Axon World Headquarters Campus

REZONING, GENERAL PLAN FUTURE LAND USE AMENDMENT, GREATER AIRPARK AREA PLAN AMENDMENT, AND AMENDED DEVELOPMENT STANDARDS

Revision Date: December 20, 2023

REPRESENTATIVE:

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PROJECT OVERVIEW

In 2020, Axon Enterprise, Inc. ("Axon") acquired from the Arizona State Land Department (ASLD) approximately 73.57 acres on the south side of the Loop 101 freeway at Hayden Road to expand its campus within the area shown below:

On November 11, 2020, Scottsdale City Council approved Axon's requests for a Zoning District Map Amendment from Planned Community (P-C) to Planned Community District - Industrial Park (PCD I-1), amended development standards, and design review for the new Axon Campus office building. The site appears to be subject to the large-scale Crossroads East PCD consisting of approximately 1,000 acres of land that was at one point owned entirely by ASLD but has since been partially sold in pieces to private property owners.

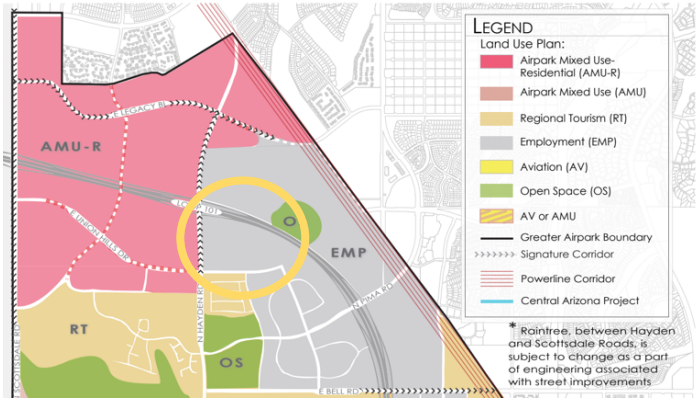
In keeping with the "Axon World Headquarters Campus" concept, and in addition to the already approved headquarters building, we are proposing to add a number of walkable and complementary uses to support the Axon World Headquarters Campus, including new homes to serve our current and future employees and retail experiences as part of a new mixed-use development that will include exceptional outdoor spaces, multi-family residential, a hotel for conference use related to the new Headquarters training component and commercial uses designed primarily to serve the employees of Axon. These uses, designed for the remaining portion of the Headquarters site are in conjunction with the adjacent municipal site's fire station and water treatment facility construction. The previously approved office building will be Phase I of the Axon World Headquarters Campus and the supporting housing and commercial will be additional phases of the Axon World Headquarters Campus build out.

In order to develop this campus vision, Axon is requesting the following:

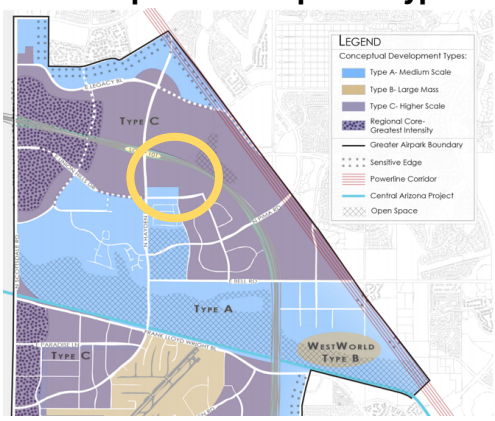
- An Amendment to the Greater Airpark Character Area Plan from Employment to Airpark Mixed-Use Residential
- a minor General Plan Amendment from Employment: Light Industrial/Office to Mixed-Use Neighborhoods
- a rezoning of a portion of the site from the Planned Community District – Industrial Park (PCD I-1) to Planned Community District – Planned Airpark Core Development/Airpark Mixed-Use Residential (PCD – PCP/AMU-R)
- Amended Development standards for the Crossroads East Land Use Budget, Zoning Allowance tables, and Hayden Area Transition Area

The site's overall 2035 General Plan designation is Employment: Light Industrial/Office with a Regional Use District overlay and the Greater Airpark Growth Area. The Axon campus is located within the Greater Airpark Area Plan with an Employment designation projected to be mostly Type C – Higher Scale Development type with a small portion of the site designed as Type A – Medium Scale as shown on the maps below:

Land Use Plan



Conceptual Development Types

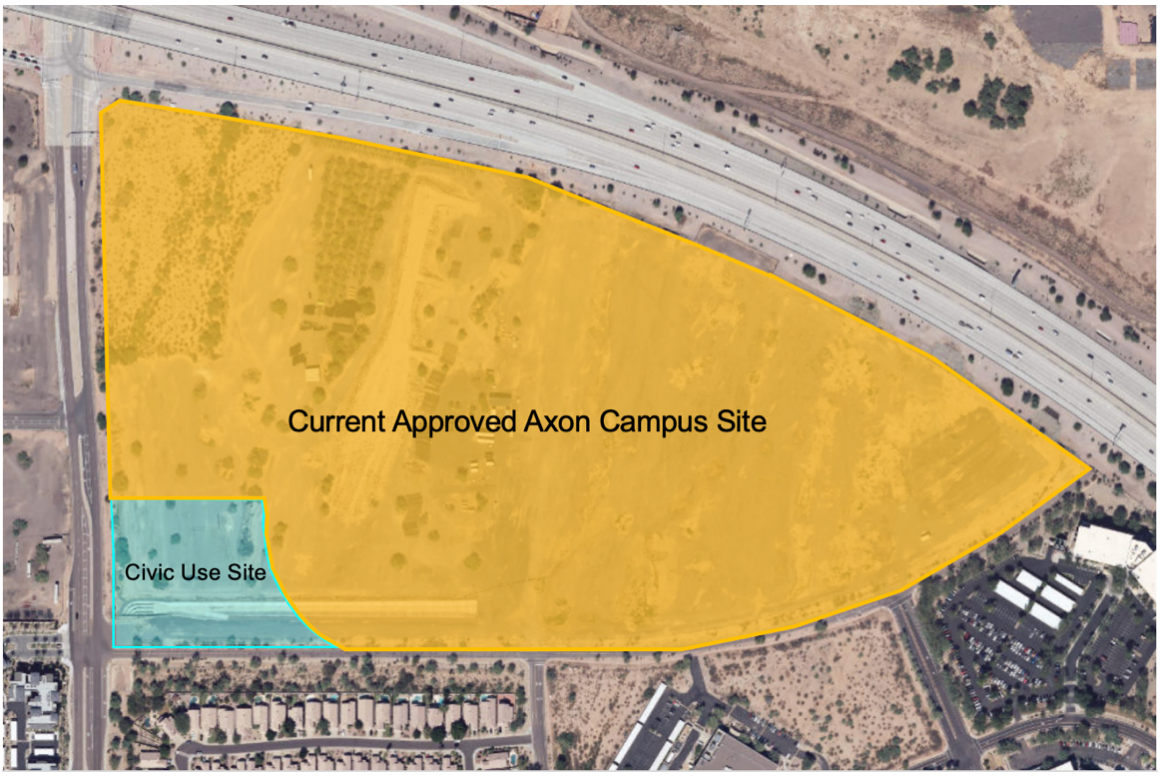


The approved Axon office/manufacturing building is an Industrial use at a scale designed to fit well with land use plans for this area. Rezoning the remaining portion of the site will allow this project to move forward as a true campus feel with the well-designed outdoor spaces, residential, hotel, commercial and industrial uses working cohesively with the adjacent municipal uses to create a genuinely mixed-use environment.

HISTORY

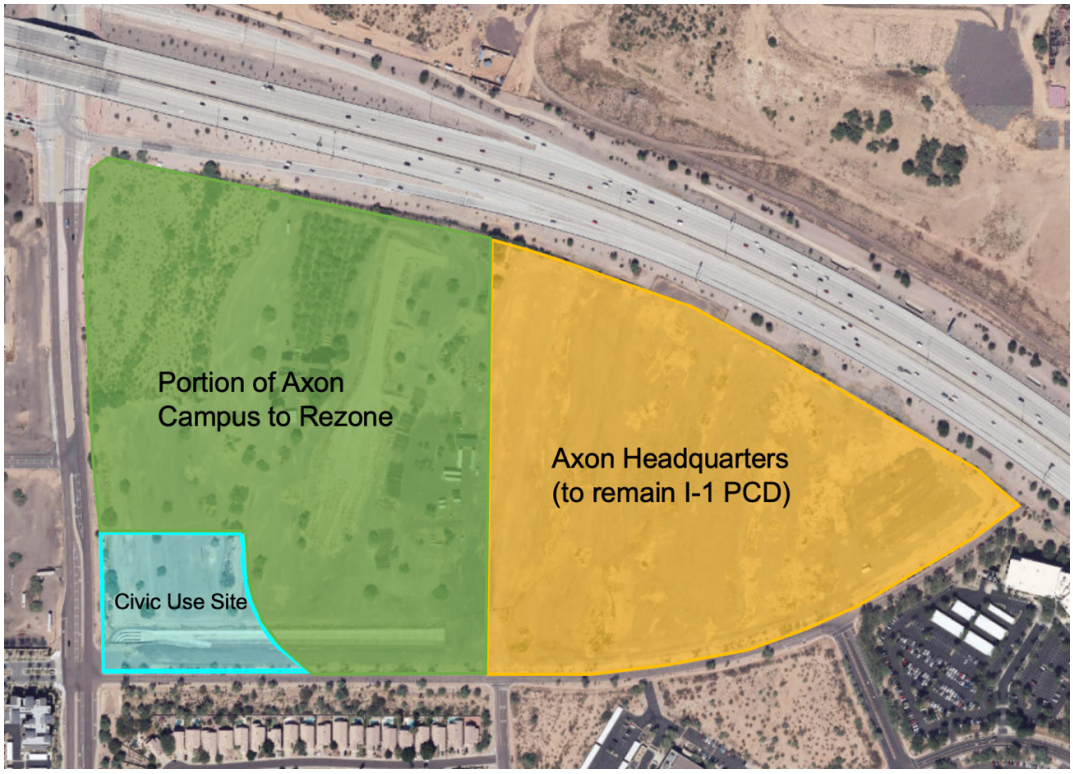
In 2020, Axon requested and received approval to rezone the approximately 74-acre site from PCD (Planned Community) to I-1 (Industrial Park) PCD, an amendment to the Development Standards for I-1 to accommodate an increased building height, and a Development Review (Major) for the proposed building design.

As part of an agreement between the City of Scottsdale, Axon dedicated an approximately 4.5-acre site to the City of Scottsdale (the "Civic Use Site") highlighted in blue below. With the Civic Use Site dedicated to the City of Scottsdale and nearly 10 acres of land utilized for right-of-way improvements totaling nearly 15 acres, the remaining already approved Axon Campus site is approximately 58.9 net acres, as shown highlighted in yellow below:

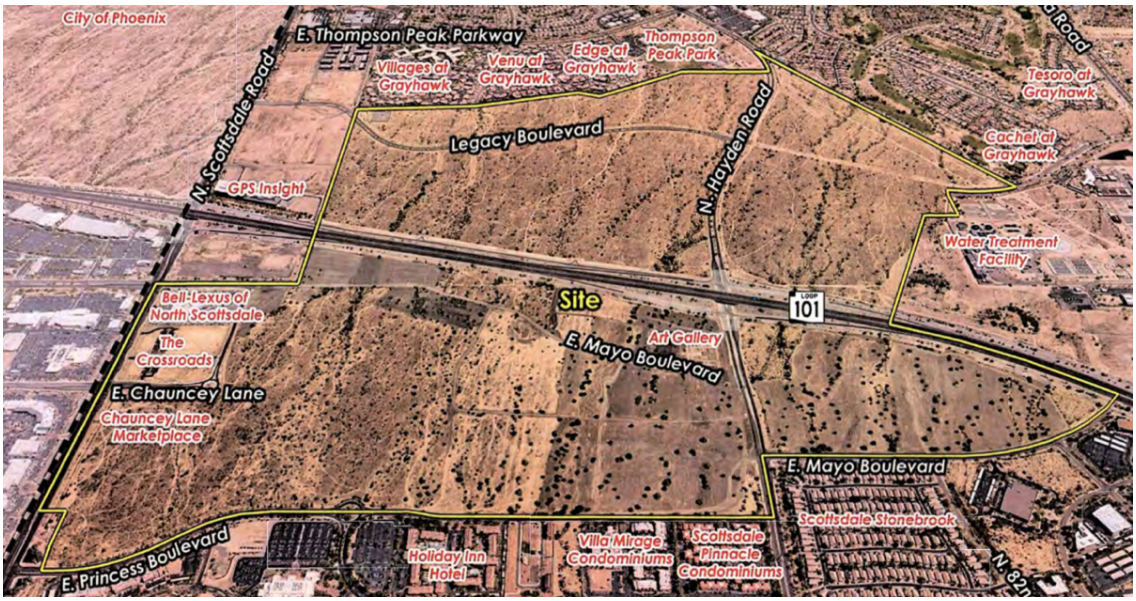


We have been working with the City for several years now to ensure adequate infrastructure in the area including moving Axon Way further away from the neighborhood which will create a much wider buffer from the Axon Campus and the nearby residential than originally planned and allow the Campus to be far more walkable. Large amounts of open space and abundant landscape plantings have been designed into the project to transition from the nearby residential use in addition to a landscape berm which provides an additional physical barrier.

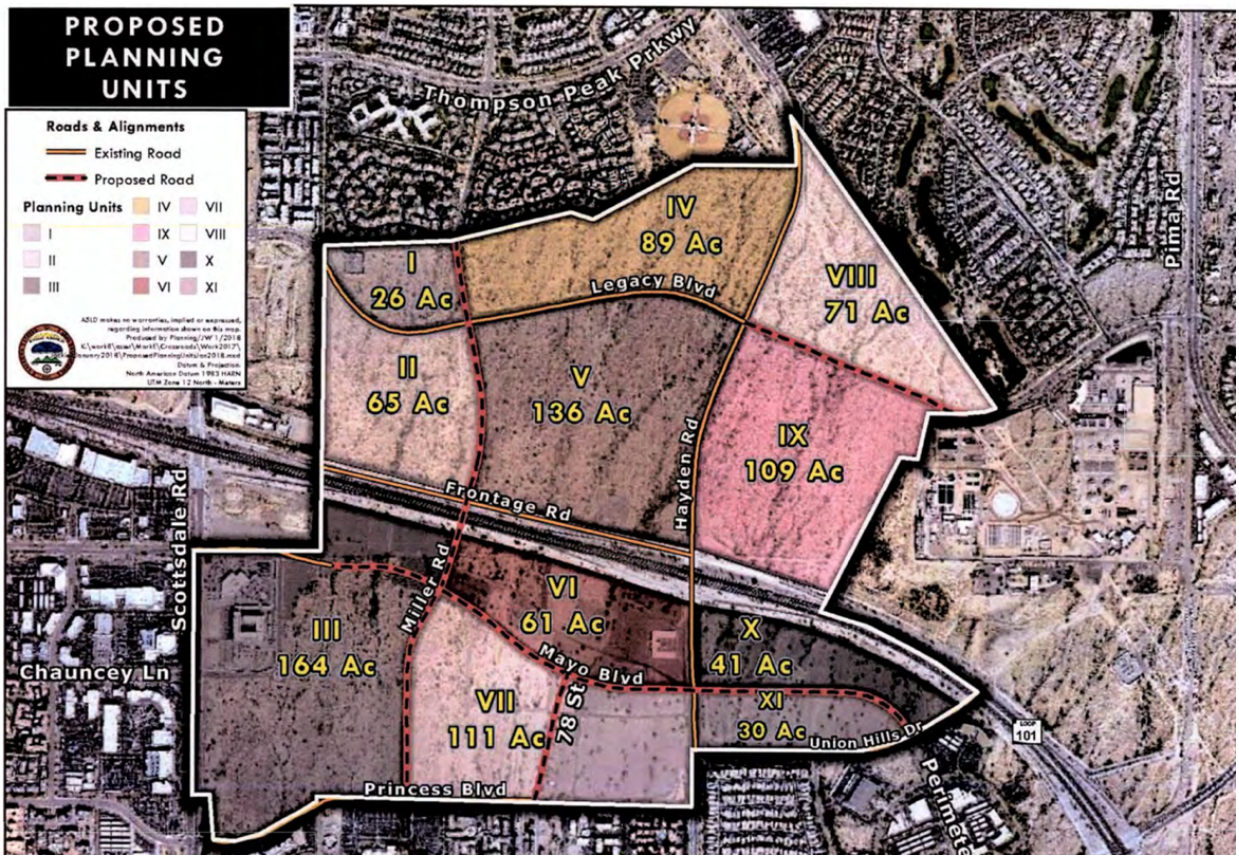
Axon's request to rezone approximately 32 acres of the site to PCP PCD with an amendment to the Greater Airpark Area Plan to AMU-R will create a mixed-use site with an approximately equal amount of industrial and residential land. Below is an image that shows the City of Scottsdale's Civic Use Site (in blue), the Axon headquarters to remain I-1 PCD (in yellow), and the portion of the site that is included in this rezoning request (in green).



The site is located within a larger planning area within the City of Scottsdale known as Crossroads East that has been subject to various Development Agreements, rezonings, and other entitlement cases over many years. The Crossroads East area is depicted below in this City-created image:



Crossroads East is divided into Planning Units, which have been broken up over time. The future Axon Campus is located in Planning Units X and XI as shown in the map below created by rezoning case 19-ZN-2002#6:



All of the land contained within the Crossroads East area was previously rezoned by the City to Planned Community (PCD) with a zoning bank allowance for various zoning categories to be permitted in the Planning Units as well as dictating the amount of land that could utilize each zoning category and placing restrictions on the number of residential units permitted.

Part of our request includes a proposed modification to the Permitted Zoning Districts in Planning Units X and XI as well as a modification to the Land Use Budget to adjust the amount of acreage zoned I-1, PCP and to update the allowed dwelling units. Each of the various requests are detailed below in their respective sections.

The requested rezoning allows the Axon Campus and adjacent municipal fire station and water treatment facility to function in a true mixed-use environment with office, manufacturing, housing, hotels, and commercial on what was once a single vacant parcel.

REZONING NARRATIVE

Axon seeks to rezone a portion of the current I-1 (Industrial Park) PCD to PCP PCD to accommodate the mixed-use Phase II portion of the Axon World Headquarters Campus. In conjunction with this rezoning request, an amendment to the Crossroads East PCD is necessary to update the Zoning Allowances and Land Use Budget.

These modifications allow Axon to proceed with creating a mixed-use campus that blends well with the adjacent municipal fire station and water treatment facility.

Crossroads East PCD

The subject site is located within Planning Units X and XI (created by 19-ZN-2002#6) with the following zoning allowances:

Current Crossroads East Permitted Zoning Districts

Category	Zoning	Permitted Zoning Districts										
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Employment	I-1		●	●	●	●	●	●	●	●	●	●
Employment	C-O	●	●	●	●	●	●	●	●	●	●	●
Mixed Use	PRC & PCP		●	●		●	●	●		●		
Commercial	C-2/C-3		●	●	●	●	●	●	●	●	●	●
Residential	R-5	●	●	●	●	●	●	●	●			

We are proposing to add PRC & PCP (Mixed Use Zoning Districts) to the Permitted Zoning Districts for Planning Units X & XI as shown in the proposed updated chart below:

Proposed Crossroads East Permitted Zoning Districts

Category	Zoning	Permitted Zoning Districts										
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Employment	I-1		●	●	●	●	●	●	●	●	●	●
Employment	C-O	●	●	●	●	●	●	●	●	●	●	●
Mixed Use	PRC & PCP		●	●		●	●	●		●	●	●
Commercial	C-2/C-3		●	●	●	●	●	●	●	●	●	●
Residential	R-5	●	●	●	●	●	●	●	●			

In addition to the Permitted Zoning District modification requested, we are also proposing a modification to various components of the Land Use Budget. The Land Use Budget provides for specific amounts of acreage to be zoned into a number of categories and also assigns a maximum number of dwelling units that is permitted in each zoning category.

The subject site is currently within the 210-acre allotment of I-1 zoning, which does not allow dwelling units, as shown in the chart below:

Current Crossroads East Land Use Budget approved with case 19-ZN-2002#6

Category	Zoning	Gross Acreage by Zoning	Maximum Dwelling Unit per Gross Acre (DU/AC)	Maximum Allowable Dwelling Units
Employment	I-1	210	NP	NP
Employment	C-O	81	NP	NP
Mixed Use	PRC & PCP	407	See Schedule C	4,163
Commercial	C-2/C-3	170	NP	NP
Residential	R-5	132	23	2,806
Total		1,000		6,969

We are proposing to add 44 acres to the PRC & PCP allocation and increase the overall acreage accordingly while also increasing the maximum allowable dwelling units to accommodate the proposed 1,975 additional units for the Axon World Headquarters Campus.

Proposed Crossroads East Land Use Budget

Category	Zoning	Gross Acreage by Zoning	Maximum Dwelling Unit per Gross Acre (DU/AC)	Maximum Allowable Dwelling Units
Employment	I-1	210	NP	NP
Employment	C-O	81	NP	NP
Mixed Use	PRC & PCP	~~407~~**451**	See Schedule C	~~4,163~~**6,138**
Commercial	C-2/C-3	170	NP	NP
Residential	R-5	132	23	2,806
Total		~~1,000~~**1,044**		~~6,969~~**8,944**

Axon will continue to utilize approximately 30 net acres of the I-1 allotment in the Land Use Budget for the rezoning of Planning Units X and XI in Crossroads East. The 44 acres that Axon is proposing to add into the PRC & PCP allotment returns 44 acres of I-1 allotment into the land use bank, which is accounted for utilizing the land use budget.

Findings Required for Crossroads East Planned Community

Modifications to an approved P-C district require an applicant to demonstrate various findings, and Axon's proposed World Headquarters Campus development satisfy these findings as detailed below:

A. *That the development proposed is in substantial harmony with the General Plan, and can be coordinated with existing and planned development of surrounding areas.*

Axon's proposed World Headquarters Campus meets the City's changing needs and the requested modifications help further the goals set forth in the General Plan as well as the City's other vision documents including the Economic Development Five-Year Strategic Plan and Greater Airpark Character Area Plan. Additionally, the development is in harmony with the existing and planned development of the surrounding areas – both within and outside of the Crossroads East Planned Community – by providing high-quality tech jobs and supportive commercial and residential in this rapidly growing part of Scottsdale. Additionally, the housing is a critical component of the job growth. These jobs will not come if we can't provide the housing and amenities to support them.

A detailed analysis of how the proposed development furthers the goals and objectives of the General Plan begins on page 11 of this narrative.

B. *That the streets and thoroughfares proposed are suitable and adequate to serve the proposed uses and the anticipated traffic which will be generated thereby.*

The adjacent streets include Hayden Road and both the existing and proposed alignments of Axon Way (formerly Mayo Boulevard). Phase I of Axon's World Headquarters Campus, which includes the approved office portion, right-of-way dedications and substantial roadway improvements.

The improvements that will occur as part of Phase I will increase the capacity on Hayden Road to the City's desired standards and will include the addition of an additional lane of travel and bicycle lanes. Axon Way will be entirely reconfigured with two lanes of traffic in each direction plus the additional of bicycle lanes and roundabouts. Both roadways include substantial landscape additions, sidewalks that vary form 8' to 10', and a 6' trail/running path that spans the entire campus to create a 1.5-mile track.

The various improvements to the adjacent roadways are adequate to support the proposed uses and traffic for both vehicular and pedestrian needs. A comprehensive TIMA is also included with this resubmittal.

C. *The Planning Commission and City Council shall further find that the facts submitted with the application and presented at the hearing establish beyond reasonable doubt that:*

1. *In the case of proposed residential development, that such development will constitute a residential environment of sustained desirability and stability; that it*

will be in harmony with the character of the surrounding area; and that the sites proposed for public facilities, such as schools, playgrounds and parks, are adequate to serve the anticipated population. The Planning Commission and City Council shall be presented written acknowledgment of this from the appropriate school district, the Scottsdale Parks and Recreation Commission and any other responsible agency.

The proposed Axon World Headquarters Campus is a mixed-use development that includes thoughtfully designed outdoor spaces, office, hotel, and commercial components, and supportive multi-family residential housing. The housing component will be supportive of Axon's World Headquarters and help fulfill the growing need for housing diversity in the Airpark area. A variety of cohesive uses and well-designed connectivity intends to enhance the desirability of the residential development.

The proposed housing component is compatible with the surrounding area which features other multi-family developments with similar densities to that proposed at Axon's World Headquarters Campus. This is an ideal area to provide the critically needed housing within close proximity and easy access to outdoor recreational opportunities like the Scottsdale Sports Complex, nearby McDowell-Mountain Sonoran Preserve, and TPC Scottsdale.

Adding to the desirability of the area for future residents are the quality public schools which have confirmed its schools have the capacity to accommodate the proposed multi-family development.

