope it will help you understand your community's water a little better and what we're doing to protect it.



WHAT WILL I FIND IN THIS REPORT?

This report complies with state and U.S. Environmental Protection Agency (EPA) drinking water regulations.

In it you'll find information on:

- Where your water comes from
- Protecting your water
- What's in your water

Information in this report is compiled, in part, from analytical data generated by laboratories certified in drinking water analysis.

READ THIS REPORT – AND SHARE IT!

Reading this report and understanding your community's water is the first step. But it's also important to share this information with those who might not receive it directly. If you're a landlord, business, school or hospital, please share this report with water users in your community.

QUESTIONS?

EPCOR Customer Care:

1-800-383-0834

mywater@epcor.com

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

ABOUT YOUR WATER

PARADISE VALLEY/SCOTTSDALE

ABOUT YOUR DISTRICT

- EPCOR provides water service to approximately 4,900 service connections in the Paradise Valley district.

WHERE YOUR WATER COMES FROM

- Groundwater in the West Salt River Valley (WSRV) Sub-Basin, bordering the Phoenix Mountains

Additional information about the groundwater in your area

- The WSRV Sub-Basin is a broad, gently sloping alluvial plain, drained by the Gila and Salt Rivers.
- Sources of groundwater recharge include natural recharge from stream flows and along mountain fronts, incidental recharge from agricultural and urban uses, and intentional recharge at constructed recharge facilities.

How We Protect Groundwater Together

Both groundwater and the associated pumping and delivery facilities are part of a complex system that needs not just monitoring, but also maintenance. From pipelines to water mains, wells to hydrants, we're ensuring that the groundwater supply is protected and accessible.

How You Can Help

Properly dispose of hazardous household chemicals on hazardous material collection days and limit your pesticide and fertilizer use. For information on household hazardous material collection days in your area, contact the **Arizona Department of Environmental Quality** at **602-771-2300** or **Earth911.com**.

GETTING INVOLVED

Consulting with the community is important to us. If you have a question, concern or suggestion about your local water system, please contact our Customer Care team at **1-800-383-0834**.

NOTICE OF SOURCE WATER ASSESSMENT

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for the seven wells used by EPCOR-Paradise Valley. The assessment reviewed the adjacent land uses that may pose a potential risk to the sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agriculture fields, wastewater treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, they were ranked as to their potential to affect the water sources. The results of the assessment were that two wells had no adjacent land uses, four wells had 10 adjacent land uses that posed a low risk to the source and each well also had one adjacent land use that posed a high risk, and one well had one adjacent land use that posed a high risk.

The complete assessment is available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007, between the hours of 8 a.m. and 5 p.m. For more information please contact **ADEQ** at **602-771-2300**.



WHAT YOU CAN EXPECT TO FIND IN YOUR WATER

SOURCES OF DRINKING WATER

The sources of drinking water—both tap water and bottled water—include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land surfaces or through the ground, it can acquire naturally occurring minerals. In some cases it can also acquire radioactive material and substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the **EPA's Safe Drinking Water Hotline** at **1-800-426-4791**.

DID YOU KNOW?

- ◉ **One-Part-Per-Million** (mg/L or ppm) is equivalent to one inch in 16 miles.
- ◉ **One-Part-Per-Billion** (ug/L or ppb) is equivalent to a single 4-inch hamburger in a chain of hamburgers long enough to circle the earth at the equator 2.5 times.
- ◉ **One-Part-Per-Trillion** (ng/L or ppt) is equal to a single drop of water being diluted into 20 Olympic-size swimming pools.



SUBSTANCES THAT MAY BE PRESENT IN SOURCE WATER

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and Herbicides, may come from a variety of sources, such as agriculture, urban stormwater runoff and residential uses.

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

ENSURING YOUR WATER IS SAFE

To ensure that tap water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. To ensure bottled water is safe to drink, U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water.

WHAT YOU CAN EXPECT TO FIND IN YOUR WATER

SPECIAL HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants may be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the **EPA's Safe Drinking Water Hotline** at **1-800-426-4791**.

Lead

EPCOR monitored the water for lead and copper in 2017 at 30 residences throughout the community and met the federal lead and copper standards. The 30 houses sampled were representative of the types of houses throughout the system. If your house was sampled you would have received the analysis results. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. EPCOR is responsible for providing highquality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the **Safe Drinking Water Hotline** or at **www.epa.gov/safewater/lead**.

HOME WATER TREATMENT UNITS

Failure to perform maintenance on your home water treatment unit can result in poor water quality. If you installed a home water treatment system such as a water softener or reverse osmosis system, please remember to follow the manufacturer's instructions on operation and maintenance. For more information, contact the manufacturer of your treatment system for maintenance instructions or assistance. Additional information about home water treatment systems is available from the **Water Quality Association** at **630-505-0160** or by visiting **wqa.org**.



DID YOU KNOW?

Tap water costs a lot less than what you pay for other beverages. **A gallon of water costs you about 1 penny.** Compare that to the cost of a gallon of these beverages*:

- ♦ Milk = \$3.29/gallon
- ♦ Orange Juice = \$2.55/gallon
- ♦ Beer = \$15.00/gallon
- ♦ Bottled Water = \$1.21/gallon
- ♦ Wine = \$25/gallon



* Costs for milk, orange juice and bottled water obtained from Bureau of Labor Statistics and Beverage Marketing Association reports. Other costs determined by calculating average supermarket pricing for bottles of soda, wine and beer and converting to a gallon.

FREQUENTLY ASKED QUESTIONS

WHAT IS THE WHITE OR COLORED DEPOSIT ON MY DISHES OR FAUCETS?

In most cases, the deposits or sediments left behind after water evaporates are calcium carbonate. The amount of calcium in the water is referred to as hardness. Cleaning with white vinegar can help to dissolve and remove deposits. Using a commercial conditioner, liquid detergents or the “air-dry” option in dishwashers can help to decrease the calcium carbonate found on dishes.

ARE THE DEPOSITS OR HARD WATER HARMFUL?

Hardness and/or the deposits left by hard water don’t pose a health concern and may have health benefits. We don’t treat drinking water for water hardness that can result in hard water deposits.

WHAT IS THE LEVEL OF HARDNESS IN MY WATER?

The hardness in your water ranges from 12 to 20 grains per gallon (gpg).

Degree of water hardness range (gpg)

Soft	Less than 1
Slightly Hard	1 to 3.4
Moderately Hard	3.5 to 6.9
Hard	7 to 10.4
Very Hard	Greater than 10.5

WHY IS MY WATER CLOUDY OR MILKY IN APPEARANCE WHEN IT COMES OUT OF THE TAP?

Water that appears cloudy or milky is typically caused by trapped air (very small air bubbles) in the water. If this occurs, simply let the water stand for a few minutes—the air will dissipate leaving a clear glass of water.

The quality of your water depends on the source water itself as well as factors such as the geology and biology of the area where the water came from. For some elements that are known to have an effect on the aesthetics of the water quality parameters, the EPA has established guidance levels known as secondary maximum contaminant level standards (SMCLs). When levels of these contaminants are found to be above the SMCLs, they may impact the aesthetic quality of the water (e.g., color, taste and odor). Although aesthetic water qualities may vary, your water meets all state and federal regulatory standards and is safe to use for all drinking water purposes. Secondary contaminants include, but are not limited to, manganese, iron and total dissolved solids (TDS).

WHY IS CHLORINE ADDED TO MY DRINKING WATER?

Chlorine is added to your water for your protection and is used as a disinfectant to ensure that harmful organisms, such as bacteria and viruses, are destroyed in the treatment process.

ARE THERE OTHER WAYS TO REMOVE THE CHLORINE TASTE OR SMELL FROM MY WATER?

To remove the taste of chlorine from your water, try these tips:

- ▶ Place water in a glass container in the refrigerator overnight, uncovered. This will let the chlorine dissipate.
- ▶ Bring your water to a rolling boil for five minutes and let it stand to cool.
- ▶ Add a slice of lemon or a few drops of lemon juice to your glass of drinking water.



WILL MY HOME TREATMENT DEVICE REMOVE CHLORINE?

Some home treatment devices can remove chlorine. Once chlorine is removed, the water should be treated like any other beverage product and used as quickly as possible. We recommend that you follow the manufacturer’s instructions for maintaining the device to ensure water quality.

DEFINITION OF TERMS

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

GPG (grains per gallon): Used to describe the dissolved hardness minerals contained in water and is a unit of weight that equals 1/7,000 of a pound.

HAA5 (Haloacetic Acids): Consist of Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Bromoacetic Acid and Dibromoacetic Acid.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MNR: Monitored, not regulated.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not Applicable.

ND: None Detected.

NTU: Nephelometric turbidity units.

ppb (Parts per Billion): One part substance per billion parts water (or micrograms per liter).

pCi/L (Picocuries per Liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).



ppm (Parts per Million): One part substance per million parts water (or milligrams per liter).

ppt (Parts per Trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): Non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects in drinking water.

Total Dissolved Solids: An overall indicator of the amount of minerals in water.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

TTHM (Total Trihalomethanes): Consist of Chloroform, Bromoform, Bromodichloromethane and Dibromochloromethane.

UCMR (Unregulated Contaminant Monitoring Rule): Unregulated substances are measured, but maximum contaminant levels have not been established by the government.

WHAT'S IN YOUR WATER

HOW TO READ YOUR WATER QUALITY TABLE

Below, you'll see an analysis of your drinking water.
Here's an example of how to read these tables:



Start here and read across	2016 or year prior	The goal level for that substance	Highest level of substance allowed	Highest amount that was found	Highest and lowest amounts found	Yes means the amount found is below gov't requirements	Where substance usually originates
Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Sources

YOUR WATER QUALITY TABLE

The data shown in the tables below are results from commercial laboratories certified in drinking water analysis by the Arizona Department of Health Services.

The table shows what substances were detected in your drinking water during 2017 or the last required sampling period within the last five years.

Regulated Substances Measured in the Water Leaving the Treatment Facility

Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Sources
Arsenic (ppb)	2017	0	10	8.1 ¹	7.4 - 8.1	YES	Erosion of natural deposits
Barium (ppm)	2017	2	2	0.017	0.017	YES	Erosion of natural deposits
Chromium (ppb)	2017	100	100	25	25	YES	Erosion of natural deposits
Fluoride (ppm)	2017	4.0	4.0	0.37	0.37	YES	Erosion of natural deposits
Nitrate (ppm)	2017	10	10	4.44	4.44	YES	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Sodium (ppb)	2017	NA	MNR	65	65	YES	Erosion of natural deposits
Gross Alpha excluding radon and uranium (pCi/L)	2014	0	15	5.9	3.7 - 5.9	YES	Erosion of natural deposits

WHAT'S IN YOUR WATER

Regulated Substances Measured in the Distribution System

Substance (units)	Year Sampled	MCLG/ MRDLG	MCL/ MRDL	Highest Running Annual Average	Range of Detections	Compliance Achieved	Typical Sources
TTHMs (ppb)	2017	NA ²	80	4.5	3.7 - 4.5	YES	By-product of drinking water disinfection
Chlorine Residual (ppm)	2017	4	4.0	1.05	0.74 - 1.05	YES	Water additive used to control microbes

Tap Water Samples: Lead and Copper Results

Substance (units)	Year Sampled	MCLG	Action Level	Number of Samples	90th Percentile	Number of Samples Above Action Level	Compliance Achieved	Typical Sources
Copper (ppm)	2017	1.3	1.3	30	0.19	0	YES	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2017	0	15	30	ND	0	YES	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Substances Measured in the Water Leaving the Treatment Facility

Substance (units)	Year Sampled	Range of Detections	Typical Sources
Hardness (grains/gallon)	2014	11.7 - 19.8	Natural calcium and magnesium content
pH (units)	2014	7.1 - 8.5	pH is a measure of the acid/base properties
Total Dissolved Solids (ppm)	2014	470 - 640	Erosion of natural deposits

WHAT'S IN YOUR WATER

Unregulated Contaminant Monitoring Rule Substances Measured at the Treatment Facility and in the Distribution System

Substance (units)	Year Sampled	Range of Detections	Typical Sources
Vanadium (ppb)	2014	20 - 21	Erosion of natural deposits
Strontium (ppm)	2014	0.73 - 0.78	Erosion of natural deposits
Molybdenum (ppb)	2014	1.1	Erosion of natural deposits
Chromium (Total) (ppb)	2014	27 - 28	Erosion of natural deposits
Chromium VI (ppb)	2014	26 - 28	Erosion of natural deposits
Chlorate (ppb)	2014	140 - 150	By-product of drinking water disinfection
Chlorodifluoromethane (ppb)	2014	0.12	Discharge from industrial chemical factories

¹Arsenic: EPCOR's groundwater arsenic removal facility continues to produce water with arsenic levels below the current federal and state standards. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

²TTHM/HAA5: Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants: Trihalomethanes: bromodichloromethane (0.0 mg/L); bromoform (0.0 mg/L); chloroform (0.07 mg/L); dibromochloro-methane (0.06 mg/L). Haloacetic acids: dichloroacetic acid (0.0 mg/L); trichloroacetic acid (0.3 mg/L). Monochloroacetic acid, bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

ADDITIONAL MONITORING

In addition to the parameters listed in this table, other parameters were monitored for, including regulated pesticides, herbicides, petroleum by-products and metals. None of those parameters were detected in the water. If you have any questions about this report or your drinking water, please call our **Customer Care** team at **1-800-383-0834**.

EPCOR encourages feedback related to the quality of water that is provided to you. Please feel free to submit comments to us directly at mywater@epcor.com. You may also provide feedback to the Arizona Corporation Commission (ACC).



Learn more about your
water at **epcor.com**.



SPECIAL USE PERMIT GUIDELINES

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Section 1 General Purpose

The following guidelines should not be construed as an ordinance. These guidelines are a result of joint discussions between the Town Planning Commission and Town Council to provide a generally-accepted vision of appropriate site, bulk, density, perimeter, parking, sign, lighting, and other related standards during the review of a new or amended Special Use Permit for a non-residential development in the Town of Paradise Valley. The nature of the request, the architecture of the development, the unique characteristics of the site, among other factors; may merit less or more restrictive standards as determined during a complete review of each individual request. It should be noted that meeting all the guidelines listed below does not obligate the Town to grant a Special Use Permit or amendment thereto. These guidelines supplement the regulations as set forth in Article XI, Additional Use Regulations and Special Uses, of the Town Zoning Ordinance.

Section 2 Lighting

The following lighting guidelines shall apply to all non-residential properties requiring a Special Use Permit.

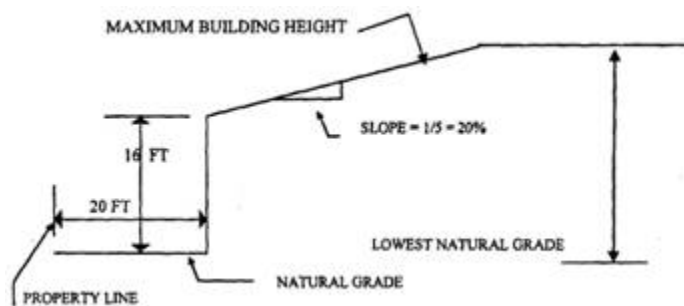
- a. Outdoor lighting shall be permitted so long as:
 - i. the light emitting element is shielded so that no beam of light extends above a horizontal plane placed at the lowest level of any exposed portion of the light emitting element; and
 - ii. the light emitting element and reflecting device of all lighting or illumination units is hooded or shielded so that it is not visible from any adjacent lot or real property; and
 - iii. such outdoor lighting or illuminating units do not direct light, either directly or through a reflecting device, upon any adjacent real property.
 - iv. uplighting shall be permitted so long as no Luminaire is greater than 300 Lumens.
- b. Outdoor pole lighting shall be permitted subject to the provisions of subsection A.8.a of this section so long as:
 1. the height of such lights or illumination does not exceed 16 feet measured from the natural ground level; and
 2. Each lighting or illuminating device shall be set back from the nearest property line a distance equal to or greater than the height of the device above natural ground level.

- c. Outdoor light levels, measured in foot candles or equivalent Lux in accordance with Illuminating Engineering Society of North America (IESNA) standards, shall not exceed the following levels in the locations specified:
 - i. parking lots – 1.6.
 - ii. entrance roadways, interior driveways and drop off areas – 5.0.
 - iii. adjacent to service buildings and loading docks – 5.0.
 - iv. in conjunction with architectural lighting adjacent to all other structures – 3.0.
 - v. outdoor pool decks and function areas – 5.0.
 - vi. outdoor dining areas – 10.0.
- d. No outdoor lighting shall be permitted within any setback area adjacent to a residential property unless:
 - i. the lighting measured at the property line does not exceed 0.5 foot candles; and
 - ii. all light emitting elements are less than three (3) feet in height.

Section 3 Open Space Criteria

The following Open Space Criteria shall apply to all non-residential properties requiring a Special Use Permit. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines. No building shall penetrate an imaginary plane beginning at 16 feet above the natural grade and 20 feet from exterior property lines, which plane slopes upward at a ratio of one foot vertically for each five feet horizontally measured perpendicular to the nearest property line, as illustrated in Figure 3-1. This limitation shall apply until the maximum allowable height is reached. All height measurements shall commence at the ground elevation at the 20-foot beginning line. Building height measurements shall be taken from the high points of the structure to the closest point on the 20-foot beginning line perpendicular to that portion of the structure. Notwithstanding the foregoing, no structure shall be located closer to an exterior property line than as otherwise permitted for that use.

Figure 3-1



Section 4 Resorts

1. Site Standards

- a. *Except for properties that have existing special use permits for resort uses, the minimum site area shall be 20 acres which shall not be bisected by any public right-of-way.*
- b. Except for properties that have existing special use permits for resort uses, the site shall have primary access from and frontage of at least 300 feet on a Major or Minor Arterial as designated in the Paradise Valley General Plan.
- c. Principal structures shall be those containing guest units or those containing guest registration areas, facility administrative offices and accessory uses. Principal structures with guest units also may contain permitted accessory uses.
- d. Accessory structures shall be those containing accessory uses.
- e. Service structures shall include those structures used for support and maintenance of the resort.
- f. All parking on a site shall be at the surface or underground.
- g. No individual retail business, office or business service shall occupy more than 2000 square feet. Entrances to any retail business, office or business service shall be from within a principal or accessory structure.

2. Bulk and Density Standards

- a. Maximum building height:
 - i. *Principal Structures - 36 feet*
 - ii. *Accessory structures - 24 feet*
 - iii. *Service structures - 18 feet*
 - iv. Towers and other architectural features may exceed maximum building heights, subject to special use permit or major amendment approval.
 - v. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines in accordance with the Open Space Criteria per Section 3 of the Special Use Permit Guidelines.
- b. Lot coverage
 - i. *Total of all structures - 25%*
 - ii. *Total of all impervious surfaces including building footprints - 60%*
 - iii. *Open space, which shall consist of land and water areas retained for active or passive recreation purposes or essentially undeveloped areas retained for resource protection or preservation purposes, a minimum of 40%*
- c. *Maximum density of guest units – 1 unit for each 4000 sq. feet of site area*

3. Perimeter Standards

- a. Minimum distance from exterior property lines where the adjacent use is residential:
 - i. *Principal structures - 100 feet*
 - ii. *Accessory structure - 60 feet*
 - iii. Service structure - 100 feet
 - iv. *Outdoor game courts and swimming pools which are generally available to all guests - 200 feet*
 - v. *Parking lots and interior drives, excluding exterior points of access - 60 feet*
 - vi. Any portion of an equestrian facility, including structures, barns, stalls and corrals - 200 feet
- b. Minimum distance from exterior property lines where the adjacent use is other than residential or is adjacent to a public street:
 - i. *Principal structures - 100 feet*
 - ii. *Accessory structure - 40 feet*
 - iii. Service structure – 65 feet
 - iv. *Outdoor game courts and swimming pools which are generally available to all guests - 65 feet*
 - v. *Parking lots and interior drives, excluding exterior points of access - 40 feet.*
- c. There shall be a 40 foot wide landscaped area adjacent to an exterior property line where it abuts residentially zoned property.
- d. There shall be a minimum 30 foot wide landscaped area where an exterior property line abuts a public or private local or collector street and a 50 foot wide landscaped area where an exterior property line abuts a Major or Minor Arterial.
- e. The provisions of Chapter XXIV, Walls, and Fences, of the Town's Zoning Ordinance shall apply.

4. Parking and Circulation

- a. On site parking shall be provided as follows:
 - i. For each guest unit - 1.2 spaces.
 - ii. For each dwelling unit - 2.0 spaces.
 - iii. For each 50 square feet of net dining area in restaurants - 1.0 space.
 - iv. For each two seats or equivalent area in meeting rooms, auditoriums or group assembly areas - 1.0 space.
 - v. For each 300 square feet of net sales areas in retail establishments – 1.0 space.

- vi. For each 300 square feet of net occupied space in office and service establishments - 1.0 space.
 - b. These requirements may be modified in conjunction with special use permit or major amendment approval based on information documenting overlapping usage of on-site facilities by guests or visitors and as contained in an approved traffic and parking analysis.
 - c. *All parking and driveway areas shall be located so as to prevent lights from shining onto adjacent residential property.*
 - d. All parking areas and driveways located within 200 feet of adjacent residentially zoned property shall be screened with a minimum three foot high, solid, decorative wall or a landscaped berm providing equivalent screening or a combination of both.
 - e. *Landscaped islands shall be provided every 100 feet within surface parking areas.* Shade tree planters shall be provided between every four stalls.
 - f. No loading, truck parking, trash containers or outdoor storage area shall be located within 100 feet of adjacent residentially zoned property. All such areas shall provide visual and noise screening to minimize impacts on adjacent residential property.
5. Signs
- a. An identification sign may be located at each entrance to the resort from a Major or Minor arterial street. The maximum height shall be 8 feet and the maximum sign area shall be 40 square feet, aggregate.
 - b. On entrances from all other streets, the maximum height shall be 4 feet and the maximum area shall be 32 square feet, aggregate.
 - c. All signs shall be only backlit or indirectly illuminated according to the standards in Article XXV, Signs, of the Town's Zoning Ordinance.
 - d. No moving or animated signs shall be permitted. Changeable copy is permitted within the allowable sign area.
 - e. Traffic and directional signs within the site shall not exceed 12 square feet in area, aggregate, and shall not exceed 5 feet in height.
 - f. A sign, mounted on an exterior wall of any structure shall contain only structure identification as necessary for emergency access.
6. Lighting as per Section 2 of the Special Use Permit Guidelines

Section 5 Medical Office

1. Bulk and Density Standards
 - a. Maximum building height
 - i. *Principal Structures – 30 feet*
 - ii. Accessory structures – 24 feet
 - iii. Service structures – 18 feet
 - iv. Towers and other architectural features may exceed maximum building heights, subject to special use permit or major amendment approval.
 - v. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines in accordance with the Open Space Criteria per Section 3 of the Special Use Permit Guidelines.
 - b. Maximum lot coverage for all buildings - 25%
 - c. Minimum lot area - 5 acres
2. Perimeter Standards
 - a. Building setback when property is adjoining residentially zoned property – 60 feet
 - b. Building setback when property is adjoining a public street - 40 feet
 - c. Parking lots and internal driveways shall be set back a minimum of 60 feet from adjoining residential zoned property
 - d. Parking lots shall be shielded with a minimum 3 foot high wall or landscaped berm providing equivalent screening or a combination of both so that no vehicle lights shall shine onto adjacent residential property.
 - e. Parking lots adjoining public streets shall be screened with a minimum three foot high, solid, decorative wall or a landscaped berm providing equivalent screening or a combination of both.
 - f. There shall be a 40 foot wide landscaped area adjacent to an exterior property line where it abuts residentially zoned property.
 - g. There shall be a minimum 30 foot wide landscaped area where an exterior property line abuts a public or private local or collector street and a 50 foot wide landscaped area where an exterior property line abuts a Major or Minor Arterial.
3. Parking
 - a. On-site parking shall be provided as follows:
 - i. Medical offices - 1 space for each 200 square feet of interior floor area.
 - ii. Outpatient surgical facilities - 1 space for each 2 employees plus 1 space for each surgical room.

- iii. Medical laboratories - 1 space for each 2 employees.
 - iv. Physical therapy facilities - 1 space for each 1.5 employees.
 - v. Pharmacy – 1 space for each 300 square feet of interior area.
- b. These requirements may be modified in conjunction with special use permit or major amendment approval based on information documenting overlapping usage of on-site facilities by staff and visitors and as contained in an approved traffic and parking analysis.

4. Signage

In addition to the provisions of Chapter XXV, Signs, of the Town's Zoning Ordinance, the following regulations shall apply:

- a. One ground sign that is no higher than 8 feet and no larger than 40 square feet in area shall be permitted at each principal entrance to the property.
- b. No moving or animated signs shall be permitted.
- c. Traffic and directional signs within the site shall not exceed 12 square feet in area or five feet in height.

5. Lighting

Lighting as per Section 2 of the Special Use Permit Guidelines

Section 6 Religious Facility, Private School, Non-Profit Organization,
Public/Quasi Public

1. Bulk and Density Standards
 - a. *Maximum building height of principal building – 35 feet*
 - b. Maximum building height for all other structures - 24 feet
 - c. Maximum lot coverage for all buildings - 25%
 - d. Minimum lot area - 5 acres
 - e. Towers and other architectural features may exceed building maximum heights subject to special use permit or major amendment approval.
 - f. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines in accordance with the Open Space Criteria per Section 3 of the Special Use Permit Guidelines.
2. Perimeter Standards
 - a. Building setback when property is adjoining residentially zoned property – 60 feet
 - b. Building setback when property is adjoining a public street - 40 feet
 - c. Parking lots and internal driveways shall be set back a minimum of 60 feet from adjacent residentially zoned property.
 - d. Parking lots shall be shielded with a minimum 3 foot high wall or a landscaped berm providing equivalent screening or a combination of both so that no vehicle lights shall shine onto adjacent residentially zoned property.
 - e. Parking lots adjoining public streets shall be shielded by a minimum 3 foot high wall or landscaped berm providing equivalent screening or a combination of both.
 - f. There shall be a 40 foot wide landscaped area adjacent to an exterior property line where it abuts residentially zoned property.
 - g. There shall be a minimum 30 foot wide landscaped area where an exterior property line abuts a public or private local or collector street and a 50 foot wide landscaped area where an exterior property line abuts a Major or Minor Arterial.
3. Parking
 - a. On-site parking shall be provided as follows:
 - i. Places of assembly - 1 space for each 3 seats or for each 54 inches of total pew length
 - ii. Classrooms - 1 space for each classroom
 - iii. Administrative offices - 1 space for each 300 square feet of net interior floor area
 - iv. Professional offices - 1 space for each 300 square feet of net interior floor area

- b. These requirements may be modified in conjunction with special use permit or major amendment approval based on information documenting overlapping usage of on-site facilities by employees or visitors and as contained in an approved traffic and parking analysis.

4. Signage

In addition to the provisions of Chapter XXV, Signs, of the Town's Zoning Ordinance, the following regulations shall apply:

- a. One ground sign no higher than 8 feet and no larger than 32 square feet in area shall be permitted at each principal entrance to the property.
- b. No moving or animated signs shall be permitted.
- c. Changeable message panels shall be permitted.
- d. Traffic and directional signs within the site shall not exceed 12 square feet in area and five feet in height.

5. Lighting

Lighting as per Section 2 of the Special Use Permit Guidelines

Section 7 Country Club and Golf Course

1. Bulk and Density Standards

- a. Uses may be conducted indoors or outdoors.
- b. Structures associated with the facility shall not exceed one story or 24 feet in height
- c. Lot coverage of all structures on a site shall not exceed 20% excluding outdoor game courts and swimming pools, and shall not exceed 30% including outdoor game courts and swimming pools.
- d. Minimum site area - 5 acres
- e. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines in accordance with the Open Space Criteria per Section 3 of the Special Use Permit Guidelines.

2. Perimeter Standards

- a. No tee or hole within any golf course or driving range shall be closer than 100 feet from the principal structure on any residentially zoned land.
- b. No portion of any outdoor game court or swimming pool and decking shall be closer than 150 feet from the property line of any residential zoned land.
- c. Building setback when property is adjoining residentially zoned property – 40 feet.
- d. Building setback when property is adjoining a public street – 40 feet.
- e. Parking lots and internal driveways shall be set back a minimum of 60 feet from adjacent residentially zoned property.
- f. Parking lots shall be shielded with a minimum 3 foot high wall or a landscaped berm providing equivalent screening or a combination of both so that no vehicle lights shall shine onto adjacent residentially zoned property.
- g. Parking lots adjoining public streets shall be shielded by a minimum 3 foot high wall or landscaped berm providing equivalent screening or a combination of both.
- h. There shall be a 40 foot wide landscaped area adjacent to an exterior property line where it abuts residentially zoned property.
- i. There shall be a minimum 30 foot wide landscaped area where an exterior property line abuts a public or private local or collector street and a 50 foot wide landscaped area where an exterior property line abuts a Major or Minor Arterial.

3. Parking

- a. On-site parking shall be provided as follows:
 - i. employees - 1 space per employee.
 - ii. per golf course hole - 2 spaces.

- iii. per driving range station tee area - 2 spaces.
- iv. putting or chipping green - 1 space per 500 square feet.
- v. tennis, racquetball or handball - 3 spaces per court.
- vi. swimming pool - 1 space per 60 square feet of deck area.
- vii. dining areas and bar - 1 space per 50 square feet of dining area.
- viii. retail sales area - 1 space per 300 square feet of gross sales area.
- ix. exercise room - 1 space per 150 square feet of gross area.
- x. event hall - 1 space per 50 square feet of assembly area or 1 space per 2 fixed or portable seats.

- b. These requirements may be modified in conjunction with special use permit or major amendment approval based on information documenting overlapping usage of on-site facilities by guests or visitors and as contained in an approved traffic analysis.

4. Signage

In addition to the provisions of Chapter XXV, Signs, of the Town's Zoning Ordinance, the following regulations shall apply:

- a. One ground sign which shall be no higher than 8 feet and no larger than 40 square feet in area shall be permitted at each principal entrance to the property.
- b. No moving or animated signs shall be permitted.
- c. Changeable message panels shall be permitted.
- d. Traffic and directional signs within the site shall not exceed 12 square feet in area or five feet in height.

5. Lighting

Lighting as per Section 2 of the Special Use Permit Guidelines

Section 8 Guardhouse, Gatehouse, and Access Control Gates

1. Bulk, density and design standards
 - a. The appearance of the guardhouses, gatehouses, and access control gates and related improvements shall be architecturally and aesthetically compatible with adjacent buildings, structures and landscaping.
 - b. There shall be a turnaround provided outside a guardhouse, gatehouse, or access control gate which shall meet Town standards for cul-de-sacs.
 - c. An access control gate shall be set back a minimum of 150 feet from the centerline of the nearest intersecting street providing access to the facility.
 - d. Guardhouses and gatehouses shall be no higher than 16 feet in height.
 - e. No guardhouse or gatehouse shall exceed 250 square feet in area.
 - f. No access control gate shall be higher than 8 feet.
 - g. Pedestrian and non-motorized vehicle access shall be provided adjacent to roadway access.
2. Signage
 - a. One wall sign, not to exceed 6 feet in height or 6 square feet in area shall be permitted.
 - b. Ground signs, not to exceed 4 feet in height or 2 square feet each in area shall be permitted.
3. Lighting

Lighting as per Section 2 of the Special Use Permit Guidelines

GENERAL PLAN POLICIES

Smoke Tree Resort Major Special Use Permit Amendment (2018)

7101 E Lincoln Drive

Several General Plan policies apply related to the request for a major renovation of the Smoke Tree Resort property. Primary policies that apply include the policies of Goal LU 2.1.2, Special Use Permit Property Revitalization, and several of the policies of Goal DA 2.2.1, Development Area Policy. The subject site is located in a designed Development Area. Below is a more exhaustive list of pertinent General Plan policies for consideration in review of this application request. As applicable, other policies may be considered.

Encourage renovation of SUP sites

LU 2.1.2.4 Special Use Permit Property Maintenance. The Town shall encourage, and where subject to redevelopment require, owners of closed or poorly maintained Special Use Permit properties to upgrade existing structures and properties to improve their physical condition to acceptable standards or require such structures to be removed or demolished.

Consider alternative uses and density in Development Areas

DA 2.2.3.3 East Lincoln Drive Development Areas. The Town should encourage moderate intensity, mixed-use, and context appropriate resort development within the East Lincoln Drive Development Areas that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts.

CC&H 3.2.1.2 Other Housing Types. The Town shall consider less than one acre per residence housing only on Special Use Permit resort properties and to serve the Town's existing resident population, including single-owner resort housing.

CC&H 3.2.1.3 Fractional Ownership & Timeshares. The Town shall not allow timeshares or fractional ownership residences anywhere in the Town.

Mitigate the impact to residential neighborhoods and adjacent land uses

LU 2.1.2.1 Encourage Revitalization. The Town shall continue to encourage Special Use Permit property revitalization and improvement within their existing geographic boundaries as long as such improvement does not adversely affect the integrity and enjoyment of adjacent residential neighborhoods.

LU 2.1.2.2 Require Impact Assessments. The Town shall require that proposals for revitalization and improvement of Special Use Permit properties include community impact assessments that address beneficial as well as adverse project impacts, including but not limited to noise, traffic, parking, open space or mountain views, and light pollution.

LU 2.1.2.3 Compatibility of Adjoining Uses. The Town shall ensure that development within Special Use Permit properties is compatible with adjacent land uses, particularly residential uses, by requiring such features as:

- Increased building setbacks from rear or side yard property lines adjoining single-family residential uses;
- Building heights stepped back from sensitive adjoining uses to maintain appropriate transitions in scale and to protect privacy;
- Landscaped off-street parking areas, loading areas, and service areas screened from adjacent residential areas, to the degree feasible;
- Lighting shielded to minimize impacts on adjacent residential uses and protect dark skies; and

GENERAL PLAN POLICIES

Smoke Tree Resort Major Special Use Permit Amendment (2018)

7101 E Lincoln Drive

- Operational restrictions to limit the adverse impact of noise, light, and traffic and minimize the risk of crime to adjacent residences.

DA 2.2.1.2 Balanced Consideration. Consideration of Development Area Special Use Permit applications should balance a need for the Town's fiscal health against a steadfast commitment to protecting adjacent low-density residential character and quality of life.

DA 2.2.1.3 Minimize Neighborhood Incompatibility. The Town shall require development or redevelopment within Development Areas to provide reasonable separation of incompatible land uses from adjacent residential areas through context- and scale appropriate land planning and architectural design, greater setback distances, noise mitigation, resort property programming, and landscape buffering.

OS 5.1.9.1 Mountain View Consideration. The Town shall place a high priority on the preservation and restoration of mountain views from public rights-of-way during any new, intermediate or major Special Use Permit amendment process.

EP 6.1.3.5 Glare. The Town shall require, through development design features, new development avoid the creation of excessive glare that makes seeing difficult due to the presence of reflected sunlight or artificial light such as floodlights.

Use context-appropriate site/building design

LU 2.1.2.5 Building Design and Site Planning. The Town shall encourage context-appropriate and responsive building design and site planning on Special Use Permit properties that mitigates the scale of larger buildings through careful use of building massing, setbacks, facade articulation, fenestration, varied parapets and roof planes, and pedestrian-scaled architectural details.

LU 2.1.3.1 Visual Openness. The Town shall maximize the benefits of visual openness throughout the Town by specific limits on floor area ratio, setbacks, side yards, and building and wall heights.

LU 2.1.3.2 Conservation. The Town shall encourage energy and water conservation by the appropriate orientation and design of buildings and the use of low-water use landscaping.

CC&H 3.1.3.2 Responsiveness to Context. The Town shall promote building design that respects and responds to the local context, and scale, including use of local materials where feasible, responsiveness to the Sonoran Desert climate, and consideration of the cultural and historic context of the Town of Paradise Valley's neighborhoods and centers.

CC&H 3.1.3.6 Architecturally Significant Buildings. The Town shall encourage the development of architecturally significant public and private buildings and resort development in key locations to create new landmarks and focal features that contribute to the Town's structure and identity and value the Town's location, climate and historic legacy.

CC&H 3.1.4.4 Dark Skies. The Town shall continue to balance the low light levels of the Town with the safety and security of residents and visitors.

OS 5.1.7.1 Landscape Guidelines. The Town shall adopt landscape guidelines and require they be used on all Town projects and in public rights-of-way while allowing a diverse range of treatments on individual properties. Residents and builders shall be encouraged to utilize the guidelines to further the preservation and enhancement of the community's natural environment.

GENERAL PLAN POLICIES

Smoke Tree Resort Major Special Use Permit Amendment (2018)

7101 E Lincoln Drive

EP 6.1.1.3 Mature Landscape Preservation. The Town shall require new development and redevelopment to preserve mature indigenous and compatible landscaping on-site where feasible.

EP 6.1.1.5 Maximum Feasible Preservation. The Town shall monitor new development and redevelopment to ensure the maximum feasible preservation of native plants and wildlife and existing vegetation.

EP 6.1.2.4 Urban Heat Island Effects. The Town shall continue to promote planting indigenous and compatible shade trees with substantial canopies, and require site design which uses trees to shade, where feasible, parking facilities, streets, and other facilities to minimize heat island effects.

EP 6.1.3.3 Standards for SUP Development. The Town shall require that Special Use Permit developments not create major adverse impacts on the town's natural and semi-urban landscapes.

WR 6.2.1.5 Water Conservation. The Town shall encourage water conservation for new and existing developments through the use of water-conserving fixtures and devices, conversion and installation of desert adapted landscaping, and other conservation techniques.

S 7.2.4.4 Impervious Surface Reduction. The Town shall limit the scope of new impervious surfaces and encourage reduction of existing impervious surfaces for all new developments in order to reduce storm water runoff.

Highlight the entrance into PV via gateway markers

LU 2.1.3.8 Community Gateways. Major entrances into the Town should be given symbolic markers and landscaping to strengthen community identity and to highlight community design standards. Symbolic markers may include signs, monuments, landscape, and hardscape.

