# PLANNING COMMISSION REPORT

Meeting Date: August 11, 2021
General Plan Element: *Land Use*
General Plan Goal: *Create a sense of community through land uses*

## ACTION

**WestWorld Sport Fields MUMSP**
**9-UP-2021**

**Request to consider the following:**

1. A recommendation to City Council regarding a request by owner for approval of a Municipal Use Master Site Plan for a 29-acre new multi-use sports field with field lighting located at the east side of Westworld, 15514 & 15522 N. Thompson Peak Parkway, 9809 E. McDowell Mountain Road, 15939 N. 98th Street, and Parcel APN 217-14-038B, zoned Single-family Residential, Environmentally Sensitive Lands (R1-35, ESL) and Western Theme Park District (WP).

### Purpose of Request

In accordance with Section 1.501 of the Zoning Ordinance, the Development Review Board and Planning Commission shall review and make a recommendation to the City Council regarding a proposed municipal use master site plan for any site larger than one (1) acre of gross lot area. The applicant's request is for a recommendation to the City Council on the proposed Municipal Use Master Site Plan for a 38-acre multi-use sport fields with field lighting.

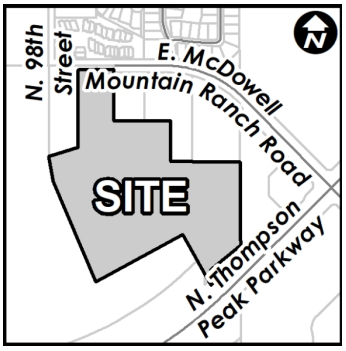
### Key Items for Consideration

- Municipal Use Master Site Plan Criteria
- The Municipal Use Master Site Plan is consistent with the General Plan
- Environmentally Sensitive Lands Overlay District
- City Council initiated the MUMSP on April 7, 2020 and December 1, 2020
- The Parks and Recreation Commission heard this case on June 16, 2021, and recommended approval to City Council with a 4-0 vote
- The Development Review Board heard this case on July 15, 2021 and recommended approval to City Council with the conditions
- Public comments received expressed support and concerns regarding traffic, sidewalks and drainage

## OWNER

Action Taken _____

City of Scottsdale
480-312-2522




## APPLICANT CONTACT

Joe Phillips
City of Scottsdale
(480) 861-4823

## LOCATION

15514 & 15522 N. Thompson Peak Parkway, 9809 E. McDowell Mountain Road, 15939 N. 98th Street, and Parcel APN 217-14-038B.

## BACKGROUND

### General Plan

The General Plan Land Use Element designates the property as Cultural/Institutional or Public Use and Office. The Cultural/Institutional or Public Use category includes a variety of public and private facilities including government buildings, schools, private and public utilities and airports. Private facilities include Taliesin West, the Mayo Clinic, Scottsdale Memorial and Scottsdale Memorial North hospitals. Some areas north of the C.A.P. Canal may include a mixture of recreation, tourism, destination attraction, equestrian facilities, hotels or resorts and cultural uses serving a large area.

The Office land use designation includes a variety of office uses. Minor offices have a residential scale and character, often in a campus setting. Minor office uses generate low to moderate traffic volumes and could located along a collector or arterial streets. Major offices include offices and related uses that have more than one story and may have underground parking. Typically, this use is located in the central business district and other major commercial cores.

### Zoning

The site was annexed into the City in 1972 (Resolution #645) as Single-family Residential (R1-35).
In 1991, the Environmentally Sensitive Lands (ESL) Ordinance was adopted as an amendment to the Hillside District Overlay and incorporated the eastern 5.6-acre parcel into the ESL overlay boundary while the adjacent four parcels were rezoned to the Western Theme Park District (WP) zoning designation in 1995 (Ordinance #2838). The majority of the land is owned by the Bureau of Reclamation and is managed by the city. In December 2020, the city acquired additional land from the Arizona State Land Department to accommodate space to build five sport fields.

### Context

The WestWorld Sports Complex site is located approximately 550 feet west of the intersection of N. Thompson Peak Parkway and McDowell Mountain Ranch Road. The surrounding uses are residential, commercial, WestWorld special event facility, and vacant land.

### Adjacent Uses and Zoning

- North: One-story condominiums (Graythorn) and vacant, undeveloped land
- South: N. Thompson Peak Parkway Right of way abuts the site to the south, beyond N. Thompson Peak Parkway is the Central Arizona Project canal (CAP) and the McDowell Mountain Golf Course)
- East: Gas station, commercial, and undeveloped land
- West: WestWorld theme park and WestWorld Trailhead

### Other Related Policies, References:

Scottsdale General Plan 2001, as amended
Environmentally Sensitive Lands
Zoning Ordinance

## APPLICANT'S PROPOSAL

### Development Information

The applicant's request is for a recommendation to the City Council on the proposed Municipal Use Master Site Plan to construct new multi-use sport fields with field lighting.

| | |
|---|---|
| • Existing Use: | Vacant, undeveloped land with retention basin |
| • Proposed Use: | Multi-use sport fields with field lighting |
| • Buildings/Description: | Multi-use sport fields with field lighting, restrooms and office |
| • Parcel Size: | 1,225,602 square feet / 28.14 acres (net)<br>1,279,190 square feet / 29.36 acres (gross) |
| • Building Height Allowed: | 24 feet (exclusive of rooftop appurtenances) |
| • Building Height Proposed: | 17 feet 6 inches (inclusive of rooftop appurtenances) |
| • Parking Required: | 189 spaces |
| • Parking Provided: | 455 spaces |
| • Natural Area Open Space Required: | 66,213.74 square feet / 1.52 acres |
| • Natural Area Open Space (2:1 credit): | 32,500.16 square feet/ 0.75 acres |
| • Natural Open Space Provided: | 66,512.08 square feet /1.52 acres |

## IMPACT ANALYSIS

### Municipal Use Master Site Plan (MUMSP)

In accordance with Section 1.501 of the Zoning Ordinance, the Development Review Board and Planning Commission shall review and make a recommendation to the City Council regarding a proposed municipal use master site plan for any site larger than one (1) acre of gross lot area. The

purpose of the Municipal Use Master Site Plan is to find that the proposed municipal use is of general community interest and to ensure that the general public has the opportunity to comment on the proposed use and site plan design. When evaluating a MUMSP, staff encourages the Development Review Board and Planning Commission to provide a recommendation based on the proposed plan and the compatibility of the proposed use to the adjacent and abutting developments.

## Municipal Use Master Site Plan Findings (Zoning Ordinance Section 1.502):

A. The Municipal Use Master Site plan is not potentially detrimental to adjacent properties.
   - The site design of the sport fields respects nearby uses with; lighting setbacks, lower field elevations and shielding that will contain light on the fields, minimal building size and low scale design, field setbacks from existing/planned residential area in excess of 550' and fields are significantly lower in grade elevation than those uses which provides additional buffering from noise and lighting effects.

B. The site plan proposes a municipal use that is of general community interest.
   - The new sport fields will provide a major recreational and open space service for the community. The site plan conforms with the Environmentally Sensitive Lands Ordinance with the dedication of Natural Area Open Space (NAOS) that includes protection of the Old Verde Canal. Additionally, landscape improvements provide a buffer to the adjoining uses. Vehicular circulation improvements include access from Thompson Peak Parkway (Arterial Street) and McDowell Mountain Road (Major Collector Street) which is more than adequate for traffic generated by the park usage and encourages appropriate and convenient safe access.

## Airport Vicinity

The project falls within the AC-1 Airport Influence Zone, which allows recreational facilities with field lighting. Development located within the twenty-thousand-foot radius of the Scottsdale Airport, that penetrates the 100:1 slope from the nearest point of the runway shall submit to the FAA the appropriate forms for FAA review.

## Transportation/Trails

The site is located on the southwest corner of McDowell Mountain Ranch Road and Thompson Peak Parkway and is currently vacant. The five planned soccer/multi-use fields are expected to generate on weekdays, a maximum of 600 daily trips, with 40 AM peak hour trips and 170 PM peak hour trips. The fields are expected to generate 1,525 weekend trips with 235 peak hour trips occurring on Saturday and 190 peak hour trips occurring on Sunday. The site will be served by two (2) access points – a driveway at the south side of McDowell Mountain Ranch Road, east of 98th Street, and a driveway on the loop drive along Thompson Peak Parkway that serves the public schools and the McDowell Mountain Ranch public facilities – library, skate park, pool, and soccer fields.

Development of the site will include the installation of curb, gutter, and sidewalk along the McDowell Mountain Ranch Road frontage. These street improvements will be extended to connect to the 98th Street intersection. Sidewalk connections will be provided to the proposed facilities from both

McDowell Mountain Ranch Road and Thompson Peak Parkway. A path connection from the on-site sidewalk will provided to the existing multi-use path along the western portion of the site, which extends to WestWorld. A component of the site development will include modifying the existing multi-use path at the southwest corner of the site to remove it from the stormwater ponding that occurs in this area.

## Drainage

The City's Stormwater Department has reviewed the application and finds there are two primary offsite flows that are routed through the site in existing washes. One that runs along the south side of the site and the other that runs through the northwest corner of the site. New culverts will be provided within the washes to convey flows under the driveways and pathways. A new culvert will also be installed to route offsite flow from the Old Verde Canal through the wash that runs along the south side of the site. Other drainage improvements include new storm drains that will collect and convey offsite flows from the properties adjacent to the east side of the site that lie downstream of the Old Verde Canals. The storm drains will also convey runoff collected in catch basins installed within the new parking lot. The sports complex will be designed to meet the drainage requirements set forth by the Bureau of Reclamation for development within their floodwater impoundment area as well as the design requirements outlined in the City of Scottsdale Design Standards and Policy Manual.

## Water/Sewer

The City's Water Resources Department has reviewed the application and finds that the proposed water and wastewater is adequate to service the development. Irrigation water for the five (5) sport fields will be provided directly from the CAP (Central Arizona Project) canal nearby. The developer is responsible for providing all water and wastewater infrastructure improvements, including any new service lines, connections, fire hydrants, and manholes to serve the development.

## Public Safety

The nearest fire station is within 1 mile of the site and located at 16701 N. 100$^{th}$ Street. The city's public safety division reviewed the site plan and determined the internal circulation accommodates fire truck access and maneuverability for emergency services. There are no anticipated impacts associated with this request.

## Natural Area Open Space (NAOS)

Located at the northeast corner of the site is The Old Verde Canal which is considered an archaeological site. As allowed per the Zoning Ordinance Section 6.1060.B.4., the required NAOS for archaeological sites can be reduced by two (2) square feet for each one (1) square foot of approved site (2:1). In result, approximately 17,250 square feet of the Old Verde Canal will be preserved as undisturbed Natural Area Open Space which results in approximately 32,500 square feet of NAOS credit. Overall, NAOS is dedicated along the eastern perimeter of the site and the minimum required NAOS is 66,213.74 square feet and 66,512.08 square feet of NAOS will be dedicated.

## Community Involvement

As part of the Municipal Use Master Site Plan application, city staff notified property owners within 0.5 mile of the site. Additionally, the city notified the residents that received notifications of the

previously approved MUMSP for the Bell Road Sports Complex Case# 10-UP-2020. In May and June of 2021, the city hosted a virtual public meeting on the City's website: https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road.The Park and Recreation Commission heard this case on June 16, 2021, and recommended approval with a vote of 4-0 with no discussion. At the July 15, 2021, Development Review Board hearing, two citizens spoke at the hearing and asked the city to consider a regional drainage solution that would benefit their property. Subsequent to the meeting, staff followed-up with the speakers to address their interest and discuss possible future drainage solution.

### Policy Implications

The proposed MUMSP will accommodate five (5) new multi-use sport fields to meet the increased demands for lighted sport fields in the community, create the ability for Scottsdale to host larger tournaments and provide parking for special events for 2-4 weeks each year to replace the temporary parking lots on Arizona State Land that have been sold recently.

## OTHER BOARDS & COMMISSIONS

### Park and Recreation Commission:

The Parks and Recreation Commission heard this case on June 16, 2021 and the motion for approval passed with a 4-0 vote.

### Development Review Board:

The Development Review Board heard this case on July 15, 2021 and the motion for approval passed with a 6-0 vote with the consideration of future additional amenities at the site at a later date outside of the approved bond funding and cooperation with the adjacent property owners on regional drainage concerns.

## STAFF RECOMMENDATION

### Recommended Approach:

Staff recommends that the Planning Commission find that the Municipal Use Master Site Plan criteria have been met, and determine that the proposed Municipal Use Master Site Plan is consistent and conforms with the adopted General Plan, and make a recommendation to City Council for approval of the Municipal Use Master Site Plan, per the attached stipulations.

## RESPONSIBLE DEPARTMENTS

**Planning and Development Services**

Current Planning Services
Capital Project Management
Traffic Engineering
Stormwater Management
Water Resources

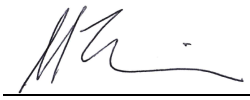
Plan Review
Fire & Life Safely Services

## STAFF CONTACTS

Meredith Tessier
Senior Planner
480-312-4211
E-mail: mtessier@ScottsdaleAZ.gov

Joe Phillips
Project Manager
480-312-2522
Email: jphilips@Scottsdaleaz.gov

## APPROVED BY



07/26/2021

Meredith Tessier, Report Author — Date

8/2/2021

Tim Curtis, AICP, Current Planning Director — Date
Planning Commission Liaison
Phone: 480-312-4210 Email: tcurtis@scottsdaleaz.gov

8/2/2021

Randy Grant, Executive Director — Date
Planning, Economic Development, and Tourism
Phone: 480-312-2664 Email: rgrant@scottsdaleaz.gov

## ATTACHMENTS

1. Context Aerial
1a. Aerial Close-Up
2. Stipulations
   Exhibit A to Attachment #2: Municipal Use Master Site Plan
3. Applicant's Narrative
4. Zoning Map
5. Traffic Impact Summary
6. Traffic Study
7. Community Involvement / Citizen Input
8. City Notification Map
9. Parks and Recreation Commission Meeting Minutes
10. July 15, 2021 Development Review Board Meeting minutes
11. Development Review Board Comment Cards


**Context Aerial**

**ATTACHMENT #1**

**9-UP-2021**


**Close-up Aerial**

**ATTACHMENT #1a**

**9-UP-2021**

# Stipulations for a Municipal Use Master Site Plan
# For WestWorld Sport Fields MUMSP
# Case Number: 9-UP-2021

These stipulations are in order to protect the public health, safety, welfare, and the City of Scottsdale.

## SITE DESIGN

1. CONFORMANCE TO CONCEPTUAL SITE PLAN. Development shall conform with the conceptual site plan submitted by Gavin & Barker, Inc and with the city staff date of June 2, 2021, attached as Exhibit A to Attachment 2. Any proposed significant change to the conceptual site plan as determined by the Zoning Administrator, shall be subject to additional action and public hearings before the Planning Commission and City Council.

## ARCHAEOLOGY

2. The owner shall submit an archaeology survey and report that is prepared by a qualified archaeologist, in conformance with Scottsdale Revised Code, Chapter 46, Article VI. Protection of Archaeological Resources, with the submittal of a Development Review application associated with 9-UP-2021

## AIRPORT

3. FAA DETERMINATION. With the Development Review Board Application submittal, the owner shall submit a copy of the FAA Determination letter on the FAA FORM 7460-1 for any proposed structures and/or appurtenances that penetrate the 100:1 slope. The elevation of the highest point of those structures, including the appurtenances, must be detailed in the FAA form 7460-1 submittal.
4. AVIGATION EASEMENT. With the Development Review Board Application submittal, the owner shall provide a signed and completed Avigation Easement in a form acceptable to the City for recording.

## INFRASTRUCTURE AND DEDICATIONS

5. CIRCULATION IMPROVEMENTS. Before any certificate of occupancy is issued for the site, the owner shall make the required dedications and provide the following improvements in conformance with the Design Standards and Policies Manual and all other applicable city codes and policies.

   a. STREETS. Dedicate the following right-of-way and construct the following street improvements:

| Street Name | Street Type | Right-of-way Dedications | Improvements | Notes and Requirements |
|---|---|---|---|---|
| E McDowell Mountain Ranch Road | Major Collector | NA | Construct curb, gutter and eight (8) foot wide sidewalk along project frontage and extending to N. 98th Street. | **a.1.**, a.2., + a.3. |

a.1. All street improvements (curb, gutter, sidewalk, curb ramps, driveways, pavement, concrete, etc.) shall be constructed in accordance with the applicable City of Scottsdale's Supplements to the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, and Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction and the Design Standards and Policies Manual.

a.2. Cross section shall be consistent with existing E McDowell Mountain Ranch Road cross section to the east or project development and near Thompson Peak Parkway.

a.3. Install an all-way stop control condition at the N. 98th Street intersection.

b. TRAFFIC IMPROVEMENTS. Construct any improvements supported by the approved traffic impact study, as determined by city staff.

6. DRAINAGE REPORT. In the required drainage report, the owner shall address:
   a. The preliminary drainage report submitted under the use permit case shall be updated to a 75% level of design and analysis level report in accordance with chapter 4 of the DSPM for the development review case for this project.

7. BASIS OF DESIGN REPORT (WATER). In the required final basis of design report, the owner shall address:
   a. Utility Plan.

8. FINAL BASIS OF DESIGN REPORT (WASTEWATER). In the required final basis of design report, the owner shall address:
   a. Maintaining Water Resources approved access to existing manholes within and adjacent to project development.

   b. Utility Plan.

9. EASEMENTS.

   a. EASEMENTS DEDICATED BY PLAT. The owner shall dedicate to the city on the final plat, all easements necessary to serve the site, in conformance with the Scottsdale Revised Code and the Design Standards and Policies Manual.

   b. EASEMENTS CONVEYED BY SEPARATE INSTRUMENT. Before any building permit is issued for the site, each easement conveyed to the city separate from a final plat shall be conveyed by an instrument or map of dedication subject to city staff approval, and accompanied by a title policy in favor of the city, in conformance with the Design Standards and Policies Manual.

10. CONSTRUCTION COMPLETED. Before any building permit is issued for the site, the owner shall complete all the infrastructure and improvements required by the Scottsdale Revised Code and these stipulations, in conformance with the Design Standards and Policies Manual and other applicable standards.


**Exhibit A to Attachment #2**

CITY OF SCOTTSDALE

**WestWorld Sports Complex - Municipal Use Master Site Plan**

McDowell Mountain Ranch Rd & Thompson Peak Pkwy

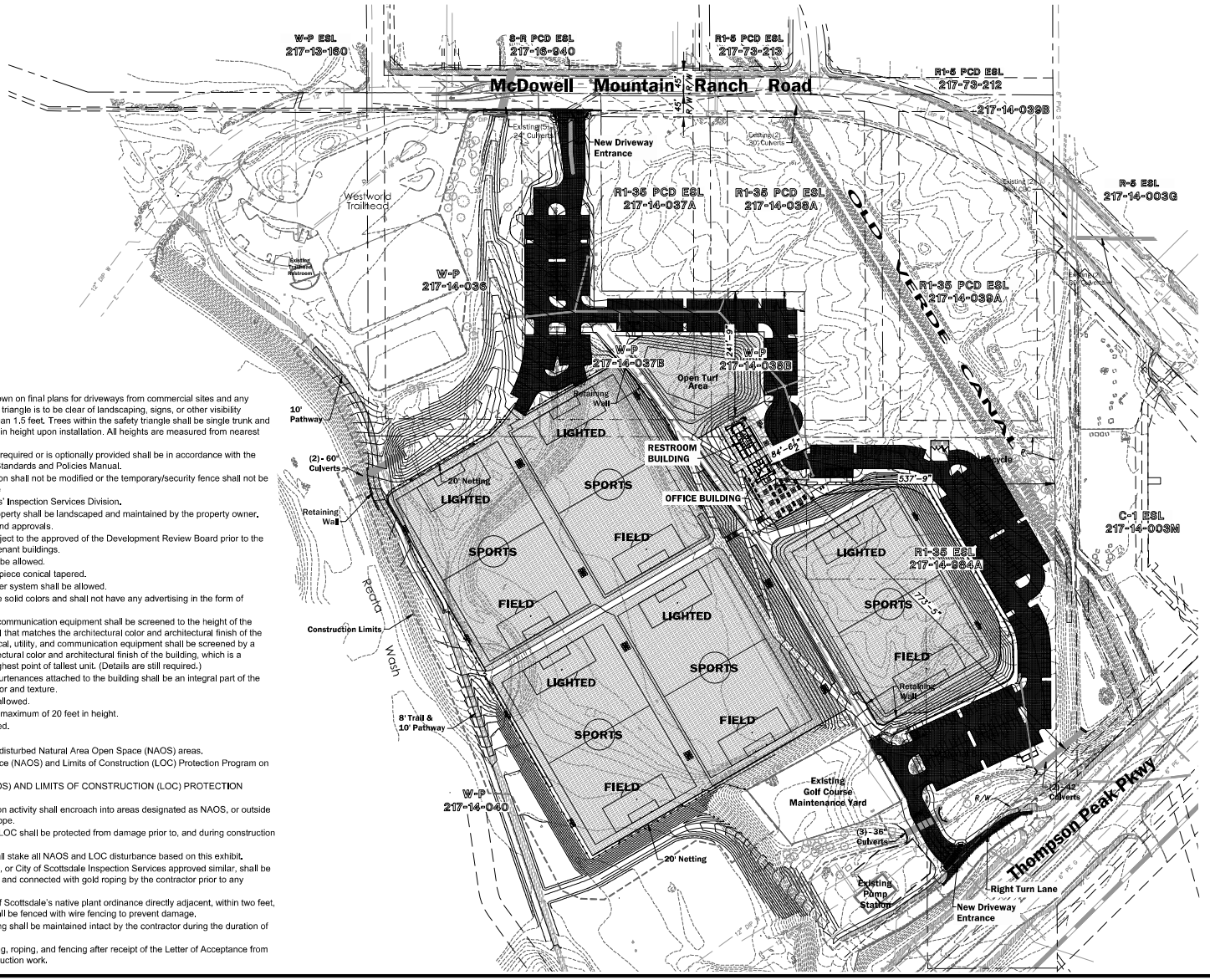
0 75' 150'

N

May 2021

Gavan & Barker Inc. Civil Engineering & Landscape Architecture

| PROPERTY OWNER: | CITY OF SCOTTSDALE: | ENGINEER: | LANDSCAPE ARCHITECT: | ARCHITECT: | SITE ELECTRICAL ENGINEER: | IRRIGATION: |
|---|---|---|---|---|---|---|
| CITY OF SCOTTSDALE<br>7227 E INDIAN SCHOOL RD,<br>STE 205<br>SCOTTSDALE, AZ 85251 | PROJECT MANAGER<br>JOE PHILLIPS, P.E.<br>7447 E. INDIAN SCHOOL RD, STE 205<br>SCOTTSDALE, AZ 85251<br>jphillips@scottsdaleaz.gov<br>(480) 861-4823 | GAVAN & BARKER INC.<br>MARK GAVAN, P.E.<br>3030 N CENTRAL AVE, STE 700<br>PHOENIX, AZ 85012<br>mgavan@gavanbarker.com<br>(602) 200-0031 | GAVAN & BARKER INC.<br>JOHN BARKER, PLA, ASLA<br>3030 N CENTRAL AVE, STE 700<br>PHOENIX, AZ 85012<br>jbarker@gavanbarker.com<br>(602) 200-0031 | FUCELLO ARCHITECTS<br>STEVEN FUCELLO, AIA<br>7525 E CAMELBACK RD, STE 204<br>SCOTTSDALE, AZ 85251<br>sfucello@fucelloarchitects.com<br>(480) 947-2960 | WRIGHT ENGINEERING CORP.<br>CLIFF TOLMAN<br>165 E CHILTON DRIVE<br>CHANDLER, AZ 85225<br>ctolman@wrightengineering.us<br>(480) 497-5829 | J2 ENGINEERING &<br>ENVIRONMENTAL DESIGN, LLC<br>KEVIN WALLIN, CID<br>4649 E. COTTON GIN LOOP, STE B2<br>PHOENIX, AZ 85040<br>kwallin@j2design.us<br>(602) 438-2225 |

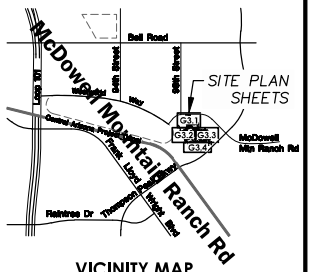



- Sight distance triangles shall be shown on final plans for driveways from commercial sites and any intersections. Area within the safety triangle is to be clear of landscaping, signs, or other visibility obstructions with a height greater than 1.5 feet. Trees within the safety triangle shall be single trunk and have a canopy that begins at 8 feet in height upon installation. All heights are measured from nearest street line elevation.
- Temporary/Security Fencing that is required or is optionally provided shall be in accordance with the Zoning Ordinance and the Design Standards and Policies Manual.
- The temporary/security fence location shall not be modified or the temporary/security fence shall not be removed without the approval of the
- Planning and Development Services' Inspection Services Division.
- All rights-of-way adjacent to this property shall be landscaped and maintained by the property owner.
- All signs require separate permits and approvals.
- A master sign program shall be subject to the approved of the Development Review Board prior to the issuance of a sign permit for multi-tenant buildings.
- No exterior vending or display shall be allowed.
- Flagpoles, if provided, shall be one piece conical tapered.
- No exterior public address or speaker system shall be allowed.
- Patio umbrellas, if provided, shall be solid colors and shall not have any advertising in the form of signage or logos.
- All exterior mechanical, utility, and communication equipment shall be screened to the height of the tallest unit by parapet or screen wall that matches the architectural color and architectural finish of the building. Ground mounted mechanical, utility, and communication equipment shall be screened by a screen wall that matches the architectural color and architectural finish of the building, which is a minimum of 1'-0" higher than the highest point of tallest unit. (Details are still required.)
- All equipment, utilities, or other appurtenances attached to the building shall be an integral part of the building design in terms of form, color and texture.
- No exterior visible ladders shall be allowed.
- All pole-mounted lighting shall be a maximum of 20 feet in height.
- No chain link fencing shall be allowed.
- No turf areas shall be provided.
- No irrigation shall be provided to undisturbed Natural Area Open Space (NAOS) areas.
- Provide the Natural Area Open Space (NAOS) and Limits of Construction (LOC) Protection Program on the Plans:

NATURAL AREA OPEN SPACE (NAOS) AND LIMITS OF CONSTRUCTION (LOC) PROTECTION PROGRAM:

1. No building, grading, or construction activity shall encroach into areas designated as NAOS, or outside the designated construction envelope.
2. All NAOS and area outside of the LOC shall be protected from damage prior to, and during construction by the follow methods:
   a. A registered land surveyor shall stake all NAOS and LOC disturbance based on this exhibit.
   b. + Three (3) foot tall steel rebar, or City of Scottsdale Inspection Services approved similar, shall be set along the NAOS and LOC, and connected with gold roping by the contractor prior to any clearing or grading.
   c. All cactus subject to the City of Scottsdale's native plant ordinance directly adjacent, within two feet, of the NAOS and LOC line shall be fenced with wire fencing to prevent damage.
   d. The staking, roping, and fencing shall be maintained intact by the contractor during the duration of the construction activity.
3. The contractor shall remove staking, roping, and fencing after receipt of the Letter of Acceptance from the City of Scottsdale for all construction work.

Gavan & Barker Inc. — Civil Engineering - Landscape Architecture
3030 North Central Avenue, Suite 700, Phoenix Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032




VICINITY MAP

## CITY OF SCOTTSDALE WESTWORLD SPORTS COMPLEX

PARCEL ADDRESS: 9875 E. McDowell Mountain Ranch Road.
QS# 35-51
APN: C.O.S. 217-14-984A.....Zoning: R1-35 ESL
B.O.R. 217-14-040.....Zoning: W-P
B.O.R. 217-14-036.....Zoning: W-P
B.O.R. 217-14-037B.....Zoning: W-P
B.O.R. 217-14-038B.....Zoning: W-P

ZONING: R1-35 ESL
PLANNED USE: CITY PARK
AREA OF DISTURBANCE 1,279,190 s.f.
GROSS FLOOR AREA: 1,760 s.f.
PARKING REQUIREMENTS: (City of Scottsdale Park Standards)

| | | |
|---|---|---|
| Required: | Soccer Fields..... 35 per Field (x5) = | 175 |
| | Open Turf Park Areas..... 3 per Acre (x2) = | 6 |
| | Office / Restroom...,1 per 250 s.f. ( / 1,760 s.f. ) = | 8 |
| | Total Required | 189 |
| ACCESSIBLE PARKING: | | |
| Required Spaces..... 4% x Provided Parking (189) = | | 8 |
| PARKING PROVIDED: | | |
| Required Standard Park Use Spaces..... | | 189 |
| Accessible Spaces..... | | 8 |
| Additional Event/Tournament Spaces..... | | 258 |
| | Total Provided | 455 |
| BICYCLE PARKING: | | |
| Required: 1 per 10 Required Parking Spaces (193) = | | 20 |
| NAOS: Required: 66,213.74 s.f. (1.52 Ac) | | |
| Provided: 66,512,08 s.f. (1,53 Ac) | | |

N

Scale 1" = 100'
0' 50' 100' 200'

| DATE | REVISION | BY |
|---|---|---|

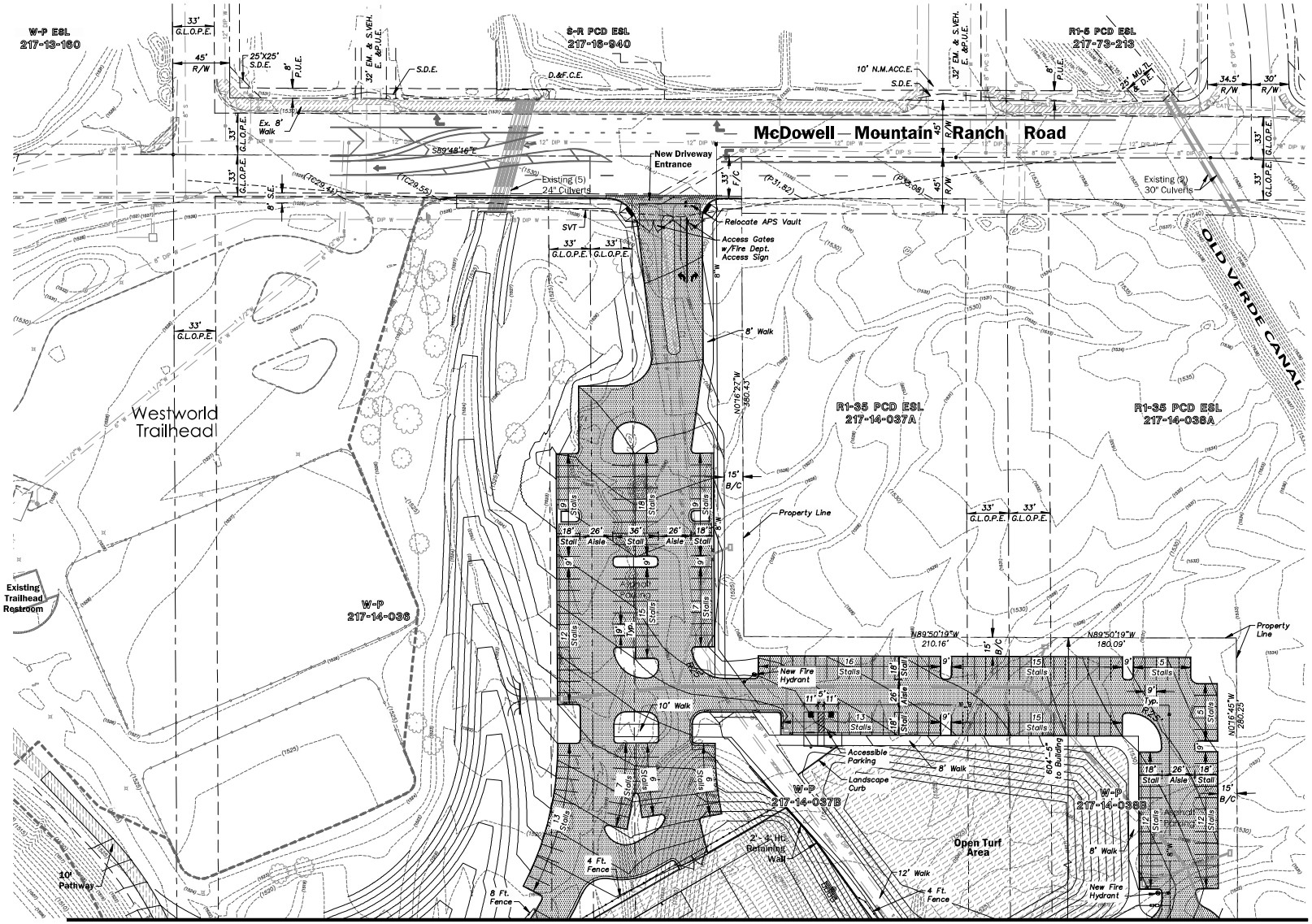
ENGINEER: 27433 JOHN E. BARKER — REGISTERED PROFESSIONAL ENGINEER — 5-30-22

PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
7447 E. INDIAN SCHOOL RD.
SCOTTSDALE, ARIZONA 85251

SHEET TITLE: SITE PLAN

PROJECT TITLE: CITY OF SCOTTSDALE WESTWORLD SPORTS COMPLEX

| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | EB | 6-2-21 | | G3.0 |
| VERT. | DRAWN | AS-BUILT | PROJECT NO. | 1 OF 6 |
| | JDH | | 405-PA-2021 | |

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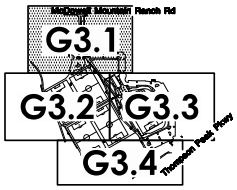
3030 North Central Avenue, Suite 700, Phoenix
Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032




KEY MAP

Scale 1" = 40'
0' 20' 40' 80'

| DATE | REVISION | BY |
|---|---|---|

ENGINEER
27433
JOHN E. BARKER
REGISTERED PROFESSIONAL ENGINEER
ARIZONA U.S.A.

CITY OF SCOTTSDALE ARIZONA

**PUBLIC WORKS**
**CAPITAL PROJECT MANAGEMENT**
7447 E. INDIAN SCHOOL RD.
SCOTTSDALE, ARIZONA 85251

SHEET TITLE
**SITE PLAN**

PROJECT TITLE
CITY OF SCOTTSDALE
WESTWORLD SPORTS COMPLEX

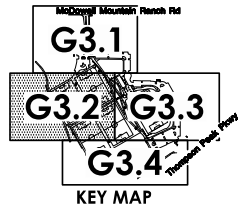
| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | EB | 6-2-21 | | G3.1 |
| VERT. | DRAWN JDH | AS-BUILT | PROJECT NO. 405-PA-2021 | 2 OF 6 |

Gavan & Barker Inc.
Civil Engineering - Landscape Architecture
3030 North Central Avenue, Suite 700, Phoenix
Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032

MATCH LINE - SEE SHEET 2 - G3.1


MATCH LINE - SEE SHEET 4 - G3.3

MATCH LINE - SEE SHEET 6 - G3.4




KEY MAP

Scale 1" = 40'
0' 20' 40' 80'

| DATE | REVISION | BY |
|---|---|---|

ENGINEER
27433 JOHN E. BARKER REGISTERED PROFESSIONAL ENGINEER ARIZONA U.S.A. 6-30-22

CITY OF SCOTTSDALE ARIZONA

**PUBLIC WORKS**
**CAPITAL PROJECT MANAGEMENT**
7447 E. INDIAN SCHOOL RD.
SCOTTSDALE, ARIZONA 85251

SHEET TITLE: **SITE PLAN**

PROJECT TITLE:
CITY OF SCOTTSDALE
WESTWORLD SPORTS COMPLEX

| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | KEB | 6-2-21 | | G3.2 |
| VERT. | DRAWN | AS-BUILT | PROJECT NO. | 3 OF 6 |
| | JDH | | 405-PA-2021 | |

Gavan & Barker Inc.
Civil Engineering - Landscape Architecture
3030 North Central Avenue, Suite 700, Phoenix
Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032

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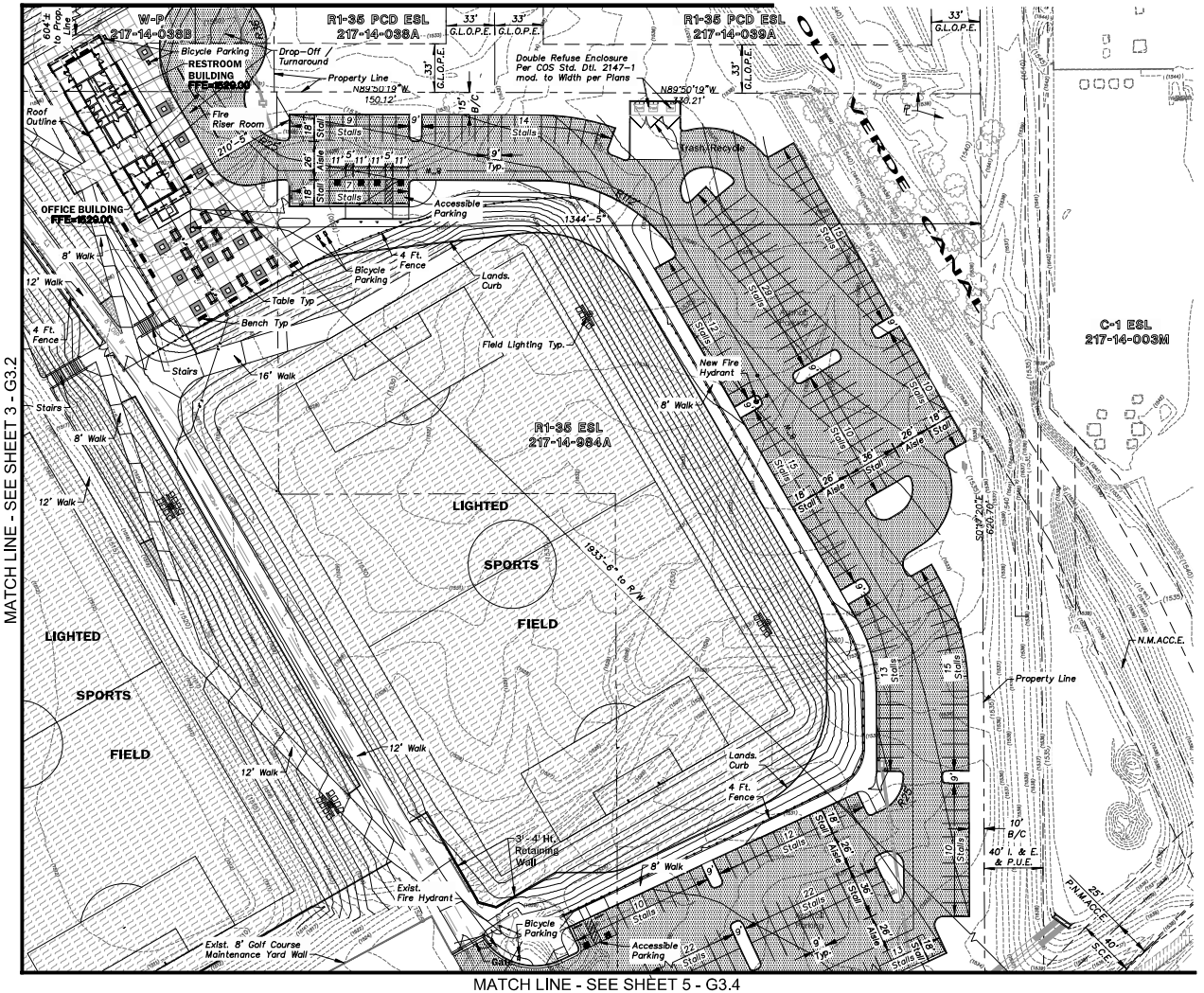


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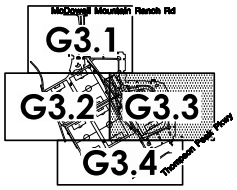


KEY MAP

Scale 1" = 40'
0' 20' 40' 80'

| DATE | REVISION | BY |
|---|---|---|

ENGINEER
27433
JOHN E. BARKER
REGISTERED PROFESSIONAL ENGINEER
ARIZONA U.S.A.