2. *In the case of proposed industrial or research uses, that such development will be appropriate in area, location and overall planning to the purpose intended; and that the design and development standards are such as to create an industrial environment of sustained desirability and stability.*

   The proposed industrial (Headquarters) component of Axon's World Headquarters Campus was previously approved and is not subject to further approval as part of this request. Therefore, this provision does not apply.

3. *In the case of proposed commercial, educational, cultural, recreational and other nonresidential uses, that such development will be appropriate in area, location and overall planning to the purpose intended; and that such development will be in harmony with the character of the surrounding areas.*

   The proposed Axon World Headquarters Campus is a true mixed-use development with cohesive outdoor spaces, industrial, office space, hotel accommodations, commercial and multi-family homes that are designed

specifically to complement each other. The commercial and hotel facilities are supportive to the multi-family and office/industrial portions of the campus.

The commercial – consisting of a combination of retail and restaurant uses – is located at the ground floor of each of the multi-family developments to provide amenities to future residents. The hotel is located between the multi-family and the Axon Corporate World Headquarters building to support Axon's many out-of-town visitors and to host conferences and other events close to and related to Axon's Headquarters building. The nearby recreational amenities that will likely be attractive to future residents of the multi-family are also amenities that appeal to short term visitors to the area. Much of the surrounding area is multi-family (R-4 and R-5), mixed-use (PCP) and industrial (I-1) zoned, and the proposed Axon World Headquarters Campus is compatible with those uses.

Compliance with Goals and Policies of the General Plan

The proposed Axon Campus expansion is consistent with various goals and policies of the General Plan 2035 set forth below.

Character and Design Element

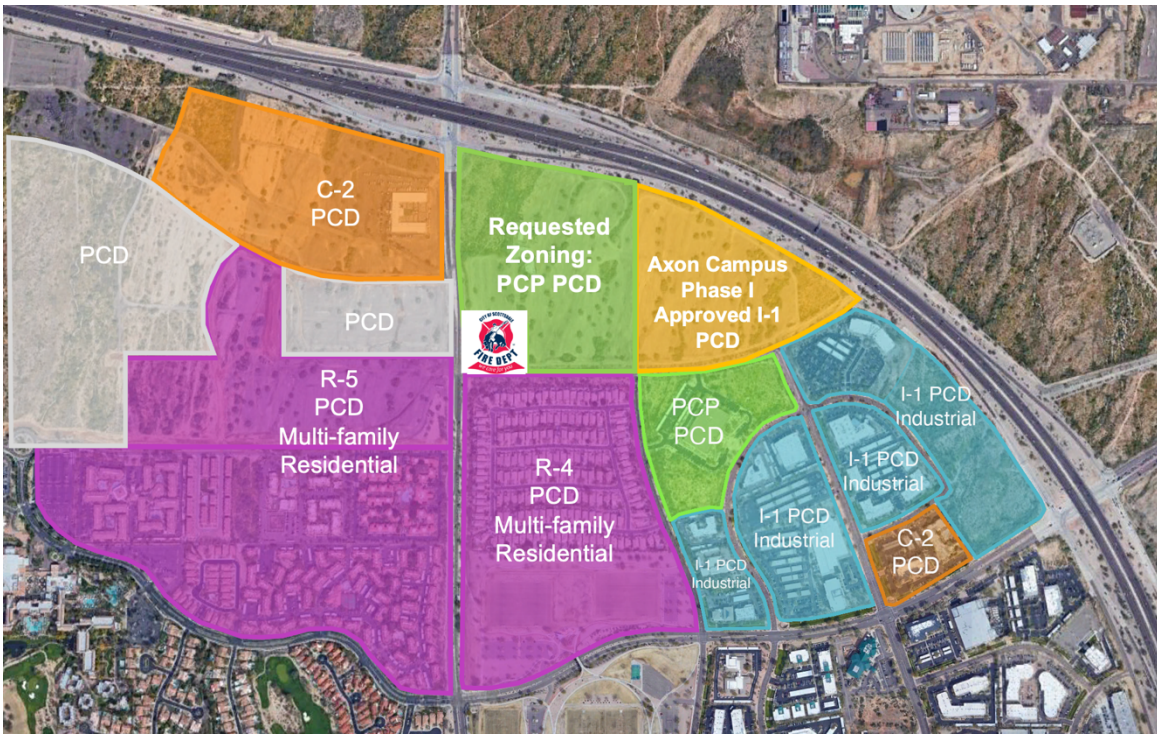
Goal CD1. Determine the appropriateness of all development in terms of community goals, surrounding area character, and context.

CD1.1: New and revitalized developments should respond to the regional, citywide, and neighborhood contexts.

Axon's proposed mixed-use World Headquarters Campus expansion is located on a vacant parcel within the Crossroads East PCD, an area geared at attracting regional headquarters for businesses as well as providing the multi-family homes for new residents to live. The homes are necessary for job growth in the housing crisis.

Axon's Campus Expansion integrates well into the plans for this area including expansion of employment and industrial opportunities adjacent to the Loop 101 freeway. The uses and densities in the surrounding area tend to be more intense due to the regional focus of Crossroads East. The addition of a mixed-use campus component to support the employment component is critical and consistent with much of the surrounding development that is a combination of high-density multi-family, commercial, Planned Airpark Core (mixed-use) and industrial.

The map below demonstrates the zoning categories of the surrounding land:



The site is located within the Greater Airpark Character Area, which is designated as a growth area in the 2035 General Plan. The intent is to grow the City's crucial employment base and ensure attractive development happens in the area. Part of growing employment cores includes a mixed-use campus environment like those found on the north side of the Loop 101. The addition of the City's fire station and water treatment facility further contribute to the variety of uses present at this location.

CD 1.2: Consider the effects of building height, overall development density, and building orientation on adjacent neighborhood character, privacy, and viewsheds.

This area is bounded on two sides by the curve of the Loop 101 freeway, with the other portions of the site oriented towards a Major Arterial – Urban Street (Hayden Road) and a Major Collector – Urban Street (Axon Way, formerly Mayo Boulevard).

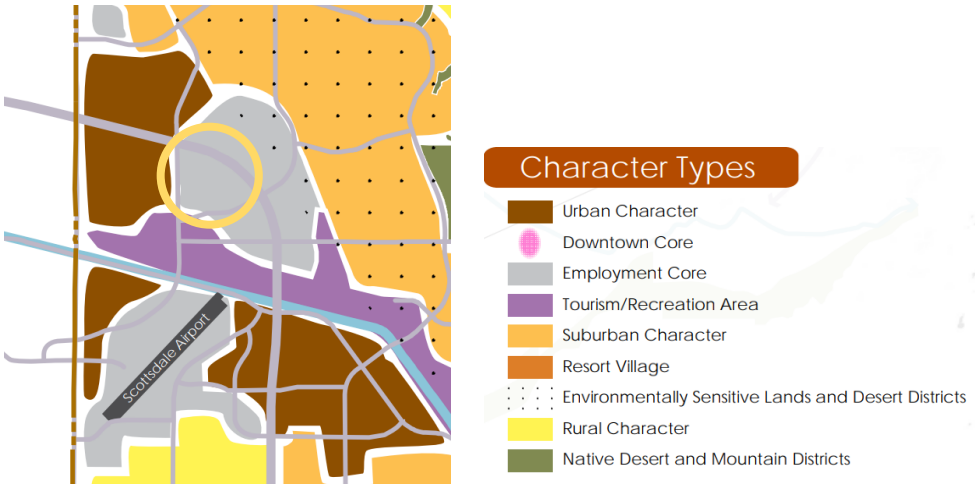
The parcel has been planned as an employment center of larger scale with associated intensity in relationship to its proximity to the Scottsdale Airpark and freeway. Accordingly, Axon designed and was approved for an appropriately scaled industrial building with a unique design that is oriented closer to the Loop 101. The remaining portion of the site that is the subject of this request will create an attractive and compatible development by building a site with an open campus feel.

The proposed mixed-use development consists of a residential density consistent with the adjacent developments on the west side of Hayden Road. All of the Phase II

buildings are 5-stories or less with underground parking. There are three 5-story buildings, one 4-story building and one 3-story building. The new buildings are proposed to be consistent with the approved height for the Axon building that will occupy the eastern portion of the site.

CD 1.3: Ensure that all development is part of and contributes to established Character Types.

As depicted in the image below from the 2035 General Plan, Axon is located within the Employment Core Character Type and much of the surrounding land is Urban Character.



Employment Core areas are planned as "primary employment centers for the city" and are "predominately concentrated in the Greater Airpark Character Area, a mixed-use employment core with primary freeway access, as well as around other major employment campuses . . ." and "support a wide range of activities, such as aviation, light-industrial, and regional- and community-level employment uses. These areas consist of multi-functional buildings with an emphasis on technology and corporate character."

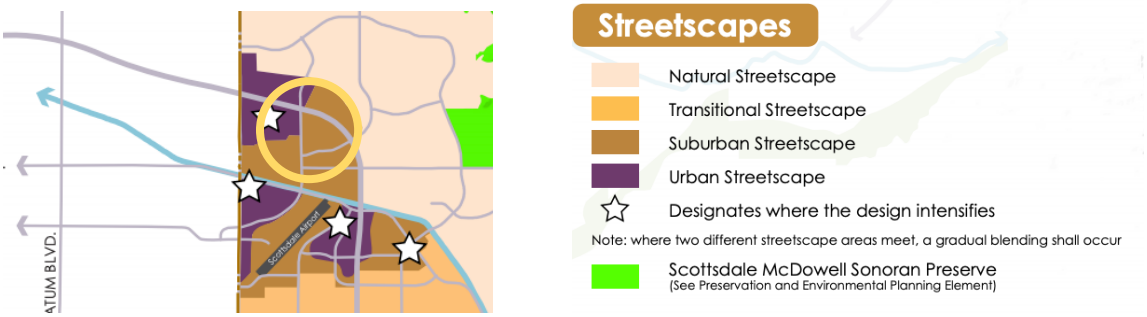
Consistent with the vision the City has for this area, Axon is proposing an expansion of its facilities into a true corporate campus including the approved world-class employment center and requested mixed-use component. Its location off of the Hayden Road exit for the Loop 101 freeway creates a regional presence with easy access throughout the Valley that will be home to highly sought-after technology jobs.

Attracting quality candidates for employment includes providing conveniently located housing and commercial amenities like restaurants and retail. By adding the additional uses to the already approved light industrial component, Axon will be contributing to the Employment Core Character Type by supporting a wide range of

activities with multi-functional buildings that support the headquarters and its emphasis on technology. Axon's goal to create an open campus that supports different types of uses and allows for a cohesive environment of outdoor spaces, office, retail, residential, and hotel in addition to the municipal development consisting of a fire station and water treatment facility on the southwest corner.

Goal CD 4. Enhance the design of streets and public spaces to improve Scottsdale's visual quality, experience, Sonoran Desert context, and social life.

CD 4.1: Promote contextually compatible streetscapes that correspond with the following classifications: Suburban Streetscapes strive to achieve compatibility and safety between automobile traffic, neighborhood amenities (schools and parks), pedestrians, bicyclists, and recreational activities through the use of landscape areas, consideration of sidewalk alignment, and incorporation of a broad tree canopy.



The streetscapes have been designed consistent with the guidelines for Suburban Streetscapes including large landscape buffers and berms, roundabouts to control speed and make the streets safer for pedestrians and cyclists, as well as native landscaping. The approved and proposed landscape palettes feature Palo Brea, Blue Palo Verde, Mesquite, Pistache, Desert Willow, Date Palm and Ironwood trees as well as native groundcover including – but not limited to – creosote, jojoba, various species of agave, desert milkweed, ocotillo and various species of yucca. The site includes bike lanes and a running path, all through the Sonoran landscape.

A landscape berm is proposed to buffer the streets from the adjacent residential as depicted below:

Goal CD 5. Promote the value and visual significance landscaping has on the character of the community.

CD 5.1: Employ appropriate heat island reduction techniques to reduce the effects of reflective heat and glare on buildings and paved surfaces.

The proposed Axon Campus Expansion mixed-use component proposes almost all of the parking to be located in garages to reduce the impact of the heat island effect.

Land Use Element

Goal LU 1. Enhance Scottsdale's economic viability by encouraging land uses that reinforce the city's reputation as the premier international tourist destination in the Southwest and sustain the city's role as a regional cultural center and economic hub. Land uses should be compatible with Scottsdale's character and physical appearance.

LU1.1: Encourage land uses that preserve a high quality of life and further define Scottsdale's sense of place within the region.

Axon's campus expansion will further the City's goal to increase its economic base beyond tourism and recreation. The approved Axon Campus office brings high quality technology jobs including those in programing engineering, and research and development which significantly contribute to the City's desire for economic diversity. The proposed Campus Expansion supports the Axon office and industrial building with the addition of outdoor amenities, retail, residential, and hotel uses on the same site. Additional residential development is necessary for the desired job growth.

The Axon Campus Expansion is located with the Greater Airpark Character Area, which seeks to attract and retain desirable regional corporate headquarters within this part of the City of Scottsdale. Keeping Axon in Scottsdale and providing an open campus environment further cements this area's growing reputation as a corporate hub with regional economic significance.

Goal LU 2: Sensitively transition and integrate land uses with the surrounding natural and built environments.

LU 2.3: Locate employment and major non-residential uses along major transportation networks to limit impacts on residential areas and provide citywide and regional access.

The subject site is located along the contours of the Loop 101 freeway with easy access from the Hayden Road exit. This configuration is purposeful and allows for mitigation of the impact of traffic on adjacent residential areas.

Goal LU 3: Maintain a balance of land uses to support a high quality of life.

LU3.1: Allow for the diversity and innovative development patterns of residential uses and supporting services to provide for the needs of the community.

The proposed Axon Campus Expansion proposes a diverse pattern of development by incorporating residential uses along with outdoor space, retail, hotel, and office/industrial uses as well as the adjacent municipal uses with a fire station and water treatment facility. This diversity of land use serves the needs of the community in several ways. The retail components of the site will be able to provide supporting services for not just residents of the multi-family on site but for the surrounding residential. And the multi-family itself is supportive of the Axon Headquarters Campus building that will serve as the anchor to the Campus Expansion. Contributing to the diversity of land use is the adjacent municipal site consisting of a fire station and water treatment facility.

LU 3.2: Integrate housing, employment, and supporting infrastructure, primarily in mixed-use neighborhoods and Growth and Activity Areas, to support a jobs/housing balance.

Axon is proposing an open mixed-use campus that includes a residential component to support the approved office/industrial phase. The residential buildings provide a crucial piece of the overall Campus Expansion that promotes a balance between jobs and housing. Because the Greater Airpark Character Area emphasizes employment in this area, nearby housing is needed to provide an increased harmony between these important needs. Simply put, the desired jobs can't happen without the housing.

LU 3.3: Maintain a citywide balance of land uses, and consider modifications to the land use mix to accommodate changes in community vision, demographic needs, and economic sustainability.

Crossroads East demonstrates a clear change in community vision for this part of Scottsdale, which is rapidly growing and attracting highly sought after major employers and luxury multi-family. Consistent with the Policy LU 3.2, the balance between attracting employers and providing housing for their workforce furthers the City's overall goal for this area as a regional hub.

Axon's proposed Campus Expansion furthers this goal and is requesting a modification to several land use classifications to respond to this changing demand.

Goal LU 6: Attract and retain diverse employment, business, and retail land uses to improve the economic well-being of Scottsdale's residents.

LU 6.1: Promote opportunities for the expansion and revitalization of employment and commercial uses within the city.

Axon is a homegrown success story with existing offices and manufacturing just across Axon Way from the proposed Campus Expansion. While a larger office and manufacturing facility are approved on the easternmost portion of the site, the current proposal is to develop the remaining +/- 32 acres to serve as a campus for the business operations expansion.

The Axon Campus Expansion proposal allows this locally-based global company to continue to grow within the City of Scottsdale.

Conservation Element

Goal CONSV 2: Protect and manage Sonoran Desert biodiversity and native ecosystems.

CONSV 2.2: Encourage landscaping that limits the amount of grass and makes optimal use of native desert plants.

Axon is proposing a varied palette of native plantings which were discussed in detail above. However, in addition to those plantings, the Axon Campus Expansion will utilize several iconic Sonoran Desert plant species – some of which are protected by statute due to their importance to the Sonoran Desert – including Saguaro cactus and Golden Barrel cactus. Other native plants include cholla, prickly pear and desert spoon.

Community Involvement Element

Goal CI 1: Seek early and ongoing community involvement through broad public input in project and policy-making discussions.

CI 1.1: Maximize opportunities for early notification of proposed projects using a variety of methods.

Axon began early outreach with various stakeholders in the community that included phone calls and meetings. This outreach has continued, and we have spoken with several nearby property owners and/or their representatives to notify them of Axon's plans prior to formal notification of the Open House.

In addition to this early outreach, we hosted a Neighborhood Open House for property owners and interested parties the opportunity to provide feedback on the draft plans.

CI 1.2: Use public involvement plans to identify and engage interested parties, and provide opportunities for information exchange.

When notifying for the Neighborhood Open House, we included an expanded notification area and notified neighbors within 1,250'. In addition to the neighbors, we also notified all interested parties in the list provided by the City. As detailed above, we also engaged in early outreach with interested parties from the Axon Campus original case in 2020.

Housing Element

Goal H1: Support diverse, safe, resource-efficient, and high-quality housing options.

H1.3: Ensure community dialogue during zoning and the development review processes to encourage context-appropriate development designs.

We hosted an early Neighborhood Open House on June 21, 2023, to provide surrounding property owners and interested parties the opportunity to provide feedback on the draft site plan, listen to concerns and feedback, and answer questions they had. As a result, some portions of the project have been modified prior to formal submittal to address those comments.

H1.4: Support the creation of mixed-use projects, primarily in Growth and Activity Areas, to increase housing supply within walking distance of employment, transportation options, and services.

This proposal is for a mixed-use project within the Greater Airpark Growth Area that provides multi-family residential housing within walking distance to various employment opportunities – mainly, the Axon World Headquarters Campus. In addition to housing and employment, this project will provide retail opportunities for the residents that live on site, as well as the residents that live in the surrounding area.

H1.5: Encourage a variety of housing densities in context-appropriate locations throughout Scottsdale to accommodate projected population growth.

Much of the surrounding residential density is zoned for multi-family and is in densities similar to the proposed Axon Campus Expansion residential portion. In several instances, the surrounding residential density is nearly double what is proposed at the Axon Campus. Scottsdale is continuing to grow and with the current

housing shortage, this site provides a context-appropriate location for a denser mixed-use development.

Goal H4: Abide by regulations that prevent housing discrimination practices towards any person, as required by local, State, and Federal laws.

H4.1: Comply with local, State, and Federal laws prohibiting discrimination in housing and support fair and equal access to housing regardless of race, color, sex, creed, familial status, economic level, or ability.

Axon is an equal opportunity employer and values diversity at their company. Axon does not discriminate on the basis of race, religion, color, national origin, gender, sexual orientation, age, marital status, veteran status, or disability status.

Axon is looking forward to providing individuals the same level of equal opportunity to the future residents of this site. All housing within the Axon Campus Expansion will comply with all local, State, and Federal laws to prohibit discrimination in housing.

Circulation Element

Goal C1: Design and improve transportation corridors to safely and efficiently move people and goods.

C1.3: Reduce conflict points between various modes of travel, for example, where the paths of vehicles and bicycles, pedestrians, or equestrians, cross, diverge, or merge.

As shown in the Pedestrian Circulation Plan and Vehicular Circulation Plan, Axon will be providing sidewalks that will assist pedestrians in getting around the site with reduced conflict with vehicles and bicycles. This includes detached sidewalks to buffer residents from the street, bike lanes and a multi-use running trail as well as roundabouts to reduce vehicular speeds at intersections.

Goal C2: Reduce the number, length, and frequency of automobile trips to improve air quality, reduce traffic congestion, and enhance quality of life and the environment.

C2.1: Encourage a mix of land uses that will reduce the distance and frequency of automobile trips and support mobility choices.

Axon is proposing a mixed-use development that will complement the approved Axon Campus office. The purpose of the Campus Expansion is to provide an environment that promotes walkability and reduces reliance on the automobile for Axon employees. Having employees live and work on the same campus will significantly reduce daily trips in the area.

Growth Area Element

Goal GA1: Direct growth in areas of the city that can support a concentration of development density and intensity, as well as a broad mix of uses.

GA1.5: Identify Growth and Activity Area "edges," and incorporate context-appropriate transitions between these "edges" and adjacent neighborhoods to maximize the impacts of higher-intensity development.

The proposed Axon Campus Expansion is located within the Greater Airpark Growth Area. According to the General Plan, in the Greater Airpark Growth Area, "[b]uilding heights generally range between three and six stories and may exceed six stories in certain areas identified in the Greater Airpark Character Area Plan."

The Axon Campus Expansion is proposed to be in this height range with buildings proposed at three, four and five stories.

Goal GA5: Recognize and build on the character and diversity of Scottsdale's various Growth and Activity Areas.

GA5.4: Promote new development, revitalization, and redevelopment within Growth and Activity Areas that maintains fiscal sustainability, promotes long-term economic development goals, and enhances quality of life.

Axon is a leader in technology and innovation with its existing global headquarters located in Scottsdale. Providing Axon the opportunity to expand and increase its operations in Scottsdale with this Campus Expansion promotes long-term economic growth within the City and the addition of housing brings new Scottsdale residents to an area experiencing significant growth.

Economic Vitality Element

Goal EV 1: Foster Scottsdale's resiliency to economic change through support of our core industries (e.g., tourism, healthcare, bio/life sciences, advanced business services), assets, regional competitiveness, and economic diversity.

EV1.3: Diversify Scottsdale's businesses, focusing on industries that add value to the existing economic environment.

Axon (formerly Taser International), has been based in Scottsdale for many years and provides diversity of employment in the desirable technology sector. Providing Axon the opportunity to grow its operations in Scottsdale through approval of the Campus

Expansion furthers the goal of supporting a diverse economic environment within the City.

Goal EV3: Sensitively manage land uses to provide and enhance economic development, fiscal health and job growth, while simultaneously protecting the integrity and lifestyle of neighborhoods.

EV3.5: Ensure neighborhoods are adequately protected from major development through design sensitivity, buffering, and traffic management.

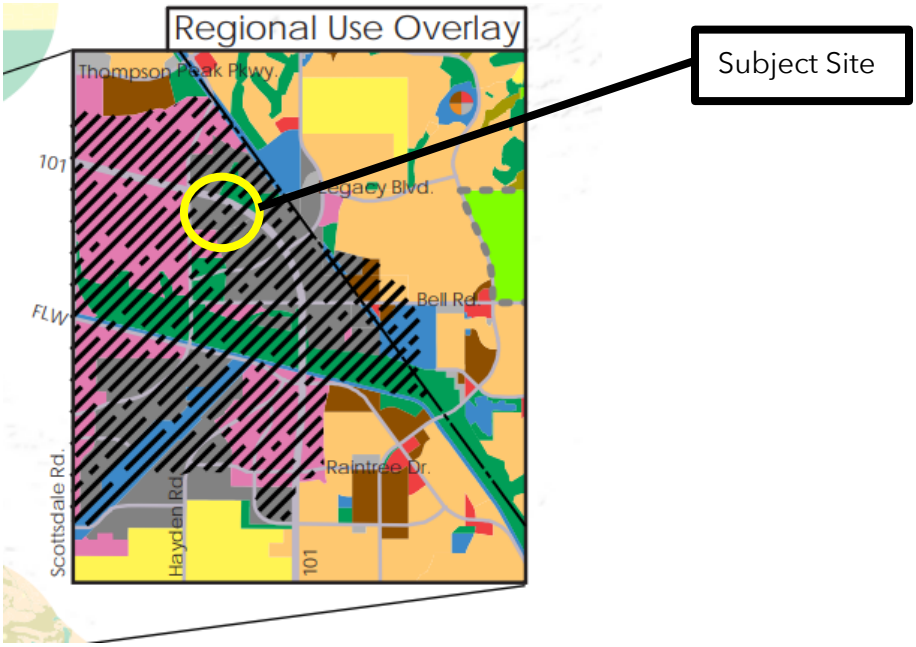
Axon's proposed Campus Expansion provides a number of buffers to reduce the impact of the Campus Expansion on the nearby residential. These include the realignment of Axon Way away from the neighborhood as well as a generous landscape buffer and berm to separate vehicles from the pedestrian circulation.

GENERAL PLAN AND GREATER AIRPARK CHARACTER AREA PLAN AMENDMENT NARRATIVE

General Plan Minor Amendment Justification

This request is to amend an area that consists of approximately 32 acres from Employment to Mixed-Use Neighborhoods, which would normally be considered a Major General Plan Amendment. However, we seek to be processed as a Minor General Plan Amendment due to the Axon Campus's employment significance through application of the Regional Use Overlay under the Exceptions to the General Plan Amendment Criteria set forth in Criterion #8 (*See page 58 of the General Plan 2035*).