CC&H 3.1.3.3 Enhanced Town Gateways. The Town shall ensure that public improvements and private development work together to enhance the sense of entry at key gateways to the Town through consistent decorative elements such as signage, landscaping, and art that captures the values of the Town and its setting.

CC&H 3.1.3.4 Visually Significant Corridors. The Town shall designate highly visible, prominent, streets, including Lincoln Drive and Tatum Boulevard, as Visually Significant Corridors. Streetscape design guidelines will be developed, to include a reasonable range of treatments of individual properties, to improve and manage landscape conditions as a means to demonstrate a positive and unique character and image of the Town, maintain views, and strive to mitigate the negative impact of traffic impacts while respecting private property rights.

M 4.4.3.2 Visually Significant Corridor Treatment. Town rights-of-way along Visually Significant Corridors shall have attractive, experientially rewarding, and cohesive design elements, including signage, landscaping, medians, interchanges and sidewalks while permitting a reasonable range of treatments of individual properties. Elements that create visual clutter such as unnecessary signage or utility boxes will be eliminated, or their visibility reduced.

M 4.4.3.3 Other Right-of-Way Treatment. All other public roadway right-of-way corridors will demonstrate high-quality landscaping elements consistent with Town Landscaping Guidelines while permitting a diverse range of treatments of individual properties.

Provide community spaces/public benefit

GENERAL PLAN POLICIES

Smoke Tree Resort Major Special Use Permit Amendment (2018)

7101 E Lincoln Drive

DA 2.2.2.1 Open Space. The Town shall seek to provide open spaces in Development Areas that encourage public gathering, enhance aesthetics, and serve as buffers between uses of significantly differing function and intensity.

DA 2.2.2.3 Public Space. The Town shall work with Development Area Special Use Permit properties to integrate pedestrian amenities, traffic-calming features, plazas and public areas, attractive streetscapes, shade trees, lighting, and open spaces in keeping with the character of the Town.

DA 2.2.2.4 Public Art. The Town should encourage the integration of public art into the visual character of Development Areas.

CC&H 3.1.2.3 Community Gathering Spots. The Town shall encourage Special Use Permit properties to incorporate strategically located (e.g., accessible to surrounding neighborhoods) community gathering spots that include small and appropriately scaled community-oriented services or amenities designed to support the interaction of Town residents.

R 5.2.1.2 Resort Facilities. The Town shall encourage the use of resort properties for private recreation programs and activities for Town residents.

To direct orderly and well-planned development within Development Areas to support infrastructure improvements

DA 2.2.3.1 Public Infrastructure. The Town should promote the public and private construction of timely and financially sound public infrastructure within Development Areas through the use of infrastructure funding and financing that is coordinated with development activity and funded by the developer whenever possible.

M 4.2.1.2 Comprehensive System. The Town shall maintain existing sidewalks, paths, bicycle lanes, and trails, and seek ways through transfer, gift, easement, or governmental action to extend or to fill in the system, to better serve the health, welfare, aesthetic, and sociability needs of pedestrians and cyclists.

SUP History – Smoke Tree Resort

Use of the property for guest services began prior to its annexation into the Town in 1961. At annexation, the property operated as a resort and restaurant in much the same configuration as it presently exists. The original Special Use Permit (SUP) was issued on March 13, 1969. There is limited information on past approvals and stipulations for this property. Historically, the property has not had many building permits issued or amendments to its Special Use Permit zoning. The latest activity included renovations to the restaurant in 2007 that never opened.

- *December 2012. Adoption of General Plan*
55 acres near the southeast area of Lincoln Drive and Mockingbird Lane were designated as a redevelopment area in the Town's General Plan. Smoke Tree Resort is located in the "East Lincoln Drive South Development Area." This development area is encouraged to have moderate intensity, mixed-use, and context-appropriate resort development. Refer to the attached General Plan policies for more information.
- *June 2008. Mechanical Screening on Restaurant Building*
As part of the renovation of the long-standing "The Other Place" restaurant for a new restaurant tenant "REM." Various improvements to the restaurant building fronting along Lincoln Drive were made in 2007 and 2008. The mechanical roof screening on the restaurant building was the most visible element completed. The improvements were all in substantial compliance with the existing Special Use Permit. REM never opened.
- *2005 – 2007. Compilation of SUP records*
The Planning Department worked on a project to compile records for all Special Use Permit properties to better monitor these properties. This included centralizing stipulations. Most of the records for Smoke Tree Resort were not found.
- *June 1972. Amendment to the Special Use Permit to add more kitchen space*
The Town approved modification of Cottage 1 to a non-public use for more kitchen space. This same application appears to have been filed and approved in May 1971. The only plan from this period is the attached site plan from 1971.
- *March 1969. Establishment of the Special Use Permit*
The resort was granted Special Use Permit status in 1969 with two stipulations. One stipulation that related to payment for condemnation of right-of-way on Lincoln Drive and that any new leases of commercial space be approved by Town Council. There are no site plans or other records available. From the attached March 13, 1969 minutes, it appears that the changes to the site related to façade improvements, interior remodel, adding and paving parking areas, and dedication of 7 feet of right-of-way along Lincoln Drive to comply with the then 40 feet of half-width of right-of-way. However, it does not appear the applicant dedicated or granted an easement for the additional 7 feet of right-of-way along Lincoln Drive.

7/13/1972 COUNCIL

Gulf
Leisure
(Con'td.):

property owners were present to object. They included Mr. and Mrs. John Kronenberg, Mrs. L. E. Zuhn, Mr. and Mrs. M. J. Wilton, Mr. and Mrs. Dave Manning and Mr. W. G. Mizell, Jr. Mrs. Kronenberg read a prepared statement citing the residents' objections, which were primarily devaluation of property and invasion of privacy. A protesting petition was also presented. No reply was forthcoming to the Mayor's question as to what the residents would consider an acceptable use of the land in question. Mayor Tribken pointed out that if the present petitioners were refused, construction over which the Town would have no control could take place in the future. Vice-Mayor Donegan mentioned current litigation with respect to the property which could result in the construction of a seven story office building on the site. In answer to the question "Why are we changing our Zoning Ordinance?", Councilwoman vonAmmon advised that the Town already has resort zoning. Nearby homeowners were concerned about drainage and flood control, and Mayor Tribken assured them that if plans for such were not adequate and approved by the Town Engineer and State Flood Control Authorities, a building permit would not be issued.

In answer to objections of balconies on the second story rooms, Mr. Pierce stated that all balconies would be removed. Vice-Mayor Donegan moved to grant a Special Use Permit for a resort hotel provided flood control drainage were approved by the Town Engineer and State Authorities. The question as to the final height of the buildings was raised. Mr. Pierce stated that this would depend on how much the site would have to be elevated in order to accomplish proper drainage, something which is not known at the present time.

Councilman Kleban suggested approval of final building height be incorporated into the motion, and Mr. Pierce wanted approval of landscaping also to be included. Mr. Harry Ekdahl, assistant to the Planning and Zoning Commission, suggested that the motion state that the flood control and drainage program take into consideration the nearby property owners.

Motion: The motion, as amended, was restated: "To grant a Special Use Permit for a resort hotel with site plan approval to include landscaping, final building height and proper flood control drainage taking into consideration the needs of the surrounding homes." Councilman Worthington seconded. Mr. John Kronenberg asked the Council by what authority it could ignore the recommendation for denial by the Planning and Zoning Commission. Mayor Tribken replied that the function of the Planning and Zoning Commission is advisory only, and that final authority lies with the Town Council. A roll call vote was taken, and the motion carried four to two with the negative votes being cast by Councilman Palmer and Councilwoman vonAmmon.

Roll Call:

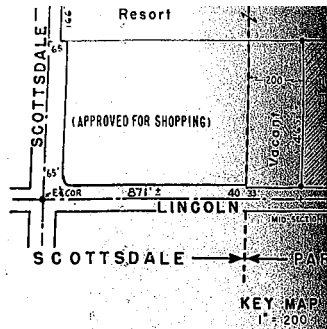
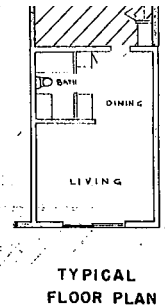
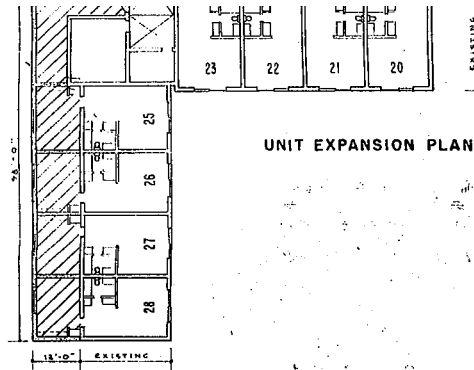
Scottsdale
Baptist
Church:

The hearing of Scottsdale Baptist Church was continued to the next Council meeting as the petitioner was not present.

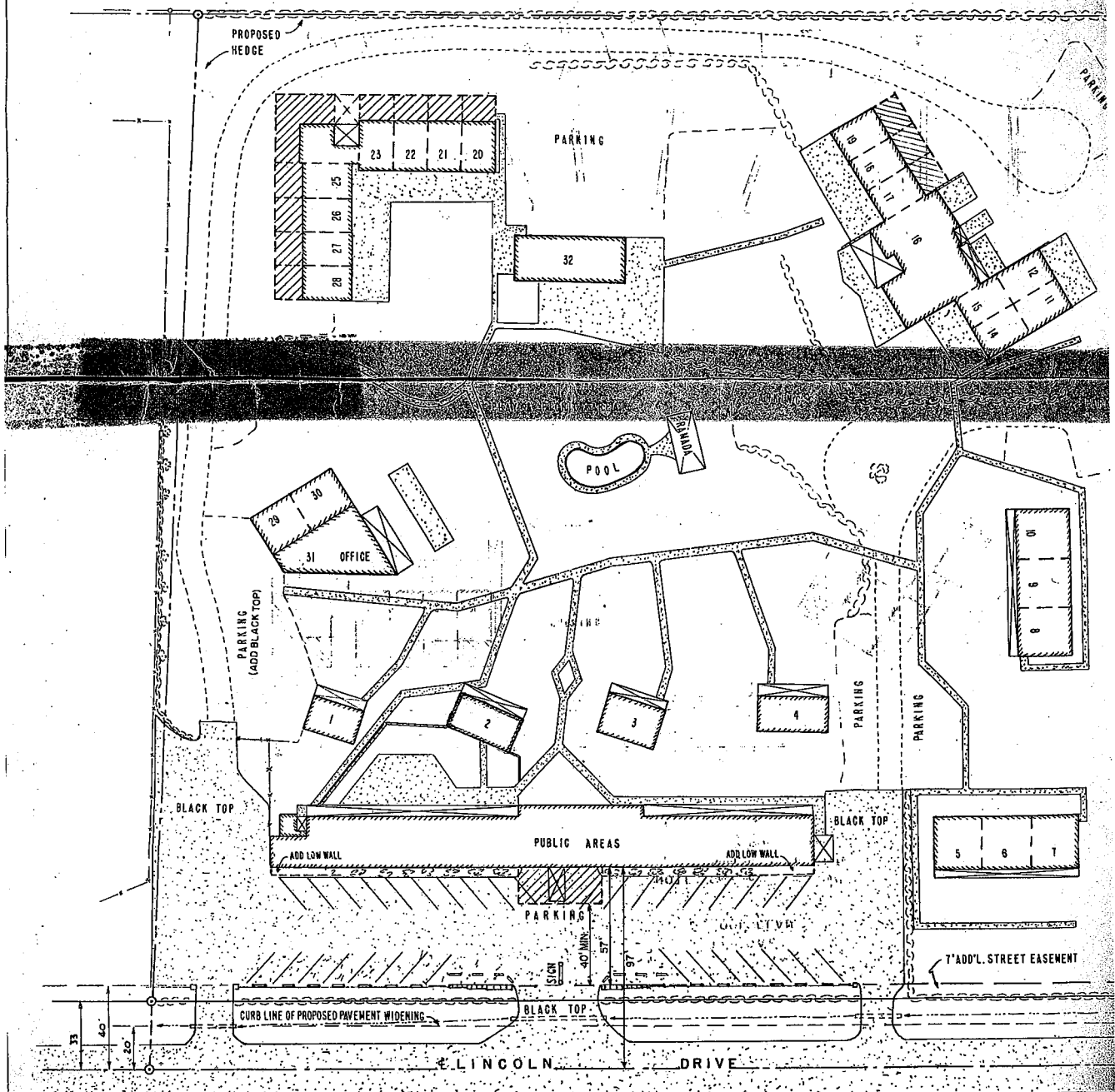
Smoke Tree
Resort:

Mr. Curtis Williams, owner of Smoke Tree Resort requested an amendment to a Special Use Permit to change Cottage I to a non-public use, and construct additional space by connecting Cottage I with "The Other Place" to provide additional kitchen facilities for "The Other Place" and a rest area for its employees. Councilman Palmer moved to approve the amendment to the Special Use Permit in accordance with the recommendations of the Planning and Zoning Commission and with special consideration for Fire protection with fire hydrants. Vice-Mayor Donegan seconded the motion, and it carried unanimously.

Motion:



NOTE: See architectural drawings for additional expansion details.
 Sign, after 18 months from approval date, to be reduced to 20 sq. ft.
 Proposed building expansion



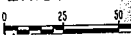
	TOTAL UNITS	TOTAL BLOCS	FLOOR AREA	NET LAND AREA
GUEST UNITS	29	10	17,100	5.6 ACRES
OFFICE & RES.				
COMMERCIAL	30	11	24,100	
			218,500*	

BUILDING DENSITY = 10.75 % - INCREASES TO 12 %

Amendment Application 4/23/71

LAZY-K "smoke tree" G
 7101 EAST LINCOLN DRIVE • TOWN
 PORTION NE 1/4 SE 1/4 SECTION 10 • T2N
 SITE PLAN "A" - EXISTING & PRO

DONALD T. VAN ESS-ARCHITECT



5/27/1971

Council

is reached between the City of Phoenix and the Town regarding installation and maintenance of fire hydrants. Town Attorney Robertshaw stated that he had received copies of the proper bond.

Councilman Donegan suggested a letter be written, dated May 18, 1971, stating that the Mirada Los Arcos developers agreed to install three fire hydrants, to be hooked to City of Phoenix water lines within a year provided agreement referred to above is reached between the City of Phoenix and the Town within that time. Mr. William Goodheart, representing Mirada Los Arcos, agreed to sign such a letter. Town Attorney Robertshaw composed the letter and Mayor Huntress read it. Mr. William Goodheart signed the letter as a representative of Mirada Los Arcos Subdivision.

Motion

Councilman Donegan moved that the Final Plat for Mirada Los Arcos Subdivision be approved, subject to the provisions of the letter referred to above. Councilman Crook seconded the motion. The motion was carried unanimously.

Smoke Tree Resort-
Application for
Amended Special
Use Permit

- Mayor Huntress read from the Minutes of the Planning and Zoning Commission of May 18, 1971 in which the Commission recommended approval of the Application for an Amendment to the Special Use Permit by Smoke Tree Resort to permit conversion of a living unit to a private dining room or meeting room and additional public dining space in connection with "The Other Place" restaurant. After the Council's discussion of seating capacity and available parking space, Councilman Crook moved that the Application as submitted be approved. Councilman Donegan seconded the motion. The motion was carried unanimously.

Town Manager's
Report

- Town Manager's Report:

- a. The Arizona Public Service Power Pole move back along Scottsdale Road between Jackrabbit Road and Orange Blossom Lane as previously outlined was reported upon as being caused by the Town of Paradise Valley's granting a Special Use Permit to the Scottsdale Baptist Church and widening of Scottsdale Road. A permit, to expire at the end of ten years, had been granted to Arizona Public Service Company to build this line (69 Kv) overhead. After considerable discussion it was decided that APS would have to file an application for an amendment to this permit to move the affected poles approximately 25 feet to the west along this stretch of Scottsdale Road.
- b. The list of articles to be auctioned off by the Town Marshal's Office, and the date set for the auction July 15, 1971 at 10:00 a.m. was also reported upon. Instructions to post a list of articles and notice of auction on all Town bulletin boards and have an article in the Scottsdale Daily Progress

MINUTES OF REGULAR MEETING OF
THE TOWN COUNCIL OF THE TOWN
OF PARADISE VALLEY, ARIZONA

March 13, 1969

A regular meeting of the Town Council for the Town of Paradise Valley, Arizona, was called to order by Mayor Jack B. Huntress at 7:30 P.M., Thursday, March 13, 1969, in the Council Chambers at the Town Hall, 6325 North Invergordon Road. Mayor Huntress led Council members and guests in the Lord's Prayer and Pledge of Allegiance to our Flag.

The following Council members were present:

Mayor Jack B. Huntress
Vice-Mayor E. Robert Tribken
Councilman A. Irving Scherer
" Richard D. Fellars
" Oscar C. Palmer, Sr.
" J. Stephen Simon

Also present were:

Town Manager Henry Penfield
Town Attorney Fred Robertshaw
Town Engineer Gerry Sudbeck
Town Marshal Lester Naumann
Lt. Richard Kaar

Vice Mayor Tribken moved, and Councilman Simon seconded the motion that the absence of Councilman Philip E. vonAmmon be approved as he is out of town on business. Motion passed unanimously.

Regarding the minutes of February 27, 1969, there being no corrections or additions, Councilman Fellars moved they be approved as submitted; seconded by Councilman Scherer and passed unanimously.

Smoketree
Inn

- The Mayor proceeded to read from the minutes of the Planning & Zoning Commission meeting of February 18, 1969, regarding the application of the Smoke Tree Inn, regarding a request for a Used Permit to modify and enlarge the present premises. Mr. Frank Haze Burch, Attorney for the principals of Smoke Tree Inn presented the new site plan and explained what is proposed to the Council. He stated that the purpose of the application was to allow them to rehabilitate what is now a use which has deteriorated because of problems of ownership. Western Savings and Loan was forced to foreclose and take possession. This application will allow some changes in the rooms; in front to place a new facade on the premises so it won't be as dismal as it is now. To improve the parking by paving all the dirt areas and increased landscaping across

the front and make certain dedication as requested by the Town on Lincoln Drive, it will provide total off-street parking. It will have a Spanish style, patio effect. The interior of the public building will be redone. Prime tenants will be the Restaurant operated by Dale Andersen, and a beauty shop. There will be ample guest parking, it will be double what is there now, or about 70 spaces for the restaurant alone. Seven feet will be dedicated across the front on Lincoln Drive, since 80' is required for a full 4-lane road.

Town Engineer Sudbeck stated that the County is thinking about 55 feet on each side of Lincoln Road to provide a wide divider between the proposed 4-lane highway. A minimum of 110' would be required for such construction, if approved.

The Council requested Mr. Burch to ask his applicant to come back and check with them before leasing to other tenants on this proposed site. That the seating capacity inside would be 90-100 plus the patio, and the additional parking would permit 70 spaces around the restaurant. More discussions about proposed federal funding of a 4-lane highway, which would create expensive land for condemnation purposes, especially further up Lincoln.

Motion

- Councilman Simon moved that the Council approve the Use Permit subject to two conditions: (1) That a condition, approved by the Town Attorney and with approval of the Applicant that in the event of condemnation, the condemnor shall pay the actual cost to the then owner of the property as to that portion taken; and (2) that any new leases of commercial space within the resort be approved by the Council; motion was seconded by Councilman Fellars. Councilman Simon stated further that the representations made by the applicant as to the use of the property as recommended by Planning & Zoning Commission be further approved and that any other new use would have to be approved by the Council. Vice Mayor Tribken asked how one determines cost for condemnation, and Mr. Burch explained the procedure. That an appraiser will break down a property to a square foot value based on the financial statement of the owner's cost of the land aside from the special use thereof. Councilman Simon added to his motion that this apply only in the event that the condemnor uses federal funds. The motion passed unanimously.

Traffic lights

- Final action on Traffic Control Lights. The Mayor indicated the amount of the bids again and that they were about \$3,000. over our estimate. Much discussion ensued. The Town Engineer recommended that we reject the bids and hope to do this work in combination with another project later in the year, in cooperation with Scottsdale. Councilman Fellars stated his position that since the need was there and just because it would cost \$2,800.-\$3,000. more than we estimated is not sufficient reason to reject the bids now. Councilman Simon proposed lowering the speed limit and posting a stop sign on Lincoln Drive. The Marshal gave a complete picture of the traffic situation, and stated the offending cars are not on Lincoln Drive, but on cross-traffic. Three

SUP-18-05 Smoke Tree Resort
-Statement of Direction-
~~October 25th, 2018~~ January 24th, 2019

Gentree LLC submitted a Major Special Use Permit amendment application for redevelopment of the Smoke Tree Resort located at 7101 E Lincoln Drive. The proposal is for a complete redevelopment of the 5.3-acre site with 150 hotel guest rooms, 30 resort residences, a restaurant, bar, associated resort retail, group meeting function space, event gardens, and resort pool areas.

Section 1102.3 of the Town's Zoning Ordinance states the Town Council must issue a Statement of Direction for the Special Use Permit application within 45 days of the first staff presentation. The first presentation was on May 24, 2018. The applicant voluntarily put this Statement of Direction on hold on May 25, 2018. The application was re-initiated in September of 2018 and the first presentation for purposes of calculating the 45-day requirement for Town Council to issue a Statement of Direction will be September 27, 2018.

The Statement of Direction is not a final decision of the Town Council and does not create any vested rights to the approval of a Special Use Permit. Any applicant for a Special Use Permit shall not rely upon the matters addressed in the Statement of Direction being the same as those that may be part of an approved Special Use Permit.

Therefore, the Town Council issues the following Statement of Direction for the Smoke Tree Resort:

- The General Plan encourages the continued revitalization and improvement of the Town's Special Use Permit properties while protecting the adjacent residential neighborhoods (General Plan Land Use Policy 2.1.2).
- The site is in a designated Development Area pursuant to the General Plan. As such, in addition to other applicable policies, the following policies may be considered:
 - a. Consideration of Development Area Special Use Permit applications should balance a need for the Town's fiscal health against a steadfast commitment to protecting adjacent low-density residential character and quality of life (General Plan Land Use Policy 2.2.1.2).
 - b. The Town shall require development or redevelopment within Development Areas to provide reasonable separation of incompatible land uses from adjacent residential areas through context and scale appropriate land planning and architectural design, greater setback distances, noise mitigation, resort property programming, and landscape buffering (General Plan Land Use Policy 2.2.1.3).
 - c. The Town should encourage moderate intensity, mixed-use, and context appropriate resort development within the East Lincoln Drive Development Areas that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts (General Plan Land Use Policy 2.2.3.3).

The Planning Commission shall focus their review on the visible, audible, and operational effects the amendment may have on the neighbors. In particular, the Planning Commission shall focus their review on:

1. Use.

While the primary resort use will not change, more information is needed on the new accessory uses (retail and function space/event gardens) and the proposed resort residential to ensure such uses are accessory to the resort. When reviewing the resort residential component, consider FF&E for consistency with hotel, lock-off feature, parking, guest access, and availability through the hotel rental program to ensure these units are part of the resort.

2. Density.

The proposed 180 units (resort and residential) creates a density of approximately 34 units per acre. The Planning Commission shall take into consideration the 5.3 acre site area and reduce density on the west and south sides of the site. Consider how the density impacts safety and quality of life of town residents.

3. Lot Coverage/Floor Area Ratio.

The Planning Commission shall consider lot coverage and floor area ratio while acknowledging the unique characteristics considered in the Development Area. The review shall address reasonable separation between incompatible uses and effective buffering of unwanted noise, light, traffic, views of the buildings offsite, and other adverse impacts. There shall be consideration of lowering the proposed lot coverage and floor area ratio and/or requiring specific mitigation measures.

4. Height.

The Planning Commission shall evaluate the proposed height and its impact on adjacent properties. The minimum height is encouraged on the west side of the site closest to existing residential properties, transitioning to higher heights on the east side of the site adjacent to Lincoln Medical Plaza. A compelling reason must be given for heights proposed over 36', with such height to be limited in area and considered when necessary for mechanical screening and architectural elements. It is recommended that all heights be taken from existing finished grade. If any portion of the rooftop is visible off-site, care should be taken to minimize the impact. White roofing material is discouraged if visible off-site.

5. Viewsheds.

The Planning Commission shall consider the impact to adjoining properties of any encroachment outside of the imaginary plane suggested by the Open Space Criteria. Due to the size of this property being one quarter the suggested 20-acre size per the Special Use Permit Guideline and the location adjoining other commercial uses, a limited amount of encroachment may be permissible. Structures are suggested to generally stair-step from one-story/lowest height closer to the subject site property lines to not more than three-story/36 feet in height from Lincoln Drive, Quail Run Road, and the adjoining Andaz resort. The overall mass of the structures shall be reviewed to make sure it is of appropriate scale and special consideration shall be given to the views from the south side bordering the Andaz resort and the west side bordering Quail Run Road.

6. Setbacks.

The Planning Commission shall explore appropriate setbacks along the east and south property lines considering the adjacent uses. The west side shall also be a focus because the property borders residential. Attention shall be paid to privacy and noise levels for these residents. Consideration should be given to a 100 foot SUP guideline setback to the adjacent residential property lines. The Commission shall also identify any mitigating circumstances that may buffer the development (e.g. the use of vegetation, modified setbacks or heights, reorientation of the structures, etc.).

7. Impact to Adjacent Uses

The proposal has the resort market (with outside tables) along the western side of the property near the existing residential uses, with the resort restaurant in direct line of sight from a residential property. Balconies for the hotel guest room keys and resort residential units also face west. . In addition, the Planning Commission shall consider impacts including noise, light, traffic and any other adverse impacts, particularly for those existing residential properties west of the site along Quail Run Road. In particular, outdoor employee areas and service uses such as maintenance, maid service/laundry, trash collection/storage, mechanical equipment (roof/ground), and all other noise generating elements shall be studied. Relocation or buffering of uses shall be considered.

8. Landscaping.

Attention shall be paid to the landscaping along Lincoln Drive and along Quail Run Road. A landscape plan shall be required. Hardscaping and pedestrian access shall be considered with the landscape plan. Special attention shall be given to the Lincoln Drive frontage as this is a gateway to the Town. The Draft Visually Significant Corridors Plan shall be considered as well as cohesion with the planned landscape improvements along the north side of Lincoln Drive. A stipulation may be considered to ensure replacement of any landscaping should it die.

9. Infrastructure Improvements. Drainage and related improvements shall be reviewed. The applicant shall address and identify the location of on-site retention and identify how the on-site retention may affect parking and circulation. Utility improvements that may have a visual impact or service level impact should be explained and mitigated. Water impact service study, utility information, and hydrology report shall be reviewed.

10. Traffic, Parking, Access, and Circulation. The proposed density and location within a heavily-traveled and mixed-use density area near the City of Scottsdale creates a heightened need for ensuring the proposed redevelopment does not have a negative impact on traffic safety, parking, and circulation. The Commission shall consider staffs review and recommendations regarding:

- Number of access points in/out of the site
- Emergency access to the site
- Location and screening of loading zones and dumpsters
- Coordination with Town improvements along Lincoln, i.e. the entry/exit and roadway medians
- Deceleration turn lane for eastbound traffic entering the site
- Cross-access easement(s) with Lincoln Medical Plaza and Andaz Resort.
- Sidewalk and other pedestrian circulation
- Necessary roadway dedication for Lincoln Drive and Quail Run Road
- Number of parking spaces, use of shared parking, and ride-share
- Full build-out of The Ritz-Carlton Resort Special Use Permit
- Coordination of improvements/impacts with neighboring non-residential properties
- Coordination with Town improvements along Lincoln Drive
- Uses that generate quick turn-around trips such as a coffee shop or take-out food

11. Signage.

Planning Commission review shall focus on the impact of project sign location, dimensions, and illumination on the resulting impact to the streetscape. The Commission shall look at the broader signage plan for Lincoln Drive including proposed gateway signs, identification signs, and Ritz-Carlton and Lincoln Medical Plaza signage, and any Andaz signage that may be re-located to Lincoln Drive.

12. Context -Appropriate Design. The Planning Commission may require that the applicant provide more precise information pursuant to General Plan Section LU 2.1.2.5. This includes impact related to exterior lighting, screening of mechanical equipment, and the choice of material pallet of the improvements. This may include providing renderings as they relate to neighboring properties.

As per Section 1102.3.C.3.c of the Zoning Ordinance, at any time during the review process, the Planning Commission may request clarification and/or expansion of this Statement of Direction based on additional information that has evolved. However, the Planning Commission shall complete their review of this application no later than ~~February~~ March 6, 2019.

Mayor Bien-Willner
Paradise Valley Town Council
Chairman Wastchak
Paradise Valley Planning Commission

February 5, 2019

Re: The Smoketree Resort Amendment

As residents of The Town of Paradise Valley over 30 years, we have enjoyed the protection of its residential character, while benefitting from its proximity to many supporting amenities and services. Professionally, we have been involved in many zoning cases in-state and out, as well as in other countries, and we know the complexity of real estate development. We also value the input and judgment of our Town servants who devote time and energy to preserving a balance of uses within The Town.

We are in support of the revitalization of The Smoketree Resort. What a shame that it has basically been closed for more than a decade at one of our most important intersections. Now, as we finally see The Ritz Carleton Resort emerging from the ground, it is clear how powerful the Lincoln interface with Scottsdale Road will soon become, and how trapped this venerable old resort is. It lies between competing commercial properties (Ritz and Hyatt), on our busiest thoroughfare, and has been planned to fulfill future resort growth in our Town General Plan. This should be an easy decision.

We've read the opposing opinions and find them caught in the weeds of minutiae. Big Picture, people! Stick with the plan – protect, hedge, buffer our single-family homes, with services on the perimeter. We annexed this small resort to stave off Scottsdale growth and feed our Town coffers. So, now is the time to follow through in revitalizing it with an economically viable upgrade which will buffer Scottsdale's retail services. If it's done right, we'll also add new community amenities and a fresh tax stream to our budget. We support this action for many reasons, including:

- **The General Plan.** By direct reference to the "Development Area" in which this site is most prominent, the plan justifies Town revenue (Fiscal health) as criteria to balance against protecting residential property. The ONLY adjacent residential property is the at Western edge, which is also in the Development Area, and will no doubt see rezoning itself, as it also lies between commercial properties. Smoketree IS the buffer property The Plan had in mind to have "moderate *intensity*, mixed use, context appropriate" resort development. The context is the Scottsdale commercial core at Lincoln and Scottsdale Roads, including AJ's, restaurants, retail stores, and resorts at The Ritz, Hyatt, and Hilton hotels. Design should focus on shouldering the noise, light and traffic of that area, and absorbing impacts internally instead of turning public uses outwardly.
- **Guidelines.** Records show the original stipulations with annexation were use-oriented and minor. Around 40 years later, The Town adopted setback, coverage, and height measurements for new resorts based on a 20-acre model. These cannot possibly be applied to a pre-existing 5-acre mixed-use resort with any logical, or aesthetic result. It is meaningless math to torture equivalent open space out of such a small site. Applying proportions, style and function to achieve a charming

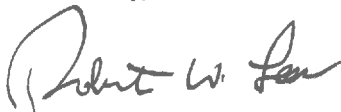
boutique result is more work, but could yield a much better result, attract guests and become a gathering place for residents. Relative to the adjacent commercial properties and most urban 5-acre hotels, the plan for 180 rooms with various heights and setbacks, under 3 stories IS “moderate intensity” and the frontage appears to be stepped down to one/two stories.

- **Traffic.** We don’t need the data to see what Lincoln is handling as it approaches Scottsdale Road, but it does confirm the need to safely plan and limit access to all the properties between Mockingbird and Scottsdale Road. AJ’s has by far the most action, and the new apartments/offices add intensity at the entry to The Town. Combining a few access points make sense, and the light at Quail Run Road will clog and control the entire corridor. Adding Hyatt trips to Lincoln makes no sense by any means, especially if/when the Western acreage in the Development Area brings in their proposal. Fortunately, the QRR light and The Ritz traffic will be a reality by then. This calls for the simplest, cooperative access, which The Town engineer has identified.
- **Residential Resort Use.** The Ritz, Mountain Shadows, Montelucia, and Camelback Inn all manage a few privately-owned units on site, which are design-integrated as hotel rooms. All these properties are hotels with restaurants and amenities, which The Smoketree Resort was originally. Returning it to the mixed-use destination it once was requires a step up to current economics and coverage to justify the recovery investment, which is all to The Town’s benefit. Planning in 20-25% of the rooms as flexible, privately held units is consistent with the zoning, the General Plan, and the competitive set of resorts already in operation.
- **Coverage.** The ratios of conditioned space and land area are irrelevant in this application. They are also not defined as approval criteria in the stipulations or the General Plan. What is defined is judgement. Solidly set on the Lincoln frontage opposing The Ritz, the buffering of Scottsdale properties is far more important than measuring a few percentage points. The Council is empowered to tighten or loosen guidelines, and this a unique application should not be smothered by low-yield standards. Let this one breathe and become what we need it to be.

The Town may have a concern about setting a precedent with this approval, but we see such unique qualities in the proximity to Scottsdale, its size, and the pre-existing uses, that we find it very rare. We don’t expect The Town to be annexing small resorts from the Scottsdale corridor soon or ever.

We are also aware of the applicant’s lengthy record of high-quality development, and local origins. It appears to be the type of committed organization we’d like to see invest in our community. We urge you to move on to special guideline approvals, and we look forward to reviewing the architecture depicted in the applicant’s package.

Sincerely,



Robert and Kay Lees
9200 N. Martindale Road
Paradise Valley, Arizona
85253



6909 East Lincoln Drive
Paradise Valley, AZ 85253

February 11, 2019

The Honorable Jerry Bein-Willner
Mayor, Town of Paradise Valley
Members, Town of Paradise Valley Town Council
6401 East Lincoln Drive
Paradise Valley, AZ 85253

Re: Redevelopment of SmokeTree Resort by Geneva Holdings, LLC

Dear Mayor and Council Members,

I would like to officially voice my support of Geneva Holdings' planned redevelopment of the SmokeTree Resort in accordance with the SUP Amendment Application, as submitted in September 2018. I believe Geneva Holdings to be very well-suited for the project and in accord with the spirit of Paradise Valley.

Revitalization of the property is of valuable to our community and will produce additional tax revenue for the Town. I respectfully submit that Council Members, Planning and Zoning, and Town Staff work expeditiously and free from undue influence, to grant the amended Special Use Permit.

Sincerely,

Clayton Coady
Resident & Business Owner

**Margo and David Shein
4524 East Pebble Ridge Road
Paradise Valley, Arizona 85253**

February 1, 2018

Mayor Jerry Bien-Willner
Paradise Valley Town Council
6401 East Lincoln Drive
Paradise Valley, Arizona 85253-4399

Re: Smoketree Resort / Proposed SUP Amendment

Dear Mayor and Town Council:

My wife and I have been Paradise Valley residents since 1997, and have raised three wonderful children in this safe and nurturing residential enclave. During this period, we have watched the Town's resorts develop and redevelop as the Town continues to refine its approach to resort zoning and permitting.

I am writing today to confirm my family's unqualified support for the proposed redevelopment of the Smoketree Resort. The property was originally developed during a different era in the Town's history and has been closed for many years. Given the property's excellent and highly visible location on Lincoln Drive (near Scottsdale Road), the property is an excellent candidate for redevelopment and revitalization. Given the property's size limitations, the site requires a smaller, more intimate, 'boutique' operation, as opposed to its larger neighbor – the Ritz Carlton - across the street.

After reviewing and considering the pending Major Amendment Application, I believe the proposed "local-centric" hospitality experience, with an appropriate mix of guest accommodations, event venues and restaurant options, will fit perfectly with the Town's character and fill a much needed niche in the Town's portfolio of resort offerings – all while respecting the property's character and important history. We all remember fondly the trademark fried chicken (with honey) served by the resort's main restaurant, the Other Place. Providing the Town's residents and tourists with an eye for 'smaller,' with a high quality and more "local" or "intimate" alternative, will complement the Town.

In the interest of full disclosure, I have a long standing professional and personal relationship with Sam Robinson and his son, Taylor. This relationship, however, strengthens my belief that the proposed redevelopment will be something the Town and its residents will be

proud to see developed. The Robinsons bring character, commitment and integrity to all of their endeavors.

I strongly encourage the Town Council approve the proposed Amendment, including a small number of integrated units for sale, so that Gentree LLC may bring this wonderful and historic property back on line, with current uses and amenities, and a corresponding (and incremental) tax revenue stream for the Town.

My sincere thanks for your consideration. If you have any follow-up questions, please let me know.

Very truly yours,

A handwritten signature in blue ink, appearing to read "D. E. Smith", is written below the closing text.



BURCH & CRACCHIOLO

EDWIN BULL
DIRECT LINE: 602.234.9913
DIRECT FAX: 602.343.7913
[REDACTED]

February 4, 2019

Via Email and Mail

Brian Dalke
Interim Town Manager
Town of Paradise Valley
6401 E. Lincoln Dr.
Paradise Valley, AZ 85253

Jeremy T. Knapp, AICP
Community Development Director
Town of Paradise Valley
6401 E. Lincoln Dr.
Paradise Valley, AZ 85253

Paul Michaud, AICP
Senior Planner
Town of Paradise Valley
6401 E. Lincoln Dr.
Paradise Valley, AZ 85253

Re: East Lincoln Drive South Development Area; Smoke Tree Resort – Effect on Adjacent Residential & Non-Residential Properties – Feb. 5 Commission Work Session

Dear Messrs. Dalke, Knapp, and Michaud:

As you know, "SunChase" owns approximately 9 acres, zoned R-43, immediately west/southwest of the Smoke Tree Resort and within the East Lincoln Drive Development Area. We have previously submitted letters dated September 5 and September 24, 2018. SunChase has continuing concerns that we perceive have not been/are not being addressed. Jeremy and I have scheduled a 2/6/19 meeting to review concerns and possible solutions. I have scheduled a similar meeting on 2/8/19 with Paul Gilbert.

Thank you.