CITY OF SCOTTSDALE ARIZONA

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7447 E. INDIAN SCHOOL RD.
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SHEET TITLE
**SITE PLAN**

PROJECT TITLE
CITY OF SCOTTSDALE
WESTWORLD SPORTS COMPLEX

| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | EB | 6-2-21 | | G3.3 |
| VERT. | DRAWN | AS-BUILT | PROJECT NO. | 4 OF 6 |
| | JDH | | 405-PA-2021 | |

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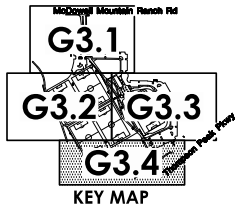
Civil Engineering - Landscape Architecture
3030 North Central Avenue, Suite 700, Phoenix
Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032

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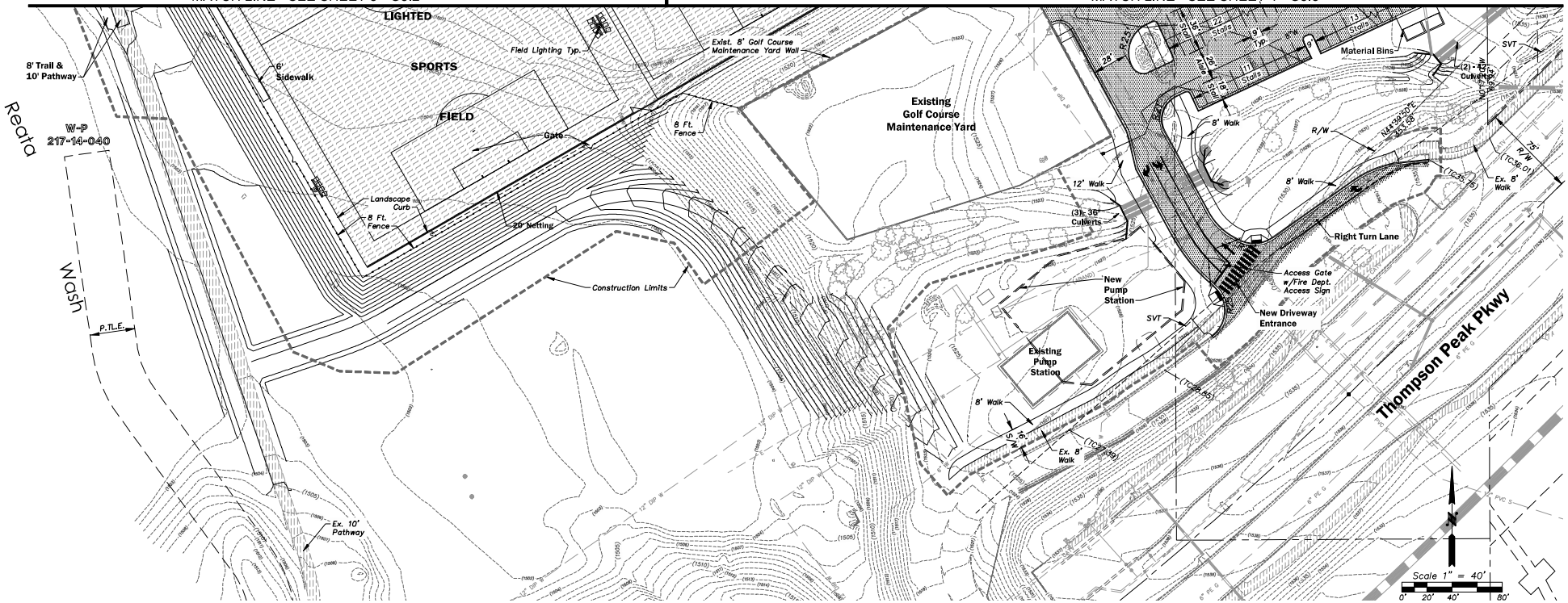



| DATE | REVISION | BY |
|---|---|---|

ENGINEER

REGISTERED LANDSCAPE ARCHITECT 27433 JOHN E. BARKER GAVAN & BARKER INC. PHOENIX, ARIZONA U.S.A. Expires 9-30-22

CITY OF SCOTTSDALE ARIZONA

**PUBLIC WORKS**

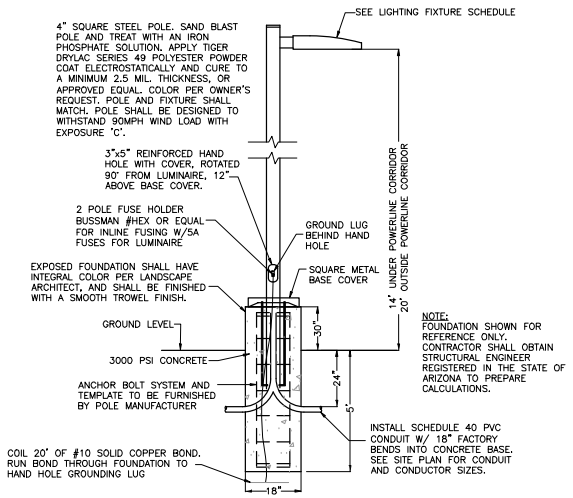
**CAPITAL PROJECT MANAGEMENT**

7447 E. INDIAN SCHOOL RD.
SCOTTSDALE, ARIZONA 85251

SHEET TITLE: **SITE PLAN**

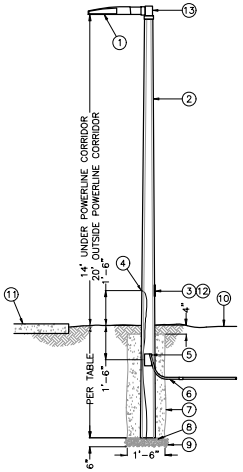
PROJECT TITLE:
CITY OF SCOTTSDALE
WESTWORLD SPORTS COMPLEX

| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | KEB | 6-2-21 | | G3.4 |
| VERT. | DRAWN | AS-BUILT | PROJECT NO. | |
| | JDH | | 405-PA-2021 | 5 OF 6 |



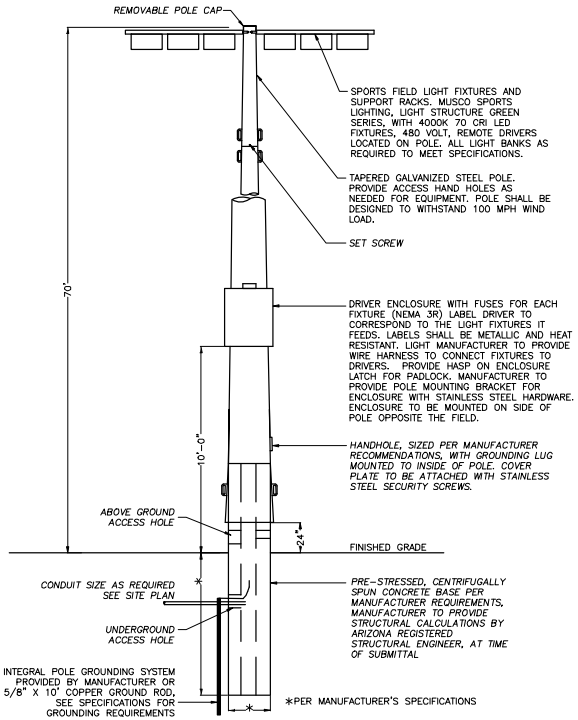

1 **PARKING LOT DETAIL** NTS

1. LED LIGHT FIXTURE, WITH IES PHOTOMETRIC DISTRIBUTION PER PLANS, SEE LIGHT FIXTURE SCHEDULE. ALL FIXTURES ARE TO BE PROVIDED FROM THE SAME MANUFACTURER.
2. DIRECT-BURIED, TAPERED, OCTAGONAL, PRE-STRESSED, REINFORCED, SPUN CONCRETE POLE. AMERON CONCRETE CAT# MEO06 OR TRADITIONAL CONCRETE POLES CAT# D121. POLE SHALL HAVE BLACK COLOR, EXPOSED AGGREGATE FINISH WITH ANTI-GRAFFITI SEALER. ALL POLES ARE TO BE PROVIDED FROM THE SAME MANUFACTURER.
3. FLUSH MOUNTED HANDHOLE WITH FLUSH, TAMPERPROOF, STAINLESS STEEL SECURITY SCREWS (BUTTON TORX WITH CENTER PIN). POLE MANUFACTURER TO PLACE HANDHOLE SO THAT IT WILL BE LOCATED ABOVE FINISHED GRADE AT HEIGHT NOTED IN DETAIL TO CENTER OF HANDHOLE AFTER INSTALLATION. INSTALL POLE WITH HANDHOLE FACING AWAY FROM PATH/SIDEWALK, WHERE POSSIBLE. WHERE POLE IS INSTALLED AGAINST WALL, HANDHOLE TO FACE PATH/SIDEWALK.
4. POLE MANUFACTURER TO PROVIDE A FACTORY INSTALLED GROUND WIRE WHICH IS CONNECTED TO THE STEEL REINFORCING IN THE POLE. CONNECT THE ELECTRICAL SYSTEM GROUND WIRE TO THIS POLE GROUND WIRE.
5. APERTURE IN POLE BASE FOR UNDERGROUND WIRING. APERTURE SIZED 1-1/2" BY 5" MINIMUM. PROVIDE TWO (2) EACH POLE AT 180 DEGREES FROM EACH OTHER AND 90 DEGREES FROM HANDHOLE. TAPE OPENINGS PRIOR TO BACKFILLING THE DRILLED HOLE.
6. PVC SCHEDULE 40 CONDUIT INTO POLE BASE FOR ELECTRICAL BRANCH CIRCUIT. SEE LIGHTING SITE PLAN FOR SIZES AND QUANTITIES. CONDUITS ARE TO BE INSTALLED IN POLE TO A POINT 12" ABOVE GRADE MINIMUM.
7. AFTER POLE HAS BEEN ALIGNED AND IS PLUMB, BLOCK POLE IN PLACE UNDERGROUND, BACKFILL HOLE WITH CEMENTIOUS EARTH BACKFILL TO A POINT 4" BELOW FINISHED GRADE, BACKFILL THE REMAINING 4" WITH SURROUNDING SOIL. CEMENTIOUS EARTH BACKFILL = MIX ONE PART DRY CEMENT POWDER TO FIFTEEN PARTS CLEAN, WASHED SAND.
8. COIL 20' OF #10 SOLID COPPER BOND. RUN BOND THROUGH POLE TO FACTORY INSTALLED GROUND WIRE IN HAND HOLE.
9. 1" WASHED RIVER ROCK FOR DRAINAGE, COMPACT BEFORE SETTING POLE.
10. FINISHED GRADE.
11. WHERE LIGHTS ARE INSTALLED NEXT TO PATHWAY OR SIDEWALK, MAINTAIN CLEARANCE FROM EDGE TO FACE OF POLE AS SHOWN IN DETAIL.
12. PROVIDE BUSSMAN #HEB FUSE HOLDER, ON EACH UNGROUNDED CONDUCTOR, WITH 5 AMP FUSES FOR INLINE FUSING. WHERE CIRCUIT IS SPLICED IN HANDHOLE, MAKE ALL SPLICES WITH UL486D WET LISTED WIRE NUTS, EQUAL TO DRYCONN AQUA WATERPROOF CONNECTORS. PROVIDE 18" MINIMUM OF SLACK IN THE CONDUCTORS.
13. TENON MOUNT SLIPFITTER PROVIDED BY POLE MANUFACTURER, CONTRACTOR TO COORDINATE SIZE OF SLIPFITTER SO THE FIXTURE COVERS ENTIRE TENON DOWN TO THE POLE TOP MOUNTING PLATE. PAINT EXPOSED METAL MOUNTING PLATE ON TENON TO MATCH FIXTURE.

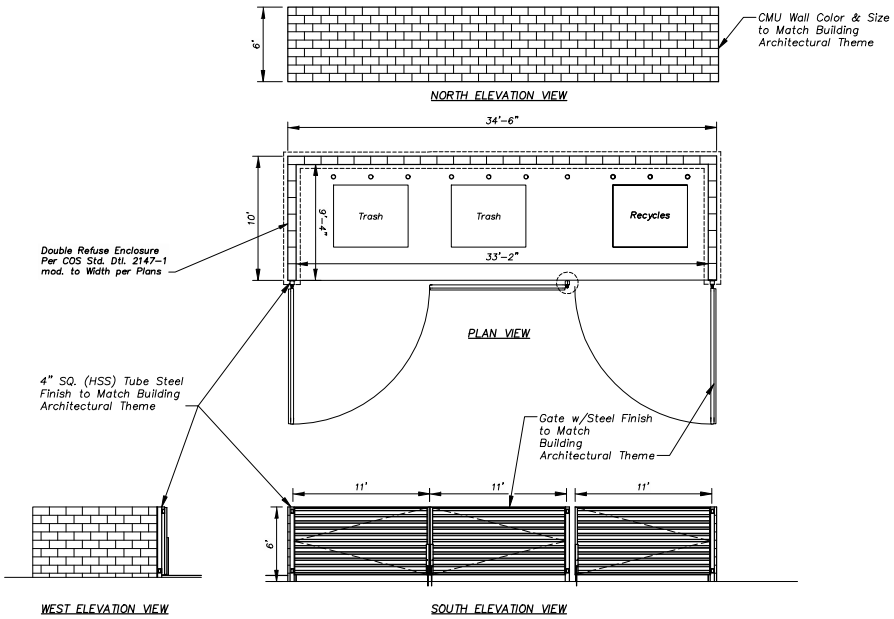



2 **AREA LIGHT DETAIL** NTS

Gavan & Barker Inc.
Civil Engineering - Landscape Architecture
3030 North Central Avenue, Suite 700, Phoenix Arizona 85012 Ph: 602-200-0031 Fx: 602-200-0032




3 **LED SPORTS FIELD LIGHT DETAIL** NTS




4 **REFUSE ENCLOSURE MODIFIED COS STD. DTL. 2147-1** NTS

| DATE | REVISION | BY |
|---|---|---|

ENGINEER

27433 JOHN E. BARKER REGISTERED PROFESSIONAL ENGINEER ARIZONA U.S.A. 6-30-22

CITY OF SCOTTSDALE ARIZONA

**PUBLIC WORKS**

**CAPITAL PROJECT MANAGEMENT**

7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

SHEET TITLE: **SITE PLAN**

PROJECT TITLE: CITY OF SCOTTSDALE
WESTWORLD SPORTS COMPLEX

| SCALE | DESIGNED | DATE | BID NO. | SHT. |
|---|---|---|---|---|
| HORIZ. | JEB | 6-2-21 | | G3.5 |
| VERT. | DRAWN JDH | AS-BUILT | PROJECT NO. 405-PA-2021 | 6 OF 6 |

Capital Project Management
7447 E. Indian School Road, Suite 205
Scottsdale, Arizona 85251
Web: www.scottsdaleaz.gov/construction
Phone: 480-312-2522
Fax: 480-312-7971

May 28, 2021

Updated June 9, 2021

**Reference**: 405-PA-2021 - Conditional Use Permit - Application Narrative – Bond 53 - WestWorld Sports Complex

The Park and Recreation Division would like to submit a ' Municipal Use Site Plan ' in concurrence with a Drainage Report to develop improvements on assessor parcel numbers 217-14-984A, 217-14-037B, 217-14-038B, 217-14-036, 217-14-040 and the following addresses: 15522 N Thompson Peak Parkway, 15514 N Thompson Peak Parkway, and 15939 N. 98th St.

The proposed improvements will include lighted sports fields, maintenance/restroom building, drainage improvements, parking lots, sidewalks, and traffic improvements. This parcel will meet the increased demand for sports fields in the community as well as create the ability for Scottsdale to host larger tournaments and increase revenue. The fields will be used for parking for special events for a few weeks each year to replace temporary parking lots on Arizona State Land that will become unavailable as the land is sold.

Any development on the property is subject to the requirements of Scottsdale Revised Code, Chapter 46, Article VI, Protection of Archaeological Resources, Section 46-134 – Discoveries of archaeological resources during construction.

**Municipal Use Master Site Plan Findings (Zoning Ordinance Section 1.502):**

A. The Municipal Use Master Site plan is not potentially detrimental to adjacent properties.
   - The site design of the sport fields respects nearby uses with; lighting setbacks, lower field elevations and shielding that will contain light on the fields, minimal building size and low scale design, field setbacks from existing/planned residential area in excess of 550' and fields are significantly lower in grade elevation than those uses which provides additional buffering from noise and lighting effects.

B. The site plan proposes a municipal use that is of general community interest.
   - The new sport fields will provide a major recreational and open space service for the community. The site plan conforms with the Environmentally Sensitive Lands Ordinance with the dedication of Natural Area Open Space (NAOS) that includes protection of the Old Verde Canal. Additionally, landscape improvements provide a buffer to the adjoining uses. Vehicular circulation improvements include access from Thompson Peak Parkway (Arterial Street) and McDowell Mountain Road (Major Collector Street) which is more than adequate for traffic generated by the park usage and encourages appropriate and convenient safe access.


**Zoning Aerial**

**ATTACHMENT #4**

**9-UP-2021**

**TRAFFIC IMPACT ANALYSIS SUMMARY**
**Westworld Sports Fields**
**Generally located southwest Corner McDowell Mountain Ranch Road and Thompson Peak Parkway**
**9-UP-2021**

**Summary Prepared by David Smith and P. Murphy, COS Traffic Engineering**
**Traffic Impact Study Prepared by Paul Guzek, Lee Engineering**
**Traffic Impact Study Status: Accepted**

**Existing Conditions:**

Site Location – Generally located southwest corner of McDowell Mountain Ranch Road and Thompson Peak Parkway (MMR and TPP)

Existing Development – Site is currently undeveloped ~22 acres; and is a proposed to be a multi-sport ballfield with five (5) fields.

Street Classifications –

- Thompson Peak Parkway is classified as a Minor Arterial.
- McDowell Mountain Ranch Road is classified as a Major Collector, west of TPP
- MMRR is classified as a Minor Arterial, east of TPP
- 98th Street is classified as a Major Collector

Existing Street Conditions –

- TPP has two (2) travel lanes for each direction with a raised landscaped median.
- MMR, west of TPP has 2 travel lanes for each direction with a TWLTL
- MMR, east of TPP has 2 travel lanes for each direction with a raised landscaped median.
- MMR, west of 98th Street has one (1) lane in each direction of travel.
- 98th Street, immediately north of MMRR, has one lane in each direction. Further north 98th Street provides two lanes in each direction separated by intermittent raised medians and TWLTLs.
- The intersection of MMR/TPP is a four-legged signalized intersection.
    - EB: Dual Lefts, 2 Thru, and a Right Turn Lane
    - WB: Dual Lefts, 2 Thru, and a Right Turn Lane
    - NB: Dual Lefts, 2 Thru, and Dual Rights
    - SB: Dual Lefts, 2 thru, and a Right Turn Lane
- The intersection of 98th Street/MMRR is a three-legged un-signalized intersection. SB 98th Street is STOP controlled at MMRR.

Existing Volumes (from Lee Engineering Traffic Study):

| Intersection Location | | Saturday | | Sunday | | Tuesday AM | | Tuesday PM | |
|---|---|---|---|---|---|---|---|---|---|
| | | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume |
| Int 1 | MMRR & 98th St | 10:30 | 160 | 10:15 | 112 | 7:00 | 274 | 16:30 | 195 |
| Int 2 | MMRR & TPP | 11:00 | 2521 | 10:30 | 2001 | 7:15 | 2439 | 16:45 | 2564 |
| Int 3 | AC/P Access Rd & TPP SB | 10:45 | 1322 | 11:00 | 989 | 7:00 | 1362 | 16:30 | 1155 |
| Int 4 | AC/P Access Rd & TPP NB | 11:00 | 1035 | 10:45 | 859 | 7:15 | 1171 | 16:45 | 1369 |
| Total | | | **5038** | | **3961** | | **5246** | | **5283** |
| Percent of Highest | | | **95.4%** | | **75.0%** | | **99.3%** | | **100.0%** |

Note: MMRR - McDowell Mountain Ranch Road, TPP - Thompson Peak Parkway, AC/P - Aquatic Center and Park

Existing Speed Limits –

- TPP has a 45-mph speed limit in the vicinity.
- MMR has a 30-mph speed limit in the vicinity.
- 98th Street has a 35-mph speed limit in the vicinity.
    - 30-mph when school in session

Collision Information (From Lee Engineering Traffic Study) –

| Intersection Location | | Total Crashes | | | | Injury Severity | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2017 | 2018 | 2019 | Total Crashes | None | Possible | Minor | Major | Fatal | Total Crashes |
| Int 1 | MMRR & 98th St | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | **0** |
| Int 2 | MMRR & TPP | 7 | 4 | 7 | **18** | 13 | 3 | 2 | 0 | 0 | **18** |
| Int 3 | AC/P Access Rd & TPP SB | 0 | 1 | 0 | **1** | 0 | 1 | 0 | 0 | 0 | **1** |
| Int 4 | AC/P Access Rd & TPP NB | 1 | 0 | 0 | **1** | 1 | 0 | 0 | 0 | 0 | **1** |
| Total | | 8 | 5 | 7 | **20** | 14 | 4 | 2 | 0 | 0 | **20** |
| Pecent of Total | | 40% | 25% | 35% | | 70% | 20% | 10% | 0% | 0% | |

Collision Rates (City of Scottsdale 2018 Traffic Volume and Collision Report)

- Intersection of MMRR/TPP – 0.32

The citywide average rate for intersection collisions is 0.58.

- Data unavailable for McDowell Mountain Road from Thompson Peak Parkway to 98th Street.

**Proposed Development:**

Description - The proposed development is expected to consist of five rectangular lighted multi-use athletic fields along with a restroom building, 450 paved parking spaces to the north, east, and west sides of the fields, sidewalks and asphalt pathways.

Site Access – The parking area will be accessible via two driveways, one from McDowell Mountain Ranch Road located about 370 feet east of 98th Street (centerline to centerline) on the north side of the property and one from the Aquatic Center/Park access roadway. Both site driveway approaches will be STOP-controlled for exiting traffic and all parking spaces will be accessible from either access point. Parking will also be used during special events for Westworld.

**TRIP GENERATION COMPARISON TABLE:**

| Westworld Multi-Use Fields | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITE Land Use: (488) Soccer Complex | | | | | | | | | | | | | |
| # of Fields | Weekday Daily | | Weekday AM Peak | | Weekday PM Peak | | Saturday Daily | | Saturday Peak Hour | | Sunday Peak Hour | |
| 5 | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| ITE Trip Rate | 71.33 | | 1.77 | | 16.9 | | 404.88 | | 40.1 | | 28.78 | |
| Trips | 179 | 178 | 5 | 4 | 40 | 45 | 1013 | 1012 | 96 | 105 | 66 | 78 |
| | 357 | | 9 | | 85 | | 2025 | | 201 | | 144 | |

| Westworld Multi-Use Fields | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scottsdale Specific Data: Soccer Complex | | | | | | | | | | | | |
| # of Fields | Weekday Daily | | Weekday AM Peak | | Weekday PM Peak | | Saturday Daily | | Saturday Peak Hour | | Sunday Peak Hour | |
| 5 | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| Trip Rate | 120 | | 8 | | 34 | | 305 | | 47 | | 38 | |
| Trips | 300 | 300 | 21 | 19 | 80 | 90 | 763 | 762 | 113 | 122 | 87 | 103 |
| | 600 | | 40 | | 170 | | 1525 | | 235 | | 190 | |

Data gathered from a similar nearby site, located on the northeast corner of Bell Rd/Hayden Road.

**Traffic Analysis:**

Intersection Level of Service –

The existing and proposed STOP controlled intersections are anticipated to operate at LOS C or better for all approaches.

The existing traffic signal at MMRR/TPP currently operates at an overall LOS C for all periods analyzed and is expected to continue operating at LOS C for the overall intersection in the future condition. Delays of LOS E exist and are anticipated to continue for the following movements:

- Weekend – WB Left, SB Left
- Weekday AM – EB Left, NB Left, SB Left
- Weekday PM – EB Left, EB Thru, NB Left

It is recommended for the City to monitor operations of the signalized intersection and evaluate the need for signal timing adjacent as necessary.

Additional Traffic Volumes –

Weekend – 1,525 daily trips, 235 vph Saturday Peak, 190 vph Sunday Peak
Weekday – 600 daily trips, 40 vph AM Peak, 170 PM Peak

**Additional Information:**

The southbound right turn lane at the Aquatic Center/Park Driveway will lead into another right turn lane into the parking area of the proposed site.

TPP tends to a slight upward slope as SB vehicles approach the Aquatic Center/Park Driveway.

**Summary:**

The site is currently vacant. The planned multi-use fields are expected to generate, on weekdays, a maximum of 600 daily trips, with 40 AM peak hour trips and 170 PM peak hour trips. The fields are expected to generate 1,525 weekend trips with 235 peak hour trips occurring on Saturday and 190 peak hour trips occurring on Sunday. These numbers were more conservative than those published in ITE and, as such, were used to provide a conservative analysis.

The site will be served by two (2) access points – a driveway at the south side of McDowell Mountain Ranch Road, east of 98th Street, and a driveway immediately south-southwest of the intersection of Aquatic Center (Park) Driveway/Thompson Peak Parkway, on the west side of Thompson Peak Parkway.

Traffic Engineering staff have the following comments/concerns:

- The City will continue to monitor the signalized intersection of MMR/TPP to ensure continued safe and efficient operations.
- Staff has received feedback regarding the proposed southbound right turn lane at the Aquatic Center/Park Driveway. The right turn deceleration lane meets City standard for storage length and will also include the existing right turn deceleration lane off Thompson Peak Parkway.
- All-way stop analyses was included in the traffic study and not recommended at this time. City staff can continue to monitor into the future.
- Future City project to complete half-street construction of 98th Street from MMR to the north, which may include additional intersection control evaluation.

# Westworld Sports Fields

Scottsdale, Arizona

# Traffic Study

Lee Engineering Project No. 1079.10

***July 2021***

***APPROVED***

***Prepared for:***

CITY OF SCOTTSDALE

***Prepared by:***

Lee Engineering, LLC
3610 N. 44th Street
Suite 100
Phoenix, AZ 85018
(602) 955-7206

LEE ENGINEERING

ATTACHMENT #6

# Westworld Sports Fields

# Traffic Study

**Prepared for:**

**City of Scottsdale, Arizona**


**Prepared by:**

**Lee Engineering**

3610 N. 44th Street, Suite 100
Phoenix, Arizona, 85018
602-955-7206

**Gavan and Barker**

3030 N. Central Ave., Suite 700
Phoenix, Arizona, 85012



July 2021

1079.10

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## 1.0 BACKGROUND

A City of Scottsdale Capital Project proposes to construct a series of multi-use athletic fields, suitable for soccer and other sports, across several parcels located near the Westworld development near the west corner of Thompson Peak Parkway and McDowell Mountain Ranch Road in Scottsdale, Arizona. Lee Engineering was recently engaged to conduct a traffic analysis of the development for the purposes of estimating its traffic impacts on the adjacent roadway network.

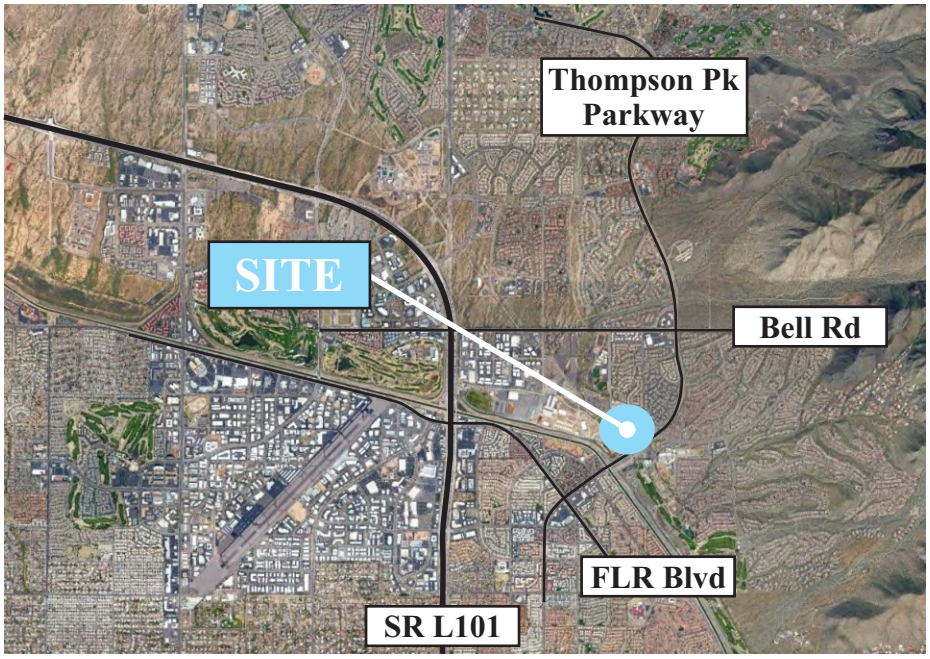
The location of the site is shown in Figure 1; a preliminary site plan, provided by Gavan & Barker, Inc. is shown in Figure 2.

### 1.1 Scope

In a conference call on March 31, 2021, the City of Scottsdale asked that this study include the following elements:

- Weekday and weekend peak-period traffic volume data collection at these intersections:
    - Thompson Peak Parkway and McDowell Mountain Ranch Road
    - McDowell Mountain Ranch Road and 98$^{th}$ Street
    - Thompson Peak Parkway northbound and driveway to McDowell Mountain Ranch Park and Aquatic Center
    - Thompson Peak Parkway southbound and driveway to McDowell Mountain Ranch Park and Aquatic Center
- Crash analysis for the intersections adjacent to the site for a 3-year period
- Trip generation, distribution, and assignment for the proposed soccer complex
- Traffic analysis for the site's opening year at the site's primary access points as well as the intersections listed above. The analysis will include intersection operations, storage length requirements, and pavement marking or design improvements.

The remainder of this report will address these scope elements in turn.




**Vicinity Map, Scottsdale Area**

**Enlargement Area**


Not to scale



**Vicinity Map**

**Figure 1**

LEE ENGINEERING




**Preliminary Site Layout Plan** **Figure 2**

## 2.0 STUDY AREA CHARACTERISTICS

### 2.1 General Study Area

The vision of Scottsdale is to convert under-utilized properties near the southwest portion of Westworld to athletic fields that will also double as overflow parking areas for large events in the area. Traffic on the adjacent roadway network can be assumed as mostly local drivers originating and destined to the residential areas in the immediate project area or other Scottsdale residents located north of Bell Road and east of Pima Road. The vehicular population is limited due to the overall curvilinear nature of the roadways, limited roadway connectivity outside of this area, absence of regional high density commercial areas and the natural border created by the McDowell Mountains. Overall, the area could be considered mostly residential in nature generating mostly commuter traffic during peak hours.

The construction of the athletic fields will draw additional local and some regional traffic to the area. The majority of regional traffic approaching the site from the west is anticipated to use eastbound State Route 101 (SR 101) and exit at the Princess Drive/Bell Road off-ramp, accessing the site from the north via Bell Road to southbound 98$^{th}$ Street. Motorists originating from the south using northbound SR 101 are anticipated to exit at Raintree Drive and approach the site from northbound Thompson Peak Parkway. Drivers west of SR 101 originating near Bell Road will likely stay on the Bell Road/Frank Lloyd Wright Boulevard surface street corridor and approach the proposed facility from northbound Thompson Peak Parkway as well. Traffic originating from the residential areas north of the site could use either 98$^{th}$ Street or Thompson Peak Parkway southbound. Repeat visitors to the athletic fields, especially local traffic from the north or local/regional traffic from the south will have options to use the Aquatic Center/Park roadway off of Thompson Peak Parkway or use McDowell Mountain Ranch Road, depending upon if their destination is a northern or southern athletic field.

Based on the travel routing, the study area intersections and roadways that are expected to accommodate the majority of approaching and departing site traffic have been identified in the scope of work above and are shown in Figure 1.

### 2.2 Study Area Roadway Characteristics

According to the City of Scottsdale Street Classification map, Thompson Peak Parkway is classified as a "minor arterial – suburban" in the vicinity of the proposed development. Thompson Peak Parkway carries two vehicular lanes and one bicycle lane in each direction, separated by a raised median. The roadway cross section also provides sidewalks on both sides of the street along with roadway lighting. Right-turn lanes are provided at all study intersections. Breaks are not provided in the raised median between 100$^{th}$ Street and McDowell Mountain Ranch Road, which includes the access driveways to the McDowell Mountain Ranch Park and Aquatic Center, rendering intersection movements at these locations to right-turn only movements. The posted speed on this roadway is 45 mph.

McDowell Mountain Ranch Road is classified as a "major collector – suburban" roadway on the City's Street Classification Map providing access to mostly residential developments east and west

of Thompson Peak Parkway. West of Thompson Peak Parkway, the roadway provides for two travel lanes in each direction divided by a two-way left turn lane for most of its length east of its intersection with 98th Street. Bike lanes are present along both sides of the street. Curb, gutter, and adjacent sidewalk are provided along the roadway's north side adjacent to developed areas while the south side of the roadway adjacent to the proposed athletic fields are without these elements. West of 98th Street, the roadway reduces to a rural cross-section with one lane in each direction and a continuous center turn lane to its intersection with Westworld Way. A manual swing gate exists between 98th Street and Westworld Way to close vehicle access to the Westworld complex when needed. The roadway has a posted speed limit of 30 mph.

Running along a north-south alignment, 98th Street is identified as a major collector – suburban roadway. This roadway is approximately 0.6 miles in length originating at Bell Road in the north and terminating at McDowell Mountain Ranch Road in the south. The roadway provides access to residential developments on its east side and Notre Dame Prep Academy to its west. The roadway is a 4-lane divided facility along the Academy's frontage and a 2-lane undivided facility south of the school. The roadway's posted speed limit is 35 mph, except during school hours when the flashing beacons are activated to warn motorists approaching a school street crossing that the speed limit is 30 mph.

Access to the McDowell Mountain Ranch Park and Aquatic Center, as well as a golf maintenance yard, library, and access to 102nd Way and the Desert Canyon Middle School, is available from northbound and southbound Thompson Peak Parkway via the Aquatic Center/Park roadway. The access roadway is not classified on the City's *Street Classification Map* but could be considered a local street due to its low speed and low volume. The roadway is an undivided 2-lane roadway that circles beneath Thompson Peak Parkway that has curb and gutter, a detached sidewalk and roadway lighting. The access roadway does not have posted regulatory speed limit signs.

The only signalized study intersection is Thompson Peak Parkway and McDowell Mountain Ranch Road. The approaches consist of dual left-turn lanes, two through lanes (and a bike lane), and individual right-turn lanes except for the northbound Thompson Peak Parkway approach where two right-turn lanes are provided.