The Axon Campus is located within the Regional Use Overlay area of the General Plan Future Land Use Map as shown below:



The exception set forth in Section 8 Exceptions to the General Plan Amendment Criteria:

> "Certain exceptions to the General Plan Amendment Criteria are considered in the best interest of the general public and in keeping with the vision, values, and goals of the community. The following exceptions to the General Plan Amendment Criteria will apply . . . Regional uses [see Regional Use Overlay Category description] within the Regional Use Overlay area on the General Plan Future Land Use Map are determined as already planned land uses for that area and will be processed as a minor amendment."

The Axon Campus is located within a Regional Use Overlay area, which:

> ". . . provides flexibility for land uses when it can be shown that new land uses are viable in serving a regional market. Regional uses include, but are not

limited to, corporate office, region-serving retail, major medical, educational campus, community service facilities, tourism, and destination attractions. In determining whether proposed land uses are regional in nature, the city will consider whether the use has a regional draw, fulfills current economic development policies, enhances the employment core and the city's attractiveness to regional markets, benefits from good freeway access, and complements the established character for the area."

Axon is currently one of the City of Scottsdale's 10 largest employers but has long-since outgrown its existing Scottsdale-based building. As a result, Axon has had to temporarily move various components of its operations and employment outside of the City of Scottsdale into other jurisdictions. Axon fits into the Regional Use definition as a corporate campus – part corporate office, part campus environment. This allows supporting uses – like the hotel to host conventions at or residential for its employees – to be located in an environment that helps establish this area as a World Headquarters facility for Axon instead of a new manufacturing building.

In addition to meeting the minor criteria under the Regional Use category, the chart below demonstrates that modification to the Land Use category from Employment to Mixed-Use Neighborhoods is also to be treated as a minor amendment:

CHANGE IN LAND USE CATEGORY

From Category:		To Category: A: Natural Open Space	B: Developed Open Space	C: Rural Neighborhoods	D: Suburban Neighborhoods / Cultural/Institutional or Public Use	E: Urban Neighborhoods	F: Resorts/Tourism	G: Commercial / Employment / Mixed-Use Neighborhoods
A	Natural Open Space	-	**Major**	**Major**	**Major**	**Major**	**Major**	**Major**
B	Developed Open Space	Minor	-	**Major**	**Major**	**Major**	**Major**	**Major**
C	Rural Neighborhoods	Minor	**Major**	-	**Major**	**Major**	**Major**	**Major**
D	Suburban Neighborhoods Cultural/Institutional or Public Use	Minor	Minor	Minor	Minor	**Major**	**Major**	**Major**
E	Urban Neighborhoods	**Major**	Minor	**Major**	Minor	-	Minor	**Major**
F	Resorts/Tourism	**Major**	Minor	**Major**	Minor	**Major**	-	**Major**
G	Commercial Employment Mixed-Use Neighborhoods	**Major**	**Major**	**Major**	**Major**	Minor	Minor	Minor

The Axon Campus consists of Axon's new World Headquarters with supportive retail, multi-family and hotel uses. In considering whether to apply the Regional Use Overlay, it is important to note that the site is located along Hayden Road directly adjacent to the Loop 101 Freeway. Furthermore, the economic development significance cannot be overstated – by allowing Axon to expand its current nearby facility, which it has long since outgrown, Scottsdale is able to bring Axon's World Headquarters Campus to the City and consolidate functions and uses from other locations outside of Scottsdale.

The new World Headquarters will allow Axon to consolidate its various Valley-wide facilities into the Scottsdale location and Axon will be able to grow its employment base in the City. Employees are increasingly seeking housing and commercial opportunities near their places of employment, and Axon's desire to create an open campus makes it a more attractive employer to bring in specialized talent from all over the country.

Allowing Axon to expand and operate its Corporate World Headquarters in Scottsdale furthers many of the City's goals in the Economic Development Five-Year Strategic Plan. Axon provides 2 of the 6 target industry goals related to technology and software/IT – both hardware devices (such as the TASER, body worn cameras, etc.) and software solutions (such as Axon Evidence). Scottsdale's goal of growing existing industries is served by providing an environment where Axon can continue to grow within the City. A detailed analysis of the proposed World Headquarters Campus and how it helps the City implement the Economic Development Five-Year Strategic Plan begins on page 31 of this narrative.

General Plan 2035 Discussion

Axon is proposing to amend the Land Use designation for a portion of the proposed World Headquarters Campus from Light Industrial/Office to Mixed-Use Neighborhoods. Mixed-Use Neighborhoods are defined as having a " . . . focus on human-scale development and are located in areas with strong access to multiple modes of transportation and major regional services. These areas accommodate higher-density housing combined with complementary office or retail uses. . . "

The subject site is located along Hayden Road at the Loop 101, providing for excellent freeway access and major regional services. Additionally, Axon plans to provide enhanced roadways on Hayden Road and Axon Way (formerly Mayo Boulevard) that include additional lanes of travel and dedicated bicycle lanes.

Axon's proposal includes multi-family residential at a density of just under 44 dwelling units per acre consistent with the surrounding residential developments that average approximately 50 dwelling units per acre. The multi-family residential and hotel uses are supportive of the anchor headquarters building with light manufacturing and office space, and the multi-family buildings have supportive commercial space consisting of retail and

restaurant uses. Considered together, the various uses act as a mixed-use neighborhood consistent with the proposed amendment to the General Plan Land Use designation.

Greater Airpark Character Area Plan

The Axon Campus Expansion is located within the Employment Land Use in the Greater Airpark Character Area Plan. While the portion of the Campus that was approved for the office/industrial building in 2020 will remain Employment, the Campus Expansion requires an amendment to the Greater Airpark Character Area Plan Land Use from Employment to Airpark Mixed Use – Residential to accommodate the mix of multi-family residential, commercial and hotel proposed.

The Greater Airpark Character Area Plan defines AMU-R as " . . . areas are appropriate for the greatest variety of land uses in the Greater Airpark. Appropriate uses may include a combination of personal and business services, employment, office, institutional, cultural amenities, retail, hotel, and higher density residential. Developments in AMU-R areas should be pedestrian-oriented, have access to multiple modes of transportation, and should be located outside of the Airport's 55 DNL contour." Axon's proposed World Headquarters Campus has been thoughtfully designed to incorporate a variety of compatible uses that include the corporate office and industrial space (approved in 2020) as well as a hotel, multi-family residential, and ground floor commercial space within the multi-family residential buildings.

Axon's proposed World Headquarters Campus is designed with pedestrian connectivity throughout with enhanced open spaces between the hotel and office/industrial portions as well as a multi-use trail that spans the perimeter of the property. As part of its development plans, Axon will reconfigure Axon Way (formerly Mayo Boulevard) and Hayden Road to include additional lanes of traffic and dedicated bicycle lanes to facilitate efficient circulation of transportation in the area. The multi-family residential portions of the site are not located within the Airport's 55 DNL contour.

Additionally, the proposed Axon World Headquarters Campus is located along a Signature Corridor (Hayden Road). Signature Corridors are defined as: " . . . areas with the greatest potential for activity, new development, revitalization, and enhanced multi-modal connections. In employment and aviation areas, this designation provides flexibility for support uses, such as shops, restaurants, and fitness centers. In regional tourism and mixed-use areas, it seeks to encourage active uses, such as restaurants, entertainment, and retail, on the ground floor and/or closer to the street or pedestrian ways." Because the approved portion of the World Headquarters Campus consisting of the office/industrial building will remain as an Employment designation while the supportive multi-family, hotel and commercial are proposed as Mixed-Use, both portions are discussed below.

Land Use

Goal LU1: Maintain and expand the Greater Airpark's role as a national and international economic destination through appropriate land uses, development, and revitalization.

Policy LU 1.1: Maintain and expand the diversity of land uses in the Greater Airpark.

When Axon purchased the subject site from ASLD in 2020, the entire 70+ acre parcel was required to be rezoned to I-1 PCD consistent with the Employment designation in the Greater Airpark Character Area Plan. Since that time, the first phase of the Axon Campus consisting of the office/manufacturing building was approved, Axon dedicated a Civic Use Site and significant Right-of-Way, leaving approximately 32 acres remaining. In keeping with Axon's employment growth goals, we seek this Campus expansion to accommodate supporting uses such as commercial, residential, and hotel. In addition to the Axon Campus, the southwest corner of the original parcel will consist of municipal uses including a fire station and water treatment facility.

These supporting uses are necessary for the success of Axon's Campus and to promote the City's goal for employment in this area. However, although these uses support the Employment Land Use Designation, they require an amendment to the Greater Airpark Character Area Plan Land Use Designation.

Policy LU 1.2: Support a mix of uses within the Greater Airpark that promote a sense of community and economic efficiency, such as clustering similar/supportive uses and incorporating residential intended for the area's workforce, where appropriate.

Axon's proposed Campus seeks to balance the City's desire for additional economic growth in this area with the need for additional housing and supportive commercial. The residential component of this proposal intends, first and foremost, to serve Axon's employees, while the hotel provides opportunities for Axon to host events and visitors in close proximately to its office and manufacturing facility.

Policy LU1.4: Encourage the redevelopment of underutilized land to more productive uses.

This site is a prominent vacant piece of land in a critical growth area. Axon plans to develop this parcel into its Campus with a variety of uses that will put this land to a more productive use, including the public benefits associated with the new fire station and water treatment facility.

Policy LU1.5: Maintain and continue to foster dialogue between the City of Scottsdale and Arizona State Land Department to facilitate innovative use and development of State-owned land.

The Axon site is part of the Crossroads East PCD, which originally consisted of approximately 1,000 acres of ASLD owned land. Over time portions of Crossroads East have been purchased by private property owners, including the subject Axon Campus Expansion parcel. We continue to have conversations with the City and ASLD regarding the Axon Campus Expansion.

Goal LU4: Utilize development types to guide the physical and built form of the Greater Airpark

Policy LU 4.3: Encourage higher-scale Type C development in areas with access to major transportation corridors and where lower-scale residential areas will be buffered from higher-scale development.

A majority of the Axon site falls within the Type C development designation and accordingly, both the approved office and proposed Expansion place higher intensity development in these areas adjacent to the Loop 101 and along Hayden Road. A small portion of the site is within the Type A development type. The Type A portion of the site will feature shorter buildings that buffer the neighborhood from the higher scale of the Type C portion of the site.

Goal LU5: Encourage Greater Airpark development flexibility.

Policy LU 5.1: Update and provide greater flexibility in development regulations to achieve the goals of the Greater Airpark Character Area Plan and encourage revitalization in the area.

Axon is requesting a number of development regulation modifications to allow the proposed Campus Expansion in furtherance of the City's goal for growth in this area, This flexibility achieves various City goals including economic development and appropriate residential expansion near employment hubs and allows Axon the opportunity to remain in Scottsdale as it continues to grow.

Policy LU 5.5: Promote flexibility of land uses when it can be demonstrated that new land uses are viable in serving a regional market, such as corporate headquarters, tourism, and educational campuses.

Axon's Campus Expansion proposes a variety of land uses, including the approved office. The proposed land uses aim to promote flexibility on this site by providing a variety of uses that support the office building and create more of a campus environment.

Goal LU7: Develop an interconnected network of Signature Corridors (See Land Use

Plan Map, pg 11) to support the Greater Airpark as a place for meeting, creating, shopping, learning, as well as working.

Policy LU 7.1: Encourage growth along corridors with the greatest potential for activity, new development, revitalization, tourist attractions, and enhanced multi-modal connections.

Axon's proposed World Headquarters Campus is located along Hayden Road at the Loop 101. The site is located in close proximity to TPC Scottsdale, which attracts hundreds of thousands of visitors each year; however, the site itself is a vacant area with great potential to enhance the surrounding amenities. Axon is proposing to relocate and reconfigure Axon Way (formerly Mayo Boulevard but approved to the currently shown configuration) to include additional lanes of traffic and dedicated bicycle lanes as well as enhancements to Hayden Road that include an additional lane of travel and dedicated bicycle lanes.

Hayden Road can accommodate the proposed growth and was envisioned for many years by the City and ASLD to be an area of significant expansion. Additionally, the Greater Airpark Character Area Plan envisions this specific site as an area of Higher Intensity development (Type C).

Axon's proposed World Headquarters Campus helps further LU Goal 7 through this policy by locating growth along an area that has tourist attractions, is undergoing and planned for continued development, and includes a plan for enhanced multi-modal connections.

Policy LU 7.2: Promote a greater mix of uses along identified Signature Corridors, which complement and are compatible with each respective land use designation.

Much of the development along Hayden Road, a Signature Corridor in this area, consists of purely residential development. The proposed Axon World Headquarters Campus includes multi-family homes complete with ground floor commercial, a hotel and will operate as a gateway to Axon's headquarters office. These uses are compatible to the surrounding uses and consistent with the proposed land use designation of Mixed-Use Neighborhoods and Airpark Mixed Use-Residential.

Policy LU 7.3: Encourage and incentivize revitalization along Signature Corridors, particularly south of the Central Arizona Project Aqueduct.

The proposed Axon World Headquarters Campus is located on a currently vacant site within the Crossroads East Planned Community, a large area along the north and south sides of the Loop 101 between Scottsdale and Pima/Princess that has long been

slated for significant growth. The subject site is located along Hayden Road, a Signature Corridor, that is experiencing a variety of new development along the west side of the street. Axon's World Headquarters Campus proposes to complete the Hayden Road Signature Corridor on the east side of the street to Loop 101.

Axon is requesting this rezoning, minor General Plan amendment, Greater Airpark Character Area Plan amendment and amended development standards and seeks the City's approval in order to incentivize the proposed revitalization.

Neighborhoods and Housing

Goal NH2: Create complete neighborhoods within the Greater Airpark, through the development of urban dwelling types and mixed- use developments, while being respectful of the Greater Airpark as an aviation-based employment center.

Policy NH 2.2: Encourage a variety of urban dwelling types and mixed-use development in areas designated Airpark Mixed Use-Residential in the Greater Airpark Character Area Future Land Use Plan that are compatible with and support the aviation and employment uses of the Greater Airpark.

Axon is requesting to modify its Land Use Designation from Employment to Airpark Mixed Use-Residential in order to offer a mixed-use campus with a residential component. The Airpark Mixed-Use Residential designation is appropriate on this site as it supports the approved office/manufacturing building.

Economic Vitality

Goal EV3: Preserve and enhance tourism and visitor experiences of the Greater Airpark.

Policy EV 3.2: Encourage complementary uses, such as specialty retail and hotels, to locate in the Greater Airpark in order to support tourist attractions.

Axon's Campus Expansion includes a hotel component within the mixed-use portion of the site. Part of Axon's growth plans is to host conferences and training events for its customers within close proximity to the approved office building. While Axon does not plan to host events year-round, there are many high-profile events that occur close to the site that are well served by the addition of more hotel rooms. Additional hotel rooms also prevent proliferation of short-term rentals in nearby single-family neighborhoods.

Environmental Planning

Goal EP1: Reduce energy consumption through environmentally sensitive land use practices and design policies.

> *Policy EP 1.3: Promote landscape design and irrigation methods that contribute to water and energy conservation.*
>
> All of the landscaping proposed for the Axon Campus Expansion are low-water, drought tolerant species, many of which are native Sonoran Desert plants. Using appropriate landscaping will reduce water usage in the large open spaces provided on the site.

Economic Development Five-Year Strategic Plan

The Axon World Headquarters Campus helps the City further its goals, values and guiding principles set forth in the Five-Year Strategic Plan as detailed below.

Goals
Goal 1: Grow Scottsdale's existing industries to foster economic vitality. Scottsdale must support existing businesses in an effort to maintain competitiveness and foster prosperity.

- *Objective 1.2: Ready and promote commercial sites to support business expansion.*

  Axon is proud to have originated and grown out of a small space in a Scottsdale garage to a leader in innovative technology and one of Scottsdale's top 10 employers. But in order to remain in Scottsdale, Axon requires a larger headquarters building and a corporate campus with housing options to attract and retain the best talent.

  As the Strategic Plan notes, ". . . most business growth in cities like Scottsdale comes from the expansion of existing businesses…understanding their needs and supporting their growth . . . " The plan is unique in that it was created in 2021 and developed during COVID so it makes specific mention of the challenges that are presented with the way COVID has changed office and employee demands. Axon is proud to have growth that requires additional space, but is not immune to the way COVID has changed its business.

  Axon's plan to create a holistic corporate campus reflects the changing employee desires to live close to work and have a variety of retail/restaurant/commercial amenities located nearby. This proposed Axon World Headquarters Campus is just a few hundred feet from its existing headquarters building and staying in this area is desirable to the company. For us to create the World Headquarters Campus we need to grow, we require the City of Scottsdale to adapt with us to the changing needs of

businesses to include a campus environment with a mix of supportive uses, including a residential component.

Appendix B of the Strategic Plan notes the key items that were important in shaping the plan after receiving feedback including: making development along the 101 Corridor an economic development priority, leveraging the Airpark, establishing a quality of place to attract headquarters, and revaluating the office in light of the COVID pandemic.

Axon's Campus meets many of the objectives of the Strategic Plan by keeping an existing business in Scottsdale while promoting development within the Airpark and along the Loop 101 Corridor. Creating a corporate headquarters campus makes Axon an attractive employer to future employees who are looking for high quality, flexible jobs in areas that provide a diverse set of activities in close proximity.

Goal 2: Attract investment to diversify Scottsdale's economy. Scottsdale must attract new investment into the local economy to ensure resiliency.

- *Objective 2.1: Execute a site-selector engagement strategy for Scottsdale's core industries.*

  This objective aims to attract businesses with an emphasis on global headquarters and working with the Greater Phoenix Economic Council to bring desirable employers to the City. Axon has been working with GPEC to create a World Headquarters Campus on this site within the City of Scottsdale and Axon's desire is to remain in Scottsdale. Without the corporate campus in Scottsdale, however, Axon will likely turn to locations outside of Arizona to develop.

- *Objective 2.2: Lead, in partnership with Experience Scottsdale, Canada Arizona Business Council, and others, a robust effort to attract high-value regional and national HQs.*

  Axon is a publicly-traded S&P 500 company generating approximately $1.5 billion in revenues annually growing at more than 30%, and is a desirable company to have as a local employer. Keeping Axon's headquarters in Scottsdale and providing it the opportunity to grow into a world headquarters within a corporate campus environment fulfills this objective and keeps a high-value employer in the City.

Goal 4: Make inclusion and diversity an economic development priority. Scottsdale must ensure that all residences and businesses have the opportunity to thrive.

- *Objective 4.1: Evaluate the needs of Scottsdale's diverse businesses.*

This objective encourages the City to engage with businesses to understand their needs and what the City can do to help these businesses grow. Axon has let the City know about the challenges in attracting and retaining high-quality employees, and Axon is proposing to create a mixed-use campus to complement its new headquarters to remain competitive in hiring skilled workers.

- *Objective 4.2: Advance, in concert with local partners, an initiative to support Scottsdale's diverse businesses.*

  Axon values diversity and strives to create an inclusive environment and is proud to provide a workplace in Arizona that far exceeds industry norms for women in tech. For example, according to Deloitte, women comprise approximately 33% of employees at technology companies whereas more than 41% of Axon's employees in Arizona are female.

Goal 5: Build the premier destination for talent in the Southwest. Scottsdale's economic development success today hinges on talent attraction and retention.

- *Objective 5.3: Develop a remote worker campaign to draw tech-savvy and skilled talent to Scottsdale.*

  While we will continue to work to allow remote work where we can, much of our work is based in law enforcement or research and design which can't be done from home. Simply put, we need a protected office environment. However, we are working to provide residential options within walking distance to help provide for the desire many workers have to work near home.

- *Objective 5.4: Invest in placemaking efforts to enhance Scottsdale as an inviting destination for local talent.*

  This objective most accurately captures the importance of creating a corporate campus environment for Axon. Axon has outgrown its current headquarters and needs a bigger space where it can continue to expand its operations. With the competitive nature of the job market – particularly in the tech industry – potential future employees are increasingly seeking employment opportunities that come with lifestyle amenities nearby.

  By establishing Axon's World Headquarters Campus with a variety of mixed-uses that are located close to many of Scottsdale's most desirable amenities, Axon is able to make itself a more attractive employer and bring new residents to Scottsdale to be a part of its growth. The proposed World Headquarters Campus is a placemaking effort that aims to establish Scottsdale as a destination for local talent and encourage new

residents to call Scottsdale home while building up the City's diverse employment base.

Goal 6: Enhance the Scottsdale brand for business, capital and talent. Scottsdale must broaden its reputation as a city to grow a business and launch a career.

- *Objective 6.1: Develop a competitive identity/marketing campaign to support Scottsdale's economic development efforts.*
  Providing an opportunity for Axon to remain in Scottsdale and grow its operations with the World Headquarters Campus creates an opportunity for the City to establish itself as a competitive destination for employers and employees.

- *Objective 6.2: Ensure that community collaborators, and economic development partners utilize consistent messages about investment and talent attraction.*
  Axon has worked with the City's Economic Development Department for several years to find opportunities for Axon to remain in Scottsdale while continuing to grow. Axon's ability to attract and retain employees includes the desirability of Scottsdale as a place to live, work and play, and the City's messaging about its flexibility to encourage employers to remain in Scottsdale should include considerations about mixed-use developments given changing employee needs.

Values

Economic Prosperity for All*. The City will advance economic prosperity for all Scottsdale residents and enterprises, by supporting wealth creation and economic mobility. This can be achieved by supporting a robust business attraction and expansion effort, as well as providing support to Scottsdale entrepreneurs to grow and scale their enterprises.*

Attracting businesses to Scottsdale and ensuring that existing employers can grow in the City requires collaboration between all facets of the City government. To put this value into action, the City must consider the changing needs of employers and employees and remain flexible in its planning efforts. This flexibility demonstrates to Scottsdale entrepreneurs that the City is committed to helping them expand and adapt to changing employment environments. Providing a supportive infrastructure for employers allows for wealth creation and increased economic opportunities for employees.

Future-Defining Innovation*. Scottsdale will invest in an entrepreneurial ecosystem that solves tomorrow's most pressing challenges. Already a growing center for venture capital investment and startups, Scottsdale's startups and scaleups are helping to ensure the city's traditional industries are relevant for the future.*

Axon is an example of Scottsdale's tech success stories. Axon has grown from a small startup in a Scottsdale garage to one of the City's top 10 employers, and Axon would like to continue

to grow with the City. Axon remains committed to helping solve the challenges facing the world utilizing its state-of-the-art technology, an industry that helps diversify Scottsdale's economy and broaden its workforce.

A Healthy Economy for Tomorrow. *The City will foster resiliency through industry diversification, upskilling, talent attraction and responsible revitalization. A more resilient Scottsdale will ensure a faster economic recovery in the future.*

Axon's technology and manufacturing jobs provide economic diversity to the City that can help soften the effects of economic downtowns that impact tourism and service industry jobs which have historically constituted a significant portion of the economy. Axon's highly skilled workforce provides additional diversification and upskilling to the City's employee base consistent with this value.

A Sonoran Desert Way of Life. *Economic development efforts will prioritize Scottsdale's quality of place and promote the City's authenticity, character and values. Scottsdale's high quality of place is a central offering as it looks to attract and retain skilled residents.*

The City has invested significantly in the recreational amenities surrounding Axon's proposed World Headquarters Campus including the McDowell Mountain Sonoran Preserve and the Scottsdale Sports Complex. These demonstrate Scottsdale's commitment to establishing the quality of place and Axon chose this specific site due to its proximity to the many recreational opportunities nearby that are reflective of Scottsdale's desert character. Axon's employees increasingly seek amenities close to work and offering the World Headquarters Campus is designed to attract and retain its highly skilled workforce.

Guiding Principles

Balanced Development. *Consistent with the values in the City's General Plan, Scottsdale will advance economic development initiatives that balance prosperity and livability. Staff across the City's economic development and planning departments will collaborate to develop a framework for evaluating the "highest and best" use of future redevelopment efforts.*

Axon's proposed World Headquarters Campus reflects a balance between light industrial/office uses and residential-focused mixed-use uses. The residential and commercial components of the World Headquarters Campus buffer the more intense industrial and office uses from the nearby residential while creating a harmonious and cohesive development within the campus. A more in-depth discussion of how the Axon World Headquarters Campus furthers the values in the General Plan is located on page 11 of this narrative.

Export Industry-Driven. *Scottsdale will pursue a data-driven export industry approach to drive economic diversification. Research shows that growing sectors that sell goods and*

services outside of the city accelerate job creation.

Axon's operations include design, engineering and manufacturing of advanced hardware (such as the TASER and Axon body worn cameras) as well as development and maintenance of software solutions (such as the Axon Evidence platform). Much of Axon's sales come from outside of the state and country while manufacturing, engineering, and other jobs remain in Scottsdale. However, Axon has far outgrown its current headquarters and needs to create a holistic World Headquarters Campus to remain in the City.