Very truly yours,

Ed Bull

cc Todd Tupper

RABBI SHLOMY LEVERTOV
6201 N. Mockingbird Ln. | Paradise Valley, AZ 85253

February 5, 2019

The Honorable Jerry Bien-Willner
Mayor, Town of Paradise Valley
and **Members, Town of Paradise Valley Town Council**
6401 E. Lincoln Drive
Paradise Valley, AZ. 85253

RE : Smoketree Resort Redevelopment

Dear Mayor Bien-Willner and Council Members,


I would like to convey to you my support for the redevelopment of the Smoketree Resort.
I understand that the proposed project will include 150 rooms and 30 resort residential units, a restaurant and event space with underground parking.

A few years back my wife and I stayed at the resort and couldn't stop thinking about its potential. I have seen some drawings of the new Hotel and think it will be a beautiful addition and major improvement to what currently exists on the property.

I do understand concerns about the added traffic, building height and density, however I am sure that the professional staff, Planning Commission and Town Council will address these concerns with reasonable solutions to allow an approval of the project.

Thank you for your consideration.

Sincerely,



Rabbi Shlomy Levertov

From: [Planning Commissioner Daran Wastchak](#)
To: [Jeremy Knapp](#)
Subject: FW: SmokeTee Resort update
Date: Friday, February 1, 2019 4:08:27 PM
Attachments: [SmokeTree Comps.pdf](#)

Jeremy,

Have reviewed Scott's comments in the email below. I would like the Commission to discuss, and staff to address, his comments on parking in the garage. The balance of his comments I will discuss with Scott off-line and bring back to Commission if they need discussion by the body.

Please forward Scott's email to the Commission, and the applicant, so they can review prior to Tuesday's meeting.

Daran

=====
Daran Wastchak
Planning Commissioner
dwastchak@paradisevalleyaz.gov
=====

From: Scott O'Connor [REDACTED]
Sent: Wednesday, January 30, 2019 3:44 PM
To: dwastchak@paradisevalleyaz.gov
Subject: SmokeTee Resort update

Dear Daran,

As you know, I have been following the SmokeTree proposal with concern that its density aims are far in excess of what is appropriate for that site, or for any site in Paradise Valley.

Floor Area Ratios

They are requesting a Floor Area Ratio (FAR) far in excess of any Town precedents. The FAR is total enclosed building area (including floors above the ground floor) divided by the site land area. FAR is, essentially, the best benchmark for building mass density. It should be measured and presented for discussion on every project. If you recall, when Montelucia was under construction, there was a public uproar, as they did not know how dense the project was when approved. Yet, SmokeTree is asking for an FAR 75% higher than Montelucia's.

You are well aware that the Ritz Carlton project was controversial, and was subject to a citizen vote. Its FAR on the overall 99 acre site is 41%, while SmokeTree is asking for 50% more than that.

The densest parts of the Ritz Carlton are far from our major public thoroughfares and are buffered by lower density aspects of the project. SmokeTree, on the other hand, has no buffering, and

proposes an abrupt transition to 3 plus story building heights very close to the lot lines.

Take a look at the attached tables and graphic on SmokeTree versus other town resorts.

Resort Guidelines

Our Resort Development Guidelines prescribe minimum standards that all proposals should meet. The SmokeTree application states, with no justification provided, that those guidelines simply do not apply to them. That is a ridiculous statement.

The 3 most recent major resort projects actually all met those guidelines, or were very, very close. They all held lot coverage to 25%. SmokeTree goes to 34%, almost half again beyond the guideline.

The recent resorts all stayed within the room density guideline of one room per 4,000 sq ft of land area, except for Montelucia, which is 9% over. SmokeTree wants 308% of the guideline, PLUS a freestanding restaurant on the Lincoln frontage.

The Guidelines have, for decades, required a minimum lot size of 20 acres for new resorts. Such large sites, coupled with strict lot coverage and room density limits, ensure that there will be generous setbacks, lower neighborhood impact from building mass, and lots of open space. A resort on one of our nonconforming parcels, like SmokeTree, with less than 20 acres, requires the same governing philosophy of preserving a low density project to reduce its impact on surrounding properties, and preserving our Town character. Having less than 20 acres is not a free pass to the moon.

Where are the 100 foot setbacks to all of Smoketree's principal structures? Why do they make no effort to meet the slope triangle for upper floor building massing? Why do they think they can put their parking lots, driveways and required landscaping in the public right so way and count that toward their on site development requirements? The reason the Town sets right of way standards for its streets is to accommodate long term street widening options. Getting a "pretend" right of way, by letting the developer still use the dedicated land does not preserve the Town's options.

I have not studied the parking count for Smoketree, but I want to call two details to your attention. Hotel parking is very transient. You have out of town guests making several trips per day, using unfamiliar rental cars. You have Town residents visiting the restaurants or attending local conferences in their Escalades, Suburbans, full size luxury pickups and luxury coupes (the ones with two long doors). Providing them with only 9x18 foot parking spaces in a 90 degree plan with relatively narrow two-way aisles is a joke, especially underground, where structural columns take up part of the allegedly 9 foot spaces. Transient parking design by pros is what you see in shopping centers, which prefer 60 degree angled parking and one way aisles, with wider spaces. This may seem like a minor detail to you, but it is not if the Town cares about the visitor experience, and for Town residents' vehicle finishes. Why did SmokeTree provide all of its parking at 90 degrees and 9x18? Because this is the way to cram the most amount of parking spaces into the smallest area, without regard for ease of use. FYI, parking spaces at Town Hall are 10 feet wide; they are 9.5 ft at Mountain Shadows. That awful garage at Montelucia has 9 foot, 90 degree spaces, if you want to try it out.

The site plan is maximized in every conceivable way. This pushes garbage management to the lot lines, employee break areas to the lot lines (and into Quail Run), no room whatsoever for do-overs of these and similar details, etc.

Resort Hotel vs Condo Project

The Town made a mistake on the Ritz project, selling itself short on long term hotel bed tax revenue (the only reason we entertain resort land uses at all) by allowing much of the project to be “for sale” product. Both Montelucia and Mountain Shadows have “for sale” components, to the Town’s detriment. SmokeTree wants to have its entire third floor be “for sale.” When they say they will keep those units in the resort rental pool, but provide two segregated, reserved parking spaces per 3rd floor unit, and have 40% of the floor area of those units locked off for owner use, their actions do not match their words. If you let them build it with a design that walks and talks like a condo, they (or their successors) will be begging to use them as condos. Why approve a very predictable dilemma?

General Plan Compliance

This parcel is one of several that were labeled as a Development Area on the General Plan. The General Plan text says of this area, “Consideration of projects in the Development Areas should balance a need for the Town’s fiscal health against a ***steadfast commitment to the Town’s low-density residential character***. Development in these areas shall provide reasonable separation of incompatible land uses from adjacent residential areas.” (emphasis added). In another section, it says this area, in particular, should have “moderate intensity, mixed-use, and context appropriate resort development within the East Lincoln Drive Development Areas that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts.”

“Moderate intensity” cannot plausibly be interpreted to permit by far the most density of any project in the entire Town. “Reasonable separation” and “effective buffering” cannot be achieved by waiving the Resort Development Guidelines.

Traffic and Circulation Element

SmokeTree not only encroaches into the proposed rights of way with its plan, it does nothing to resolve well known circulation problems in the East Lincoln Drive South Development Area. SmokeTree and the Lincoln Medical Plaza should have a cross access easement between them so they can share one functioning left turn driveway, but their plan ignores this need. SmokeTree ignores the need for the property to its south to have reasonable Lincoln Drive access. Does Applewood end up with access to a left turn break in a future Lincoln median?

Sunchase and Livi Properties

Sunchase entities (Bill Pope) and members of the Livi family own most of the property between SmokeTree and Applewood, and south to the undeveloped lots between the two Quail Run cul de sacs. What is the Town’s position on this area? Is Quail Run to be a through street? These owners have been trying to sell their land to commercial interests, yet this land is NO in the boundary of the East Lincoln Drive South Development Area in the General Plan, the west boundary of which is the

western boundary of Andaz Resort. The Town should be careful to manage the expectations of these owners relative to what the General Plan allows and contemplates. It would be unwise for the Town to approve a version of SmokeTree that did not have a rational plan for the redevelopment needs of the Sunchase and Livi properties.

I hope you will share these concerns with your colleagues and staff.

Sincerely,
Scott H. O'Connor

[REDACTED]

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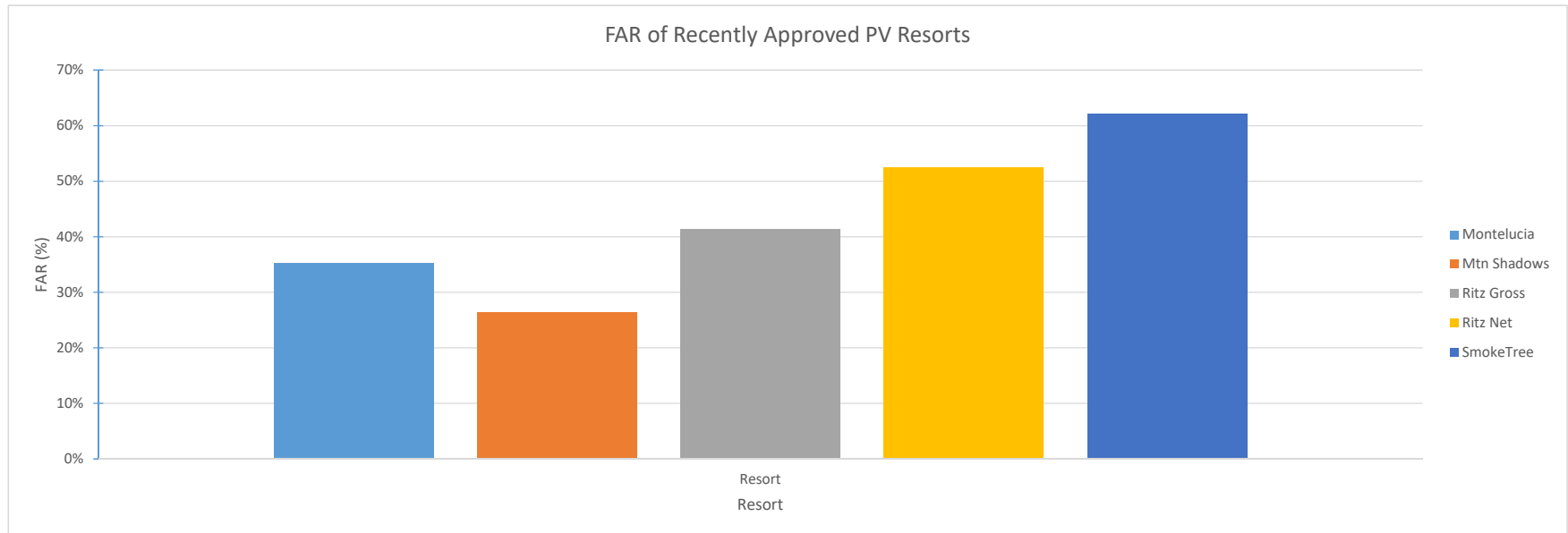
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[REDACTED]

A Comparison of Selected Paradise Valley Resort Developments

	<i>PV Guidelines</i>		<i>Montelucia</i>		<i>Mountain Shadows</i>		<i>Ritz Carlton</i>		<i>Ritz Net of SF</i>		<i>SmokeTree</i>	
Land Area	871,200	20.0	1,215,961	27.9	916,502	21.0	4,312,440	99.0	1,938,420	44.50	233,630	5.4
Gross Building Area			427,650	100%	241,515	100%	1,781,225	100%	1,018,100	100%	145,000	
Condos			153,350	36%	76,635	32%	197,175	11%	197,175	19%		
Rooms			165,307	39%	155,165	64%	692,525	39%	692,525	68%		
Detached Homes							763,125	43%	-	0%		
Other			108,993	25%	9,715	4%	128,400	7%	128,400	13%		
Room Density @ Guideline	218	10.9	304		229		1,078		485		58	
Room Density Actual	218		331		183		458		347		180	
% of Guideline Achieved	100%		109%		80%		42%		72%		308%	
GBA Lot Coverage	25%		25%		7%		25%		25%		34%	
Total Coverage (w/patios)			31%		15%		26%		29%			
Floor Area Ratio (FAR)			35%		26%		41%		53%		62%	



From: [Paul Barker](#)
To: [Mayor Jerry Bien-Willner](#); pdnbox@paradisevalleyaz.gov; [Vice Mayor Scott Moore](#); [Council Member Julie Pace](#); [Council Member Mark Stanton](#); [Council Member Ellen Andeen](#); [Council Member Anna Thomasson](#); [Jeremy Knapp](#); [Planning Commissioner Daran Wastchak](#)
Subject: Smoke Tree Resort Special Use Permit - Major Amendment Application
Date: Thursday, January 24, 2019 10:04:09 PM

Honorable Mayor and City Council,

We are sending you this correspondence to officially register our support for the Smoke Tree Resort in its application currently before you. Patty and I are residents of Paradise Valley. We love the unique beauty and the impressive support and camaraderie which our home city has achieved. This is not accomplished in a vacuum and we express our sincere appreciation for all that you and your support staff have contributed through leadership and dedication.

We have made it a professional and personal quest to enhance cities and communities in which we live and work. As such we are well aware of the requirements of time, experience, monetary capacity, and heart and soul necessary to accomplish complex, creative projects. We have reviewed the plans for the proposed Smoke Tree Resort and are convinced that it would offer Paradise Valley significant benefits.

The current use is languishing in its competitive position compared to other newer, well planned, well capitalize projects within Paradise Valley, Scottsdale and the surrounding communities. This key location for Paradise Valley presents the opportunity to capture our communities benefits and assets in order to enhance the experience of our citizens, visitors, and surrounding properties. The use is already established on the site. With commercial neighbors on three sides, and significant buffers on the fourth, the concept of enhancing that use is not disruptive to residential enjoyment. This development and management team is committed to quality work. We are very familiar with other project completed by these individual which have clearly made significant contributions to their communities. The combination of the hotel use along with the planned amenities, in that location can enhance the area for the city and for the neighbors.

This project represents an opportunity to improve the existing condition, and to accomplish it with quality, commitment, and a style that is clearly in harmony with the precepts you as leaders of Paradise Valley have worked so hard to establish. Patty and I are hopeful it can proceed and enhance the community which is our home.

Paul and Patty Barker
8300 North 50th Street
Paradise Valley, AZ

January 16, 2019

RE: The Smoketree Resort Amendment

Dear Paradise Valley Town Council Members:

My name is George Jackson and I have been a resident of Paradise Valley for twenty-six years. The last seventeen years at 7434 E. Cholla Lane, Paradise Valley, AZ 85253. I am writing to express my strong support for the proposed amendment that is in front of the Paradise Valley Town Council to rebuild and revitalize the Smoketree Resort. I have had the opportunity to review the plans for the proposed Smoketree and it is quite clear the new Smoketree Resort will be a beautiful, boutique resort that will be a source of pride for Paradise Valley residents.

The proposed new Smoketree Resort will clearly be a major improvement over the existing, very old and unsustainable Smoketree property and it fits perfectly with the objectives of the General Plan of the Town of Paradise Valley. This beautiful new resort will enhance this high profile area in the visually significant corridor on the very busy Lincoln Drive as people enter Paradise Valley.

The landscaped meandering sidewalk that is planned will provide an important pedestrian and community connection between Paradise Valley and the commercial properties located along the intersection of Scottsdale Rd. and Lincoln Dr. This pedestrian access along Lincoln Dr. will be very popular and will enhance the quality of life for Paradise Valley residents.

As a former Scottsdale School Board member, I also support reducing traffic near Kiva Elementary School by terminating the connection of Quail Run Rd. to MacDonald Dr. The proposed Smoketree plan will accomplish that with no impact on residential property.

Revitalizing the Smoketree Resort with added full-service rooms, a restaurant and meeting spaces will bring this under-utilized and high profile property into current competitive balance. It will be a thriving income producing property which will contribute to the long term fiscal health of the Town of Paradise Valley. It will turn an old decaying property into a beautiful, vibrant boutique resort that will be a source of pride for Paradise Valley.

Thank you for considering my point of view.

Kind Regards,

George Jackson
7434 E. Cholla Lane
Paradise Valley, AZ 85253



Peter M. Gooding

The Honorable Jerry Bien-Willner
Mayor, Town of Paradise Valley
Members, Town of Paradise Valley Town Council
6401 East Lincoln Drive
Paradise Valley, Arizona 85253

Re: Redevelopment of SmokeTree Resort by Geneva Holdings, LLC

Dear Mayor and Council Members,

My wife and I have been residents of Paradise Valley for over 14 years. In 2013 I served as a general member of the Mayor's Task Force on Public Safety. I love our town and want only what's in the long-term interest of its residents. I have no association with Geneva Holdings.

I support Geneva Holdings' planned redevelopment of the SmokeTree Resort to include 180 new guestrooms/residential units, a restaurant and bar/lounge, accessory uses, and indoor/outdoor event space. I am aware of Geneva Holdings reputation and prior accomplishments; they seem to be very well-suited for the project and aligned with the values of the Town of Paradise Valley.

I have read of concerns about project density, setbacks, ingress/egress, and the appearance of our town's East Entrance. I believe town staff, Planning Commission, and Town Council can positively address those concerns while approving the SmokeTree Resort redevelopment plan generally as submitted.

Moreover, I believe the planned project will generate a decades-long stream of sustainable tax revenue, a vital interest to our town.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Peter M. Gooding". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

LETTER OF SUPPORT

To: The Honorable Jerry Bien-Willner, Mayor
Members of the Paradise Valley Town Council

Re: Redevelopment of the SmokeTree Resort by Geneva Holdings, LLC

Dear Mayor Bien-Willner and Council Members,

I would like to express my support for the redevelopment of the SmokeTree Resort by Geneva Holdings, which I understand will include 180 new guestrooms, a restaurant, and meeting facilities on the site of the former resort. I believe the property will be a sophisticated and attractive amenity that will visually enhance the eastern entrance to our community while generating significant new tax revenue for the Town of Paradise Valley.

Thank you very much for your consideration.

Sincerely,

By: Kay Morse Date: 1/22/19

Name: KAY MORSE

Address
s 5744 E Joshua Tree Ln, Paradise Valley, AZ 85253

**JOHN C. COTTON
SAGITARIO 133
PUERTO VALLARTA 48399
JALISCO, UNITED MEXICAN STATES**

January 22, 2019


To: The Honorable Jerry Bien-Willner, Mayor
Members of the Paradise Valley Town Council

Re: Redevelopment of the SmokeTree Resort by Geneva Holdings, LLC

Dear Mayor Bien-Willner and Council Members,

During my frequent visits to Arizona, when passing along Lincoln Drive in Paradise Valley, I have noticed the rather fallen-down, dilapidated condition of the SmokeTree Resort. It detracts from the otherwise favorable view that visitors have of your town. I understand that Geneva Holdings proposes to rehabilitate the property. What a great idea! I am sure the council is supportive of their project.

Sincerely,

A handwritten signature in black ink, reading "John Cotton". The signature is written in a cursive style with a large, looping initial "J".

Community Development Director

Town of Paradise Valley

Ph: 480-348-3522 Cell: 602-505-3992

jknapp@paradisevalleyaz.gov

From: Gary Stougaard [REDACTED]
Sent: Tuesday, December 18, 2018 11:48 PM
To: George Burton
Cc: David Sherf [REDACTED]
Subject: Smoketree redevelopment concerns

George –

Dave Sherf indicated that you had not heard from me relative to my concerns about the proposed redevelopment of the Smoketree Resort.

I thought that I had made my concerns about the Smoketree redevelopment clear to staff and the Planning Commission when I appeared before them a few months ago.

Regardless, here they are:

1. **Density.** My understanding is that the developers are planning to build a total of 180 or more units on this 5 acre site. Density far in excess of anything in the area – or to my knowledge, in the Town of Paradise Valley. Four years ago, I had to beg and plead to get you to approve an additional 500 square feet – which request was ultimately denied.
2. **Building height.** Based upon the renderings and elevations I have seen, several of the buildings are as much as 45 feet tall. I believe that the Smoketree property is currently zoned for structures with a maximum of 30 feet in height. I note that the height maximum for all structures on my property was 24 feet – a standard to which I
3. **Setback requirements.** Exacerbating the proposed height of the structures are the proposed setbacks – particularly south and east sides. My understanding is that the proposed south side set backs are as little as 20 feet, far less than the requirements for my property with which I was required to comply.
4. **Use.** The proposed development includes a substantial lodging component which will directly compete with the Andaz Scottsdale Resort & Bungalows. The staff and Planning commission of the Town of Paradise Valley made it clear to me when I purchased my property in 2014 that it development would have to be consistent with the existing Zoning and other Development requirements. To allow a competitor entitlements for substantially more development immediately adjacent to my property is both inconsistent and unfair.

George, as proposed Smoketree redevelopment is an egregious overreach and inconsistent with the existing entitlements and development requirements for this property and the neighborhood. I am disappointed that the owners have been allowed to think they have a reasonable opportunity to build their proposed project and would welcome the opportunity to voice my concerns to staff, the planning commission or the Paradise Valley Town Council as appropriate.

Please do not hesitate to call me to discuss my concerns in greater detail.

Otherwise, I would appreciate being notified of any public meetings or hearings relative to this proposed development.

I can be reached any time at [REDACTED]

Best regards,

Gary Stougaard

From: [Jeremy Knapp](#)
To: [Planning Commissioner Daran Wastchak](#); [Planning Commissioner Charles Covington](#); [Planning Commissioner James Anton](#); [Planning Commissioner Jonathan Wainwright](#); [Planning Commissioner Orme Lewis](#); [\[REDACTED\] Planning Commissioner Pamela Georgelos](#)
Bcc: [Brian Dalke](#); [Dawn Marie Buckland](#)
Subject: FW: Smoke Tree Resort redevelopment
Date: Wednesday, December 19, 2018 1:49:00 PM

Chair and Planning Commissioners,

Find below comments regarding the Smoke Tree Major SUP Amendment. I will also be sharing with the applicant. This information will be included in future agenda items under the Public Comment Attachment.

Jeremy T. Knapp, AICP

Community Development Director

Town of Paradise Valley
Ph: 480-348-3522 Cell: 602-505-3992
jknapp@paradisevalleyaz.gov

From: Scott O'Connor [REDACTED]
Date: December 12, 2018 at 1:36:23 PM MST
To: "jbienwillner@paradisevalleyaz.gov" <jbienwillner@paradisevalleyaz.gov>,
"pdembow@paradisevalleyaz.gov" <pdembow@paradisevalleyaz.gov>,
"smoore@paradisevalleyaz.gov" <smoore@paradisevalleyaz.gov>,
"jpace@paradisevalleyaz.gov" <jpace@paradisevalleyaz.gov>,
"mstanton@paradisevalleyaz.gov" <mstanton@paradisevalleyaz.gov>,
"eandeen@paradisevalleyaz.gov" <eandeen@paradisevalleyaz.gov>,
"athomasson@paradisevalleyaz.gov" <athomasson@paradisevalleyaz.gov>
Subject: Smoke Tree Resort redevelopment

Dear Mayor and Council.

I have been astonished in recent months at how nonchalantly the Town is working on the Smoke Tree redevelopment, as if the nature of the proposal is not out of the ordinary.

The density and the floor area ratios proposed have no place in our town. Why would any development in Paradise Valley ever need to undertake underground parking except to accommodate excessive density above, and not to preserve the open space that would have been paved.

How is it possible there is even an application process for something so urban in its design? When I was on the Council, the sponsor would have been told to apply for a category that we had guidelines for, and nothing more.

We used to require a major resort to start with 20 acres, and have low overall floor area ratios, so the bigger elements could be set far away from neighboring properties, and the overall impact was compatible with surrounding one acre lot patterns. Redevelopment of grandfathered, nonconforming smaller properties required the overall density and neighborhood impact to remain small (e.g., Hermosa Inn, PCDS).

The things Smoke Tree's new ownership want belong in downtown Phoenix or downtown Scottsdale, not in Paradise Valley. If it is approved more or less as proposed, I would seriously consider a launching recall election against anyone who votes for it, because it would set a terrible precedent that the reasons we incorporated are no longer worthy of protection.

The General Plan, while labeling the East Lincoln South Development Area for resort/medical use must still respect other parts of the General Plan, including "balance a need for the Town's fiscal health against a steadfast commitment to protecting adjacent low-density residential character and quality of life." Frankly, from a municipal needs standpoint, the Smoke Tree site is better suited for an assisted living facility than more hotel rooms, condos, and restaurants.

For those of you who do not know me, I moved to what is now Paradise Valley in 1958 at age one. My parents worked on the incorporation of the Town, and my Dad served as chairman of the Planning Commission. Mom and Dad were instrumental in securing Bill Rehnquist as the Town's first attorney. Years later, late 80's and early 90's, I served on the Planning Commission and two terms on the Council.

For about 50 years, the presumed role of a Council member was to say "no" to non-residential zoning requests, unless it was part of an annexation of county islands. But, due to the bloat in Town overhead, revenue from new resorts and resort condo developments proved irresistible to pay for that bloat, and long established development standards were tossed.

It is time we hit the reset button and look to both our roots and our real needs. What Town residents are demanding the development format proposed for Smoke Tree? I am not aware of anyone asking for this sort of project besides its sponsors. Why is our overhead so much higher when our population has been stable for decades? We don't have substantially more development going on than we did historically. We just seem to throw more people and expenses at the process than we used to.

Sincerely,
Scott H. O'Connor

[REDACTED]

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From: [Jordan Rose](#)
To: [Paul Michaud](#); [Brian Dalke](#); [Jeremy Knapp](#)
Cc: [Omar Abdallah](#); [Rebekah Pineda](#); [Jordan Rose](#)
Subject: Public Comment re SmokeTree; Livi/Ruttle families
Date: Tuesday, October 9, 2018 3:34:10 PM

Dear Mr. Dalke, Knapp, and Michaud:

We represent the Ruttle and Livi families who live in the residential neighborhood immediately west of the SmokeTree Resort along North Quail Run Road.

Together, the Ruttle and Livi families own approximately 5.3 acres of property situated along Quail Run opposite to the SmokeTree Resort, and make up four of the seven homes that currently share this road to reach their homes every day.

Upon hearing of the proposed SmokeTree Resort redevelopment, the Ruttles and Livis are concerned that it could have a negative impact on their lifestyle. As they live in residential homes so near to the proposed redevelopment, our clients request that they be able to either maintain their residential lifestyle or have the Town of Paradise Valley indicate that they may rezone to a use more compatible with that kind of immediately impactful development. In response to the proposed redevelopment, we would like to offer some suggestions to mitigate the impacts on the residential neighborhood.

The Ruttle and Levi family's primary concerns arise around issues of noise, privacy and traffic that may result following the new, larger resort. In response, we would like to offer some suggestions to mitigate the impacts on the residential neighborhood.

The New Quail Run Road Streetscape - Noise and Privacy Concerns

As it currently stands, the SmokeTree Resort's entire western boundary along North Quail Run Road is lined by a continuous row of oleander and other shrubbery that is both dense and tall. It serves not only as pleasant landscaping, but also as a visual and sound barrier separating the residential homes on the west side of Quail Run, and the commercial resort on the east side. The continuous row of vegetation makes it so that someone driving on Quail Run could not tell there was a resort on the other side, and a resort guest could not see into the neighboring residential homes.

The proposed redevelopment proposes to remove this vegetation, replace it according to a new landscape plan, and to open up two new access points on Quail Run Road. While the plan does offer new trees and shrubs along the Quail Run border, the wall-like effect of the existing vegetation will be reduced, which brings concerns regarding increased noise and reduced privacy. According to the site plan provided, the redevelopment's "Resort Market" sits at the western side of the property with outdoor seating facing Quail Run, near the Livi family residence. Adjacent to the east is the "Resort Restaurant" and the "Resort Clubhouse." These uses, existing on the western half of the site plan, will draw excited guests to an area very close to Quail Run and the Livi family home.

Additionally, the Resort Residences are placed on the western side with balconies directly facing Quail Run, and potentially looking into, the Livi property. To mitigate these potential noise and privacy concerns, we hope that you will consider the following suggestions:

- Maximize the vegetation both placed along Quail Run and at certain points on the west half of the property so the residential neighbors have a landscape buffer that is enhanced from what currently exists. This landscape buffer should mitigate noise coming not only from the restaurant, market, and clubhouse entertainment, but also from guests that may linger in the new parking lot along Quail Run. Additionally, it should be assessed whether the proposed 36' trees are tall enough to block the resort's balcony views into the neighborhood. It appears that some balconies will have a view into the Livi properties as a result of gaps created by the two new access points. These gaps can likely be covered with additional trees placed in certain areas within the landscape plan. Alternatively, balconies on the residence units could be eliminated so that only hotel units, which are further into the property, have balconies. In any case, a carefully designed landscape plan that provides for vegetation that is dense and tall is important not only to beautify the street, but to maintain the Ruttle and Livi family's quiet and private lifestyle.
- Switch the Resort Market and Resort Restaurant buildings with the Resort Reception and Administration buildings that sit on the east side of the property. This way restaurant and market guests enjoy their time in an area further away from the neighborhood. Alternatively, the Resort Market's outdoor seating could be moved from the west side of the building to the east side so that it faces the interior of the resort rather than the neighborhood.

Parking Lot and New Access Points on Quail Run – Traffic Concerns

As discussed previously, the proposal provides for two new access points to the resort along North Quail Run Road. As the proposal's outdoor parking is focused on the west side along Quail Run, the new access points will surely result in increased traffic coming from resort guests, resort residents, restaurant and market guests, and a variety of service use trucks. To mitigate these concerns, we suggest the following:

- That the Town continues to encourage the cross access easement the applicant has proposed to the commercial properties to the east and south, so that use of the new access points can be reduced or eliminated entirely.
- If the new access points cannot be eliminated, require that service trucks must enter and exit only at Lincoln Road. The redevelopment narrative does not currently address where and how they will access the property. Quail Run is a narrow road used by a few families, and its use by large trucks will pose a challenge for them.

Thank you for considering the Ruttle and Livi families' concerns, and we are looking forward to being involved in this redevelopment proposal as it progresses forward. Jordan Rose and Omar Abdullah.

Jordan R. Rose

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September 24, 2018

Via Email and Mail

Brian Dalke	Jeremy T. Knapp, AICP	Paul Michaud, AICP
Interim Town Manager	Community Development Director	Senior Planner
Town of Paradise Valley	Town of Paradise Valley	Town of Paradise Valley
6401 E. Lincoln Dr.	6401 E. Lincoln Dr.	6401 E. Lincoln Dr.
Paradise Valley, AZ 85253	Paradise Valley, AZ 85253	Paradise Valley, AZ 85253

Re: East Lincoln Drive South Development Area; Smoke Tree Resort; Lincoln Medical Plaza
Effect on Adjacent Residential & Non-Residential Properties – Street Issues

Dear Msrs. Dalke, Knapp, and Michaud:

As you know, “SunChase” owns approximately 9 acres, zoned R-43, immediately west/southwest of the Smoke Tree Resort and within the East Lincoln Drive Development Area. As stated on behalf of SunChase at the September 13 Work Session, (1) SunChase agrees that the redevelopment of Smoke Tree at an appropriate scale is a positive and (2) SunChase wants to be part of the discussion with respect to development in the Paradise Valley East Lincoln Drive South Development Area. In addition to the Mayor’s request during the September 13 Work Session that interested parties promptly provide to Staff suggestions for resolving some of the property owners’ concerns about traffic circulation and access issues, SunChase wants to reiterate the need for additional consideration of the currently proposed redevelopment impact and effects on the neighboring residential and non-residential properties.

Repeating some of what was pointed out in our letter of September 5, 2018, Smoke Tree is proposing redevelopment that exceeds the height, lot coverage, guest unit density, and perimeter standards of the Town’s SUP Guidelines on an approximately 5 acre site that is smaller than the Guidelines typically encourage. Smoke Tree currently has two access points (with full turning ability) to/from Lincoln Drive. Although Smoke Tree is trying to preserve those access points, plans proposed by Town Staff would eliminate left turns to/from Lincoln, rendering those existing entrances “right in, right out” only for eastbound traffic. Smoke Tree’s proposed Site Plan in conjunction with its requested SUP amendment calls for adding two access points on its west side to/from Quail Run Road. Smoke Tree currently has no access to/from Quail Run and Quail Run is currently a discontinuous half-street that does not connect Lincoln to McDonald.

With respect to the adjacent, residential neighborhood, Smoke Tree currently has a low intensity of use, no access to Quail Run Road, and is surrounded by oleanders as a visual barrier. What is proposed, though, will have a significant impact on the use, tranquility, and enjoyment of those neighboring residential properties. Smoke Tree’s proposed redevelopment includes increasing its existing room capacity by more than a factor of five, clearly increasing the vehicular movements in/out of the resort. Based on Smoke Tree’s Site Plan, with parking focused on the west side, there will be greatly increased traffic in/out via Quail Run Road. Installation of the proposed traffic signal at the Lincoln/Quail Run intersection, providing safe, full directional turning ability there, will naturally draw more traffic to the advantage of using Quail Run Road. Trash receptacles, refuse pickup, and back-of-house services and activities may also be focused on the west, thereby also inviting truck, service vehicle, and employee traffic to come to/from Smoke Tree via Quail Run Road. The removal of the oleanders and increased intensity of use will change both the visual and other impacts on the adjacent neighborhood.

Quail Run Road is merely a half-street on land dedicated by the adjacent existing residential properties. Smoke Tree has never dedicated its 25’ for Quail Run. Its current proposal is to use the half-street with two access points. While its SUP submittal represents that it is providing appropriate setbacks, it appears that Smoke Tree has landscaping where it should be providing its east-half road and parking where it should have a

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larger landscaped setback. Smoke Tree does not include dedicating its half of the street, improving it on both sides, including a wall for a visual and sound barrier, or anything of significance to mitigate the negative impact its more intense use will have on the adjacent residential neighborhood.

As was stated at the September 13 Work Session and is noted above, SunChase agrees that redevelopment of Smoke Tree at an appropriate scale is a positive. But as SunChase has also pointed out, that redevelopment imposes additional challenges to the already-challenged existing residential neighborhood on its west side. If the Town expects that neighborhood to be developed/redeveloped within its current R-43 zoning, then SunChase asks that the Town Council consider and decide what the Town can do and proposes to do to address or otherwise protect that existing residential neighborhood.

With respect to the related matter of resolving some of the concerns of the owners of residential and non-residential properties south of Lincoln about traffic circulation and access issues, in response to the Mayor's request for comments and suggestions, SunChase offers the following regarding right-of-way, street improvement, and access issues:

► **Lincoln Drive**

- A. Consider having an at-grade median on Lincoln Drive in lieu of a raised median on Lincoln. The at-grade median could be provided as scored/painted concrete or other contrasting material (similar to Central Avenue in Phoenix prior to Light Rail). An at-grade median may help the Town achieve both safety and flexibility in turning movements to/from Lincoln Drive for Smoke Tree and Lincoln Medical Plaza.
- B. In the context of providing guidance to the engineers designing improvements to Lincoln Drive, consider having the Town Council declare its priorities such as, for example: 1st - safety; 2nd - traffic movement on Lincoln; 3rd - access to and impacts on developing/re-developing non-residential and residential properties; 4th - traffic demand on Quail Run Road; and 5th - aesthetics.
- C. In the context of the Town Council declared priorities per above "B," continue to study and then decide where full directional turning movements may be allowed for Smoke Tree and the Lincoln Medical Plaza.
- D. Study and then decide to what extent the Town can narrow the future right-of-way ("ROW") of Lincoln Drive to less than 130' in this area by reducing the ROW and correspondingly providing sidewalk and landscape easements as needed to make the additional ROW requirement less impactful for existing residential and non-residential property owners to redevelop their properties.

► **Quail Run Road**

1. Consider determining and having the Town Council officially decide that Quail Run Road will not be connected as a continuous street between Lincoln Drive and McDonald Drive.
2. If "1" is approved by the Town Council, then consider processing and approving a corresponding General Plan Amendment so Quail Run Road ceases to be identified as a continuous/connecting future roadway within the General Plan.
3. Consider if Smoke Tree is to be allowed access to/from Lincoln Drive via Quail Run Road, the effects and consequences of such possible connection, and the corresponding requirements for such connection.

4. If Smoke Tree is going to have any access to/from Quail Run Road, then consider requiring Smoke Tree to dedicate its east-half ROW and construct its east-half street so Quail Run Road proximate to Lincoln Drive can accommodate both Smoke Tree's projected uses/traffic and traffic going to/from residential and non-residential properties to the west/southwest of Smoke Tree.
5. Consider whether Andaz should also be allowed to access Lincoln Drive via Quail Run Road, the effects and consequences of such possible connection, and the corresponding requirements for such connection.
6. If Smoke Tree and/or Andaz is permitted access to Lincoln Drive via Quail Run Road, then consider and decide what sort of improvements, screening, landscaping, and other buffers should be provided by Smoke Tree and/or Andaz on both sides of Quail Run Road to mitigate the effects upon the adjacent residential properties.

► **Refuse and Back-of-House Uses and Activities – Traffic and Buffering**

- i. If Smoke Tree is allowed access to/from Quail Run Road, then consider the locations and design of Smoke Tree's trash receptacles, refuse pickup, back-of-house deliveries, pick-ups, and services, and employee parking in the context of additional traffic to/from Quail Run Road.
- ii. If Smoke Tree is allowed access to/from Quail Run Road and if trash, back-of-house, and employee parking are provided near the western perimeter of Smoke Tree, then consider how those uses are to be designed, screened, and buffered to mitigate the traffic, visual, noise, odors, and other impacts of those uses and activities proximate to the residential and non-residential properties to the west/southwest of Smoke Tree.

Thank you for considering SunChase's comments and perspectives.