The remaining three study area intersections are minor-street STOP controlled. The McDowell Mountain Ranch Park and Aquatic Center approaches to both northbound and southbound Thompson Peak Parkway are both single-lane right-turn only movements while exclusive right-turn lanes are provided from the two-lane directional mainline approaches. At the 98th Street/McDowell Mountain Ranch Road intersection, the east leg transitions from a 5-lane cross-section to 2 lanes over 350 feet via a wide hatched pavement area to separate the westbound right-turn only lane and the westbound through lane such that the east/west movements through the intersection align. Three driveways at or near this intersection exist for access to an equestrian parking area, an overflow/vehicle staging area for Westworld, and additional overflow parking on the south side of roadway proposed to be re-imagined as part of the athletic field development.

## 3.0 DATA COLLECTION

### 3.1 Traffic Volume

Lee Engineering arranged for traffic volume data collection at the four study area intersections for a three-day period on Saturday, Sunday, and Tuesday, April 10 to April 13, 2021. Data was collected when no major events were scheduled at Westworld. Because traffic volumes were collected in April, a month associated with higher traffic volumes, no seasonal volume adjustments were applied to the captured data. It is noted that SR 101 eastbound was closed on Saturday and Sunday between Scottsdale Road and Pima Drive; however, no significant detour traffic was anticipated at the study intersections due to the closure. Overall, normal street circulation patterns were assumed. Moreover, no vehicle adjustment due to Covid considerations were applied. However, it is likely that school operation/traffic was limited due to the coronavirus restrictions, resulting in the westbound approach and southbound left-turn volumes at the 98th Street and McDowell Mountain Ranch Road intersection during the Tuesday AM and PM peak hours under-represented. The amount of additional traffic that should be added to this location (and other intersections noting other area schools) is unknown, but noted for other potential considerations within this report.

Traffic volumes at the intersections were collected in 15-minute increments for 5 hours on Saturday and Sunday (10AM to 3 PM) and for 2 hours during the traditional weekday AM and PM peak periods (7AM to 9AM and 4PM to 6PM). A summary of the peak-hour traffic volumes are graphically depicted in Figure 3 and tabulated below in Table 1. Complete raw count data is provided in Appendix A.

**Table 1. Existing Traffic Volumes**

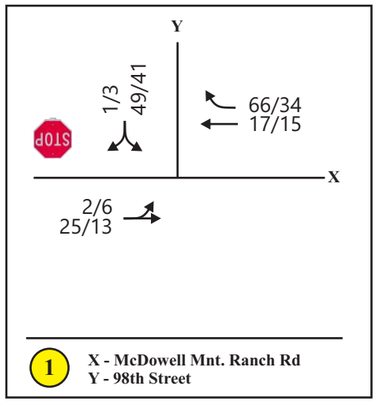
| | | Saturday | | Sunday | | Tuesday AM | | Tuesday PM | |
|---|---|---|---|---|---|---|---|---|---|
| Intersection Location | | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume | Pk Hr | Total Int. Volume |
| Int 1 | MMRR & 98th St | 10:30 | 160 | 10:15 | 112 | 7:00 | 274 | 16:30 | 195 |
| Int 2 | MMRR & TPP | 11:00 | 2521 | 10:30 | 2001 | 7:15 | 2439 | 16:45 | 2564 |
| Int 3 | AC/P Access Rd & TPP SB | 10:45 | 1322 | 11:00 | 989 | 7:00 | 1362 | 16:30 | 1155 |
| Int 4 | AC/P Access Rd & TPP NB | 11:00 | 1035 | 10:45 | 859 | 7:15 | 1171 | 16:45 | 1369 |
| Total | | | **5038** | | **3961** | | **5246** | | **5283** |
| Percent of Highest | | | **95.4%** | | **75.0%** | | **99.3%** | | **100.0%** |

Note: MMRR - McDowell Mountain Ranch Road, TPP - Thompson Peak Parkway, AC/P - Aquatic Center and Park

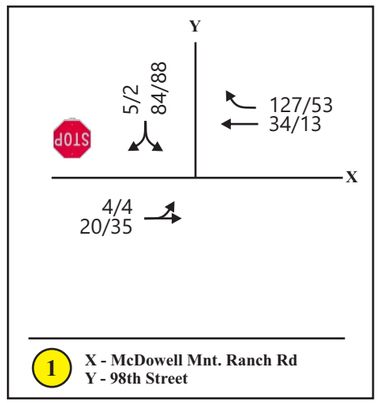
When summarizing the traffic volumes at each intersection, peak volume conditions are associated with weekday evening conditions (5,283 total entering vehicles), while weekday morning peak-hour volumes were 99.3% of evening conditions. Peak Saturday volumes were 95.4% of Tuesday evening volumes and peak Sunday volumes are 75% of Tuesday evening conditions.

Int. #1
Peak Hour Sat: 10:30AM
Peak Hour Sun: 10:15AM
Peak Hour Tue AM: 7:00AM
Peak Hour Tue PM: 4:30PM

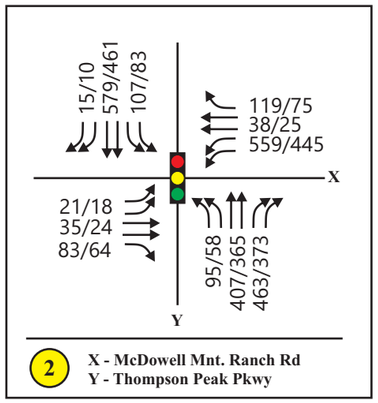
**Saturday / Sunday**

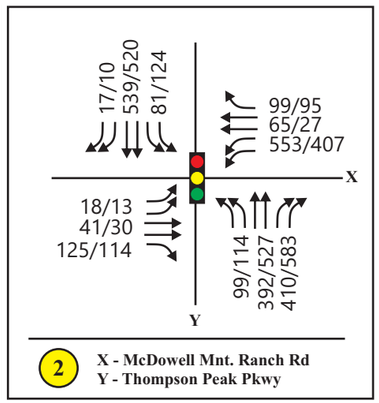


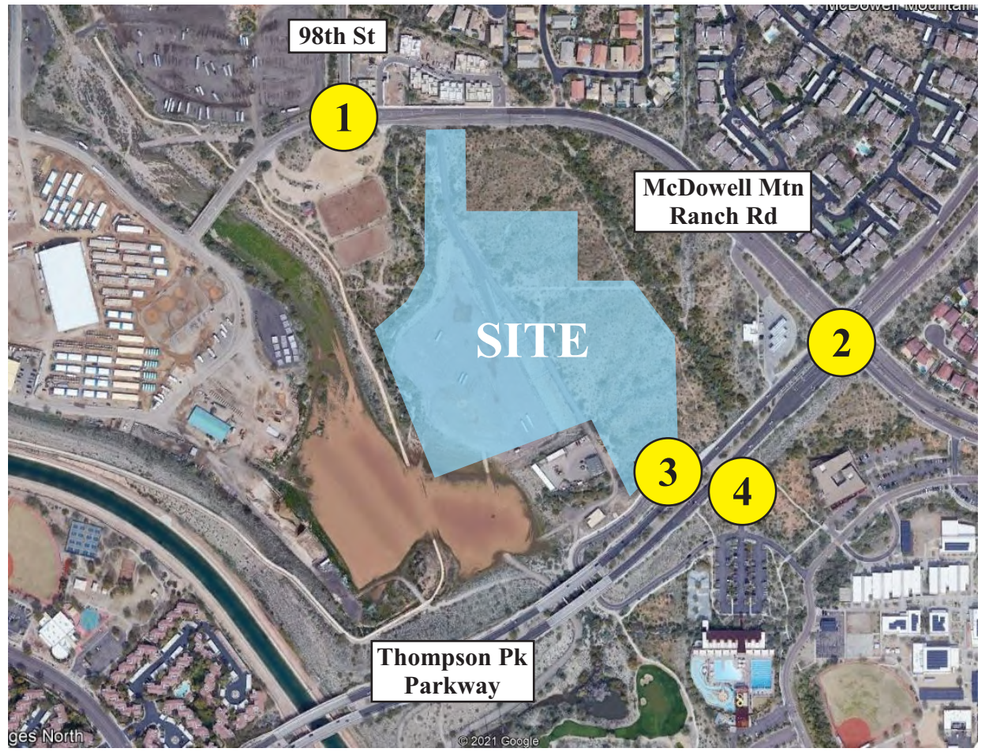

**Tuesday AM/PM**



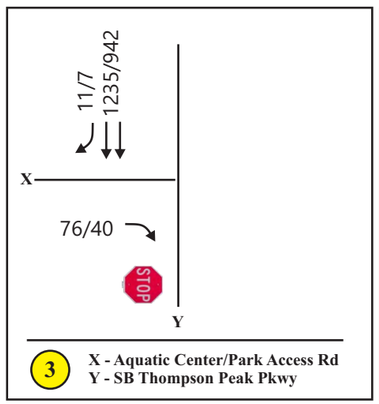

Int. #2
Peak Hour Sat: 11:00AM
Peak Hour Sun: 10:30AM
Peak Hour Tue AM: 7:15AM
Peak Hour Tue PM: 4:45PM

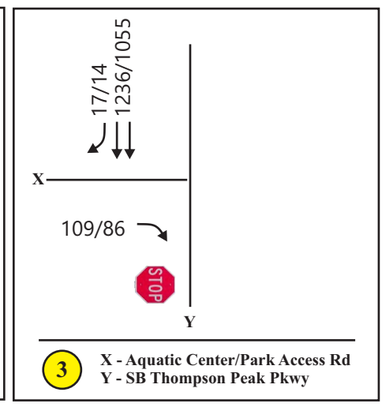


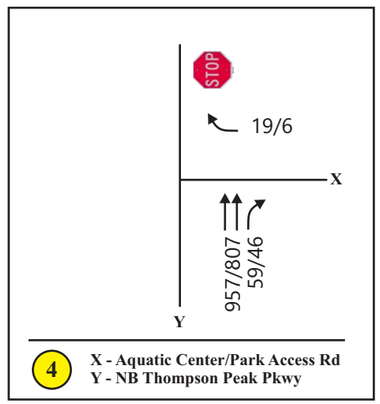




Int. #3
Peak Hour Sat: 10:45AM
Peak Hour Sun: 11:00AM
Peak Hour Tue AM: 7:00AM
Peak Hour Tue PM: 4:30PM

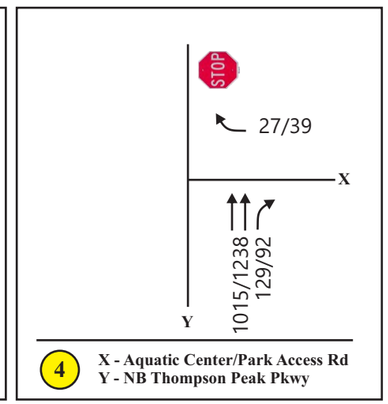



**Saturday / Sunday**




**Tuesday AM/PM**




Int. #4
Peak Hour Sat: 11:00AM
Peak Hour Sun: 10:45AM
Peak Hour Tue AM: 7:15AM
Peak Hour Tue PM: 4:45PM

Not to scale



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**Intersection Peak-Hour Count Data, Lane Configuration and Intersection Control**

**Figure 3**

## 4.0 CRASH DATA

Lee Engineering queried ADOT's Traffic Safety DataMart to identify crashes that occurred at the 4 study intersections. Crashes were queried that occurred in the three-year period from 2017 through 2019, the most recent three-year period for which data is available and occurred within 250 feet of the center of the intersection.

Table 2 provides a tabular yearly summary of the crashes, while Figure 4 shows the location of crashes. Overall, a total of 20 crashes were identified at the four study area intersections. No crashes were identified at the McDowell Mountain Ranch/98th Street intersection, one single-vehicle crash occurred at the Aquatic Center/Park Access Road with northbound and southbound Thompson Peak Parkway, and the remaining 18 crashes were at the signalized McDowell Mountain Ranch/Thompson Peak Parkway intersection. Of the total 20 crashes that were reported, zero crashes were coded as major or fatal crashes, 2 crashes were listed as minor injury, and the remaining crashes coded as possible or no injury. When reviewing the collision manner of the 18 crashes at the signalized intersection, 6 were sideswipe same direction crashes, 6 angle other than left turn, 3 rear end, 2 single vehicle and 1 left-turn. Only 1 crash was considered to have occurred at night and no crashes involved non-motorists.

**Table 2. Crash Summary, 2017 thru 2019**

| Intersection Location | | Total Crashes | | | | Injury Severity | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2017 | 2018 | 2019 | Total Crashes | None | Possible | Minor | Major | Fatal | Total Crashes |
| Int 1 | MMRR & 98th St | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | **0** |
| Int 2 | MMRR & TPP | 7 | 4 | 7 | **18** | 13 | 3 | 2 | 0 | 0 | **18** |
| Int 3 | AC/P Access Rd & TPP SB | 0 | 1 | 0 | **1** | 0 | 1 | 0 | 0 | 0 | **1** |
| Int 4 | AC/P Access Rd & TPP NB | 1 | 0 | 0 | **1** | 1 | 0 | 0 | 0 | 0 | **1** |
| Total | | 8 | 5 | 7 | **20** | 14 | 4 | 2 | 0 | 0 | **20** |
| Pecent of Total | | 40% | 25% | 35% | | 70% | 20% | 10% | 0% | 0% | |

Generally, it is believed that the number and severity of crashes document safe operating conditions at the intersections studied. A listing of crashes can be found in Appendix B.


Legend:

| | |
|---|---|
| Yellow Push Pin: | 2017, No or Possible Injury (7 crashes) |
| Yellow Bubble: | 2017, Minor Injury (1 crash) |
| Blue Push Pin: | 2018, No or Possible Injury (4 crashes) |
| Blue Bubble: | 2018, Minor Injury (1 crash) |
| Green Push Pin: | 2019, No or Possible Injury (7 crashes) |

Notes:
1. Crash locations based on Lat/Long information.
2. Crashes not indicated in the graphic are associated with the center of the McDowell Mountain Ranch/Thompson Peak Parkway intersection.
3. No crashes were identified at the intersection of 98th Street and McDowell Mountain Ranch Road.

Not to scale



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**Study Area Crashes**

**Figure 4**

## 5.0 PROPOSED DEVELOPMENT

### 5.1 Development Description

The proposed development is expected to consist of five rectangular lighted multi-use athletic fields along with a restroom building, 450 paved parking spaces to the north, east, and west sides of the fields, sidewalks and asphalt pathways. Other elements associated with the project include realigning the existing wash on the northwest side of the property, adding box and pipe culverts as necessary, constructing retaining walls where needed, reconstructing portions of the existing trail and path near the Westworld Trailhead, adding fencing and netting around the periphery of the fields, as well as other items.

The parking area will be accessible via two driveways, one from McDowell Mountain Ranch Road located about 370 feet east of 98th Street (centerline to centerline) on the north side of the property and one from the Aquatic Center/Park access roadway, located about 200 feet south of the Thompson Peak Parkway southbound intersection. Both site driveway approaches will be STOP-controlled for exiting traffic and all parking spaces will be accessible from either access point.

From a more detailed review of Figure 2, the McDowell Mountain Ranch access will be located at an existing curb cut location that provides access to an unpaved overflow parking area continuing south to serve as the north access to the golf course maintenance yard. The pavement markings on McDowell Mountain Ranch Road will require slight modification to extend the center left-turn lane about 50 feet west to provide the full turn lane width to the widened driveway apron. The separate left- and right-turn lane egress movements will be separated from the ingress lane by an approximate 10-foot landscaped median island. In the future, a potential connection from the 98th Street intersection to the proposed driveway may be considered, maintaining a driveway throat length of 150 feet.

The south site access off of the Aquatic Center/Park driveway will be a new driveway approximately 150 feet from southbound Thompson Peak Parkway. The driveway will provide a 100-foot right-turn deceleration lane to separate vehicles turning into the sports facility. Vehicles entering from northbound Thompson Peak Parkway and using the access road will make a left turn from the existing through lane. This access will have 1 entry and 2 exit lanes and provide about 150 feet of throat length to the first cross drive into the parking area.

The parking stalls are scaled to be 10 feet by 18 feet and the drive aisles 24 feet, matching or exceeding the minimum dimension for each element set forth within the City's *Design Standards & Policies Manual* (DSPM).

The parking lot layout will provide vehicular connectivity between McDowell Mountain Ranch Road near 98th Street and southbound Thompson Peak Parkway/Aquatic Center/Park access road. However, due to the circuitous travel path through the parking area, it is unlikely drivers will consider this new path as an alternative to travel along the adjacent roadway network. The amount of any "cut-through" traffic is expected to be negligible and is not quantified as part of this study.

## 5.2 Projected Traffic

### *5.2.1 Trip Generation*

The first step in estimating traffic to and from the proposed development is to calculate trip generation, which is the total vehicle trips to and from the site over a given time period. Two methods were used to estimate trip generation.

*ITE Method*

The *Trip Generation* Manual, 10th Edition, published by the Institute of Transportation Engineers (ITE) provides trip generation estimates for a wide variety of land uses. Based on the site's expected use, the ITE land use code (LUC) that best represents the site is LUC #488, Soccer Complex.

*Trip Generation* includes limited information about LUC #488 because of a small sample size of similar developments. The small sample size tends to limit confidence in the trip generation estimate, which is one reason a second trip generation method was used, as discussed later.

*Trip Generation* does include information for both weekday morning and afternoon peak hours both for the generator and for adjacent street traffic. For both morning and afternoon periods, the peak hour of the generator was used. In both cases, the value is slightly higher than the peak of the adjacent street traffic.

Only one time period (Saturday peak hour) includes a fitted curve, but the average trip rate was used for all time periods evaluated. The difference between the fitted curve and the average rate for the Saturday peak hour is small, and the average rate shows a slightly higher (more conservative) number of trips.

Table 3 presents the trip generation data for the site using the ITE method. In total, this method predicts that site is expected to generate about 357 trips on a typical weekday, with about 85 of those trips in the afternoon peak hour. Traffic is expected to be much higher on weekends than on weekdays. Expected daily traffic is more than 5 times greater on Saturday than on a weekday, and Saturday's peak hour traffic is more than double the weekday afternoon peak hour. ITE does not provide a daily traffic estimate for Sunday, but Sunday peak hour traffic is expected to be about 70 percent greater than the weekday afternoon peak hour.

No trip reduction factors were applied to the ITE trip forecast, so all trips generated by the site are considered to be new trips added to the adjacent roadway network.

## Table 3. Site Trip Generation – ITE Method

| Westworld Multi-Use Fields | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITE Land Use: (488) Soccer Complex | | | | | | | | | | | | |
| # of Fields | Weekday Daily | | Weekday AM Peak | | Weekday PM Peak | | Saturday Daily | | Saturday Peak Hour | | Sunday Peak Hour | |
| 5 | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| ITE Trip Rate | 71.33 | | 1.77 | | 16.9 | | 404.88 | | 40.1 | | 28.78 | |
| Trips | 179 | 178 | 5 | 4 | 40 | 45 | 1013 | 1012 | 96 | 105 | 66 | 78 |
| | 357 | | 9 | | 85 | | 2025 | | 201 | | 144 | |

*Comparison Site Method*

Because the ITE method relies on a limited supply of data, the City of Scottsdale collected traffic volume information for a similar nearby site, located on the northeast corner of Bell and Hayden Roads. Data at this site was collected from October 14 through 18, 2020, and reflects the fact that only seven of the comparison site's ten athletic fields were in use during this period. The City of Scottsdale provided the trip rate information shown in Table 4, reflecting the volume collected at the comparison site. A copy of the raw Scottsdale trip generation data used for this analysis is provided in Appendix C.

## Table 4. Site Trip Generation – Comparison Site Method

| Westworld Multi-Use Fields | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scottsdale Specific Data: Soccer Complex | | | | | | | | | | | | |
| # of Fields | Weekday Daily | | Weekday AM Peak | | Weekday PM Peak | | Saturday Daily | | Saturday Peak Hour | | Sunday Peak Hour | |
| 5 | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit | Enter | Exit |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| Trip Rate | 120 | | 8 | | 34 | | 305 | | 47 | | 38 | |
| Trips | 300 | 300 | 21 | 19 | 80 | 90 | 763 | 762 | 113 | 122 | 87 | 103 |
| | 600 | | 40 | | 170 | | 1525 | | 235 | | 190 | |

The city's data reflects only a single data collection period at one site, but the results are considered more applicable than the ITE Method as the proposed athletic fields are anticipated to operate in a similar manner to the other Scottdale facility analyzed.

The differences between the two trip generation methods are as follows:

- The comparison site method predicts considerably more trips on weekdays, including both morning and afternoon peak hours. About twice as many site trips are predicted using the local method during the weekday afternoon peak hour.
- The comparison site method predicts about 25 percent fewer trips than the ITE method during the day on Saturday, though Saturday peak hour volume is slightly higher by about 17 percent.
- The comparison site method predicts about 32 percent more trips during the Sunday peak hour.

Considering that the comparison site method produced a higher estimate of trip generation for most time periods evaluated, this method's trip generation will be used for the remainder of the analysis, to provide a more conservative estimate of conditions.

### *5.2.2 Trip Distribution and Assignment*

Site-generated trips have been distributed onto the adjacent roadway network based in part on existing traffic volume collected in this study and in part on engineering judgment, considering traffic patterns in the nearby and broader area. The distribution percentages assumed for this study are presented in Table 5. City of Scottsdale Parks Department staff concurred with the trip distribution assumptions during a telephone call on June 24, 2021.

**Table 5. Site Trip Distribution**

| | |
|---|---|
| **To/From SR 101 (WEST)** | **25%** |
| 98th Street | 15% |
| McDowell Mnt. Ranch Road | 5% |
| Northbound TPP, Access Road | 5% |
| **To/From McDowell Mountain Ranch Road (EAST)** | **5%** |
| McDowell Mnt. Ranch Road | 3% |
| Southbound TPP, Access Road | 2% |
| **To/From Thopmson Peak Parkway (NORTH)** | **10%** |
| McDowell Mnt. Ranch Road | 5% |
| Southbound TPP, Access Road | 5% |
| **To/From Thopmson Peak Parkway (SOUTH)** | **60%** |
| McDowell Mnt. Ranch Road | 20% |
| Northbound TPP, Access Road | 40% |

Optional approach and departure paths are available to site-generated traffic, depending upon their knowledge of the roadway system and location of the soccer fields in relation to the parking areas. The above entries in the blue rows indicate the overall distribution of site-generated trips, while the non-highlighted rows are a breakdown of the travel paths drivers may take when entering and exiting the facility. Figure 5 shows the localized, non-highlighted traffic percentages and how site traffic is estimated to approach and depart the site. From the percentages shown in Figure 5, it is estimated that 48% of site traffic will enter and exit the north site driveway off of McDowell Mountain Ranch Road (Driveway D1) while 52% will use the south site driveway off of the Aquatic Center/Park access road (Driveway D2).

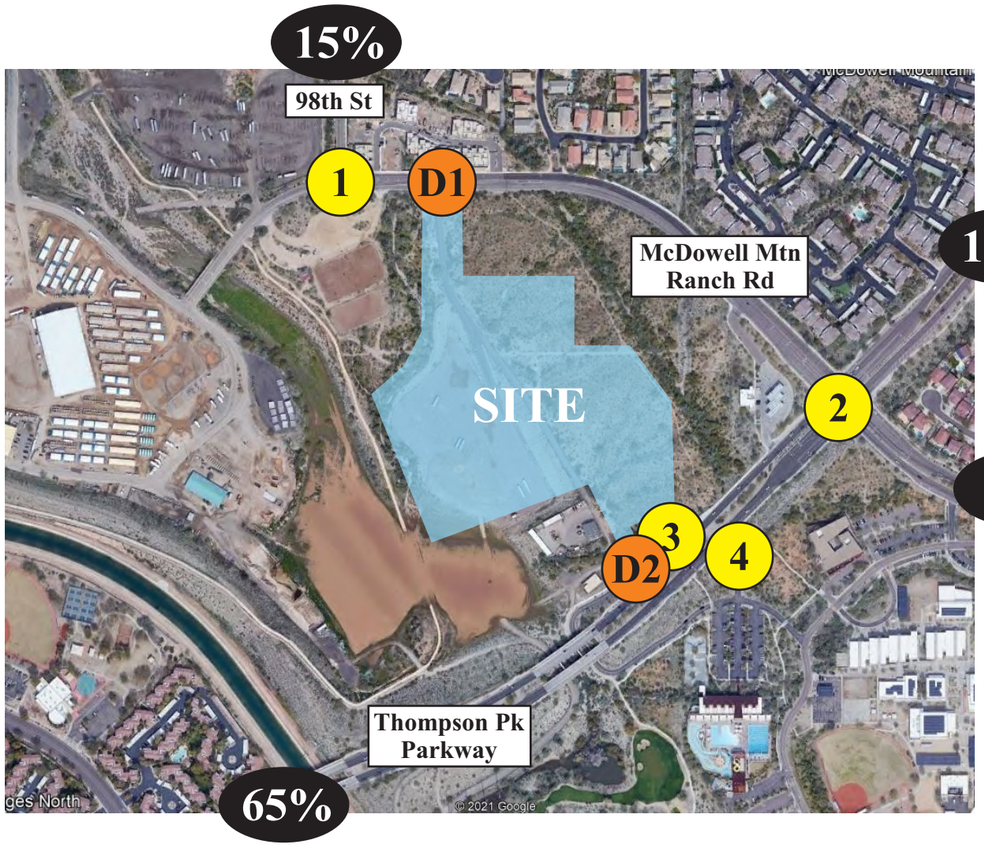
Utilizing the trip generation values in Table 4 and the distribution percentages in Figure 5, the hourly site-generated traffic volumes at each study intersection can be calculated for each time period. The site-generated peak-hour traffic assignment for Saturday and Sunday (top half) and for Tuesday morning and Tuesday evening (bottom half) is presented in Figure 6. When looking at the higher Saturday peak-hour condition, 54 vehicles are estimated to enter and 49 vehicles are estimated to exit the northern D1 driveway while 59 vehicles and 64 vehicles are to enter/exit the southern D2 driveway, respectively. Based on these values, it is estimated that an average of about 1 vehicle per

minute will enter and exit each site driveway during the busiest hour of the athletic fields. (Traffic flows will likely have sharper peaks just prior to and following conclusion of particular athletic events at the site.)

### *5.2.3 Total Traffic Volume*

Due to the site's location and limited nearby area for substantial development activity (no identified planned or programmed major development projects), it can be expected that the existing traffic volumes captured for this project will be similar to roadway conditions in the near future when excluding site traffic.

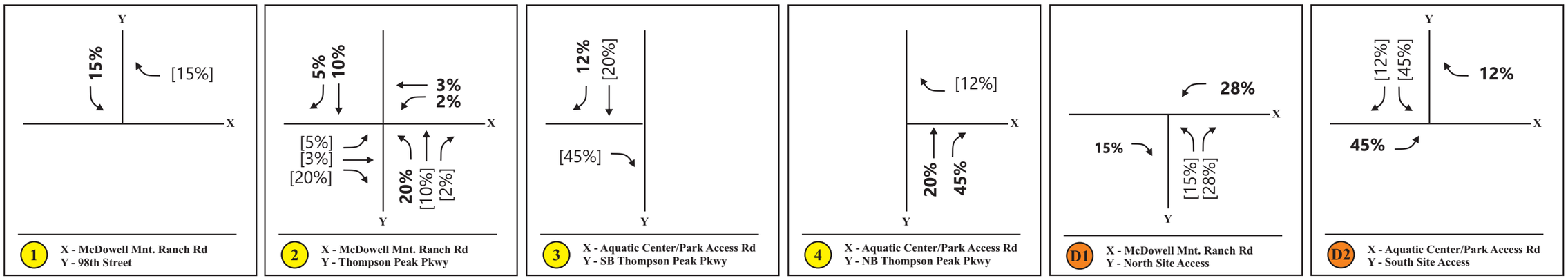
To estimate total traffic volume conditions on the study area roadway network at build-out of the athletic fields, the traffic volumes shown in Figure 3 were added to the site-generated traffic volumes shown in Figure 6. The resulting traffic volumes, presented in Figure 7, are considered the total peak-hour volumes for this study for both weekday and weekend conditions.




LEGEND

XX% Local Site Distribution Percentage

XX% Movement Distribution Percentage
**Inbound** / [Outbound]




Not to scale



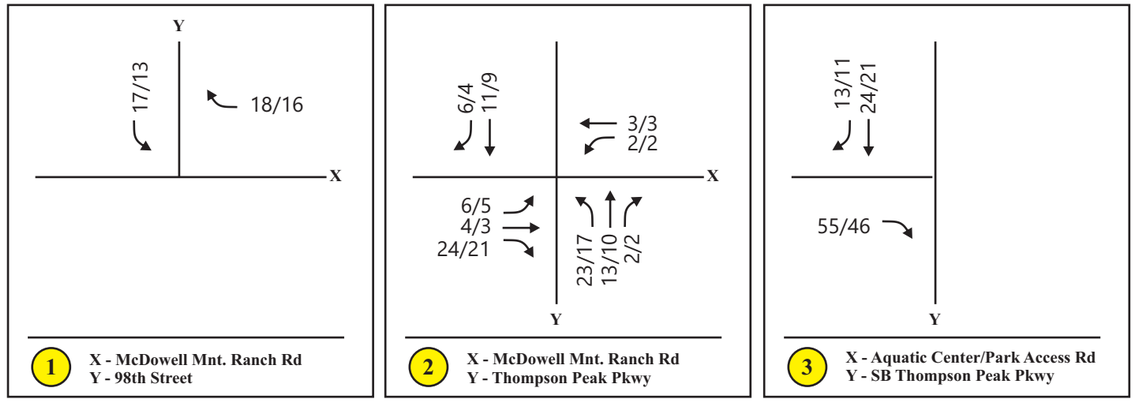
LEE ENGINEERING

**Trip Distribution**

**Figure 5**

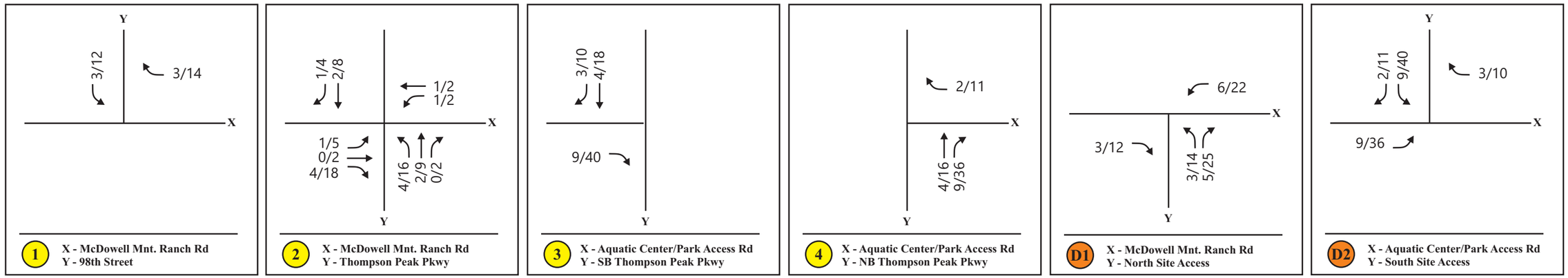

LEGEND

XX/XX *Peak-Hour Trip Assignment*
Saturday / Sunday or
Weekday AM / PM




**Saturday / Sunday**

**Weekday AM / PM**




Not to scale



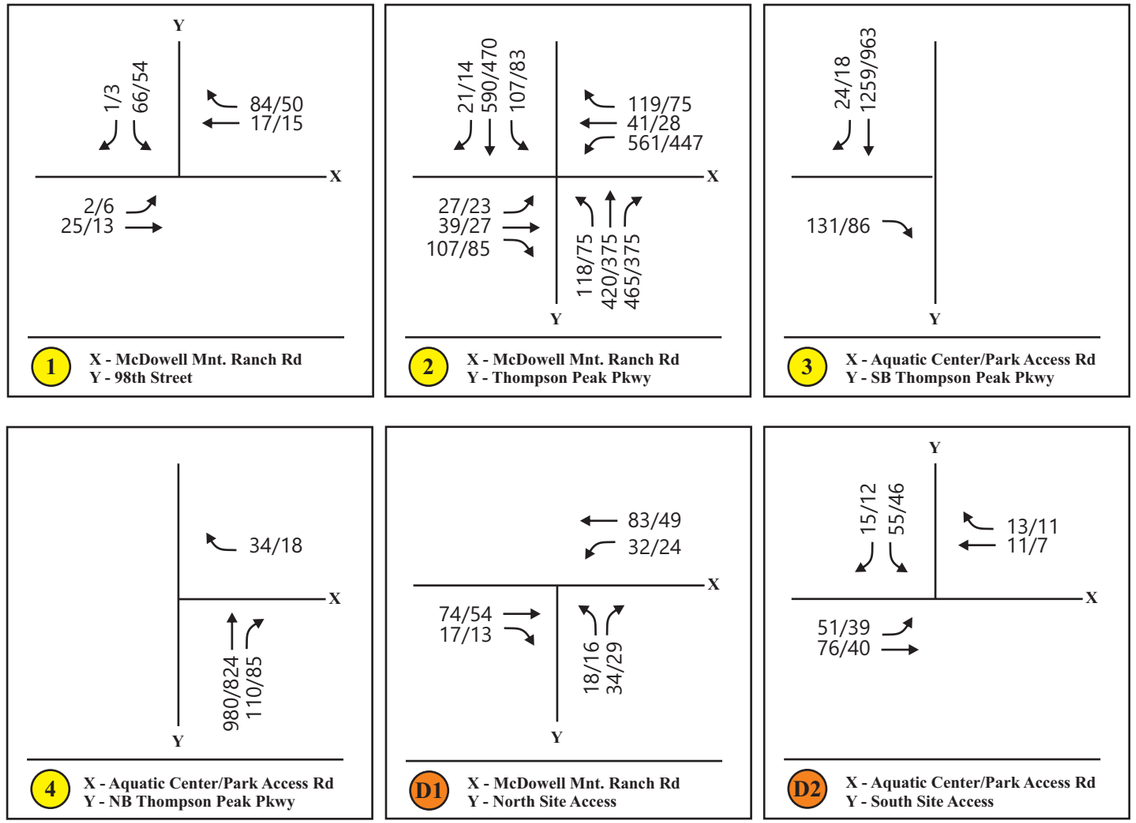
LEE ENGINEERING

**Trip Assignment**

**Figure 6**

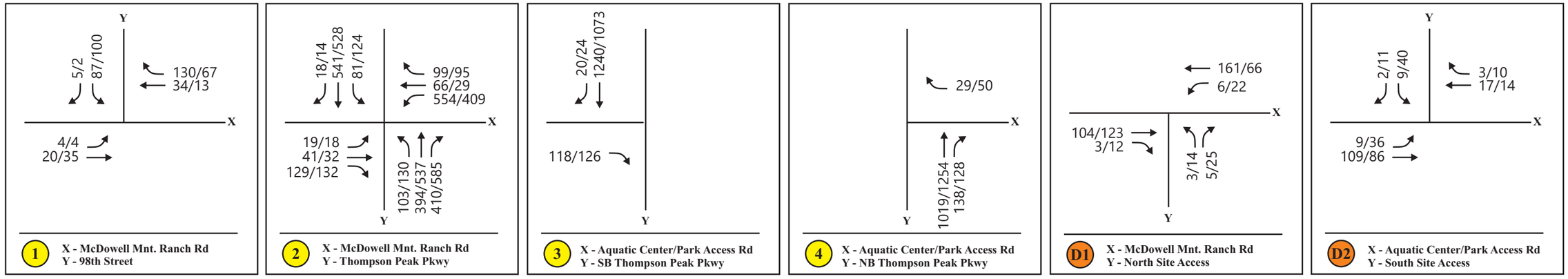

LEGEND

XX/XX Saturday / Sunday or Weekday AM / PM




**Saturday / Sunday**

**Weekday AM / PM**




Not to scale



LEE ENGINEERING

**Total Peak-Hour Traffic Volumes with Site Traffic**

**Figure 7**

## 5.3 Traffic Operations

The traffic operational characteristics of the study area intersections were evaluated using Synchro software, version 11, which implements the methodologies of the *Highway Capacity Manual* (HCM), 6th edition. The analysis is based on the volumes presented above, along with existing and proposed lane configuration data.

To provide an indication of intersection performance, intersections are typically reported in terms of Levels of Service (LOS). Signalized intersections are based on approach control delay, which includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay for all movements. Unsignalized two-way-stop-controlled (TWSC) intersection analysis is based on the minor street approach or critical movement, whichever is applicable. The capacity criteria for signalized and unsignalized intersection analysis are presented in Table 6.

**Table 6. Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Average Control Delay (seconds/vehicle) | |
|---|---|---|
| LOS | Signalized | Unsignalized & Roundabouts |
| A | ≤10.0 | ≤10.0 |
| B | >10.0 and ≤20.0 | >10.0 and ≤15.0 |
| C | >20.0 and ≤35.0 | >15.0 and ≤25.0 |
| D | >35.0 and ≤55.0 | >25.0 and ≤35.0 |
| E | >55.0 and ≤80.0 | >35.0 and ≤50.0 |
| F | >80.0 | >50.0 |

Source: *Highway Capacity Manual, HCM 6th Edition*, Transportation Research Board, 2016.