***Existing Businesses First**. The City will focus on business expansion and retention to grow Scottsdale's economic base and attract investment. Generally, more than 70% of the new jobs created in a city come from existing businesses.*

Axon is a local success story and proud to be one of the City's top 10 employers after its humble beginnings in a Scottsdale garage. Axon desires to stay in Scottsdale and continue to grow, but it is constrained by its current facilities. The World Headquarters Campus will allow Axon to remain in the City with a major investment that will provide additional jobs and increase the City's economic base with commercial and hotel components.

***Focus on Entrepreneurship**. Scottsdale will foster an inclusive startup ecosystem as a means of wealth creation for residents. A supportive startup environment is also essential for creating a more resilient, shock-resistant economy.*

While Axon is now an integral and important part of Scottsdale's economy, it was once a small startup. As Axon continues to grow, the City's supportive environment for tech industry jobs will provide additional opportunities for innovation that will diversify Scottsdale's economy to protect against challenging economic conditions.

***Private Sector and Partner Engagement**. To achieve success with this plan, Scottsdale's private sector and economic development partners will be critical to advance the City's economic development priorities.*

The City must remain adaptable in order to achieve success in implementing its Economic Development Five-Year Strategic Plan. The plan was adopted in 2021 when the world was still adapting and changing as a result of the COVID-19 pandemic. A couple years later, the long-term impacts of the pandemic are now more apparent – not the least of which is the shifting demands for employees. Axon's proposed World Headquarters Campus is reflective of the changing employment environment and has shared with representatives of the City the importance of flexibility in planning to accommodate continued growth within Scottsdale.

***Equitable Approach**. The City will apply an equity lens to all economic development efforts, ensuring all Scottsdale residents and businesses can thrive. This is essential for attracting and retaining businesses and residents that want to operate and live in more inclusive*

communities.

Axon's dedication to inclusivity is a core part of its values and Axon understands that diversity of thought provides the greatest opportunities for innovation. By providing unique mixed-use developments centered around corporate campuses and headquarters, Scottsdale can support Axon's expansion within the City while attracting the type of highly sought after tech employees Axon needs moving forward.

AMENDED DEVELOPMENT STANDARDS

Axon proposes to modify the standards of the PCP zoning district and P-C standards as shown below in legislative edit. Language proposed to be removed is noted in ~~strikethrough~~ and additions are noted in **BOLD UNDERLINED CAPS**.

Section 5.4000 – Planned Airpark Core Development (PCP)

Sec. 5.4001. - Purpose.

The purpose of the PCP District is to promote, encourage, and accommodate innovatively designed and master-planned mixed-use developments within the Greater Airpark Character Area. The PCP District should:

A. Accommodate mixed-use commerce and employment centers.

B. Provide a dynamic complement to employment cores with support retail, service, tourism, cultural, and residential uses.

C. Promote an efficient and safe traffic circulation system through the inclusion of a mix of complementary uses and provisions for multiple modes of travel.

D. Promote architectural excellence and creative design through development standards that create high quality character for structures, site plans, and streetscapes.

E. Protect adjacent neighborhoods through strict development standards while encouraging innovative site planning and environmental sensitivity throughout the PCP District.

F. Provide an open space framework of enhanced streetscapes, functional pedestrian spaces, enhanced view corridors and other public environmental amenities.

G. Promote environmental stewardship and sustainability through the application of recognized and established environmentally responsible building techniques and desert appropriate design approaches.

Sec. 5.4002. - Applicability.

The PCP District is only applicable to properties within the Greater Airpark Character Area Plan.

Sec. 5.4003. - Application requirements.

A. Development Plan size requirement. Minimum: 2 acres of gross lot area.

B. Zoning District Map Amendment Applications. An application for PCP zoning shall be accompanied by a Development Plan as required in Article VII.

C. Development Master Plans. Developments within the PCP District that are developed in more than one phase shall submit Development Master Plans, as required in Article VII.

Sec. 5.4004. – Reserved

Sec. 5.4005. - Conformance to approved plans.

A. A PCP District shall be developed in conformance with the approved Development Plan and other required Development Master Plans as provided in Article VII.

Sec. 5.4006. - Use Regulations.

A. The uses allowed in the PCP District are shown in Table 5.4006.A. with additional limitations on uses as listed. The land uses that correspond for each of the land use designations in the Greater Airpark Character Area Plan are as set forth in the sub-districts below in Table 5.4006.A. The land use designations depicted on the Greater Airpark Future Land Use Plan Map are:

1. Airpark Mixed Use Residential (AMU-R)
2. Airpark Mixed Use (AMU)
3. Employment (EMP)
4. Aviation (AV), and
5. Regional Tourism (RT).

B. Drive-through and drive-in services are not allowed in the PCP-AMU-R, PCP-EMP, PCP-AV and PCP-RT sub-districts. Drive-in services are not allowed in the PCP-AMU sub-district. Only drive-through services associated with a restaurant are allowed in the PCP-AMU subdistrict.

Table 5.4006.A. Use Table					
Land Uses	Sub-Districts				
(P is a Permitted use.)	PCP-AMU-R	PCP-AMU	PCP-EMP	PCP-AV	PCP-RT
1. Aeronautical use				P (3)	
2. Bar	P	P			P
3. Civic and social organization	P (2)	P (2)	P (2)		P (2)
4. Cultural institution	P (2)	P (2)	P (2)		P (2)

Table 5.4006.A. Use Table					
Land Uses	Sub-Districts				
(P is a Permitted use.)	PCP-AMU-R	PCP-AMU	PCP-EMP	PCP-AV	PCP-RT
5. Day care center	P (2, 6)	P (2, 6)			P (2, 6)
6. Dwelling	P (2, 4, 6)				P (2, 6)
7. Educational service, elementary and secondary school	P (2, 6)	P (2, 6)	P (1, 2, 6)		P (1, 2, 6)
8. Educational service, other than elementary and secondary school	P (2, 6)	P (2, 6)	P (2, 6)	P (1, 2, 6)	P (2, 6)
9. Financial institution	P	P	P (1)		P (1)
10. Health and fitness studio	P	P	P		P
11. Internalized Community Storage		P	P	P	
12. Light manufacturing		P	P	P	
13. Live entertainment	P	P			P
14. Medical and diagnostic laboratory	P	P	P		
15. Medical recovery or therapy center	P (2, 4, 6)	P (2, 4, 6)	P (2, 6)		P (1, 2, 6)
16. Multimedia production without communication tower	P (4)	P	P		P
17. Municipal use	P	P	P	P	P
18. Office	P (4)	P	P		P
19. Personal care service	P	P	P (1)		P

Table 5.4006.A. Use Table					
Land Uses	Sub-Districts				
(P is a Permitted use.)	PCP-AMU-R	PCP-AMU	PCP-EMP	PCP-AV	PCP-RT
20. Place of worship	P (2, 6)	P (2, 6)	P (1, 2, 6)		P (1, 2, 6)
21. Recreation facility					P
22. Residential health care facility	P (2, 4, 5, 6)				P (1, 2, 5, 6)
23. Restaurant	P	P	P (1)		P
24. Restaurant, including drive-through restaurant but excluding drive-in restaurant		P (7)			
25. Retail	P	P			P
26. Scientific research and development		P (4)	P	P	
27. Sports arena		P (1, 2)	P (1, 2)		P (2)
28. Theater	P (2, 6)	P (2, 6)			P (2, 6)
29. Travel accommodations	P (2, 6)	P (2, 6)	P (1, 2, 6)		P (2, 6)
30. Vehicle leasing, rental, or sales	P (4)	P (1, 4)	P (1, 4)	P	P (4)
31. Veterinary and pet care service	P	P			P
32. Wholesale, warehousing and distribution			P	P	
33. Wireless communications facility, Type 1, 2, and 3.	P	P	P	P	P

Table 5.4006.A. Use Table					
Land Uses	Sub-Districts				
(P is a Permitted use.)	PCP-AMU-R	PCP-AMU	PCP-EMP	PCP-AV	PCP-RT
34. Wireless communications facility, Type 4.	CU	CU	CU	CU	CU

Use Limitations:

(1) Limited to a site with frontage on a major collector or arterial street.

(2) Limited to areas outside of the AC-3 area as described in the City's procedures for development near the Scottsdale Airport and in the Scottsdale Revised Code, Chapter 5 - Aviation, as amended.

(3) Limited to a site with frontage onto an airport taxilane or taxiway.

(4) Limited to a maximum of ~~50~~**26** percent of the ground floor building area of the Development Plan.

(5) Limited to a maximum density of 40 dwelling units per acre of gross lot area of the Development Plan.

(6) Limited to a sound transmission class of not less than 50 (45 if field tested) as provided in the International Building Code (IBC), and subject to fair disclosure requirements to notify property owners and tenants within the Airport Influence Area.

(7) Restaurant, including drive-through restaurant but excluding drive-in restaurant, are subject to the following standards:

a. Any drive-through lane shall be screened by a minimum four (4) foot tall solid wall or combination of wall and dense landscaping. Any drive-through lane shall have a shade canopy provided over the drive-through at the restaurant pick-up window.

b. Any drive-through lane shall have a minimum setback of 75 feet from the street line along designated Scenic Corridors or Buffered Roadways as defined in the General Plan, or along designated Signature Corridors as defined within the Greater Airpark Character Area Plan, with a minimum 25-foot landscape buffer provided between the drive-through lane and the street line.

c. Any drive-through lane shall have a minimum setback of 150 feet from a single-family residential district shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-

family residential districts shown on Table 4.100.A., or any Planned Residential Development (PRD) District.

d. Any drive-through lane shall have a minimum 50-foot landscape buffer provided between any property line that abuts a residential district shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-family residential districts shown on Table 4.100.A., or any Planned Residential Development (PRD) District.

Sec. 5.4007. - Development standards.

A. Floor area ratio. Maximum: 0.8 for the Development Plan.

B. Building height (including all rooftop appurtenances).

1. Maximum:

a. 54 feet if the Development Plan area is between 2.00 and 5.00 acres,

b. 62 feet if the Development Plan area is between 5.01 and 10.00 acres, and

c. 84 feet if the Development Plan area is more than 10.00 acres, except as provided below.

2. Maximum near single family residential:

a. 42 feet within 300 feet of any single-family residential districts shown on Table 4.100. A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-family residential districts shown on Table 4.100.A., or any Planned Residential Development (PRD) District.3.Rooftop appurtenances. These structures including the screening of them shall not cover more than 35 percent of the roof area of the building(s) in the Development Plan.

C. Required open space.

1. Total open space.

a. Minimum: 25 percent of net lot area of the Development Plan.

2. Parking areas and parking lot landscaping are not included in the required open space.

D. Building setbacks.

1. Front setback.

a. Minimum: 25 feet along arterial and major collector streets.

b. Minimum: 30 feet along minor collector and local streets.

2. Measuring setbacks along streets. All setbacks shall be measured from the curb line along streets.

3. Signature intersections. At the intersection of two streets, when both streets are classified as a major collector or arterial, there shall be a building setback triangle. The two equal sides of the triangle shall be 70 feet, starting from the point of intersection of the extension of the property lines at the corner. Within the triangle at least 50 percent of the area shall be shaded by structural or landscape materials.

4. Side and rear setbacks.

    a. Abutting residential districts (as shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the residential districts shown on Table 4.100.A., or a Planned Residential Development (PRD) District). (See Example 5.4007.E.1.)

        i. Minimum: 60 feet from any single-family residential district, and

        ii. Minimum: 30 feet from all other residential districts.

    b. Abutting nonresidential districts. (See Example 5.4007.E.2)

        i. Minimum: 15 feet.

E. Stepback plane:

1. Abutting single family districts (as shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-family residential districts shown on Table 4.100.A., or a Planned Residential Development (PRD) District).

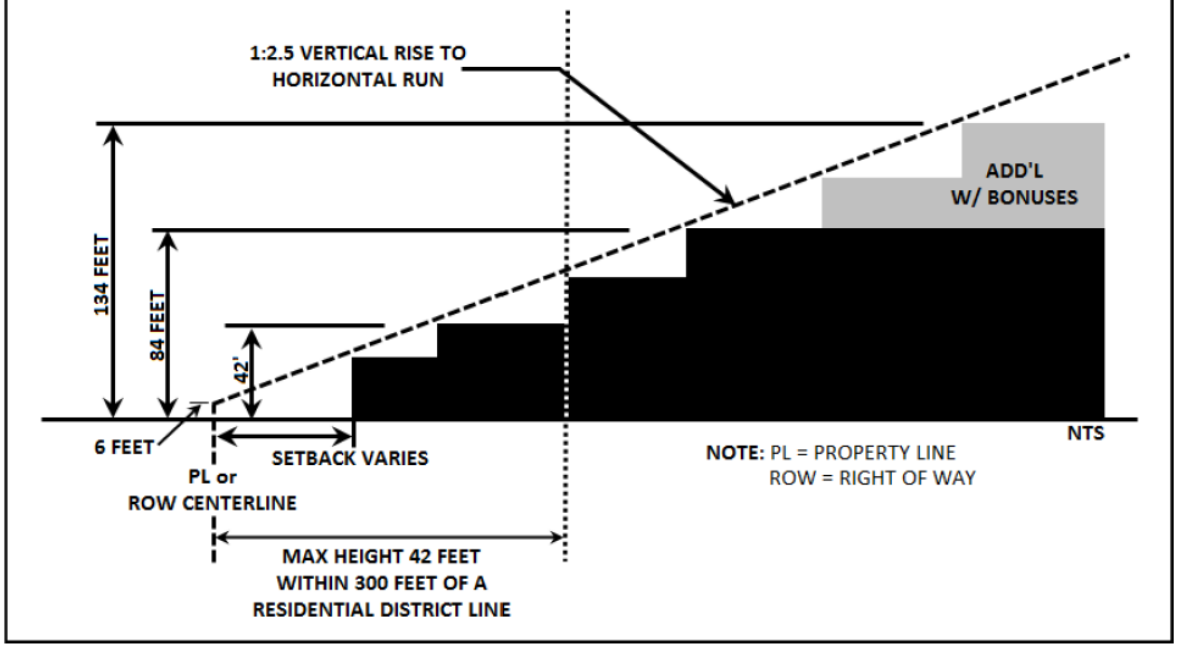
    a. Vertical to horizontal ratio: 1:2.5, beginning 6 feet above the PCP District boundary. (See Example 5.4007.E.1.)

2. Other locations.

    a. Vertical to horizontal ratio: 1:1, beginning 38 feet above the setback line. (See Example 5.4007.E.2.)

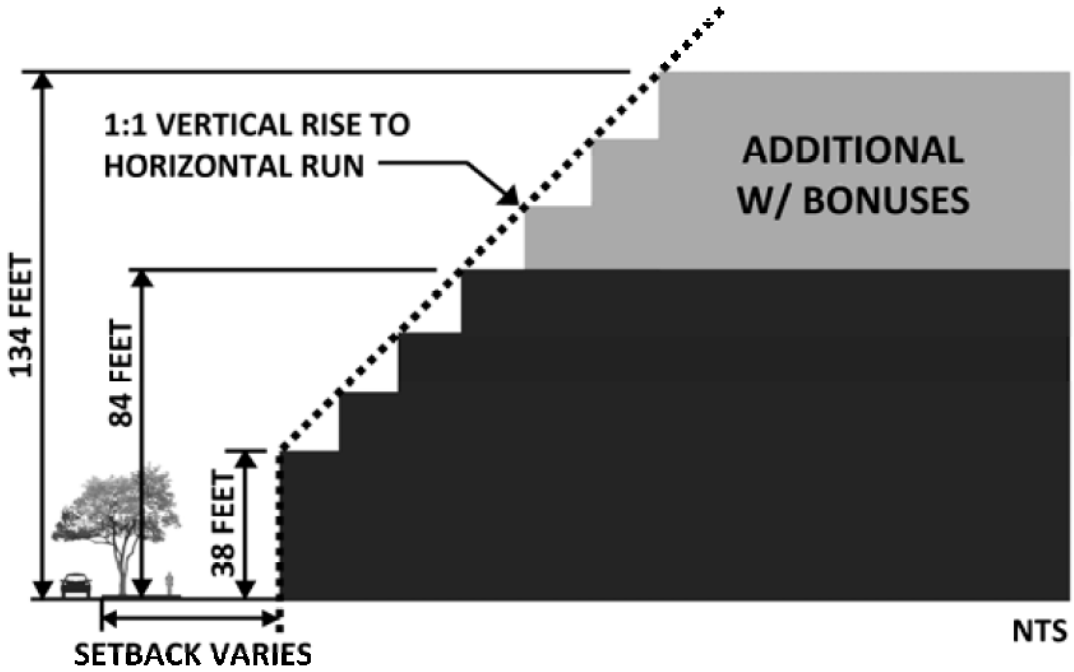
Example 5.4007.E.1.

Stepback Plane adjacent to single-family residential



Example 5.4007.E.2.

Stepback Plane where not adjacent to single-family residential



3. Minor amendments to achieve a more suitable Development Plan. Upon demonstration of significant sustainable, high-quality urban design and other features beyond those required by the City, the Zoning Administrator may approve up to a maximum of 10 percent deviation to the stepback plane requirements. Exception: Amendments cannot be applied to the requirements of Section 5.4007.E.1.

F. Screening. All operations and storage shall be conducted within a completely enclosed building or within an area contained by a wall or fence as determined by Development Review Board approval.

Sec. 5.4008. - Bonus provisions.

A. Applicability. The City Council may approve bonus development standards for property zoned PCP upon demonstration of noteworthy investments in sustainable, high-quality design and other features that provide public benefits, improve the quality of life in the community, and assist in achieving the goals and policies of the General Plan, Greater Airpark Character Area Plan, and City objectives, subject to the following criteria:

1. Minimum Development Plan area: 4.00 acres of gross lot area.

2. Limitations:

a. Bonus development standards cannot be applied to any portion of a PCP District Development Plan that is less than 300 feet from a single family district (as shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-family residential districts shown on Table 4.100.A., or a Planned Residential Development (PRD) District).

b. Bonus development standards cannot be applied to any portion of a PCP District Development Plan that is within the AC-3 area shown on Figure 1, Airport Influence Area, in the Scottsdale Revised Code, Chapter 5—Aviation, as amended.

B. Bonus development allowances. Subject to the maximum bonus development standards as provided below, the City Council may approve an increase of the floor area ratio (FAR) and/or an increase of the building height based upon the property owner providing Special Public Improvements as identified below and/or any other community benefit(s) approved by City Council as part of a Development Plan.

C. Maximum bonus development standards:

1. Floor area ratio.

a. Maximum: 2.0 for the Development Plan.

2. Building height (inclusive of all rooftop appurtenances).

a. Maximum:

i. Development Plan area of 4.00 to 5.00 acres of gross lot area: 92 feet.

ii. Development Plan area of 5.01 to 10.00 acres of gross lot area: 104 feet.

iii. Development Plan area of 10.01 to 15.99 acres of gross lot area: 116 feet.

iv. Development Plan area of 16.00 acres or more of gross lot area: 134 feet.

v. The total floor area(s) of any single floor above building heights greater than 92 feet shall not exceed 20% of the total ground floor building area of the Development Plan.

b. Maximum near single-family residential. Maximum building height shall be 42 feet within 300 feet of any single-family residential district shown on Table 4.100.A., or the portion of a Planned Community (P-C) with an underlying zoning district comparable to the single-family residential districts shown on Table 4.100.A., or any Planned Residential Development (PRD) district.

D. Allocation of bonus development standards. The Development Plan shall identify the specific allocation of bonus development standards and is subject to City Council approval.

E. Special Public Improvements requirements. Development projects utilizing Special Public Improvements and/or other community benefit(s) to achieve bonus development standards shall comply with the Special Public Improvements requirements as outlined in Section 7.1200.

F. Special conditions.

1. Building materials: Reflective materials are limited to 60 percent of the building wall area for portions of a building located above a building height of 104 feet.

2. Open Space. Minimum: 28 percent of the net lot area of the Development Plan receiving a bonus.

G. Bonus development standards procedures.

1. Any application of bonus development standards, or amendment to application of bonus development standards, shall be subject to City Council approval through a zoning district map amendment with a Development Plan. A development agreement is required with the utilization of Special Public Improvements and/or any other proposed community benefit(s).

a. The Development Plan shall include a development project narrative that:

   i. Describes, in addition to other project narrative requirements, the bonus development standards sought, specifying the proposed floor area ratio and/or building height, as applicable,

   ii. Identifies how the development project will comply with the Special Public Improvements requirements and/or an analysis of any other proposed community benefit(s), as applicable, and

   iii. Provides the method and calculations for determining the Total Construction Cost Estimate, as outlined in Section 7.1200, as applicable.

b. The development agreement shall be in a form satisfactory to the City Attorney and include, but not be limited to, the requirements outlined in Section 7.1200.

Sec. 5.4009. – General Provisions.
Except as otherwise provided, the provisions of Article VII apply.

Sec. 5.4010. – Sign Requirements.
The provisions of Article VIII apply. In lieu of using the PCP sign standards of Article VII, the property owner may choose to use signs allowed in the Planned Regional Center (PRC) District in the PCP District.

Sec. 5.4011. – Parking and Loading Requirements.
The provisions of Article IX apply.

Sec. 5.4012. – Landscaping Requirements.
The provisions of Article X apply.

Additionally, we are working with the Arizona State Land Department to modify the Planned Community standard to remove the Hayden Core Transition prohibition on non-industrial uses and propose the following modification:

E. TRANSITIONAL AREAS. Per the Development Plan, all non-residential uses within Grayhawk Transition Area 1, Grayhawk Transition Area 2, Hayden Core Transition Area and Princess Transition Area within three hundred (300) feet of the application boundary shall have a maximum height of (30) feet. ~~The Hayden Core Transition Area shall only allow uses consistent with the comparable Industrial Park (I-1) district.~~

GREATER PHOENIX METRO GREEN INFRASTRUCTURE HANDBOOK COMPLIANCE

Axon shares in the desire to incorporate low impact development into its World Headquarters Campus and has incorporated the principles set forth in the Greater Phoenix Metro Green Infrastructure Handbook.

Specifically, the Axon Campus utilizes materials from the recommended plant palette which are native to the Sonoran Desert and low water use. Additional provisions from the handbook may be incorporated during the design review phase of the project.

We are also designing a water capture concept that involves taking stormwater runoff and diverting it into wastewater pipes to be reclaimed similar to the concept the City applied in the recent Parque case.

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SITE LEGEND

- Proposed Commercial (Ground floor Only)
- Proposed Building (Residential)
- Courtyard/Open Space
- Proposed Hotel
- Leasing/Amenity Space (Ground floor Only)
- Site Entry
- Traffic Flow
- 55' / 49' / 25' Fire Apparatus Turn Radius
- # / # TOTAL STALL COUNT IN ROW / ADA 11'X18' STALL COUNT IN ROW
- PROPERTY LINE
- SITE R.O.W. LINE
- EASEMENT/SETBACK LINE
- BUILDING STEPBACK LIMITS
- INTERNAL LOT LINE

DEVELOPMENT DATA

PROJECT DESCRIPTION:

MASTER PLAN FOR AXON CAMPUS TO INCLUDE NEW MULTI-FAMILY RESIDENTIAL, HOTEL, RETAIL, IN ADDITION TO LIGHT INDUSTRIAL ON THE NORTHEAST CORNER OF HAYDEN ROAD AND AXON WAY.

ZONING:

CURRENT: I-1
PROPOSED: PCD-PCP/AMU-R

APN:

ASSESSOR PARCEL NUMBER
215-07-407 AND 215-07-408

CONSTRUCTION TYPE:

BUILDING A-G : 1A & IIIA

BUILDING HEIGHT:

PROPOSED: .
AXON CAMPUS 96'-0" MAX.
BUILDINGS A-F 67'-0" MAX.

LOT COVERAGE:

Proposed New Building Gross Areas:
Buildings A-F = 1,526,870 S.F.

Axon Gross Area: 401,085 S.F.