Very truly yours,

Ed Bull

cc Todd Tupper



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September 5, 2018

Via Email and Mail

Jeremy T. Knapp, AICP
Community Development Director
Town of Paradise Valley
6401 E. Lincoln Dr.
Paradise Valley, AZ 85253

Paul Michaud, AICP
Senior Planner
Town of Paradise Valley
6401 E. Lincoln Dr.
Paradise Valley, AZ 85253

Re: Paradise Valley East Lincoln Drive South Development Area Work Session – Sept. 13
Major Special Use Permit Amendment (SUP-18-05) - Smoke Tree Resort
Major Special Use Permit Amendment (SUP-18-06) - Lincoln Medical Plaza
Effect on Adjacent Residential Properties

Dear Mr. Knapp and Mr. Michaud:

In response to the call and email to Todd Tupper from Jeremy Knapp advising of the September 13 Work Session, I am writing on behalf of SunChase Century, LLC and SunChase Holdings, Inc. (together “SunChase”). SunChase owns approximately 9 acres, all zoned R-43, within the residential neighborhood immediately west of the Smoke Tree Resort and within the East Lincoln Drive Development Area. SunChase is aware that redevelopment of the Smoke Tree Resort is proposed and in that regard Smoke Tree is seeking an amendment to its Special Use Permit (“SUP”). While SunChase agrees that redevelopment of the Smoke Tree Resort should occur, SunChase would also like consideration of the redevelopment’s impact and effects on the neighboring residential community.

Smoke Tree currently has two access points (with full turning ability) from Lincoln Drive. Although Smoke Tree is trying to preserve those access points, we understand that current plans proposed by Town Staff for improvements on Lincoln would eliminate left turns from Lincoln into Smoke Tree, rendering those existing entrances “right in, right out” only for eastbound traffic. Smoke Tree’s proposed Site Plan in conjunction with its requested SUP amendment calls for adding two access points on its west side from Quail Run Road. Smoke Tree currently has no access to/from Quail Run, has never dedicated its 25’ for Quail Run, the existing road is a 25’ half-street on land dedicated by the adjacent existing residential properties, and Quail Run is currently a discontinuous street that does not connect Lincoln to McDonald. Smoke Tree’s proposed redevelopment also includes substantially increasing its existing room capacity, clearly increasing the vehicular movements in/out of the resort and onto Quail Run Road.

As you know, Article XI of the Paradise Valley Zoning Ordinance addresses Special Uses. Section 1102 identifies as a purpose that “development will have minimal impact on adjacent properties.” That stated purpose is consistent with numerous goals/policies of the 2012 Paradise Valley General Plan. For instance, General Plan LU 2.1.1.7 states that: “The Town shall ensure that non-residential uses shall not affect the integrity and enjoyment of adjacent residential neighborhoods.” LU 2.1.2.2 states that: “The Town shall require proposals for revitalization and improvements of Special Use Permit properties include community impact assessments.” DA 2.2.1.3, DA 2.2.3.3, and CC&H 3.1.1.2 all identify a policy of minimizing impacts on adjacent residential areas and protecting established neighborhoods. M 4.1.2.1 and M 4.4.2.9 both identify a policy to condition approval of development and redevelopment on reducing traffic impacts on residential neighborhoods and providing adequate right-of-way for all users. In conjunction with the foregoing, there are the SUP Guidelines, which when reviewed along with Smoke Tree’s proposal discloses a property that is about ¼ the intended minimum size for a new resort with about ½ the intended minimum street frontage, but is proposing redevelopment exceeding the height, lot coverage, guest unit density, and perimeter standards of SUP Guidelines Section 4. While the Town’s Zoning Ordinance, General Plan and SUP Guidelines call for the



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protection of an existing residential neighborhood, we also recognize that redevelopment within appropriate parameters is also a consideration. SunChase asks the Town to consider and determine whether and how the intensity that Smoke Tree proposes, especially with access to/from Quail Run Road, can work next door to SunChase's and other residential properties in the area. For more specific reference to the Zoning Ordinance, General Plan, and SUP Guidelines, please see the memo attached as Exhibit A. SunChase would like to know what the Town can do, and intends to do, to address or protect the adjacent neighborhood.

Of course, redevelopment of Smoke Tree is not the only activity proposed or underway in this area. There is also Lincoln Medical Plaza next to Smoke Tree, the Ritz Carlton Resort being developed on the north side of Lincoln Drive, the proposed improvement to Lincoln Drive itself, and a traffic signal at the Lincoln/Quail Run intersection. That activity raises a specter of negative impacts and unintended consequences on SunChase's property, particularly the parcel fronting on Lincoln, that would be exacerbated by the proposed addition of access points for Smoke Tree on the half-street that is Quail Run Road. In conjunction with the foregoing is the uncertainty about Quail Run Road. It currently extends south from Lincoln as a half-street for approximately 360 feet. Quail Run extends north from McDonald, also as a half-street, approximately 1300 feet. While the Town has received some dedications for the other half of the street, there remains a gap of approximately 930 feet disconnecting the two segments and limiting the development of adjacent land. When does the Town plan to take any action regarding the extension (or not) and the widening (or not) of Quail Run Road for Smoke Tree, and what action does the Town intend to take?

It's understood that Smoke Tree has resisted proposed changes to the existing access points and dedicating anything for streets as effectively shrinking the developable area of its property. In contrast, please see the diagrams attached as Exhibit B and Exhibit C and consider the impact on the neighboring residential property. Exhibit B depicts the current setback situation on the SunChase lot at the southwest corner of Lincoln and Quail Run. That lot is currently improved with a single-family home that is set back 52 feet from the existing Lincoln right-of-way. Exhibit C then depicts how the developable area of that lot is reduced by a number of potential additional setbacks that would impact any new construction. (1) The currently proposed Lincoln widening is an additional 32 feet (20 feet from the current residence). (2) Depending upon whether a new residence faced Lincoln or Quail Run, the front or side yard setback would be at least 40 feet from the widened Lincoln. (3) In either orientation, there is a recorded 50 feet setback required from Quail Run. (4) And in either orientation, there is another 40 feet setback from the rear and a 20 feet setback on the remaining side. (5) After the above points 1-4, the developable area that is left could be approximately $\frac{1}{3}$ acre, for an R43 zoned lot. Now, consider the exacerbating effect that along with Smoke Tree's proposal to further burden the half-street Quail Run, but not to dedicate its 25 feet, and to improve its property within that non-dedication area, it proposes to add two access points there. So, again, SunChase would like to know what the Town can do and proposes to do to address or otherwise protect the existing residential neighborhood adjacent to Smoke Tree.

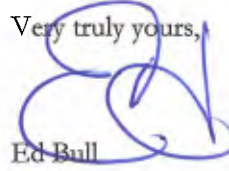
Unless solutions are found, currently what is being proposed for this area around the existing residential neighborhood southwest of the intersection of Lincoln and Quail Run negatively impacts what is supposed to be protected. Understanding that this Work Session suggests interest in a broader examination of this area, if the Town sees in the General Plan guidance for Smoke Tree's intensity, solutions for what to do with Quail Run, or some creative options not restricted to the R43 1-house/acre for the adjacent neighborhood that could ameliorate the impacts of the surrounding non-residential uses, then SunChase would be interested in participating in such a discussion. But if no creative solution is available to the challenges facing the existing residential property, then the Town should explain what can be done and what is going to be done to protect the residential neighborhood from the intensity of the proposed redevelopment of the nearby non-residential property.



Town of Paradise Valley
Letter re: East Lincoln Drive South Development Area
September 5, 2018
Page 3

Thank you for considering SunChase's questions and perspectives.

Very truly yours,

A handwritten signature in blue ink, appearing to be "Ed Bull", written over the closing "Very truly yours,".

Ed Bull

Enclosures
cc Todd Tupper



EXHIBIT A

- **Article IX of the Paradise Valley Zoning Ordinance (effective 09-15-2017)**

Section 1102 (Special Use Permits (SUPs)) – Section 1102 states that “[t]he intent of these provisions is . . . A. The implementation of the goals and policies of the General Plan. . . I. The incorporation of standards to ensure that the development will have minimal impact on adjacent properties.”

How is allowing Smoke Tree to add two access points on the half-street for Quail Run Road, where Smoke Tree currently has none and has not provided its half street, minimally impacting the adjacent S-F properties that use narrow Quail Run Road for ingress/egress?

Section 1102.1 (Nature of Special Use Permit) – Section 1102.1 states that managerial or minor amendments are not subject to referendum, but that: “The decision to grant, or to condition the grant of, a Special Use Permit or an intermediate or major amendment is, on contrast, a legislative act subject to review by referendum.”

Section 1102.3 (Creating a Special Use Permit) – Section 1102.3(C)(3)(c), states that “[a]fter the formal application is deemed complete,” “staff presents the application to the Town Council,” and “[t]he Town Council then issues a Statement of Direction.” But the Smoke Tree Statement of Direction presentation to the Town Council of May 24, 2018, states on the second powerpoint screen that “[m]any application submittal items are not fully complete, but do provide the nature of the proposed redevelopment.”

Is Smoke Tree going to resubmit its application when complete so that surrounding property owners are able to participate throughout the review and hearing process based on a complete application?

Section 1102.7 (Types of Amendments to Special Use Permits) – Section 1102.7(D) defines a “Major Amendment” as one that is not within the definitions for Managerial, Minor, or Intermediate Amendments, and anything increasing floor area by more than 40% is a Major Amendment.

So Smoke Tree should be a Major Amendment.

Section 1102.8 (Application and Approval Process for Amendments to Special Use Permits) – Section 1102.8(D) states that an applicant first completes a pre-application review, then makes a formal application pursuant to Section 1102.3, the following staff review there is “a Town Council preview for a Statement of Direction”, following which there is “standard Planning Commission review” with a “recommendation for approval or denial to the Town Council,” and then a public hearing before the Town Council to determine whether to grant the application.

Smoke Tree made a presentation seeking a Statement of Direction on May 24, 2018.

● **2012 Paradise Valley General Plan – Land Use and Development**

Goal LU 2.1.1 Quality of Life. To preserve those elements or features which contribute to the Town's quality of life and character as a premiere residential community and resort designation with strong rural and historic roots.

Policies

LU 2.1.1.7 Conversion. The Town shall consider the conversion of land from residential to non-residential uses only within Development Areas as designated on the Development Areas Map. (Figure 2.3). The Town shall ensure that non-residential uses shall not affect the integrity and enjoyment of adjacent residential neighborhoods.

How would allowing Smoke Tree, pursuant to its proposed SUP Amendment, to increase its current room capacity by more than a factor of five (and three times the SUP Guidelines limit), increase its access to Quail Run Road, and to increase building height from single story 16'3" to three-story buildings at 44' in height (including some architectural elements at 48'), preserve the integrity and enjoyment of the adjacent residential neighborhoods to the West?

Goal LU 2.1.2 Special Use Permit Property Revitalization. To encourage the continued revitalization and improvement of the Town's Special Use Permit properties while protecting the adjacent residential neighborhoods.

Policies

LU 2.1.2.1 Encourage Revitalization. The Town shall continue to encourage Special Use Permit property revitalization and improvement within their existing geographic boundaries as long as such improvement does not adversely affect the integrity and enjoyment of adjacent residential neighborhoods.

How would allowing Smoke Tree to add two access points from the half-street Quail Run Road, where none currently exist, without dedicating the other half of the street and without providing significant landscape buffers preserve "the integrity and enjoyment of the adjacent residential neighborhoods" to the West?

LU 2.1.2.2 Require Impact Assessments. The Town shall require that proposals for revitalization and improvement of Special Use Permit properties include community impact assessments that address beneficial as well as adverse project impacts, including but not limited to noise, traffic, parking, open space or mountain views, and light pollution.

Has Smoke Tree provided the required community impact assessment addressing the beneficial and adverse impacts that might be anticipated with respect to the adjacent, existing residential development?

LU 2.1.2.3 Compatibility of Adjoining Uses. The Town shall ensure that development within Special Use Permit properties is compatible with adjacent land uses, particularly residential uses, by requiring such features as:

- Increased building setbacks from rear or side yard property lines adjoining single-family residential uses;
- Building heights stepped back from sensitive adjoining uses to maintain appropriate transitions in scale and to protect privacy;
- Landscaped off-street parking areas, loading areas, and service areas screened from adjacent residential areas, to the degree feasible;
- Lighting shielded to minimize impacts on adjacent residential use and protect dark skies; and
- Operational restrictions to limit the adverse impact of noise, light, and traffic and minimize the risk of crime to adjacent residences.

Pursuant to the proposed SUP Amendment, what is Smoke Tree doing to provide increased building setbacks, landscaped and screened off-street parking areas, shielded lighting, and restricted operations with respect to the adjoining residential development?

Goal LU 2.1.3 Community Form/Design. To promote development in the Town that is in harmony with the natural and built environment at both the community and neighborhood levels.

Policies

LU 2.1.3.1 Visual Openness. The Town shall maximize the benefits of visual openness throughout the Town by specific limits on floor area ratio, setbacks, side yards, and building and wall heights.

How does the plan accompanying the proposed Smoke Tree SUP Amendment satisfy the Visual Openness element when it substantially exceeds the Special Use Permit Guidelines on maximum floor area ratio and maximum building heights?

2012 General Plan – Development Area Policy

Goal DA 2.2.1 Development Area Policy. To support limited, targeted and context appropriate development and redevelopment within Development Areas through orderly and well-planned development that provides for the needs of existing and future residents, and makes efficient use of land and infrastructure.

Policies

DA 2.2.1.2 Balanced Consideration. Consideration of Development Area Special Use Permit applications should balance a need for the Town's fiscal health against a steadfast commitment to protecting adjacent low-density residential character and quality of life.

How would permitting Smoke Tree, pursuant to its proposed SUP Amendment, to increase its density to five times its existing use (three times that permitted by the SUP Guidelines) and add two access points

on the Quail Run Road half-street, where it currently has no access, serve to “protect the adjacent low-density residential character and quality of life” for the properties that dedicated and are currently the sole users of the existing half-street for Quail Run Road?

DA 2.2.1.3 Minimize Neighborhood Incompatibility. The Town shall require development or redevelopment within Development Areas to provide reasonable separation of incompatible land uses from adjacent residential areas through context- and scale appropriate land planning and architectural design, greater setback distances, noise mitigation, resort property programming, and landscape buffering.

Smoke Tree currently has ingress/egress solely from Lincoln and no access via Quail Run. Smoke Tree’s proposed SUP Amendment does not include dedicating additional ROW on Lincoln nor providing its half-street dedication for Quail Run. Smoke Tree does, however, propose adding two points of entry on the existing Quail Run half-street. It also proposes increasing its density to five times its existing use (three times that permitted by the SUP Guidelines). How does that provide the “reasonable separation” and buffering for the existing adjacent residential areas consistent with Goal Policy DA 2.2.1.3? Pursuant to the proposed SUP Amendment, what sort of land planning and architectural design, greater setback distance, noise mitigation, resort property programming, and landscape buffering is Smoke Tree providing with respect to the adjacent residential area?

Goal DA 2.2.2 Community Spaces. To conserve and enhance public open spaces, access to open spaces, open space connections, and encourage the incorporation of public art in Development Areas.

Policies

DA 2.2.2.1 Open Space. The Town shall seek to provide open spaces in Development Areas that encourage public gathering, enhanced aesthetics, and serve as buffers between uses of significantly differing function and intensity.

How would permitting Smoke Tree, pursuant to its proposed SUP Amendment, to increase its density to three times that permitted by the SUP Guidelines serve as a buffer between the adjacent residential uses to the West and the commercial uses to the East?

Goal DA 2.2.3 Infrastructure and Development. To direct orderly and well-planned development within Development Areas to support infrastructure improvements, and a concentration of development density and intensity.

Policies

DA 2.2.3.1 Public Infrastructure. The Town should promote the public and private construction of timely and financially sound public infrastructure within Development Area through the use of infrastructure and financing that is coordinated with development and funded by the developer whenever possible.

How is Smoke Tree’s proposed plan satisfying the public infrastructure requirement when it does not intend to dedicate the additional 32’ recommended for Lincoln nor its 25’ half-street and improvements for Quail Run Road, while proposing to increase its density five-fold (and three times the SUP Guideline)

and to add two access points on the existing Quail Run Road half-street which is currently serving only the adjacent residential neighborhood?

DA 2.2.3.3 East Lincoln Drive Development Areas. The Town should encourage moderate intensity, mixed-use, and context appropriate resort development within the East Lincoln Drive Development Areas that includes reasonable separation between incompatible uses and adjacent residential areas and effective buffering of unwanted noise, light, traffic and other adverse impacts.

Smoke Tree currently has ingress solely from Lincoln – no access via Quail Run – but the plan submitted with the proposed SUP amendment, despite increasing the current room capacity by more than factor of five (and three times the SUP Guidelines limit), does not include dedicating additional ROW on Lincoln nor providing its half-street dedication for Quail Run, while adding two points of entry on the existing Quail Run half-street. How is the “reasonable separation” and “effective buffering” for the existing adjacent residential areas going to be provided pursuant to Goal Policy DA 2.2.3.3?

2012 General Plan – Community Character & Housing

Goal CC&H 3.1.1 Residential Character. Preserve and protect the quality of residential character development within the Town while taking care to perpetuate the natural landscape, desert plants, and scenic beauty of the mountain areas of the Town.

Policies

CC&H 3.1.1.2 Protect Established Neighborhoods. The Town shall encourage new development and redevelopment, both private and public, to respect and respond to those existing physical characteristics, buildings, streetscapes, open spaces, and urban form that contribute to the overall character and livability of the neighborhood.

How does the proposed plan submitted with Smoke Tree SUP Amendment protect the established adjacent residential neighborhoods?

2012 General Plan – Mobility

Goal M 4.1.2 Neighborhood Traffic. To enhance the quality of life within existing neighborhoods through the use of neighborhood traffic management techniques.

Policies

M 4.1.2.1 Neighborhood Traffic Management. The Town shall continue to design streets and approve development applications to reduce high-traffic flows and traffic speeds within residential neighborhoods wherever possible.

How would allowing Smoke Tree to add two access points from the half-street Quail Run Road, where none currently exist, without dedicating the other half of the street, while increasing the intensity of use from the current 32 units to 180 units, avoid imposing higher traffic flows on the adjacent residential

neighborhoods which dedicated and are currently the sole users of the existing half-street for Quail Run Road?

Goal M 4.4.1 Roadway System. To create a roadway system that will ensure the safe and efficient movement of people, goods, and services that supports livable communities and reduces air pollution and greenhouse gas emissions.

Policies

M 4.4.1.3 Access onto Major Arterials. The Town shall require design of new developments to avoid direct access onto major arterial roadways where possible.

How would permitting Smoke Tree, which desires to increase its density five-fold and currently has ingress/egress solely from Lincoln (while keeping the present two curb cuts there), satisfy Goal Policy M 4.4.1.3 by adding two access points on the half-street for Quail Run Road without widening, improving, and matching it up for a signalized intersection?

Goal M 4.4.2 Roadway Design. To provide high-quality roadway design that promotes the character and image of the Town, reduces negative environmental impacts, and minimizes negative impacts to neighborhoods.

Policies

M 4.4.2.9 Rights-of-Way Extents. The Town shall ensure that all new public roadway projects and major reconstruction projects provide appropriate and adequate rights-of-way for all users including bicyclists, pedestrians, and motorists except where pedestrians or bicyclists are discouraged.

Given that the existing residential development to the West dedicated and is using the existing half-street for Quail Run Road, how does the proposed plan for the Smoke Tree SUP Amendment, which adds two access points on the half-street for Quail Run Road, without widening or improving it, provide adequate ROW for all users, as required by the General Plan?

2012 General Plan – Environmental Planning & Water Resources

Goal EP 6.1.3 Visual Resource Preservation. Maintain and protect significant visual resources and aesthetics that define the Town of Paradise Valley.

Policies

EP 6.1.3.3 Standards for SUP Development. The Town shall require that Special Use Permit developments not create major adverse impacts on the town's natural and semi-urban landscapes.

How does adding two access points for use by Smoke Tree on the half-street for Quail Run Road avoid adversely impacting the existing residential neighborhood to the West?

● **Special Use Permit Guidelines (eff. 07-08-2017)**

Section 4 —Resorts — Site Standards 1.a and 1.b

- a. Except for properties that have existing special use permits for resort uses, the minimum size area shall be 20 acres which shall not be bisected by any public right-of-way.
- b. Except for properties that existing special use permits for resort uses, the site shall have primary access from and frontage of a least 300 feet on a Major or Minor Arterial as designated in the Paradise Valley General Plan.

Given that Smoke Tree is about ¼ the intended minimum size for a resort and with about ½ the intended minimum street frontage, how does that become a justification for even further deviating from other guidelines such as on density, building height, setbacks, and depth of perimeter landscape buffers? What are the mitigating standards that are being exceeded to offset all of those negative deviations?

Section 4 —Resorts — Bulk and Density Standards 2.a

- a. Maximum building height:
 - i. Principal Structures – 36 feet
 - ii. Accessory Structures – 24 feet
 - iii. Service structures – 18 feet
 - iv. Towers and other architectural features may exceed maximum building heights, subject to special use permit or major amendment approval.
 - v. To maintain view corridors around the perimeter of a property, building heights shall be limited around property lines in accordance with the Open Space Criteria per Section 3 of the Special Use Permit Guidelines.

At present, the maximum building height of Smoke Tree is 16'3" to the top of parapet and all structures are one-story, but the proposed plan specifies a majority of three-story buildings at 44' in height (including some architectural elements at 48'). How is this consistent with the SUP Guidelines maximum of 36' in height for principal structures?

Section 4 —Resorts — Bulk and Density Standards 2.b

- b. Lot coverage:
 - i. Total of all structures – 25%
 - ii. Total of all impervious surfaces including building footprints – 60%
 - iii. Open space, which shall consist of land and water areas retained for active or passive recreation purposes or essentially undeveloped areas retained for resource protection or preservation purposes, a minimum of 40%

Given that Smoke Tree is proposing 34% lot coverage and a floor ratio area of 62%, how is the open space requirement going to be met?

Section 4 —Resorts – Bulk and Density Standards 2.c

- c. Maximum density of guest units – 1 unit for each 4000 sq. feet of site area.

How is the density requirement being satisfied by increasing the units on a 5.3 acre site from 32 to 180, which is three times what is permissible under the Guidelines? Are there other standards for which Smoke Tree is providing far more than the minimum to mitigate the proposed density deviation?

Section 4 —Resorts – Perimeter Standards 3.a

- a. Minimum distance from exterior property lines where the adjacent use is residential:
 - i. Principal structures – 100 feet
 - ii. Accessory structure – 60 feet
 - iii. Service structure – 100 feet

Section 4 —Resorts – Perimeter Standards 3.b

- b. Minimum distance from exterior property lines where the adjacent use is other than residential or is adjacent to a public street:
 - i. Principal structures – 100 feet
 - ii. Accessory structure – 40 feet
 - iii. Service structure – 65 feet

Based on the proposed plan's 90' distance without dedicating its 25' half-street, how are the minimum distances specified by the Guidelines being satisfied with respect to the residential properties on Quail Run Road?

Section 4 —Resorts – Perimeter Standards 3.c and 3.d

- c. There shall be a 40 foot wide landscaped area adjacent to an exterior property line where it abuts residentially zoned property.
- d. There shall be a minimum 30 foot wide landscaped area where an exterior property line abuts a public or private local collector street and a 50 foot wide landscaped area where an exterior property line abuts a Major or Minor Arterial.

Since the proposed Smoke Tree plan only calls for 25' landscaping adjacent to the existing residential neighborhood, including along Quail Run Road, without dedicating its 25' half-street, how are the 30' and 40' minimum distance landscaped areas specified by the Guidelines being satisfied?

EXHIBIT B

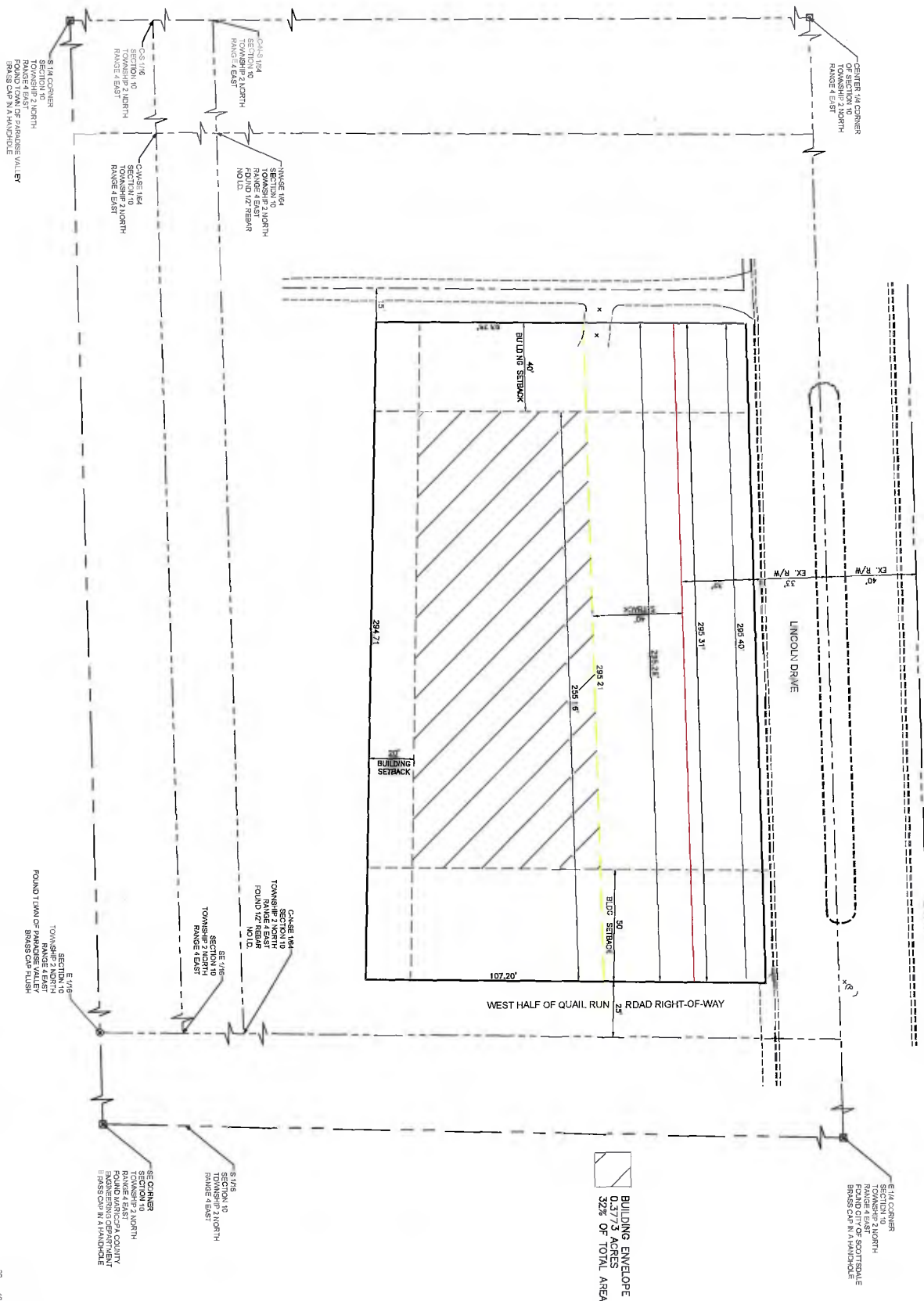


SUNCHASE QUAIL RUN

EXHIBIT B

4550 North 12th Street
Phoenix, Arizona 85014
602-264-6831
www.cycli.com

EXHIBIT C



BUILDING ENVELOPE
0.3773 ACRES
32% OF TOTAL AREA

SUNCHASE QUAIL RUN EXHIBIT C



November 15, 2018

Paul Mood, P.E.
Town Engineer
Town of Paradise Valley

Jeremy Knapp, AICP
Community Development Director
Town of Paradise Valley

RE: Lincoln Drive Median Access from Mockingbird Lane to the Eastern Town Limits

The Smoke Tree Resort and Lincoln Medical Plaza have submitted applications for Major Special Use Permit Amendments. Through the Statement of Direction Process (SOD) the Planning Commission and Staff were asked to look at the traffic and access related issues. The traffic and access related items from the SODs are as follows:

Smoke Tree Resort & Lincoln Medical SOD:

Traffic, Parking, Access, and Circulation. The proposed density and location within a heavily-traveled and mixed-use density area near the City of Scottsdale creates a heightened need for ensuring the proposed redevelopment does not have a negative impact on traffic safety, parking, and circulation.

- Number of access points in/out of the site
- Coordination with Town improvements along Lincoln, i.e. the entry/exit and roadway medians
- Deceleration turn lane for eastbound traffic entering the site
- Full build-out of The Ritz-Carlton Resort Special Use Permit
- Any cross-access easement(s) with the owners of the AJs to the east/Andaz to the south/Smoke Tree to the west.

The Town recently completed 30% design plans for the CIP roadway improvement project for Lincoln Drive from Mockingbird Lane to the eastern Town limits. Traffic data was not available from the Smoke Tree Resort or Lincoln Medical Plaza at the time the plans were developed. The 30% design plans called for a westbound left turn median break into the Applewood Pet Resort and a solid median from Quail Run Rd. to the eastern town limits. This raised median provides for only right in/right out access to the SUP properties.

CivTech was retained by the applicants to provide three potential access options as follows:

Option 1*: full median access for Smoke Tree Resort and Lincoln Medical Plaza

Option 2*: shared full median access for Smoke Tree Resort and Lincoln Medical Plaza

Option 3*: right in/right out only access for Smoke Tree Resort and Lincoln Medical Plaza

*All access options include full median access for the Applewood Pet Resort at their western driveway.

Both applicants have expressed a desire to maintain full access (left in/left out) onto Lincoln Drive as their preferred access option. Since CivTech is a subconsultant on the Town's Lincoln Drive CIP project, Kimley-Horn was retained as a 3rd party to review the following:

- Traffic volume calculations
- Left turn lane geometry including storage length and minimum taper lengths
- The need for exclusive right turn lanes
- Review and comment on the three access options

A copy of Kimley-Horn's Lincoln Drive Median Access from Mockingbird Lane to the Eastern Town Limits 3rd Party Traffic Review Memorandum is attached. Below are general comments from the memorandum as well as brief review of each access option:

- Median access options were reviewed against The American Society of State Highway and Transportation Officials (AASHTO) and City of Scottsdale design standards.
- A traffic volume of 13,870 vpd on Lincoln Drive was taken from the 2015 Ritz Carlton Traffic Impact Analysis.
- Using the projected year 2025 peak hour volumes, the daily traffic volumes on Lincoln Drive are estimated to exceed 20,000 vpd.
- Left turn lanes at Mockingbird Lane and Quail Run Road are shown per the Five Star Development Agreement for the Ritz Carlton Resort.
- A new traffic signal at Quail Run Road is shown per the Five Star Development Agreement for the Ritz Carlton Resort.
- Field observations were conducted on October 30, 2018 during the AM and PM peak hours. Eastbound traffic backed up in the inside lane and blocked both of the Lincoln Medical Plaza driveways and the Smoke Tree Resort eastern driveway on three occasions in the AM peak hour and five occasions in the PM peak hour.
- Motorists left gaps when traffic backed up so that westbound traffic could turn into the AJ's Shopping Complex. Near miss collisions were observed by Kimley-Horn.
- Lincoln Drive does not have sufficient width for U-turn movements.

Applewood Resort Full Median Access

- Full median access is shown at the Applewood Resort's western driveway.
- The western driveway is approximately 714' east of Mockingbird Lane and 612' west of Quail Run Rd.

Staff Comments: Staff recommends that the full median access be moved to the Applewood Pet Resort's western driveway in order to maximize the distance from Mockingbird Lane and Quail Run Road. This location will also be positioned for the future South Lincoln Drive Development Area access point if necessary. No other median breaks are recommended between Mockingbird Lane and Quail Run Road.

Option 1: Full Median Access (left in/left out)

Lincoln Medical Access

- The eastern driveway is right in/right out only and is in its current location.
- The western driveway has a median break for full access and is in its current location.
- The western driveway minimum left turn taper length is 90'. Only 43'-3" is provided.

- The western driveway minimum left turn storage requirement is 70'. A storage length of 70' is provided and is adequate.
- Driveway spacing is approximately 132' and does not meet the minimum requirement of 250'. It should be noted that the Lincoln Medical Plaza only has approximately 200' of frontage on Lincoln Drive.

Smoke Tree Resort Access

- The western driveway is right in/right out only and is in its current location.
- The eastern driveway has a median break for full access and is moved to a new location approximately 183' from the Lincoln Medical Plaza western driveway (approximately 154 feet from the eastern property line).
- The eastern driveway minimum left turn taper length is 90'. Only 40' is provided.
- The eastern driveway minimum left turn storage requirement is 55'. A storage length of 75' is provided and is adequate.
- The driveway spacing does not meet the minimum requirements of 250' from Quail Run Rd. or other adjacent driveways.

Staff Comments: Staff does not recommend full access for both properties as shown since driveway spacing is not met and left turn taper lengths do not meet the minimum standards necessary to safely transition vehicles from the Lincoln Drive through lane into the left turn lanes. Kimley-Horn's traffic observations also show that eastbound traffic will back up in front of the Lincoln Medical Plaza's driveways. Lincoln Medical Plaza access should be restricted to right in/right out to mitigate potential collisions.

Option 2: Shared Full Median Access (left in/left out)

- The Lincoln Medical Plaza eastern driveway is right in/right out only and is in its current location.
- The Lincoln Medical Plaza western driveway has been removed.
- The Smoke Tree Resort western driveway is right in/right out only and is approximately 134' east of Quail Run Rd.
- The shared access driveway minimum left turn storage length on Lincoln Drive is 115'. Only 90' of storage is provided.

Staff Comments: Staff recommends that that left in/left out shared access can be provided so long as the minimum left turn storage length on Lincoln Drive is extended from 90' to 115'. The Smoke Tree Resort western driveway shall be removed since it cannot meet the minimum spacing requirement of 250' from both Quail Run Rd. and the shared access driveway. A dedicated right turn deceleration lane (minimum 100' storage and 90' taper) is also recommended for the shared access driveway. Additionally, a non-vehicular access easement (NVAE) shall be placed along the eastern and southern property lines of the Lincoln Medical Plaza parcel to prevent future access from the AJs Shopping Complex and Andaz Resort.

Option 3: Right In/Right/Out Access

- The Lincoln Medical Plaza eastern and western driveways are right in/right out only and in their current locations.
- The Smoke Tree Resort western driveway is right in/right out only and is in its current location approximately 134' east of Quail Run Rd.

- The Smoke Tree Resort eastern driveway is right in/right out only and is approximately 66 ' west of the Lincoln Medical Plaza western driveway (32 feet west of the property line).

Staff Comments: Staff recommends that right in/right out access can be provided so long the Smoke Tree Resort driveways and Lincoln Medical Plaza driveways are consolidated into one driveway for each property. The driveways should be located to maximize spacing and each driveway shall have a dedicated right turn deceleration lane (minimum 100' storage and 90' taper). The right in/right out turning movements are the safest turning movements but may result in motorists trying to make U-turns on Lincoln Drive that is not wide enough.

Staff Recommendation: Staff recommends Option 2 (shared full median access) with the modifications listed below. This alternative will achieve full left in/left out access for the Smoke Tree Resort and Lincoln Medical Plaza, minimum driveway spacing, minimum left turn storage length and minimum taper length required per AASHTO and City of Scottsdale requirements.

Option 2 (shared full median access) should be modified as follows:

- Extend left turn storage length on Lincoln Dr. from 90' to 115'.
- Relocate the shared access driveway location as required to accommodate additional left turn storage.
- Add dedicated right turn lane at shared access driveway (minimum 100' storage and 90' taper).
- Eliminate western Smoke Tree Resort driveway.
- Eliminate western Lincoln Medical Plaza driveway.
- Provide shared access easement between the Smoke Tree Resort and Lincoln Medical Plaza.
- Provide a non-vehicular access easement (NVAE) along the eastern and southern property lines of the Lincoln Medical Plaza parcel.

MEMORANDUM

To: Paul Mood, Town Engineer
Paradise Valley, Arizona

From: Kimberly Carroll, P.E., PTOE
Sr. Traffic Engineer
Kimley-Horn and Associates, Inc.

Date: November 9, 2018

Subject: Lincoln Drive, Mockingbird Lane to Town of Paradise Valley (TOPV) Jurisdiction
Median Breaks and Access
Third Party Traffic Review Comments



Expires: 03/31/21

Dear Paul:

As requested by Town Staff, Kimley-Horn has conducted a third-party traffic review of the Lincoln Drive Access Assessment Exhibits (Options 1 through 3) prepared by CivTech for Lincoln Drive, from Mockingbird Lane to the TOPV jurisdictional boundary. We understand that raised medians are proposed for installation as part of the TOPV capital improvements projects. We also understand that two developments (Smoke Tree Resort and Lincoln Medical Plaza) are also proposed within the corridor. The developments will generate additional traffic and would like to maintain full access to their parcels from Lincoln Drive. The purpose is to review each of the Access Assessment Options, traffic analysis, and data provided by CivTech. Kimley-Horn's (KH) evaluation and review consisted of the following:

- *Review of the traffic volume calculations prepared by CivTech, which is the basis for calculating the storage length requirements*
- *Left turn lane geometric requirements¹ including minimum storage length requirements and minimum median opening taper rates*
- *Observation of existing traffic operations and safety during a typical weekday morning and afternoon peak hour*
- *Review and comment on the Access Assessment Options exhibits prepared by CivTech*
- *Evaluate the need for exclusive right turn lanes based on the traffic volumes generated*

¹ Based on AASHTO, *Geometric Design of Highways and Streets and Design Standards*, 2011; and City of Scottsdale, *Design Standards & Policies Manual*, 2018

TRAFFIC VOLUMES AND OPERATIONS REVIEW AND COMMENTS

Lincoln Drive is classified as a major arterial in the TOPV 2012 General Plan, has a 40-mph posted speed limit between Mockingbird Lane and TOPV jurisdictional boundary, and 13,870 vpd, which was provided in the 2015 daily traffic volumes collected as part of the Ritz Carlton Resort Traffic Impact Analysis, prepared by CivTech, 2016. Using the projected year 2025 peak hour volumes provided by CivTech, the daily traffic volumes are estimated to exceed 20,000 vpd.

- Existing peak hour turning movement counts were collected at each of the intersections and existing driveways within the corridor on Thursday May 31, 2018.