Additional performance measures such as volume to capacity (v/c) ratios and queue lengths also provide an indication of operation. The HCM offers the following in Chapter 19:

> "For a typical major street with two lanes in each direction and an average traffic volume in the range of 15,000 to 20,000 vehicles/day (roughly equivalent to a peak hour flow rate of 1,500 to 2,000 vehicles/hour), the delay equation will predict greater than 50s of delay (LOS F) for many urban two-way-stop-controlled (TWSC) intersections that allow minor-street left-turn movements. LOS F will be predicted regardless of the volume of minor-street left-turning traffic. Even with a LOS F estimate, most low-volume minor-street approaches would not meet any of the volume or delay warrants for signalization noted in the *Manual on Uniform Traffic Control Devices*. As a result, analysts who use the HCM LOS thresholds as the sole measure to determine the design accuracy of TWSC intersections should do so with caution. In evaluating the overall performance of TWSC intersections, it is important to consider measures of effectiveness such as volume-to-capacity ratios for individual movements, average queue lengths, and 95$^{th}$ percentile queue lengths in addition to considering delay. By focusing on a single measure of effectiveness for the worst movement only, such as delay for the minor-street left-turn, users may make less effective traffic control decisions."

Considering the above guidance, for the purposes of this study, TWSC movements operating at LOS E or F with v/c ratios under 0.80 and acceptable queue lengths will be considered as operating at an acceptable level when the side street traffic volumes do not warrant a traffic signal.

The four study area intersections and two new site access locations were evaluated for both existing and total traffic volume conditions for all 4 peak-hour scenarios. The signal timing data utilized at the intersection of Thompson Peak Parkway and McDowell Mountain Ranch Road was obtained from the City's Engineering Department. Coordination data was provided by the City for weekday conditions, but it was not identified if weekend conditions utilize a coordination pattern. For analysis purposes, the weekday midday timing plan was assumed for both Saturday and Sunday conditions. Other software input parameters utilized default values. No signal modifications were assumed between existing and total conditions. Output results for all analysis conditions can be found in Appendix D.

Table 7 shows a summary of the intersection operations for the existing and total traffic conditions. The 4 time periods on the right side of the table document existing conditions, while the left side of the table shows the results under the estimated total traffic condition. Any result in the total traffic section that shows a degradation of LOS condition and estimated to operate at LOS F is highlighted in red (none identified). Volume to capacity ratios are shown for movements operating at LOS E or F.

From review of Table 7, all minor-street STOP controlled movements operate at LOS C or better conditions during all time periods under existing peak-hour traffic conditions. Under the total traffic conditions, all STOP-controlled intersections, including the new athletic field site driveways, continue to operate at a LOS C or better. In addition to the very good level-of-service conditions, the 95$^{th}$ percentile queue lengths are shown to be very low, less than two vehicles (50 feet) in all scenarios evaluated.

At the lone signalized intersection in the study area, the overall intersection is estimated to operate at LOS C during all time periods. With the estimated site traffic, the overall average vehicle delay will only increase by a maximum 0.4 seconds per vehicle during peak-hour conditions (Sunday). Although some individual movements are shown to operate at LOS E, the majority of their volume to capacity ratios are below 0.80, indicating existing movement capacity is available. In these cases, the high delays can be associated more with longer cycle lengths than a lack of capacity. Only one movement shows a v/c ratio near 0.90, the westbound McDowell Mountain Ranch Road left-turn movement on Saturday. In this instance, peak-hour volumes are over 561 vehicles (the athletic fields adding only 2 vehicles to the movement). The City may wish to consider shifting 1 or 2 seconds to this movement from the N/S though movement, if the signal is operating under the assumed 108 second midday coordination pattern. In this condition, the 95$^{th}$ percentile queue length is identified to be 314 feet, near the maximum storage area available to the movement. Based on overall conditions, no physical capacity modifications are recommended for this location. The City could consider minor timing changes to Saturday operations, if warranted.

## Table 7. Level of Service Summary, Existing and Total Traffic Conditions

| | Existing Conditions without Athletic Fields | | | | | | | | | | | | | | | | Future Conditions with Athletic Fields | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Saturday Peak | | | | Sunday Peak | | | | Weekday AM Peak | | | | Weekday PM Peak | | | | Saturday Peak | | | | Sunday Peak | | | | Weekday AM Peak | | | | Weekday PM Peak | | | |
| Intersection | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue | LOS | Delay | V/C | Queue |
| *Int 1. MMRR and 98th St (MSS)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB Left | A | 7.4 | -- | <50 | A | 7.3 | -- | <50 | A | 7.6 | -- | <50 | A | 7.4 | -- | <50 | A | 7.4 | -- | <50 | A | 7.4 | -- | <50 | A | 7.6 | -- | <50 | A | 7.4 | -- | <50 |
| SB Left/Right | A | 9.1 | -- | <50 | A | 9.2 | -- | <50 | A | 9.6 | -- | <50 | A | 9.6 | -- | <50 | A | 9.4 | -- | <50 | A | 9.3 | -- | <50 | A | 9.6 | -- | <50 | A | 9.7 | -- | <50 |
| *Int 2. MMRR and TPP (S)* | **C** | **28.2** | | | **C** | **25.3** | | | **C** | **28.5** | | | **C** | **24.5** | | | **C** | **28.4** | | | **C** | **25.7** | | | **C** | **28.1** | | | **C** | **24.5** | | |
| EB Left | D | 51.1 | -- | <50 | D | 50.9 | -- | <50 | E | 57.3 | 0.14 | <50 | E | 56.5 | 0.10 | <50 | D | 51.8 | -- | <50 | D | 51.4 | -- | <50 | E | 57.4 | 0.14 | <50 | E | 57.3 | 0.14 | <50 |
| EB Thru | D | 49.6 | -- | <50 | D | 48.8 | -- | <50 | D | 54.8 | -- | <50 | E | 55.7 | 0.16 | <50 | D | 49.8 | -- | <50 | D | 49.0 | -- | <50 | E | 56.4 | 0.22 | <50 | E | 55.8 | 0.17 | <50 |
| EB Right | A | 7.2 | -- | <50 | A | 4.7 | -- | <50 | B | 15.7 | -- | 79 | B | 11.9 | -- | 54 | B | 10.6 | -- | 56 | A | 6.8 | -- | <50 | B | 18.0 | -- | 84 | B | 11.7 | -- | 58 |
| WB Left | E | 59.3 | 0.89 | 311 | D | 54.1 | -- | 220 | D | 53.5 | -- | 275 | D | 35.1 | -- | 198 | E | 59.6 | 0.90 | 314 | D | 54.1 | -- | 221 | D | 53.5 | -- | 276 | E | 55.8 | 0.76 | 215 |
| WB Thru | C | 34.2 | -- | <50 | C | 33.1 | -- | <50 | C | 32.5 | -- | <50 | C | 30.5 | -- | <50 | C | 34.3 | -- | <50 | C | 34.7 | -- | <50 | C | 33.6 | -- | <50 | D | 38.4 | -- | <50 |
| WB Right | A | 3.8 | -- | <50 | A | 0.9 | -- | <50 | A | 4.0 | -- | <50 | A | 3.4 | -- | <50 | A | 3.8 | -- | <50 | A | 1.0 | -- | <50 | A | 4.2 | -- | <50 | A | 4.5 | -- | <50 |
| NB Left | D | 37.9 | -- | 55 | D | 37.5 | -- | <50 | E | 59.3 | 0.44 | 72 | E | 70.6 | 0.64 | 82 | D | 38.3 | -- | 66 | D | 37.6 | -- | <50 | E | 59.7 | 0.46 | 73 | E | 75.3 | 0.71 | 107 |
| NB Thru | B | 16.6 | -- | 133 | B | 15.3 | -- | 119 | C | 20.9 | -- | 154 | C | 29.0 | -- | 223 | B | 16.7 | -- | 136 | B | 15.4 | -- | 122 | B | 19.4 | -- | 153 | B | 18.9 | -- | 204 |
| NB Right | A | 0.7 | -- | <50 | A | 0.7 | -- | <50 | A | 0.7 | -- | <50 | A | 1.1 | -- | <50 | A | 0.7 | -- | <50 | A | 0.7 | -- | <50 | A | 0.6 | -- | <50 | A | 1.2 | -- | <50 |
| SB Left | E | 59.0 | 0.54 | 70 | E | 55.7 | 0.44 | 57 | E | 63.4 | 0.47 | 62 | D | 54.5 | -- | 84 | E | 59.0 | 0.54 | 70 | E | 55.7 | 0.44 | 57 | E | 63.4 | 0.47 | 62 | D | 54.4 | -- | 84 |
| SB Thru | C | 27.4 | -- | 240 | C | 23.1 | -- | 188 | C | 23.6 | -- | 222 | C | 25.0 | -- | 203 | C | 27.5 | -- | 245 | C | 24.6 | -- | 192 | C | 21.9 | -- | 221 | B | 15.9 | -- | 185 |
| SB Right | A | 0.1 | -- | <50 | A | 0.0 | -- | <50 | A | 0.1 | -- | <50 | A | 0.0 | -- | <50 | A | 0.0 | -- | <50 | A | 0.1 | -- | <50 | A | 0.1 | -- | <50 | A | 0.0 | -- | <50 |
| *Int 3. SB TPP and AC/P (MSS)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB Right | C | 16.4 | -- | <50 | B | 12.8 | -- | <50 | C | 17.8 | -- | <50 | B | 14.8 | -- | <50 | C | 19.4 | -- | <50 | B | 13.9 | -- | <50 | C | 18.3 | -- | <50 | C | 16.2 | -- | <50 |
| *Int 4. NB TPP and AC/P (MSS)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB Right | B | 12.9 | -- | <50 | B | 11.7 | -- | <50 | B | 14.0 | -- | <50 | C | 16.0 | -- | <50 | B | 13.7 | -- | <50 | B | 12.2 | -- | <50 | B | 14.1 | -- | <50 | C | 17.0 | -- | <50 |
| *Int D1. MMRR and North Site Driveway (MSS)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB Left | | | | | | | | | | | | | | | | | A | 7.5 | -- | <50 | A | 7.4 | -- | <50 | A | 7.5 | -- | <50 | A | 7.6 | -- | <50 |
| NB Left | | | | | | | | | | | | | | | | | A | 9.9 | -- | <50 | A | 9.6 | -- | <50 | A | 9.8 | -- | <50 | B | 10.0 | -- | <50 |
| NB Right | | | | | | | | | | | | | | | | | A | 8.7 | -- | <50 | A | 8.6 | -- | <50 | A | 8.6 | -- | <50 | A | 8.8 | -- | <50 |
| *Int D2. AC/P and South Site Driveway (MSS)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB Left | | | | | | | | | | | | | | | | | B | 10.2 | -- | <50 | A | 9.6 | -- | <50 | A | 9.4 | -- | <50 | A | 9.9 | -- | <50 |
| EB Right | | | | | | | | | | | | | | | | | A | 8.4 | -- | <50 | A | 8.4 | -- | <50 | A | 8.4 | -- | <50 | A | 8.4 | -- | <50 |
| NB Left | | | | | | | | | | | | | | | | | A | 7.3 | -- | <50 | A | 7.3 | -- | <50 | A | 7.3 | -- | <50 | A | 7.3 | -- | <50 |

Notes:

1. MMS = Minor Street Stop Control, S = Signal Control, Delay in seconds, Queue = 95th %-ile in feet.
2. V/C shown in LOS E or F.

Although the estimated volumes and delays at the study area driveways are relatively low, recreational fields can cause sharp traffic peaking patterns, in which a high percentage of hourly traffic may arrive or depart in a relatively short period (15 minutes), as opposed to a more even distribution throughout the hour. Under these scenarios, it is likely that delays and queues may be greater than predicted by the Synchro analysis. However, the peaking characteristics are mitigated by the following:

- Because of low main-street opposing volumes, left-turning vehicles entering the site will likely complete their movements without significant delay or back-ups. Longer delays and vehicle queues will likely be associated with vehicles exiting the fields, where queues would be contained on-site and would not impact the roadway network.
- Separate left and right-turn egress lanes are proposed at each site driveway. This will minimize delays for right-turn vehicles even in the presence of left-turning queues.
- Optional travel routes are available to motorists exiting the north site access destined to the west.
- Signing could be added to help direct motorists to preferred travel routes, if needed.

At this time, it is not recommended that any mitigation measures be taken to address hypothetical vehicle queues or delays. Rather, the city may wish to monitor operations at the study area intersections after opening to confirm the operational characteristics before implementing any changes.

## 5.4 Turn Lanes

This section evaluates the necessity and appropriateness of turn lanes for each approach at each site access point.

### *5.4.1 McDowell Mountain Road and North Site Driveway*

*Location*

The proposed north site driveway is located approximately 365 feet east of the 98th Street (centerline to centerline) and 225 feet west of the driveway into the 28-unit Graythorn condominium development. This spacing exceeds the City's minimum driveway spacing of 150 feet but is slightly short of the standard driveway spacing of 250 feet between streets or other driveways on a major collector (DS&PM Figure 5-3.35). However, due to low speed (posted speed limit of 30 mph) and low left-turn volume conditions projected into the athletic fields (maximum 37 peak-hour vehicles on Saturday and 26 peak-hour vehicles on a weekday evening) as well as into the condominium development (5 left-turn vehicles assumed considering a 50/50 split of entering vehicles, per ITE Trip Generation Manual LUC #220) the driveway spacing is adequate.

*Eastbound Right-Turn Lane*

The site plan does not currently show an eastbound right-turn lane from McDowell Mountain Ranch Road at the north site driveway. Per distribution and assignment analysis, only 17 vehicles are projected to make this right-turn during the highest 60-minute period (peak Saturday conditions). Noting this section of McDowell Mountain Ranch Road is posted 30 mph, none of the City's

warrants identified below are met; therefore, we concur that a right-turn deceleration lane at this location is not warranted.

City Right-Turn Lane Criteria (DS&PM 5-3.206):

A. At least 5,000 vpd are expected to use the street;
B. The 85th percentile traffic speed of the street is at least 35 mph;
C. At least 30 vehicles will make right turns into the driveway during a 1-hour period

*Westbound Left-Turn Lane*

Scottsdale requires left-turn lanes at all intersections on major collectors and arterials.[1] A westbound left-turn lane approaching the site is provided by utilizing a portion of the existing two-way center turn lane shown on the site plan, in conformance with this requirement. Capacity analysis indicates a 95th percentile queue of less than 2 vehicles (50 feet) during all peak-hour scenarios for the left-turning vehicles entering the athletic fields. Assuming a 50-foot storage area is also needed for left-turn vehicles into the adjacent Graythorn development, the 225-foot center turn lane length separating the two access points is adequate to accommodate the estimated peak-hour queue demands. When considering the striping design between the 2 driveways, TWLTL striping will be from point-of-curvature to point-of-tangent, scaled to be 160 feet. The striping design will permit eastbound entering Graythorn residents 110 feet of turn lane (160 feet – 50 feet) to turn into the center lane and wait for an adequate gap in the westbound traffic stream to complete their desired turn movement.

### *5.4.2 Aquatic Center/Park Roadway and South Site Driveway*

*Location*

The proposed south site driveway centerline is located approximately 200 feet south of the dedicated right-turn lane off southbound Thompson Peak Parkway on the low-volume/low-speed Aquatic Center/Park roadway. Movement of the driveway farther to the west would result in impacts to the existing golf maintenance yard and need to overcome significant grade issues. As located, the driveway is best situated to minimize on-site circulation issues. Although not an ideal spacing separation, it exceeds the standard 165-foot and minimum 125-foot driveway spacing requirement along a minor collector or lower classified roadway.

*Southwest Right-Turn Lane*

A proposed right-turn deceleration lane is planned for access into the site, having a 140-foot total design length. Although minimum City taper (70-foot) and storage (100-foot) lengths are not provided, entering vehicles do not have to come to a complete stop and will be travelling at reduced speeds as they turn onto the Aquatic Center drive from the dedicated turn lane off southbound Thompson Peak Parkway. Noting existing low volume conditions from southbound Thompson Peak Parkway (maximum peak-hour volume of 17 vehicles) and low projected site vehicles (maximum 8 peak-hour vehicles), no changes to the proposed turn lane are recommended.

[1] Scottsdale Design Standards & Policies Manual, 2018 Update, Sec. 5-3.123 - E2, p. 308.

*Northeast Left-Turn Lane*

Because the Aquatic Center/Park roadway is not classified as an arterial or major collector roadway, a dedicated left-turn lane into the site is not required, with the left-turn movement to occur from the through lane. Noting estimated left-turn volumes into the site during peak-hour conditions is a maximum of 51 vehicles and opposing through and right-turn traffic (with site) is 20 vehicles or less, motorists will not be significantly delayed when entering or passing by the site access, as indicated by the LOS A operation in Table 7 for this movement in all 4 analysis scenarios. Based on these conditions, a left-turn lane is not required for this location.

## 5.5 Sight Distance

All site access points should be designed to accommodate sight distance recommendations in *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials (AASHTO). A review of the site reveals that the roadways near the proposed access points are generally on horizontal tangent alignments, with the exception of the Aquatic Center/Park roadway to the south, with little vertical profile, suggesting that roadway elements are not likely to constrain sight distance. Existing native desert vegetation may need to be adjusted to ensure adequate sight distance. Assuming a roadway design speed of 35 mph on McDowell Mountain Ranch Road for the north site access and 30/25 mph on the Aquatic Center/Park roadway for the south site driveway, the following minimum required intersection sight distance needs are identified (DS&PM, Appendix 5-3B):

- North Access Looking East (Right, for left-turn movement) – 480 feet (rounded)
- North Access Looking West (Left, for right-turn movement) – 425 feet
- South Access Looking South (Right, for left-turn movement) – 280 feet (rounded, 25 mph)
- South Access Looking North (Left, for right-turn movement) – 290 feet (rounded, 30 mph)

The recommended sight distance, when viewed via Google Earth plan view, can be provided at both site driveway locations.

## 5.6 Access Design

Both access points, designed as a high-volume access (CH-3) with separated ingress and egress lanes, are appropriate to accommodate the potential high-demand conditions with simultaneous games ending at or near the same time. Over 150 feet of on-site vehicle queue or "throat length" is provided at each access point to minimize interference to cross-aisle traffic and vehicle maneuvering into and out of parking stalls. Both driveways are angled at near 90 degrees to the main roadway, permitting ease of maneuvering and good sight visibility conditions. No modification to the access design is recommended. However, signing that indicates RIGHT TURN YIELD TO PEDESTRIANS could be considered by the City for installation at the south access egress location.

## 5.7 Traffic Control Considerations at 98th Street and McDowell Mountain Ranch Road

The City has requested an evaluation of the traffic control at the 98th Street/McDowell Mountain Ranch Road (MMRR) intersection to potentially change conditions from minor-street STOP control to multi-way STOP control citing a number of existing and future potential concerns pertaining to pedestrians and vehicle operations.

The MUTCD in Section 2B.04 that states *"YIELD or STOP signs should not be used for speed control";* in fact, where stop signs are perceived to be unwarranted, drivers are found to accelerate at a high rate of speed to make up for lost time created by the unnecessary stop.

The MUTCD states that multi-way stop control can be a useful safety measure if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop and used where the volume of traffic on the intersecting roads is approximately equal.

Guidance provided within the MUTCD states that the decision to install multi-way stop control should be based on an engineering study that considers the following:

*A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*

*B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*

*C. Minimum volumes:*

1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
3. *If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*

*D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.*

The MUTCD also indicates other criteria may be considered in an engineering study including:

A. The need to control left-turn conflicts;
B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

In reviewing the initial 4 engineering study criteria, the following is provided:

- A traffic signal is not being considered at this location by the City and therefore this criterion is not met.
- The crash analysis at this location has indicated zero crashes have occurred at this location in the latest available 12-month period, and therefore this criterion is not met.
- Because this study did not perform a full 24-hour count or a speed study at this location, only an estimate of conditions can be considered. Assuming the 85$^{th}$ percentile speed on MMRR does not exceed 40 mph, major street volumes must meet the 100% volume thresholds listed in the MUTCD. Based on the volumes captured and estimated site-generated traffic at this location, peak-hour approach volumes are estimated to be less than 200 vehicles on MMRR and slightly over 110 hourly vehicles on 98$^{th}$ Street. These values fall considerably short of the MUTCD thresholds of 300 vehicles per hour for 8 hours on the major street 200 vehicles per hour for 8 hours on the minor street. In addition, peak period movement delays were calculated to be below 10 seconds per vehicle during all time periods, well below the 30-second MUTCD threshold. Therefore, this criterion is not met.
- Criterion D is not met since an 80% reduction to volume, delay, and crash data will not meet warranting levels.

When considering the other criteria that may permit multi-way stop control:

- There is not an overwhelming need to control left-turn conflicts at this location.
- The need to control vehicle/pedestrian conflicts may be appropriate for this location since the new athletic fields could generate high pedestrian and bicycle users from the adjacent school and the residential community to the northeast. However, treatments other than multi-way stop control may be better equipped to address pedestrian crossing comfort, as discussed below.
- Because of low speeds and the gated roadway condition of the roadway segment to/from Westworld, conflicting left-turn traffic is not a significant concern at this location. If conflicts do exist, elimination of vegetation on the northwest corner would improve visibility.
- It is possible that the two roadways could be considered of similar design and operating characteristics, and it could be argued that multi-way stop control would improve the operating characteristics of the southbound approach and pedestrian crossings. However, it could also be argued that multi-way stop control would degrade operating characteristics of the higher-volume MMRR approaches.

The following general findings can be drawn about the potential for multi-way stop control:

- The traffic volumes collected as part of this study do not justify the installation of multi-way stop control. It is recognized that the volumes are lower than might be typical of times when schools are in session and typical traffic patterns are in place further west on MMRR that might contribute more traffic through the Westworld area. If the city's decision to install multi-way stop is based on MUTCD traffic volume thresholds, the city may wish to collect

additional traffic volume data and reevaluate the intersection during a time of year when traffic volumes are more typical.

- The intersection has a perfect crash record, so safety is not a reason to install multi-way stop control. Although multi-way stop control is generally considered among the safest forms of intersection control, any traffic control change at an intersection that has experienced zero crashes can have the effect of worsening the intersection's safety performance.
- The city could probably justify installing multi-way stop control based on MUTCD guidance that such control can be considered at two collector roadways with similar operating characteristics. If this decision were made, it could be made either independent of or in conjunction with the athletic field development.
- Advantages of multi-way stop control include the following:
    - Reduced delay for southbound traffic. However, southbound delay already amounts to less than 10 seconds per vehicle during the peak hours, which corresponds to LOS A conditions. It does not appear to be essential to implement multi-way stop control to gain this delay advantage when delay is already so low.
    - Improved pedestrian crossing of MMRR. However, multi-way stop control is not usually considered a pedestrian safety countermeasure. If pedestrian crossings are the main reason for considering a traffic control change, the city may wish to consider alternative pedestrian accommodations, such as a pedestrian hybrid beacon (PHB), which has been designated a proven safety countermeasure by the Federal Highway Administration for its ability to control pedestrian crossings. (The recent Notice of Proposed Amendments to the MUTCD proposes to remove MUTCD language limiting PHBs to non-intersection locations.)
    - Improved ability of the intersection to accommodate the westbound left-turn movement. Under existing conditions, a westbound left-turning vehicle must stop in the through lane to wait for a gap in opposing traffic, which could pose a risk of (but has not resulted in) rear-end crashes. Under multi-way stop control, a left-turn lane is not needed since all traffic on the approach must stop.
- Disadvantages of multi-way stop control include the following:
    - Increased delay, stops, and corresponding environmental measures on MMRR, the higher-volume of the two streets.
    - Uncertain handling of the eastbound right-turn movement. This movement is made from a right-turn lane separated from the eastbound through lane by a painted island and bike lane that total about 27 feet wide. Its separation from the main intersection conflict points allows the eastbound right-turn movement to operate safely and effectively uncontrolled, but it would likely need to be stop-controlled in a multi-way stop configuration. Right-turning vehicles may not perceive a need to stop, and compliance may be low, which could pose a threat to conflicting pedestrians.

In summary, multi-way stop control does not appear to be necessary or appropriate under existing conditions based on known traffic volume and safety data. The city may wish to re-evaluate a change in traffic control once site development is in place.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

The study has documented the following conclusions and recommendations:

- The proposed development consists of a set of five rectangular multi-use athletic fields near the west corner of Thompson Peak Parkway and McDowell Mountain Ranch Road. A large parking lot, proposed to contain 420 parking spaces, is proposed to have access both from McDowell Mountain Ranch Road and Thompson Peak Parkway via the Aquatic Center/Park roadway.

- Volumes obtained for this study were not adjusted for seasonality, pandemic conditions, or impacts associated with event traffic with Westworld and considered to be typical of everyday traffic conditions. Data collection results at the study area intersections show consistent total volume characteristics during weekday AM, weekday PM , and peak-hour Saturday periods (within 5% of one another), although traffic directionality may differ. Sunday peak-hour volumes are identified to be 75% of peak weekday conditions.

- Crash data showed no notable pattern of crashes adjacent to the site. No crashes were associated with the McDowell Mountain Ranch Road and 98$^{th}$ Street intersection while only 1 crash was located near the Aquatic Center/Park roadway intersections with both the northbound and southbound directions of Thompson Peak Parkway over the three-year period analyzed. The intersection of Thompson Peak Parkway and McDowell Mountain Ranch Road had a total of 18 reported crashes over the 3-year period (average of 6 crashes per year), none considered major or fatal crashes and only 2 coded as minor injury crashes.

- Site trip generation was forecast using two methods:

    - ITE Land Use Code #488 (Soccer Complex) is the most representative land-use code from the nationally-recognized *Trip Generation* Manual, but the manual has limited data for this land use.
    - The City of Scottsdale collected traffic data at a comparable nearby soccer complex, which showed somewhat higher levels of trip generation per field than the ITE method during most time periods evaluated. To ensure a conservative analysis, the higher Scottsdale values were used in the study.

- The selected trip generation method (Scottsdale data) estimates the site will generate the most trips on Saturday, with about 1,525 site vehicles per day and about 235 trip ends during the peak hour. Weekday trips are forecast at about 600 new trip ends per day and 170 trip ends during the higher-volume evening peak hour. A daily trip forecast is not available for Sunday, but Sunday peak-hour volume is forecast at about 190 trip ends.

- Site trip distribution assumes most trips (65 percent) will arrive and depart from the south using Thompson Peak Parkway. Traffic using 98$^{th}$ Street is expected to account for about 15 percent of site trips while the remaining trips are anticipated to use Thompson Peak Parkway from the north or McDowell Mountain Ranch Road from the east.

- Overall, it is estimated that 43% of vehicles will enter/exit the site using the north site driveway while the other 57% is anticipated to use the proposed south site access.

- Peak-hour analysis of the study intersections indicate overall LOS C or better conditions to occur with the site-added volumes. No capacity improvements are recommended at any study intersection, although the city may wish to consider minor timing changes to the green splits.

- At the proposed site access points, traffic volumes on the major streets are identified to be low, minimizing delays and long queues associated with left-turn entering traffic. Analysis also indicates LOS A/B operation for exiting traffic with vehicle queues of less than 2 vehicles. However, when multiple games end at or near the same time and cause a demand spike of exiting vehicles, adequate vehicle storage is provided on-site to minimize impacts associated with long queues that may occur.

- The proposed location and design of the site access points are acceptable as presented in the site layout plan. No changes to the site access points are recommended.

- At the intersection of 98$^{th}$ Street and McDowell Mountain Ranch Road, analysis indicates multi-way stop control does not appear to be necessary or appropriate under existing conditions based on known traffic volume and safety data. The city may wish to re-evaluate a change in traffic control once site development is in place.

## APPENDIX A: TRAFFIC VOLUME DATA

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
pguzek@lee-eng.com

Count Name: Westworld
Site Code: 1 Sa
Start Date: 04/10/2021


# Turning Movement Data

| Start Time | 98th Street Southbound | | | McDowell Mountain Ranch Westbound | | | | McDowell Mountain Ranch Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| 10:00 AM | 7 | 0 | 7 | 0 | 2 | 13 | 15 | 0 | 4 | 4 | 26 |
| 10:15 AM | 10 | 0 | 10 | 0 | 8 | 15 | 23 | 0 | 0 | 0 | 33 |
| 10:30 AM | 15 | 0 | 15 | 1 | 6 | 16 | 23 | 1 | 6 | 7 | 45 |
| 10:45 AM | 8 | 0 | 8 | 0 | 4 | 17 | 21 | 0 | 5 | 5 | 34 |
| 11:00 AM | 6 | 0 | 6 | 0 | 5 | 16 | 21 | 1 | 7 | 8 | 35 |
| 11:15 AM | 20 | 1 | 21 | 0 | 2 | 17 | 19 | 0 | 7 | 7 | 47 |
| 11:30 AM | 18 | 0 | 18 | 0 | 4 | 11 | 15 | 0 | 1 | 1 | 34 |
| 11:45 AM | 14 | 1 | 15 | 0 | 7 | 18 | 25 | 0 | 4 | 4 | 44 |
| 12:00 PM | 24 | 1 | 25 | 0 | 2 | 9 | 11 | 0 | 4 | 4 | 40 |
| 12:15 PM | 9 | 0 | 9 | 0 | 8 | 9 | 17 | 0 | 7 | 7 | 33 |
| 12:30 PM | 18 | 0 | 18 | 0 | 3 | 14 | 17 | 2 | 6 | 8 | 43 |
| 12:45 PM | 16 | 0 | 16 | 0 | 8 | 16 | 24 | 1 | 5 | 6 | 46 |
| 1:00 PM | 20 | 0 | 20 | 0 | 3 | 12 | 15 | 0 | 3 | 3 | 38 |
| 1:15 PM | 21 | 0 | 21 | 0 | 4 | 15 | 19 | 0 | 3 | 3 | 43 |
| 1:30 PM | 15 | 0 | 15 | 0 | 7 | 15 | 22 | 0 | 5 | 5 | 42 |
| 1:45 PM | 8 | 0 | 8 | 0 | 4 | 15 | 19 | 0 | 3 | 3 | 30 |
| 2:00 PM | 15 | 0 | 15 | 0 | 2 | 13 | 15 | 1 | 4 | 5 | 35 |
| 2:15 PM | 7 | 1 | 8 | 0 | 12 | 10 | 22 | 0 | 5 | 5 | 35 |
| 2:30 PM | 16 | 1 | 17 | 0 | 2 | 13 | 15 | 0 | 8 | 8 | 40 |
| 2:45 PM | 13 | 0 | 13 | 0 | 2 | 13 | 15 | 0 | 9 | 9 | 37 |
| Grand Total | 280 | 5 | 285 | 1 | 95 | 277 | 373 | 6 | 96 | 102 | 760 |
| Approach % | 98.2 | 1.8 | - | 0.3 | 25.5 | 74.3 | - | 5.9 | 94.1 | - | - |
| Total % | 36.8 | 0.7 | 37.5 | 0.1 | 12.5 | 36.4 | 49.1 | 0.8 | 12.6 | 13.4 | - |
| All Vehicles (no classification) | 280 | 5 | 285 | 1 | 95 | 277 | 373 | 6 | 96 | 102 | 760 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
pguzek@lee-eng.com

Count Name: Westworld
Site Code: 1 Su
Start Date: 04/11/2021


# Turning Movement Data

| Start Time | 98th Street Southbound | | | McDowell Mountain Ranch Westbound | | | | McDowell Mountain Ranch Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| 10:00 AM | 10 | 2 | 12 | 0 | 4 | 8 | 12 | 0 | 2 | 2 | 26 |
| 10:15 AM | 7 | 0 | 7 | 0 | 3 | 12 | 15 | 1 | 3 | 4 | 26 |
| 10:30 AM | 15 | 1 | 16 | 0 | 4 | 4 | 8 | 0 | 1 | 1 | 25 |
| 10:45 AM | 10 | 1 | 11 | 0 | 5 | 10 | 15 | 3 | 5 | 8 | 34 |
| 11:00 AM | 9 | 1 | 10 | 0 | 3 | 8 | 11 | 2 | 4 | 6 | 27 |
| 11:15 AM | 5 | 1 | 6 | 0 | 5 | 4 | 9 | 0 | 4 | 4 | 19 |
| 11:30 AM | 8 | 1 | 9 | 0 | 1 | 6 | 7 | 0 | 2 | 2 | 18 |
| 11:45 AM | 12 | 0 | 12 | 0 | 2 | 7 | 9 | 0 | 2 | 2 | 23 |
| 12:00 PM | 10 | 0 | 10 | 0 | 3 | 7 | 10 | 1 | 2 | 3 | 23 |
| 12:15 PM | 6 | 1 | 7 | 0 | 3 | 4 | 7 | 0 | 3 | 3 | 17 |
| 12:30 PM | 15 | 1 | 16 | 0 | 3 | 6 | 9 | 1 | 4 | 5 | 30 |
| 12:45 PM | 8 | 0 | 8 | 0 | 7 | 8 | 15 | 0 | 2 | 2 | 25 |
| 1:00 PM | 9 | 0 | 9 | 1 | 1 | 7 | 9 | 0 | 3 | 3 | 21 |
| 1:15 PM | 9 | 1 | 10 | 0 | 6 | 13 | 19 | 1 | 6 | 7 | 36 |
| 1:30 PM | 10 | 1 | 11 | 1 | 3 | 6 | 10 | 0 | 4 | 4 | 25 |
| 1:45 PM | 6 | 0 | 6 | 0 | 2 | 9 | 11 | 0 | 4 | 4 | 21 |
| 2:00 PM | 14 | 0 | 14 | 0 | 1 | 5 | 6 | 1 | 8 | 9 | 29 |
| 2:15 PM | 10 | 1 | 11 | 1 | 2 | 4 | 7 | 0 | 2 | 2 | 20 |
| 2:30 PM | 12 | 0 | 12 | 0 | 5 | 8 | 13 | 0 | 5 | 5 | 30 |
| 2:45 PM | 11 | 0 | 11 | 0 | 6 | 7 | 13 | 0 | 15 | 15 | 39 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 196 | 12 | 208 | 3 | 69 | 143 | 215 | 10 | 81 | 91 | 514 |
| Approach % | 94.2 | 5.8 | - | 1.4 | 32.1 | 66.5 | - | 11.0 | 89.0 | - | - |
| Total % | 38.1 | 2.3 | 40.5 | 0.6 | 13.4 | 27.8 | 41.8 | 1.9 | 15.8 | 17.7 | - |
| All Vehicles (no classification) | 196 | 12 | 208 | 3 | 69 | 143 | 215 | 10 | 81 | 91 | 514 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
pguzek@lee-eng.com

Count Name: Westworld
Site Code: 1 Tu
Start Date: 04/13/2021


# Turning Movement Data

| Start Time | 98th Street Southbound | | | McDowell Mountain Ranch Westbound | | | McDowell Mountain Ranch Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | Int. Total |
| 7:00 AM | 8 | 1 | 9 | 5 | 19 | 24 | 1 | 1 | 2 | 35 |
| 7:15 AM | 22 | 1 | 23 | 11 | 48 | 59 | 0 | 4 | 4 | 86 |
| 7:30 AM | 28 | 2 | 30 | 11 | 45 | 56 | 3 | 5 | 8 | 94 |
| 7:45 AM | 26 | 1 | 27 | 7 | 15 | 22 | 0 | 10 | 10 | 59 |
| 8:00 AM | 14 | 0 | 14 | 5 | 9 | 14 | 2 | 3 | 5 | 33 |
| 8:15 AM | 7 | 2 | 9 | 3 | 4 | 7 | 0 | 4 | 4 | 20 |
| 8:30 AM | 16 | 2 | 18 | 4 | 15 | 19 | 0 | 3 | 3 | 40 |
| 8:45 AM | 8 | 0 | 8 | 2 | 7 | 9 | 1 | 2 | 3 | 20 |
| 9:00 AM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | 130 | 9 | 139 | 48 | 162 | 210 | 7 | 32 | 39 | 388 |
| Approach % | 93.5 | 6.5 | - | 22.9 | 77.1 | - | 17.9 | 82.1 | - | - |
| Total % | 33.5 | 2.3 | 35.8 | 12.4 | 41.8 | 54.1 | 1.8 | 8.2 | 10.1 | - |
| All Vehicles (no classification) | 130 | 9 | 139 | 48 | 162 | 210 | 7 | 32 | 39 | 388 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
pguzek@lee-eng.com

Count Name: Westworld
Site Code: 1 tup
Start Date: 04/13/2021


# Turning Movement Data

| Start Time | 98th Street Southbound | | | McDowell Mountain Ranch Westbound | | | McDowell Mountain Ranch Eastbound | | | Int. Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 4:00 PM | 18 | 0 | 18 | 2 | 10 | 12 | 0 | 4 | 4 | 34 |
| 4:15 PM | 14 | 0 | 14 | 3 | 14 | 17 | 0 | 1 | 1 | 32 |
| 4:30 PM | 30 | 2 | 32 | 3 | 8 | 11 | 1 | 8 | 9 | 52 |
| 4:45 PM | 18 | 0 | 18 | 4 | 14 | 18 | 2 | 8 | 10 | 46 |
| 5:00 PM | 21 | 0 | 21 | 4 | 17 | 21 | 1 | 13 | 14 | 56 |
| 5:15 PM | 19 | 0 | 19 | 2 | 14 | 16 | 0 | 6 | 6 | 41 |
| 5:30 PM | 24 | 1 | 25 | 6 | 15 | 21 | 1 | 4 | 5 | 51 |
| 5:45 PM | 19 | 0 | 19 | 2 | 13 | 15 | 1 | 4 | 5 | 39 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 163 | 3 | 166 | 26 | 105 | 131 | 6 | 48 | 54 | 351 |
| Approach % | 98.2 | 1.8 | - | 19.8 | 80.2 | - | 11.1 | 88.9 | - | - |
| Total % | 46.4 | 0.9 | 47.3 | 7.4 | 29.9 | 37.3 | 1.7 | 13.7 | 15.4 | - |
| All Vehicles (no classification) | 163 | 3 | 166 | 26 | 105 | 131 | 6 | 48 | 54 | 351 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