FLOOR AREA RATIO (FAR) = .79

NEW FLOOR AREA RATIO (FAR) = .41

SITE AREA:

TOTAL GROSS AREA: 1,914,475 SF (43.95 ACRES)
TOTAL NET AREA: 1,582,113 SF (36.32 ACRES)

SITE DATA

SITE AREAS

APN	Area (NET)	Acres (NET)
New Residential Development Site (PCP-AMU-R):		
APN: 215-07-407	1,505,486 SF	34.56 acres
APN: 215-07-408	76,627 SF	1.76 acres
ROAD R.O.W.	332,362 SF	7.63 acres
	1,914,475 SF	43.95 acres

SITE AREAS

APN	Area (NET)	Acres (NET)
Axon HQ Site (I-1):		
APN: 215-07-407	984,838 SF	22.61 acres
ROAD R.O.W.	104,671 SF	2.40 acres
	1,089,509 SF	25.01 acres

BUILDING USAGE

Building Gross Areas / Amenity Areas

Building	Gross Area	Gross Area
BUILDING A	360,053	10,075 SF
BUILDING B	359,274	10,700 SF
BUILDING C	349,667	11,960 SF
BUILDING D	218,699	7,215 SF
BUILDING E	144,672	9,228 SF
BUILDING F	95,115	2,200 SF
Total	1,526,870	51,377 SF

Multifamily Residential Units

Building Name	Levels	Unit Count_CALC
BUILDING A	5	509
BUILDING B	5	515
BUILDING C	5	598
BUILDING E	3	241
BUILDING F	4	112

Total Units: 1975 + 425 Keys

Hotel Units

Building Name	Levels	Unit Count_CALC
BUILDING D	5	425 KEYS

Commercial Gross Areas

Comments	Gross Area
BUILDING C	11,050 SF
BUILDING D	13,750 SF
BUILDING E	22,380 SF
Total	47,180 SF

Note: Ground Floor Retail + Amenity = 98,558SF (26% Ground Floor Non-Residential Use)

REQUIRED RESIDENTIAL PARKING:
(1975) STUDIOS/1 BED @ 1.3
TOTAL = 2,568 STALLS

REQUIRED GUEST:
1 PER 6 UNITS = 330 STALLS

REQUIRED HOTEL PARKING:
(425) UNIT @ 1.0
TOTAL = 425 STALLS

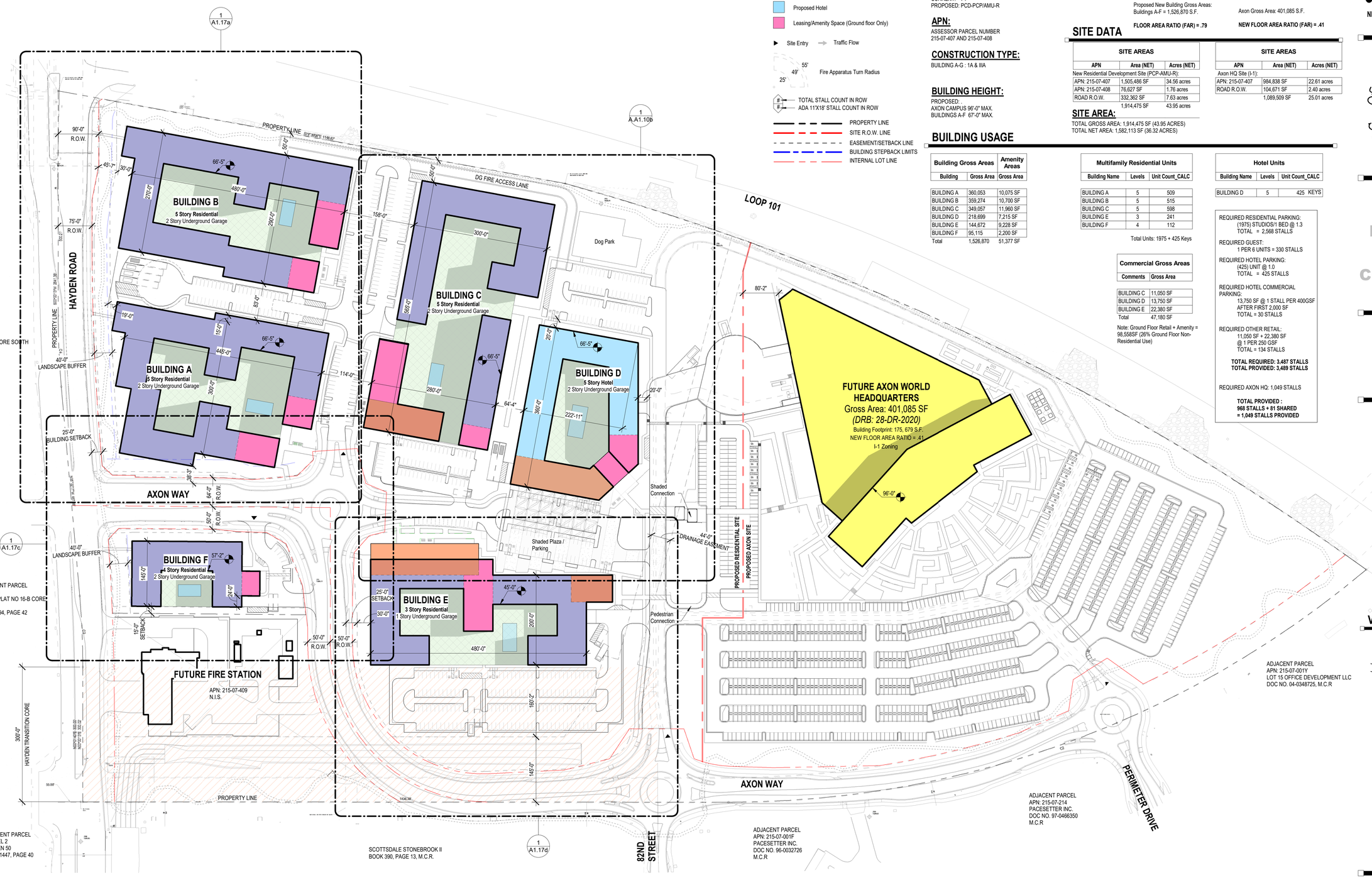
REQUIRED HOTEL COMMERCIAL PARKING:
13,750 SF @ 1 STALL PER 400GSF
AFTER FIRST 2,000 SF
TOTAL = 30 STALLS

REQUIRED OTHER RETAIL:
11,050 SF + 22,380 SF
@ 1 PER 250 GSF
TOTAL = 134 STALLS

TOTAL REQUIRED: 3,487 STALLS
TOTAL PROVIDED: 3,489 STALLS

REQUIRED AXON HQ: 1,049 STALLS

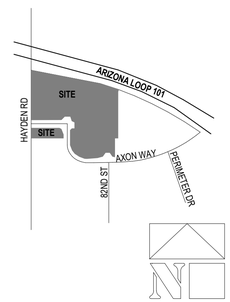
TOTAL PROVIDED :
968 STALLS + 81 SHARED
= 1,049 STALLS PROVIDED



1 SITE PLAN OVERALL

SCALE: 1" = 100'-0"

VICINITY MAP



PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.17

SITE PLAN

AXON WAY & HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

AXON

1 SITE PLAN AREA A

0' 20' 40' 80'

SCALE: 1" = 40'-0"

DEVELOPMENT DATA

PROJECT DESCRIPTION:

MASTER PLAN FOR AXON CAMPUS TO INCLUDE NEW MULTI-FAMILY RESIDENTIAL, HOTEL, RETAIL, IN ADDITION TO LIGHT INDUSTRIAL ON THE NORTHEAST CORNER OF HAYDEN ROAD AND AXON WAY.

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ASSESSOR PARCEL NUMBER
215-07-407 AND 215-07-408

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BUILDINGS A-F 67'-0" MAX.

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FLOOR AREA RATIO (FAR) = .79

SITE DATA

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TOTAL NET AREA: 1,582,113 SQ. FT. / 36.32 ACRES

SITE AREAS

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BUILDING USAGE

Building Gross Areas		Amenity Areas
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BUILDING F	4	112
		1975 Units

Hotel Units		
Building Name	Levels	Unit Count_CALC
BUILDING D	5	425 ***KEYS***

Commercial Gross Areas	
Comments	Gross Area
BUILDING C	11,050 SF
BUILDING D	13,750 SF
BUILDING E	22,380 SF
Total	47,180 SF

Note: Ground Floor Retail + Amenity = 98,558SF
(26% Ground Floor Non-Residential Use)

VEHICLE PARKING ANALYSIS

UNDERGOUND GARAGE PARKING			Site Surface Parking		Total	Ratio to Units	ADA Stalls (4% of Total)	Bicycle (1 per 10 Stalls)
Building	Levels	Parking Total	Parking Location	Count	Count			
BLDG A	2	682	SURFACE - A	65	747	1.46	30	75
BLDG B	2	705	SURFACE - B	51	756	1.46	31	76
BLDG C	2	820	SURFACE - C	58	878	1.46	36	88
BLDG D - HOTEL	2	342	SURFACE - D	83	425	1.0	17	43
BLDG E	1	195	SURFACE - E	159	354	1.46	15	36
BLDG F	2	158	SURFACE - F	7	165	1.47	7	17
		2,902						
			SURFACE - COMMERCIAL	164			7	17
				587				

REQUIRED RESIDENTIAL PARKING:
(1975) STUDIOS/1 BED @ 1.3
TOTAL = 2,568 STALLS

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1 PER 6 UNITS = 330 STALLS

REQUIRED HOTEL PARKING:
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TOTAL = 425 STALLS

REQUIRED HOTEL COMMERCIAL PARKING:
13,750 SF @ 1 STALL PER 400GSF
AFTER FIRST 2,000 SF
TOTAL = 30 STALLS

REQUIRED OTHER RETAIL:
11,050 SF + 22,380 SF
@ 1 PER 250 GSF
TOTAL = 134 STALLS

TOTAL REQUIRED: 3,487 STALLS
TOTAL PROVIDED: 3,489 STALLS

REQUIRED AXON HQ: 1,049 STALLS

TOTAL PROVIDED :
968 STALLS + 81 SHARED
= 1,049 STALLS PROVIDED

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3. ALL GROUND FLOOR UNITS TO BE ANSI TYPE 'B' UNITS U.N.O.

SITE LEGEND

- 🟧 Proposed Commercial (Ground floor Only)
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- 55' 49' 25' Fire Apparatus Turn Radius
- # TOTAL STALL COUNT IN ROW
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KEYNOTES

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AXON WAY
& HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION

REGISTERED ARCHITECT
CERTIFICATE NO.
15213
Rich Barber
Date Signed 11 28 23
ARIZONA, U.S.A.
Expires 3/31/2026

AXON

VICINITY MAP

PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.17a

SITE PLAN AREA A

1 SITE PLAN AREA B

SCALE: 1" = 40'-0"

DEVELOPMENT DATA

PROJECT DESCRIPTION:

MASTER PLAN FOR AXON CAMPUS TO INCLUDE NEW MULTI-FAMILY RESIDENTIAL, HOTEL, RETAIL, IN ADDITION TO LIGHT INDUSTRIAL ON THE NORTHEAST CORNER OF HAYDEN ROAD AND AXON WAY.

ZONING:

CURRENT: I-1
PROPOSED: PCD-PCP/AMU-R

APN:

ASSESSOR PARCEL NUMBER
215-07-407 AND 215-07-408

CONSTRUCTION TYPE:

BUILDING A-F : 1A & 3A

BUILDING HEIGHT:

AXON CAMPUS 96'-0" MAX.
BUILDINGS A-F 67'-0" MAX.

LOT COVERAGE:

Proposed New Building Gross Areas:
Buildings A-F = 1,526,870 S.F.

FLOOR AREA RATIO (FAR) = .79

SITE DATA

SITE AREA:

TOTAL GROSS AREA: 1,914,475 SQ. FT. / 43.95 ACRES
TOTAL NET AREA: 1,582,113 SQ. FT. / 36.32 ACRES

SITE AREAS

APN	Area (NET)	Acres (NET)
New Residential Development Site (PCP-AMU-R):		
APN: 215-07-407	1,505,486 SF	34.56 acres
APN: 215-07-408	76,627 SF	1.76 acres
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Axon Site (I-1):		
APN: 215-07-407	984,838 SF	22.61 acres
ROAD R.O.W.	104,671 SF	2.40 acres
	1,089,509 SF	25.01 acres

BUILDING USAGE

Building Gross Areas		Amenity Areas
Building	Gross Area	Gross Area
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Comments	Gross Area
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Office of Rich Barber Architecture, LLC — ORB

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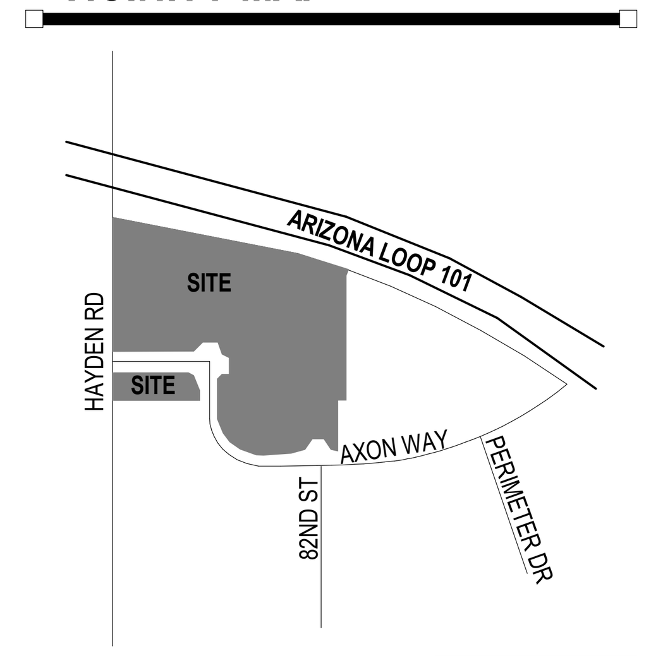
PRELIMINARY NOT FOR CONSTRUCTION
REGISTERED ARCHITECT 15213 Rich Barber Expires 3/31/2026

AXON

VICINITY MAP

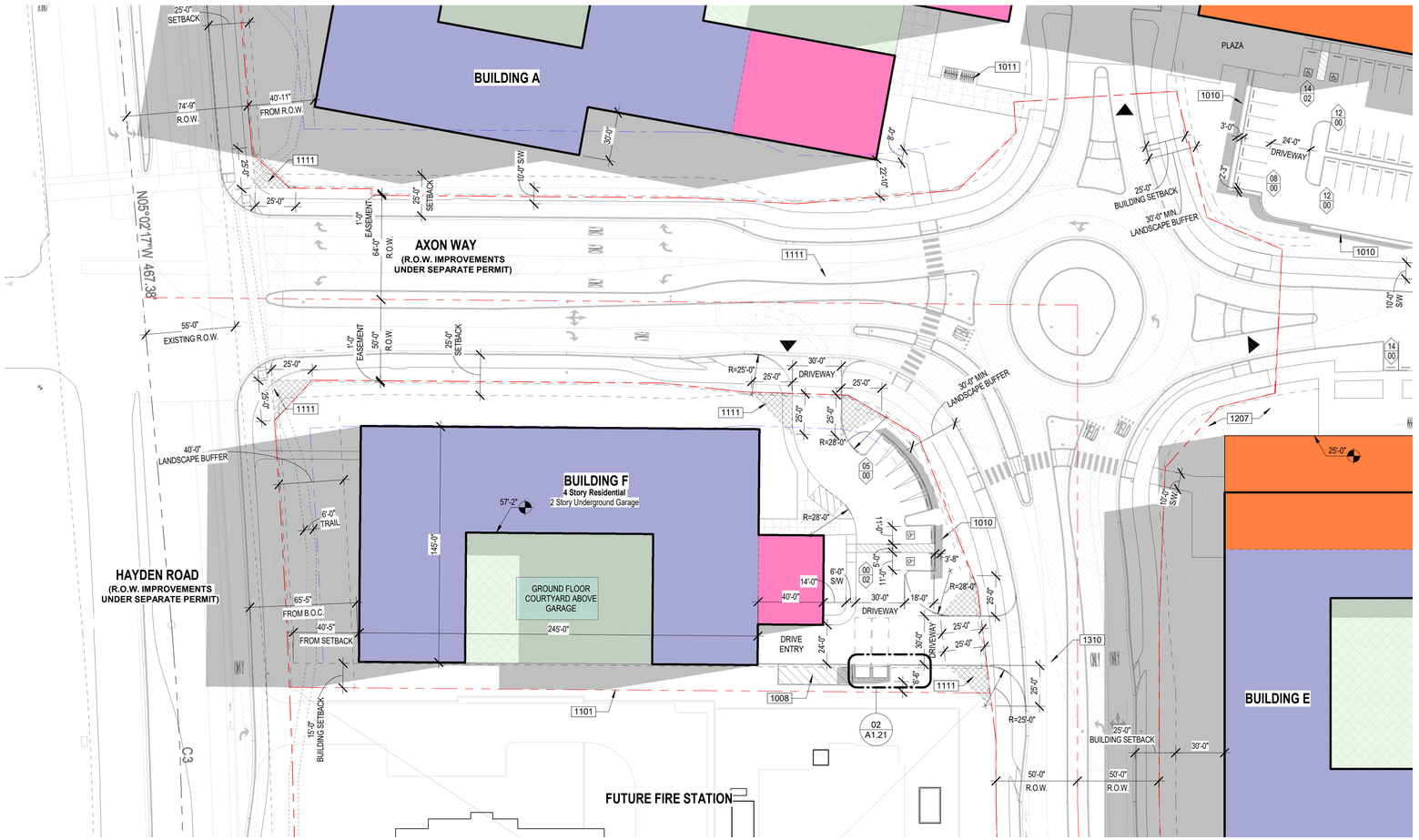


PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.17b

SITE PLAN AREA B



1 SITE PLAN OVERALL

0' 20' 40' 80'

SCALE: 1" = 40'-0"

DEVELOPMENT DATA

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Buildings A-F = 1,526,870 S.F.

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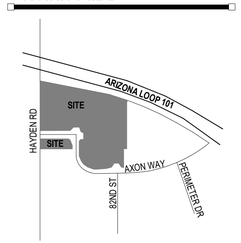
WorldHQ@ORBArch.com

AXON

VICINITY MAP



PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

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SITE PLAN AREA C

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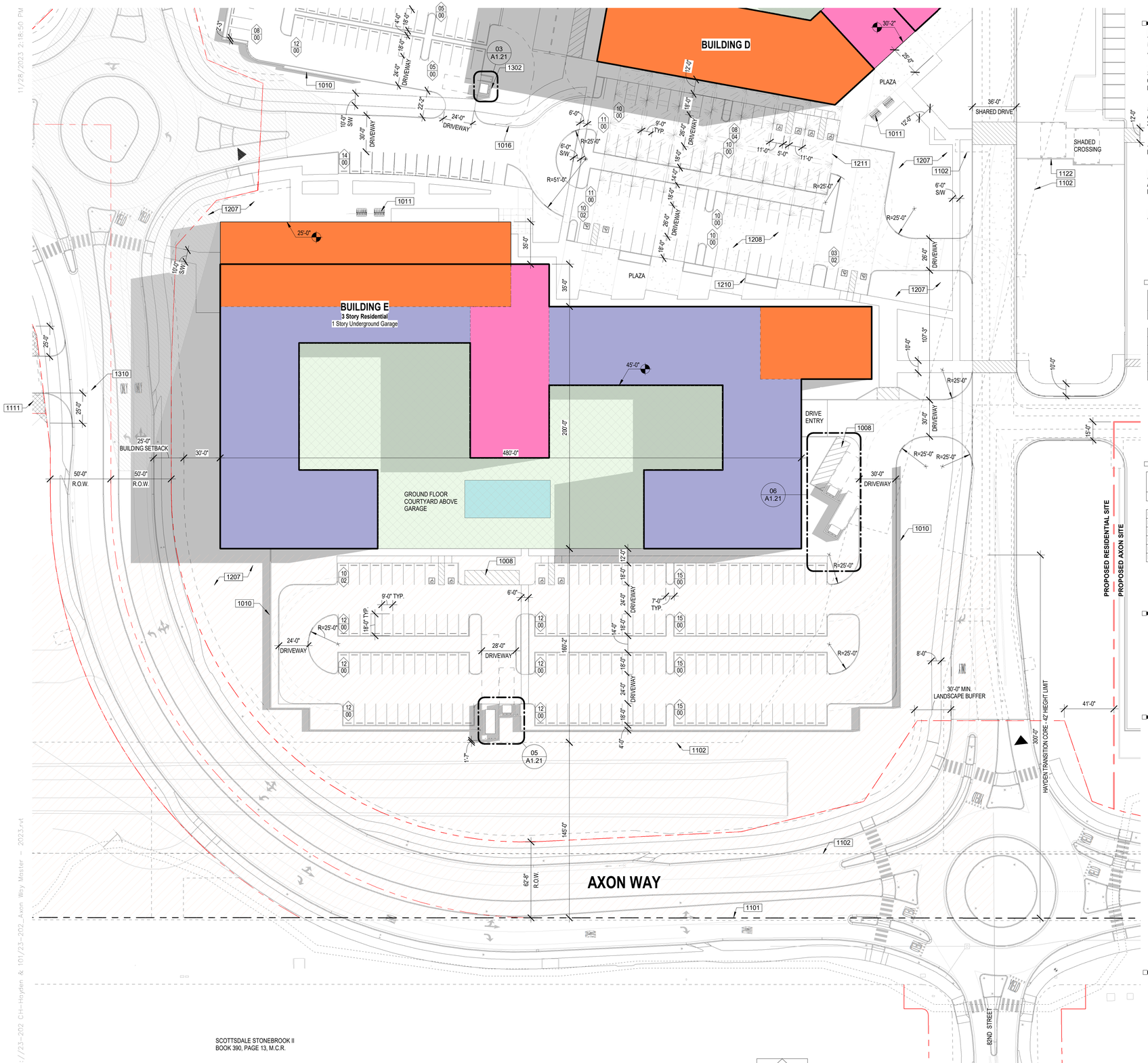

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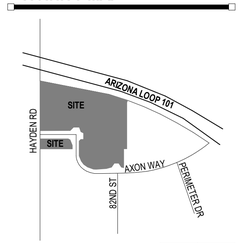
PRELIMINARY NOT FOR CONSTRUCTION

AXON

VICINITY MAP



PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.17d

SITE PLAN AREA D

HUELLMANTEL & AFFILIATES

To: Greg Bloemberg, Principal Planner – City of Scottsdale
From: Charles Huellmantel, Huellmantel & Affiliates
Re: 13-ZN-2020#2 – Axon Campus 1st Review
Date: December 21, 2023

We have been working through the comments provided by the City and have addressed each with this response letter. This letter provides detailed answers (in blue) to each of the comments (in *grey*), which are listed below.

COMMENTS FROM 1ST SUBMITTAL – SEPTEMBER 21, 2023

General Plan 2035 & Greater Airpark Character Area Plan (GACAP) Analysis

1. *The first submittal notes the use of General Plan 2035 Criteria 8, Bullet 2 (Exceptions to the General Plan Amendment Criteria, Regional Use Overlay) to allow the request for a General Plan Amendment to be processed as a minor amendment. As defined in the General Plan, the Regional Use Overly category provides flexibility for land uses when it can be demonstrated that new land uses are viable in serving a regional market, including proposals that provide a regional draw, fulfill current economic development policies, enhance the employment core and the city's attractiveness to regional markets, benefit from good freeway access and complement the established character of the area. Although the narrative discusses this concept in brief, please expand upon this section, including a response to Scottsdale's Economic Development Five-Year Strategic Plan (2021), describing how the proposed land uses and overall campus provide a regional draw and describing how the proposal complements the context area, as well as the GACAP.*
   An in-depth analysis of how the Axon Campus fulfills the Economic Development Five-Year Strategic Plan has been added to the General Plan section and begins on page 31 of the revised narrative.

2. *The subject site is located within a General Plan 2035 Growth Area, specifically the Greater Airpark. Growth Areas are areas of the community that best accommodate future growth allowing increased focus on creating or enhancing transportation systems and infrastructure coordinated with development activity. To this end, within Growth Areas, applications typically yield a maximum residential density around 50 du/ac, with one of the most recent approvals within the Greater Airpark yielding 61 du/ac (Optima McDowell Mountain Village, 20-ZN-2002#4), located within the Regional Core of the GACAP, an area envisioned to accommodate the greatest development intensity within the Greater Airpark. The first submittal includes a request to yield 61 du/ac, located within Type C; areas envisioned to accommodate medium to higher development intensity. With the next submittal, please revise the narrative to include discussion as to how this proposed unit count (2,552 total units) and corresponding density (calculated from the boundary of the requested rezoning area) implements the GACAP Type C – Higher Scale Conceptual Development Type, and to what community benefit the ultimate development will provide.*
   This updated submittal includes a request for 1,975 dwelling units on 43.95 gross acres for a total density of 44.94 dwelling units per acre. This updated density is consistent with this comment

noting that 50 dwelling units per acre is the maximum density generally permitted in Type C – Higher Scale development types within the Greater Airpark Character Area.

3. *The first submittal requests a rezone to P-C PCP AMU-R. Case 19-ZN-2002#6 (Crossroads East) included a Land Use Budget Table and development plan that identified allowable zoning districts, maximum acreage, and maximum residential density for those districts that allow residential. Additionally, the case included "Transition Areas" to ensure land uses and development intensities remain consistent and compatible with adjacent development, while maintaining future allotment of non-residential land area. The subject site was prohibited from assigning PRC or PCP from the Land Use Budget. With the next submittal, please provide discussion in the narrative and a response to the P-C Findings (Sec. 5.2104 of the Zoning Ordinance), outlining how the proposal coordinates with existing and planned development of the surrounding area.*
   A response to the P-C findings is included in the updated narrative beginning on page 9 of the revised narrative that explains how the proposed Axon World Headquarters Campus coordinates with the existing and planned development of the surrounding area and within the Crossroads East Planned Community.