KH Comment 1: While the day collected falls on a typical weekday, the data was collected at a time of the year when volumes drop around the Maricopa Region because school is no longer in session and winter residents have left the region. For this reason, we recommend that existing traffic volumes be seasonally adjusted and traffic analysis be revised based on these adjustments and comments that follow.

Response to Comment 1: CivTech updated the traffic volumes to reflect a seasonal adjustment (factored by 1.03).

- Trips were generated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition to determine the number of vehicles entering and exiting the driveways of the proposed developments. A summary of the trip generation analysis by CivTech is provided in **Appendix 1**.

KH Comment 2: Through coordination with TOPV staff we understand the Smoke Tree Resort is proposed to develop 150 rooms and 30 residential units. The trip generation analysis conducted was based on 132 rooms and 20 residential units and is provided in **Appendix 1**. We recommend the trip generation be updated to match the proposed development improvements.

Response to Comment 2: CivTech has updated the trip generation rates to reflect 150 rooms, 30 residential units, and 3500 square foot quality restaurant. The revised trip generation and calculations are provided in **Appendix 2**.

KH Comments 3: Smoke Tree Resort analysis was based on ITE Land Use Code (LUC) 330. The number of rooms proposed for development seem low and inconsistent for a resort hotel. The number of data points and size of the independent variable more closely align with the Hotel LUC 310, which has higher trip generation rate than resort hotel. Please provide additional support that would classify Smoke Tree as a resort (LUC 330) as opposed to a hotel (LUC 310).

Response to Comment 3: CivTech has updated the trip generation rates to reflect a blended rate between LUC 310 and 330. The trip generation calculation and approach were considered acceptable.

KH Comments 4: Smoke Tree Resort utilized equations as opposed to average rates. KHA went through the ITE Trip Generation Handbook process presented in Figure 4.2 assuming proposed number of units for resort hotel (LUC 330). The results of this process are presented below and KH redlines provided in **Appendix 1**.

Resort hotel (LUC 330) AM peak hour between 7-9am

- The number of rooms is way out of range of the data extremes; the lowest number of rooms in the manual is roughly 370 compared to the 132 that are proposed
- If you follow the equation, which happens to be a straight line and not a logarithmic function, then 132 rooms will generate a very low number of trips
- The number of data points is equal to 6
- The R2 value is close to the required 0.75, so you could argue it either way
- The standard deviation is less than 55% of the average rate

Because the rooms are not within the data extremes and the R2 value is less than 0.75, we recommend the weighted rates be used. Using the rates as opposed to the equation results in double the trips being generated in the AM peak hour.

Resort hotel PM peak hour between 4-6pm

- The number of rooms is just outside of the data extremes
- The number of data points is greater than 6
- The R2 value is well above the required 0.75
- The standard deviation is less than 55% of the average rate

Because the number of data points and the R2 value are high enough and the standard deviation requirement is met, the use of the equation during the PM peak is appropriate.

Response to Comment 4: CivTech has updated the trip generation rates to reflect a blended rate between LUC 310 and 330 as discussed in response to comment #3. The trip generation calculations were also revised to reflect 150 rooms, 30 residential units, and 3500 square foot quality restaurant. The revised trip generation calculations and approach were considered acceptable. The revised trip generation calculations, based on 150 rooms, 30 residential units, and 3500 square foot quality restaurant, are provided in **Appendix 2**.

KH Comments 5: A proposed growth of 1.125 was utilized through year 2025. Please provide background support on for the growth rate being utilized.

Response to Comment 5: CivTech developed future background volumes by comparing historic counts from 2012 to 2014 on Scottsdale Road between Indian Bend and Lincoln Drive.

LEFT TURN LANE GEOMETRIC REQUIREMENTS

The physical geometry of the left turn is generally made up of storage length and deceleration length. Each of the components as it relates to this project are described in more detail as follows:

- Storage length is described as the queue length necessary to sufficiently store the estimated number of left turning vehicles during a critical period. In this case, the critical period is the during the peak hour. This storage length should be long enough to avoid vehicles from spilling back or stopping in the through lanes. If the storage length is not sufficient, there is a potential for rear end collisions due to the spill back or stopping of vehicles in the through lanes.

Per American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design for Highways and Streets, 6th Edition, the storage length at unsignalized intersections should be determined as follows:

“At unsignalized intersection, the storage lengths should be determined by an intersection traffic analysis based on the number of turning vehicles likely to arrive in an average two-minute period within the peak hour. Space for at least two passenger vehicles should be provided.”

AASHTO further recommends using the Transportation Research Board (TRB) Access Control Manual for additional support.

Based on this review, the storage length calculation² is summarized as:

$$L \text{ or } Q = (V * s * k) / N = (2.0 * V * 25) / 30$$

L or Q = Storage Length (ft)

V = Estimated left turn volume (vph) during the peak hour

N = Number of cycles per hour, which (Per AASHTO) is based on a two-minute period at unsignalized intersections ($N = 3600 \text{ (sec/hr)} / 120 \text{ (sec/cycle)} = 30 \text{ cycles/hr}$)

s = Average vehicle length, including space between vehicles assumed to be 25 feet

k = Factor of 2.0 is commonly used for major arterials to account for the longest expected queue

KH Comment 6: All storage lengths should be updated based on the revised traffic volumes previously commented above.

Response to Comment 6: CivTech updated exhibits and calculations. See KH Comments 9 through 13.

KH Comment 7: Calculation presented by CivTech uses an N value of 60 minutes per hour rather than 30 cycles per hour. One could argue the two-minute period. The two-minute period is a function of opposing volumes and the time necessary to make the left turn maneuver. Considering the high opposing volumes on Lincoln Drive, we recommend that no less than a two-minute period be utilized. For this reason, all storage lengths for each left turn lane should be updated. Furthermore, based on AASHTO, the minimum storage length shall be 50 feet (not 25 foot) to accommodate at least two passenger vehicles.

² Per Transportation Research Board (TRB), Access Management Manual, Second Edition, Section 16-1.

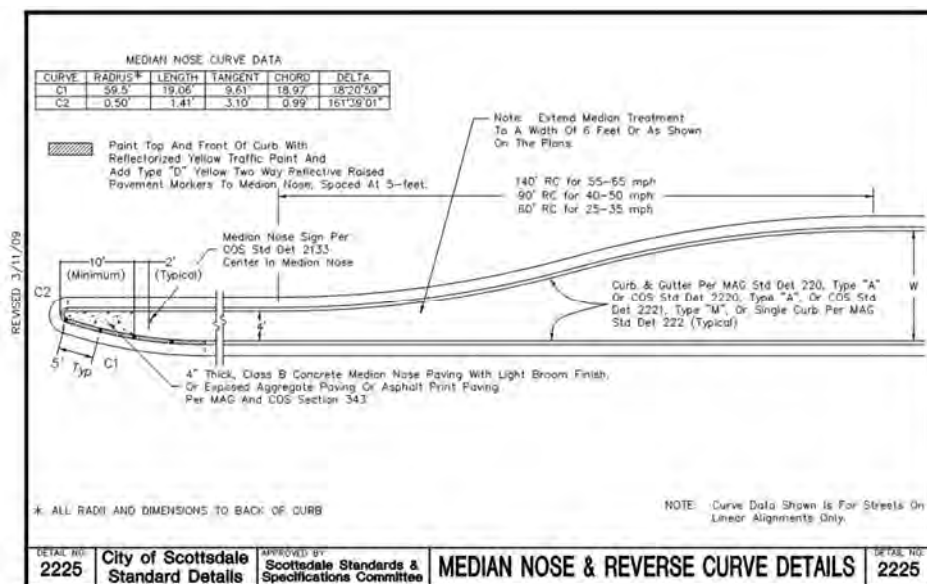
Response to Comment 7: CivTech updated calculations. See KH Comments 9 through 13.

- Deceleration Length is described as the maneuver distance to decelerate from the through lane into the turn bay (opening taper) plus the distance necessary to complete a stop. Per AASHTO Table 9-22, 275 feet of deceleration is necessary for a 40-mph speed. Where constraints, such as closely spaced driveways or adjacent intersections exist, deceleration by drivers can be accomplished before entering the left turn bay as part of the opening taper length. In this case, the opening taper is being utilized for deceleration as well as the transition from through lane to the left turn lane.

The opening taper length is also a function of speed as well as the rate at which vehicles traverse from the through lane to the left turn lane. Per AASHTO, an 8:1 rate for design speeds up to 30 MPH and 15:1 rate for design speeds up to 50 MPH or greater. In short, when a vehicle moves one (1) foot laterally, the same vehicle will need 8 feet (for 30 mph) or 15 feet (for 50 mph) to travel longitudinally. Example calculations include:

Traverse Distance from Through Lane to Left Turn Lane = 12 foot
Taper Length (30 mph) = 8 x 12 = 96 feet
Taper Length (50 mph) = 15 x 12 = 180 feet.

It should be noted that AASHTO also suggests that shorter tapers can be utilized in urban conditions when peak periods result in slower speeds. In this case and recognizing that the Town of Paradise Valley may follow the City of Scottsdale Standards, Kimley-Horn defaulted to the City of Scottsdale's, Design Standards & Policies Manual, 2018 and Standard Detail 2225 shown on the next page. Per the detail, a minimum taper of 90 feet should be provided for a 40 to 50 mph roadway.



KH Comment 8: Posted speed limit of Lincoln Drive within the project limits is 40 MPH. We recommend that at a minimum an opening taper length of 90 feet be provided at all left turn bays to allow for the deceleration and safe transition of vehicles from the through lane into the left turn lane.

OBSERVATION OF TRAFFIC OPERATIONS AND SAFETY

Kimley-Horn conducted a field observation on Tuesday, October 30th during the morning (from 7:30 to 8:30 am) and afternoon (from 4:30pm to 5:45 pm) peak hours. The following was observed:

- Eastbound traffic on Lincoln Drive at Scottsdale Road, queued (stacked) to just west of the existing Smoke Tree Resort eastern most driveway during both the AM and PM peak hours. Lincoln Medical Plaza as well as the eastern most driveway to Smoke Tree Resort was blocked during these queueing events. Three of these events were observed during the AM peak hour and five were observed during the PM peak hour.
- During the afternoon peak, the side friction associated with vehicles turning in/out of the existing driveways (AJ's Shopping Center, Lincoln Apartments, and Spectrum Office), between Scottsdale Road and Smoke Tree Resort eastern driveway, contributed to the stacking of the eastbound vehicle queueing length.
- The queueing occurred in the inner most eastbound lane leaving the outer lane free for vehicles to drive to the Lincoln Drive and Scottsdale Road intersection.
- Eastbound traffic provided gaps for left turning vehicles destined for the commercial parcels (AJ Shopping Center) on the south side of Lincoln Drive. However, near misses or potential collisions between eastbound vehicles on Lincoln Drive traveling in the outer eastbound lane and left turning vehicles were observed.

ACCESS ASSESSMENT OPTION EXHIBITS

Kimley-Horn reviewed the Access Assessment Options, prepared by CivTech, considering the comments listed above. The exhibits as well as Kimley-Horn comments are provided in **Appendix 3**. A summary of the comments are as follows:

KH Comment 9: This comment applies to all CivTech exhibits prepared. Traffic volumes were not available for the driveways between Mockingbird Lane and Quail Run. In the absence of these volumes, AASHTO A Policy on Geometric Design of Highways and Street (2011), TRB Access Control Manual (2nd Edition), City of Scottsdale Design Standards & Policy Manual (2018), and engineering judgement was utilized to comment and make recommendations for full median break recommendations on Lincoln Drive between Mockingbird Lane and Quail Run.

- Lincoln Drive functional classification is Major Arterial, per TOPV 2012 General Plan
- Posted Speed Limit = 40 MPH
- Westbound 95% queue length at Mockingbird Lane (301 feet) per CivTech Synchro Results
- Eastbound 95% queue lengths at Quail Run (322 feet) per CivTech Synchro Results
- Per AASHTO (page 9-182), "Ideally driveways should be placed upstream and downstream outside the functional area of an intersection or the influence area of adjacent driveways." Per

AASHTO, the influence area includes the impact length or distance back from the driveway that cars begin to be affected, the perception-reaction distance, and the car length.

- Per TRB Access Control Manual (Exhibit 14-12), the Ideal Downstream Functional Distance Based on Decision Sight Distance to Stop is 690 feet for 40 MPH urban condition.
- Per City of Scottsdale, Design Standards and Policy Manual, Section 5, on minor arterials, full median breaks should be no closer than 1/8-mile intervals with preferable 1/4 mile spacing.
- Through discussion with Town staff, we understand the southwest quadrant of Quail Run and Lincoln Drive will be redeveloped in the future. Access to this future development is expected to be located on Lincoln Drive west of Quail Run. While a traffic study has not been completed, additional traffic is expected to be generated. The need to accommodate this storage should be factored into the location of median break and full access Lincoln Drive between Mockingbird Lane and Quail Run.
- The existing spacing between Mockingbird Lane to Quail Run (centerline to centerline) is approximately 1325 feet (+/-).

Based on the bullet points above, we recommend that the full access median break distance on Lincoln Drive between Mockingbird Lane and Quail Run be maximized at 660-foot spacing between the intersections. Currently, Applewood Pet Resort western most access is positioned approximately 714 feet east of Mockingbird Lane and approximately 612 feet west of Quail Run (centerline to centerline) and provides the most desirable location for a full access median break.

Access Assessment Option #1 (Individual Full Access) Exhibit

KH Comment 10: Storage length at Spectrum Office Driveway/AJ Driveway calculation ((29 vph x 25 feet x2)/30) is 48 feet. Per AASHTO, the minimum storage length is 50 feet. Exhibit illustrates a minimum of 50 foot being provided. This is considered acceptable.

KH Comment 11: As shown in Option #1 exhibit, access improvements include closure of the existing eastern access on Smoke Tree Resort, a new Smoke Tree Resort access approximately 183 feet west of Lincoln Medical Plaza access, and the existing Smoke Tree Resort western access to remain as right in/right out. The proposed improvements result in the following spacing (centerline to centerline) of driveways:

- Approximately 134 feet from Quail Run to Smoke Tree Resort western right in/right out driveway;
- Approximately 183-feet from Smoke Tree Resort western right in/right out to the proposed Smoke Tree Resort full access median break;
- Approximately 183-feet from the proposed Smoke Tree Resort full access median break to the proposed Lincoln Medical Plaza full access median break; and
- Approximately 132 feet from the proposed Lincoln Medical Plaza full access median break to the eastern Lincoln Medical Plaza right in/right out access.

Per City of Scottsdale Design Standards & Policy Manual (2018), the minimum driveway spacing is presented in the Figure on the following page. It should be noted that a major arterial in the City of Scottsdale is configured as a six-lane divided roadway. Lincoln Drive is a four-lane divided roadway, so a minor arterial classification was utilized to determine the minimum spacing required (250 feet) on Lincoln Drive.

STREET TYPE	STANDARD DRIVEWAY SPACING	MINIMUM DRIVEWAY SPACING
Local Residential / Local Collector	50 feet	50 feet
Local Industrial / Local Commercial	165 feet	125 feet
Minor Collector	165 feet	125 feet
Major Collector	250 feet	150 feet
Minor Arterial	330 feet	250 feet
Major Arterial	500 feet	300 feet

FIGURE 5-3.35 DRIVEWAY SPACING

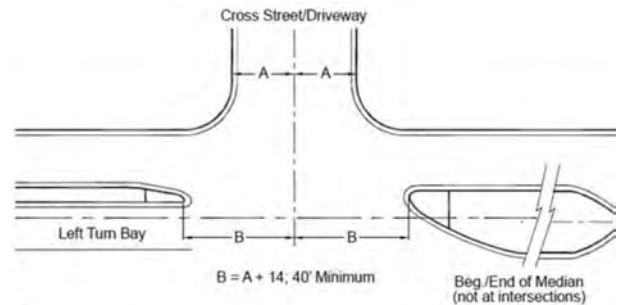
Based on the results, Kimley-Horn recommends the western Smoke Tree Resort driveway be closed to achieve the minimum spacing from Quail Run.

KH Comment 12: The storage length shown in Option #1 exhibit for Lincoln Medical Plaza is 70 feet. Per AASHTO calculations, storage length should be no less than 70 feet to adequately store the estimated number of vehicles generated by Lincoln Medical Plaza. This is considered acceptable. The storage length for the Smoke Tree Resort eastern driveway is 75 feet. Per AASHTO calculations, storage length should be no less than 55 feet to adequately store the estimated number of vehicles generated by the Smoke Tree Resort. This is considered acceptable.

KH Comment 13: As shown in Option 1 exhibit prepared by CivTech, opening bay tapers are 40 feet at Smoke Tree Resort and 43-3" feet at Lincoln Medical Plaza. KH recommends that no less than a 90-foot opening taper be utilized to safely traverse traffic from the through lane to the left turn lane on Lincoln Drive, per the criteria and discussion on Page 4, 5, and 6 of this document. Kimley-Horn recommends the median be extended and access points to Lincoln Medical Plaza be restricted to right in/right out only movements for two reasons:

- a) A minimum spacing of 290 feet (centerline to centerline), from Spectrum Office Driveway to Lincoln Medical Plaza driveway, is necessary to adequately store the estimated vehicles without spilling back into the Lincoln Drive through lanes as well as safely transition vehicles from the through lane to left turn lane. Currently the spacing (centerline to centerline) is approximately 220 feet (+/-) and is less than adequate. Calculations are summarized as follows:

- Peak Hour Left Turn Volume at Lincoln Medical Plaza = 42 vph
- Lincoln Medical Plaza Storage Length = $2 \times 25 \times 42 / 30 = 70$ feet
- Opening Taper Length = 90 feet (see KH Comment #8)
- Spectrum Office Storage Length = 50 feet (minimum per AASHTO)
- Distance (Spectrum centerline to median nose) = 40-foot (see COS Figure 5-3.28)
- Distance (Lincoln Medical Plaza centerline to median nose) = 40-foot (see COS Figure 5-3.28)
- Total length (centerline to centerline) = 290 feet



Notes:
1. This sketch is for a three leg intersection. If the intersection has four legs, the right side will also have an auxiliary lane for left turns, and the median on the right side will have the same configuration as the one on the left side rotated 180 degrees.
2. See COS Standard Details for median dimensions.

FIGURE 5-3.28 MEDIAN OPENINGS FOR INTERSECTIONS

- b) The observed queueing during the peak hours coupled with the near misses observed between the left turning vehicles (discussed on page 6 of this document) further support restricting Lincoln Medical Plaza access points to right in/right out to mitigate potential collisions between left turning vehicles into/out of Lincoln Medical Plaza and eastbound Lincoln Drive traffic.

Access Assessment Option #2 (Shared Full Access) Exhibit

KH Comment 14: As shown in Option #2 exhibit, access improvements include closure of the western Lincoln Medical Plaza access, a new shared access for the Smoke Tree Resort / Lincoln Medical Plaza approximately 55 feet from the shared Smoke Tree Resort / Lincoln Medical Plaza parcel line, and right in/right out to all other access points between Quail Run and TOPV jurisdictional boundary line. The proposed improvements in this option result in the following spacing (centerline to centerline) of driveways:

- Approximately 134 feet from Quail Run to Smoke Tree Resort western right in/right out driveway;
- Approximately 284-feet from Smoke Tree Resort western right in/right out to the proposed shared Smoke Tree Resort/Lincoln Medical Plaza full access median break;
- Approximately 221-feet from the proposed shared Smoke Tree Resort/Lincoln Medical Plaza full access median break to eastern Lincoln Medical Plaza right in/right out access.

Per City of Scottsdale Design Standards & Policy Manual (2018), the minimum driveway spacing is presented the minimum spacing required (250 feet) on Lincoln Drive. Kimley-Horn recommends the western Smoke Tree Resort driveway be closed to achieve the minimum spacing from Quail Run.

KH Comment 15: As shown in Option 2 exhibit prepared by CivTech, opening bay taper to the shared Smoke Tree Resort and Lincoln Medical Plaza is 90 feet. This is considered adequate.

KH Comment 16: The storage length shown in Option #2 exhibit for the shared Smoke Tree Resort/Lincoln Medical Plaza access is proposed at 90 feet. Per AASHTO calculations, storage length should be no less than 115 feet to adequately store the estimated number of vehicles generated by

Smoke Tree Resort and Lincoln Medical Plaza. For this option, the shared access should move a minimum of 25 feet west of the location shown in the CivTech exhibit to accommodate the minimum storage length necessary to adequately store the estimated left turn volumes without spilling back into Lincoln Drive through lanes. This would result in placing the shared driveway a minimum of 80 feet from the Smoke Tree resort/Lincoln Medical Plaza parcel line.

It should also be noted that moving the driveway west will further improve the spacing between the shared Smoke Tree Resort/Lincoln Medical Plaza driveway and the Lincoln Medical Plaza eastern right in/right out driveway.

Access Assessment Option #3 (Full Median - Right In / Right Out Only) Exhibit

KH Comment 17: As shown in Option #3 exhibit, all existing driveways between Quail Run and eastern Lincoln Medical Plaza access points, will remain and be restricted to right in/right out only. This results in the following spacing (centerline to centerline) between the existing driveways:

- Approximately 134 feet from Quail Run to Smoke Tree Resort western right in/right out driveway;
- Approximately 308-feet from Smoke Tree Resort western right in/right out to the existing eastern Smoke Tree Resort driveway;
- Approximately 67-feet from the eastern Smoke Tree Resort Driveway to the western Lincoln Medical Plaza driveway; and
- Approximately 132-feet from the western Lincoln Medical Plaza driveway to the eastern Lincoln Medical Plaza driveway.

Per City of Scottsdale Design Standards & Policy Manual (2018), the minimum driveway spacing is presented the minimum spacing required (250 feet) on Lincoln Drive. Kimley-Horn recommends the western Smoke Tree Resort driveway be closed to achieve the minimum spacing from Quail Run. We further recommend that with the improvements to both Smoke Tree Resort and Lincoln Medical Plaza that the driveways be improved to achieve the minimum spacing.

KH Comment 18: This option does provide the safest option by removing the conflict points that would occur with left in/left out maneuvers. It should be noted that Lincoln Drive does not provide enough pavement width necessary to safely make U-turn maneuvers. Providing an access point that is located to safely transition and adequately store the estimated left turn volumes will reduce the need for U-turn maneuvers. Allowing shared access between the Smoke Tree Resort and Lincoln Medical Plaza parcels would remove the need for any U-turn maneuvers. For this option, should it be determined that shared access will not be provided, Kimley-Horn recommends U-turns be restricted.

EXCLUSIVE RIGHT TURN EVALUATION

Kimley-Horn evaluated the need for exclusive right turn lanes based on the City of Scottsdale, Design Standards & Policy Manual, 2018, per Section 5-3.206 Deceleration Lanes. Per Section 5-3.206 (p 325), the criteria to determine the need for exclusive right turn deceleration lanes is provided below:

- A. At least 5,000 vpd are expected to use the street;

Daily traffic volumes collected in 2015 indicate 13,870 vpd travel on Lincoln Drive within the project limits. This criterion is met is only expected to increase overtime as the developments in this area are built out.

- B. The 85th percentile traffic speed on the street is at least 35 mph;

Posted speed limit on Lincoln Drive within the project limits is 40 mph. This criterion is met.

- C. At least 30 vehicles will make right turns into the driveway during a 1-hour period.

- All the driveways, shown in Access Assessment Option 1 exhibit, are estimated to generate less than 30 vehicles. For Option 1 this criterion is not met.
- The proposed shared Smoke Tree Resort / Lincoln Medical Plaza access, shown in Access Assessment Option 2 exhibit, is estimated to generate less than 30 vehicles during the peak hour. For Option 2, this criterion is not met. However, with the recommended removal of the Smoke Tree Resort western driveway, the estimated right turn volumes would increase to 24 vehicles during the AM peak hour at the single access point to Smoke Tree Resort. In this case, we recommend a right turn deceleration lane (minimum 100-foot storage with 90-foot taper) be installed at the shared Smoke Tree Resort / Lincoln Medical Plaza access.
- Review of Access Assessment Option 3 exhibit is summarized as:
 - The western access to Lincoln Medical Plaza is estimated to generate more than 30 vehicles during the AM peak hour. The eastern access to Lincoln Medical Plaza falls short by 4 vehicles from meeting this criterion. This criterion is met at the Lincoln Medical Plaza western driveway. However, Kimley-Horn recommends a right turn deceleration lane (100-foot storage and 90-foot taper) be installed at both locations. It should be noted that the western Lincoln Medical Plaza driveway shown in the exhibit does not have enough frontage along their parcel and would impact the Smoke Tree Resort parcel to install the recommended right turn deceleration lane. Consolidation of the west and eastern Lincoln Medical Plaza driveways into one driveway would improve the driveway spacing.
 - The western driveway to Smoke Tree Resort is estimated to generate 30 vehicles during the PM peak hour. This criterion is met at the Smoke Tree Resort western driveway. However, as discussed in KH Comment #17, the spacing between Quail Run and Smoke Tree Resort western driveway is not available and should be considered for closure to improve spacing. It is recommended that the two Smoke Tree Resort driveways be consolidated to achieve the minimum driveway spacing between Quail Run on the west and Lincoln Medical Plaza on the east. With the consolidation of the two driveways, the estimated right turn volumes would increase to 42 vehicles during the AM peak hour and 50 vehicles during the PM peak hour. We recommend that right turn deceleration lane (100-foot storage and 90-taper) be installed. In this option, placing the consolidated access point a minimum of 250 east of Quail Run would also achieve approximately 270 feet separation from the Lincoln Medical Plaza western access point.

APPENDIX 1

CivTech Trip Generation Calculation

Kimley-Horn Trip Generation Review and Redlines

Smoke Tree Resort

Proposed

Trip Generation

October 2018

Appendix D

This form facilitates trip generation estimation using data within the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *Trip Generation Handbook*, 3rd Edition. These references will be referred to as *Manual* and *Handbook*, respectively. The *Manual* contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the *Manual* when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics, **Box 2 - Define Site Context** and **Box 3 - Define Analysis Objectives Types of Trips & Time Period**

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The *Manual* does not have data for all settings of all land use codes. The "General Urban/Suburban" setting is used by default.

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Resort Hotel	132 Rooms	330	Resort Hotel
Apartments	20 Dwelling Units	220	Multifamily Housing (Low-Rise)

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicular trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the *Handbook* has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening, example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve: Type: Equation Used [Equated Rate]

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Resort Hotel	WA: []	FC: $T=0.38 \times X-28.58$ [0.16]	FC: $T=0.52 \times X-55.42$ [0.10]	
Apartments	FC: $T=7.56 \times X-40.86$ [5.52]	FC: $LN(T)=0.95 \times LN(X)-0.51$ [0.52]	FC: $LN(T)=0.89 \times LN(X)-0.02$ [0.71]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Resort Hotel	50%	100	100	200	72%	16	6	22	43%	6	7	13	
Apartments	50%	55	55	110	23%	2	8	10	63%	9	5	14	
Totals		155	155	310		18	14	32		15	12	27	



Lincoln Medical Center Proposed

Trip Generation October 2018

Appendix D

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *Trip Generation Handbook*, 3rd Edition. These references will be referred to as *Manual* and *Handbook*, respectively. The *Manual* contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the *Manual* when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics, Box 2 - Define Site Context and Box 3 - Define Analysis Objectives Types of Trips & Time Period

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The *Manual* does not have data for all settings of all land use codes. The "General Urban/Suburban" setting is used by default.

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Medical, dental or health office buildings and clinics	31,000 1,000 square feet	720	Medical-Dental Office Building

Box 4 - Is Study Site Multimodal?

Per the *Handbook*, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicular trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the *Handbook* has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

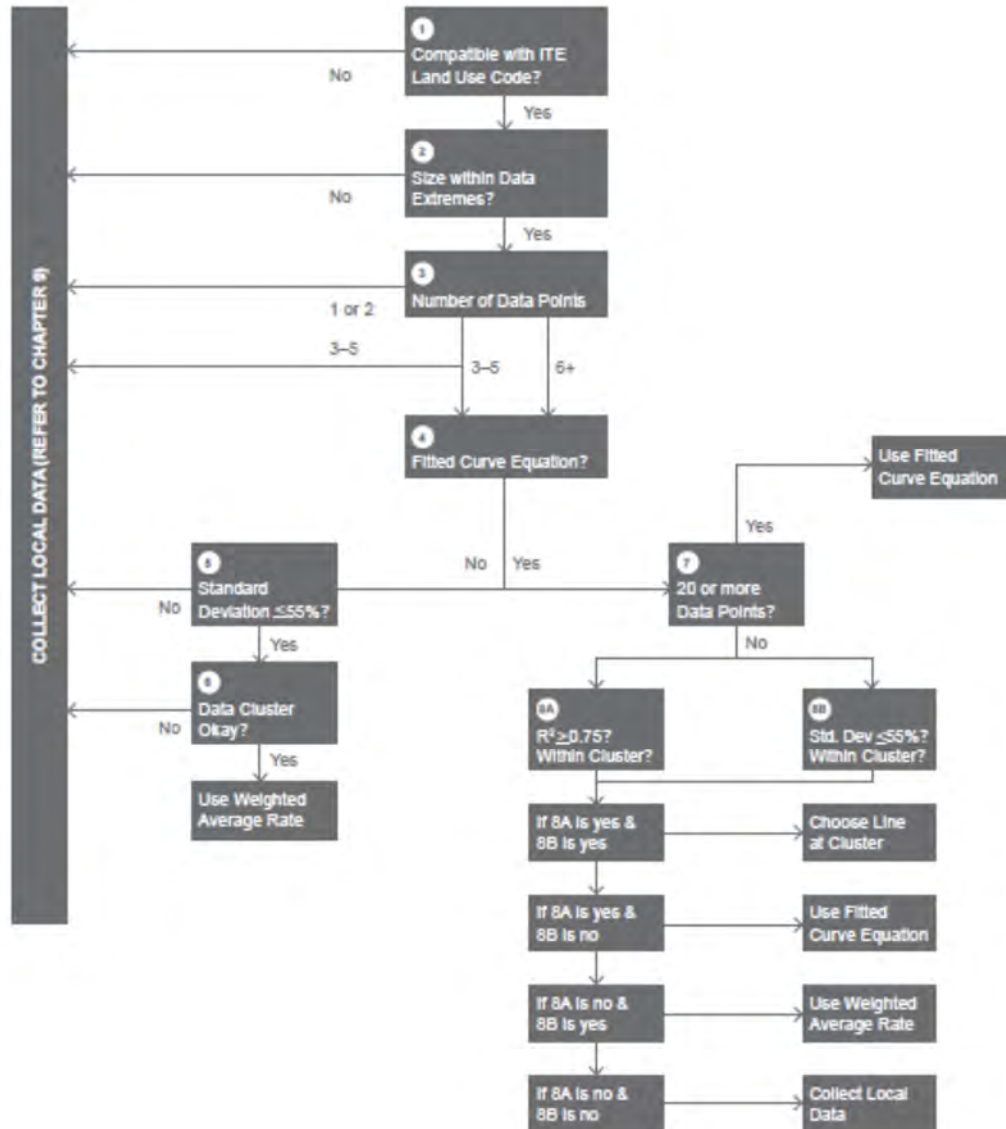
Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("Type: Equation Used [Equated Rate])

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Medical, dental or health office buildings and clinics	FC: $T=38.42 \times X-87.62$ [35.59]	FC: $LN(T)=0.89 \times LN(X)+1.31$ [2.54]	FC: $T=3.39 \times X+2.02$ [3.46]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and In/out Distributions)

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Medical, dental or health office buildings and clinics	50%	552	552	1,104	78%	62	17	79	28%	30	77	107	
Totals		552	552	1,104		62	17	79		30	77	107	

Figure 4.2 Process for Selecting Average Rate or Equation
in Trip Generation Manual Data



1 ✓
2 X → COLLECT LOCAL DATA
3 ✓
4 ✓
7 X
8a X, 8b ✓ { NO \$ YES
USE AVG

Resort Hotel (330)

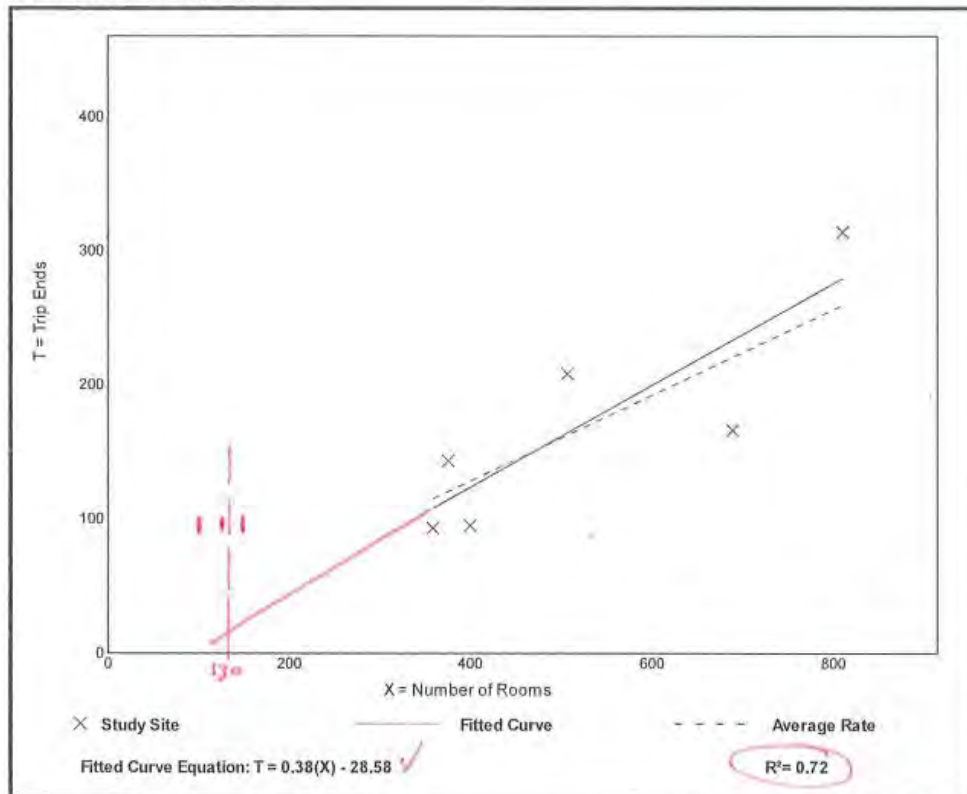
Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 6 ≥ 6 & < 20
Avg. Num. of Rooms: 524
Directional Distribution: 72% entering, 28% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.32	0.24 - 0.41	0.08

$$\frac{0.08}{0.32} = 0.25$$

Data Plot and Equation



1 ✓
2 ✓
3 ✓
4 ✓
7 X
8a ✓
8b ✓

YES & YES

USE LINE AT CLUSTER

Resort Hotel (330)

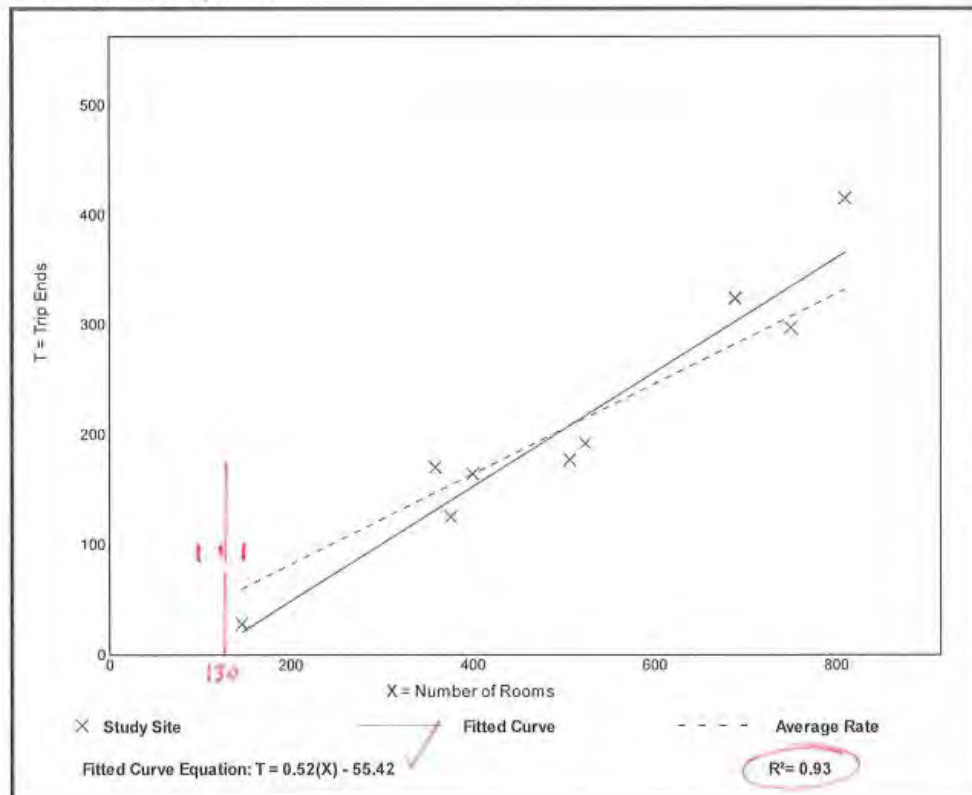
Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 9 ≥ 6 & < 20
Avg. Num. of Rooms: 507
Directional Distribution: 43% entering, 57% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.41	0.19 - 0.51	0.08

$$\frac{0.08}{0.41} = 0.195$$

Data Plot and Equation



APPENDIX 2

CivTech Revised Trip Generation Calculations

Smoke Tree Resort Proposed

Trip Generation November 2018 Appendix D

Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *Trip Generation Handbook*, 3rd Edition. These references will be referred to as *Manual and Handbook*, respectively. The *Manual* contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the *Manual* when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Resort Hotel	150 Rooms	330	Resort Hotel
Condos	30 Dwelling Units	220	Multifamily Housing (Low-Rise)
Quality Restaurant	3,500 1,000 square feet	931	Quality Restaurant

Box 2 - Define Site Context

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The *Manual* does not have data for all settings of all land use codes. See the table on the next page titled "Site Context and Time Periods" - if this table is not provided, the "General Urban/Suburban" setting is used by default.