**Intersection Turning Movement**
**Prepared by:**

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

| | | | | | | |
|---|---|---|---|---|---|---|
| N-S STREET: | Thompson Peak Pkwy | DATE: | 04/10/21 | LOCATION: | Scottsdale |
| E-W STREET: | McDowell Mountain Ranch | DAY: | SATURDAY | PROJECT# | 21-1216-002 |

| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | |
| 9:00 AM | | | | | | | | | | | | | |
| 9:15 AM | | | | | | | | | | | | | |
| 9:30 AM | | | | | | | | | | | | | |
| 9:45 AM | | | | | | | | | | | | | |
| 10:00 AM | 14 | 111 | 109 | 29 | 162 | 3 | 5 | 3 | 22 | 126 | 9 | 24 | 617 |
| 10:15 AM | 25 | 116 | 93 | 35 | 119 | 2 | 5 | 3 | 19 | 124 | 11 | 30 | 582 |
| 10:30 AM | 22 | 110 | 92 | 23 | 151 | 4 | 9 | 6 | 24 | 134 | 11 | 17 | 603 |
| 10:45 AM | 28 | 99 | 110 | 26 | 124 | 2 | 5 | 7 | 25 | 132 | 6 | 30 | 594 |
| 11:00 AM | 31 | 124 | 123 | 30 | 137 | 5 | 4 | 7 | 11 | 152 | 14 | 38 | 676 |
| 11:15 AM | 18 | 85 | 110 | 21 | 141 | 4 | 3 | 12 | 32 | 141 | 7 | 25 | 599 |
| 11:30 AM | 20 | 99 | 115 | 26 | 158 | 3 | 8 | 10 | 25 | 150 | 8 | 21 | 643 |
| 11:45 AM | 26 | 99 | 115 | 30 | 143 | 3 | 6 | 6 | 15 | 116 | 9 | 35 | 603 |
| 12:00 PM | 17 | 110 | 112 | 35 | 144 | 4 | 7 | 19 | 14 | 131 | 7 | 16 | 616 |
| 12:15 PM | 25 | 83 | 140 | 28 | 115 | 5 | 4 | 8 | 24 | 133 | 10 | 24 | 599 |
| 12:30 PM | 20 | 94 | 113 | 21 | 123 | 3 | 3 | 7 | 26 | 120 | 4 | 25 | 559 |
| 12:45 PM | 30 | 132 | 130 | 34 | 107 | 6 | 3 | 9 | 19 | 129 | 2 | 33 | 634 |
| 1:00 PM | 19 | 123 | 113 | 28 | 128 | 2 | 4 | 13 | 30 | 119 | 8 | 26 | 613 |
| 1:15 PM | 25 | 111 | 110 | 29 | 102 | 1 | 4 | 7 | 29 | 114 | 8 | 20 | 560 |
| 1:30 PM | 28 | 130 | 150 | 22 | 122 | 6 | 2 | 8 | 20 | 111 | 9 | 22 | 630 |
| 1:45 PM | 27 | 97 | 91 | 30 | 102 | 4 | 3 | 4 | 20 | 120 | 6 | 15 | 519 |
| 2:00 PM | 30 | 106 | 136 | 24 | 108 | 4 | 2 | 10 | 18 | 96 | 16 | 19 | 569 |
| 2:15 PM | 24 | 94 | 102 | 25 | 103 | 6 | 3 | 11 | 19 | 106 | 15 | 13 | 521 |
| 2:30 PM | 26 | 90 | 116 | 25 | 114 | 1 | 4 | 8 | 20 | 87 | 2 | 15 | 508 |
| 2:45 PM | 26 | 85 | 129 | 19 | 106 | 5 | 2 | 12 | 21 | 107 | 2 | 20 | 534 |

| TOTAL | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 481 | 2098 | 2309 | 540 | 2509 | 73 | 86 | 170 | 433 | 2448 | 164 | 468 | 11779 |
| Approach % | 9.84 | 42.92 | 47.24 | 17.30 | 80.37 | 2.34 | 12.48 | 24.67 | 62.84 | 79.48 | 5.32 | 15.19 | |
| App/Depart | 4888 | / | 2652 | 3122 | / | 5390 | 689 | / | 3019 | 3080 | / | 718 | |

AM Peak Hr Begins at: 1100 AM

| PEAK | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 95 | 407 | 463 | 107 | 579 | 15 | 21 | 35 | 83 | 559 | 38 | 119 | 2521 |
| Approach % | 9.84 | 42.18 | 47.98 | 15.26 | 82.60 | 2.14 | 15.11 | 25.18 | 59.71 | 78.07 | 5.31 | 16.62 | |

| PEAK HR. FACTOR: | 0.868 | 0.937 | 0.739 | 0.877 | 0.932 |
|---|---|---|---|---|---|

CONTROL: Signal
COMMENT 1:
GPS: 33.629211, -111.863290

**Intersection Turning Movement**
**Prepared by:**

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

| | | | | | | |
|---|---|---|---|---|---|---|
| N-S STREET: | Thompson Peak Pkwy | DATE: | 04/11/21 | LOCATION: | Scottsdale |
| E-W STREET: | McDowell Mountain Ranch | DAY: | SUNDAY | PROJECT# | 21-1216-003 |

| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | |
| 9:00 AM | | | | | | | | | | | | | |
| 9:15 AM | | | | | | | | | | | | | |
| 9:30 AM | | | | | | | | | | | | | |
| 9:45 AM | | | | | | | | | | | | | |
| 10:00 AM | 22 | 84 | 78 | 13 | 99 | 3 | 5 | 6 | 16 | 104 | 3 | 17 | 450 |
| 10:15 AM | 15 | 82 | 89 | 10 | 87 | 6 | 4 | 9 | 11 | 108 | 4 | 23 | 448 |
| 10:30 AM | 13 | 88 | 88 | 18 | 133 | 4 | 4 | 9 | 19 | 109 | 5 | 19 | 509 |
| 10:45 AM | 12 | 98 | 97 | 20 | 99 | 3 | 4 | 9 | 17 | 114 | 12 | 25 | 510 |
| 11:00 AM | 15 | 82 | 95 | 15 | 116 | 0 | 7 | 4 | 16 | 111 | 4 | 20 | 485 |
| 11:15 AM | 18 | 97 | 93 | 30 | 113 | 3 | 3 | 2 | 12 | 111 | 4 | 11 | 497 |
| 11:30 AM | 15 | 83 | 105 | 19 | 92 | 1 | 7 | 7 | 13 | 104 | 4 | 20 | 470 |
| 11:45 AM | 12 | 76 | 107 | 17 | 116 | 2 | 1 | 7 | 21 | 121 | 8 | 18 | 506 |
| 12:00 PM | 10 | 74 | 103 | 16 | 91 | 8 | 6 | 5 | 15 | 103 | 5 | 21 | 457 |
| 12:15 PM | 21 | 84 | 115 | 20 | 111 | 4 | 6 | 5 | 14 | 105 | 1 | 15 | 501 |
| 12:30 PM | 23 | 99 | 101 | 17 | 122 | 5 | 6 | 4 | 19 | 83 | 5 | 15 | 499 |
| 12:45 PM | 19 | 103 | 102 | 19 | 97 | 2 | 3 | 5 | 14 | 99 | 8 | 18 | 489 |
| 1:00 PM | 15 | 118 | 107 | 13 | 89 | 4 | 0 | 8 | 15 | 109 | 6 | 20 | 504 |
| 1:15 PM | 21 | 105 | 117 | 21 | 94 | 4 | 4 | 3 | 15 | 90 | 9 | 13 | 496 |
| 1:30 PM | 27 | 91 | 81 | 21 | 96 | 6 | 7 | 6 | 28 | 89 | 6 | 15 | 473 |
| 1:45 PM | 20 | 100 | 109 | 23 | 84 | 4 | 5 | 5 | 14 | 96 | 1 | 17 | 478 |
| 2:00 PM | 14 | 86 | 103 | 16 | 99 | 3 | 4 | 5 | 23 | 95 | 4 | 17 | 469 |
| 2:15 PM | 15 | 83 | 83 | 16 | 104 | 5 | 6 | 6 | 15 | 90 | 4 | 21 | 448 |
| 2:30 PM | 16 | 76 | 97 | 16 | 119 | 2 | 2 | 8 | 13 | 92 | 3 | 16 | 460 |
| 2:45 PM | 19 | 73 | 106 | 18 | 81 | 0 | 1 | 6 | 24 | 67 | 2 | 15 | 412 |

| TOTAL | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 342 | 1782 | 1976 | 358 | 2042 | 69 | 85 | 119 | 334 | 2000 | 98 | 356 | 9561 |
| Approach % | 8.34 | 43.46 | 48.20 | 14.50 | 82.71 | 2.79 | 15.80 | 22.12 | 62.08 | 81.50 | 3.99 | 14.51 | |
| App/Depart | 4100 | / | 2223 | 2469 | / | 4376 | 538 | / | 2453 | 2454 | / | 509 | |

AM Peak Hr Begins at: 1030 AM

| PEAK | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 58 | 365 | 373 | 83 | 461 | 10 | 18 | 24 | 64 | 445 | 25 | 75 | 2001 |
| Approach % | 7.29 | 45.85 | 46.86 | 14.98 | 83.21 | 1.81 | 16.98 | 22.64 | 60.38 | 81.65 | 4.59 | 13.76 | |

| PEAK HR. FACTOR: | 0.957 | 0.894 | 0.828 | 0.902 | 0.981 |
|---|---|---|---|---|---|

CONTROL: Signal
COMMENT 1:
GPS: 33.629211, -111.863290

**Intersection Turning Movement**
**Prepared by:**

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

| | | | | | | |
|---|---|---|---|---|---|---|
| N-S STREET: | Thompson Peak Pkwy | DATE: | 04/13/21 | LOCATION: | Scottsdale |
| E-W STREET: | McDowell Mountain Ranch | DAY: | TUESDAY | PROJECT# | 21-1216-001 |

| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | |
| 6:00 AM | | | | | | | | | | | | | |
| 6:15 AM | | | | | | | | | | | | | |
| 6:30 AM | | | | | | | | | | | | | |
| 6:45 AM | | | | | | | | | | | | | |
| 7:00 AM | 22 | 45 | 53 | 18 | 105 | 1 | 2 | 5 | 21 | 168 | 7 | 20 | 467 |
| 7:15 AM | 34 | 75 | 81 | 15 | 160 | 2 | 2 | 10 | 30 | 148 | 25 | 16 | 598 |
| 7:30 AM | 37 | 136 | 130 | 25 | 127 | 3 | 5 | 15 | 36 | 170 | 25 | 34 | 743 |
| 7:45 AM | 18 | 114 | 122 | 23 | 142 | 5 | 6 | 10 | 34 | 114 | 11 | 26 | 625 |
| 8:00 AM | 10 | 67 | 77 | 18 | 110 | 7 | 5 | 6 | 25 | 121 | 4 | 23 | 473 |
| 8:15 AM | 12 | 93 | 127 | 36 | 120 | 6 | 4 | 10 | 24 | 117 | 6 | 25 | 580 |
| 8:30 AM | 18 | 95 | 119 | 43 | 117 | 4 | 1 | 14 | 26 | 171 | 15 | 38 | 661 |
| 8:45 AM | 16 | 87 | 128 | 44 | 112 | 4 | 2 | 11 | 25 | 163 | 14 | 28 | 634 |
| 9:00 AM | | | | | | | | | | | | | |
| 9:15 AM | | | | | | | | | | | | | |
| 9:30 AM | | | | | | | | | | | | | |
| 9:45 AM | | | | | | | | | | | | | |
| 10:00 AM | | | | | | | | | | | | | |
| 10:15 AM | | | | | | | | | | | | | |
| 10:30 AM | | | | | | | | | | | | | |
| 10:45 AM | | | | | | | | | | | | | |
| 11:00 AM | | | | | | | | | | | | | |
| 11:15 AM | | | | | | | | | | | | | |
| 11:30 AM | | | | | | | | | | | | | |
| 11:45 AM | | | | | | | | | | | | | |

| TOTAL | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 167 | 712 | 837 | 222 | 993 | 32 | 27 | 81 | 221 | 1172 | 107 | 210 | 4781 |
| Approach % | 9.73 | 41.49 | 48.78 | 17.80 | 79.63 | 2.57 | 8.21 | 24.62 | 67.17 | 78.71 | 7.19 | 14.10 | |
| App/Depart | 1716 | / | 949 | 1247 | / | 2386 | 329 | / | 1140 | 1489 | / | 306 | |

AM Peak Hr Begins at: 715 AM

| PEAK | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 99 | 392 | 410 | 81 | 539 | 17 | 18 | 41 | 125 | 553 | 65 | 99 | 2439 |
| Approach % | 10.99 | 43.51 | 45.50 | 12.72 | 84.62 | 2.67 | 9.78 | 22.28 | 67.93 | 77.13 | 9.07 | 13.81 | |
| PEAK HR. FACTOR: | | 0.743 | | | 0.900 | | | 0.821 | | | 0.783 | | 0.821 |

| | |
|---|---|
| CONTROL: | Signal |
| COMMENT 1: | |
| GPS: | 33.629211, -111.863290 |

# Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

| | | | | | | |
|---|---|---|---|---|---|---|
| N-S STREET: | Thompson Peak Pkwy 0 | DATE: | 04/13/21 | LOCATION: | Scottsdale |
| E-W STREET: | McDowell Mountain Ranch | DAY: | TUESDAY | PROJECT# | 21-1216-001 |

| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | |
| 1:00 PM | | | | | | | | | | | | | |
| 1:15 PM | | | | | | | | | | | | | |
| 1:30 PM | | | | | | | | | | | | | |
| 1:45 PM | | | | | | | | | | | | | |
| 2:00 PM | | | | | | | | | | | | | |
| 2:15 PM | | | | | | | | | | | | | |
| 2:30 PM | | | | | | | | | | | | | |
| 2:45 PM | | | | | | | | | | | | | |
| 3:00 PM | | | | | | | | | | | | | |
| 3:15 PM | | | | | | | | | | | | | |
| 3:30 PM | | | | | | | | | | | | | |
| 3:45 PM | | | | | | | | | | | | | |
| 4:00 PM | 25 | 130 | 131 | 28 | 136 | 5 | 3 | 9 | 15 | 110 | 8 | 27 | 627 |
| 4:15 PM | 24 | 124 | 130 | 27 | 120 | 1 | 9 | 9 | 18 | 95 | 6 | 32 | 595 |
| 4:30 PM | 19 | 133 | 116 | 28 | 151 | 3 | 4 | 11 | 21 | 120 | 6 | 20 | 632 |
| 4:45 PM | 29 | 123 | 135 | 37 | 127 | 0 | 1 | 4 | 32 | 97 | 3 | 31 | 619 |
| 5:00 PM | 28 | 143 | 144 | 27 | 130 | 4 | 6 | 6 | 33 | 112 | 10 | 27 | 670 |
| 5:15 PM | 31 | 126 | 141 | 36 | 123 | 3 | 2 | 10 | 20 | 85 | 4 | 16 | 597 |
| 5:30 PM | 26 | 135 | 163 | 24 | 140 | 3 | 4 | 10 | 29 | 113 | 10 | 21 | 678 |
| 5:45 PM | 26 | 128 | 124 | 24 | 115 | 3 | 3 | 4 | 18 | 75 | 4 | 24 | 548 |
| 6:00 PM | | | | | | | | | | | | | |
| 6:15 PM | | | | | | | | | | | | | |
| 6:30 PM | | | | | | | | | | | | | |
| 6:45 PM | | | | | | | | | | | | | |

| TOTAL | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 208 | 1042 | 1084 | 231 | 1042 | 22 | 32 | 63 | 186 | 807 | 51 | 198 | 4966 |
| Approach % | 8.91 | 44.64 | 46.44 | 17.84 | 80.46 | 1.70 | 11.39 | 22.42 | 66.19 | 76.42 | 4.83 | 18.75 | |
| App/Depart | 2334 | / | 1272 | 1295 | / | 2035 | 281 | / | 1378 | 1056 | / | 281 | |

PM Peak Hr Begins at: 445 PM

| PEAK | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volumes | 114 | 527 | 583 | 124 | 520 | 10 | 13 | 30 | 114 | 407 | 27 | 95 | 2564 |
| Approach % | 9.31 | 43.06 | 47.63 | 18.96 | 79.51 | 1.53 | 8.28 | 19.11 | 72.61 | 76.94 | 5.10 | 17.96 | |
| PEAK HR. FACTOR: | | 0.944 | | | 0.979 | | | 0.872 | | | 0.888 | | 0.945 |

| | |
|---|---|
| CONTROL: | Signal |
| COMMENT 1: | 0 |
| GPS: | 33.629211, -111.863290 |

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Site Code: 2 Sa
Start Date: 04/10/2021


# Turning Movement Data

| Start Time | Southbound Approach Southbound | | | Access Road Westbound | | | Thompson Peak Parkway Northbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | App. Total | Left | Right | App. Total | Thru | Right | App. Total | Int. Total |
| 10:00 AM | 0 | 0 | 0 | 0 | 3 | 3 | 229 | 21 | 250 | 253 |
| 10:15 AM | 0 | 0 | 0 | 0 | 5 | 5 | 232 | 14 | 246 | 251 |
| 10:30 AM | 0 | 0 | 0 | 0 | 4 | 4 | 216 | 12 | 228 | 232 |
| 10:45 AM | 0 | 0 | 0 | 0 | 6 | 6 | 228 | 15 | 243 | 249 |
| 11:00 AM | 0 | 0 | 0 | 0 | 10 | 10 | 263 | 22 | 285 | 295 |
| 11:15 AM | 0 | 0 | 0 | 0 | 2 | 2 | 216 | 8 | 224 | 226 |
| 11:30 AM | 0 | 0 | 0 | 0 | 4 | 4 | 239 | 12 | 251 | 255 |
| 11:45 AM | 0 | 0 | 0 | 0 | 3 | 3 | 239 | 17 | 256 | 259 |
| 12:00 PM | 0 | 0 | 0 | 0 | 9 | 9 | 221 | 28 | 249 | 258 |
| 12:15 PM | 0 | 0 | 0 | 0 | 7 | 7 | 233 | 16 | 249 | 256 |
| 12:30 PM | 0 | 0 | 0 | 0 | 10 | 10 | 223 | 13 | 236 | 246 |
| 12:45 PM | 0 | 0 | 0 | 0 | 2 | 2 | 271 | 21 | 292 | 294 |
| 1:00 PM | 0 | 0 | 0 | 0 | 3 | 3 | 259 | 19 | 278 | 281 |
| 1:15 PM | 0 | 0 | 0 | 0 | 1 | 1 | 251 | 8 | 259 | 260 |
| 1:30 PM | 0 | 0 | 0 | 0 | 5 | 5 | 298 | 9 | 307 | 312 |
| 1:45 PM | 0 | 0 | 0 | 0 | 6 | 6 | 213 | 8 | 221 | 227 |
| 2:00 PM | 0 | 0 | 0 | 0 | 9 | 9 | 258 | 11 | 269 | 278 |
| 2:15 PM | 0 | 0 | 0 | 0 | 5 | 5 | 221 | 8 | 229 | 234 |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 228 | 4 | 232 | 232 |
| 2:45 PM | 0 | 0 | 0 | 0 | 11 | 11 | 231 | 9 | 240 | 251 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 0 | 0 | 0 | 0 | 105 | 105 | 4769 | 275 | 5044 | 5149 |
| Approach % | 0.0 | 0.0 | - | 0.0 | 100.0 | - | 94.5 | 5.5 | - | - |
| Total % | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 92.6 | 5.3 | 98.0 | - |
| All Vehicles (no classification) | 0 | 0 | 0 | 0 | 105 | 105 | 4769 | 275 | 5044 | 5149 |
| % All Vehicles (no classification) | - | - | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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Site Code: 2 Su
Start Date: 04/11/2021


# Turning Movement Data

| Start Time | Access Road Westbound | | Thompson Peak Parkway Northbound | | | |
|---|---|---|---|---|---|---|
| | Right | App. Total | Thru | Right | App. Total | Int. Total |
| 10:00 AM | 2 | 2 | 183 | 8 | 191 | 193 |
| 10:15 AM | 1 | 1 | 188 | 3 | 191 | 192 |
| 10:30 AM | 2 | 2 | 187 | 4 | 191 | 193 |
| 10:45 AM | 2 | 2 | 205 | 4 | 209 | 211 |
| 11:00 AM | 0 | 0 | 196 | 7 | 203 | 203 |
| 11:15 AM | 1 | 1 | 203 | 11 | 214 | 215 |
| 11:30 AM | 3 | 3 | 203 | 24 | 227 | 230 |
| 11:45 AM | 1 | 1 | 192 | 13 | 205 | 206 |
| 12:00 PM | 4 | 4 | 183 | 6 | 189 | 193 |
| 12:15 PM | 2 | 2 | 219 | 6 | 225 | 227 |
| 12:30 PM | 3 | 3 | 225 | 7 | 232 | 235 |
| 12:45 PM | 4 | 4 | 213 | 3 | 216 | 220 |
| 1:00 PM | 1 | 1 | 240 | 2 | 242 | 243 |
| 1:15 PM | 3 | 3 | 245 | 12 | 257 | 260 |
| 1:30 PM | 2 | 2 | 196 | 26 | 222 | 224 |
| 1:45 PM | 10 | 10 | 217 | 14 | 231 | 241 |
| 2:00 PM | 4 | 4 | 196 | 4 | 200 | 204 |
| 2:15 PM | 1 | 1 | 186 | 3 | 189 | 190 |
| 2:30 PM | 1 | 1 | 192 | 2 | 194 | 195 |
| 2:45 PM | 3 | 3 | 204 | 2 | 206 | 209 |
| Grand Total | 50 | 50 | 4073 | 161 | 4234 | 4284 |
| Approach % | 100.0 | - | 96.2 | 3.8 | - | - |
| Total % | 1.2 | 1.2 | 95.1 | 3.8 | 98.8 | - |
| All Vehicles (no classification) | 50 | 50 | 4073 | 161 | 4234 | 4284 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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Site Code: 2 Tu
Start Date: 04/13/2021


# Turning Movement Data

| Start Time | Southbound Approach Southbound | | Access Road Westbound | | Thompson Peak Parkway Northbound | | | |
|---|---|---|---|---|---|---|---|---|
| | Left | App. Total | Right | App. Total | Thru | Right | App. Total | Int. Total |
| 7:00 AM | 0 | 0 | 1 | 1 | 123 | 17 | 140 | 141 |
| 7:15 AM | 0 | 0 | 6 | 6 | 200 | 48 | 248 | 254 |
| 7:30 AM | 0 | 0 | 17 | 17 | 275 | 59 | 334 | 351 |
| 7:45 AM | 0 | 0 | 3 | 3 | 248 | 12 | 260 | 263 |
| 8:00 AM | 0 | 0 | 1 | 1 | 163 | 10 | 173 | 174 |
| 8:15 AM | 0 | 0 | 4 | 4 | 221 | 21 | 242 | 246 |
| 8:30 AM | 0 | 0 | 11 | 11 | 227 | 17 | 244 | 255 |
| 8:45 AM | 0 | 0 | 2 | 2 | 176 | 10 | 186 | 188 |
| *** BREAK *** | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 0 | 6 | 6 | 277 | 17 | 294 | 300 |
| 4:15 PM | 0 | 0 | 6 | 6 | 278 | 12 | 290 | 296 |
| 4:30 PM | 0 | 0 | 5 | 5 | 242 | 26 | 268 | 273 |
| 4:45 PM | 0 | 0 | 7 | 7 | 296 | 28 | 324 | 331 |
| 5:00 PM | 0 | 0 | 19 | 19 | 275 | 26 | 301 | 320 |
| 5:15 PM | 0 | 0 | 6 | 6 | 271 | 21 | 292 | 298 |
| 5:30 PM | 0 | 0 | 7 | 7 | 304 | 17 | 321 | 328 |
| 5:45 PM | 0 | 0 | 3 | 3 | 258 | 32 | 290 | 293 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 0 | 0 | 104 | 104 | 3834 | 373 | 4207 | 4311 |
| Approach % | 0.0 | - | 100.0 | - | 91.1 | 8.9 | - | - |
| Total % | 0.0 | 0.0 | 2.4 | 2.4 | 88.9 | 8.7 | 97.6 | - |
| All Vehicles (no classification) | 0 | 0 | 104 | 104 | 3834 | 373 | 4207 | 4311 |
| % All Vehicles (no classification) | - | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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Site Code: 3 Sa
Start Date: 04/10/2021


# Turning Movement Data

| Start Time | Thompson Peak Parkway Southbound | | | Access Rd Eastbound | | |
|---|---|---|---|---|---|---|
| | Thru | Right | App. Total | Right | App. Total | Int. Total |
| 10:00 AM | 297 | 1 | 298 | 10 | 10 | 308 |
| 10:15 AM | 251 | 0 | 251 | 8 | 8 | 259 |
| 10:30 AM | 292 | 1 | 293 | 7 | 7 | 300 |
| 10:45 AM | 275 | 4 | 279 | 19 | 19 | 298 |
| 11:00 AM | 298 | 3 | 301 | 34 | 34 | 335 |
| 11:15 AM | 334 | 1 | 335 | 13 | 13 | 348 |
| 11:30 AM | 328 | 3 | 331 | 10 | 10 | 341 |
| 11:45 AM | 281 | 5 | 286 | 5 | 5 | 291 |
| 12:00 PM | 279 | 3 | 282 | 11 | 11 | 293 |
| 12:15 PM | 283 | 2 | 285 | 19 | 19 | 304 |
| 12:30 PM | 274 | 9 | 283 | 18 | 18 | 301 |
| 12:45 PM | 265 | 0 | 265 | 5 | 5 | 270 |
| 1:00 PM | 276 | 0 | 276 | 9 | 9 | 285 |
| 1:15 PM | 252 | 4 | 256 | 11 | 11 | 267 |
| 1:30 PM | 245 | 2 | 247 | 5 | 5 | 252 |
| 1:45 PM | 258 | 0 | 258 | 15 | 15 | 273 |
| 2:00 PM | 228 | 0 | 228 | 26 | 26 | 254 |
| 2:15 PM | 238 | 2 | 240 | 11 | 11 | 251 |
| 2:30 PM | 207 | 4 | 211 | 5 | 5 | 216 |
| 2:45 PM | 243 | 0 | 243 | 7 | 7 | 250 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 5404 | 44 | 5448 | 248 | 248 | 5696 |
| Approach % | 99.2 | 0.8 | - | 100.0 | - | - |
| Total % | 94.9 | 0.8 | 95.6 | 4.4 | 4.4 | - |
| All Vehicles (no classification) | 5404 | 44 | 5448 | 248 | 248 | 5696 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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Start Date: 04/11/2021


# Turning Movement Data

| Start Time | SB Thompson Peak Parkway Southbound | | | Access Road Eastbound | | Int. Total |
|---|---|---|---|---|---|---|
| | Thru | Right | App. Total | Right | App. Total | |
| 10:00 AM | 216 | 2 | 218 | 5 | 5 | 223 |
| 10:15 AM | 213 | 1 | 214 | 8 | 8 | 222 |
| 10:30 AM | 255 | 2 | 257 | 1 | 1 | 258 |
| 10:45 AM | 246 | 0 | 246 | 0 | 0 | 246 |
| 11:00 AM | 230 | 0 | 230 | 2 | 2 | 232 |
| 11:15 AM | 240 | 3 | 243 | 4 | 4 | 247 |
| 11:30 AM | 211 | 1 | 212 | 10 | 10 | 222 |
| 11:45 AM | 261 | 3 | 264 | 24 | 24 | 288 |
| 12:00 PM | 218 | 0 | 218 | 3 | 3 | 221 |
| 12:15 PM | 235 | 0 | 235 | 8 | 8 | 243 |
| 12:30 PM | 231 | 1 | 232 | 2 | 2 | 234 |
| 12:45 PM | 210 | 0 | 210 | 7 | 7 | 217 |
| 1:00 PM | 216 | 0 | 216 | 4 | 4 | 220 |
| 1:15 PM | 201 | 0 | 201 | 3 | 3 | 204 |
| 1:30 PM | 202 | 1 | 203 | 6 | 6 | 209 |
| 1:45 PM | 198 | 4 | 202 | 12 | 12 | 214 |
| 2:00 PM | 219 | 0 | 219 | 8 | 8 | 227 |
| 2:15 PM | 201 | 4 | 205 | 5 | 5 | 210 |
| 2:30 PM | 217 | 2 | 219 | 5 | 5 | 224 |
| 2:45 PM | 173 | 0 | 173 | 12 | 12 | 185 |
| Grand Total | 4393 | 24 | 4417 | 129 | 129 | 4546 |
| Approach % | 99.5 | 0.5 | - | 100.0 | - | - |
| Total % | 96.6 | 0.5 | 97.2 | 2.8 | 2.8 | - |
| All Vehicles (no classification) | 4393 | 24 | 4417 | 129 | 129 | 4546 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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Start Date: 04/13/2021


# Turning Movement Data

| Start Time | SB Thompson Peak Parkway Southbound | | | Access Road Eastbound | | | Int. Total |
|---|---|---|---|---|---|---|---|
| | Thru | Right | App. Total | Left | Right | App. Total | |
| 7:00 AM | 270 | 2 | 272 | 0 | 6 | 6 | 278 |
| 7:15 AM | 343 | 1 | 344 | 0 | 32 | 32 | 376 |
| 7:30 AM | 311 | 11 | 322 | 0 | 55 | 55 | 377 |
| 7:45 AM | 312 | 3 | 315 | 0 | 16 | 16 | 331 |
| 8:00 AM | 244 | 0 | 244 | 0 | 4 | 4 | 248 |
| 8:15 AM | 273 | 3 | 276 | 1 | 10 | 11 | 287 |
| 8:30 AM | 322 | 3 | 325 | 0 | 41 | 41 | 366 |
| 8:45 AM | 320 | 4 | 324 | 0 | 5 | 5 | 329 |
| 9:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *** BREAK *** | - | - | - | - | - | - | - |
| 4:00 PM | 254 | 6 | 260 | 0 | 21 | 21 | 281 |
| 4:15 PM | 247 | 0 | 247 | 0 | 8 | 8 | 255 |
| 4:30 PM | 278 | 4 | 282 | 0 | 10 | 10 | 292 |
| 4:45 PM | 267 | 6 | 273 | 0 | 20 | 20 | 293 |
| 5:00 PM | 273 | 3 | 276 | 0 | 31 | 31 | 307 |
| 5:15 PM | 237 | 1 | 238 | 0 | 25 | 25 | 263 |
| 5:30 PM | 265 | 5 | 270 | 0 | 15 | 15 | 285 |
| 5:45 PM | 220 | 10 | 230 | 0 | 9 | 9 | 239 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | 4436 | 62 | 4498 | 1 | 308 | 309 | 4807 |
| Approach % | 98.6 | 1.4 | - | 0.3 | 99.7 | - | - |
| Total % | 92.3 | 1.3 | 93.6 | 0.0 | 6.4 | 6.4 | - |
| All Vehicles (no classification) | 4436 | 62 | 4498 | 1 | 308 | 309 | 4807 |
| % All Vehicles (no classification) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

## APPENDIX B: CRASH DATA

# Crash Summary Westworld Sports Fields, 2017 thru 2019

| IncidentID | IncidentDateTime | IncidentYear | CollisionManner | LightCondition | TotalUnits | TotalMotorists | TotalNonMotorists | InjurySeverity | Onroad | CrossingFeature | Offset | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thompson Peak Parkway and McDowell Mountain Ranch Road | | | | | | | | | | | | | |
| 3214046 | 4/4/2017 14:12 | 2017 | 6 | 1 | 2 | 2 | 0 | 1 | Mcdowell Mountain Ra Rd | 07 THOMPSON PEAK PKWY | -0.005 | 33.6291591 | -111.86325 |
| 3290763 | 10/24/2017 20:29 | 2017 | 2 | 4 | 2 | 2 | 0 | 1 | Mcdowell Mountain Ra Rd | 07 THOMPSON PEAK PKWY | 0 | 33.6292069 | -111.86331 |
| 3296739 | 11/1/2017 12:50 | 2017 | 2 | 1 | 2 | 4 | 0 | 1 | Mcdowell Mountain Ra Rd | 07 THOMPSON PEAK PKWY | 0.0009 | 33.6292166 | -111.86332 |
| 3246375 | 6/20/2017 12:25 | 2017 | 4 | 1 | 2 | 2 | 0 | 2 | Thompson Peak Pkwy | 07 MCDOWELL MOUNTAIN RARD | -0.008 | 33.6291288 | -111.8634 |
| 3188568 | 1/21/2017 16:20 | 2017 | 4 | 1 | 2 | 2 | 0 | 2 | Mcdowell Mountain Ra Rd | 07 THOMPSON PEAK PKWY | -0.015 | 33.6293625 | -111.8635 |
| 3270188 | 8/15/2017 7:13 | 2017 | 6 | 1 | 2 | 2 | 0 | 1 | Thompson Peak Pkwy | 07 MCDOWELL MOUNTAIN RARD | -0.019 | 33.6290118 | -111.86354 |
| 3324904 | 12/16/2017 14:47 | 2017 | 4 | 1 | 2 | 3 | 0 | 3 | Thompson Peak Pkwy | 07 MCDOWELL MOUNTAIN RARD | -0.024 | 33.6289631 | -111.8636 |
| 3429176 | 10/4/2018 12:27 | 2018 | 6 | 1 | 2 | 2 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 30 | 33.6291547 | -111.86325 |
| 3348154 | 2/14/2018 10:09 | 2018 | 2 | 1 | 2 | 3 | 0 | 3 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3382002 | 5/18/2018 17:25 | 2018 | 3 | 1 | 2 | 2 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3359576 | 4/11/2018 7:22 | 2018 | 1 | 1 | 1 | 1 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | -108 | 33.6294221 | -111.86357 |
| 3537628 | 5/15/2019 8:06 | 2019 | 6 | 1 | 2 | 2 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | -25 | 33.6291642 | -111.86326 |
| 3504246 | 2/4/2019 15:07 | 2019 | 2 | 1 | 2 | 3 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3550403 | 7/6/2019 15:23 | 2019 | 1 | 1 | 1 | 1 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3552730 | 7/19/2019 15:06 | 2019 | 2 | 1 | 2 | 2 | 0 | 2 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3584180 | 9/13/2019 13:44 | 2019 | 6 | 1 | 2 | 3 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | 0 | 33.6292119 | -111.86332 |
| 3504265 | 2/7/2019 15:14 | 2019 | 6 | 1 | 2 | 3 | 0 | 1 | 07 THOMPSON PEAK PKWY | McDowell Mountain Ra Rd | 25 | 33.6292598 | -111.86326 |
| 3535854 | 6/4/2019 17:57 | 2019 | 2 | 1 | 2 | 2 | 0 | 1 | MCDOWELL MOUNTAIN RARD | Thompson Peak Pkwy | -200 | 33.6296011 | -111.86378 |
| Northbound Thompson Peak Parkway and Aquatic Center / Park Access Road | | | | | | | | | | | | | |
| 3289712 | 10/13/2017 13:10 | 2017 | 1 | 1 | 1 | 1 | 0 | 1 | Thompson Peak Pkwy | 07 MCDOWELL MOUNTAIN RARD | -0.095 | 33.6282334 | -111.86447 |
| Southbound Thompson Peak Parkway and Aquatic Center / Park Access Road | | | | | | | | | | | | | |
| 3366141 | 4/11/2018 8:30 | 2018 | 2 | 1 | 2 | 2 | 0 | 2 | 07 THOMPSON PEAK PKWY | McDowell Mountain Ra Rd | -1000 | 33.6272671 | -111.86564 |

## APPENDIX C: RAW CITY OF SCOTTSDALE SOCCER FIELD TRIP GENERATION DATA

| 94th St & Bell Rd. Multi-Use Fields | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Land Use: (488) Soccer Complex** | | | | | | | | | | | | |
| **# of Fields** 6 | **Weekday Daily** | | **Weekday AM Peak** | | **Weekday PM Peak** | | **Saturday Daily** | | **Saturday Peak Hour** | | **Sunday Peak Hour** | |
| | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| ITE Trip Rate | 71.33 | | 1.77 | | 16.9 | | 404.88 | | 40.1 | | 28.78 | |
| Trips | 214 | 214 | 6 | 5 | 48 | 54 | 1215 | 1215 | 115 | 125 | 79 | 93 |
| | 428 | | 11 | | 101 | | 2429 | | 241 | | 173 | |

| 94th St & Bell Rd. Multi-Use Fields | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Actual Count Data (10/14-10/18 2020 - Sports Complex #1 Bell & Princess)** | | | | | | | | | | | | |
| **# of Fields** 6 | ****Weekday Daily** | | **Weekday AM Peak** | | **Weekday PM Peak** | | **Saturday Daily** | | **Saturday Peak Hour** | | **Sunday Peak Hour** | |
| | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** | **Enter** | **Exit** |
| Dir. Dist. | 50% | 50% | 53% | 47% | 47% | 53% | 50% | 50% | 48% | 52% | 46% | 54% |
| Count Data | 120 | | 8 | | 34 | | 305 | | 47 | | 38 | |
| Trips | 360 | 360 | 25 | 23 | 96 | 108 | 915 | 915 | 135 | 147 | 105 | 123 |
| | 720 | | 48 | | 204 | | 1830 | | 282 | | 228 | |