4. *Pursuant to Sec. 5.4008 of the Zoning Ordinance, City Council may approve bonus development standards for property zoned PCP upon demonstration of noteworthy investments in sustainable, high-quality design and other features that provide public benefits. Although previous actions for the Axon Campus included the provision of a dedicated Civic Use site, this requirement was the result of case 19-ZN-2002#6. As such, since this request seeks to substantially modify the previous approval, introducing residential use within an area where such a use was restricted, please update the Bonus Provision section of the narrative commensurate with the bonus development standards requested with this application, outlining Special Public Improvements and/or other community benefits to achieve bonus development standards.*
   Our resubmittal has been modified and no longer includes a request for bonus development standards.

5. *As supported by CD2.1, CD2.1.5, and CD2.2, the GACAP, the Hayden North Corridor, expects "urban characteristics that celebrate transitions from the urban environment to the native desert and residential areas". Buffered Roadways (1-GP-2004) have been developed within a range of 50 feet, measured from the edge of the right-of-way throughout the community, where there is a desire to develop a boulevard type setting. This was reinforced with the adoption of the GACAP through creation of Signature Corridors. Although the previous case stipulated the Hayden Road frontage to a minimum 40-foot landscape buffer, this request seeks to substantially modify the previous approval and introduce more sensitive land uses (including residential) that were not previously contemplated. By way of narrative and graphic support, please provide a minimum 50-foot width, measured from the edge of the right-of-way, as a buffered setback along Hayden Road.*
   We have discussed this comment with staff and the plans comply with the prior zoning stipulation; however, landscape setbacks vary along the Hayden Road frontage and exceed 40' in many areas. The relevant site plan section sheets also reference this dimension and detail – please refer to Sheets A1.17a and A1.17c.

6. *The General Plan 2035 Land Use (Goal LU 4) and Circulation (Policy C 8.1) elements and the GACAP Land Use (Goals LU7, LU8, and Policy LU8.5), Community Mobility (Goals CM1, CM4, CM4.2, CM6, Policies CM6.2, 6.3, 6.5, 6.6, and Goal CM&, Policy CM7.2), and the Character and Design (Goals CD1 and CD2) chapters speak to the importance of providing safe and comfortable pedestrian facilities to meet the needs of the current and future Greater Airpark*

community. This request seeks to substantially modify the previous approval and increase pedestrian activity within the context area. To this end, please revise applicable plans to show a minimum eight-foot-wide sidewalk (separated from back of curb) along the perimeter frontages and within the internal street network. Additionally, please revise applicable plans to show pedestrian connections between the proposed development and the Axon campus.
The plans have been updated to feature 8' sidewalks along the exterior roadways (Hayden Road and Axon Way) and 6' sidewalks are provided along the interior areas within the Axon Campus. This resubmittal includes a Pedestrian Circulation Plan that demonstrates the various connections between the phases of Axon's proposed World Headquarters Campus including an enhanced gathering space, multi-use path, and a 6' multi-use running trail that circumnavigates the entire development.

7. *The Land Use Element of the General Plan 2035 defines "Mixed-Use Neighborhoods" as "accommodating higher-density housing combined with complementary office or retail uses". Further, the GACAP defines "Airpark Mixed-Use-Residential" (AMU-R) as "areas that include a combination of higher density residential combined with employment, office and retail uses". With the next submittal, please provide the following:*

    - *The full Mixed-Use Neighborhoods and AMU-R definitions with the development plan and include discussion in the narrative as to how the proposal implements said definitions.*
      A thorough discussion of how the proposed project is consistent with the Mixed-Use Neighborhoods and Airpark Mixed-Use Residential definitions has been added to the General Plan and Greater Airpark Character Area Plan Amendment portion of the narrative.

    - *The PCP District Use Table 5.4006.A from the Zoning Ordinance notes that dwelling units are limited to a maximum of 50% of the ground floor building area of the development plan; a standard that is particularly important in the development of phased projects. Although the first submittal includes 44,800 square feet of non-residential space, there is no comparative calculation of residential floor area at the ground level. Provide confirmation that the proposal meets this development standard across the entire development plan area (all 6 buildings).*
      This resubmittal includes a request to modify the standard that a maximum of 50% of the ground floor building area be non-residential. While not a part of this request and not included in the calculations, it is worth noting that the Phase I development is entirely non-residential.

    - *Hayden Road is a Signature Corridor in the GACAP where active uses, such as restaurants entertainment and retail on the ground floor and/or closer to the street or pedestrian way are encouraged. Additionally, the Land Use chapter of the GACAP (Goal LU 7 and supporting goals) encourages pedestrian activity along Signature Corridors, including a mix of uses that complement and are compatible with each respective land use designation, and ground-floor retail. The proposal does not include non-residential uses along the street frontage. To further meet the intent of the PCP district as described above, please consider additional ground-floor non-residential uses to meet the vision of the community along this designated roadway; and update the development plan to respond to the Signature Corridor definition as well as Goal LU 7 and corresponding policies of the GACAP.*

An analysis of the Signature Corridor definition and how the proposed Axon World Headquarters Development meets the policies within Goal LU 7 has been added to the General Plan and Greater Airpark Character Area Plan Amendment portion of the narrative.

Significant Zoning Ordinance or Scottsdale Revise Code Issues

Current Planning

8. *Development Agreement #2002-141-COS-A3 ("Agreement") regulates all land use and development within the Crossroads boundary. Presently, this site is subject to the conditions of that Agreement. Specifically, the following sections from the Agreement are relevant to this application and must be addressed or rectified.* This will require coordination with ASLD:

    - *Paragraph 8. Changes to the Zoning. For the duration of this Agreement, the City shall not initiate any changes or modifications to the Modified Zoning (a "Zoning Change") except at the request of the owner of the portion of the Property for which such zoning is sought. Any such request for a Zoning Change will be processed in the manner set forth is the Zoning Ordinance for amendments*. If such a Zoning Change is inconsistent with the provisions of this Agreement, such Zoning Change shall not be processed until an application is filed by the ASLD to amend this Agreement, and such Zoning Change shall not become effective until the effective date of such amendment this Agreement to incorporate the Zoning Change.
      Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We understand that any rezoning is not effective until an amendment to the Agreement is processed.

    - *Paragraph 8.1. Notwithstanding the above provisions of Paragraph 8, a Zoning Change shall not be deemed to be inconsistent with, and does not require an amendment to, this Agreement* if an ASLD Successor seeks only to limit or expand the Amended Development Standards applicable solely to the ASLD Successor's property, and the Zoning Change would not affect any other provision of this Agreement, including but not limited to the Land Use Budget or Planning Unit Areas.
      Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We understand that an amendment to the Agreement is necessary.

    - *Paragraph 16. Amendments or Cancellation of the Agreement. This Agreement may be amended or canceled, in whole or in part* and with respect to all or any portion of the ASLD Property, only with the mutual written consent of the City and the ASLD.
      Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We continue working with ASLD regarding Axon's request and a future amendment to the Agreement.

    This is not intended to be a complete list of provisions/conditions that may affect this property. There may be additional legal provisions that must also be satisfied or amended.

9. *As part of the amendment to the Agreement, certain zoning stipulations (19-ZN-2002#6), which are attached as an exhibit to the Agreement, must also be amended and/or stricken to accommodate this request. This will require coordination with the ASLD. They are as follows:*
    - *Stipulation 3.1.D. LAND USE BUDGET.*

1. *The State Land Commissioner or designee shall approve the developer's distribution request of the land use density and intensity before an application to the Development Review Board is submitted to the City. The developer shall provide a copy of the approved distribution request with the submittal to the Development Review Board.*
   Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We will continue working with ASLD when a Design Review case is filed to ensure compliance with this requirement.

2. ***Maximum land use density and intensity shall be consistent with the Land Use Budget attached as Schedule B.***
   Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We understand an amendment to the Land Use Budget is required.

10. *NOTE: the proposed amendments to the Land Use Budget will require consent/coordination with ASLD and an amendment to the Crossroads Development Agreement.*
    Arizona State Land has provided a letter authorizing Axon to proceed with this request, and a copy of that letter is included with this resubmittal. We will continue to work with ASLD regarding these requests and future amendments to the Agreement.

11. *Please provide a legislative draft of the PCP zoning district (in its entirety) and utilize strikethrough and bold print to identify any proposed amendments to the development standards.*
    A legislative draft of the PCP zoning district in its entirety has been added to the narrative with the proposed modifications shown in legislative edit format.

12. *If this rezone is approved, the Axon site and the mixed-use site will be subject to different sets of development standards (Axon: I-1, mixed-use: PCP). Please provide a site analysis for each zoning area demonstrating that each portion will meet the development standards of the applicable district. Refer to Section 5.1804 of the Zoning Ordinance for I-1 standards, and Section 5.4007 of the Zoning Ordinance for the PCP standards.*
    Exhibit A1.16 has been added to the submittal set and demonstrates the ongoing compliance of the approved Phase I (industrial) development with all applicable standards.

Long Range Planning

13. *If any additional outreach has been conducted since the initial submittal, and as a response to Goal CI 1 of the Community Involvement Element and Policy LU 3.5 of the Land Use Element, please provide an updated Citizen Involvement Report that describes and key issues that have been identified through the public involvement process and any alterations to the submittal as a result of said input.*
    The submittal has been revised significantly as a result of feedback from our neighborhood meeting and community stakeholders. The hotel has been moved away from the adjacent residential development to the south and a greater buffer between the developments is provided. Additionally, the residential density has been reduced approximately 20% and some building heights have been lowered and the retail corridor has been modified. Details of the specific community feedback and how that has changed the proposed World Headquarters Campus is included in the Citizen Involvement Report.

Transportation

14. *Please confirm compliance with all stipulations from case 13-ZN-2020.*
    The stipulations from 13-ZN-2020 apply to Phase I only; however, Axon intends to comply with all stipulations. To the extent that the current proposal would be inconsistent with those stipulations (i.e. height and land use), this proposal – if approved – supersedes those stipulations.

15. *Please revise applicable plans to show removal of the existing Mayo Blvd./Union Hills street along the southern property line extending to Hayden Road. Refer to case 13-ZN-2020.*
    The existing Mayo Blvd./Union Hills street has been removed from the plans.

16. *Per stipulations for original zoning case 13-ZN-2020, a minimum $25,000 contribution toward the HAWK crossing that was installed on Hayden Road south of the project site is required. This contribution must be paid prior to approval of any subdivision or issuance of any permits, whichever comes first.*
    Our records reflect that Stipulation #19 from 13-ZN-2020 related to contribution for the HAWK signal was stricken prior to approval of the case and is therefore not part of the approved stipulation list.

Landscape Design

Stipulation #12 from case 13-ZN-2020 requires enhanced landscaping to be provided along the Mayo Blvd. frontage, in close proximity to the Stonebrooke II community south of the project site. The landscape plan provided with the first submittal is for the Axon site and surrounding streets. Please submit a conceptual landscape plan for this project site demonstrating compliance with the original zoning stipulation.
A conceptual landscape plan that includes an enhanced landscape buffer between the Axon World Headquarters Campus and adjacent residential is included with this resubmittal.

Building/Site Design

17. *The location of buildings along Hayden Road appears to be inconsistent with the established building setbacks along the road north and south of the subject site. Please provide a contextual analysis of setbacks (as measured from back of street curb) for existing buildings located north and south of the subject site (both sides of the street).*
    We have discussed this comment with staff and the plans comply with the prior zoning stipulation; however, landscape setbacks vary along the Hayden Road frontage and exceed 40’ in many areas. The relevant site plan section sheets also reference this dimension and detail – please refer to Sheets A1.17a and A1.17c. To demonstrate the consistency with nearby setbacks, a Context Aerial with Setback Analysis document is provided with this resubmittal. That document reflects setbacks along Hayden Road varying from approximately 36’ to 80’ with the average setback between 50’ – 60’. The minimum setbacks on Hayden Road proposed for the Axon Campus Phase II development range from 71’-1” to 81’-7” measured from the back of the curb consistent with (and in many instances exceeding) the average setbacks in the area.

18. *There appears to be trash compactors located along the Hayden Road entrance. Please provide details regarding how the compactors will be screened and how that screening will be integrated into the building design.*
    A detailed Refuse Plan is included as Sheet A 1.20.1 that includes the requested information. The compactors will to be screened with 6’-0” minimum high CMU wall and finished to match adjacent buildings.

Green Building

19. *None*

Storm Water

20. *None*

Water Resources

21. *None*

Airport

22. *Please note: this site is located within the Airport Influence Area (AC-2) and as such, Per Chapter 5 of the Scottsdale Revised Code, the following must be completed prior to construction plan approval. Please acknowledge in the response letter.*
    - *Sec. 5-354. Height Analysis. The owner of new development (and natural growth and construction equipment associated with new said development) shall submit to the FAA the appropriate forms for review and acceptance. Refer to FAA Form 7460-1.*
      A Height Analysis has been filed with the OEAAA.

    - *Sec. 5-355. Fair Disclosure. As recommended by the FAA Part 150 Noise Compatibility Study, each owner of property located within the Airport Influence Area shall make fair disclosure to each purchaser. If the development is subject to CC&R's said disclosure shall be included in the CC&R's.*
      Axon will comply with this requirement as applicable.

    - *Sec. 5-357. Avigation Easement. Before final plan approval for any new development, the owner shall grant to the City and record an Avigation Easement in a form satisfactory to the City Attorney's Office.*
      An Avigation Easement was provided on the plat for the property, recorded as MCR 20220630808. The Avigation Easement is dedicated under Note E.

    - *Sec. 5-358. Noise Attenuation. All new development that includes noise sensitive uses shall be constructed with noise attenuation measures in conformance with sound transmission requirements of the IBC.*
      The proposed Phase II of the Axon Campus will comply with the sound transmission requirements of the IBC.

Significant Policy Issues

Transportation

23. *Please revise applicable plans to show a right-turn deceleration lane at the site driveway on Hayden Road if the driveway is approved. This is recommended by the traffic study. Refer to Section 5-3.206 of the DSPM.*
    We have removed the driveway on Hayden Road.

24. *Please revise applicable plans to show safety triangles at all street intersections along the perimeter, internal driveways and street intersections (not applicable to roundabouts). Refer to Section 5-3.123 and Figure 5-3.27 of the DSPM.*
    The plans have been revised to include safety triangles at all street intersections and can be found on the enlarged site plan section sheets. The safety triangles are called out by Keynote 1111.

25. *The intent of the roundabout and site plan was to better connect the Axon campus with the residential development. The driveways and access should connect to the roundabout on Axon & 83rd Street.*

The interior circulation has been revised to provide connections to the roundabouts on Axon Way.

26. *There is a potential sight distance concern with the access proposed for the building at the southwest corner of the site on the east side. Please analyze building location to confirm there are no sight-distance conflicts and revise applicable plans accordingly as needed.*
Sight visibility triangles are noted on the enlarged plans included with this resubmittal on Sheets A1.17a – d. Sheet A1.17d specifically shows the area noted in this comment and demonstrates it is outside of any required sight distance.

Civil Engineering

27. *Please update applicable plans to show minimum 24-foot drive aisle widths. Refer to Section 2-1.303 of the DSPM.*
All internal driveways have a minimum 24' width and dimensions have been added to the site plan sections.

28. *Please revise applicable plans to indicate loading/unloading areas, minimum 45-foot X 12-foot, in accordance with the tables below. NOTE: alleys, fire lanes and streets cannot be used for loading/unloading.*

MULTI-FAMILY OFF-STREET LOADING & UNLOADING AREAS	
NO. OF DWELLING UNITS	NO. OF LOADING & UNLOADING AREAS
0 -50	1*
51 - 150	1
151 - 450	2
OVER 450	3**

* The DRB may approve designating one on-lot parking space for loading and unloading that is 10 feet wide by 18 feet long. Designated spaces shall be signed and striped as loading and unloading areas.
** Plus, any additional loading areas required by the DRB.

NON-RESIDENTIAL OFF-STREET LOADING & UNLOADING AREAS	
GROSS FLOOR AREA (FT^2)	NO. OF LOADING & UNLOADING AREAS
LESS THAN 30,000	1*
30,001 TO 100,000	1
100,001 TO 200,000	2
OVER 200,000	3**

* For each 10,000 square feet of gross floor area of a development project, the DRB may approve designating one on-lot parking space for loading and unloading that is 10 feet wide by 18 feet long. Designated spaces shall be signed and striped as loading and unloading areas.
** Plus, any additional loading areas required by the DRB.

Loading zones have been added to the plans and are shown with Keynote 1008.

29. *Please update the Refuse Plan to demonstrate conformance with the following requirements from Section 2-1.309 of the DSPM:*
    - *Design the location of the refuse or recycling compactor and loading and maneuvering area so that the container and refuse truck does not obstruct any portion of a designated fire lane or emergency and service vehicles and service lane while loading, unloading, or placing container.*

The design of the refuse does not conflict with any of the items detailed above. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

- *Place the refuse compactor and approach pad so that the service vehicle route to and from the public street has a minimum unobstructed vertical clearance of 13 feet 6 inches, and unobstructed minimum vertical clearance above the concrete approach slab and compactor storage area of 25 feet.*
  The refuse enclosures comply with the required approach and clearance requirements. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

- *Provide a refuse compactor approach area with a minimum width of 14 feet and length of 60 feet.*
  The refuse approach area complies with the minimum requirements. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

- *Provide a refuse approach and storage area with a maximum slope of 2%.*
  The refuse approach and storage areas do not have a slope greater than 2% and a note has been added to the detail sheet. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

- *Incorporate a concrete approach slab (minimum 30 feet long) and compactor storage area slab (minimum four feet longer than the container) that are, at a minimum, in compliance with the slab requirements of COS MAG Supplement Details. The property owner and their designers are responsible for determining when a greater capacity slab and structural design is required and shall modify the design indicated in the COS MAG Details to accommodate.*
  Concrete approach slabs have been added and are reflected with the details found on Sheet A1.21. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

- *Restaurants are to be provided their own refuse enclosures w/ grease containment area. Refer to City Detail #2146-2.*
  The design of the refuse does not conflict with any of the items detailed above. The Refuse Plan can be found on Sheet A1.20 with details on Sheet A1.21.

30. *Please update applicable plans to show a minimum six-foot wide pedestrian connection from the main entry of each building to perimeter streets that provides a sidewalk/mixed-use trail. Refer to Buildings A & B on the site plan. Refer to Section 2-1.310 of the DSPM.*
    Pedestrian connections from buildings to the perimeter streets feature a 6' wide sidewalk. The building frontages for Buildings A & B are located interior to the site and not along Hayden Road. The pedestrian connections from their frontages connect to Hayden Road via a sidewalk along Axon Way consistent with the requirements in Section 2-1.310.

31. *Please provide any proposed final plat phasing lines and provide exhibits for each phase to contain water, sewer and road improvements for each. Roads may not terminate at a dead-end. A temporary cul-de-sac turnaround with associated easements will be required. Dead-end water lines may not exceed 1,200 feet in length. Please revise applicable plans as needed or confirm no phasing of final plat will occur. Refer to Section 3-1.200 of the DSPM.*
    A Phasing Plan is provided on Sheet A1.16. All phases will have roadway connections to the realigned Axon Way or interior circulation corridors. The Phasing Plan demonstrates that no dead-end roads will be constructed and contains notes related to drive aisle connections between

phases to ensure there are no dead ends. All water, sewer and roadway improvements (except for interior roadways as depicted on the Phasing Plan) will occur with Phase I which is not a part of this request.

32. *Please revise applicable plans to show dedication and improvements for the 75-foot half-street right-of-way on Hayden Road. Improvements to include three travel lanes, seven-foot-wide bike lane (inclusive of vertical curb), raised median and minimum eight-foot-wide sidewalk along entire property frontage. Refer to Sections 5-3.101 and 5-3.110 of the DSPM.*
The overall site plan sheet shows a 75' right-of-way on Hayden Road. The roadway configuration is part of the off-site improvement plans submitted as part of Phase I. We continue to work with Transportation staff to ensure that the off-site improvement plans meet these requirements through the civil review process.

33. *Please revise applicable plans to show improvements for the 50-foot half-street right-of-way on Axon Way. Improvements to include two travel lanes, bike lane, and minimum eight-foot-wide sidewalk along entire project boundary. Refer to Sections 5-3.103 and 5-3.110 of the DSPM.*
The overall site plan sheet shows a 50' right-of-way along Axon Way. The roadway configuration is part of the off-site improvement plans submitted as part of Phase I. We continue to work with Transportation staff to ensure that the off-site improvement plans meet these requirements through the civil review process.

34. *Please revise applicable plans to show required auxiliary lanes:*
    - *11-foot wide, 150-foot-long right-turn lane at all street intersections with Hayden Road.*
      A 12'-wide left turn lane is provided at the intersection of Axon Way and Hayden Road.

    - *11-foot wide left turn lane at all street intersections with Axon Way.*
      A 12'-wide left turn lane is provided at the intersection of Axon Way and Hayden Road. All roundabout intersections along Axon Way include combined left/through turn lanes and separated right turn lanes that exceed 11' in width.

35. *Please revise applicable plans to show a public trail along both Hayden and Axon. Refer to Section 8-3.100 of the DSPM.*
A 1.5-mile trail 6' in width is provided along the perimeter of the entire Axon World Headquarters Campus site in addition to an 8' path along Hayden Road. Please refer to the Pedestrian Circulation Plan for details about pedestrian pathways.

36. *Public water and sewer lines located outside the public right-of-way or street tract must be located within a minimum 20-foot-wide Water and Sewer Facilities Easement located within a dedicated tract (unless otherwise approved by Water Resources). Refer to requirements below and Sections 6-1.419 and 7-1.412 of the DSPM and revise applicable plans accordingly.*
At this time, we do not have any public water and sewer lines proposed outside of the right-of-way or other previously-dedicated easements during the Phase I planning process.

    - *Horizontally, a minimum of six feet is required between the water line and edge of easement.*
      We will comply with this requirement and specific plans with this information will be provided during the construction document phase.

    - *The easement must be free of obstructions, shall not be fenced, and shall be accessible at all times by city service equipment.*

We will comply with this requirement and specific plans with this information will be provided during the construction document phase.

- *Easements outside paved areas must have a 10-foot wide hardened patch with a cross slope not greater than 10% and a longitudinal slope not greater than 20%. Hardened paths shall consist of native soil compacted to 95% to a depth of one foot.*
  We will comply with this requirement and specific plans with this information will be provided during the construction document phase.

- *Revegetation within the easement shall consist of low growing shrubs.*
  We will comply with this requirement and specific plans with this information will be provided during the construction document phase.

Building Design

37. *Please provide conceptual building elevations and perspectives with the next submittal. There may be additional comments once staff has had a chance to review.*
    We have discussed this item with staff and building elevations will be provided with the Design Review submittal.

Green Building

38. *None*

Storm Water

39. *None*

Water Resources

40. *None*

Technical Issues

Long Range Planning

41. *The narrative indicates that the proposal includes a hotel use. The site layout seems to only show residential and retail in all six buildings. Please revise applicable plans to indicate where the hotel is proposed, how many keys, and update parking calculations as needed.*
    This revised submittal notes that the location of the hotel is within Building D, closest to the Axon World Headquarters office building. The Development Data tables have been updated to reflect 425 keys within Building D and vehicular parking is provided accordingly.

42. *Please remove the Axon campus from the phasing plan as it is not part of the zoning map or Character Area Plan amendments.*
    We respectfully disagree with this comment and find it important to include the Axon World Headquarters office on the phasing plans as they are part of the same Planned Community District and the projects are intertwined. Based on our conversations with various staff members, the Axon World Headquarters office building remains on the Phasing Plan.

Building Design

43. *Though not a requirement of the PCP zoning district, the multi-family residential units should include outdoor private open space (balconies/patios). Minimum recommended area per unit is 60 square feet. Please provide floor plan worksheets that confirm private outdoor living space is being provided or acknowledge in response letter.*

We have discussed this item with staff and building elevations will be provided with the Design Review submittal.

Transportation

44. *NOTE: the developer needs to coordinate with ADOT regarding the proposed driveway on Hayden Road, which is within the ADOT access control distance to the interchange. This driveway will likely be restricted to right-in only access…..no right turn from the site onto Hayden Road.*
    The previously proposed driveway of noted concern along Hayden Road has been removed with this resubmittal removing the issue.

45. *Please revise applicable plans to show the Hayden Road median near the existing Mayo/Union Hills intersection as a left-turn, left-out design ("pork chop").*
    The configuration of this area is depicted on the Off-Site Improvement Plans currently in review with the City. We continue to work with Transportation staff on an acceptable design at this area.

46. *Offsite improvements must include a traffic signal at the Axon & Hayden intersection, modification to the Hayden Road median south of Axon Way, and removal of the existing Mayo/Union Hills street along the south property line extending to Hayden Road.*
    Off-Site Improvement Plans depicting the traffic signal at Axon Way and Hayden Road and removing the existing Mayo Blvd./Union Hills roadway are currently in review as part of the Phase I plans.