Box 3 - Define Analysis Objectives Types of Trips & Time Period

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Box 4 - Is Study Site Multimodal?

Per the Handbook, "If the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)



Smoke Tree Resort

Proposed

Trip Generation

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Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the Handbook has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("FC"), or Custom ("C"))

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Resort Hotel	WA: []	FC: $T=0.38 \times X-28.58$ [0.10]	FC: $T=0.52 \times X-55.42$ [0.15]	
Condos	FC: $T=7.56 \times X-40.86$ [6.20]	FC: $LN(T)=0.95 \times LN(X)-0.51$ [0.51]	FC: $LN(T)=0.89 \times LN(X)-0.02$ [0.67]	
Quality Restaurant	WA: $T=X \times 83.84$ [83.84]	WA: $T=X \times 0.73$ [0.73]	WA: $T=X \times 7.8$ [7.80]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Resort Hotel	50%	389	389	778	72%	42	17	59	43%	32	43	75	
Condos	50%	93	93	190	23%	3	12	15	63%	13	7	20	
Quality Restaurant	50%	147	147	294	0%	0	3	3	67%	18	9	27	
Totals		629	629	1,258		45	32	77		63	59	122	

Box 6 - Convert Baseline Vehicle Trips to Person Trips

If no vehicle trip reductions are to be applied, this portion may be ignored. The Handbook states "There are not enough samples to derive precise percentages by mode...however, for all but one, ...the motor vehicle percentage of total person trips is at least 90 percent." and "[vehicle occupancy for] many of the most commonly analyzed land use codes are not [available]." This form assumes that the total baseline vehicle trips for all land use codes accounts for 90% of total person trips. Unless otherwise specified, this form later reverses the conversion in Box 8.

Box 7 - Estimate Internal Person Trips, External Walk/Bike Trips, Transit Person Trips, External Person Trips (Internal Capture)

Internal capture occurs for mixed-use developments when a portion of the trips generated by the site are expected to have the both the origin and destination within the site. Internal capture is



Smoke Tree Resort

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November 2018

Appendix D

not dependent on mode choice. The table below presents the internal capture percentages and trips in units of vehicle trips. CivTech can provide trips in units of persons if requested.

Adjustments for Internal Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	Percent	In	Out	Total	Percent	In	Out	Total	Percent	In	Out	Total	
Resort Hotel	0%	0	0	0	0%	0	0	0	0%	0	0	0	
Condos	0%	0	0	0	0%	0	0	0	0%	0	0	0	
Quality Restaurant	50%	74	74	148	50%	0	2	2	50%	9	5	14	
Totals		74	74	148		0	2	2		9	5	14	

Box 8 - Convert Person Trips to Final Vehicle Trips

The vehicle occupancy and baseline alternate mode are now factored out from the external trips in vehicles, after any adjustments for internal capture and additional alternate mode from Box 7. In Box 6, vehicle trips were considered to account for 90% of total person trips. Alternate mode trips in addition to the baseline, if any, are accounted for in Box 7. It is estimated that vehicle trips should be reduced by an additional 0% due to carpooling. The final external trips in vehicles is multiplied by $90\% - 0\% = 90\%$ to produce the external vehicle trips.

External Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	In	Out	Total		In	Out	Total		In	Out	Total		
Totals	555	555	1,110		45	30	75		54	54	108		

Box 10 - Estimate Vehicle Trip Subsets Pass-by/Diverted Trips, Truck Trips (Pass-By Trips)

Some trips may be classified as "pass-by" trips, where some vehicle trips generated by the study site are already traveling on an adjacent road and make a stop while passing by. These trips do not add traffic volume to the roadway. The Handbook does not specify that a "pair" of pass-by trips must enter and exit the same driveway. The current edition of the Handbook indicates that pass-by trips should have directional distribution applied (%in/%out), though reviewers often comment when pass-by trip "pairs" do not occur within a the specified time period. This is likely due to ease of calculation and traditional methodology found in the first edition of the Handbook. As such, the analyst may ignore the direction distribution divide the total pass-by trip volume by 2 to apply pass-by "pairs". In addition, the analyst may consider pass-by rates at a reduced rate. Data is not available for all land use codes and all periods, assumptions are highlighted. The percentage is applied to total external vehicle trips.

Lincoln Medical Proposed

Trip Generation November 2018 Appendix D

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition and methodology described within ITE's *Trip Generation Handbook*, 3rd Edition. These references will be referred to as *Manual* and *Handbook*, respectively. The *Manual* contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The *Handbook* indicates an established methodology for how to use data contained within the *Manual* when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type & Site Characteristics, Box 2 - Define Site Context and Box 3 - Define Analysis Objectives Types of Trips & Time Period

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common).

Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The *Manual* separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The *Manual* does not have data for all settings of all land use codes. The "General Urban/Suburban" setting is used by default. This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Land Use Types and Size

Proposed Use	Amount Units	ITE LUC	ITE Land Use Name
Medical, dental or health office buildings and clinics	32,630 1,000 square feet	720	Medical-Dental Office Building

Box 4 - Is Study Site Multimodal?

Per the *Handbook*, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicular trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the *Handbook* has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve ("Type: Equation Used [Equated Rate])

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Medical, dental or health office buildings and clinics	FC: $T=36.42 \cdot X^{-87.02}$ [35.74]	FC: $\ln(T)=0.89 \cdot \ln(X)+1.31$ [2.53]	FC: $T=3.39 \cdot X+2.02$ [3.45]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and In/out Distributions)

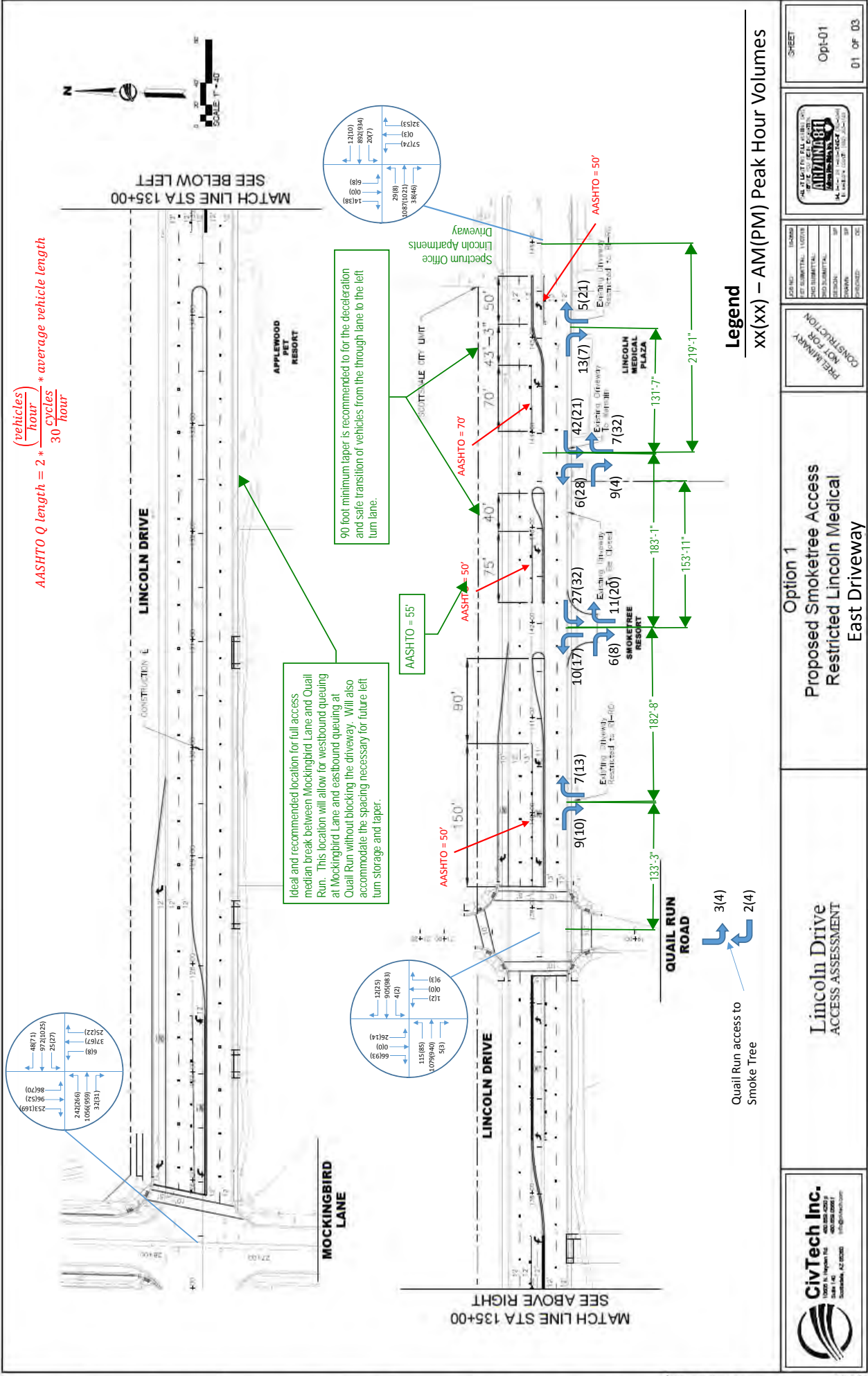
Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Medical, dental or health office buildings and clinics	50%	583	583	1,166	78%	64	18	82	28%	32	81	113	
Totals		583	583	1,166		64	18	82		32	81	113	

APPENDIX 3

Kimley-Horn Comments on
CivTech Access Assessment Option 1 through 3

$$\text{AASHTO } Q \text{ length} = 2 * \frac{\left(\frac{\text{vehicles}}{\text{hour}}\right)}{30 \text{ cycles}} * \text{average vehicle length}$$



Lincoln Drive
ACCESS ASSESSMENT

Option 1
Proposed Smoketree Access
Restricted Lincoln Medical
East Driveway

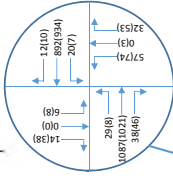
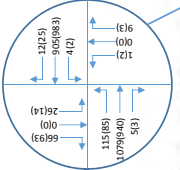
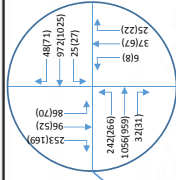
PRELIMINARY
NOT FOR
CONSTRUCTION

DATE:	10/20/2020
BY:	ARIZONA
FOR:	ARIZONA
PROJECT:	ARIZONA
LOCATION:	ARIZONA
SCALE:	ARIZONA
DATE:	10/20/2020
BY:	ARIZONA
FOR:	ARIZONA
PROJECT:	ARIZONA
LOCATION:	ARIZONA
SCALE:	ARIZONA



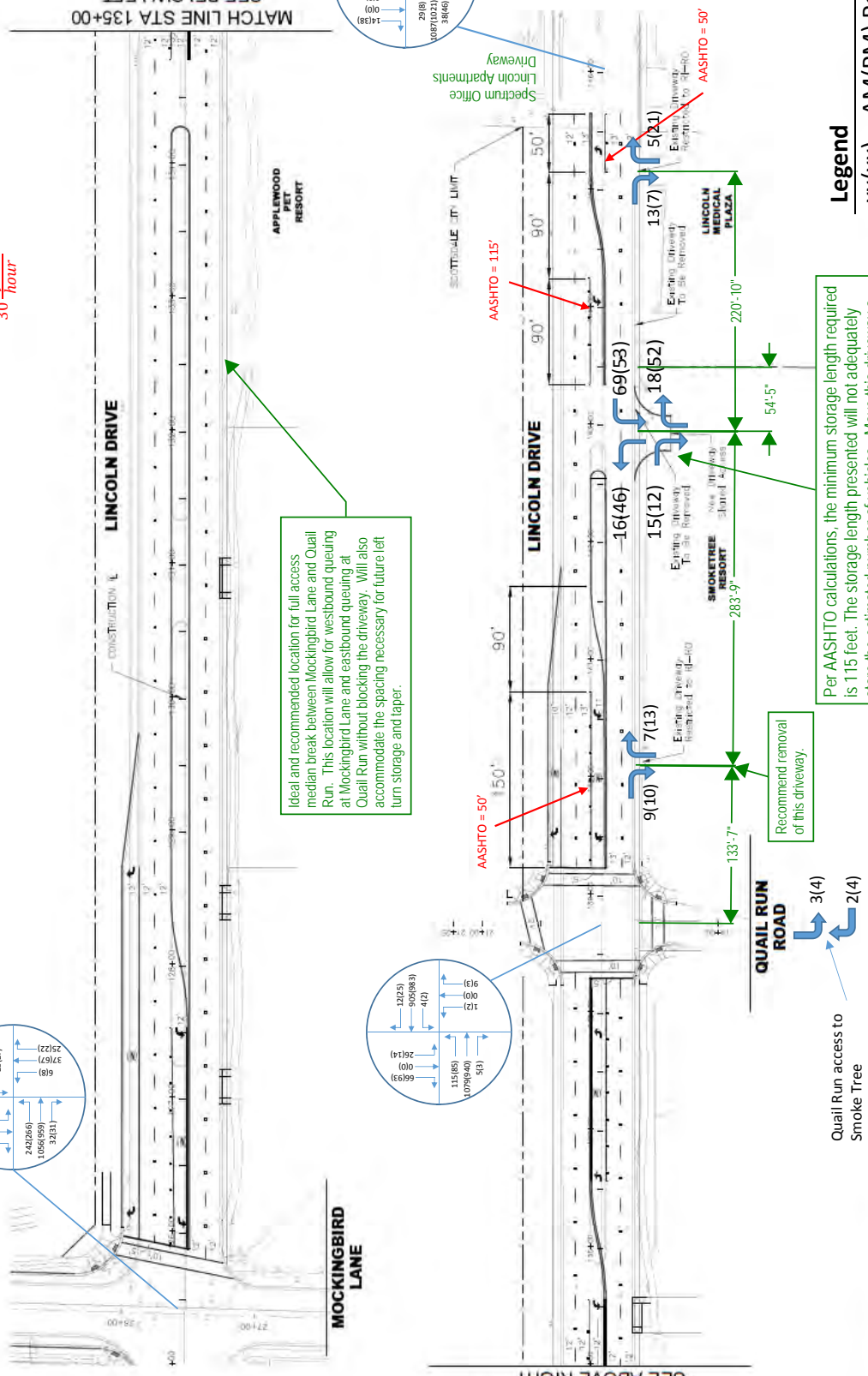
Opt-01
01 OF 03

$$AASHTO\ Q\ length = 2 * \frac{\left(\frac{vehicles}{hour}\right)}{30\ cycles\ hour} * average\ vehicle\ length$$



MATCH LINE STA 135+00
SEE BELOW LEFT

MATCH LINE STA 135+00
SEE ABOVE RIGHT



Ideal and recommended location for full access median break between Mockingbird Lane and Quail Run. This location will allow for westbound queuing at Mockingbird Lane and eastbound queuing at Quail Run without blocking the driveway. Will also accommodate the spacing necessary for future left turn storage and taper.

Recommend removal of this driveway.

Per AASHTO calculations, the minimum storage length required is 115 feet. The storage length presented will not adequately store the estimated number of vehicles. Move this driveway a min. 25 feet west to achieve the minimum storage length.

Legend

xx(xx) – AM(PM) Peak Hour Volumes

Option 2
Shared Access

Lincoln Drive
ACCESS ASSESSMENT

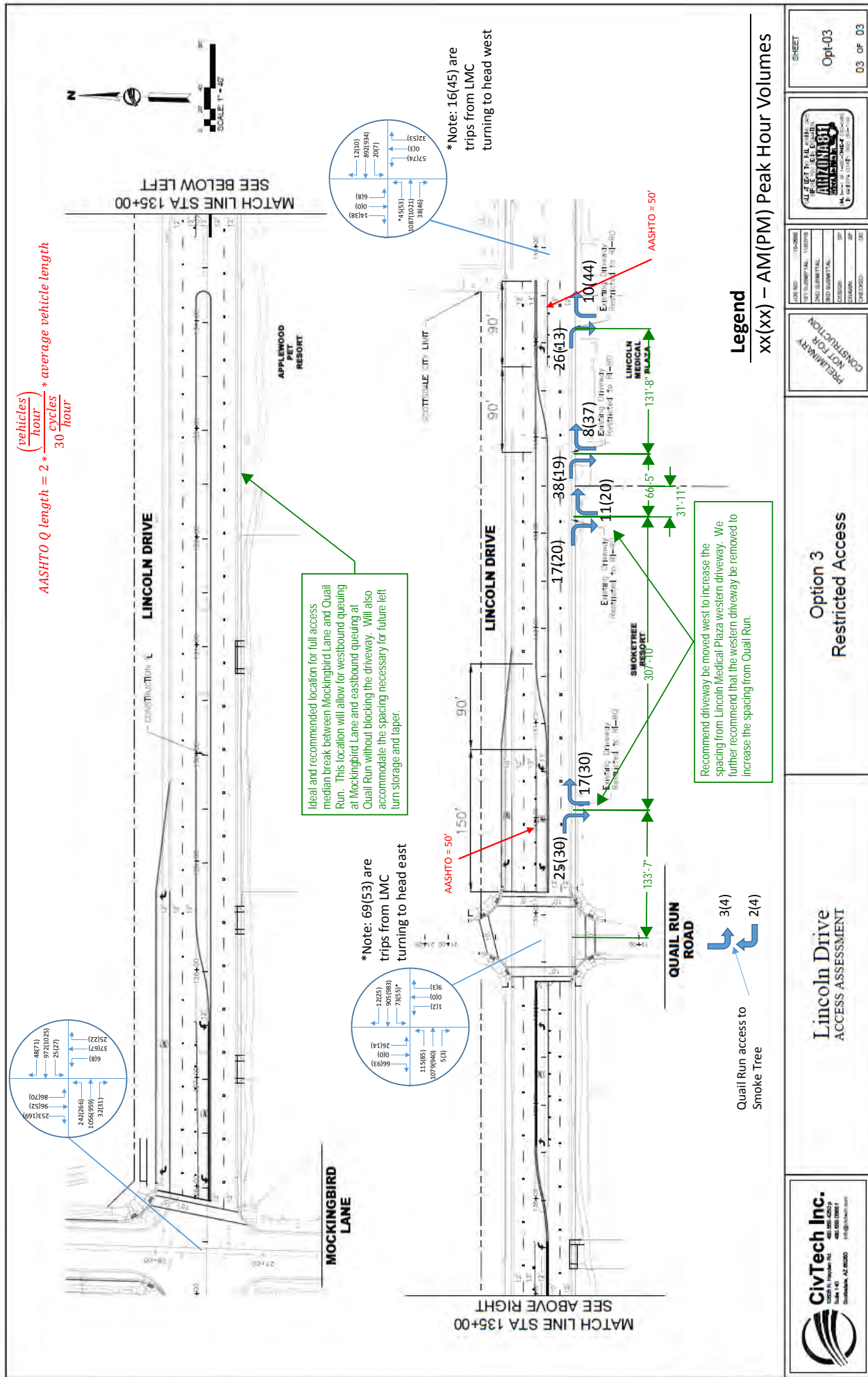


PRELIMINARY
NOT FOR
CONSTRUCTION

DATE:	10/20/2019
BY:	10/20/2019
APP:	10/20/2019
DESIGN:	10/20/2019
CHECK:	10/20/2019
DATE:	10/20/2019



SHEET
Opt-02
02 OF 03



ORDINANCE NUMBER 2019-02

AN ORDINANCE OF THE TOWN OF PARADISE VALLEY, ARIZONA, APPROVING A MAJOR AMENDMENT TO THE SPECIAL USE PERMIT FOR PROPERTY ZONED SUP DISTRICT (RESORT) KNOWN AS SMOKE TREE RESORT LOCATED AT 7101 EAST LINCOLN DRIVE, PROVIDING FOR REDEVELOPMENT WITH DEMOLITION OF ALL EXISTING STRUCTURES AND CONSTRUCTION OF A NEW RESORT HOTEL WITH *[insert number here]* HOTEL KEYS WITH RESORT RELATED RESTAURANT, RETAIL, MEETING SPACE, AND SPA, *[insert number here]* RESORT RELATED RESIDENCES, AND SITE IMPROVEMENTS INCLUDING SURFACE PARKING AND UNDERGROUND PARKING, LANDSCAPING, LIGHTING, AND IMPROVEMENTS TO SITE INFRASTRUCTURE; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, the Town of Paradise Valley (the “Town”) Planning Commission held a public hearing on *[insert date here]*, in the manner prescribed by law, for the purpose of considering an amendment to the Special Use Permit for The Smoke Tree Resort, and recommended *[insert Planning Commission’s Recommendation here]* to the Town Council; and

WHEREAS, the Town of Paradise Valley Council (“Town Council”) held a public hearing on *[insert date here]*, in the manner prescribed by law, to hear and to take action on the amendment to the Special Use Permit for The Smoke Tree Resort, as recommended by the Planning Commission; and

WHEREAS, the Town Council finds that the requirements of Section 2-5-2.F, Citizen Review Process, including holding a Citizen Review Session on *[insert date here]*, to provide a reasonable opportunity for the applicant, adjacent landowners, and other potentially affected citizens to discuss issues or concerns they may have with the application has been met; and

WHEREAS, this amendment to the Special Use Permit for The Smoke Tree Resort is consistent with the property’s designation as “Resort” in the Town’s General Plan Land Use Map; and

WHEREAS, upon the effective date of this Ordinance, the zoning district of “Special Use Permit – Resort” shall now be shown on the Town’s Zoning Map along with a reference to the new major amendment special use permit reference number on the Town’s official Zoning Map of “SUP 18-05”; and

Date: 01/11/2019

WHEREAS, in accordance with Article II, Section 1 and 2, Constitution of Arizona, the Town Council has considered the individual property rights and personal liabilities of the residents of the Town before adopting Ordinance #2019-02 (the “Ordinance”).

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND TOWN COUNCIL OF THE TOWN OF PARADISE VALLEY, ARIZONA THAT:

SECTION I. In General

1. The Special Use Permit zoning for Smoke Tree Resort allows for resort uses on the approximate 5.3 gross acres of land located at 7101 East Lincoln Drive in the Town of Paradise Valley, Arizona, more particularly described on Exhibit “A,” attached hereto (the “Property”).
2. This Major Amendment to the Special Use Permit (SUP 18-05) for Smoke Tree Resort hereby rescinds all prior Special Use Permits for the Property and creates a new Special Use permit to allow for redevelopment with demolition of all existing structures and construction of a new resort hotel with [insert number here] hotel keys with resort related restaurant, retail, meeting space, and spa, [insert number here] resort related residences, and site improvements including surface parking and underground parking, landscaping, lighting, and improvements to site infrastructure, subject to the Conditions set forth in Section II of this Ordinance.
3. To provide historical reference of what is being rescinded a description of prior amendments to the Special Use Permit for the Property is summarized in Exhibit “B,” attached hereto.
4. All prior Special Use Permit approvals on this Property are rescinded and no longer in full force and effect upon the Effective Date of this Ordinance.
5. This Major Amendment to the Special Use Permit for this Property is in accordance with Section 1102.7 of the Zoning Ordinance.

SECTION II. Conditions. Pursuant to Article XI of the Zoning Ordinance of the Town of Paradise Valley, Arizona (the “Town”), the Town hereby grants to Gentree L.L.C., an Arizona Limited Liability Company, its successors and assigns, Special Use Permit 18-05 by its approval of this Ordinance (the “SUP 18-05”) governing the use of the Property. All capitalized terms contained herein shall have the meanings ascribed to them parenthetically or otherwise in this Ordinance.

This amendment is one of many amendments to the first Special Use Permit on the Property approved by the Town in 1969. This Special Use Permit is intended to supersede and replace all prior Special Use Permits for this Property and rescinds all prior Special Use Permits for the Property. This Special Use Permit is being granted by the Town to permit the continued use and operation of the Property for resort use subject to and in accordance with the stipulations and other provisions set forth herein as shown in Exhibit “C,” attached hereto.

SECTION III. Severability. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by a court of competent

Date: 01/11/2019

jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION IV. Effective Date. This Ordinance shall become effective at the time and in the manner prescribed by law.

PASSED AND ADOPTED by the Mayor and Town Council of the Town of Paradise Valley, Arizona, this _____ day of _____, 2019.

Jerry Bien-Willner, Mayor

SIGNED AND ATTESTED THIS ____ DAY OF _____ 2019.

ATTEST:

APPROVED AS TO FORM:

Duncan Miller, Town Clerk

Andrew Miller, Town Attorney

Date: 01/11/2019

EXHIBIT "A"
TO
ORDINANCE NUMBER 2019-02

Legal Description

TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT

PARCEL NO. 1

The North half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

PARCEL NO. 2

The North half of the South Half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

[NOTE- Legal description to be updated with correct right-of-way dedication prior to recordation of this Ordinance]

**EXHIBIT “B”
TO
ORDINANCE NUMBER 2019-02**

Description of Prior SUP Amendments that are rescinded upon the Effective Date

**TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT**

The Town annexed the property in 1961. The Town approved the original Special Use Permit on March 13, 1969. The list below summarizes the known amendments to the original Special Use Permit, all of which are rescinded upon the Effective Date of this Ordinance.

June 2008	Amendment to the Special Use Permit to renovate the restaurant for a new tenant. Various improvements to the restaurant building along Lincoln Drive were made including the screening of roof mounted mechanical equipment.
May 1971	Amendment to the Special Use Permit to add more kitchen space. The Town approved modification of Cottage 1 to a non-public use for more kitchen space.
March 1969	Establishment of the property for resort use by Special Use Permit, subject to 2 conditions including payment for condemnation of right-of-way on Lincoln Drive and that new leases of commercial space be approved by Town Council.

**EXHIBIT “C”
TO
ORDINANCE NUMBER 2019-02**

SUP CONDITIONS

**TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT**

I. PROJECT DESCRIPTION

Redevelopment of the Property, that includes a complete demolition of all existing structures and construction of a new resort hotel with [insert number here] hotel keys with resort related restaurant, retail, meeting space, and spa, [insert number here] resort related residences, and site improvements including surface parking and underground parking, landscaping, lighting, and improvements to site infrastructure

II. DEFINITIONS

“2019 Development Agreement” means a development agreement between the Town and the Owner entered into pursuant to the terms of A.R.S. § 9-500.05, which is to be executed contemporaneously with adoption of this SUP.

“Affiliate” as applied to any person, means any person directly or indirectly controlling, controlled by, or under common control with, that person or spouse or children of such person, if such person is a natural person. For the purposes of this definition, (i) “control” (including with correlative meaning, the terms “controlling,” “controlled by” and “under common control”), as applied to any person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of that person, whether through the beneficial ownership of voting securities, by contract or otherwise, and (ii) “person” means and includes natural persons, corporations, limited partnerships, general partnerships, joint stock companies, joint ventures, associations, limited liability companies, limited liability partnerships, limited liability limited partnerships, trusts, land trusts, business trusts or other organizations, whether or not legal entities.

“Approval Date” means the date on which both of the following have occurred (i) Ordinance No. 2019-02 is approved (i.e., voted on) by the Town Council of the Town of Paradise Valley, Arizona and (ii) signed by the Mayor.

“Approved Plans” means those certain plans and other documents certified by the Town Clerk that are listed in Schedule “IV,” attached hereto and incorporated herein by this reference.

“Branded Residence” means a Resort Residential unit which has been designed and finished with standards adopted by an organization which provides services for the branding of residences. Such Branded Residences are limited to [need to identify acceptable brands or brand standards—this may also be tied into or described in the

1 **development agreement**], or such other brands as the Town Manager approves, but
2 provided that the Town Manager has first distributed to the Town Council and staff the
3 proposed new brand at least two weeks prior to the Town Manager's decision. The brand
4 of the Branded Residences shall be the same as the brand of the Principal Resort Hotel.
5 While the specifications for Branded Residences may be different from Hotel Keys which
6 comprise the Minimum Hotel Keys, they should be compatible in design with the Hotel
7 Keys. Branded Residences may be sold and resold and or rented and re-rented through
8 the Resort Rental Management Program or through a program adopted for their
9 management. A Branded Residence may not be uniquely customized and furnished by its
10 owner but instead shall have furnishing, fixtures, and equipment the same as other similar
11 sized Hotel Keys, or as befitting a luxury or upscaled Hotel Key.

12
13 **"CC&Rs"** means one or more sets of conditions, covenants and restrictions applicable to
14 discrete portions of the Property that, among other things, implement provisions of these
15 Stipulations.

16
17 **"Effective Date"** means the date on which all of the following have occurred: this SUP
18 and the 2019 Development Agreement have been adopted and approved by the Town
19 Council, executed by duly authorized representatives of the Town and Owner, and recorded
20 (if applicable) in the office of the Recorder of Maricopa County, Arizona, and any
21 applicable referendum period has expired without referral, or any proposed referendum has
22 been declared invalid in a final non-appealable judgment by a court of competent
23 jurisdiction, or this SUP (or the 2019 Development Agreement, as applicable) has been
24 approved by the voters at a referendum election conducted in accordance with Applicable
25 Laws

26 **"Floor Area"** means the area under roof added to the floor area of any second and third
27 story; provided, however that "Floor Area" also includes the horizontal solid portion(s) of
28 trellises and/or open weave roofs, and all the horizontal solid portion of area under roof in
29 accessory buildings such as gazebos, ramadas and other accessory buildings. Floor Area
30 excludes the floor area of any fully subterranean portions of a building, courtyard areas,
31 and the portion of any roof overhangs which are not over useable exterior spaces. In the
32 case of the Principal Resort Hotel, and notwithstanding the preceding sentence, Floor
33 Area includes subterranean portions of buildings that are part of the Principal Resort
34 Hotel and contain areas that are not generally intended to be accessed by the general
35 public and hotel guests, such as, but not limited to kitchens, employee locker rooms,
36 cafeterias and/or break rooms, staff offices, security offices, administrative offices,
37 laundry facilities, storage, maintenance facilities, utility rooms, and other facilities that
38 are typically described as "back of house" facilities.

39
40 **"Hotel Key"** means a Resort Unit, served by a single key, which is part of a Resort Hotel,
41 designed and constructed with all furnishings, fixtures and equipment necessary to
42 operate as a single unit for transient occupancy use as a part of such Resort Hotel. Each
43 Hotel Key shall have at least one full bath and a direct lockable connection from the
44 exterior or a corridor. A Hotel Key may be located in a primary Resort Hotel structure
45 (in a building that includes guest registration, reception and other allowed uses) or in any
46 number of other buildings integrated or associated with such Resort Hotel through
47 landscaping or otherwise, including in a building or buildings with Resort Residential. A

Hotel Key may be interconnected with another Hotel Key unit through a lockable connection, so that more than one Hotel Key may be rented as a single unit.

“Minimum Hotel Keys” means the [insert number here] Hotel Keys included as part of the Principal Resort Hotel and owned by a single legal Owner which also owns the Minimum Resort Hotel Improvements.

“Minimum Resort Hotel Improvements” means the minimum improvements included in the initial design and construction of the Principal Resort Hotel and including not less than, all of the following elements:

(a) The Minimum Hotel Keys.

(b) One (1) full service restaurant with seating capacity for not fewer than [insert number here] (XXX) persons which, together with other restaurants and food service areas, are collectively capable of serving three (3) daily meals and providing room service to the Minimum Hotel Keys.

(c) At least one (1) swimming pool along with facilities (which may be remote from the pool) intended to provide food and beverage service to Resort Hotel guests at the pool.

(d) At least one (1) heated whirlpool (such as a “Jacuzzi”).

(e) At least one (1) fitness area to accommodate professional-grade exercise machines and related equipment.

(f) An area or areas for providing spa services such as massage services.

(g) A dedicated reception area to accommodate guest check-in, concierge and cashier.

(h) A dedicated area to accommodate vehicle or passenger drop off (such as valet parking services) for Resort Hotel guests.

“Open Space Criteria” means the following criteria related to the height and setback of buildings: No building shall penetrate an imaginary plane beginning at sixteen (16) feet above Original Natural Grade and twenty (20) feet from the exterior property lines of the Property, which plane slopes upward at a ratio of one (1) foot vertically for each five (5) feet horizontally measured perpendicular to the nearest exterior property line of the Property. This limitation shall apply until the maximum allowable height is reached. See illustration Sheet [insert sheet number here] of Approved Plans.

“Original Natural Grade” is defined and set forth on Sheet [insert sheet number here] of the Approved Plans.

“Owner” means Gentree L.L.C., an Arizona Limited Liability Company, its successors and assigns. An Owner may be an individual, corporation, partnership, limited liability

1 company, trust, land trust, business trust or other organization, or similar entity, which in
2 turn may be owned by individuals, shareholders, partners, members or benefitted parties
3 under trust agreements, all of which may take any legal form, and may allocate interests
4 in profits, loss, control or use.

5
6 **“Party” or “Parties”** means the Town and Owner, or their successors or assigns.

7 **“Principal Resort Hotel”** means the Resort Hotel designated as such and which includes
8 the Minimum Resort Hotel Improvements and not less than XXXX (XXXX) square feet
9 of Floor Area, provided, however, in the event the Principal Resort Hotel contains not
10 less than XX (XX) Hotel Keys which are owned by the Principal Resort Hotel Owner the
11 minimum Floor Area shall be XXX (XXX). The Principal Resort Hotel shall be owned
12 by a single legal Owner.

13
14 **“Property”** means the real property described in Exhibit “A” to Ordinance #2019-02.

15
16 **“Resort”** means the entire Property and all facilities and other improvements existing,
17 developed or redeveloped and used or useful on the Property in general conformance
18 with the Approved Plans and/or these Stipulations.

19
20 **“Resort Ancillary Facilities and Uses”** means all facilities and uses related or incidental
21 to the operation of a resort or resort hotel, including specifically, but without limitation:
22 restaurants, bars and lounges; spas and salons; fitness facilities; barbershops; indoor and
23 outdoor meeting, convention, display, exhibit, wedding and social function facilities; sale
24 of food and alcohol (for on or off site consumption); catering facilities; outdoor cooking
25 facilities; outdoor dining facilities; gourmet food shops (offering any combination of
26 cooked, frozen, fresh, prepared or pre-packaged foods, beer, wines, liquors, gifts, fresh
27 fruits and vegetables, groceries, sundries, cosmetics, over the counter pharmaceuticals,
28 house wares, and related kitchen, indoor and/or outdoor dining items); deli, coffee, tea,
29 ice cream, yogurt and similar shops or sales; snack bars; central plant, maintenance shop,
30 engineering facilities, housekeeping facilities, laundry, storage and support facilities;
31 valet and other parking facilities, parking decks, garages and areas; gift and sundries
32 shops; flower sales; art and art galleries; jewelry and jewelry shops; fashion eyewear,
33 footwear and apparel sales; sale of hotel items such as furniture, bedding, art, toiletries;
34 other resort retail; marketing, sale and resale of Resort Residential (including through a
35 real estate sales office) and other resort sales and marketing; tour and other off-site
36 activity offices; administrative, support and other resort offices including temporary
37 offices and facilities for construction, sales, marketing, and design; indoor and outdoor
38 entertainment facilities; ramadas; pools; cabanas; tents; amenities, recreational facilities
39 and fitness facilities. Any such use or facility may be within any Resort Hotel or separate
40 building(s) including individually or grouped in one or more buildings or facilities.

41
42 **“Resort Hotel Manager”** means the Owner of any Resort Hotel, including any Affiliate
43 thereof or a third party hotel management company which manages any Resort Hotel. A
44 Resort Hotel Manager may also manage any other portions of the Resort, including but
45 not limited to the Resort Residential and Hotel Keys. If any Resort Hotel Manager is not
46 the Owner of the Resort Hotel (or an affiliate of such Owner), it shall initially be a hotel
47 management company which has not less than five (5) years’ experience managing full

1 service hotels or resorts or which currently manages not fewer than five (5) full service
2 hotels or resorts.

3
4 **“Resort Hotel Owner”** means the single legal owner of the Resort Hotel.

5
6 **“Resort Rental Management Program”** means a rental management program offered
7 and managed by the Owner of any Resort Hotel (or Affiliate thereof) or a Resort Hotel
8 Manager (or Affiliate thereof) which provides rental management service for all Hotel
9 Keys for such Resort Hotel and other Resort Units where an Owner elects to include such
10 residences in such Resort Rental Management Program.

11
12 **“Resort Residential”** means the Resort Units, exclusive of any Hotel Keys.

13
14 **“Resort Unit”** means all Hotel Keys and all other residential units (including Resort
15 Residential), which may include a room or group of rooms which can be locked and
16 served by a single key (or multiple keys). A Resort Unit may be served by one or more
17 bathrooms, and may be with or without cooking facilities or kitchens. Except for the
18 requirement that the Minimum Hotel Keys be owned by the Principal Resort Hotel
19 Owner, a Resort Unit may, subject to these Stipulations, be owned by either an Owner or
20 a Third Party and may be sold, resold, or may be rented and re-rented from time to time,
21 including for transient occupancy; and provided further that, except for the requirement
22 that the Minimum Hotel Keys be owned by the Principal Resort Hotel Owner and
23 managed by the Resort Hotel Manager thereof, a Resort Unit may only, subject to these
24 Stipulations, be used for any type of residential occupancy (including transient
25 occupancy) and may be created as separate legal units through one or more plats or
26 horizontal property regimes through one or more maps.

27
28 **“Special Use Permit”** or “SUP-18-05” or “SUP” shall mean this special use permit as
29 approved by Town Ordinance #2019-02.

30
31 **“Special Use Permit Guidelines”** means special use permit guidelines adopted by the
32 Town and in effect as of the Approval Date.

33
34 **“Third Party”** means, with respect to a good faith transaction, any individual or entity
35 other than a Party, an Affiliate of any Party, a principal of a Party or an Affiliate of a
36 principal of any Party, and a spouse, parent, child of a principal of a Party or of an Affiliate
37 of any Party.

38 **“Town”** means the Town of Paradise Valley.

39
40 **“Town Manager”** means the Town Manager or his designee.

41
42 **“Visually Significant Corridors Master Plan”** means the Master Plan approved by the
43 Town Council dated October, 2018.