** Thur only

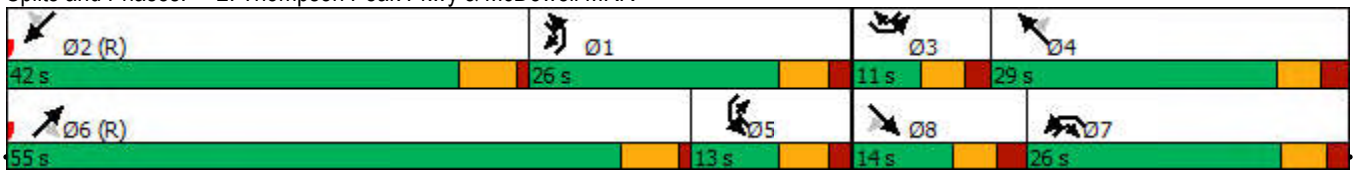
## APPENDIX D: SYNCHRO ANALYSIS RESULTS

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 21 | 35 | 83 | 559 | 38 | 119 | 95 | 407 | 463 | 107 | 579 | 15 |
| Future Volume (vph) | 21 | 35 | 83 | 559 | 38 | 119 | 95 | 407 | 463 | 107 | 579 | 15 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 88 | | | 141 | | | 503 | | | 148 |
| Lane Group Flow (vph) | 23 | 38 | 90 | 608 | 41 | 129 | 103 | 442 | 503 | 116 | 629 | 16 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 26.0 | 26.0 | 29.0 | 13.0 | 26.0 | 55.0 | 26.0 | 13.0 | 42.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.0 | 27.5 | 21.4 | 22.2 | 31.4 | 19.7 | 54.8 | 81.9 | 6.7 | 41.8 | 47.1 |
| Actuated g/C Ratio | 0.05 | 0.06 | 0.25 | 0.20 | 0.21 | 0.29 | 0.18 | 0.51 | 0.76 | 0.06 | 0.39 | 0.44 |
| v/c Ratio | 0.14 | 0.17 | 0.19 | 0.89 | 0.06 | 0.23 | 0.16 | 0.25 | 0.23 | 0.54 | 0.46 | 0.02 |
| Control Delay | 51.1 | 49.6 | 7.2 | 59.3 | 34.2 | 3.8 | 37.9 | 16.6 | 0.7 | 59.0 | 27.4 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.1 | 49.6 | 7.2 | 59.3 | 34.2 | 3.8 | 37.9 | 16.6 | 0.7 | 59.0 | 27.4 | 0.1 |
| LOS | D | D | A | E | C | A | D | B | A | E | C | A |
| Approach Delay | | 24.6 | | | 48.8 | | | 11.0 | | | 31.6 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 8 | 13 | 1 | 213 | 12 | 0 | 30 | 97 | 0 | 40 | 183 | 0 |
| Queue Length 95th (ft) | 21 | 31 | 37 | #311 | 27 | 29 | 55 | 133 | 14 | 70 | 240 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 171 | 262 | 472 | 684 | 754 | 547 | 635 | 1795 | 2213 | 222 | 1369 | 776 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.15 | 0.19 | 0.89 | 0.05 | 0.24 | 0.16 | 0.25 | 0.23 | 0.52 | 0.46 | 0.02 |

**Intersection Summary**

Cycle Length: 108
Actuated Cycle Length: 108
Offset: 6 (6%), Referenced to phase 2:SWT and 6:NET, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 28.2 Intersection LOS: C
Intersection Capacity Utilization 57.5% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 25 | 17 | 66 | 14 | 1 |
| Future Vol, veh/h | 2 | 25 | 17 | 66 | 14 | 1 |
| 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 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 27 | 18 | 72 | 15 | 1 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 90 | 0 | - | 0 | 49 | 18 |
| Stage 1 | - | - | - | - | 18 | - |
| Stage 2 | - | - | - | - | 31 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1505 | - | - | - | 960 | 1061 |
| Stage 1 | - | - | - | - | 1005 | - |
| Stage 2 | - | - | - | - | 992 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1505 | - | - | - | 959 | 1061 |
| Mov Cap-2 Maneuver | - | - | - | - | 893 | - |
| Stage 1 | - | - | - | - | 1004 | - |
| Stage 2 | - | - | - | - | 992 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.5 | 0 | 9.1 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1505 | - | - | - | 903 |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.018 |
| HCM Control Delay (s) | 7.4 | 0 | - | - | 9.1 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 76 | 0 | 1016 | 1235 | 11 |
| Future Vol, veh/h | 0 | 76 | 0 | 1016 | 1235 | 11 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 83 | 0 | 1104 | 1342 | 12 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 671 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 399 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 399 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 16.4 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 399 | - | - |
| HCM Lane V/C Ratio | - | 0.207 | - | - |
| HCM Control Delay (s) | - | 16.4 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 0.8 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 19 | 957 | 59 | 0 | 1246 |
| Future Vol, veh/h | 0 | 19 | 957 | 59 | 0 | 1246 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 21 | 1040 | 64 | 0 | 1354 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 552 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 477 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 477 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

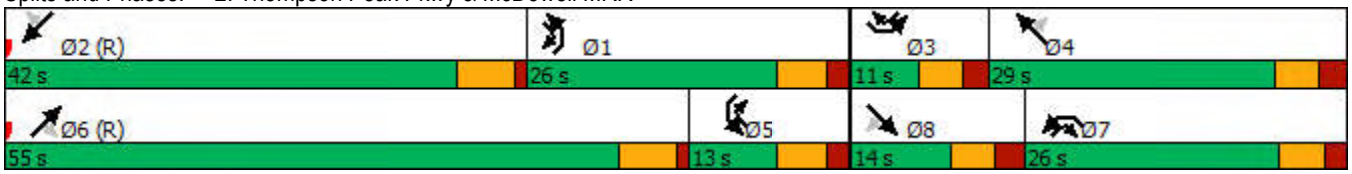
| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 12.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 477 | - |
| HCM Lane V/C Ratio | - | - | 0.043 | - |
| HCM Control Delay (s) | - | - | 12.9 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 18 | 24 | 64 | 445 | 25 | 75 | 58 | 365 | 373 | 83 | 461 | 10 |
| Future Volume (vph) | 18 | 24 | 64 | 445 | 25 | 75 | 58 | 365 | 373 | 83 | 461 | 10 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 88 | | | 141 | | | 405 | | | 148 |
| Lane Group Flow (vph) | 20 | 26 | 70 | 484 | 27 | 82 | 63 | 397 | 405 | 90 | 501 | 11 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 26.0 | 26.0 | 29.0 | 13.0 | 26.0 | 55.0 | 26.0 | 13.0 | 42.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.0 | 24.7 | 18.8 | 21.8 | 31.9 | 16.9 | 57.6 | 82.1 | 6.5 | 49.4 | 55.8 |
| Actuated g/C Ratio | 0.05 | 0.06 | 0.23 | 0.17 | 0.20 | 0.30 | 0.16 | 0.53 | 0.76 | 0.06 | 0.46 | 0.52 |
| v/c Ratio | 0.12 | 0.11 | 0.16 | 0.81 | 0.04 | 0.14 | 0.12 | 0.21 | 0.18 | 0.44 | 0.31 | 0.01 |
| Control Delay | 50.9 | 48.8 | 4.7 | 54.1 | 33.1 | 0.9 | 37.5 | 15.3 | 0.7 | 55.7 | 23.1 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.9 | 48.8 | 4.7 | 54.1 | 33.1 | 0.9 | 37.5 | 15.3 | 0.7 | 55.7 | 23.1 | 0.0 |
| LOS | D | D | A | D | C | A | D | B | A | E | C | A |
| Approach Delay | | 22.6 | | | 45.8 | | | 10.1 | | | 27.5 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 7 | 8 | 0 | 166 | 6 | 0 | 19 | 83 | 0 | 31 | 135 | 0 |
| Queue Length 95th (ft) | 19 | 23 | 23 | 220 | 20 | 4 | 37 | 119 | 13 | 57 | 188 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 171 | 262 | 472 | 661 | 812 | 541 | 635 | 1888 | 2184 | 222 | 1620 | 892 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.10 | 0.15 | 0.73 | 0.03 | 0.15 | 0.10 | 0.21 | 0.19 | 0.41 | 0.31 | 0.01 |

| Intersection Summary | |
|---|---|
| Cycle Length: 108 | |
| Actuated Cycle Length: 108 | |
| Offset: 6 (6%), Referenced to phase 2:SWT and 6:NET, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.81 | |
| Intersection Signal Delay: 25.3 | Intersection LOS: C |
| Intersection Capacity Utilization 51.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 4 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 13 | 15 | 35 | 41 | 3 |
| Future Vol, veh/h | 6 | 13 | 15 | 35 | 41 | 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 | - | - | - | 0 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 14 | 16 | 38 | 45 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 54 | 0 | - | 0 | 44 | 16 |
| Stage 1 | - | - | - | - | 16 | - |
| Stage 2 | - | - | - | - | 28 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1551 | - | - | - | 967 | 1063 |
| Stage 1 | - | - | - | - | 1007 | - |
| Stage 2 | - | - | - | - | 995 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1551 | - | - | - | 962 | 1063 |
| Mov Cap-2 Maneuver | - | - | - | - | 895 | - |
| Stage 1 | - | - | - | - | 1002 | - |
| Stage 2 | - | - | - | - | 995 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.3 | 0 | 9.2 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1551 | - | - | - | 905 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.053 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 9.2 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 40 | 0 | 853 | 942 | 7 |
| Future Vol, veh/h | 0 | 40 | 0 | 853 | 942 | 7 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 43 | 0 | 927 | 1024 | 8 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 512 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 507 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 507 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 12.8 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 507 | - | - |
| HCM Lane V/C Ratio | - | 0.086 | - | - |
| HCM Control Delay (s) | - | 12.8 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.3 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 807 | 46 | 0 | 949 |
| Future Vol, veh/h | 0 | 6 | 807 | 46 | 0 | 949 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 877 | 50 | 0 | 1032 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 464 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 545 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 545 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

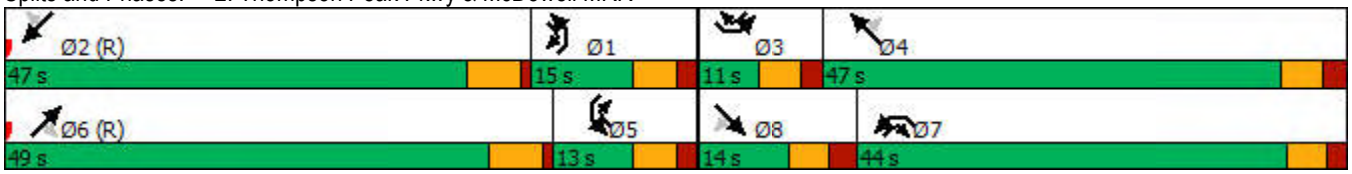
| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 11.7 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 545 | - |
| HCM Lane V/C Ratio | - | - | 0.012 | - |
| HCM Control Delay (s) | - | - | 11.7 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0 | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 18 | 41 | 125 | 553 | 65 | 99 | 99 | 392 | 410 | 81 | 539 | 17 |
| Future Volume (vph) | 18 | 41 | 125 | 553 | 65 | 99 | 99 | 392 | 410 | 81 | 539 | 17 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 103 | | | 108 | | | 446 | | | 82 |
| Lane Group Flow (vph) | 20 | 45 | 136 | 601 | 71 | 108 | 108 | 426 | 446 | 88 | 586 | 18 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 15.0 | 44.0 | 47.0 | 13.0 | 15.0 | 49.0 | 44.0 | 13.0 | 47.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 8.5 | 23.0 | 26.0 | 33.5 | 42.4 | 8.5 | 55.7 | 87.4 | 6.5 | 53.7 | 59.0 |
| Actuated g/C Ratio | 0.04 | 0.07 | 0.19 | 0.22 | 0.28 | 0.35 | 0.07 | 0.46 | 0.73 | 0.05 | 0.45 | 0.49 |
| v/c Ratio | 0.14 | 0.18 | 0.35 | 0.81 | 0.07 | 0.17 | 0.44 | 0.26 | 0.21 | 0.47 | 0.37 | 0.02 |
| Control Delay | 57.3 | 54.8 | 15.7 | 53.5 | 32.5 | 4.0 | 59.3 | 20.9 | 0.7 | 63.4 | 23.6 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.3 | 54.8 | 15.7 | 53.5 | 32.5 | 4.0 | 59.3 | 20.9 | 0.7 | 63.4 | 23.6 | 0.1 |
| LOS | E | D | B | D | C | A | E | C | A | E | C | A |
| Approach Delay | | 28.6 | | | 44.8 | | | 15.9 | | | 28.0 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 7 | 17 | 21 | 230 | 22 | 0 | 41 | 102 | 0 | 34 | 153 | 0 |
| Queue Length 95th (ft) | 21 | 37 | 79 | 275 | 39 | 30 | 72 | 154 | 13 | 62 | 222 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 154 | 249 | 362 | 1098 | 1209 | 605 | 257 | 1643 | 2151 | 200 | 1584 | 823 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.18 | 0.38 | 0.55 | 0.06 | 0.18 | 0.42 | 0.26 | 0.21 | 0.44 | 0.37 | 0.02 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 71 (59%), Referenced to phase 2:SWT and 6:NET, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.81 | |
| Intersection Signal Delay: 28.5 | Intersection LOS: C |
| Intersection Capacity Utilization 56.3% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 3.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 20 | 34 | 127 | 84 | 5 |
| Future Vol, veh/h | 4 | 20 | 34 | 127 | 84 | 5 |
| 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 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 22 | 37 | 138 | 91 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 175 | 0 | - | 0 | 67 | 37 |
| Stage 1 | - | - | - | - | 37 | - |
| Stage 2 | - | - | - | - | 30 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1401 | - | - | - | 938 | 1035 |
| Stage 1 | - | - | - | - | 985 | - |
| Stage 2 | - | - | - | - | 993 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1401 | - | - | - | 935 | 1035 |
| Mov Cap-2 Maneuver | - | - | - | - | 877 | - |
| Stage 1 | - | - | - | - | 982 | - |
| Stage 2 | - | - | - | - | 993 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 1.3 | 0 | 9.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1401 | - | - | - | 885 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.109 |
| HCM Control Delay (s) | 7.6 | 0 | - | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 109 | 0 | 1144 | 1236 | 17 |
| Future Vol, veh/h | 0 | 109 | 0 | 1144 | 1236 | 17 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 118 | 0 | 1243 | 1343 | 18 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 672 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 398 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 398 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 17.8 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 398 | - | - |
| HCM Lane V/C Ratio | - | 0.298 | - | - |
| HCM Control Delay (s) | - | 17.8 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 1.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 27 | 1015 | 129 | 0 | 1253 |
| Future Vol, veh/h | 0 | 27 | 1015 | 129 | 0 | 1253 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 29 | 1103 | 140 | 0 | 1362 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 622 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 430 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 430 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 14 | 0 | 0 |
| HCM LOS | B | | |

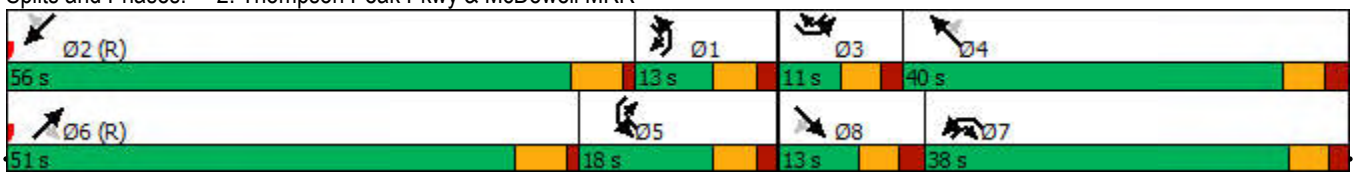
| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 430 | - |
| HCM Lane V/C Ratio | - | - | 0.068 | - |
| HCM Control Delay (s) | - | - | 14 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 30 | 114 | 407 | 27 | 95 | 114 | 527 | 583 | 124 | 520 | 10 |
| Future Volume (vph) | 13 | 30 | 114 | 407 | 27 | 95 | 114 | 527 | 583 | 124 | 520 | 10 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 124 | | | 103 | | | 588 | | | 82 |
| Lane Group Flow (vph) | 14 | 33 | 124 | 442 | 29 | 103 | 124 | 573 | 634 | 135 | 565 | 11 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 13.0 | 13.0 | 38.0 | 40.0 | 18.0 | 13.0 | 51.0 | 38.0 | 18.0 | 56.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.1 | 7.0 | 14.6 | 37.8 | 38.7 | 52.9 | 6.8 | 45.3 | 88.8 | 11.8 | 50.3 | 55.5 |
| Actuated g/C Ratio | 0.04 | 0.06 | 0.12 | 0.32 | 0.32 | 0.44 | 0.06 | 0.38 | 0.74 | 0.10 | 0.42 | 0.46 |
| v/c Ratio | 0.10 | 0.16 | 0.41 | 0.41 | 0.03 | 0.14 | 0.64 | 0.43 | 0.29 | 0.40 | 0.38 | 0.01 |
| Control Delay | 56.5 | 55.7 | 11.9 | 35.1 | 30.5 | 3.4 | 70.6 | 29.0 | 1.1 | 54.5 | 25.0 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.5 | 55.7 | 11.9 | 35.1 | 30.5 | 3.4 | 70.6 | 29.0 | 1.1 | 54.5 | 25.0 | 0.0 |
| LOS | E | E | B | D | C | A | E | C | A | D | C | A |
| Approach Delay | | 24.0 | | | 29.2 | | | 19.6 | | | 30.2 | |
| Approach LOS | | C | | | C | | | B | | | C | |
| Queue Length 50th (ft) | 5 | 13 | 0 | 148 | 8 | 0 | 49 | 172 | 5 | 51 | 156 | 0 |
| Queue Length 95th (ft) | 17 | 31 | 54 | 198 | 21 | 27 | #82 | 223 | 24 | 84 | 203 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 154 | 206 | 304 | 1081 | 1141 | 743 | 200 | 1335 | 2215 | 343 | 1483 | 779 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.16 | 0.41 | 0.41 | 0.03 | 0.14 | 0.62 | 0.43 | 0.29 | 0.39 | 0.38 | 0.01 |

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:SWT and 6:NET, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 51.8% ICU Level of Service A
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 35 | 13 | 53 | 88 | 2 |
| Future Vol, veh/h | 4 | 35 | 13 | 53 | 88 | 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 | - | - | - | 0 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 38 | 14 | 58 | 96 | 2 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 72 | 0 | - | 0 | 60 | 14 |
| Stage 1 | - | - | - | - | 14 | - |
| Stage 2 | - | - | - | - | 46 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1528 | - | - | - | 947 | 1066 |
| Stage 1 | - | - | - | - | 1009 | - |
| Stage 2 | - | - | - | - | 976 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1528 | - | - | - | 944 | 1066 |
| Mov Cap-2 Maneuver | - | - | - | - | 881 | - |
| Stage 1 | - | - | - | - | 1006 | - |
| Stage 2 | - | - | - | - | 976 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.8 | 0 | 9.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1528 | - | - | - | 884 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.111 |
| HCM Control Delay (s) | 7.4 | 0 | - | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 86 | 0 | 1330 | 1055 | 14 |
| Future Vol, veh/h | 0 | 86 | 0 | 1330 | 1055 | 14 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 93 | 0 | 1446 | 1147 | 15 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 574 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 462 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 462 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 14.8 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 462 | - | - |
| HCM Lane V/C Ratio | - | 0.202 | - | - |
| HCM Control Delay (s) | - | 14.8 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.7 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 39 | 1238 | 92 | 0 | 1069 |
| Future Vol, veh/h | 0 | 39 | 1238 | 92 | 0 | 1069 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 42 | 1346 | 100 | 0 | 1162 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 723 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 369 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 369 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

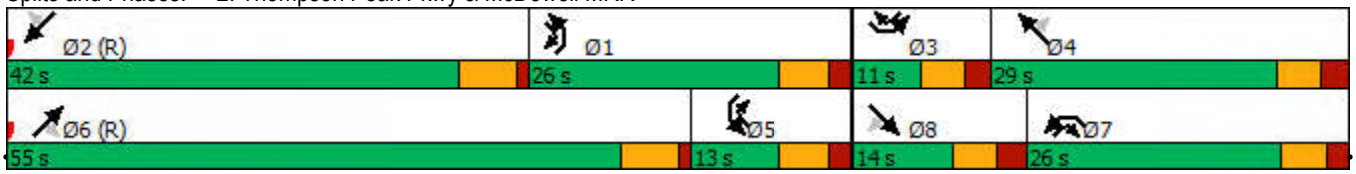
| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 16 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 369 | - |
| HCM Lane V/C Ratio | - | - | 0.115 | - |
| HCM Control Delay (s) | - | - | 16 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.4 | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 27 | 39 | 107 | 561 | 41 | 119 | 118 | 419 | 465 | 107 | 590 | 21 |
| Future Volume (vph) | 27 | 39 | 107 | 561 | 41 | 119 | 118 | 419 | 465 | 107 | 590 | 21 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 88 | | | 141 | | | 504 | | | 148 |
| Lane Group Flow (vph) | 29 | 42 | 116 | 610 | 45 | 129 | 128 | 455 | 505 | 116 | 641 | 23 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 26.0 | 26.0 | 29.0 | 13.0 | 26.0 | 55.0 | 26.0 | 13.0 | 42.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.0 | 27.5 | 21.4 | 22.3 | 31.4 | 19.7 | 54.7 | 81.9 | 6.7 | 41.7 | 47.1 |
| Actuated g/C Ratio | 0.05 | 0.06 | 0.25 | 0.20 | 0.21 | 0.29 | 0.18 | 0.51 | 0.76 | 0.06 | 0.39 | 0.44 |
| v/c Ratio | 0.18 | 0.18 | 0.25 | 0.90 | 0.06 | 0.23 | 0.20 | 0.25 | 0.23 | 0.54 | 0.47 | 0.03 |
| Control Delay | 51.8 | 49.8 | 10.6 | 59.6 | 34.3 | 3.8 | 38.3 | 16.7 | 0.7 | 59.0 | 27.5 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.8 | 49.8 | 10.6 | 59.6 | 34.3 | 3.8 | 38.3 | 16.7 | 0.7 | 59.0 | 27.5 | 0.0 |
| LOS | D | D | B | E | C | A | D | B | A | E | C | A |
| Approach Delay | | 25.8 | | | 48.9 | | | 11.8 | | | 31.4 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 10 | 14 | 14 | 213 | 13 | 0 | 39 | 100 | 0 | 40 | 187 | 0 |
| Queue Length 95th (ft) | 25 | 33 | 56 | #314 | 28 | 29 | 66 | 136 | 15 | 70 | 245 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 171 | 262 | 472 | 684 | 754 | 547 | 635 | 1793 | 2212 | 222 | 1367 | 775 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.16 | 0.25 | 0.89 | 0.06 | 0.24 | 0.20 | 0.25 | 0.23 | 0.52 | 0.47 | 0.03 |

| Intersection Summary | |
|---|---|
| Cycle Length: 108 | |
| Actuated Cycle Length: 108 | |
| Offset: 6 (6%), Referenced to phase 2:SWT and 6:NET, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.90 | |
| Intersection Signal Delay: 28.4 | Intersection LOS: C |
| Intersection Capacity Utilization 57.9% | ICU Level of Service B |
| Analysis Period (min) 15 | |
| # 95th percentile volume exceeds capacity, queue may be longer. | |
| Queue shown is maximum after two cycles. | |

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 25 | 17 | 84 | 66 | 1 |
| Future Vol, veh/h | 2 | 25 | 17 | 84 | 66 | 1 |
| 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 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 27 | 18 | 91 | 72 | 1 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 109 | 0 | - | 0 | 49 | 18 |
| Stage 1 | - | - | - | - | 18 | - |
| Stage 2 | - | - | - | - | 31 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1481 | - | - | - | 960 | 1061 |
| Stage 1 | - | - | - | - | 1005 | - |
| Stage 2 | - | - | - | - | 992 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1481 | - | - | - | 959 | 1061 |
| Mov Cap-2 Maneuver | - | - | - | - | 893 | - |
| Stage 1 | - | - | - | - | 1004 | - |
| Stage 2 | - | - | - | - | 992 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 9.4 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1481 | - | - | - | 895 |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.081 |
| HCM Control Delay (s) | 7.4 | 0 | - | - | 9.4 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 131 | 0 | 1090 | 1259 | 24 |
| Future Vol, veh/h | 0 | 131 | 0 | 1090 | 1259 | 24 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 142 | 0 | 1185 | 1368 | 26 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 684 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 391 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 391 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 19.4 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 391 | - | - |
| HCM Lane V/C Ratio | - | 0.364 | - | - |
| HCM Control Delay (s) | - | 19.4 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 1.6 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 34 | 980 | 110 | 0 | 1283 |
| Future Vol, veh/h | 0 | 34 | 980 | 110 | 0 | 1283 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 37 | 1065 | 120 | 0 | 1395 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 593 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 449 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 449 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 13.7 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 449 | - |
| HCM Lane V/C Ratio | - | - | 0.082 | - |
| HCM Control Delay (s) | - | - | 13.7 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 74 | 17 | 32 | 83 | 18 | 34 |
| Future Vol, veh/h | 74 | 17 | 32 | 83 | 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 | - | - | 150 | - | 0 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 80 | 18 | 35 | 90 | 20 | 37 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 98 | 0 | 204 | 49 |
| Stage 1 | - | - | - | - | 89 | - |
| Stage 2 | - | - | - | - | 115 | - |
| 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 | - | - | 1493 | - | 766 | 1009 |
| Stage 1 | - | - | - | - | 924 | - |
| Stage 2 | - | - | - | - | 897 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1493 | - | 748 | 1009 |
| Mov Cap-2 Maneuver | - | - | - | - | 750 | - |
| Stage 1 | - | - | - | - | 924 | - |
| Stage 2 | - | - | - | - | 876 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.1 | 9.1 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 750 | 1009 | - | - | 1493 | - |
| HCM Lane V/C Ratio | 0.026 | 0.037 | - | - | 0.023 | - |
| HCM Control Delay (s) | 9.9 | 8.7 | - | - | 7.5 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 55 | 15 | 51 | 76 | 11 | 13 |
| Future Vol, veh/h | 55 | 15 | 51 | 76 | 11 | 13 |
| 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 | 0 | - | - | - | 150 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 60 | 16 | 55 | 83 | 12 | 14 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 205 | 12 | 26 | 0 | - | 0 |
| Stage 1 | 12 | - | - | - | - | - |
| Stage 2 | 193 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 783 | 1069 | 1588 | - | - | - |
| Stage 1 | 1011 | - | - | - | - | - |
| Stage 2 | 840 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 755 | 1069 | 1588 | - | - | - |
| Mov Cap-2 Maneuver | 755 | - | - | - | - | - |
| Stage 1 | 975 | - | - | - | - | - |
| Stage 2 | 840 | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 9.8 | 3 | 0 |
| HCM LOS | A | | |

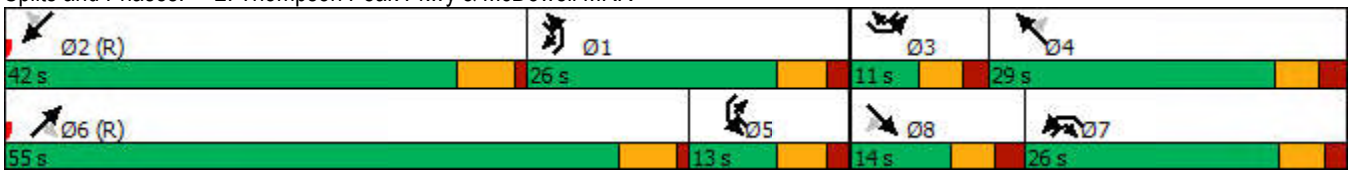
| Minor Lane/Major Mvmt | NEL | NET | SELn1 | SELn2 | SWT | SWR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1588 | - | 755 | 1069 | - | - |
| HCM Lane V/C Ratio | 0.035 | - | 0.079 | 0.015 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 10.2 | 8.4 | - | - |
| HCM Lane LOS | A | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.3 | 0 | - | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 27 | 85 | 447 | 28 | 75 | 75 | 375 | 375 | 83 | 470 | 14 |
| Future Volume (vph) | 23 | 27 | 85 | 447 | 28 | 75 | 75 | 375 | 375 | 83 | 470 | 14 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 92 | | | 141 | | | 408 | | | 148 |
| Lane Group Flow (vph) | 25 | 29 | 92 | 486 | 30 | 82 | 82 | 408 | 408 | 90 | 511 | 15 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 26.0 | 26.0 | 29.0 | 13.0 | 26.0 | 55.0 | 26.0 | 13.0 | 42.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.0 | 27.3 | 18.9 | 19.7 | 28.6 | 19.5 | 57.6 | 82.1 | 6.5 | 44.6 | 49.9 |
| Actuated g/C Ratio | 0.05 | 0.06 | 0.25 | 0.18 | 0.18 | 0.26 | 0.18 | 0.53 | 0.76 | 0.06 | 0.41 | 0.46 |
| v/c Ratio | 0.15 | 0.13 | 0.20 | 0.81 | 0.05 | 0.16 | 0.13 | 0.22 | 0.18 | 0.44 | 0.35 | 0.02 |
| Control Delay | 51.4 | 49.0 | 6.8 | 54.1 | 34.7 | 1.0 | 37.6 | 15.4 | 0.7 | 55.7 | 24.6 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.4 | 49.0 | 6.8 | 54.1 | 34.7 | 1.0 | 37.6 | 15.4 | 0.7 | 55.7 | 24.6 | 0.1 |
| LOS | D | D | A | D | C | A | D | B | A | E | C | A |
| Approach Delay | | 22.8 | | | 45.8 | | | 10.7 | | | 28.5 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 8 | 10 | 0 | 167 | 8 | 0 | 24 | 85 | 0 | 31 | 139 | 0 |
| Queue Length 95th (ft) | 22 | 25 | 37 | 221 | 22 | 4 | 46 | 122 | 14 | 57 | 192 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 171 | 262 | 475 | 661 | 753 | 497 | 635 | 1886 | 2184 | 222 | 1460 | 813 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.11 | 0.19 | 0.74 | 0.04 | 0.16 | 0.13 | 0.22 | 0.19 | 0.41 | 0.35 | 0.02 |

**Intersection Summary**

Cycle Length: 108
Actuated Cycle Length: 108
Offset: 6 (6%), Referenced to phase 2:SWT and 6:NET, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 25.7 — Intersection LOS: C
Intersection Capacity Utilization 51.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 13 | 15 | 50 | 54 | 3 |
| Future Vol, veh/h | 6 | 13 | 15 | 50 | 54 | 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 | - | - | - | 0 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 14 | 16 | 54 | 59 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 70 | 0 | - | 0 | 44 | 16 |
| Stage 1 | - | - | - | - | 16 | - |
| Stage 2 | - | - | - | - | 28 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1531 | - | - | - | 967 | 1063 |
| Stage 1 | - | - | - | - | 1007 | - |
| Stage 2 | - | - | - | - | 995 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1531 | - | - | - | 962 | 1063 |
| Mov Cap-2 Maneuver | - | - | - | - | 895 | - |
| Stage 1 | - | - | - | - | 1002 | - |
| Stage 2 | - | - | - | - | 995 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.3 | 0 | 9.3 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1531 | - | - | - | 903 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.069 |
| HCM Control Delay (s) | 7.4 | 0 | - | - | 9.3 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 86 | 0 | 909 | 963 | 18 |
| Future Vol, veh/h | 0 | 86 | 0 | 909 | 963 | 18 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 93 | 0 | 988 | 1047 | 20 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 524 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 498 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 498 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 13.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 498 | - | - |
| HCM Lane V/C Ratio | - | 0.188 | - | - |
| HCM Control Delay (s) | - | 13.9 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.7 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 18 | 824 | 85 | 0 | 981 |
| Future Vol, veh/h | 0 | 18 | 824 | 85 | 0 | 981 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 20 | 896 | 92 | 0 | 1066 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 494 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 521 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 521 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 12.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 521 | - |
| HCM Lane V/C Ratio | - | - | 0.038 | - |
| HCM Control Delay (s) | - | - | 12.2 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 54 | 13 | 24 | 49 | 16 | 29 |
| Future Vol, veh/h | 54 | 13 | 24 | 49 | 16 | 29 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 150 | - | 0 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 59 | 14 | 26 | 53 | 17 | 32 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 73 | 0 | 145 | 37 |
| Stage 1 | - | - | - | - | 66 | - |
| Stage 2 | - | - | - | - | 79 | - |
| 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 | - | - | 1525 | - | 833 | 1027 |
| Stage 1 | - | - | - | - | 949 | - |
| Stage 2 | - | - | - | - | 935 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1525 | - | 819 | 1027 |
| Mov Cap-2 Maneuver | - | - | - | - | 799 | - |
| Stage 1 | - | - | - | - | 949 | - |
| Stage 2 | - | - | - | - | 919 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.4 | 9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 799 | 1027 | - | - | 1525 | - |
| HCM Lane V/C Ratio | 0.022 | 0.031 | - | - | 0.017 | - |
| HCM Control Delay (s) | 9.6 | 8.6 | - | - | 7.4 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.4 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 46 | 12 | 39 | 40 | 7 | 11 |
| Future Vol, veh/h | 46 | 12 | 39 | 40 | 7 | 11 |
| 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 | 0 | - | - | - | 150 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 50 | 13 | 42 | 43 | 8 | 12 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 135 | 8 | 20 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 127 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 859 | 1074 | 1596 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 899 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 836 | 1074 | 1596 | - | - | - |
| Mov Cap-2 Maneuver | 836 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 899 | - | - | - | - | - |