Traffic Impact & Mitigation Analysis (TIMA)

47. *Please revise the TIMA to respond to/address the following:*
    - *NOTE: A professional engineer registered in the State of Arizona must seal the report. As a DRAFT stamp is shown on the submitted report, review was limited. Comments below are for the incomplete sealed study attached to the document submitted 7/7/2023.*
      The updated TIMA is sealed by CivTech Traffic Engineer Joseph Spadafino, an Arizona registered professional engineer.

    - *24-hour bidirectional counts are required on all adjacent roadway segments. It appears only existing turn movement counts are included. The segments are as follows: Hayden from Princess to Mayo, Mayo to Loop 101, Hayden from Loop 101 to Legacy Blvd., Princess to Mayo, and Perimeter Drive from Princess to Mayo.*
      24-hour bidirectional counts are provided for all adjacent roadway segments in the TIMA included with this resubmittal.

    - *Please contact Transportation staff for crash data if necessary.*
      Crash data is included in the updated TIMA.

    - *Adjacent projects are likely to construct Mayo Blvd. between Scottsdale Road & Hayden Road in one of the time periods analyzed in the study. Please contact Transportation staff for adjacent development traffic studies and incorporate the traffic improvements into this study. Different trip distributions are likely for different study years due to other connections.*
      The traffic engineer has been in communication with staff regarding traffic studies for adjacent developments and that data is included in the updated TIMA.

- *NOTE: with the change in land use from the previous approval, the proposed Axon Way and roundabouts may need to be revised*
  The updated TIMA does not require any modifications to the roundabouts.

Civil Engineering

48. *Per Chapter 48 of the Scottsdale Revised Code (SRC), a Covenant to Construct and assurances for public infrastructure will be required prior to any permit issuance. Dollar value will be based on city costs to complete infrastructure. Please acknowledge in the response letter.*
    Thank you for this information. We will comply with this requirement prior to permit issuance.

49. *Per Section 47-10, 48-7 and 49-219 of the SRC, Off-site transportation, storm water and water/wastewater improvements are required along the property frontages to existing supporting infrastructure, with associated easements. Please revise applicable plans to show required improvements. Also refer to stipulations for case 13-ZN-2020.*
    The off-site transportation, storm water and water/wastewater improvements associated with Phase I are currently in review for permitting. We have met with various staff departments regarding storm water and water/wastewater improvements to accommodate the proposed World Headquarters Campus and will provide more detailed studies during the Design Review phase of this project.

50. *Per Sections 48-3 and 48-4 of the SRC, platting will be required for any new parcel creation prior to issuance of any permits. Easement dedications, via plat, will be required for any public infrastructure running through private property. Additionally, easements in conflict with proposed development will need to be released/abandoned via separate Map of Release.*
    At this time, there are no plans to further subdivide the existing parcels and will dedicate any required easements or extinguish any easements if necessary during the construction document phase of this proposed development.

51. *Please submit a plan illustrating the proposed parcel boundaries if the plan is to create any new parcels. Additional parcel boundaries can change infrastructure requirements. As such, additional project requirements may be forthcoming depending on the proposed parcel boundary plan. If there are no plans to subdivide the property, please indicate in the response letter.*
    At this time, there are no plans to further subdivide the existing parcels.

Storm Water

52. *None*

Water Resources

53. *None*

Thank you for your review of our plans. Please feel free to reach out with any additional questions. I can be reached at (480) 921-2800 or via e-mail at charles@huellmantel.com.

Thank you,

Charles Huellmantel

AXON WAY & HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

PRELIMINARY NOT FOR CONSTRUCTION

15813
Rich Barber
Expires 3/31/2026

AXON

PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.00

CONTEXT PLAN

1 CONTEXT SITE PLAN

SCALE: 1" = 200'-0"

OPEN SPACE CALCULATIONS

REQUIRED OPEN SPACE:

AXON CAMPUS (I-1):
LIGHT INDUSTRIAL REQUIRED OPEN SPACE:

SITE NET AREA:	984,838 SQ. FT.
FIRST FLOOR (16 FT.) 10% OF NET AREA:	98,484 SQ. FT.
EVERY ADDITIONAL 10' AFTER 96' - 16' = 80' NET AREA x 0.04 (4%)	315,149 SQ. FT.
TOTAL REQUIRED OPEN SPACE:	**413,633 SQ. FT.**

MIN. 20'-0" LANDSCAPE AREA FROM STREETLINE

RESIDENTIAL (PCP):

SITE NET AREA:	1,500,486 SQ. FT.
25% REQUIRED OPEN SPACE:	**375,121.5 SQ. FT.**

MIN. 30'-0" LANDSCAPE AREA BETWEEN PARKING AND CURB LINE
MIN. 40'-0" LANDSCAPE BUFFER ALONG HAYDEN ROAD FROM R.O.W.

NOTE: RESIDENTIAL PRIVATE OPEN SPACE REQUIREMENTS TO BE DETERMINED AT DESIGN REVIEW.

AREA & OPEN SPACE PROVIDED

RESIDENTIAL SITE

PARKING LOT + PARKING LOT LANDSCAPE (15% MIN.)
330,111.11 SQ. FT. TOTAL

C — COMMERCIAL SPACES IN FRONTAL AREAS

OPEN SPACE OTHER THAN FRONTAL OPEN SPACE
459,912.93 SQ. FT. TOTAL

COURTYARD OPEN SPACE
239,781.85 SQ. FT. TOTAL

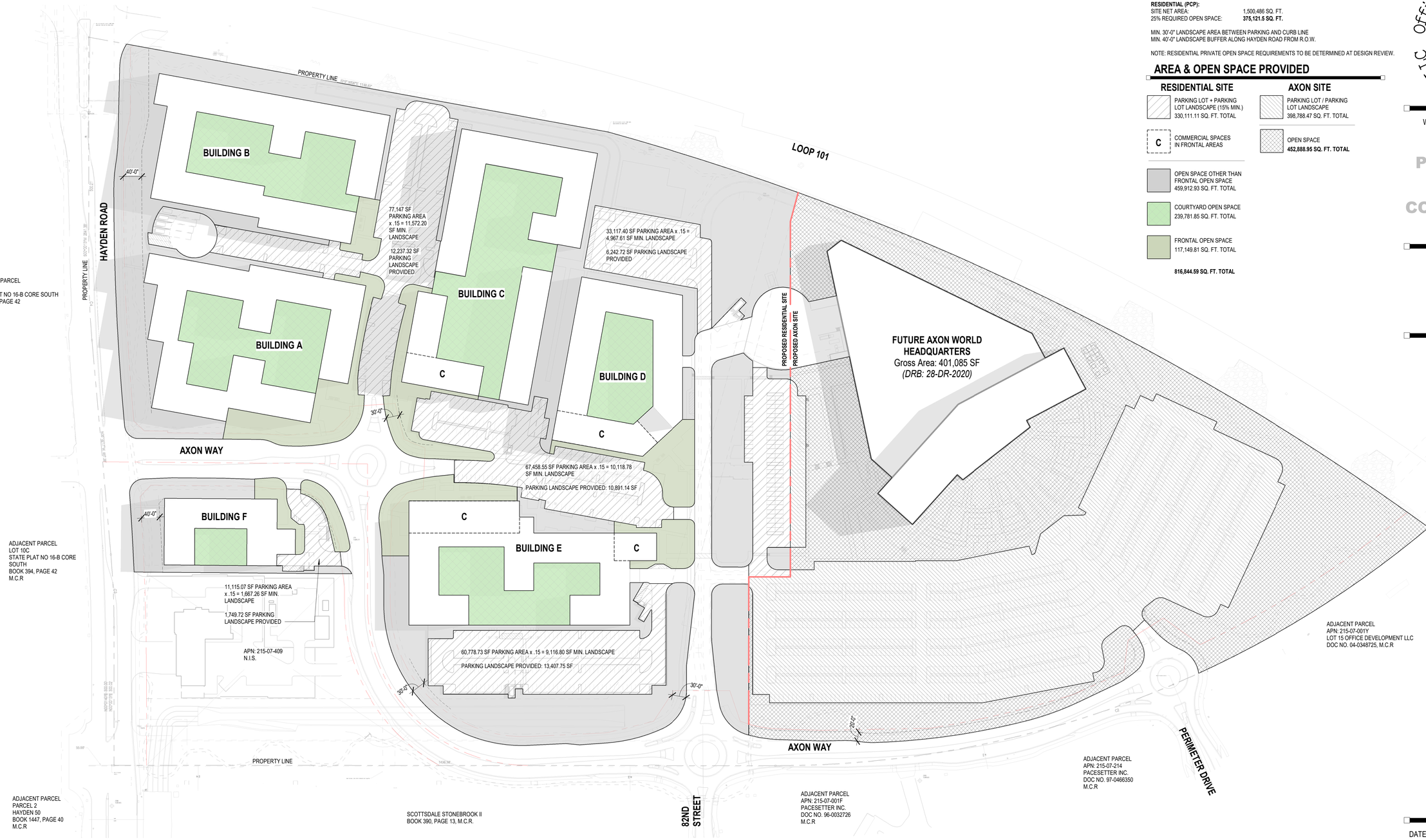
FRONTAL OPEN SPACE
117,149.81 SQ. FT. TOTAL

816,844.59 SQ. FT. TOTAL

AXON SITE

PARKING LOT / PARKING LOT LANDSCAPE
398,788.47 SQ. FT. TOTAL

OPEN SPACE
452,888.95 SQ. FT. TOTAL



1 SITE PLAN OPEN SPACE PLAN

0' 50' 100' 200'

SCALE: 1" = 100'-0"

AXON WAY & HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

REGISTERED ARCHITECT — 15413 — Rich Barber — 28 — 25 — ARIZONA U.S.A. — Expires 3/31/2026

PRELIMINARY NOT FOR CONSTRUCTION

AXON

PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.22

OPEN SPACE PLAN

UPDATED ZONING DATA FOR AXON WORLD HEADQUARTERS SITE

NOTE: CHANGES ARE LIMITED TO UPDATED FLOOR AREA RATIO, SHARED PARKING ADJUSTMENT, AND OPEN SPACE CALCULATIONS. PHYSICAL CHANGES TO APPROVED PLANS ARE NOT PROPOSED UNDER THIS SUBMITTAL.

APN:
ASSESSOR PARCEL NUMBER
215-07-407

NEW SITE AREA:
TOTAL GROSS AREA: 1,089,509 SF (25.01 ACRES)
TOTAL NET AREA: 984,838 SF (2.40 ACRES)

ZONING:
CURRENT: I-1

SETBACKS:
FRONT YARD : 20'-0" MIN.
REAR: N/A
SIDE: N/A

BUILDING HEIGHT:
CURRENT: AXON CAMPUS 96'-0" MAX.

NEW LOT COVERAGE:
ALLOWED: FLOOR AREA RATIO (FAR) : 0.80
PROPOSED: FLOOR AREA RATIO (FAR) : 0.41

SCREENING:
CURRENT: SITE WALLS, BERMS

NEW OPEN SPACE:

REQUIRED OPEN SPACE:

AXON CAMPUS:
LIGHT INDUSTRIAL REQUIRED OPEN SPACE:
SITE NET AREA: 984,838 SQ. FT.
FIRST FLOOR (16 FT.)
10% OF NET AREA: 98,484 SQ. FT.

EVERY ADDITIONAL 10' AFTER
96' - 16' = 80'
NET AREA x 0.04 (4%) 315,149 SQ. FT.

TOTAL REQUIRED OPEN SPACE: **413,633 SQ. FT.**

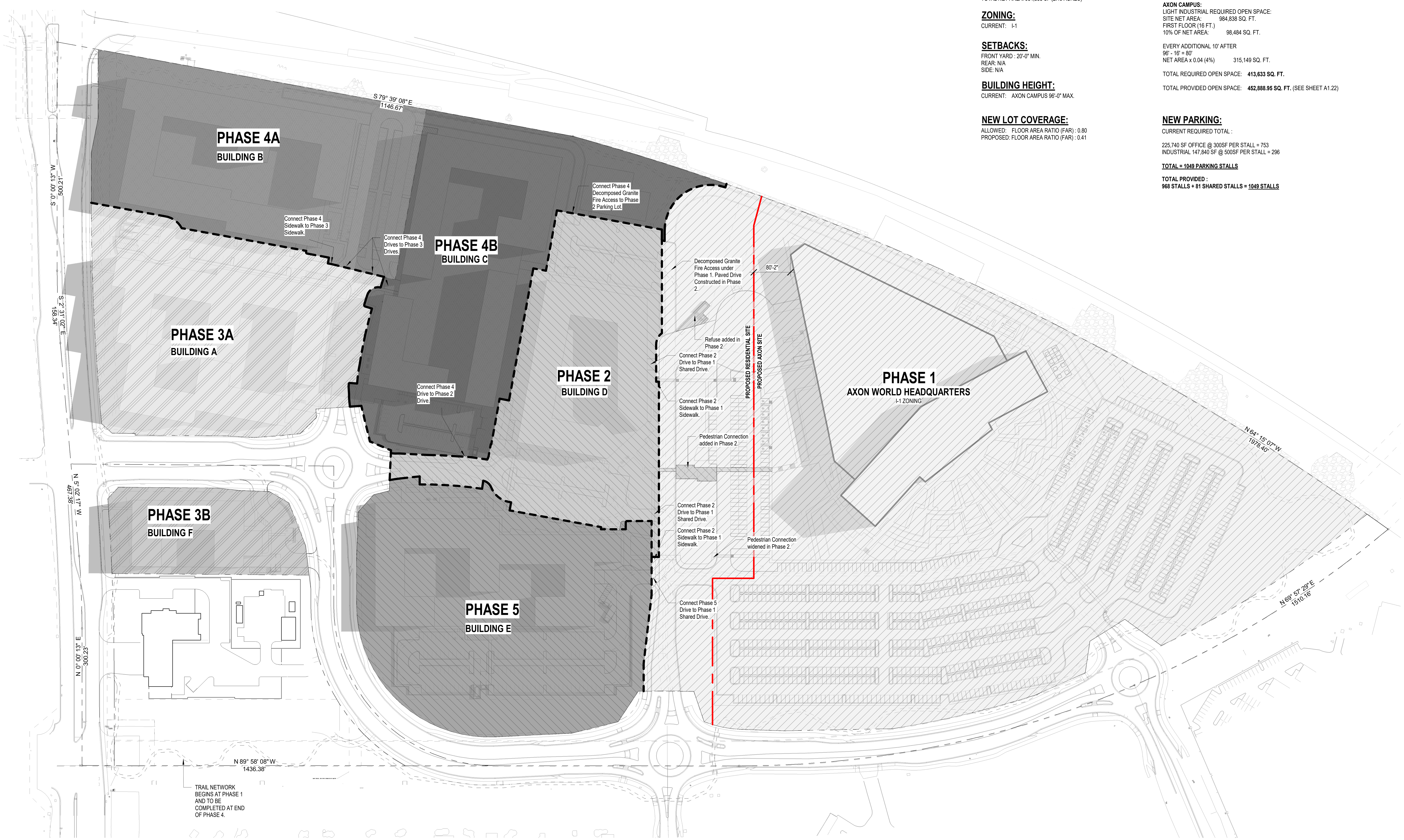
TOTAL PROVIDED OPEN SPACE: **452,888.95 SQ. FT.** (SEE SHEET A1.22)

NEW PARKING:
CURRENT REQUIRED TOTAL :

225,740 SF OFFICE @ 300SF PER STALL = 753
INDUSTRIAL 147,840 SF @ 500SF PER STALL = 296

TOTAL = 1049 PARKING STALLS

TOTAL PROVIDED :
968 STALLS + 81 SHARED STALLS = 1049 STALLS



1 PHASING PLAN

0' 50' 100' 200'

SCALE: 1" = 100'-0"

N

AXON WAY & HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB

WorldHQ@ORBArch.com

PRELIMINARY NOT FOR CONSTRUCTION
15213
Rich Barber
Expires 3/31/2026

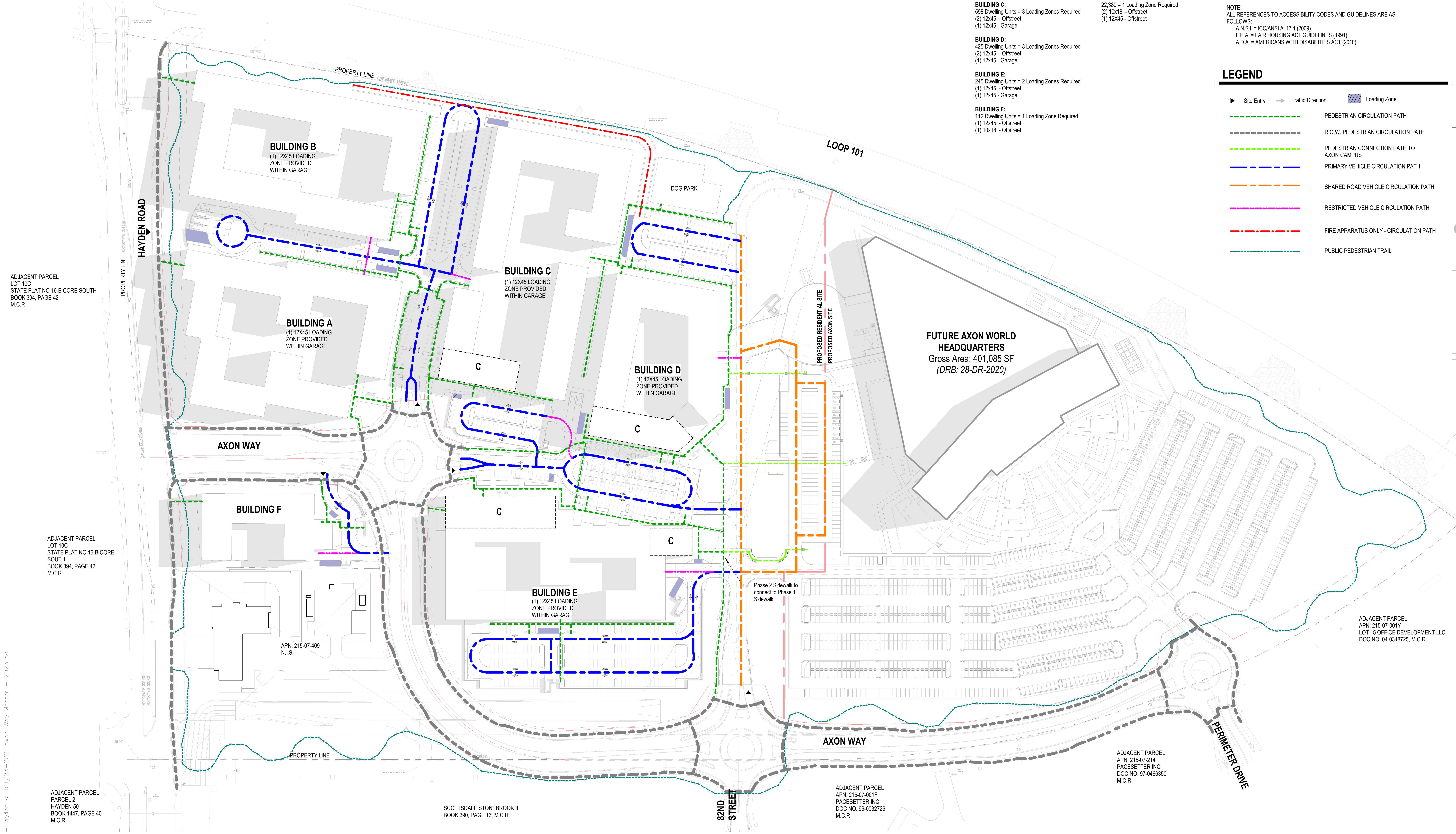
AXON

PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.23

PHASING PLAN



1 PEDESTRIAN & VEHICULAR PLAN

0' 50' 100' 200'

SCALE: 1" = 100'-0"

LOADING ZONE CALCULATIONS

RESIDENTIAL:

BUILDING A:
509 Dwelling Units = 3 Loading Zones Required
(2) 12x45 - Offstreet
(1) 12x45 - Garage

BUILDING B:
515 Dwelling Units = 3 Loading Zones Required
(2) 12x45 - Offstreet
(1) 12x45 - Garage

BUILDING C:
598 Dwelling Units = 3 Loading Zones Required
(2) 12x45 - Offstreet
(1) 12x45 - Garage

BUILDING D:
425 Dwelling Units = 3 Loading Zones Required
(2) 12x45 - Offstreet
(1) 12x45 - Garage

BUILDING E:
245 Dwelling Units = 2 Loading Zones Required
(1) 12x45 - Offstreet
(1) 12x45 - Garage

BUILDING F:
112 Dwelling Units = 1 Loading Zone Required
(1) 12x45 - Offstreet
(1) 10x18 - Offstreet

COMMERCIAL:

BUILDING C:
11,050 SF = 1 Loading Zone Required
(1) 10x18 - Offstreet
(1) 12X45 - Offstreet shared with Building D

BUILDING D:
13,750 SF = 1 Loading Zone Required
(1) 12X45 - Offstreet shared with Building C

BUILDING E:
22,380 = 1 Loading Zone Required
(2) 10x18 - Offstreet
(1) 12X45 - Offstreet

ACCESSIBILITY NOTES

1. CONTRACTOR SHALL OBTAIN A COPY OF THE FAIR HOUSING ACT DESIGN MANUAL AND ICC/A.N.S.I. A117.1-2009 FOR ON SITE REFERENCE.
2. ALL SIDEWALKS PART OF THE ACCESSIBLE ROUTE SHALL BE ACCESSIBLE PER A.N.S.I. SECTION CHAPTER 4. THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20 (5%). THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48 (2%). THE CLEAR WIDTH OF ALL SIDEWALKS SHALL BE NO LESS THAN 36". COORDINATE ALL GRADES TO COMPLY WITH SLOPE AND CROSS SLOPE REQUIREMENTS.

KEYNOTES

NOTE:
ALL REFERENCES TO ACCESSIBILITY CODES AND GUIDELINES ARE AS FOLLOWS:
A.N.S.I. = ICC/ANSI A117.1 (2009)
F.H.A. = FAIR HOUSING ACT GUIDELINES (1991)
A.D.A. = AMERICANS WITH DISABILITIES ACT (2010)

LEGEND

Site Entry
Traffic Direction
Loading Zone
PEDESTRIAN CIRCULATION PATH
R.O.W. PEDESTRIAN CIRCULATION PATH
PEDESTRIAN CONNECTION PATH TO AXON CAMPUS
PRIMARY VEHICLE CIRCULATION PATH
SHARED ROAD VEHICLE CIRCULATION PATH
RESTRICTED VEHICLE CIRCULATION PATH
FIRE APPARATUS ONLY - CIRCULATION PATH
PUBLIC PEDESTRIAN TRAIL

AXON WAY & HAYDEN ROAD

NE CORNER OF N. HAYDEN RD AND AXON WAY
SCOTTSDALE, ARIZONA 85255

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

PRELIMINARY NOT FOR CONSTRUCTION

AXON

PRELIMINARY

DATE: November 28, 2023 ORB #: 23-202

A1.24

PEDESTRIAN AND VEHICULAR PLAN

LEGEND

- 6′ path
- 8′ path
- 10′ path/plaza
- * 6′ trail (1.5 mi.±)
- pedestrian crosswalk
- AXON world headquarters planned pedestrian circulation
- * fitness station
- pedestrian gathering/ coffee connection

* EXACT LOCATION(S) & EQUIPMENT TO BE FINALIZED WITH PLAN IMPROVEMENTS

CONCEPTUAL FITNESS EQUIPMENT

LOOP 101

N. HAYDEN ROAD

BUILDING B

BUILDING A

BUILDING C

BUILDING D

BUILDING E

BUILDING F

DOG PARK

PROPERTY LINE

FUTURE AXON WORLD HEADQUARTERS

AXON WAY

AXON WAY

FUTURE FIRE STATION

ENHANCED LANDSCAPE BUFFER

EXISTING SINGLE FAMILY RESIDENCES

NORTH

0 80 160 240

SCALE: 1" = 80'-0"

AXON

PEDESTRIAN CIRCULATION PLAN

collectiV landscape architects

AXON MULTI-USE CAMPUS

TRAFFIC IMPACT AND MITIGATION ANALYSIS

December 2023

CivTech Project No. 21-0551

South of State Route Loop 101/Pima Freeway East of Hayden Road
[Crossroads East Parcel P-13]

Prepared for:
Axon Enterprise, Inc.
c/o Huellmantel & Affiliates
605 South Ash Avenue
Tempe, Arizona 85281

For Submittal to:
City of Scottsdale

10605 North Hayden Road, Suite 140 • Scottsdale, Arizona 85260 • 480.659.4250

CivTech

AXON WORLD HEADQUARTERS CAMPUS, PHASE 2
TRAFFIC IMPACT AND MITIGATION ANALYSIS

SOUTH OF STATE ROUTE LOOP 101/PIMA FREEWAY
EAST OF HAYDEN ROAD

Prepared for:

Axon Enterprise, Inc.
c/o Huellmantel & Affiliates
P.O. Box 1833
Tempe, Arizona 85280

For Submittal to:

City of Scottsdale

Prepared by:

CivTech Inc.
10605 North Hayden Road, Suite 140
Scottsdale, Arizona 85260

Office: 480-659-4250
Fax: 480-659-0566
info@civtech.com

December 2023
CIVTECH PROJECT NO. 21-0551

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EXECUTIVE SUMMARY

Axon Enterprise, Inc. ("Axon" is proposing to build a World Headquarters Campus which will include a 425-key hotel and a 1,975-dwelling unit (DU) three- to five-story (i.e., mid-rise) multifamily residential community with a total of 47,180 SF of ground-floor commercial uses. The current Project is Phase 2 of the development of the site. Phase 2 will complement Phase 1, which is the 401,085-square foot (SF) Axon office building. Phase 1 has already received all the necessary entitlement approvals from the City of Scottsdale. The World Headquarters Campus consists of three individual Maricopa County Assessor numbered parcels and 10.03 acres of City roadway right of way that total 73.57 acres. The approved Phase 1 is approximately 25 acres and the proposed Phase 2 is approximately 44 acres with the remaining land in the original 73.57 acres dedicated to the City of Scottsdale for rights-of-way and a Civic Use Site.