44
45 **“Zoning Ordinance”** means the Town’s zoning ordinance in effect as of the Approval
46 Date, attached hereto as Schedule “2.”

III. STIPULATIONS

A. GENERAL

1. In the event of a conflict between these Stipulations and the Approved Plans, these Stipulations shall govern.
2. This Special Use Permit, as it may be amended or superseded from time to time, shall run with the land (i.e., the Property and each part thereof) and any person having or subsequently acquiring title to the Property shall be subject to this Special Use Permit. Once an Owner (including without limitation any owner of a Resort Unit, including each Resort Residential unit, Resort Hotel, or any other Owner) no longer owns a portion of the Property, such prior Owner shall no longer be subject to this Special Use Permit with respect to such portion of the Property no longer owned, but the then current Owner shall be subject to this Special Use Permit.
3. If any portion of the Resort is used in violation of the terms of this Special Use Permit, the Town may, after fair notice, a hearing and a reasonable opportunity to correct, impose a monetary sanction on the then Owner of such portion, in an amount not to exceed the maximum amount allowed for violations of the Town Zoning Ordinance for each day such violation exists, in addition to all other orders or sanctions permitted by applicable laws. No such remedy shall be applied to any other Owner or portion of the Resort that is not in violation of this Special Use Permit.
4. The use of the Property shall at all times conform to all applicable State laws and Town ordinances, except that if there is a conflict between this Special Use Permit and any Town ordinance or other Town requirement, the terms of **Stipulation 10** shall be applied to resolve any such conflict.
5. The redevelopment of, and construction on, the Property shall, subject to these Stipulations, substantially conform to the intent of the Approved Plans. Each of the Approved Plans is hereby incorporated into this Special Use Permit and made an integral part hereof.
6. A mylar and electronic version of the Approved Plans shall be submitted to the Town within sixty (60) days after the Approval Date.
7. Nothing in this Special Use Permit or otherwise shall require the operation of the Resort under the name "Smoke Tree," "Smoke Tree Resort" or any similar or other name. No further consent shall be required to enable the Owner to transfer all or any portion of the Resort, name or rename the Resort, or select or reselect brands or management companies of the Resort, except as may be required by the **2019 Development Agreement**; and further provided that the

Property shall be subject to this SUP notwithstanding any such transfer. None of the Resort Units or any part of the Property shall, at any time, be operated as a Time-Share Project, as such term is currently defined by the Town Zoning Ordinance or state law.

8. If any section, subsection, sentence, clause or phrase of this Special Use Permit is for any reason held invalid or unenforceable in a final, non-appealable judgment of any court of competent jurisdiction, such decision shall not affect the validity or enforceability of the remaining portions of this Special Use Permit.

9. The Town Manager's approval or determination is provided for in several instances in these Stipulations. The Town Manager shall base his approval on standards and criteria set forth in this SUP, the 2019 Development Agreement, the Town Code, and the Zoning Ordinance, as reasonably applicable, with the intent to implement the viable development of the Resort as provided in this SUP and the 2019 Development Agreement. Recognizing that the final design and building permit process for which any particular approval of the Town Manager is sought involves multiple stages, including conceptual, schematic, design development and construction documents, an Owner may seek the approval of the Town Manager in writing at one or more stages of such design. Notwithstanding the foregoing, no construction may occur with respect to any particular element or structure until necessary permits for that element or structure are issued. An Owner may rely upon an approval in proceeding from one stage of design to the next. Although the Parties intend that this Special Use Permit, 2019 Development Agreement, Zoning Ordinance, and the Town Code state a consistent relationship between them, the Parties agree that in the event of a conflict between these documents that the order of priority shall be the (1) Special Use Permit, (2) 2019 Development Agreement, (3) Zoning Ordinance and (4) Town Code and agree that the higher priority document shall control.

B. CONSTRUCTION AND DEVELOPMENT STANDARDS

11. A schedule for demolition by Owner of the vertical portions of certain existing improvements shall be as provided in the 2019 Development Agreement.

12. All permanent public utilities within the Resort shall be underground (excluding certain equipment that is typically installed above ground which shall be appropriately screened, such as transformers, meters, and other equipment) and located within appropriate easements. The Town Manager may, from time to time, require the granting of such easements to utility companies as deemed reasonably appropriate by entities providing utilities benefitting the Resort that are not covered by easements shown on the final plat or set forth in the recorded CC&Rs

1 for the Resort, Resort Hotel, Resort Residential. Sewage shall be
2 disposed of by connection with an upsized sewer connection to the
3 existing Town of Paradise Valley. All new water and sewage facilities
4 shall be constructed in accordance with plans approved by the Town
5 Manager.

6 13. It is anticipated that construction on, and redevelopment of, the Property
7 will be conducted in phases. No construction permit shall be issued for
8 any phase of construction on the Property until appropriate engineering
9 or architectural plans are submitted to the Town and the issuance of such
10 construction permit for that particular activity is approved by the Town
11 Manager. Submitted plans shall be required to meet the building code
12 most recently adopted by the Town.

13 14. During any period of demolition and initial new construction of one or
14 more phases within the Resort, temporary curb cuts (driveways) shall
15 be allowed on Lincoln Drive and Quail Run Road to allow construction
16 access to the Property; such temporary curb cuts and their location shall
17 be approved by the Town Manager and be coordinated with the Town's
18 Capital Improvement Project known as the Lincoln Drive Roadway
19 Improvements. Temporary construction driveway locations are subject
20 to compliance with Storm Water Pollution Prevention Plan Best
21 Management Practices and the review and approval by the Town
22 Manager.

23 15. All new construction shall satisfy all fire department requirements for
24 each component of work (which may include temporary fire protection
25 facilities) prior to the issuance of any building permit for such work.

26 16. Prior to the issuance of a certificate of occupancy for any individual
27 structure, adequate fire, emergency and other vehicle access and
28 adequate fire service shall be provided for such structure and the
29 particular phase of development in which such structure is located, as
30 determined by the Town Manager.

31 17. Owner(s) shall submit a construction phasing schedule prior to the
32 issuance of any building permit for a particular new structure to ensure
33 compliance with all Town ordinances and in order to minimize
34 construction nuisances. This schedule may encompass the building of
35 multiple new structures within a particular phase, and may be modified

or amended from time to time. This construction/phasing schedule shall provide information on the following:

- Dust and noise control measures
- Vehicle /equipment storage/parking
- Construction days/hours
- The general location of the following elements, which may be relocated from time to time:
 - Location(s) of a staging area(s) for construction supplies/equipment
 - Location of any construction trailer(s) and/or sanitary facility(s)
 - Location of on-site construction materials/debris storage
 - Location of fire lanes during the construction period
- The approximate beginning and ending for construction of structures within a phase

18. During the period of demolition or construction of new improvements, signs shall be posted on the Property (or at the entrance to a particular phase) indicating the name and phone number of a person the public may contact with construction-related concerns. Sign details such as the sign size, height and location shall be reviewed and approved by the Town Manager.

19. As a pre-requisite to obtaining a building permit for a particular phase of development, the Owner must demonstrate the existence of adequate perimeter screening for such phase prior to construction. For purposes of this requirement, adequate screening shall consist of an existing oleander hedge or a six (6) foot chain link fence with green screening.

20. During demolition, site grading, and the initial construction of other on or offsite improvements, Owner(s) shall coordinate the sweeping of Lincoln Drive and Quail Run Road adjacent to the Property to remove construction-related dirt and debris, as reasonably required by the Town Manager.

21. The precise location and/or required screening of any backflow preventer or other similar equipment to the extent same would be visible from Lincoln Drive or Quail Run Road shall be approved by the Town Manager.

22. One permanent curb cut on Lincoln Drive east of Quail Run Road is permitted at a location as determined by the Town Manager, and requires a deceleration lane, which shall be installed by Owner in conjunction with construction on the adjacent property. The approximate locations of permanent curb cuts are shown on Sheet 13 of

1 the Approved Plans. The final locations shall be based upon the Town
2 Engineer's review and approval of the Final Traffic Impact Analysis.

3 23. The Owner shall arrange for construction phasing within any particular
4 phase in the following sequence:

- 5 a. Commence native plant salvage (for those plant materials
6 required to be salvaged pursuant to Town Code §5-8-4 and
7 deemed by a Native Plant Preservation Plan to be certain to
8 survive and worthy of salvage), dust and erosion control
9 measures, job-site mobilization and set-up, and the like.
- 10 b. Upon completion of the salvage, commence horizontal or civil
11 improvements and site work within such phase, including
12 appropriate erosion and dust control.
- 13 c. Upon or prior to substantial completion of the civil
14 improvements and site work as reasonably necessary to
15 commence perimeter walls and landscaping for such phase,
16 including areas immediately adjoining such phase, the
17 perimeter landscape plan(s) shall be submitted, reviewed and
18 approved by the Town Manager. Installation of perimeter
19 landscaping shall not be required to commence until adjacent
20 site or structure improvements are sufficiently complete such
21 that additional work will not harm the proposed landscape
22 elements. Perimeter landscaping is landscaping between
23 adjacent edge of roadway and any proposed perimeter structure
24 or parking area on the Property.
- 25 d. Any required deceleration lanes on Lincoln Drive or curb cuts
26 on Lincoln Drive, may be scheduled independently of the
27 foregoing, in a manner consistent with the anticipated
28 completion of the Town's roadway improvements to Lincoln
29 Drive approved by the Town Manager.
- 30 e. The Owner shall, at all times during construction, provide
31 Quail Run access of at least fourteen (14) feet in width from
32 Lincoln Drive to the southern Property line.

33 24. Building architecture, materials, and colors shall be as shown on the
34 Approved Plans. Any future modifications to exterior materials and
35 colors shall be approved by the Town Manager, or designee. Changes

1 to the architectural style shall only be made by an approved SUP
2 amendment.

3 25. The color of the roofs of the buildings shall have a Light Reflective
4 Value at or less than fifty percent (50%).

5 26. All mechanical equipment shall be screened so that it is not visible from
6 adjoining properties not a part of this Special Use Permit and from
7 adjoining public rights-of-way. Mechanical equipment and mechanical
8 equipment screens shall be included in the total height of any structure
9 to which they are attached. If applicable, mechanical screening may
10 provide the necessary noise attenuation for any mechanical equipment.
11 All mechanical equipment, along with any screens used for attenuation
12 of noise, shall comply with the allowable noise levels defined in the
13 Town's noise ordinance. Noise measurement shall include any installed
14 screening or other attenuation devices.

15 27. Screening of backflow preventers, electric transformers, generators, or
16 other similar equipment (all herein further referred to as "Visually
17 Unappealing Improvements") visible from off the Property shall be
18 located so as to minimize its visual impact and screened from public
19 view, all of which must first be approved by the Town Manager prior to
20 approval of construction of any such Visually Unappealing
21 Improvements.

22 **C. RESORT HOTEL, RESORT RESIDENTIAL, AND ASSOCIATED**
23 **USES**

24 28. The Property may be developed to include any Resort Hotel, Resort
25 Residential, and any Resort Ancillary Facilities and Uses. The Property
26 may be developed and redeveloped in one or more phases from time to
27 time in multiple buildings or structures of various height and character,
28 subject to these stipulations. Facilities or structures initially developed
29 for a particular use may be converted or reused from time to time for
30 other allowed uses provided that all other requirements of these
31 stipulations are still met. The Property may be subdivided with one or
32 more maps from time to time. Dwelling units are allowed on the
33 Property as horizontal property regimes as reflected in one or more
34 maps. The maximum Floor Area of Resort Residential development
35 shall be _____ thousand () square feet (the foregoing ()
36 square feet is tabulated based on the actual Floor Area of the Resort
37 Residential units and not the Floor Area of any other allowed elements
38 of the Resort, including, but not limited to, any Resort Hotel, Hotel
39 Keys, or Resort Ancillary Facilities and Uses. Not later than one (1)
40 year after the Effective Date, Owner shall submit to the Town a schedule
41 of development stating when vertical construction of the Principal
42 Resort Hotel will commence. The schedule of development in the
43 preceding sentence may be extended if Owner, in its sole discretion,

gives written notice to the Town stating the length of the extension. Any single extension shall not exceed three (3) months. Owner may give multiple notices of extension.

29. The Principal Resort Hotel may be constructed in one (1) or more buildings on the Property provided all such buildings must have an integrated theme and share design cohesiveness, including architecture, signage, pedestrian and service vehicle connections to the primary Resort Hotel structure (the structure which includes guest reception and registration). Facilities located on the Property which also provide function or service for the Principal Resort Hotel such as fitness, spa, restaurants, locker rooms, meeting rooms, offices, and storage shall be included in the minimum Floor Area requirement.

30. The Resort Hotel Owner shall establish a single, unified rental management program and process for all Hotel Keys which are a part of such Resort Hotel.

31. If walls and fences are constructed along Lincoln Drive and Quail Run Road, such walls and fences shall be in accordance with Article XXIV of the Town Zoning Ordinance and shall be measured from property lines; provided that a wall or fence that does not comply with Article XXIV may be approved by the Town Manager. Said wall shall also meet the fifty (50) foot corner vision criteria in Town Code Section 8-1-13.

32. The maximum hours of public operation of the following specific uses/facilities shall be as set forth below:

- a. Vendor deliveries (generally): 7 am - 7 pm. US Mail, private courier services such as UPS or FedEx, and emergency deliveries: at any time.
- b. Pools, spas and jacuzzis (except pools, spas and jacuzzis located indoors or in enclosed private yards including yards such as presidential suites or Resort Hotel suites, which may be used 24 hours/day): 6 am - midnight
- c. Restaurants and other food service facilities: 6 am - 2 am
- d. Bars/lounges: 10 am – 3 am
- e. Banquet facilities, receptions, weddings and socials: 6 am – 2 am
- f. Resort retail: 7 am – midnight
- g. Room service: 24 hours/day
- h. Guest reception and guest services: 24 hours/day

- 1 j. Parking facilities: 24 hours/day
- 2 k. Spa & fitness facilities: 24 hours/day (use of such facilities by
- 3 those who are not guests of the Resort, or owners or renters
- 4 within the Resort and their guests shall be limited to 5 am –
- 5 midnight).
- 6 l. Trash pickup: 7 am – 7 pm
- 7 m. Outdoor venues, events, or functions with music and/or
- 8 amplified sound shall comply with the allowable noise levels
- 9 as defined by the Town’s current noise ordinance.
- 10 33. Each owner of any Resort Residential unit may occupy it, permit its
- 11 guest(s) to occupy it, or make it available for rental for transient
- 12 occupancy uses, residential uses or hospitality uses (rental of these units
- 13 are not counted towards the Minimum Hotel Keys requirement, but
- 14 would be considered a rental of a Resort Unit in excess of the Minimum
- 15 Hotel Keys requirement).
- 16 34. Unlicensed support vehicles (that is, golf carts, utility vehicles, etc.)
- 17 may be used to service the Resort but such support vehicles shall not
- 18 park on public streets.
- 19 35. Parking Structure(s) – Any parking provided or required under this
- 20 Special Use Permit may, at the Owner’s choice, be located at-grade,
- 21 below grade or a combination thereof in one or more parking structures
- 22 or in one or more surface parking areas. The Owner shall submit plans
- 23 (which initially may be conceptual or schematic drawing(s)) of any
- 24 proposed parking structures to the Town Manager for determination
- 25 whether they comply with this Stipulation. The following provisions
- 26 shall apply to any above or below grade parking structures and surface
- 27 parking areas:
- 28 a. Parking structures fully (other than ramps leading to or from) below
- 29 grade (under a building or otherwise) are allowed.
- 30 b. Surface parking lots are allowed, subject to the following setback
- 31 requirements:
- 32 i. Lincoln Drive: _____ () feet
- 33 ii. Quail Run Road: _____ () feet
- 34 iii. Any other exterior property boundary: twenty (20) feet;
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42

iv. Any surface parking area shall be appropriately screened by a wall or landscaping to minimize the amount of vehicle headlight trespass off the property.

v. All surface parking lots may include appropriate signs, lighting (provided any lighting shall comply with this SUP) and landscape as provided in this SUP or the Town's Special Use Permit Guidelines as applicable or otherwise approved by the Town Manager.

36. Buses and other vehicles may be used to shuttle guests or employees to or from areas not located on the Resort, and between the Resort and other destinations (e.g., airport, shopping facilities, golf courses, etc.). All parking on any public street by any Resort guest, any Owner or their guests, employees of the Resort, any invitee of any Owner, any occupant of any portion of the Resort or any parking service provider is prohibited. Any agreement which allows any person to use the Resort for any purpose shall contain an acknowledgment that parking on any public street is prohibited.

37. At any time when the parking demand within the Resort is expected to exceed onsite capacity, the Owners of the affected areas shall initiate a parking management plan which may include valet parking or offsite parking arrangements (but not the use of parking on any public street within the Town).

D. HEIGHT AND HEIGHT MEASUREMENT

38. An Original Natural Grade Plan shall be submitted by the Owner's Engineer and reviewed by the Town Engineer. Once the Town Engineer finds the grades established by the Original Natural Grade Plan acceptable, it shall be used to establish maximum height of any new structure built on the Property. The maximum height of the structures will conform to [REDACTED] of the Approved Plans. A height envelope will be established following the contours from the Original Natural Grade to an elevation certain above Mean Sea Level. The following building components are allowed to exceed the maximum height of each structure (or portion thereof) as follows:

- a. Chimney – three (3) feet
- b. Elevator enclosure – three (3) feet
- c. Towers or other architectural features, excluding mechanical equipment or mechanical equipment screens – three (3) feet

39. Mechanical equipment and mechanical equipment screens shall be included in the total height of any structure they are attached to.

E. LANDSCAPING

40. Landscaping on the Property shall be in substantial compliance with the Approved Plans.
41. All landscaping that dies shall be replaced in a reasonable amount of time, be in general compliance with the approved landscape plan of the Approved Plans, and shall use material that is on the Approved Plans, Town's Landscape Guidelines, and/or the Visually Significant Corridors Plan for the Property's character zone.
42. The Approved Plans show parking spaces along Lincoln Drive that could be converted to landscaped area. The width of the landscape buffer along Lincoln Drive may be increased to make this landscaped area more in compliance to the Special Use Permit guideline of fifty feet (50') without an amendment to the Special Use Permit. An updated landscape plan of this area shall be provided to the Town Manager, or designee, for review and approval. A parking study/statement, prepared by a licensed engineer and approved by the Town Engineer, may be required to demonstrate the Property has adequate parking. This provision may also apply should there be a request to convert other parking spaces on the Property to landscaped areas.

F. RIGHT-OF-WAY, PARKING & CIRCULATION

43. [STAFF RECOMMENDATION] To Be Determined
 1. [PLANNING COMMISISON LANGUAGE FOR ADJACNET PROPERTY] The Owner shall deed, by dedication and easement, a total right-of-way width of sixty-five feet (65') to the Town; as measured from the centerline of Lincoln Drive adjoining the Property (the "Right-of-Way").
 - a. The north portion of this Right-of-Way shall be forty-nine feet (49') in width and deeded as a dedication to the Town for public purposes such as, and not limited to, landscaping, travel lanes, sidewalk, utilities, and associated public roadway improvements (the "Public Improvements").
 - b. The south portion of this Right-of-Way shall be sixteen feet (16') in width and deeded as a roadway easement to the Town for future Public Improvements. [It is expected that the Owner's reservation of uses in the roadway easement area will be determined by the Town Council in a development agreement, or otherwise. The Planning Commission would recommend shared left turn ingress and egress with adjoining

property owners be explained, but also expects that this issue will be determined by the Town Council as well.]

2. The Owner Shall deed twenty-five feet (25') of right-of-way to the Town; as measured from the centerline of Quail Run Road adjoining the Property (the "Quail Run Road Right-of-Way"). All travel lanes, public sidewalk (if any), and associated public roadway improvements shall be located within this Quail Run Road Right-of-Way.
3. The Right-of-Way and Roadway Easement deed instrument(s) shall be recorded with the Maricopa County Recorder, Maricopa County, Arizona, concurrent or prior to the Effective Date of this Ordinance.
4. No above ground structures shall be placed in the Right-of-Way, except for any approved Town monument and/or Town directional sign(s), utilities, and any other approved structures or uses allowed by this Special Use Permit.
5. The Owner shall construct (or provide payment to the Town in lieu of actual construction) roadway improvements to Quail Run Road as outlined in the **2019 Development Agreement**.
6. Shared access to the adjoining properties of Lincoln Medical Plaza or Andaz Resort may be allowable. The Owner shall demonstrate through a traffic/circulation/parking study, prepared by a licensed engineer and approved by the Town Engineer, that such shared access is safe and does not create negative or adverse traffic impacts.
7. The minimum parking space size shall be 180 square feet as defined in Article II, Definitions, of the Town Zoning Ordinance. However, the Approved Plans identify 9-foot by 18-foot parking spaces with a two-foot overhang in the adjoining landscape area (which meets the 180 square-foot requirement). Accordingly, this two-foot landscape area shall, in perpetuity, be kept and maintained clear of structures or plant material that may restrict the parking of a vehicle within this two-foot landscape area. Parking spaces within the underground parking garage shall meet the minimum size of 180 square feet.
8. All designated fire lanes shall maintain a vertical clearance of fourteen (14) feet above actual finished grade and a horizontal clearance of twenty (20) feet to allow passage of emergency vehicles and must meet all Department of Transportation standards.

G. SIGNAGE

52. All signs shall be installed in accordance with the SUP Guidelines.

- 1 53. No above ground structures shall be placed in the roadway easement
2 except approved monument signs and any other approved structures
3 allowed by this Special Use Permit.
4

5 **H. LIGHTING**
6

- 7 54. All outdoor lighting shall be in compliance the Approved Plans,
8 including the wattage and color of each lighting fixture. In the event
9 the Approved Plans are not clear, such lighting shall meet the Special
10 Use Permit Guidelines, as such may be amended from time to time.
11

- 12 55. Lamps, lighting, or illumination devices within an outdoor light fixture
13 shall not be visible from outside the Property. If the Town receives a
14 complaint from an offsite owner that a lamp or lighting or illumination
15 device within an outdoor light fixture is visible from outside the
16 Property, the Town Manager or designee may inspect the Property and
17 require the Owner to shield such lighting fixture if the Town Manager
18 determines that the light emitting element is visible from outside the
19 Property.
20

21 **I. LANDSCAPING**
22

- 23 56. Perimeter landscaping plans (i.e., for those areas between the back of
24 curb and adjacent structures of parking areas) shall be submitted to the
25 Town Manager for review and approval. Perimeter landscaping along
26 Lincoln Drive shall be compliant with the Town's Visually Significant
27 Corridors Master Plan. If new construction allowed under this Special
28 Use Permit does not start within three hundred sixty-five (365) days
29 from issuance of a demolition permit, Owner must either, at Owner's
30 option, replace landscaping or provide other screening where removal
31 of existing landscaping/screening was necessary for demolition.
32 Perimeter landscaping will be maintained by the owner in
33 conformance with the approved plan.
34

35 **J. TEMPORARY USES**

- 36 57. Temporary event tents or pavilions may be erected on the Event Lawn
37 Area of the Property in accordance with the Town Code Special Event
38 Permit requirements (Chapter 8). No event tent shall be higher than
39 twenty-four (24) feet above Original Natural Grade or closer to any
40 exterior property line than the minimum setbacks shown for a twenty-
41 four (24) foot height building. Placement of event tents shall have no
42 material adverse impact on parking or circulation on site. Temporary
43 event tents or structures shall not be allowed for more than fourteen
44 (14) consecutive days. Temporary event tents are required to receive a
45 Tent Permit from the Town.
46

K. CELLULAR ANTENNAS

58. Cellular and other wireless transmission antennas are permitted, provided that they comply with this Special Use Permit and all applicable Town ordinances, specifically including the current requirement to obtain a conditional use permit. Any cellular antennas shall be designed as integrated architectural features within the structures on the Property and any screening shall be in the same finish and color as the structure on which it is located. There shall be no unscreened projections of cellular antennas on any building above the roofline. Any lease agreement with a wireless operator will specifically allow entry by the Town and its agent for the purpose of inspection and compliance with Town ordinances and will require compliance with Article XII of the Town Zoning Ordinance.

L. MANAGEMENT - MAINTENANCE

59. There shall be at least one (1) person designated by the Resort at all times who has been thoroughly briefed on the provisions of this Special Use Permit and who has the authority to resolve, or to refer to others for resolution, all problems related to compliance with this Special Use Permit. All calls from Town residents to the Town or Resort regarding noise or disturbances shall be referred to and addressed by such person(s). The name and contact information for the property manager to be provided to the Town's Community Development Department Director, or designee prior to the issuance of a certificate of completion, and to then be updated within two (2) days after any property manager change is made. Maintenance of the Resort in general and all common areas specifically, shall be coordinated through a single unified management entity, which may be the Principal Resort Hotel Owner or a master association of Owners.
60. All exterior portions of all structures and all driveways, parking areas, landscaping, walls, and lighting shall be kept and maintained in good condition and repair.
61. Interiors of the building on the Property may be remodeled at any time without an amendment to the Special Use Permit so long as the other aspects of the Property remain in substantial compliance with the 2019 Development Agreement and the Approved Plans and all applicable building permits are obtained.
62. Use of outdoor space by employees for activities such as smoking may create unintended nuisances for persons on adjoining properties. This type of activity shall be located near the rear and sides of the building, away from the perimeter of the Property.

63. No storage of outdoor materials is permitted on the Property that can be seen off site.

64. A maintenance, repair and replacement regime shall be formulated by Owner(s) and incorporated into one or more CC&Rs which shall be a first priority lien (junior only to existing matters of record other than monetary liens and the 2019 Development Agreement) on the Resort or each particular phase, as the case may be. Said regime shall provide for governance through a master developer of the Resort or of a phase, or through an authorized or duly formulated association of certain, some, or all Owners of the Resort or phased parts thereof. Said regime shall set forth and contain the minimum following elements:

a. All exterior portions of all structures and all roadways, parking areas, landscaping, walls, pools and lighting shall be kept and maintained in a first-class condition, commensurate with a mixed use resort project serving multiple uses and Owners so that each part is benefited by the first class condition of each other part.

b. Adequate and reasonable assessments shall be made of each Owner to reasonably fund estimated budgets for the maintenance, repair, replacement, and care of the completed Resort and/or each phase thereof.

c. A governance mechanism to protect all Owners and insure the reasonable and adequate maintenance of all components of all phases of the Resort, including the power to access and enter upon the property of another for the purpose of enforcing the regime.

M. CONDITIONAL APPROVAL

65. This SUP shall be effective as of the Effective Date if, but only if, the 2019 Development Agreement is approved by the Town Council and signed by Owner. After this SUP is recorded, if this SUP does not become effective or if it is no longer effective, then the Town shall promptly record a notice that this SUP did not become or is no longer effective.

IV. APPROVED PLANS [*Will need to update with the final plans/documents*]

The following plans and documents apply to the Property. In the case of discrepancies between Approved Plans, those with a later date shall take precedence. In the case of discrepancies between Approved Plans and Stipulations, the Stipulations shall take precedence as specified in Section III.A.1.

(SUP 18-05)	1. Smoke Tree Resort Major Amendment Application Booklet, dated January 9, 2019.
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Date: 01/11/2019

	<ol style="list-style-type: none">2. Smoke Tree Resort Traffic Impact Analysis, prepared by CivTech, sealed by Dawn Cartier on November 19, 2018.3. Parking Study for Smoketree Resort, prepared by CivTech, Sealed by Dawn Cartier on November 20, 2018.
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1

Date: 01/11/2019

JBW, ~~and~~ CHA, SJR, STR, WP REDLINE 2/84/2019

ORDINANCE NUMBER 2019-02

AN ORDINANCE OF THE TOWN OF PARADISE VALLEY, ARIZONA, APPROVING A MAJOR AMENDMENT TO THE SPECIAL USE PERMIT FOR PROPERTY ZONED SUP DISTRICT (RESORT) KNOWN AS SMOKE TREE RESORT LOCATED AT 7101 EAST LINCOLN DRIVE, PROVIDING FOR REDEVELOPMENT WITH DEMOLITION OF ALL EXISTING STRUCTURES AND CONSTRUCTION OF A NEW RESORT HOTEL WITH ~~[insert number here]~~120] HOTEL KEYS WITH RESORT RELATED RESTAURANT, RETAIL, MEETING SPACE, AND SPA, ~~[insert number here]~~30] RESORT -RELATED RESIDENCES, TOGETHER WITH 15 ALLOWED "LOCK-OFF" UNITS, AND SITE IMPROVEMENTS INCLUDING SURFACE PARKING AND UNDERGROUND PARKING, LANDSCAPING, LIGHTING, AND IMPROVEMENTS TO SITE INFRASTRUCTURE; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, the Town of Paradise Valley (the "Town") Planning Commission held a public hearing on [insert date here], in the manner prescribed by law, for the purpose of considering an amendment to the Special Use Permit for The Smoke Tree Resort, and recommended [insert Planning Commission's Recommendation here] to the Town Council; and

WHEREAS, the Town of Paradise Valley Council ("Town Council") held a public hearing on [insert date here], in the manner prescribed by law, to hear and to take action on the amendment to the Special Use Permit for The Smoke Tree Resort, as recommended by the Planning Commission; and

WHEREAS, the Town Council finds that the requirements of Section 2-5-2.F, Citizen Review Process, including holding a Citizen Review Session on [insert date here], to provide a reasonable opportunity for the applicant, adjacent landowners, and other potentially affected citizens to discuss issues or concerns they may have with the application has been met; and

WHEREAS, this amendment to the Special Use Permit for The Smoke Tree Resort is consistent with the property's designation as "Resort" in the Town's General Plan Land Use Map; and

WHEREAS, upon the effective date of this Ordinance, the zoning district of "Special Use Permit – Resort" shall now be shown on the Town's Zoning Map along with a reference to the new major amendment special use permit reference number on the Town's official Zoning Map of "SUP 18-05"; and

Date: 01/11/2019

WHEREAS, in accordance with Article II, Section 1 and 2, Constitution of Arizona, the Town Council has considered the individual property rights and personal liabilities of the residents of the Town before adopting Ordinance #2019-02 (the "Ordinance").

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND TOWN COUNCIL OF THE TOWN OF PARADISE VALLEY, ARIZONA THAT:

SECTION I. In General

1. The Special Use Permit ("~~SUP~~") zoning for Smoke Tree Resort allows for resort uses on the approximate 5.3 gross acres of land located at 7101 East Lincoln Drive in the Town of Paradise Valley, Arizona, more particularly described on Exhibit "A," attached hereto (the "Property").
2. This Major Amendment to the Special Use Permit (SUP 18-05) for Smoke Tree Resort hereby rescinds all prior Special Use Permits for the Property and creates a new Special Use permit to allow for redevelopment with demolition of all existing structures and construction of a new resort hotel with [~~120insert number here~~] hotel keys with resort related restaurant, retail, meeting space, and spa, [~~30insert number here~~] resort related residences, together with 15 "lock-off" units, and site improvements including surface parking and underground parking, landscaping, lighting, and improvements to site infrastructure, subject to the Conditions set forth in Section II of this Ordinance.
3. To provide historical reference of what is being rescinded a description of prior amendments to the Special Use Permit for the Property is summarized in Exhibit "B," attached hereto.
4. All prior Special Use Permit approvals on this Property are rescinded and no longer in full force and effect upon the Effective Date of this Ordinance.
5. This Major Amendment to the Special Use Permit for this Property is in accordance with Section 1102.7 of the Zoning Ordinance.

SECTION II. Conditions. Pursuant to Article XI of the Zoning Ordinance of the Town of Paradise Valley, Arizona (the "Town"), the Town hereby grants to Gentree L.L.C., an Arizona Limited Liability Company, its successors and assigns, Special Use Permit 18-05 by its approval of this Ordinance (the "SUP 18-05") governing the use of the Property. All capitalized terms contained herein shall have the meanings ascribed to them parenthetically or otherwise in this Ordinance.

This amendment is one of many amendments to the first Special Use Permit on the Property approved by the Town in 1969. This Special Use Permit is intended to supersede and replace all prior Special Use Permits for this Property and rescinds all prior Special Use Permits for the Property. This Special Use Permit is being granted by the Town to permit the continued use and operation of the Property for resort use subject to and in accordance with the stipulations and other provisions set forth herein as shown in Exhibit "C," attached hereto.

SECTION III. Severability. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by a court of competent

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Date: 01/11/2019

jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION IV. Effective Date. This Ordinance shall become effective at the time and in the manner prescribed by law.

PASSED AND ADOPTED by the Mayor and Town Council of the Town of Paradise Valley, Arizona, this _____ day of _____, 2019.

Jerry Bien-Willner, Mayor

SIGNED AND ATTESTED THIS ____ DAY OF _____ 2019.

ATTEST:

APPROVED AS TO FORM:

Duncan Miller, Town Clerk

Andrew Miller, Town Attorney

Date: 01/11/2019

EXHIBIT "A"
TO
ORDINANCE NUMBER 2019-02

Legal Description

TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT

PARCEL NO. 1

The North half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

PARCEL NO. 2

The North half of the South Half of the Northwest quarter of the Northeast quarter of the Southeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

EXCEPT the East 200 feet, thereof.

[NOTE- Legal description to be updated with correct right-of-way dedication prior to recordation of this Ordinance]

Date: 01/11/2019

EXHIBIT "B"
TO
ORDINANCE NUMBER 2019-02

Description of Prior SUP Amendments that are rescinded upon the Effective Date

TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT

The Town annexed the property in 1961. The Town approved the original Special Use Permit on March 13, 1969. The list below summarizes the known amendments to the original Special Use Permit, all of which are rescinded upon the Effective Date of this Ordinance.

June 2008	Amendment to the Special Use Permit to renovate the restaurant for a new tenant. Various improvements to the restaurant building along Lincoln Drive were made including the screening of roof mounted mechanical equipment.
May 1971	Amendment to the Special Use Permit to add more kitchen space. The Town approved modification of Cottage 1 to a non-public use for more kitchen space.
March 1969	Establishment of the property for resort use by Special Use Permit, subject to 2 conditions including payment for condemnation of right-of-way on Lincoln Drive and that new leases of commercial space be approved by Town Council.

Date: 01/11/2019

**EXHIBIT “C”
TO
ORDINANCE NUMBER 2019-02

SUP CONDITIONS

TOWN OF PARADISE VALLEY
SPECIAL USE PERMIT FOR THE SMOKE TREE RESORT**

I. PROJECT DESCRIPTION

Redevelopment of the Property, that includes a complete demolition of all existing structures and construction of a new resort hotel with 120 ~~insert number here~~ hotel keys with resort related restaurant, retail, meeting space, and spa, 30 ~~insert number here~~ resort related residences, together with 15 “lock-off” units, and site improvements including surface parking and underground parking, landscaping, lighting, and improvements to site infrastructure

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II. DEFINITIONS

“**2019 Development Agreement**” means a development agreement between the Town and the Owner, as it may be amended from time to time, entered into pursuant to the terms of A.R.S. § 9-500.05, which is to be executed contemporaneously with adoption of this SUP.

“**Affiliate**” as applied to any person, means any person directly or indirectly controlling, controlled by, or under common control with, that person or spouse or children of such person, if such person is a natural person. For the purposes of this definition, (i) “control” (including with correlative meaning, the terms “controlling,” “controlled by” and “under common control”), as applied to any person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of that person, whether through the beneficial ownership of voting securities, by contract or otherwise, and (ii) “person” means and includes natural persons, corporations, limited partnerships, general partnerships, joint stock companies, joint ventures, associations, limited liability companies, limited liability partnerships, limited liability limited partnerships, trusts, land trusts, business trusts or other organizations, whether or not legal entities.

“**Approval Date**” means the date on which both of the following have occurred (i) Ordinance No. 2019-02 is approved (i.e., voted on) by the Town Council of the Town of Paradise Valley, Arizona and (ii) signed by the Mayor.

“**Approved Plans**” means those certain plans and other documents certified by the Town Clerk that are listed in Schedule “IV,” attached hereto and incorporated herein by this reference.

“**Branded Residence**” means a Resort Residential unit which has been designed and finished with standards adopted by an organization which provides services for the

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1 branding of residences. ~~Such Branded Residences are limited to [need to identify~~
2 ~~acceptable brands or brand standards — this may also be tied into or described in the~~
3 ~~development agreement], or such other brands as the Town Manager approves, but~~
4 ~~provided that the Town Manager has first distributed to the Town Council and staff the~~
5 ~~proposed new brand at least two weeks prior to the Town Manager's decision. In the~~
6 ~~event both the Residences and Principal Resort Hotel are Branded, then they must be so~~
7 ~~under the same brand or within the same related and complimentary brand family. The~~
8 ~~brand of the Branded Residences shall be the same as the brand of the Principal Resort~~
9 ~~Hotel.~~ While the specifications for Branded Residences may be different from Hotel
10 Keys which comprise the Minimum Hotel Keys, they should be compatible in design
11 with the Hotel Keys. Branded Residences may be sold and resold and or rented and re-
12 rented through the Resort Rental Management Program or through a program adopted for
13 their management. In order to participate in the Resort Rental Program, A-a Branded
14 Residence shall initially have substantially similar furnishings, fixtures, and equipment as
15 other similar sized Hotel Keys, but a Branded Residence may not be uniquely customized
16 and furnished by its owner, but and such customizations shall be consistent with the
17 development standards as set forth in the 2019 Development Agreement. instead shall
18 have furnishing, fixtures, and equipment the same as other similar sized Hotel Keys, or
19 as befitting a luxury or upscale Hotel Key.

Commented [TR1]: Defining brand standards in the development agreement is acceptable, recognizing that the branding of resort properties has fundamentally changed over the last few years. The trend is to have a collection of individually branded elements under one global management.

20
21 “CC&Rs” means one or more sets of conditions, covenants, and restrictions applicable to
22 discrete portions of the Property that, among other things, implement provisions of these
23 Stipulations.