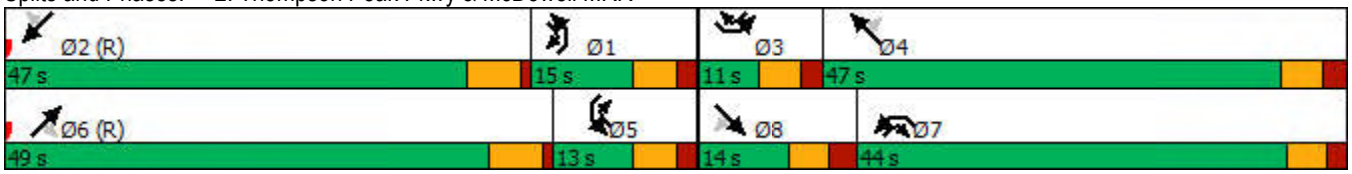
| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 9.4 | 3.6 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NEL | NET | SELn1 | SELn2 | SWT | SWR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1596 | - | 836 | 1074 | - | - |
| HCM Lane V/C Ratio | 0.027 | - | 0.06 | 0.012 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 9.6 | 8.4 | - | - |
| HCM Lane LOS | A | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | 0 | - | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 41 | 129 | 554 | 66 | 99 | 103 | 394 | 410 | 81 | 541 | 18 |
| Future Volume (vph) | 19 | 41 | 129 | 554 | 66 | 99 | 103 | 394 | 410 | 81 | 541 | 18 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 102 | | | 108 | | | 446 | | | 82 |
| Lane Group Flow (vph) | 21 | 45 | 140 | 602 | 72 | 108 | 112 | 428 | 446 | 88 | 588 | 20 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 14.0 | 15.0 | 44.0 | 47.0 | 13.0 | 15.0 | 49.0 | 44.0 | 13.0 | 47.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.1 | 19.0 | 26.0 | 29.5 | 38.5 | 8.5 | 59.7 | 91.4 | 6.5 | 57.7 | 63.0 |
| Actuated g/C Ratio | 0.04 | 0.06 | 0.16 | 0.22 | 0.25 | 0.32 | 0.07 | 0.50 | 0.76 | 0.05 | 0.48 | 0.52 |
| v/c Ratio | 0.14 | 0.22 | 0.42 | 0.81 | 0.08 | 0.19 | 0.46 | 0.24 | 0.20 | 0.47 | 0.35 | 0.02 |
| Control Delay | 57.4 | 56.4 | 18.0 | 53.5 | 33.6 | 4.2 | 59.7 | 19.4 | 0.6 | 63.4 | 21.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.4 | 56.4 | 18.0 | 53.5 | 33.6 | 4.2 | 59.7 | 19.4 | 0.6 | 63.4 | 21.9 | 0.1 |
| LOS | E | E | B | D | C | A | E | B | A | E | C | A |
| Approach Delay | | 30.4 | | | 44.8 | | | 15.5 | | | 26.5 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 8 | 17 | 25 | 230 | 23 | 0 | 43 | 101 | 0 | 34 | 152 | 0 |
| Queue Length 95th (ft) | 22 | 37 | 84 | 276 | 40 | 30 | 73 | 153 | 13 | 62 | 221 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 154 | 235 | 327 | 1098 | 1209 | 557 | 257 | 1759 | 2228 | 200 | 1700 | 872 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.19 | 0.43 | 0.55 | 0.06 | 0.19 | 0.44 | 0.24 | 0.20 | 0.44 | 0.35 | 0.02 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 71 (59%), Referenced to phase 2:SWT and 6:NET, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.81 | |
| Intersection Signal Delay: 28.1 | Intersection LOS: C |
| Intersection Capacity Utilization 56.3% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 20 | 34 | 130 | 87 | 5 |
| Future Vol, veh/h | 4 | 20 | 34 | 130 | 87 | 5 |
| 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 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 22 | 37 | 141 | 95 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 178 | 0 | - | 0 | 67 | 37 |
| Stage 1 | - | - | - | - | 37 | - |
| Stage 2 | - | - | - | - | 30 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1398 | - | - | - | 938 | 1035 |
| Stage 1 | - | - | - | - | 985 | - |
| Stage 2 | - | - | - | - | 993 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1398 | - | - | - | 935 | 1035 |
| Mov Cap-2 Maneuver | - | - | - | - | 877 | - |
| Stage 1 | - | - | - | - | 982 | - |
| Stage 2 | - | - | - | - | 993 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 1.3 | 0 | 9.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1398 | - | - | - | 884 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.113 |
| HCM Control Delay (s) | 7.6 | 0 | - | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 118 | 0 | 1157 | 1240 | 20 |
| Future Vol, veh/h | 0 | 118 | 0 | 1157 | 1240 | 20 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 128 | 0 | 1258 | 1348 | 22 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 674 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 397 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 397 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 18.3 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 397 | - | - |
| HCM Lane V/C Ratio | - | 0.323 | - | - |
| HCM Control Delay (s) | - | 18.3 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 1.4 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 29 | 1019 | 138 | 0 | 1260 |
| Future Vol, veh/h | 0 | 29 | 1019 | 138 | 0 | 1260 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 32 | 1108 | 150 | 0 | 1370 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 629 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 425 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 425 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 14.1 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 425 | - |
| HCM Lane V/C Ratio | - | - | 0.074 | - |
| HCM Control Delay (s) | - | - | 14.1 | - |
| HCM Lane LOS | - | - | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 104 | 3 | 6 | 161 | 3 | 5 |
| Future Vol, veh/h | 104 | 3 | 6 | 161 | 3 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 150 | - | 0 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 113 | 3 | 7 | 175 | 3 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 116 | 0 | 217 | 58 |
| Stage 1 | - | - | - | - | 115 | - |
| Stage 2 | - | - | - | - | 102 | - |
| 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 | - | - | 1470 | - | 752 | 996 |
| Stage 1 | - | - | - | - | 897 | - |
| Stage 2 | - | - | - | - | 911 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1470 | - | 748 | 996 |
| Mov Cap-2 Maneuver | - | - | - | - | 753 | - |
| Stage 1 | - | - | - | - | 897 | - |
| Stage 2 | - | - | - | - | 906 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 9.1 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 753 | 996 | - | - | 1470 | - |
| HCM Lane V/C Ratio | 0.004 | 0.005 | - | - | 0.004 | - |
| HCM Control Delay (s) | 9.8 | 8.6 | - | - | 7.5 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 2 | 9 | 109 | 17 | 3 |
| Future Vol, veh/h | 9 | 2 | 9 | 109 | 17 | 3 |
| 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 | 0 | - | - | - | 150 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 2 | 10 | 118 | 18 | 3 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 156 | 18 | 21 | 0 | - | 0 |
| Stage 1 | 18 | - | - | - | - | - |
| Stage 2 | 138 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 835 | 1061 | 1595 | - | - | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 889 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 829 | 1061 | 1595 | - | - | - |
| Mov Cap-2 Maneuver | 829 | - | - | - | - | - |
| Stage 1 | 998 | - | - | - | - | - |
| Stage 2 | 889 | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 9.2 | 0.6 | 0 |
| HCM LOS | A | | |

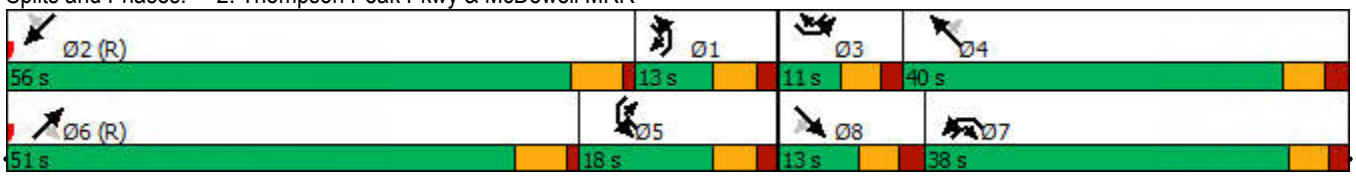
| Minor Lane/Major Mvmt | NEL | NET | SELn1 | SELn2 | SWT | SWR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1595 | - | 829 | 1061 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.012 | 0.002 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 9.4 | 8.4 | - | - |
| HCM Lane LOS | A | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | 0 | - | - |

| Lane Group | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 18 | 32 | 132 | 409 | 29 | 95 | 130 | 537 | 585 | 124 | 528 | 14 |
| Future Volume (vph) | 18 | 32 | 132 | 409 | 29 | 95 | 130 | 537 | 585 | 124 | 528 | 14 |
| Satd. Flow (prot) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3433 | 3539 | 1583 | 3433 | 3539 | 1583 | 3433 | 3539 | 2787 | 3433 | 3539 | 1583 |
| Satd. Flow (RTOR) | | | 143 | | | 103 | | | 571 | | | 82 |
| Lane Group Flow (vph) | 20 | 35 | 143 | 445 | 32 | 103 | 141 | 584 | 636 | 135 | 574 | 15 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | pm+ov |
| Protected Phases | 3 | 8 | 1 | 7 | 4 | 5 | 1 | 6 | 7 | 5 | 2 | 3 |
| Permitted Phases | | | 8 | | | 4 | | | 6 | | | 2 |
| Total Split (s) | 11.0 | 13.0 | 13.0 | 38.0 | 40.0 | 18.0 | 13.0 | 51.0 | 38.0 | 18.0 | 56.0 | 11.0 |
| Total Lost Time (s) | 5.6 | 6.0 | 6.0 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 | 6.0 | 5.7 | 5.6 |
| Act Effct Green (s) | 5.2 | 7.0 | 14.7 | 20.5 | 21.4 | 35.7 | 6.9 | 62.4 | 88.7 | 11.9 | 67.4 | 72.7 |
| Actuated g/C Ratio | 0.04 | 0.06 | 0.12 | 0.17 | 0.18 | 0.30 | 0.06 | 0.52 | 0.74 | 0.10 | 0.56 | 0.61 |
| v/c Ratio | 0.14 | 0.17 | 0.45 | 0.76 | 0.05 | 0.19 | 0.71 | 0.32 | 0.29 | 0.40 | 0.29 | 0.02 |
| Control Delay | 57.3 | 55.8 | 11.7 | 55.8 | 38.4 | 4.5 | 75.3 | 18.9 | 1.2 | 54.4 | 15.9 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.3 | 55.8 | 11.7 | 55.8 | 38.4 | 4.5 | 75.3 | 18.9 | 1.2 | 54.4 | 15.9 | 0.0 |
| LOS | E | E | B | E | D | A | E | B | A | D | B | A |
| Approach Delay | | 24.1 | | | 45.7 | | | 16.5 | | | 22.7 | |
| Approach LOS | | C | | | D | | | B | | | C | |
| Queue Length 50th (ft) | 7 | 13 | 0 | 170 | 10 | 0 | 56 | 146 | 7 | 51 | 131 | 0 |
| Queue Length 95th (ft) | 21 | 31 | 57 | 215 | 24 | 30 | #102 | 206 | 26 | 84 | 186 | 0 |
| Internal Link Dist (ft) | | 599 | | | 1080 | | | 675 | | | 507 | |
| Turn Bay Length (ft) | 300 | | 175 | 250 | | 175 | 225 | | 225 | 250 | | 250 |
| Base Capacity (vph) | 154 | 206 | 321 | 926 | 1002 | 529 | 200 | 1841 | 2208 | 343 | 1988 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.17 | 0.45 | 0.48 | 0.03 | 0.19 | 0.70 | 0.32 | 0.29 | 0.39 | 0.29 | 0.02 |

## Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:SWT and 6:NET, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Thompson Peak Pkwy & McDowell MRR



| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 35 | 13 | 67 | 100 | 2 |
| Future Vol, veh/h | 4 | 35 | 13 | 67 | 100 | 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 | - | - | - | 0 | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 38 | 14 | 73 | 109 | 2 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 87 | 0 | - | 0 | 60 | 14 |
| Stage 1 | - | - | - | - | 14 | - |
| Stage 2 | - | - | - | - | 46 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1509 | - | - | - | 947 | 1066 |
| Stage 1 | - | - | - | - | 1009 | - |
| Stage 2 | - | - | - | - | 976 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1509 | - | - | - | 944 | 1066 |
| Mov Cap-2 Maneuver | - | - | - | - | 881 | - |
| Stage 1 | - | - | - | - | 1006 | - |
| Stage 2 | - | - | - | - | 976 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.8 | 0 | 9.7 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1509 | - | - | - | 884 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.125 |
| HCM Control Delay (s) | 7.4 | 0 | - | - | 9.7 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 126 | 0 | 1382 | 1073 | 24 |
| Future Vol, veh/h | 0 | 126 | 0 | 1382 | 1073 | 24 |
| 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 | - | - | - | 130 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 137 | 0 | 1502 | 1166 | 26 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 583 | - | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 456 | 0 | - | - | - |
| Stage 1 | 0 | - | 0 | - | - | - |
| Stage 2 | 0 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 456 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 16.2 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | SELn1 | SWT | SWR |
|---|---|---|---|---|
| Capacity (veh/h) | - | 456 | - | - |
| HCM Lane V/C Ratio | - | 0.3 | - | - |
| HCM Control Delay (s) | - | 16.2 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 1.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | NWL | NWR | NET | NER | SWL | SWT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 50 | 1254 | 128 | 0 | 1097 |
| Future Vol, veh/h | 0 | 50 | 1254 | 128 | 0 | 1097 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 54 | 1363 | 139 | 0 | 1192 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 751 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 353 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | - | 353 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | NW | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 17 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NET | NER | NWLn1 | SWT |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | 353 | - |
| HCM Lane V/C Ratio | - | - | 0.154 | - |
| HCM Control Delay (s) | - | - | 17 | - |
| HCM Lane LOS | - | - | C | - |
| HCM 95th %tile Q(veh) | - | - | 0.5 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 123 | 12 | 22 | 66 | 14 | 25 |
| Future Vol, veh/h | 123 | 12 | 22 | 66 | 14 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 150 | - | 0 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 134 | 13 | 24 | 72 | 15 | 27 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 147 | 0 | 225 | 74 |
| Stage 1 | - | - | - | - | 141 | - |
| Stage 2 | - | - | - | - | 84 | - |
| 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 | - | - | 1432 | - | 743 | 973 |
| Stage 1 | - | - | - | - | 871 | - |
| Stage 2 | - | - | - | - | 930 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1432 | - | 730 | 973 |
| Mov Cap-2 Maneuver | - | - | - | - | 739 | - |
| Stage 1 | - | - | - | - | 871 | - |
| Stage 2 | - | - | - | - | 914 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.9 | 9.2 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 739 | 973 | - | - | 1432 | - |
| HCM Lane V/C Ratio | 0.021 | 0.028 | - | - | 0.017 | - |
| HCM Control Delay (s) | 10 | 8.8 | - | - | 7.6 | - |
| HCM Lane LOS | B | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | 0.1 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.8 |

| Movement | SEL | SER | NEL | NET | SWT | SWR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 40 | 11 | 36 | 86 | 14 | 10 |
| Future Vol, veh/h | 40 | 11 | 36 | 86 | 14 | 10 |
| 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 | 0 | - | - | - | 150 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 43 | 12 | 39 | 93 | 15 | 11 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 186 | 15 | 26 | 0 | - | 0 |
| Stage 1 | 15 | - | - | - | - | - |
| Stage 2 | 171 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 803 | 1065 | 1588 | - | - | - |
| Stage 1 | 1008 | - | - | - | - | - |
| Stage 2 | 859 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 782 | 1065 | 1588 | - | - | - |
| Mov Cap-2 Maneuver | 782 | - | - | - | - | - |
| Stage 1 | 982 | - | - | - | - | - |
| Stage 2 | 859 | - | - | - | - | - |

| Approach | SE | NE | SW |
|---|---|---|---|
| HCM Control Delay, s | 9.6 | 2.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NEL | NET | SELn1 | SELn2 | SWT | SWR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1588 | - | 782 | 1065 | - | - |
| HCM Lane V/C Ratio | 0.025 | - | 0.056 | 0.011 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 9.9 | 8.4 | - | - |
| HCM Lane LOS | A | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | 0 | - | - |

# Affidavit of Posting

**Required: Signed, Notarized originals.**
Recommended: E-mail copy to your project coordinator.

☑ **Project Under Consideration Sign (White)** ☐ **Public Hearing Notice Sign (Red)**

**Case Number:** 405-PA-2021

**Project Name:**

**Location:** 15514 N. Thompson Peak Parkway and 9809 E. McDowell Mountain Road, and 9875 E. McDowell Mountain Road

**Site Posting Date:** May 24th, 2021

**Applicant Name:** Joe Phillips

Sign Company Name: Dynamite Signs

Phone Number: 480-585-3031

I confirm that the site has been posted as indicated by the Project Manager for the case as listed above.

Applicant Signature

5-24-2021
Date

**Return completed original notarized affidavit AND pictures to the Current Planning Office no later than 14 days after your application submittal.**

Acknowledged before me this the 24th day of May 2021

MARYBETH CONRAD
Notary Public - Arizona
Maricopa County
Commission # 591461
My Comm. Expires Oct 25, 2024

MaryBeth Conrad
Notary Public

My commission expires: 10-25-2024

**City of Scottsdale -- Current Planning Division**
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088


Early Notification of
Project Under Consideration
Neighborhood Open House Meeting:
Date: May, 22 2021 - June 14, 2021
Location: https://www.scottsdaleaz.gov/construction/project-list/
build-mulituse-sports-fields-in-the-area-of-bell-road
Site Address: 15514 N. Thompson Peak Parkway and 9809 E. McDowell Mountain Road, and 9875 E. McDowell Mountain Road.
Project Overview: Conditional Use Permit for a Municipal Use Master Site Plan for new multi-use sports field with field lighting located at the east side of Westworld, 15514 N. Thompson Peak Parkway, 9809 E. McDowell Mountain Road and 9875 E. McDowell Mountain Road.
Request: Conditional Use Permit for a Municipal Use Master Site Plan for sports fields located at WestWorld
Description of project and Proposed Use: 2019 Bond 53 Build Multi-Use Sports Fields in the Area of Bell Road
Site Acreage: 27 acres
Site Zoning: WP & R1-35 PCD ESL
Applicant Contact:
Joe Phillips
480-312-2522
jphillips@scottsdaleaz.gov
City Contact:
Project Hotline
480-312-4444
Pre-Application#: 405-PA-2021
Posting Date: 5/24/2021
-Penalty for removing or defacing sign prior to date of last hearing -Applicant Responsible for Sign Removal
5/24/21 09:34:47


Early Notification of
Project Under Consideration
Neighborhood Open House Meeting:
Date: May, 22 2021 - June 14, 2021
Location: https://www.scottsdaleaz.gov/construction/project-list/
build-mulituse-sports-fields-in-the-area-of-bell-road
Site Address: 15514 N. Thompson Peak Parkway and 9809 E. McDowell Mountain Road, and 9875 E. McDowell Mountain Road.
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Description of project and Proposed Use: 2019 Bond 53 Build Multi-Use Sports Fields in the Area of Bell Road
Site Acreage: 27 acres
Site Zoning: WP & R1-35 PCD ESL
Applicant Contact:
Joe Phillips
480-312-2522
jphillips@scottsdaleaz.gov
City Contact:
Project Hotline
480-312-4444
Pre-Application#: 405-PA-2021
Posting Date: 5/24/2021
-Penalty for removing or defacing sign prior to date of last hearing -Applicant Responsible for Sign Removal
5/24/21 09:43:03

**WestWorld Sports Complex Community Involvement Report**

1. **Project Website Link: https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road**
2. **Events Improvement Projects Link: https://www.scottsdaleaz.gov/construction/bell-road-area-sports-and-events-improvement-projects**
3. **Notifications**
    a. **White Sign Affidavit**
    b. **Copy of Mailer that was Distributed, Maps of Distribution Range, and Address Lists**
4. **Virtual Public Meeting #1: May 19 – June 14**
    a. **Comments Received**
    b. **Emails Received**
    c. **Phone Calls**
5. **Red Sign Affidavit**

CITY OF SCOTTSDALE

# PROJECT UPDATE

## You're Invited to Participate in Virtual Public Meeting for the WestWorld Sports Complex

The WestWorld Sports Complex will be located at the east end of WestWorld in between Thompson Peak Parkway and McDowell Mountain Ranch Road.

The project is being built with funds approved in the 2019 Bond Election project # 53 Build Multiuse Sports Fields in the area of Bell Road. Proposed plans show five multi use fields, parking, lights, restrooms, recreation staff offices, a shaded plaza and walking paths.

To participate visit the project website www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road by June 14. Click on the "Virtual Public Meeting" link, watch and listen to the presentation then submit your comments to let us know what you think.

The majority of the land at this location is owned by the Bureau of Reclamation and is managed by the city. In December 2020 the city acquired additional land from the Arizona State Land Department in order to have enough space to build five sports fields. Next the project will move through the public hearing process, to have your comments included, please be sure to participate between now June 14.

CITY OF SCOTTSDALE

# PROJECT UPDATE

## You're Invited to Participate in Virtual Public Meeting for the WestWorld Sports Complex

**Virtual Public Meeting**

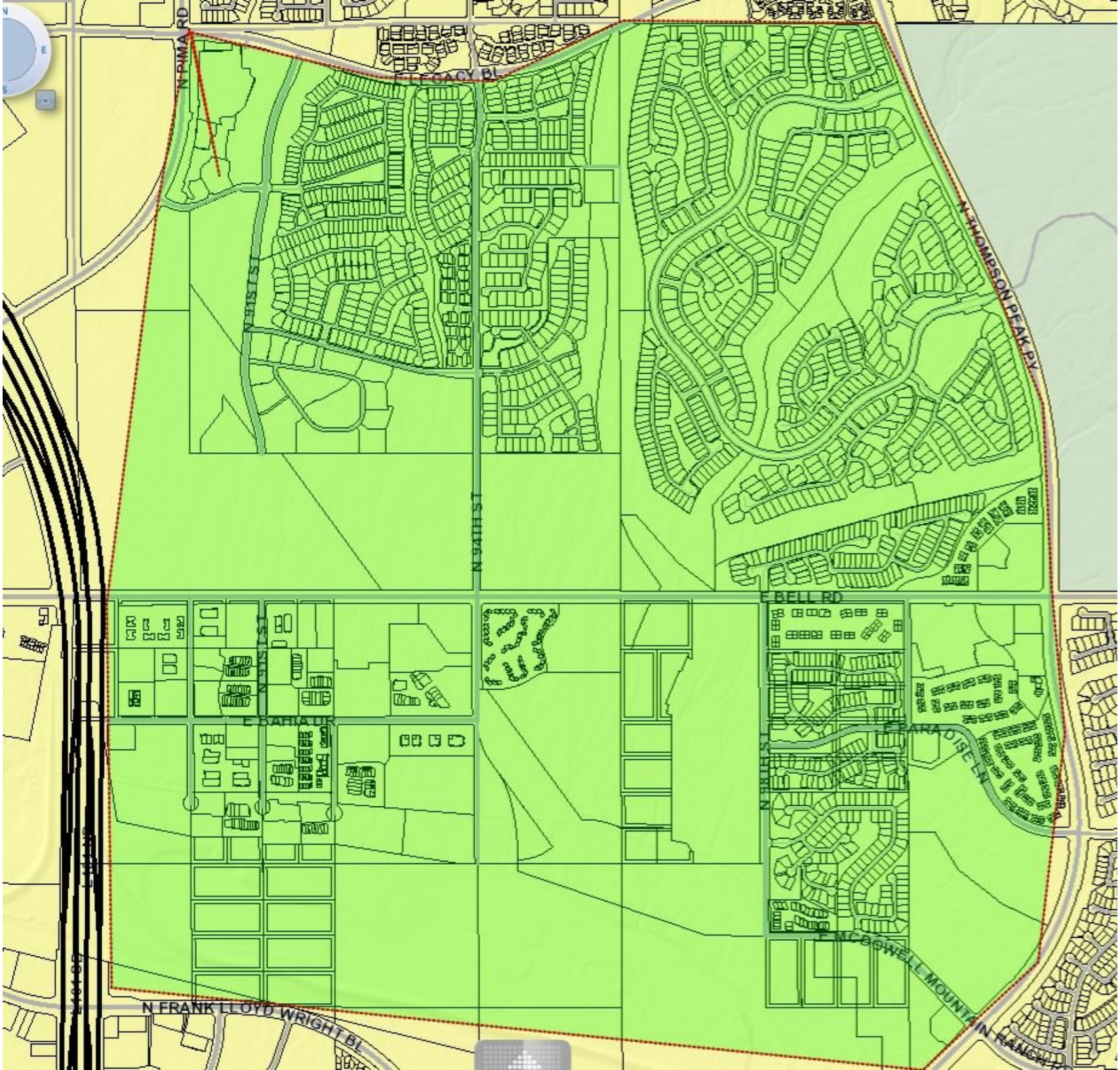
Ends June 14

www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road

**Questions?**

Project Hotline 480-312-4444

Or view the Frequently Asked Questions section of the project website.


N PIMA RD
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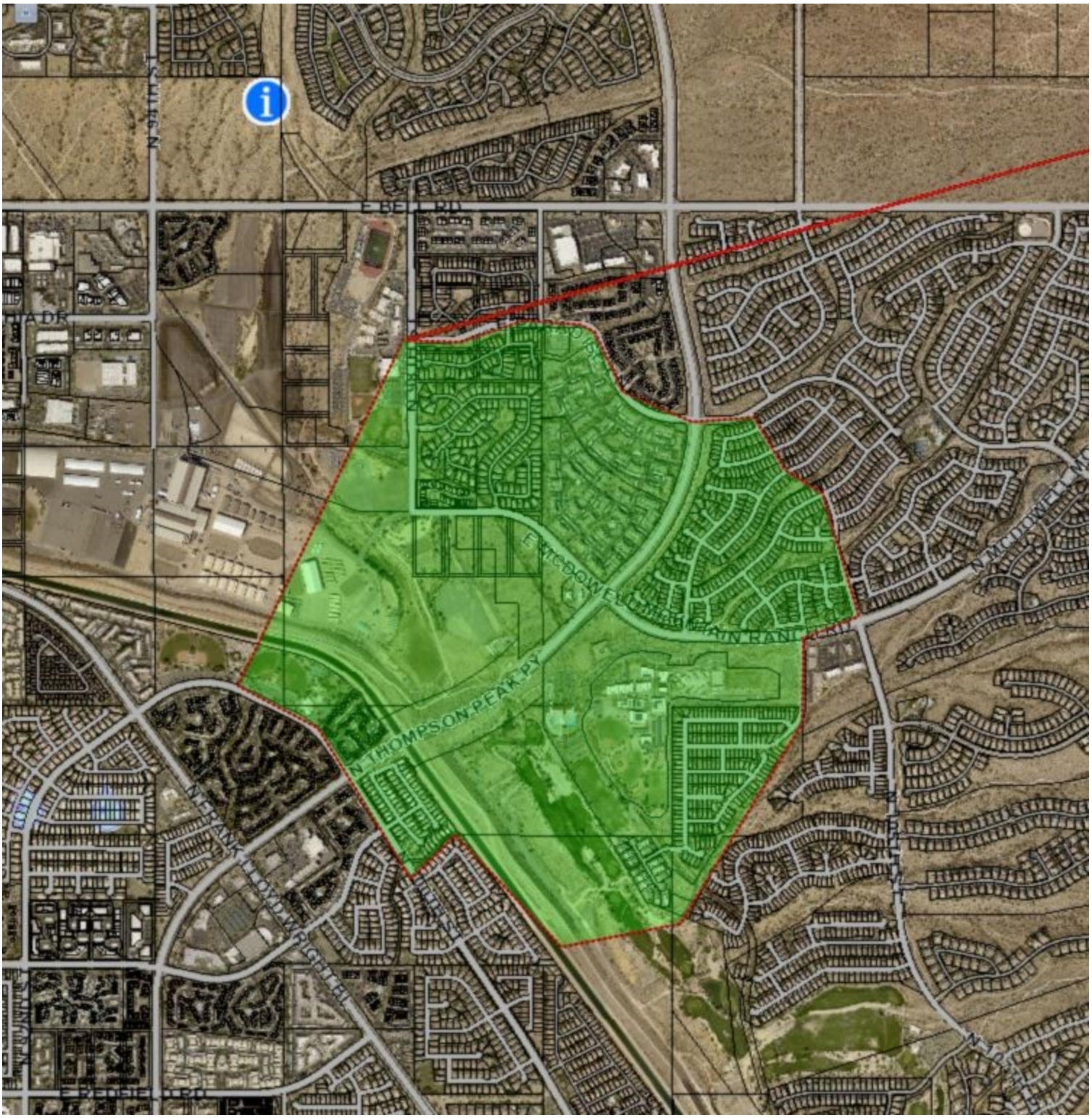
N 94TH ST
N THOMPSON PEAK PY
E BELL RD
E SARIA DR
E SARA DISE LN
E MCDOWELL MOUNTAIN RANCH
N FRANK LLOYD WRIGHT BL


E BELL RD
N THOMPSON PEAK PY
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Public Comments Received from Virtual Meeting #1 - 15 Total Comments 166-180

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 12:20 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #166)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #166)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 12:19:46 PM |

## Survey Response

| | |
|---|---|
| Name: | Karl Frye |
| Address: | 9853 E. Bahia Dr. |
| Email: | karl@fryepracticesales.com |
| Phone: | (480) 599-6958 |
| Comments: | Will the public be able to have use of the soccer fields next to West World? For instance I would like to have soccer practice versus now having to go to Thunderbird park. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 3:51 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #167)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #167)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 3:50:29 PM |

## Survey Response

| | |
|---|---|
| Name: | Steve Wright |
| Address: | 17952 N 97th Way |
| Email: | sfwright1@gmail.com |
| Phone: | 480-236-9999 |
| Comments: | Has any consideration been give to put artificial turf on some of the fields instead of grass for conservation of water, reduction of mnt of fields, consistency of fields, etc? Additionally if and when fields are used for lacrosse or other sports similar back stops/fencing on the end lines would be very useful to have for safety reasons especially for those fields that are back to back one another |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 6:54 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #168)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #168)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 6:53:09 PM |

## Survey Response

| | |
|---|---|
| Name: | Jennifer Stekkinger |
| Address: | 15859 N. Thompson Peak Pkwy |
| Email: | stekkinegrj@msn.com |
| Phone: | |
| Comments: | I am not happy about the traffic and additional noise professional sports bring to the neighborhood. But I dont think my opinion will matter. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 8:42 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #169)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #169)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 8:42:04 PM |

## Survey Response

| | |
|---|---|
| Name: | Jarrid Gordon |
| Address: | 15555 N Frank Lloyd Wright Blvd |
| Email: | Jarridag27@gmail.com |
| Phone: | |
| Comments: | I think these parks would be a great addition to the city. One recommendation I have is about water stations or drinking fountains. I find that a lot of the parks only have 1 or two by the restrooms. It would be really nice with there was a couple on the southwest side of the park to allow spectators and hikers using the paths to have access to drinking water. I look forward to this build since it will be walking distance and we will no longer need to drive to the Scottsdale sports complex. Also any extra long strips of grass for free space would be nice for owners like myself that have trained dogs on remote collars and like the open space for playing chuck-it. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 8:51 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #170)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #170)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 8:50:33 PM |

## Survey Response

| | |
|---|---|
| Name: | Nicole Turner |
| Address: | 19907 N 69th Avenue |
| Email: | nturner@rslaz.org |
| Phone: | (602) 301-3616 |
| Comments: | These fields are very needed. As a soccer coach and admin for our club, I can tell you that the ability to host tournaments in Scottsdale and reserve the fields for training purposes is important to the community and the surrounding club sports. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 1, 2021 11:40 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #171)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #171)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/1/2021 11:39:27 PM |

## Survey Response

| | |
|---|---|
| Name: | Shivank Agrawal |
| Address: | 9955 E Monte Cristo Ave |
| Email: | shivank6@gmail.com |
| Phone: | |
| Comments: | I live right across the street from the Planned WestWorld Development and am worried about the increase of traffic and noise pollution in the area. Right now, this area sees very little traffic and I am worried it could become congested due to all the new cars coming in. As well, I am worried about the environmental effects of developing over these acres. Right now there is a beautiful desert there and getting rid of the trails would reduce the natural beauty in this location. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Wednesday, June 2, 2021 9:49 AM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #172)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #172)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/2/2021 9:48:42 AM |

## Survey Response

| | |
|---|---|
| Name: | Bradford Coty |
| Address: | 15850 N Thompson Peak Pkwy Apt 1063 |
| Email: | hipcf@cox.net |
| Phone: | 602-692-7222 |
| Comments: | 1. Can you build a concrete walkway at the top(westerly) portion of Fields 1-4 where the entrance from McDowell Mtn Ranch Rd comes into the parking? Purpose: so all of the concrete walkways surrounding the entire project can we used for pedestrian/bicycle use both during field use, and when not being used? 2. The design shows the fields being surrounded by fencing. Are all walkways outside of the fencing so that these can be used as mentioned above. This way the entire project can be used by the community, not simply for soccer. 3. Can you build a concrete walkway from Mcdowell Mtn Ranch Road just beyond the new Self-Storage, thru the desert which the City now owns, traversing behind the Self Storage through the two wash areas to enter near/by the large parking area of the WW project? Besides the convenience there is a safety consideration. The kids on bikes can use this as their entry and stay off MMR Rd, where, NOBODY EVER drives 30mph; more like 50mph or greater. While not paramount, if you can build this walkway, is |

| | |
|---|---|
| | it possible to install a cross-walk from the opposite side of the MMR Rd to your parcel/walkway, AND install a flashing warning signal between 98th street and the cross-walk to warn drivers(speeders) to slow down Again safety for all, and MAYBE get the traffic THEN to slow down 4. The wash immediately behind the self-storage and adjacent to the WW project parcel has huge fallen trees, debris, plenty of dead grass, etc. This gets flooded when heavy rain falls, and besides being tremendously ugly, prevents water from flowing thru. And, drawing mosquitos. I know this for a fact, I walk this every day. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Thursday, June 3, 2021 2:18 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #173)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #173)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/3/2021 2:17:14 PM |

## Survey Response

| | |
|---|---|
| Name: | Justin Schwab |
| Address: | 16251 N 98th Place |
| Email: | justinschwab@yahoo.com |
| Phone: | (248) 420-2931 |
| Comments: | As residents of Horseman's Park we are excited to have these fields going in nearby. With kids who play soccer, lacrosse and flag football we know it is always a challenge to find fields to use for these sports. It is good to see that this facility will have lights for night use as well. One question - will any of the fields be available for drop in use for those us that coach recreational teams or will they only be reserveable by club teams? Thank you and we look forward to seeing these fields soon! Justin and Carissa Schwab |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Saturday, June 5, 2021 10:18 AM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #174)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #174)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/5/2021 10:17:56 AM |

## Survey Response

| | |
|---|---|
| Name: | Lisa DeBiase |
| Address: | 10090 E South Bend Dr |
| Email: | lisadebiase@gmail.com |
| Phone: | (602) 501-9429 |
| Comments: | As the mother of 2 lacrosse players, I am so happy to have more sports facilities in the area! Plus, it is always nice to have beautiful areas to walk. After spending a lot of time at many sports facilities around the city, including SSC just down the street, I would encourage you to think about having shade trees for spectators to use. SSC gets very hot -- no trees to hide under and still watch the activities. The parks that offer trees close enough to the fields to also allow for parents to watch without being in the hot sun are so nice. It also mitigates the use of tents, which clutter the sidelines and often butt right up to the sideline, making it potentially dangerous for the players. From the photos, it looks like there are few, if any, trees that allow for spectators to sit under them and watch the action. Please reconsider if there is an opportunity to allow for this. Thank you!! |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 8, 2021 8:22 AM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #175)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #175)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/8/2021 8:21:35 AM |

## Survey Response

| | |
|---|---|
| Name: | Nathan Lowy |
| Address: | 10258 E Karen Dr. Scottsdale, AZ 85255 |
| Email: | nathanlowy@gmail.com |
| Phone: | (602) 692-6772 |
| Comments: | Is there an area to suggest recommended recreational facilities? One of the fastest growing sports in the country, Disc Golf, would be a great addition to either of the sports complex facilities. Please let me know how I can find out more information about requesting/adding to a ballot or petition to try and have a Disc Golf course added. Thanks, Nathan |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Tuesday, June 8, 2021 11:14 AM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #176)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #176)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/8/2021 11:13:16 AM |

## Survey Response

| | |
|---|---|
| Name: | Michael Rocca - Rated Sports |
| Address: | Rated Sports Group |
| Email: | mikerocca@ratedsports.com |
| Phone: | (416) 888-3433 |
| Comments: | Hello - As a major event holder for youth sports events in Scottsdale, the new fields being constructed in Scottsdale will be a massive driver to furthering the economic impact to local businesses. It is crucial that the fields are maintained between weekends to ensure they are in spectacular shape especially with the amount of play the fields receive over a 2-3 day weekend. Allowing the fields to be used freely will take away from the proper care and maintenance required to ensure fields are kept at a premium through seasonal play as event holders are paying for the quality up keep. Poor maintained fields will result in poor outcomes with prime time tournaments. We are excited to be able to expand on tournament weekends in Scottsdale as maintaining premium fields makes it that much more attractive to draw teams into play. We want teams to come back, not scared off. Regards, Michael Rocca |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Wednesday, June 9, 2021 6:04 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #177)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #177)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/9/2021 6:02:43 PM |

## Survey Response

| | |
|---|---|
| Name: | Colleen Mink |
| Address: | 5740 E. Milton Drive |
| Email: | desertelitesoccer@gmail.com |
| Phone: | (602) 741-5007 |
| Comments: | We are excited to have more lighted fields for our community. As a tournament director who uses Scottsdale Sports Complex as well as other facilities, this is a great addition. I appreciate the consideration being taken to incorporate the natural desert landscaping consistent in Scottsdale and the use of the LED lights. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Monday, June 14, 2021 8:53 AM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #178)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #178)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/14/2021 8:52:59 AM |

## Survey Response

| | |
|---|---|
| Name: | Mark Marias |
| Address: | 16580 n 92nd st #4001 |
| Email: | mariasmtmd@yahoo.com |
| Phone: | 480-516-1317 |
| Comments: | We have some significant concerns re: the “lighting” of the sports fields. In particular, we are worried that these large sports field lights will be directed at our home, leading to reduced home values and issues with undesirable bright lights directly in our view. |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Monday, June 14, 2021 12:59 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #179)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #179)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/14/2021 12:57:53 PM |

## Survey Response

| | |
|---|---|
| Name: | Lori Herzog |
| Address: | 11450 E. Carol Way |
| Email: | lherzog@cox.net |
| Phone: | (480) 452-2711 |
| Comments: | Hello, I am in favor of more sports fields at the Westworld Sports Complex. Having raised three children in Scottsdale, I believe there is a real need for more recreation space. For some reason the Scottsdale School District fences off their schools so that the fields cannot be used after school hours or on weekends. Most school districts in the Valley do NOT do this. People want to live in Arizona for an outdoor lifestyle, but the reality is that in Scottsdale it can be difficult to find a spot to throw a ball or play soccer with your child, much less be part of team sports. Thank you, Lori Herzog |

**Phillips, Joseph**

**From:** Walsh, Erin
**Sent:** Monday, June 14, 2021 7:26 PM
**To:** Johnson, Ruth
**Subject:** Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #180)

# Build Multiuse Sports Fields in the area of Bell Road Public Comment (response #180)

## Survey Information

| | |
|---|---|
| Site: | ScottsdaleAZ.gov |
| Page Title: | Build Multiuse Sports Fields in the area of Bell Road Public Comment |
| URL: | https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road/public-comment |
| Submission Time/Date: | 6/14/2021 7:25:13 PM |

## Survey Response

| | |
|---|---|
| Name: | Tracy Burgo |
| Address: | 16600 N Thompson Peak Pkwy, 1084 |
| Email: | tlb1024@hotmail.com |
| Phone: | (480) 473-7203 |
| Comments: | Would be nice if you put in a small park for the kids that are too young to play sports or the siblings of the kids that aren't in that sport or just a park for anyone would be nice. Or even a small dog park. This Horizon Park is a joke and a waist of time and money. We have tons of spaces where, only sports people can enjoy around here now. But hey, as long as the city of scottsdale gets their money from the revenue of these sports courts and fill up 100% of the open land around, they'll be happy! |

General Project Related Emails Received

**From:** Candie Allison <allison.candie@yahoo.com>
**Sent:** Friday, June 11, 2021 3:42 PM
**To:** Mayor David D. Ortega <DOrtega@Scottsdaleaz.gov>; Caputi, Tammy <TCaputi@Scottsdaleaz.gov>; Durham, Thomas <TDurham@Scottsdaleaz.gov>; Janik, Betty <BJanik@Scottsdaleaz.gov>; Littlefield, Kathy <KLittlefield@Scottsdaleaz.gov>; Milhaven, Linda <LMilhaven@scottsdaleaz.gov>; Whitehead, Solange <SWhitehead@Scottsdaleaz.gov>
**Subject:** City of Scottsdale Soccer Fields



Scottsdale City Council,

RSL-AZ soccer club wants to commend the City of Scottsdale and the staff at the Scottsdale Sports Complex for everything they do in providing a premier facility and experience to all users. RSL-AZ trains, hosts tournaments, and plays games at Scottsdale Sports Complex and the quality of the facility and fields is nothing short of outstanding.