24
25 “Effective Date” means the date on which all of the following have occurred: this SUP
26 and the 2019 Development Agreement have been adopted and approved by the Town
27 Council, executed by duly authorized representatives of the Town and Owner, and recorded
28 (if applicable) in the office of the Recorder of Maricopa County, Arizona, and any
29 applicable referendum period has expired without referral, or any proposed referendum has
30 been declared invalid in a final non-appealable judgment by a court of competent
31 jurisdiction, or this SUP (or the 2019 Development Agreement, as applicable) has been
32 approved by the voters at a referendum election conducted in accordance with Applicable
33 Laws

34 “Floor Area” means the area under roof added to the floor area of any second and third
35 story; provided, however that “Floor Area” also includes the horizontal solid portion(s) of
36 trellises and/or open weave roofs, and all the horizontal solid portion of area under roof in
37 accessory buildings such as gazebos, ramadas and other accessory buildings. Floor Area
38 excludes the floor area of any mechanical access areas, any fully subterranean portions of
39 a building, any utility and/or storage facilities that are located
40 subterraneanly subterraneously in order to avoid unsightly view from ground level,
41 courtyard areas, and the portion of any roof overhangs with at least 95% coverage,- which
42 are not over useable exterior spaces. In the case of the Principal Resort Hotel, and
43 notwithstanding the preceding sentence, Floor Area includes subterranean portions of
44 buildings that are part of the Principal Resort Hotel and contain areas that are not
45 generally intended to be accessed by the general public and hotel guests, such as, but not
46 limited to kitchens, employee locker rooms, cafeterias and/or break rooms, staff offices,
47 security offices, administrative offices, laundry facilities, storage, maintenance facilities,

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utility rooms, and other facilities that are typically described as “back of house” facilities.
~~Excluding mechanical access areas and any utility and/or storage facilities relocated
subterranean so to avoid unsightly views on surface (example: dumpsters)~~

“Hotel Key” means a Resort Unit, served by a single key, which is part of a Resort Hotel, designed and constructed with all furnishings, fixtures and equipment necessary to operate as a single unit for transient occupancy use as a part of such Resort Hotel. Each Hotel Key shall have at least one ~~domestic water and sewer connection~~full bath and a direct lockable connection from the exterior or a corridor. A Hotel Key may be located in a primary Resort Hotel structure (in a building that includes guest registration, reception and other allowed uses) or in any number of other buildings integrated or associated with such Resort Hotel through landscaping or otherwise, including in a building or buildings with Resort Residential. A Hotel Key may be interconnected with another Hotel Key unit through a lockable connection, so that more than one Hotel Key may be rented as a single unit.

“Minimum Hotel Keys” means the [insert number here] Hotel Keys included as part of the Principal Resort Hotel and owned by a single legal Owner which also owns the Minimum Resort Hotel Improvements.

“Minimum Resort Hotel Improvements” means the minimum improvements included in the initial design and construction of the Principal Resort Hotel and including not less than, all of the following elements:

(a) The Minimum Hotel Keys.

(b) One (1) ~~full service~~ restaurant with seating capacity for not fewer than [insert number here] (XXX) persons which, together with other restaurants and food service areas, are collectively capable of serving three (3) daily meals ~~and providing room service~~ to the Minimum Hotel Keys.

(c) At least one (1) swimming pool, ~~along with facilities (which may be remote from the pool) intended to provide food and beverage service to Resort Hotel guests at the pool.~~

~~(d) — At least one (1) heated whirlpool (such as a “Jacuzzi”).~~

~~(e) — At least one (1) fitness area to accommodate professional grade exercise machines and related equipment.~~

~~(f) — An area or areas for providing spa services such as massage services.~~

~~(g)~~(d) A ~~designated dedicated~~ reception area to accommodate guest check-in, ~~concierge and cashier.~~ (Note: not sole use)

~~(h)~~(c) A ~~designated dedicated~~ area to accommodate vehicle or passenger drop off (such as valet parking services) for Resort Hotel guests. ~~(note: not sole use)~~

Commented [TR2]: Important to Jason’s suggested edits is that these are “minimum improvements”. These elements may be included, but the preference would be to not have them be required as a minimum improvement.

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1 **“Open Space Criteria”** ~~accordance with the Approved Plans~~ means the following
2 criteria related to the height and setback of buildings: No building shall penetrate an
3 imaginary plane beginning at sixteen (16) feet above Original Natural Grade and twenty
4 (20) feet from the exterior property lines of the Property, which plane slopes upward at a
5 ratio of one (1) foot vertically for each five (5) feet horizontally measured perpendicular
6 to the nearest exterior property line of the Property. This limitation shall apply until the
7 maximum allowable height is reached. See illustration Sheet [*insert sheet number here*]
8 of Approved Plans. In event of conflict between the Open Space Criteria and the
9 Approved Plans, the Approved Plans shall control.

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10
11 **“Original Natural Grade”** is defined and set forth on Sheet [*insert sheet number here*]
12 of the Approved Plans.

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13
14 **“Owner”** means Gentree L.L.C., an Arizona Limited Liability Company, its successors
15 and assigns. An Owner may be an individual, corporation, partnership, limited liability
16 company, trust, land trust, business trust or other organization, or similar entity, which in
17 turn may be owned by individuals, shareholders, partners, members or benefitted parties
18 under trust agreements, all of which may take any legal form, and may allocate interests
19 in profits, loss, control or use.

20
21 **“Party”** or **“Parties”** means the Town and Owner, or their successors or assigns.

22 **“Principal Resort Hotel”** means the Resort Hotel designated as such and which includes
23 the Minimum Resort Hotel Improvements and not less than XXXX (XXXX) square feet
24 of Floor Area, provided, however, in the event the Principal Resort Hotel contains not
25 less than XX (XX) Hotel Keys which are owned by the Principal Resort Hotel Owner the
26 minimum Floor Area shall be XXX (XXX). The Principal Resort Hotel shall be owned
27 by a single legal Owner.

28
29 **“Property”** means the real property described in Exhibit “A” to Ordinance #2019-02.

30
31 **“Resort”** means the entire Property and all facilities and other improvements existing,
32 developed or redeveloped and used or useful on the Property in general conformance
33 with the Approved Plans and/or these Stipulations.

34
35 **“Resort Ancillary Facilities and Uses”** means all facilities and uses related or incidental
36 to the operation of a resort or resort hotel, including specifically, but without limitation:
37 restaurants, bars and lounges; spas and salons; fitness facilities; barbershops; indoor and
38 outdoor meeting, convention, display, exhibit, wedding and social function facilities; sale
39 of food and alcohol (for on or off site consumption); catering facilities; outdoor cooking
40 facilities; outdoor dining facilities; gourmet food shops (offering any combination of
41 cooked, frozen, fresh, prepared or pre-packaged foods, beer, wines, liquors, gifts, fresh
42 fruits and vegetables, groceries, sundries, cosmetics, over the counter pharmaceuticals,
43 house wares, and related kitchen, indoor and/or outdoor dining items); deli, coffee, tea,
44 ice cream, yogurt and similar shops or sales; snack bars; central plant, maintenance shop,
45 engineering facilities, housekeeping facilities, laundry, storage and support facilities;
46 valet and other parking facilities, parking decks, garages and areas; gift and sundries
47 shops; flower sales; art and art galleries; jewelry and jewelry shops; fashion eyewear,

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footwear and apparel sales; sale of hotel items such as furniture, bedding, art, toiletries; other resort retail; marketing, sale and resale of Resort Residential (including through a real estate sales office) and other resort sales and marketing; tour and other off-site activity offices; administrative, support and other resort offices including temporary offices and facilities for construction, sales, marketing, and design; indoor and outdoor entertainment facilities; ramadas; pools; cabanas; tents; amenities, recreational facilities and fitness facilities. Any such use or facility may be within any Resort Hotel or separate building(s) including individually or grouped in one or more buildings or facilities.

“Resort Hotel Manager” means the Owner of any Resort Hotel, including any Affiliate thereof or an experienced professional third party hotel management company, ~~which manages any Resort Hotel.~~ A Resort Hotel Manager may also manage any other portions of the Resort, including but not limited to the Resort Residential and Hotel Keys. ~~If any Resort Hotel Manager is not the Owner of the Resort Hotel (or an affiliate of such Owner), it shall initially be a hotel management company which has not less than five (5) years’ experience managing full service hotels or resorts or which currently manages not fewer than five (5) full service hotels or resorts.~~

“Resort Hotel Owner” means the single legal owner of the Resort Hotel.

“Resort Rental Management Program” means a rental management program offered and managed by the Owner of any Resort Hotel (or Affiliate thereof) or a Resort Hotel Manager (or Affiliate thereof) which provides rental management service for all Hotel Keys for such Resort Hotel and other Resort Units where an Owner elects to include such residences in such Resort Rental Management Program.

“Resort Residential” means the Resort Units, exclusive of any Hotel Keys.

“Resort Unit” means all Hotel Keys and all other residential units (including Resort Residential), which may include a room or group of rooms which can be locked and served by a single key (or multiple keys). A Resort Unit may be served by one or more bathrooms, and may be with or without cooking facilities or kitchens. Except for the requirement that the Minimum Hotel Keys be owned by the Principal Resort Hotel Owner, a Resort Unit may, subject to these Stipulations, be owned by either an Owner or a Third Party and may be sold, resold, or may be rented and re-rented from time to time, including for transient occupancy; and provided further that, except for the requirement that the Minimum Hotel Keys be owned by the Principal Resort Hotel Owner and managed by the Resort Hotel Manager thereof, a Resort Unit may only, subject to these Stipulations, be used for any type of residential occupancy (including transient occupancy) and may be created as separate legal units through one or more plats or horizontal property regimes through one or more maps.

“Special Use Permit” or “SUP-18-05” or “SUP” shall mean this special use permit as approved by Town Ordinance #2019-02.

“Special Use Permit Guidelines” means special use permit guidelines adopted by the Town and in effect as of the Approval Date.

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1 **“Third Party”** means, with respect to a good faith transaction, any individual or entity
2 other than a Party, an Affiliate of any Party, a principal of a Party or an Affiliate of a
3 principal of any Party, and a spouse, parent, child of a principal of a Party or of an Affiliate
4 of any Party.

5 **“Town”** means the Town of Paradise Valley.

6
7 **“Town Manager”** means the Town Manager or his designee.

8
9 **“Visually Significant Corridors Master Plan”** means the Master Plan approved by the
10 Town Council dated October, 2018.

11
12 **“Zoning Ordinance”** means the Town’s zoning ordinance in effect as of the Approval
13 Date, attached hereto as Schedule “2.”
14

15 **III. STIPULATIONS**

16 **A. GENERAL**

17 1. In the event of a conflict between these Stipulations and the Approved
18 Plans, these Stipulations shall govern.

19 2. This Special Use Permit, as it may be amended or superseded from
20 time to time, shall run with the land (i.e., the Property and each part
21 thereof) and any person having or subsequently acquiring title to the
22 Property shall be subject to this Special Use Permit. Once an Owner
23 (including without limitation any owner of a Resort Unit, including
24 each Resort Residential unit, Resort Hotel, or any other Owner) no
25 longer owns a portion of the Property, such prior Owner shall no
26 longer be subject to this Special Use Permit with respect to such
27 portion of the Property no longer owned, but the then current Owner
28 shall be subject to this Special Use Permit.

29 3. If any portion of the Resort is used in violation of the terms of this
30 Special Use Permit, the Town may, after fair notice, a hearing and a
31 reasonable opportunity to correct, impose a monetary sanction on the
32 then Owner of such portion, in an amount not to exceed the maximum
33 amount allowed for violations of the Town Zoning Ordinance for each
34 day such violation exists, in addition to all other orders or sanctions
35 permitted by applicable laws. No such remedy shall be applied to any
36 other Owner or portion of the Resort that is not in violation of this
37 Special Use Permit.

38 4. The use of the Property shall at all times conform to all applicable
39 State laws and Town ordinances, except that if there is a conflict
40 between this Special Use Permit and any Town ordinance or other
41 Town requirement, the terms of Stipulation 10 shall be applied to
42 resolve any such conflict.

Commented [CA3]: There is no stipulation 10

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- 1 5. The redevelopment of, and construction on, the Property shall, subject
2 to these Stipulations, substantially conform to the intent of the
3 Approved Plans. Each of the Approved Plans is hereby incorporated
4 into this Special Use Permit and made an integral part hereof.
- 5 6. A mylar and electronic version of the Approved Plans shall be
6 submitted to the Town within sixty (60) days after the Approval Date.
- 7 7. Nothing in this Special Use Permit or otherwise shall require the
8 operation of the Resort under the name "Smoke Tree," "Smoke Tree
9 Resort" or any similar or other name. No further consent shall be
10 required to enable the Owner to transfer all or any portion of the
11 Resort, name or rename the Resort, or select or reselect brands or
12 management companies of the Resort, ~~except as may be required by~~
13 ~~the 2019 Development Agreement;~~ and further provided that the
14 Property shall be subject to this SUP notwithstanding any such
15 transfer. None of the Resort Units or any part of the Property shall, at
16 any time, be operated as a Time-Share Project, as such term is
17 currently defined by the Town Zoning Ordinance or state law.
- 18 8. If any section, subsection, sentence, clause or phrase of this Special
19 Use Permit is for any reason held invalid or unenforceable in a final,
20 non-appealable judgment of any court of competent jurisdiction, such
21 decision shall not affect the validity or enforceability of the remaining
22 portions of this Special Use Permit.
- 23 9. The Town Manager's approval or determination is provided for in
24 several instances in these Stipulations. The Town Manager shall base
25 his approval on standards and criteria set forth in this SUP, the 2019
26 Development Agreement, the Town Code, and the Zoning Ordinance,
27 as reasonably applicable, with the intent to implement the viable
28 development of the Resort as provided in this SUP and the 2019
29 Development Agreement. Recognizing that the final design and
30 building permit process for which any particular approval of the Town
31 Manager is sought involves multiple stages, including conceptual,
32 schematic, design development and construction documents, an Owner
33 may seek the approval of the Town Manager in writing at one or more
34 stages of such design. Notwithstanding the foregoing, no construction
35 may occur with respect to any particular element or structure until
36 necessary permits for that element or structure are issued. An Owner
37 may rely upon an approval in proceeding from one stage of design to
38 the next. Although the Parties intend that this Special Use Permit,
39 2019 Development Agreement, Zoning Ordinance, and the Town Code
40 state a consistent relationship between them, the Parties agree that in
41 the event of a conflict between these documents that the order of
42 priority shall be the (1) Special Use Permit, (2) 2019 Development
43 Agreement, (3) Zoning Ordinance and (4) Town Code and agree that
44 the higher priority document shall control.

B. CONSTRUCTION AND DEVELOPMENT STANDARDS

11. A schedule for demolition by Owner of the vertical portions of certain existing improvements shall be as provided in the 2019 Development Agreement.
12. All permanent public utilities within the Resort shall be underground (excluding certain equipment that is typically installed above ground which shall be appropriately screened, such as transformers, meters, and other equipment) and located within appropriate easements. The Town Manager may, from time to time, require the granting of such easements to utility companies as deemed reasonably appropriate by entities providing utilities benefitting the Resort that are not covered by easements shown on the final plat or set forth in the recorded CC&Rs for the Resort, Resort Hotel, Resort Residential. Sewage shall be disposed of by connection with an upsized sewer connection to the ~~existing~~ Town of Paradise Valley's sewage facilities. All new water and sewage facilities shall be constructed in accordance with plans approved by the Town Manager.
13. It is anticipated that construction on, and redevelopment of, the Property will be conducted in phases. No construction permit shall be issued for any phase of construction on the Property until appropriate engineering or architectural plans are submitted to the Town and the issuance of such construction permit for that particular activity is approved by the Town Manager. Submitted plans shall be required to meet the building code most recently adopted by the Town.
14. During any period of demolition and initial new construction of one or more phases within the Resort, temporary curb cuts (driveways) shall be allowed on Lincoln Drive and Quail Run Road to allow construction access to the Property; such temporary curb cuts and their location shall be approved by the Town Manager and be coordinated with the Town's Capital Improvement Project known as the Lincoln Drive Roadway Improvements. Temporary construction driveway locations are subject to compliance with Storm Water Pollution Prevention Plan Best Management Practices and the review and approval by the Town Manager.
15. All new construction shall satisfy all fire department requirements for each component of work (which may include temporary fire protection facilities) prior to the issuance of any building permit for such work.
16. Prior to the issuance of a certificate of occupancy for any individual structure, adequate fire, emergency and other vehicle access and adequate fire service shall be provided for such structure and the

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particular phase of development in which such structure is located, as determined by the Town Manager.

17. Owner(s) shall submit a construction phasing schedule prior to the issuance of any building permit for a particular new structure to ensure compliance with all Town ordinances and in order to minimize construction nuisances. This schedule may encompass the building of multiple new structures within a particular phase, and may be modified or amended from time to time. This construction/phasing schedule shall provide information on the following:

- Dust and noise control measures
- Vehicle /equipment storage/parking
- Construction days/hours
- The general location of the following elements, which may be relocated from time to time:
 - Location(s) of a staging area(s) for construction supplies/equipment
 - Location of any construction trailer(s) and/or sanitary facility(s)
 - Location of on-site construction materials/debris storage
 - Location of fire lanes during the construction period
- The approximate beginning and ending for construction of structures within a phase

18. During the period of demolition or construction of new improvements, signs shall be posted on the Property (or at the entrance to a particular phase) indicating the name and phone number of a person the public may contact with construction-related concerns. Sign details such as the sign size, height and location shall be reviewed and approved by the Town Manager.

19. As a pre-requisite to obtaining a building permit for a particular phase of development, the Owner must demonstrate the existence of adequate perimeter screening for such phase prior to construction. For purposes of this requirement, adequate screening shall consist of an existing oleander hedge or a six (6) foot chain link fence with green screening.

20. During demolition, site grading, and the initial construction of other on or offsite improvements, Owner(s) shall coordinate the sweeping of Lincoln Drive and Quail Run Road adjacent to the Property to remove construction-related dirt and debris, as reasonably required by the Town Manager.

21. The precise location and/or required screening of any backflow preventer or other similar equipment to the extent same would be visible

Commented [TR4]: In QRR's current state, sweeping wouldn't do anything...might need a different definition of how to keep it clean.

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from Lincoln Drive or Quail Run Road shall be approved by the Town Manager.

22. One permanent curb cut on Lincoln Drive east of Quail Run Road is permitted at a location as determined by the Town Manager, and requires a deceleration lane, which shall be installed by Owner, ~~in conjunction with construction on the adjacent property. The approximate locations of permanent curb cuts are shown on Sheet 13 of the Approved Plans.~~ The final locations of the permanent curb cut(s) shall be based upon the Town Engineer's review and approval of the Final Traffic Impact Analysis.

23. The Owner shall arrange for construction phasing within any particular phase in the following sequence:

- a. Commence native plant salvage, (for those plant materials required to be salvaged pursuant to Town Code §5-8-4 and deemed by a Native Plant Preservation Plan to be certain to survive and worthy of salvage), dust and erosion control measures, job-site mobilization and set-up, and the like.
- b. Upon completion of the salvage, commence horizontal or civil improvements and site work within such phase, including appropriate erosion and dust control.
- c. Upon or prior to substantial completion of the civil improvements and site work as reasonably necessary to commence perimeter walls and landscaping for such phase, including areas immediately adjoining such phase, the perimeter landscape plan(s) shall be submitted, reviewed and approved by the Town Manager. Installation of perimeter landscaping shall not be required to commence until adjacent site or structure improvements are sufficiently complete such that additional work will not harm the proposed landscape elements. Perimeter landscaping is landscaping between adjacent edge of roadway and any proposed perimeter structure or parking area on the Property.
- d. Any required deceleration lanes on Lincoln Drive or curb cuts on Lincoln Drive, may be scheduled independently of the foregoing, in a manner consistent with the anticipated completion of the Town's roadway improvements to Lincoln Drive approved by the Town Manager.
- e. The Owner shall, at all times during construction, provide Quail Run access of at least fourteen (14) feet in width from Lincoln Drive to the southern Property line.

Commented [TR5]: This section should cover any potential impacts to the conceptual access plan that may result from future revisions to the TIA.

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24. Building architecture, materials, and colors shall be as shown on the Approved Plans. Any future modifications to exterior materials and colors shall be approved by the Town Manager, or designee. Changes to the architectural style shall only be made by an approved SUP amendment.

25. The color of any visible thesloped roofs of the buildings shall have a Light Reflective Value at or less than fifty percent (50%).

26. All mechanical equipment shall be screened so that it is not visible from adjoining properties not a part of this Special Use Permit and from adjoining public rights-of-way. Mechanical equipment and mechanical equipment screens shall be included in the total height of any structure to which they are attached. If applicable, mechanical screening may provide the necessary noise attenuation for any mechanical equipment. All mechanical equipment, along with any screens used for attenuation of noise, shall comply with the allowable noise levels defined in the Town's noise ordinance. Noise measurement shall include any installed screening or other attenuation devices.

27. Screening of backflow preventers, electric transformers, generators, or other similar equipment (all herein further referred to as "Visually Unappealing Improvements") visible from off the Property shall be located so as to minimize its visual impact and screened from public view, all of which must first be approved by the Town Manager prior to approval of construction of any such Visually Unappealing Improvements.

C. RESORT HOTEL, RESORT RESIDENTIAL, AND ASSOCIATED USES

28. The Property may be developed to include any Resort Hotel, Resort Residential, and any Resort Ancillary Facilities and Uses. The Property may be developed and redeveloped in one or more phases from time to time in multiple buildings or structures of various height and character, subject to these stipulations. Facilities or structures initially developed for a particular use may be converted or reused from time to time for other allowed uses provided that all other requirements of these stipulations are still met. The Property may be subdivided with one or more maps from time to time. Dwelling units are allowed on the Property as horizontal property regimes as reflected in one or more maps. The maximum Floor Area of Resort Residential development shall be thousand () square feet (the foregoing () square feet is tabulated based on the actual Floor Area of the Resort Residential units and not the Floor Area of any other allowed elements of the Resort, including, but not limited to, any Resort Hotel, Hotel Keys, or Resort Ancillary Facilities and Uses. Not later than one (1) year after the Effective Date, Owner shall submit to the Town a schedule

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of development stating when vertical construction of the Principal Resort Hotel will commence. The schedule of development in the preceding sentence may be extended if Owner, in its sole discretion, gives written notice to the Town stating the length of the extension. Any single extension shall not exceed three (3) months. Owner may give multiple notices of extension.

29. The Principal Resort Hotel may be constructed in one (1) or more buildings on the Property provided all such buildings must have an integrated theme and share design cohesiveness, including architecture, signage, pedestrian and service vehicle connections to the primary Resort Hotel structure (the structure which includes guest reception and registration). Facilities located on the Property which also provide function or service for the Principal Resort Hotel such as fitness, spa, restaurants, locker rooms, meeting rooms, offices, and storage shall be included in the minimum Floor Area requirement.

30. The Resort Hotel Owner shall establish a single, unified rental management program and process for all Hotel Keys which are a part of such Resort Hotel.

31. If walls and fences are constructed along Lincoln Drive and Quail Run Road, such walls and fences shall be in accordance with Article XXIV of the Town Zoning Ordinance and shall be measured from property lines; provided that a wall or fence that does not comply with Article XXIV may be approved by the Town Manager. Said wall shall also meet the fifty (50) foot corner vision criteria in Town Code Section 8-1-13.

32. The maximum hours of public operation of the following specific uses/facilities shall be as set forth below:

- a. Vendor deliveries (generally): 7 am - 7 pm. US Mail, private courier services such as UPS or FedEx, and emergency deliveries: at any time.
- b. Pools, spas and jacuzzis (except pools, spas and jacuzzis located indoors or in enclosed private yards including yards such as presidential suites or Resort Hotel suites, which may be used 24 hours/day): 6 am ~~–~~ midnight.
- c. Restaurants and other food service facilities: 6 am ~~–~~ 2 am
- d. Bars/lounges: 10 am – 3 am
- e. Banquet facilities, receptions, weddings and socials: 6 am – 2 am
- f. Resort retail: 24 hours/day~~27/7 7 am – midnight~~

Commented [TR6]: We had discussed a 33-foot corner vision with staff and received preliminary feedback that that may be acceptable

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- g. Room service: 24 hours/day
- h. Guest reception and guest services: 24 hours/day
- j. Parking facilities: 24 hours/day
- k. Spa & fitness facilities: 24 hours/day (use of such facilities by those who are not guests of the Resort, or owners or renters within the Resort and their guests shall be limited to 5 am – midnight).
- l. Trash pickup: 7 am – 7 pm
- m. Outdoor venues, events, or functions with music and/or amplified sound shall comply with the allowable noise levels as defined by the Town's current noise ordinance.

33. Each owner of any Resort Residential unit may occupy it, permit its guest(s) to occupy it, or make it available for rental for transient occupancy uses, residential uses or hospitality uses (rental of these units are not counted towards the Minimum Hotel Keys requirement, but would be considered a rental of a Resort Unit in excess of the Minimum Hotel Keys requirement).

34. Unlicensed support vehicles (that is, golf carts, utility vehicles, etc.) may be used to service the Resort but such support vehicles shall not park on public streets.

35. **Parking Structure(s) – Any parking provided or required under this Special Use Permit may, at the Owner's choice, be located at-grade, below grade or a combination thereof in one or more parking structures or in one or more surface parking areas. The Owner shall submit plans (which initially may be conceptual or schematic drawing(s)) of any proposed parking structures to the Town Manager for determination whether they comply with this Stipulation. The following provisions shall apply to any above or below grade parking structures and surface parking areas:**

- a. Parking structures fully (other than ramps leading to or from) below grade (under a building or otherwise) are allowed.
- b. Surface parking lots are allowed, subject to the following setback requirements:

i. Lincoln Drive: () feet as shown on the attached plans.

Commented [TR7]: This section should cover any potential impacts to the conceptual parking plan that may result from future revisions to the Parking Study.

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- ii. Quail Run Road: ~~_____~~ () feet as shown on the attached
 - iii. Any other exterior property boundary: twenty (20) feet;
 - iv. Any surface parking area shall be appropriately screened by a wall or landscaping to minimize the amount of vehicle headlight trespass off the property.
 - v. All surface parking lots may include appropriate signs, lighting (provided any lighting shall comply with this SUP) and landscape as provided in this SUP or the Town's Special Use Permit Guidelines as applicable or otherwise approved by the Town Manager.

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36. Buses and other vehicles may be used to shuttle guests or employees to or from areas not located on the Resort, and between the Resort and other destinations (e.g., airport, shopping facilities, golf courses, etc.). All parking on any public street by any Resort guest, any Owner or their guests, employees of the Resort, any invitee of any Owner, any occupant of any portion of the Resort or any parking service provider is prohibited. Any agreement which allows any person to use the Resort for any purpose shall contain an acknowledgment that parking on any public street is prohibited.
37. At any time when the parking demand within the Resort is expected to exceed onsite capacity, the Owners of the affected areas shall initiate a parking management plan which may include valet parking or offsite parking arrangements (but not the use of parking on any public street within the Town).

32 **D. HEIGHT AND HEIGHT MEASUREMENT**

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38. An Original Natural Grade Plan shall be submitted by the Owner's Engineer and reviewed by the Town Engineer. Once the Town Engineer finds the grades established by the Original Natural Grade Plan acceptable, it shall be used to establish maximum height of any new structure built on the Property. The maximum height of the structures will conform to of the Approved Plans. A height envelope will be established following the contours from the Original Natural Grade to an elevation certain above Mean Sea Level. The following building components are allowed to exceed the maximum height of each structure (or portion thereof) as follows:
- a. Chimney – three (3) feet
 - b. Elevator enclosure – three (3) feet

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- c. Towers or other architectural features, excluding mechanical equipment or mechanical equipment screens – three (3) feet

Commented [TR8]: This conflicts with B-26, 38-c

39. Unless contained within the Approved Plans, all mechanical equipment and mechanical equipment screens shall be included in the total height of any structure they are attached to.

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E. LANDSCAPING

40. Landscaping on the Property shall be in substantial compliance with the Approved Plans.

41. All landscaping that dies shall be replaced in a reasonable amount of time, be in general compliance with the approved landscape plan of the Approved Plans, and shall use material that is on the Approved Plans, Town's Landscape Guidelines, and/or the Visually Significant Corridors Plan for the Property's character zone.

42. The Approved Plans show parking spaces along Lincoln Drive that could be converted to landscaped area. ~~The width of the landscape buffer along Lincoln Drive may be increased to make this landscaped area more in compliance to the Special Use Permit guideline of fifty feet (50') without an amendment to the Special Use Permit. In which the event, of the foregoing, an~~ updated landscape plan of this area shall be provided to the Town Manager, or designee, for review and approval. A parking study/statement, prepared by a licensed engineer and approved by the Town Engineer, may be required to demonstrate the Property has adequate parking. This provision may also apply should there be a request to convert other parking spaces on the Property to landscaped areas.

Commented [TR9]: This section should cover any potential impacts to the conceptual parking plan that may result from future revisions to the Parking Study.

F. RIGHT-OF-WAY, PARKING & CIRCULATION

43. [STAFF RECOMMENDATION] To Be Determined

1. [PLANNING COMMISISON LANGUAGE FOR ADJACNET PROPERTY] The Owner shall deed, by dedication and/or easement, a total right-of-way width of sixty-five feet (65') to the Town; as measured from the centerline of Lincoln Drive adjoining the Property (the "Right-of-Way"), provided however that such dedication and/or easement shall not affect calculations for density now and in the future. - This shall not reduce Property size for density calculations now and in perpetuity.

- a. The north portion of this Right-of-Way shall be forty-nine feet (49') in width and deeded as a dedication to the Town for public purposes such as, and not limited to, landscaping, travel

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lanes, sidewalk, utilities, and associated public roadway improvements (the "Public Improvements").

- b. The south portion of this Right-of-Way shall be sixteen feet (16') in width and deeded as a roadway easement to the Town for future Public Improvements. [It is expected that the Owner's reservation of uses in the roadway easement area will be determined by the Town Council in a development agreement, or otherwise. The Planning Commission would recommend shared left turn ingress and egress with adjoining property owners be explained, but also expects that this issue will be determined by the Town Council as well.]

2. The Owner Shall deed twenty-five feet (25') of right-of-way to the Town; as measured from the centerline of Quail Run Road adjoining the Property (the "Quail Run Road Right-of-Way"). All travel lanes, public sidewalk (if any), and associated public roadway improvements shall be located within this Quail Run Road Right-of-Way. Such dedication shall not affect calculations for density now and in the future. This shall not reduce Property size for density calculations now and in perpetuity.
3. The Right-of-Way and Roadway Easement deed instrument(s) shall be recorded with the Maricopa County Recorder, Maricopa County, Arizona, concurrent or prior to the Effective Date of this Ordinance.
4. No above ground structures shall be placed in the Right-of-Way, except for any approved Town monument and/or Town directional sign(s), utilities, and any other approved structures or uses allowed by this Special Use Permit.
5. The Owner shall construct (or provide payment to the Town in lieu of actual construction) roadway improvements to Quail Run Road as outlined in the **2019 Development Agreement**.
6. Shared access to the adjoining properties of Lincoln Medical Plaza ~~and/or Andaz Resort~~ may be allowable if desired by Owner, and provided that Owner has ~~—The Owner shall demonstrate~~d through a traffic/circulation/parking study, prepared by a licensed engineer and approved by the Town Engineer, that such shared access is safe and does not create negative or adverse traffic impacts.
7. The minimum parking space size shall be 180 square feet as defined in Article II, Definitions, of the Town Zoning Ordinance. However, the Approved Plans identify 9-foot by 18-foot parking spaces with a two-foot overhang in the adjoining landscape area (which meets the 180 square-foot requirement). Accordingly, this two-foot landscape area shall, in perpetuity, be kept and maintained clear of structures or plant

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material that may restrict the parking of a vehicle within this two-foot landscape area. Parking spaces within the underground parking garage shall meet the minimum size of 180 square feet.

8. All designated fire lanes shall maintain a vertical clearance of fourteen (14) feet above actual finished grade and a horizontal clearance of twenty (20) feet to allow passage of emergency vehicles and must meet all Department of Transportation standards.

G. SIGNAGE

52. All signs shall be installed in accordance with the Approved Plans, or the 2019 Development Agreement. In the event of a conflict between the 2019 Development Agreement and the Approved Plans, the 2019 Development Agreement shall control. ~~the SUP Guidelines.~~
53. No above ground structures shall be placed in the roadway easement except approved monument signs and any other approved structures allowed by this Special Use Permit.

H. LIGHTING

54. All outdoor lighting shall be in compliance the Approved Plans, including the wattage and color of each lighting fixture. In the event the Approved Plans are not clear, such lighting shall meet the Special Use Permit Guidelines, as such may be amended from time to time.
55. Unless otherwise included in the Approved Plans, ~~L~~amps, lighting, or illumination devices within an outdoor light fixture shall not be visible from outside the Property. If the Town receives a complaint from an offsite owner that a lamp or lighting or illumination device within an outdoor light fixture is visible from outside the Property, the Town Manager or designee may inspect the Property and require the Owner to shield such lighting fixture if the Town Manager determines that the light emitting element is visible from outside the Property.

I. LANDSCAPING

56. Perimeter landscaping plans (i.e., for those areas between the back of curb and adjacent structures of parking areas) shall be submitted to the Town Manager for review and approval. Perimeter landscaping along Lincoln Drive shall be compliant with the Town's Visually Significant Corridors Master Plan. If new construction allowed under this Special Use Permit does not start within three hundred sixty-five (365) days from issuance of a demolition permit, Owner must either, at Owner's option, replace landscaping or provide other screening where removal of existing landscaping/screening was necessary for demolition.

Perimeter landscaping will be maintained by the owner in conformance with the approved plan.

J. TEMPORARY USES

57. Temporary event tents or pavilions may be erected on the Event Lawn Area of the Property in accordance with the Town Code Special Event Permit requirements (Chapter 8). No event tent shall be higher than twenty-four (24) feet above Original Natural Grade or closer to any exterior property line than the minimum setbacks shown for a twenty-four (24) foot height building. Placement of event tents shall have no material adverse impact on parking or circulation on site. Temporary event tents or structures shall not be allowed for more than fourteen (14) consecutive days unless located interior to the site, in which location temporary tents may be allowed for up to ninety (90) consecutive days. Temporary event tents are required to receive a Tent Permit from the Town.

K. CELLULAR ANTENNAS

58. Cellular and other wireless transmission antennas are permitted, provided that they comply with this Special Use Permit and all applicable Town ordinances, specifically including the current requirement to obtain a conditional use permit. Any cellular antennas shall be designed as integrated architectural features within the structures on the Property and any screening shall be in the same finish and color as the structure on which it is located. There shall be no unscreened projections of cellular antennas on any building above the roofline. Any lease agreement with a wireless operator will specifically allow entry by the Town and its agent for the purpose of inspection and compliance with Town ordinances and will require compliance with Article XII of the Town Zoning Ordinance.

L. MANAGEMENT - MAINTENANCE

59. There shall be at least one (1) person designated by the Resort at all times who has been thoroughly briefed on the provisions of this Special Use Permit and who has the authority to resolve, or to refer to others for resolution, all problems related to compliance with this Special Use Permit. All calls from Town residents to the Town or Resort regarding noise or disturbances shall be referred to and addressed by such person(s). The name and contact information for the property manager to be provided to the Town's Community Development Department Director, or designee prior to the issuance of a certificate of completion, and to then be updated within ~~ten~~ ten (10) days after any property manager change is made. Maintenance of the Resort in general and all common areas specifically, shall be

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coordinated through a single unified management entity, which may be the Principal Resort Hotel Owner or a master association of Owners.

60. All exterior portions of all structures and all driveways, parking areas, landscaping, walls, and lighting shall be kept and maintained in good condition and repair.

61. Interiors of the building on the Property may be remodeled at any time without an amendment to the Special Use Permit so long as the other aspects of the Property remain in substantial compliance with the 2019 Development Agreement and the Approved Plans and all applicable building permits are obtained.

62. Use of outdoor space by employees for activities such as smoking may create unintended nuisances for persons on adjoining properties. This type of activity shall be located near the rear and sides of the building, away from the perimeter of the Property.

63. Except during construction periods, No storage of outdoor materials is permitted on the Property that can be seen off site.

64. A maintenance, repair and replacement regime shall be formulated by Owner(s) and incorporated into one or more CC&Rs which shall be a first priority lien (junior only to existing matters of record other than monetary liens and the 2019 Development Agreement) on the Resort or each particular phase, as the case may be. Said regime shall provide for governance through a master developer of the Resort or of a phase, or through an authorized or duly formulated association of certain, some, or all Owners of the Resort or phased parts thereof. Said regime shall set forth and contain the minimum following elements:

a. All exterior portions of all structures and all roadways, parking areas, landscaping, walls, pools and lighting shall be kept and maintained in working a first-class condition, commensurate with a mixed use resort project serving multiple uses and Owners so that each part is benefited by the first class condition of each other part.

b. Adequate and reasonable assessments shall be made of each Owner to reasonably fund estimated budgets for the maintenance, repair, replacement, and care of the completed Resort and/or each phase thereof.

c. A governance mechanism to protect all Owners and insure the reasonable and adequate maintenance of all components of all phases of the Resort, including the power to access and enter upon the property of another for the purpose of enforcing the regime.

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M. CONDITIONAL APPROVAL

65. This SUP shall be effective as of the Effective Date if, but only if, the 2019 Development Agreement is approved by the Town Council and signed by Owner. After this SUP is recorded, if this SUP does not become effective within 365 days or if it is no longer effective, then the Town shall promptly record a notice that this SUP did not become or is no longer effective.

IV. APPROVED PLANS *[Will need to update with the final plans/documents]*

The following plans and documents apply to the Property. In the case of discrepancies between Approved Plans, those with a later date shall take precedence. In the case of discrepancies between Approved Plans and Stipulations, the Stipulations shall take precedence as specified in Section III.A.1.

(SUP 18-05)	<ol style="list-style-type: none">1. Smoke Tree Resort Major Amendment Application Booklet, dated January 9, 2019.2. Smoke Tree Resort Traffic Impact Analysis, prepared by CivTech, sealed by Dawn Cartier on November 19, 2018.3. Parking Study for Smoketree Resort, prepared by CivTech, Sealed by Dawn Cartier on November 20, 2018.
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