The Allison Family wants to express our appreciation for all the efforts Scottsdale and the staff at Scottsdale Sports Complex put in place to provide a quality facility that allows us to provide the best training and playing environment for our players. As Scottsdale residents, we also want to share our excitement for the development of the additional complexes in Scottsdale and how having additional world class fields will help in the opportunities to train and play in Scottsdale.
Thank you again for all you do,
Candie Allison
480.239.4296

## Phillips, Joseph

**From:** mike leary <outlook_59CA1EDED17AAFFC@outlook.com> on behalf of michaelpleary@cox.net
**Sent:** Monday, June 14, 2021 11:13 AM
**To:** Walsh, Erin; Phillips, Joseph; Tessier, Meredith; Kercher, Phillip; Couch, Ashley
**Cc:** Grant, Randy; Worth, Daniel
**Subject:** Westworld Sport Complex - comments on MUMSP plan



Thank you for the opportunity to comment on the proposed Westworld Sports Complex. The plan appears well-conceived especially with the exclusion of the two private parcels backing up to McDowell Mountain Ranch Road and the Graythorn/Horsemen's Park residences.

Comments:

1. The park should be secured after hours to preclude unauthorized activities and nuisances.
2. The Thompson Peak Parkway frontage road entrance apparently retains the contorted exit onto TPP for southbound traffic especially for larger vehicles. The expectation has been that this intersection problem would be corrected with the development of the ASLD parcel which is now part of the park development. The intersection should be re-examined to avoid worsening the problem.
3. The greatest issue with the BOR property has been the inability for the basin to drain within the City-required 48-hour limit. The water has failed to dissipate for several months after rainfalls creating concerns about mosquito breeding. Eliminating the drainage ponding and weeded condition are a city requirement that has been ignored. The City has had to pump water into a sewer manhole which likely conflicts with city policy as well.
4. As there is an existing 5' sidewalk on the southside of MMRR from TPP, a 5' sidewalk (not an 8') should be extended along the project frontage westerly into Westword.

drainage problems need to be solved and the basin improved.


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boun

*Mike Leary*
*Michael P. Leary, LTD*
*Commercial Real Estate Development Consulting*
*10278 East Hillery Drive*
*Scottsdale, AZ 85255*
*(c) 480.991.1111*

## Phillips, Joseph

**From:** Murphy, Bill
**Sent:** Friday, June 11, 2021 12:48 PM
**To:** Johnson, Ruth
**Subject:** FW: Scottsdale Sports Complex

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**From:** Bachman, Dan <DBachman@Scottsdaleaz.gov>
**Sent:** Friday, June 11, 2021 9:46 AM
**To:** Murphy, Bill <bmurphy@Scottsdaleaz.Gov>; Walsh, Chris <CWalsh@Scottsdaleaz.gov>; Peters, Kira <KCPETERS@SCOTTSDALEAZ.GOV>
**Subject:** FW: Scottsdale Sports Complex

FYI…

**Dan Bachman | CPSI**
City of Scottsdale | Community Services Supervisor
Scottsdale Sports Complex | 8081 E. Princess Dr. Scottsdale, AZ 85255
O 480.312.7521 | F 480.312.7525
ScottsdaleAZ.gov
Check Us Out On Facebook!

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**From:** Matt Evans <mattevans@scdelsol.com>
**Sent:** Friday, June 11, 2021 7:23 AM
**To:** Mayor David D. Ortega <DOrtega@Scottsdaleaz.gov>; Caputi, Tammy <TCaputi@Scottsdaleaz.gov>; Durham, Thomas <TDurham@Scottsdaleaz.gov>; Janik, Betty <BJanik@Scottsdaleaz.gov>; Littlefield, Kathy <KLittlefield@Scottsdaleaz.gov>; Milhaven, Linda <LMilhaven@scottsdaleaz.gov>; Whitehead, Solange <SWhitehead@Scottsdaleaz.gov>
**Cc:** Mat SC del Sol <mattevans@scdelsol.com>
**Subject:** Scottsdale Sports Complex



Scottsdale City Council Members,

SC del Sol wants to commend the City of Scottsdale and the staff at the Scottsdale Sports Complex for everything they do in providing a premier facility and experience to all users. SC del Sol hosts Presidents' Day Tournament at Scottsdale Sports Complex and the feedback on the quality of the facility and fields is nothing short of outstanding.

SC del Sol wanted to express our appreciation for all the efforts Scottsdale and the staff at Scottsdale Sports Complex put in place to provide a tournament level facility that allows us to continue to draw regional and national teams to Scottsdale. We also want to share our excitement for the development of the additional complexes in Scottsdale and how having additional world class fields will help in increasing the size of the events, and ultimately the teams participating in Scottsdale.

If there is anything SC del Sol can do to support Scottsdale in any way, please don't hesitate to let us know.

**Mat Evans**
SC del Sol Tournament Director
480-747-3771 | mattevans@scdelsol.com
www.scdelsolpdt.com

## Phillips, Joseph

**From:** Murphy, Bill
**Sent:** Friday, June 11, 2021 12:49 PM
**To:** Johnson, Ruth
**Subject:** FW: City of Scottsdale Fields - THANK YOU

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**From:** Rick Kelsey <rickkelsey@azyouthsoccer.org>
**Sent:** Thursday, June 10, 2021 3:33 PM
**To:** Mayor David D. Ortega <DOrtega@Scottsdaleaz.gov>; Caputi, Tammy <TCaputi@Scottsdaleaz.gov>; Durham, Thomas <TDurham@Scottsdaleaz.gov>; Janik, Betty <BJanik@Scottsdaleaz.gov>; Littlefield, Kathy <KLittlefield@Scottsdaleaz.gov>; Milhaven, Linda <LMilhaven@scottsdaleaz.gov>; Whitehead, Solange <SWhitehead@Scottsdaleaz.gov>
**Cc:** Murphy, Bill <bmurphy@Scottsdaleaz.Gov>; Randy Karg <RandyKarg@azyouthsoccer.org>
**Subject:** City of Scottsdale Fields - THANK YOU



All - The Arizona Soccer Association (ASA) wants to commend the City of Scottsdale and the staff at the Scottsdale Sports Complex for everything you do in providing a premier facility, fields, and experience to all the soccer community. ASA sanctions 40 tournaments per season and hosts league and events at Scottsdale Sports Complex and the feedback on the quality of the facility and fields is nothing short of outstanding from everyone, especially those who aren't from Arizona and are visiting Scottsdale specifically for the event or tournament, thanks in large part to the dedication of the staff and the commitment of Scottsdale to ensure the field quality is a top priority.

ASA and our 70+ member clubs want to express our appreciation for all the efforts that the City of Scottsdale and the staff at Scottsdale Sports Complex put in place to provide a tournament level facility that allows us to continue to draw regional and national teams to Scottsdale. We also want to share our excitement for the development of the additional complexes in Scottsdale and how having additional world class fields will help in increasing the size of the events, and ultimately the teams and families participating to Scottsdale.

If there is anything ASA can do to support Scottsdale in any way, please don't hesitate to let us know.

Thanks,


# Rick Kelsey

Chief Executive Officer
2320 W Peoria Ave C-123, Phoenix, AZ 85029
Office: 602-433-9202 Ext: 202
Cell: 623-326-5155
Fax: 602-433-9221

Record of Phone Calls

1. Received a voice mail from Howard HOA President of Graythorn Development.
    a. Voice message was that the website was not working, and comments could not be made. (The City received 15 comments from the website for virtual meeting #1)
    b. I called Howard back and him know we are currently in a public process and the ability to submit comments is still available.


CITY OF SCOTTSDALE
City of Scottsdale
PUBLIC NOTICE
scan, snap, save
ZONING/PUBLIC HEARING
MEETING WILL BE HELD REMOTE ELECTRONICALLY
Project Webpage -
https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road
PARK AND RECREATION COMMISSION: 5:00 P.M., 6/16/2021
DEVELOPMENT REVIEW BOARD: 1:00 P.M., 7/15/2021
PLANNING COMMISSION: 5:00 P.M., TBD
CITY COUNCIL: 5:00 P.M., TBD
REQUEST: Approval of a Municipal Use Master Site Plan to allow new multi-use sport fields with field lighting
CASE NUMBER: 9-UP-2021
Project Location: 15939 N. 98th Street 9809 E. McDowell Mountain Ranch Road 15514 N. Thompson Peak Parkway 15522 N. Thompson Peak Parkway APN 217-14-038B
Applicant/Contact:
City of Scottsdale - Joe Phillips
480-312-2522
jphillips@scottsdaleaz.gov
City Contact:
Joe Phillips (Capital Project Management)
480-312-2522
jphillips@scottsdaleaz.gov
Project Hotline 480-312-4444
Case File Available at City of Scottsdale 480-312-7767
Project information may be researched at: https://eservices.scottsdaleaz.gov/bldgresources/Cases
Penalty for removing or defacing sign prior to date of last hearing. Applicant responsible for sign removal
6/14/21 12:20:06


CITY OF SCOTTSDALE
City of Scottsdale
PUBLIC NOTICE
scan, snap, save
ZONING/PUBLIC HEARING
MEETING WILL BE HELD REMOTE ELECTRONICALLY
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https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road
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Project Hotline 480-312-4444
Case File Available at City of Scottsdale 480-312-7767
Project information may be researched at: https://eservices.scottsdaleaz.gov/bldgresources/Cases
Penalty for removing or defacing sign prior to date of last hearing. Applicant responsible for sign removal
6/14/21 12:28:31

# Affidavit of Posting

**Required: Signed, Notarized originals.**
Recommended: E-mail copy to your project coordinator.

☐ **Project Under Consideration Sign (White)** ☑ **Public Hearing Notice Sign (Red)**

**Case Number:** 9-UP-2021

**Project Name:**

**Location:** 15939 N 98th Street, 9809 E. McDowell Mountain Ranch Road, 15514 N. Thompson Peak Parkway, 15522 N. Thompson Peak Parkway APN 217-14-038B

**Site Posting Date:** June 14th, 2021

**Applicant Name:** City of Scottsdale- Joe Phillips

Sign Company Name: Dynamite Signs

Phone Number: 480-585-3031

I confirm that the site has been posted as indicated by the Project Manager for the case as listed above.

Applicant Signature

6.14.2021
Date

**Return completed original notarized affidavit AND pictures to the Current Planning Office no later than 14 days after your application submittal.**

Acknowledged before me this the 14th day of June 2021

MARYBETH CONRAD
Notary Public - Arizona
Maricopa County
Commission # 591461
My Comm. Expires Oct 25, 2024

MaryBeth Conrad
Notary Public

My commission expires: 10.25.2024

**City of Scottsdale -- Current Planning Division**
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088


CITY OF SCOTTSDALE
City of Scottsdale
PUBLIC NOTICE
scan, snap, save
ZONING/PUBLIC HEARING
MEETING WILL BE HELD REMOTE ELECTRONICALLY
Project Webpage -
https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road
PARK AND RECREATION COMMISSION: 5:00 P.M., 6/16/2021
DEVELOPMENT REVIEW BOARD: 1:00 P.M., 7/15/2021
PLANNING COMMISSION: 5:00 P.M., 8/11/2021
CITY COUNCIL: 5:00 P.M., 8/30/2021
REQUEST: Approval of a Municipal Use Master Site Plan to allow new multi-use sport fields with field lighting
CASE NUMBER: 9-UP-2021
Project Location: 15939 N. 98th Street 9809 E. McDowell Mountain Ranch Road 15514 N. Thompson Peak Parkway 15522 N. Thompson Peak Parkway APN 217-14-038B
Applicant/Contact:
City of Scottsdale - Joe Phillips
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jphillips@scottsdaleaz.gov
City Contact:
Joe Phillips (Capital Project Management)
480-312-2522
jphillips@scottsdaleaz.gov
Project Hotline 480-312-4444
Case File Available at City of Scottsdale 480-312-7767
Project information may be researched at: https://eservices.scottsdaleaz.gov/bldgresources/Cases
Penalty for removing or defacing sign prior to date of last hearing. Applicant responsible for sign removal.
Posting Date: 6/21/2021
7/21/21 12:19:46


CITY OF SCOTTSDALE
City of Scottsdale
PUBLIC NOTICE
scan, snap, save
ZONING/PUBLIC HEARING
MEETING WILL BE HELD REMOTE ELECTRONICALLY
Project Webpage -
https://www.scottsdaleaz.gov/construction/project-list/build-mulituse-sports-fields-in-the-area-of-bell-road
PARK AND RECREATION COMMISSION: 5:00 P.M., 6/16/2021
DEVELOPMENT REVIEW BOARD: 1:00 P.M., 7/15/2021
PLANNING COMMISSION: 5:00 P.M., 8/11/2021
CITY COUNCIL: 5:00 P.M., 8/30/2021
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jphillips@scottsdaleaz.gov
City Contact:
Joe Phillips (Capital Project Management)
480-312-2522
jphillips@scottsdaleaz.gov
Project Hotline 480-312-4444
Case File Available at City of Scottsdale 480-312-7767
Project information may be researched at: https://eservices.scottsdaleaz.gov/bldgresources/Cases
Penalty for removing or defacing sign prior to date of last hearing. Applicant responsible for sign removal.
7/21/21 12:38:09

# Affidavit of Posting

**Required: Signed, Notarized originals.**
Recommended: E-mail copy to your project coordinator.

☐ **Project Under Consideration Sign (White)** ☑ **Public Hearing Notice Sign (Red)**

**Case Number:** 9-UP-2021

**Project Name:**

**Location:** 15939 N. 98th Street 9809 E. McDowell Mountain Ranch Road 15514 N. Thompson Peak Parkway, 15522 N. Thompson Peak Parkway APN 217-14-038B

**Site Posting Date:** July 21st, 2021

**Applicant Name:** City of Scottsdale- Joe Phillips

Sign Company Name: Dynamite Signs

Phone Number: 480-585-3031

I confirm that the site has been posted as indicated by the Project Manager for the case as listed above.

Applicant Signature

7.21.2021
Date

**Return completed original notarized affidavit AND pictures to the Current Planning Office no later than 14 days after your application submittal.**

Acknowledged before me this the 21st day of July 2021

MARYBETH CONRAD
Notary Public - Arizona
Maricopa County
Commission # 591461
My Comm. Expires Oct 25, 2024

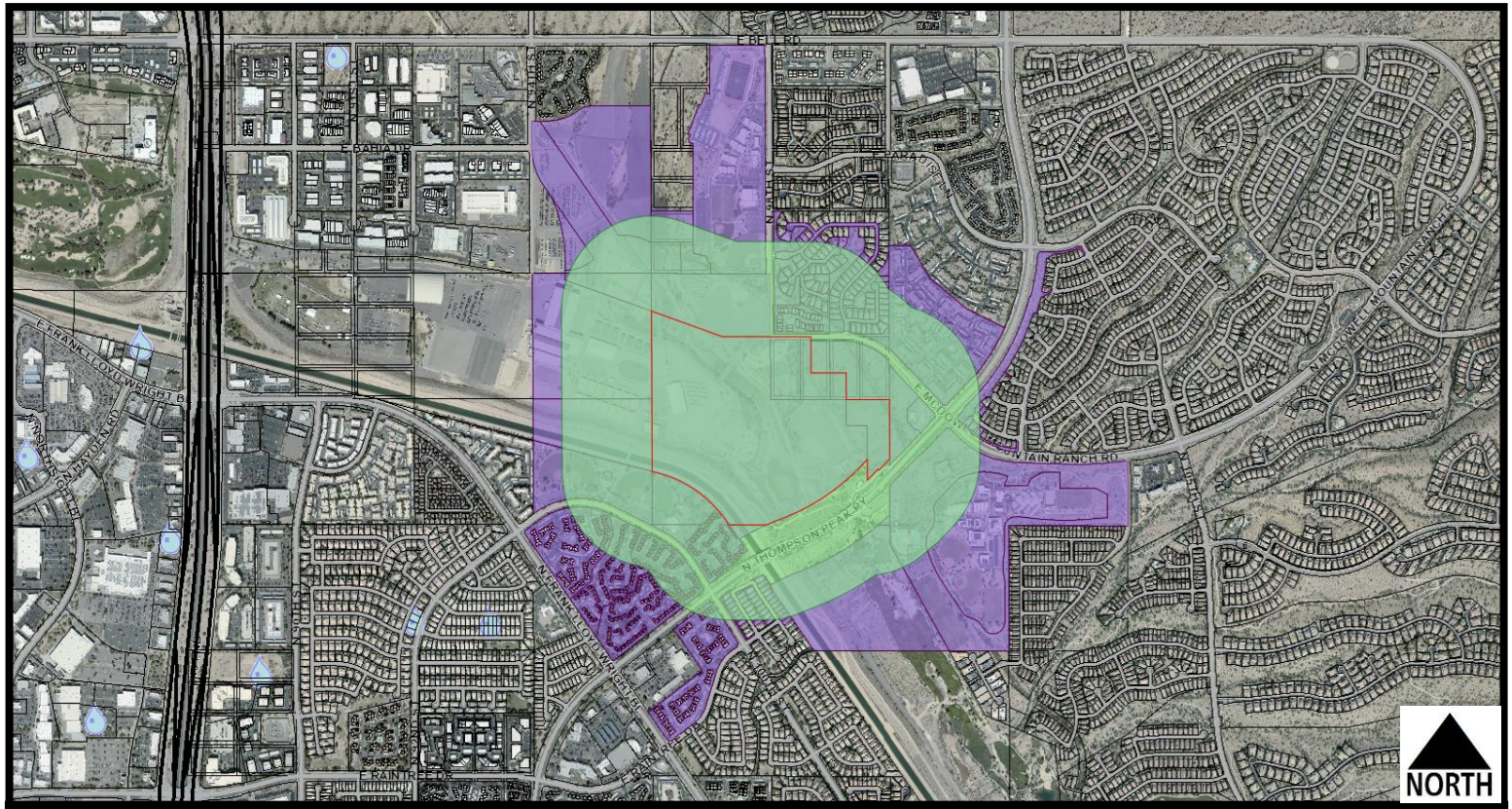
Notary Public

My commission expires: 10.25.2024

**City of Scottsdale -- Current Planning Division**
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

# City Notifications – Mailing List Selection Map

## Build Multi-Use Sports Fields in the Area of Bell Rd - WestWorld Sports Complex




**Additional Notifications:**

- **Interested Parties List**
- **Adjacent HOA's**
- **P&Z E-Newsletter**
- **Facebook**
- **Nextdoor.com**
- **City Website-Projects in the hearing process**

Labels Pulled
**June 11, 2021**

**Map Legend:**

Site Boundary

Properties within 1000-feet

Postcards: **465**

**9-UP-2021**

ATTACHMENT #8

**CITY OF SCOTTSDALE**
**PARKS AND RECREATION COMMISSION**
**REGULAR MEETING** DRAFT MINUTES
**Wednesday, June 16, 2021**
**Meeting Held Electronically**

**PRESENT:** Chair Maryann McAllen, Vice-Chair Kurt Jones, Commissioners Ronald Lehman, Susan McGarry, Teresa Kim Quale

**ABSENT:** Commissioners Alexandra Albert and Eric Kurland

**STAFF:** Community Services Administrator Kira Peters; Managers Nick Molinari, Chris Walsh; Communications Supervisor Ann Porter

## CALL TO ORDER

Chair McAllen called the meeting to order at 5:00 p.m.

## ROLL CALL

Members present as indicated above.

## PUBLIC COMMENT

There were no members of the public who submitted comments.

## MINUTES

Approval of the Regular Meeting minutes – May 19, 2021

COMMISSIONER MCGARRY MOVED TO APPROVE THE MAY 19, 2021 PARKS AND RECREATION COMMISSION MEETING MINUTES. VICE-CHAIR JONES SECONDED THE MOTION, WHICH CARRIED FOUR (4) TO ZERO (0) BY ROLL CALL VOTE. CHAIR MCALLEN, VICE-CHAIR JONES, COMMISSIONERS LEHMAN AND MCGARRY VOTED IN THE AFFIRMATIVE. COMMISSIONER QUALE ABSTAINED. THERE WERE NO DISSENTING VOTES.

**REGULAR MEETING AGENDA**

## 1. APPOINTMENT TO THE PATHS & TRAILS SUBCOMMITTEE

Commissioner Quale noted that she attended the recent Paths & Trails Subcommittee meeting as a courtesy. She is willing to serve on the committee; however, she is not a cyclist or a user of the City's trail system. She wondered if another Commissioner might be interested. There was no interest expressed by the other Commissioners.

CHAIR MCALLEN APPOINTED COMMISSIONER QUALE TO REPRESENT THE PARKS & RECREATION COMMISSION ON THE TRANSPORTATION COMMISSION'S PATHS AND TRAILS SUBCOMMITTEE WITH A VOTE OF FOUR (4) TO ZERO (0) BY ROLL CALL VOTE. VICE-CHAIR JONES, COMMISSIONERS LEHMAN, MCGARRY, AND QUALE VOTED IN THE AFFIRMATIVE. CHAIR MCALLEN MOMENTARILY LOST ZOOM CONNECTION DURING THE VOTE. THERE WERE NO DISSENTING VOTES.

## 2. MARKETING AND SOCIAL MEDIA UPDATE

Ann Porter, Communications Supervisor, gave a presentation, discussing how her department manages conversations and communications with the public through the NextDoor outlet. NextDoor is a social media app that connects neighbors based on their address. Citizens are able to sign up for a resident account and are able to post comments and have conversations with others within their community.

The City of Scottsdale is a member of NextDoor for Public Agencies, which was designed so that public agencies can send targeted messages to community members. The City is not able to see conversations between citizens in individual neighborhood accounts. City staff is able to directly respond to questions or comments posted in response to information that has been published through the Public Agencies account. Ms. Porter explained that Parks and Recreation falls under the Community Services NextDoor for Public Agencies account because NextDoor limits the number of accounts the City can hold.

Commissioners expressed interest in being kept updated on hot topics discussed on NextDoor.

## 3. WESTWORLD SPORTS FIELD PROJECT

Park and Recreation Manager Chris Walsh presented updated information on the WestWorld Sports Fields bond project and requested a recommendation from the Commission to City Council for approval of the Municipal Use Master Site Plan Case #9-UP-2021. His presentation included an overview of the design concepts for the project, project funding, site location, project phasing, and a summary of public comments.

Commissioner Quale expressed interest in seeing the unfiltered public comments.

Vice-Chair Jones declared a conflict of interest on the WestWorld Sports Field Project.

COMMISSIONER LEHMAN MOVED TO RECOMMEND CITY COUNCIL APPROVAL OF THE MUNICIPAL USE MASTER SITE PLAN CASE #9-UP-2021. COMMISSIONER MCGARRY SECONDED THE MOTION, WHICH CARRIED FOUR (4) TO ZERO (0) BY ROLL CALL VOTE. CHAIR MCALLEN, COMMISSIONERS LEHMAN, MCGARRY, AND QUALE VOTED IN THE AFFIRMATIVE. VICE-CHAIR JONES DECLARED A CONFLICT OF INTEREST. THERE WERE NO DISSENTING VOTES.

## 4. DIRECTOR'S REPORT

Kira Peters, Community Services Administrator, gave an overview of the summer recreation programs participation statistics. She noted that there are currently 1,862 registered in aquatics sessions 1 and 2 and 598 are on wait lists. The program focuses on drowning prevention. As of

June 11th, the public swim program had 764 registrants. There are 3,633 people registered for leisure education programs and 286 league teams are registered for various activities, including basketball, kickball, flag football, softball, and volleyball.

The summer concert series at McCormick-Stillman Railroad Park is averaging around 800 attendees at each event. Due to COVID, attendance this year is being limited and reservations are required. Attendance in past years ranged from 3,000 to 5,000 attendees per event.

Ms. Peters noted that the City of Scottsdale is currently in the moderate COVID community spread category. Once the city reaches a low COVID community spread threshold, consideration will be given to restarting the volunteer program.

Ms. Peters briefly talked about Commission for Accreditation of Parks and Recreation Agencies (CAPRA) accreditation, noting that the City of Scottsdale has been accredited for over 25 years. Staff is currently planning for the 2024 evaluation. Ms. Peters said she is hoping that the Parks and Recreation Commissioners can be involved in the process this round.

Scottsdale Leadership will be hosting their 35th anniversary exhibit beginning on June 25, 2021 in the Scottsdale Heritage connection space at Civic Center Library. The exhibit will coincide with the City of Scottsdale's 70th anniversary celebrations. Joan Fudala is scheduled to give an in-person presentation on Scottsdale's history at Civic Center Library on June 23, 2021, beginning at 2:00 p.m. Additional information about 70th anniversary events can be found on the City's website.

Ms. Peters noted that the Parks and Recreation director position is still in the recruitment process.

## 5. COMMISSIONERS' REPORTS

Vice-Chair Jones noted that he and his family enjoy going to Chaparral Dog Park on a regular basis. He mentioned that the large dog area is all dirt at this time and needs to be switched over to the fresh field. Dry dirt can cause a spread of valley fever. A second issue is that the arm on the gate to the field closest to Hayden Road does not close and there have been several dog escapes from the catch area between the safety fences.

Commissioner Quale said that she was recently at McDowell Mountain Ranch Aquatic Center and enjoyed seeing the children taking lessons.

## 6. POSSIBLE FUTURE AGENDA ITEMS

Possible future agenda items include:

- Presentation of comparison of participation in recreation programs from the past few years and how COVID has affected those numbers.

Commissioners expressed interest in scheduling in-person meetings as soon as possible.

The Parks and Recreation Commission will take a recess for the months of July and August.

## 7. ADJOURNMENT

COMMISSIONER LEHMAN MOVED TO ADJOURN THE MEETING. VICE-CHAIR JONES SECONDED THE MOTION, WHICH CARRIED FIVE (5) TO ZERO (0) BY ROLL CALL VOTE. CHAIR MCALLEN, VICE-CHAIR JONES, COMMISSIONERS LEHMAN, MCGARRY, AND QUALE VOTED IN THE AFFIRMATIVE. THERE WERE NO DISSENTING VOTES.

With no further business to discuss, being duly moved and seconded, the meeting adjourned at 5:57 p.m.

Recorded and Transcribed by eScribers, LLC.

**SCOTTSDALE DEVELOPMENT REVIEW BOARD**
**KIVA-CITY HALL**
**3939 DRINKWATER BOULEVARD**
**SCOTTSDALE, ARIZONA**
**THURSDAY, JULY 15, 2021**
***DRAFT SUMMARIZED MEETING MINUTES***

**PRESENT:** Kathy Littlefield, Councilwoman
William Scarbrough, Commissioner – attended meeting remotely
Shakir Gushgari, Vice Chair
Doug Craig, Design Member
Ali Fakih, Development Member – attended meeting remotely
Jeff Brand, Design Member

**ABSENT:** Michal Ann Joyner, Development Member

**STAFF:**

| | |
|---|---|
| Brad Carr | Bronte Ibsen |
| Joe Padilla | Karen Hemby |
| Meredith Tessier | Nicole Garcia |
| Katie Posler | Lorraine Castro |
| Desirae Mayo | |

## CALL TO ORDER

Councilwoman Littlefield called the meeting of the Development Review Board to order at 1:00 PM.

## ROLL CALL

A formal roll call was conducted confirming members present as stated above.

## ADMINISTRATIVE REPORT

1. Identify supplemental information, if any, related to July 15, 2021 Development Review Board agenda items, and other correspondence.

## PUBLIC COMMENT

2. Public Comment time is reserved for citizens to comment on non-agendized items that are within the Development review Board's jurisdiction. No official Development Review Board action can be taken on the items.
   **NO PUBLIC COMMENT RECEIVED.**

* Note: These are summary action minutes only. A complete copy of the meeting audio/video is available on the Development Review Board website at: http://scottsdale.granicus.com/ViewPublisher.php?view_id=36

## MINUTES

3. Approval of the July 1, 2021 Development Review Board Regular Meeting Minutes.

**BOARD MEMER CRAIG MOVED TO APPROVE THE JULY 1, 2021 DEVELOPMENT REVIEW BOARD MEETING MINUTES AS PRESENTED, 2ND BY BOARD MEMBER BRAND. THE MOTION PASSED UNANIMOUSLY IN FAVOR BY COUNCILWOMAN LITTLEFIELD, COMMISSIONER SCARBROUGH, VICE CHAIR GUSHGARI, BOARD MEMBERS CRAIG, FAKIH AND BRAND WITH A VOTE OF SIX (6) TO ZERO (0).**

## CONSENT AGENDA

4. 4-DR-2021 (Greystar Independent Living)

Request for approval of the site plan, building elevations, and landscape plan for a new three and four-story, 161,000 square foot residential healthcare facility on a +/- 4.67-acre site with Commercial Office (C-O) zoning.

Located approximately 1,000 feet northwest of the East Raintree Drive and North 90th Street intersection. Todd & Associates – Architect

**BOARD MEMBER BRAND MOVED TO APPROVE 4-DR-2021, 2ND BY COMMISSIONER SCARBROUGH. THE MOTION PASSED IN FAVOR BY COUNCILWOMAN LITTLEFIELD, COMMISSIONER SCARBROUGH, VICE CHAIR GUSHGARI, BOARD MEMBERS CRAIG AND BRAND WITH A VOTE OF FIVE (5) TO ZERO (0), WITH BOARD MEMBER FAKIH RECUSING.**

5. 9-DR-2021 (Toy Barn Scottsdale)

Request for approval of the site plan, landscape plan, and building elevations for a new vehicle storage facility, comprised of three buildings, with approximately 81,200 square feet of building area, all on a 3.86-acre site with Industrial Park (I-1) zoning.

7301 & 7317 E. Helm Drive DLR Group – Architect

**BOARD MEMBER CRAIG MOVED TO APPROVE 9-DR-2021, 2ND BY BOARD MEMBER BRAND. THE MOTION PASSED UNANIMOUSLY IN FAVOR BY COUNCILWOMAN LITTLEFIELD, COMMISSIONER SCARBROUGH, VICE CHAIR GUSHGARI, BOARD MEMBERS CRAIG, FAKIH AND BRAND WITH A VOTE OF SIX (6) TO ZERO (0).**

## REGULAR AGENDA

6. 42-DR-1993#3 (Terravita Pickleball and Bocce Courts)

Request for approval to add two (2) pickleball courts and two (2) bocce courts to replace an existing croquet lawn at a property with Single-family Residential, Environmentally Sensitive Lands (R1-10 ESL) zoning.

34036 N. 69th Way Terravita Country Club – Applicant

**VICE CHAIR GUSHGARI MOVED TO CONTINUE 42-DR-1993#3 TO A DATE TO BE DETERMINED, 2ND BY COUNCILWOMAN LITTLEFIELD. THE MOTION PASSED UNANIMOUSLY IN FAVOR BY COUNCILWOMAN LITTLEFIELD, COMMISSIONER SCARBROUGH, VICE CHAIR GUSHGARI, BOARD MEMBERS CRAIG, FAKIH AND BRAND WITH A VOTE OF SIX (6) TO ZERO (0).**

7. 9-UP-2021 (WestWorld Sport Fields MUMSP)
   Request for a recommendation from the Development Review Board to the Planning Commission and City Council for a Municipal Use Master Site Plan for new multi-use sport fields with field lighting and 5,735 square feet of building area on a +/- 28.14-acre site located at the east side of WestWorld with Western Theme Park (WP) and Single-family Residential, Environmentally Sensitive Lands (R1-35 ESL) zoning.

   15514 & 15522 N. Thompson Peak Parkway, 9809 E. McDowell Mountain Road, 15939 N. 98th Street, and Parcel APN 217-14-038B. City of Scottsdale – Joe Phillips, Applicant

   **VICE CHAIR GUSHGARI MOVED TO RECOMMEND APPROVAL OF 9-UP-2021 TO THE PLANNING COMMISSION AND CITY COUNCIL WITH CONSIDERATION OF FUTURE ADDITIONAL AMENITIES AT THE SITE AT A LATER DATE OUTSIDE OF THE APPROVED BOND FUNDING AND COOPERATION WITH THE ADJACENT PROPERTY OWNERS ON REGIONAL DRAINAGE CONCERNS, 2ND BY BOARD MEMBER BRAND. THE MOTION PASSED UNANIMOUSLY IN FAVOR BY COUNCILWOMAN LITTLEFIELD, COMMISSIONER SCARBROUGH, VICE CHAIR GUSHGARI, BOARD MEMBERS CRAIG, FAKIH AND BRAND WITH A VOTE OF SIX (6) TO ZERO (0).**

With no further business to discuss, the regular meeting of the Development Review Board adjourned at 3:13 PM.

# REQUEST TO SPEAK

~~6~~ 7

*Request to Speak cards must be submitted to City Staff **BEFORE** public testimony begins.*
*Public testimony is limited to three (3) minutes per speaker.*
*Additional time MAY be granted to speakers representing two or more persons.*
*Cards for designated speakers and the person(s) they represent must be submitted together.*

NAME (*print*) MIKE DELMARTER MEETING DATE 7/15/21

NAME OF GROUP/ORGANIZATION (*if applicable*) KIMLEY-HORN

ADDRESS 7740 N. 16TH ST #300 ZIP 85020

HOME PHONE 602 571-7070 WORK PHONE 602 906-1374

E-MAIL ADDRESS (*optional*) mike.delmarter@kimley-horn.com

☒ I WISH TO SPEAK ON AGENDA ITEM # ~~6~~ 7 ☐ I WISH TO DONATE MY TIME TO _____

☐ I WISH TO SPEAK DURING "PUBLIC COMMENT"* CONCERNING _____

**Citizens may complete one Request to Speak "Public Comment" card per meeting and submit it to City Staff. "Public Comment" time is reserved for citizen comments regarding non-agendized items. The Board and Commission may hear "Public Comment" testimony, but is prohibited by state law from discussing items which are not listed on the agenda.*

**This card constitutes a public record under Arizona law.**

# REQUEST TO SPEAK

~~6~~ 7

*Request to Speak cards must be submitted to City Staff **BEFORE** public testimony begins.*
*Public testimony is limited to three (3) minutes per speaker.*
*Additional time MAY be granted to speakers representing two or more persons.*
*Cards for designated speakers and the person(s) they represent must be submitted together.*

NAME (*print*) John Thomas MEETING DATE 7/15/21

NAME OF GROUP/ORGANIZATION (*if applicable*) _____

ADDRESS 7500 E. Lincoln Dr. ZIP 85250

HOME PHONE 480 998 3580 WORK PHONE _____

E-MAIL ADDRESS (*optional*) _____

☐ I WISH TO SPEAK ON AGENDA ITEM # ~~6~~ ☒ I WISH TO DONATE MY TIME TO Mike Delmarter Item #6

☐ I WISH TO SPEAK DURING "PUBLIC COMMENT"* CONCERNING _____

**Citizens may complete one Request to Speak "Public Comment" card per meeting and submit it to City Staff. "Public Comment" time is reserved for citizen comments regarding non-agendized items. The Board and Commission may hear "Public Comment" testimony, but is prohibited by state law from discussing items which are not listed on the agenda.*

ATTACHMENT #11

**This card constitutes a public record under Arizona law.**

# REQUEST TO SPEAK

X67

*Request to Speak cards must be submitted to City Staff **BEFORE** public testimony begins.*
*Public testimony is limited to three (3) minutes per speaker.*
*Additional time MAY be granted to speakers representing two or more persons.*
*Cards for designated speakers and the person(s) they represent must be submitted together.*

NAME (*print*) Jeffrey Gross MEETING DATE 7/15/21

NAME OF GROUP/ORGANIZATION (*if applicable*) Berry Riddell

ADDRESS 6750 E Camelback Rd #100 ZIP 85251

HOME PHONE 6026899314 WORK PHONE 4806823921

E-MAIL ADDRESS (*optional*)

☑ I WISH TO SPEAK ON AGENDA ITEM # 7 ~~6~~ ☐ I WISH TO DONATE MY TIME TO

☐ I WISH TO SPEAK DURING "PUBLIC COMMENT"* CONCERNING

**Citizens may complete one Request to Speak "Public Comment" card per meeting and submit it to City Staff. "Public Comment" time is reserved for citizen comments regarding non-agendized items. The Board and Commission may hear "Public Comment" testimony, but is prohibited by state law from discussing items which are not listed on the agenda.*

**This card constitutes a public record under Arizona law.**

**Request to Speak cards must be submitted to City Staff before public testimony begins on that item.**

HOW TO ADDRESS THE BOARD AND COMMISSION:

- The Chair will call your name when it is your turn to speak.
- Approach the podium and state your name and address for the record.
- Groups wishing to speak are encouraged to select a spokesperson to represent the views of the group.
- Public testimony is limited to three minutes per speaker. (*At the Chair's discretion, speakers representing two or more persons may be granted additional time.)*
- A timer light, located at the podium, will help you to time your comments.
  - A green light indicates the timer has been activated.
  - A yellow light indicates there is one minute remaining.
  - A red light indicates the comment period has ended.

**WRITTEN COMMENTS:** Citizens who do not wish to address the Board and Commission in person may submit written comments by completing a yellow Written Comment card. Written Comment cards are available throughout the Kiva Forum and at the Staff table.