The former Mayo Boulevard east of Hayden Road has been renamed Axon Way; it will be realigned west of 82nd Street such that it intersects Hayden Road across from Mayo Boulevard. A review of County Assessor maps shows that the right-of-way (ROW) for this realignment has been dedicated by Axon. Primary access to the site will be via the (future) signalized intersection of Hayden Road and Mayo Boulevard/Axon Way and three modern roundabouts along Axon Way: the first just east of Hayden Road (where Axon Way begins to curve to the south and it will also serve two driveways), the second at 82nd Street, and the third at Perimeter Drive. Additional access will be provided by three site driveways: one right-in/right-out driveway along Hayden Road serving the main parcel and two along Axon Way, serving the small parcel on which the hotel will be developed.

The following conclusions and recommendations have been documented in this study:

GENERAL

- As currently proposed, Phase 2 of the Axon campus is anticipated to generate 13,862 trips on a typical weekday with 1,291 trips (560 in/731 out) generated during the AM peak hour and 1,610 trips (900 in/710 out) generated during the PM peak hour before any reductions are taken. Net of reductions for internal capture or interaction, Phase 2 is expected to generate 10,802 trips on a typical weekday with 1,079 trips (457 in/622 out) generated during the AM peak hour and 1,334 trips (752 in/582 out) generated during the PM peak hour.

EXISTING (2023)

- The results of the existing conditions analysis indicate that most study intersections and individual approaches operate with acceptable levels of service (LOS D or better). The only exceptions are at the signalized **Loop 101 Ramps & Princess Drive/Pima Road TUDI** and at the eastbound apartment driveway approach at the stop-controlled intersection of **Hayden Road & Axon Way/Union Hills Drive**.

FUTURE CONDITIONS (2025 & 2030)

AXON CAMPUS ONLY ANALYSIS

- The analysis demonstrated that, with trips only generated by the Axon campus and without trips from the several proposed surrounding developments, many of the intersections within the study area

would operate with better levels of service and would require less mitigation and that it is trips from the other developments added at the City's request that are creating further operational issues.

COMPLETE ANALYSIS WITH ALL PROPOSED DEVELOPMENTS

- The results of the Synchro analysis indicate that the following Study Intersections operate with Levels of Service (LOS E or worse): **Hayden Road and Mayo Boulevard/Axon Way, Axon Way and Axon Way, Hayden Road and Princess Drive, Hayden Road and Loop 101, Perimeter Drive and Princess Drive, Loop 101 SB Ramps & Princess Drive/Pima Road** and **82nd Street and Princess Drive.**

- It should be noted that delays are expected in both the Build and No Build scenarios. There are several proposed surrounding developments that are expected to be built out by 2030, further increasing delays at these intersections. CivTech analyzed the intersections within the site both with and without the addition of the surrounding developments for the 2030 Build scenario to demonstrate the delay solely caused by the Axon development.

- Adding site traffic results in two signalized intersections (both being one-half of the two TUDIs) and several approach movements operating at LOS E of LOS F. These are as follows:

  - *Hayden Road and Mayo Boulevard/Axon Way*. In the 2025 Build scenario, *using the same signal timing CivTech assumed for the background/no-build condition,* the signalized intersection of **Hayden Road and Mayo Boulevard/Axon Way** is expected to operate with overall intersection delays during the AM and PM peak hours, respectively. The southbound, eastbound, and westbound approaches are expected to operate with delays in both the AM and PM peak hours.

    To address the expected delay at the intersection, CivTech recommends that the developer provide dual southbound left-turn lanes in the existing median, a westbound right-turn lane be provided, the cycle length be 120 seconds, and the initial signal timings be similar to the timings used by CivTech to achieve these results. Additionally, CivTech recommends that a dual eastbound left-turn lane be provided to sustain background volumes from the "Northwest Corner Hayden Road and Mayo Boulevard" surrounding development. This latter addition is recommended within its TIA at full-buildout, but given the high volumes after the construction of Phase 1, CivTech recommends advancing the construction to 2025. Axon Way must be constructed wide enough to provide two receiving lanes for the dual left turn movements. With these mitigations in place, the intersection is expected to operate with acceptable levels of service.

  - *Axon Way and Axon Way Roundabout*. In both Build scenarios, the roundabout of **Axon Way and Axon Way** is expected to operate at LOS F in the northbound approach during the PM peak hour in both Build scenarios.

    - To mitigate the delay at the intersection, CivTech recommends that the northbound shared through and right-turn lane becomes a shared through, left-turn and right-turn lane. This change will add a second northbound to westbound through lane on the north end of the roundabout, as well as an additional exit lane on the west leg of the roundabout. While HCM 2016 cannot analyze this mitigation/configuration, it is CivTech's professional opinion that this

change will allow for better flow for the northbound left-turn, southbound right-turn, and eastbound left-turn movements.

- *Hayden Road and Princess Drive*. In the 2025 No Build and Build scenarios, the signalized intersection of **Hayden Road and Princess Drive** is expected to operate with delays in the eastbound approach during the AM and PM peak hours.

  - To mitigate the delay at the intersection, CivTech recommends that the signal timing be adjusted to increase the green time for the eastbound approach. With these mitigations in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

- *Hayden Road and Loop 101*. In the 2025 No Build scenario, the signalized intersection of **Hayden Road and Loop 101 WB Ramps** is expected to operate with a delay in the northbound approach during PM peak hour.

  In the 2025 Build scenario, the intersection is expected to operate with an overall intersection delays and delays in the northbound approach during the AM and PM peak hours.

  - To mitigate the delay at the intersection, CivTech recommends that the existing pavement be re-striped to add a second/dual northbound left-turn lane and the signal timing be adjusted. With these mitigations in place, the peak hour delays at the intersection in the 2025 Build scenarios are expected to be similar to those in the corresponding No Build scenarios.

- *Perimeter Drive and Princess Drive*. In the 2025 Build scenario, the signalized intersection of **Perimeter Drive and Princess Drive** is expected to operate with an overall intersection delay and delay in the northbound and southbound approaches during the PM peak hour.

  - To mitigate the delay at the intersection, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches during the PM peak hour. With this mitigation in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

- *Loop 101 and Princess Drive/Pima Road*. In the 2025 No Build and Build scenarios, the signalized intersection of **Loop 101 SB Ramps & Princess Drive/Pima Road** is expected to operate with a delay in the southbound approach during AM peak hour.

  In the 2025 No Build and Build scenarios, the signalized intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays and delays in the northbound and eastbound approaches during the AM and PM peak hours.

  - To mitigate the delay at the interchange during the AM peak hour, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches. To mitigate the delay at the interchange during the PM peak hour, CivTech

recommends that signal timing be adjusted to increase the green time for the eastbound and westbound left-turn movements. With these mitigations in place, the intersection is expected to operate with delays in both the 2025 Build conditions approximating those in the respective No Build scenarios.

In the 2030 No Build and Build scenarios, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays and delays in the northbound and eastbound approaches during the AM and PM peak hours.

- To mitigate the delay at the interchange, it is recommended that the signal timing be adjusted to increase the green time for the westbound left-turn movement. With this mitigation in place, the intersection is expected to operate with delays in both the 2025 and 2030 Build conditions approximating those in the respective No Build scenarios.

- *Unsignalized Stop-Controlled Intersections*
  - 82nd Street and Princess Drive. In both the No Build and Build scenarios, the unsignalized intersection of **82nd Street and Princess Drive** is expected to operate with some delays during the peak hours.
    - It is not uncommon for traffic from low-volume stop-controlled roadways such as Access A or 82nd Street to experience higher delays for brief periods during the day when approaching a higher-volume major road; therefore, no mitigation is recommended for either intersection.

TURN LANE WARRANTS

- Based on City criteria, with 10,769 vpd traveling eastbound on Axon Way, a posted speed limit of 35 mph, and up to 45 eastbound right turns expected during the PM peak hour, a deceleration lane is warranted for the eastbound right-turn lane at the intersection of Access A and Axon Way. CivTech recommends a dedicated eastbound right-turn lane be provided on Axon Way approaching Access A.

- Based on City criteria, with no northbound or southbound right-turns expected during either peak hour, a right-turn deceleration lane is not warranted for the northbound or southbound approaches, and therefore is not recommended.

QUEUE STORAGE

- The queue storage analysis reveals that most existing turn lanes will provide adequate queue storage capacity based on expected 2030 peak hour turning movement volumes.

INTRODUCTION

Axon is proposing to build a World Headquarters Campus consisting of a 425-key hotel and a 1,975-dwelling unit (DU) three- to five-story (i.e., mid-rise) multifamily residential community with a total of 47,180 SF of ground-floor commercial uses. The current Project is Phase 2 of the development of the site. Phase 2 will complement Phase 1, which is the 401,085-square foot (SF) Axon office building. Phase 1 has already received all the necessary zoning and other approvals from the City of Scottsdale. The site is roughly triangular in shape and consists of three individual Maricopa County Assessor numbered parcels and 10.03 acres of City roadway right-of-way (ROW) that total 73.57 acres. Bounded by Hayden Road on the west, the Loop 101/Pima Freeway on the north, and Union Hills Drive on the south, Axon owns two of the parcels, 57.17-acre APN 215-07-407 and 1.76-acre APN 215-07-408. The third, 4.61-acre 215-07-409, is presently owned by the City of Scottsdale and is not shown on the plans provided as part of the Axon development.

Primary access to the site will be via the (future) signalized intersection of Hayden Road and Axon Way and three modern roundabouts along Axon Way: the first just east of Hayden Road (where Axon Way begins to curve to the south and it will also serve two driveways), the second at 82nd Street, and the third at Perimeter Drive. Additional access will be provided by two site driveways along Axon Way. A location map is provided in **Figure 1**.

PURPOSE OF REPORT AND STUDY OBJECTIVES

CivTech Inc. was retained in late June 2023 by Axon to perform a Category 2 Traffic Impact and Mitigation Analysis (TIMA) for the proposed Axon campus, the level of study requested by the City of Scottsdale. At that time, *an unsealed draft was submitted to the City as a first/original submittal to serve as a "placeholder" as one component of a complete application package. As expected, that document allowed City traffic engineers to see the direction that CivTech was taking the study and to make comments/suggestions. The City provided comments via email and CivTech has addressed them in this more-formal study, which CivTech has labeled a 2nd Submittal, addresses those comments (see **Appendix A**).*

Turning movement counts will be recorded and future submittals will address traffic and transportation impacts of the proposed development on the surrounding streets and intersections. The specific objectives of the study will then be as follows:

1. To evaluate lane requirements on all existing and proposed roadways and at all existing and future signalized intersections within the study area and recommend any capacity related improvements.

2. To determine ultimate build-out level of service for all existing and future signalized intersections within the study area and recommend any capacity related improvements.

3. To evaluate the need for future traffic control changes within the proposed study area.

CivTech will analyze major intersections within one-mile of the site and all site driveways.

STUDY REQUIREMENTS

This study analyzes the traffic impact due to the proposed Axon campus on the surrounding street network and has been prepared per the requirements of Section 5-1 (Transportation Impact Study) of the City of Scottsdale's 2018[1] *Design Standards and Polices Manual*.

STUDY AREA

The study area has been identified as the following arterial-to-arterial and arterial-to-collector intersections:

1. Hayden Road and Axon Way
2. Hayden Road and Axon Way/Apartment Dwy
3. 82nd Street at Union Hills Drive
4. Perimeter Drive and Axon Way
5. Hayden Road and Princess Drive
6. Hayden Road and Loop 101 Eastbound Ramps
7. Hayden Road and Loop 101 Westbound Ramps
8. Hayden Road and Legacy Boulevard

In addition, CivTech will analyze all proposed accesses to the development, which, as noted above, will include two right-in/right-out driveways.

HORIZON YEARS

The opening year 2025 and a horizon year 2030 are included in this analysis. For purposes of this analysis, it is assumed that the proposed development will be fully built-out by the study year 2025.

HISTORY

In 2011, the Arizona State Land Department engaged CivTech to prepare a traffic study for Crossroads East development (the "Crossroad 2011 Study"). As originally studied, the entire Crossroads East development, located in the northeast corner of Scottsdale Road and Princess Drive, was expected to provide 3,305,943 SF of retail uses, 2,557,669 SF of office space, 3,443 DUs, and 7,775,460 SF of industrial land uses on approximately 882 gross acres. CivTech prepared a follow-up enhanced traffic statement in 2022 (the "Crossroad 2022 Study"). The entire Axon campus site plus the City parcel was designated as "Parcel P-13" of Crossroads East.

[1] In 2021, the City issued an update in draft form; it has not yet been adopted. A comparison of the 2018 and 2021 versions as this proposal us being prepared reveals that the primary difference applicable to a Level 3 TIMA would be a requirement to provide copies of the digital files used by CivTech for the analysis, e.g., the Synchro files used for the LOS analysis. Otherwise, there are no differences.

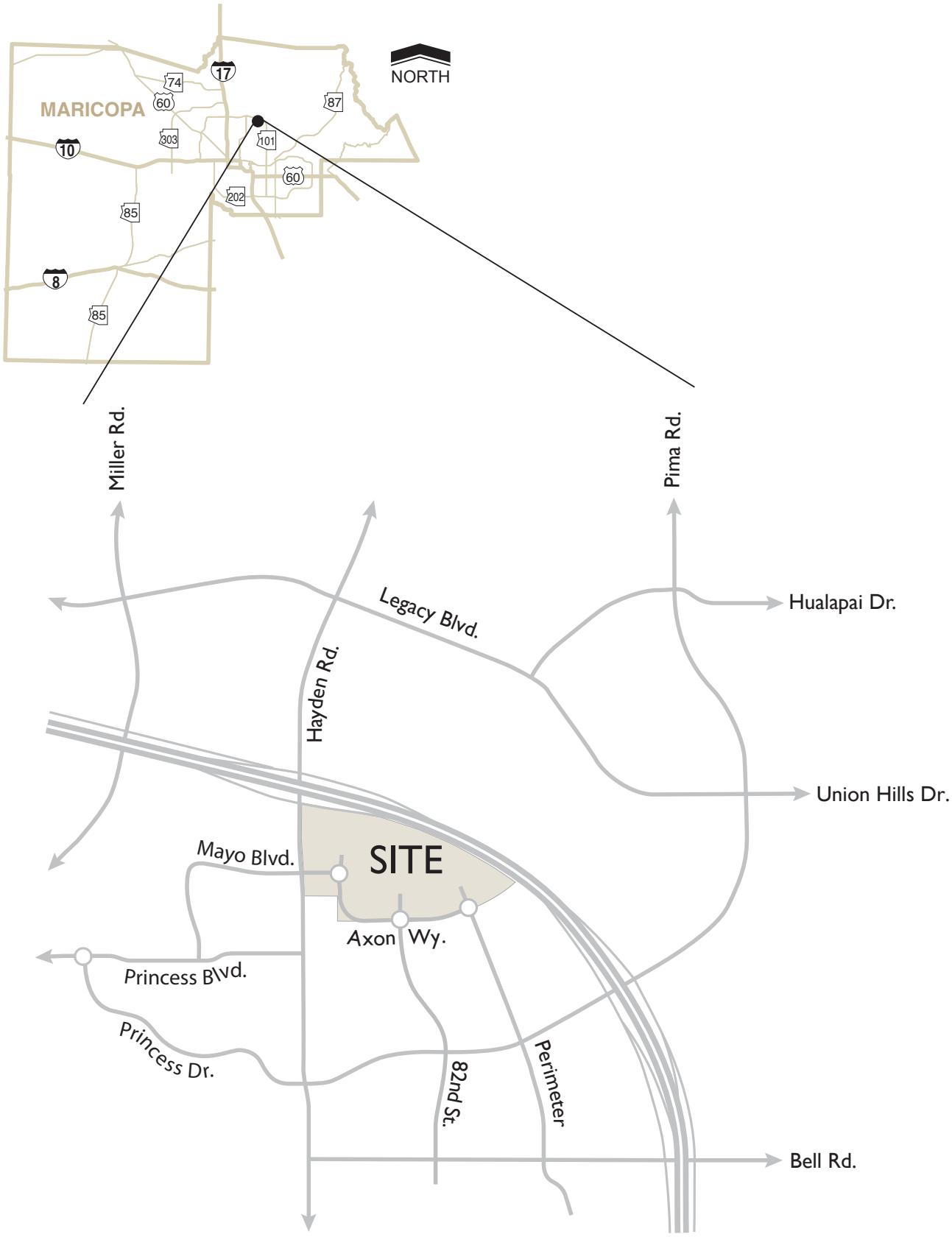


Figure 1: Vicinity Map

EXISTING CONDITIONS

SURROUNDING LAND USE

The Axon site is currently undeveloped land, located north of Axon Way, east of Hayden Road, and south of State Highway Loop 101 (SR 101 or Loop 101), the Pima Freeway.

South of the site (across Axon Way) from west to east are:

- The Scottsdale Stonebrook residential subdivision between Hayden Road and 82nd Street.
- Three parcels owned by Pacesetter, Inc. and used for the manufacture of medical devices. The largest of the parcels, in the southeast corner of the 82nd Street & Axon Way intersection is developed; the two others, one to its east and the other to its south, are undeveloped and will presumably be used for future expansion of the facility.
- Between Perimeter Drive and Loop 101 at 17851 North 85th Street is a three-story general office building.
- Across Hayden Road to the west are parcels within the Crossroads East area, some of which have been sold and one that remains in the name of the Arizona State Land Department (ASLD). Some consist of high-density multifamily in various stages of completion.

TRANSIT

The closest existing transit routes to the proposed development are Local Routes 72 (Scottsdale Road) and 170 (Bell Road). Route 72 begins just north of Loop 101, connecting Scottsdale Healthcare Drive on the north to the Chandler Fashion Center/Transit Station at its southern terminus. Route 170 provides additional connectivity within the north Scottsdale area and requires just a single transfer to reach alternate destinations. Route 170 provides east-west connectivity along Bell Road and Frank Lloyd Wright Boulevard.

ROADWAY NETWORK

The existing roadway network within the study area includes the following:

Hayden Road is a north-south, four-lane major arterial with a center raised median per the Scottsdale Transportation Master Plan within the vicinity of the proposed site. Hayden Road transitions from Miller Road in the north at Deer Valley Road and transitions to Greenway Hayden Loop in the south at Frank Lloyd Wright Boulevard. Hayden Road provides direct access to the Pima Freeway (Loop 101) and all major east-west arterials within the vicinity of the proposed site. The posted speed limit is 40 mph within the vicinity of the proposed site.

Axon Way, formerly Mayo Boulevard east of Hayden Road, is an east-west two-lane minor collector that currently intersects Hayden Road south of Mayo Boulevard, across from the main driveway of the San Artes Apartments. Axon Way currently begins in the west at Hayden Road and extends easterly, terminating at but not intersecting with the Pima Freeway (Loop 101). Axon Way is currently a two-lane roadway with a single lane in each direction. It will be realigned approximately 700 feet west of 82nd Street (within public ROW already dedicated/acquired for the purpose) to turn north-

south. At a roundabout approximately 650 feet north of the existing Axon Way alignment, the road will intersect with an east-west section of Axon Way (and two private driveways). This east-west segment of Axon Way, which extends to Hayden Road, aligns with the portion of Mayo Boulevard west of Hayden Road. The section of existing Axon Way east of Hayden Road across from the San Artes Apartments is to be abandoned. The posted speed limit on Axon Way is 35 mph within the study area and is expected to remain that after the realignment.

82nd Street is a north-south three-lane collector roadway with a continuous two-way left turn lane (TWLTL). 82nd Street begins in the north at Axon Way and extends southerly across Princess Drive and terminates at Bell Road, where it serves as the access for a gated condominium community and a gated apartment complex. The posted speed limit on 82nd Street south of Axon Way is 30 mph.

Perimeter Road is a north-south, four-lane major collector with a center raised median per the Scottsdale Transportation Master Plan within the vicinity of the proposed site. Perimeter Road begins to the north at Axon Way and terminates in the south 800 feet south of Bell Road. Perimeter Road provides direct access to Princess Drive and Bell Road. The posted speed limit is 35 mph within the vicinity of the proposed site.

Pima Freeway (Loop 101) is an eight-lane freeway within the vicinity of the study area. The westbound/eastbound on and off ramps and freeway are under the direction and control of the Arizona Department of Transportation (ADOT). The Loop 101 within the vicinity of the study area provides regional access to the Piestewa Freeway (SR 51) to the west, north Phoenix, the City of Scottsdale to the east and the Cities of Tempe, Mesa, and Chandler to the south. The posted speed limit is 65 mph on the freeway.

Loop 101 Eastbound Ramp provides access to the Pima Freeway East. The off-ramp consists of one (1) lane of travel eastbound. The on-ramp consists of two (2) lanes of travel eastbound, leading to a meter ramp and then merges into one (1) lane of travel, prior to merging onto the freeway.

Loop 101 Westbound Ramp provides access to the Pima Freeway West. The off-ramp consists of one (1) lane of travel westbound. The on-ramps consists of three (3) lanes of travel westbound that splits into two (2) lanes that merge onto the freeway and two (2) lanes that merge onto the Loop 101 Frontage Road.

Loop 101 Northbound Ramp provides access to the Pima Freeway North. The off-ramp consists of two (2) lanes of travel northbound that merges with Pima Road and becomes four (4) lanes of travel northbound. The on-ramp consists of two (2) lanes of travel northbound.

Loop 101 Southbound Ramp provides access to the Pima Freeway South. The off-ramp consists of one (1) lane of travel southbound and the on-ramp consists of three (3) lanes of travel southbound that splits into two (2) lanes that merge onto the freeway and two (2) lanes that merge onto Pima Road. The on-ramp is metered.

Legacy Boulevard is an east-west, four-lane minor arterial roadway providing a link between Hayden Road and Scottsdale Road. Currently, Legacy Boulevard begins in the west at Scottsdale Road

and terminates in the east at Hayden Road. The posted speed limit is 40 mph within the vicinity of the proposed site.

Mayo Boulevard is an east-west five-lane arterial roadway with two lanes westbound, a center raised median, and three lanes eastbound. Mayo Boulevard currently begins in the west approximately one-third of a mile west of Hayden Road at 78th Street and terminates in the east at Hayden Road. Mayo Boulevard currently is not continuous between Hayden Road and Scottsdale Road. Future plans for Mayo Boulevard are expected to connect to Scottsdale Road resulting in a continuous Mayo Boulevard to the west, terminating west of Tatum Boulevard. The posted speed limit on Mayo Boulevard west of Hayden Road is 30 mph.

Princess Drive is an east-west four-lane major collector roadway with a center raised median. Princess Drive begins in the northwest at Princess Boulevard and extends easterly, transitioning into Pima Road at Loop 101. Princess Drive provides access to Loop 101. The posted speed limit is 35 mph within the vicinity of the proposed site.

INTERSECTIONS

1. The intersection of ***Hayden Road and Mayo Boulevard*** is a three-legged "T-intersection" (with no westbound approach) under stop control on the eastbound approach. The northbound approach consists of one (1) exclusive left-turn lane striped within a left turn pocket that can be restriped for dual left turn lanes, two (2) through lanes, and a bike lane. The southbound approach consists of two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) exclusive left-turn lane, a bike lane, and one (1) dedicated right-turn lane.

2. The intersection of ***Hayden Road and Axon Way*** is a four-legged intersection under stop control on the eastbound and westbound approaches. The northbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The southbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The westbound approach consists of one (1) shared left-turn, through, and right-turn lane. The eastbound approach is a driveway to the gated San Artes apartments and consists of one (1) shared left-turn, through, and right-turn lane.

3. The intersection of ***82nd Street and Axon Way*** is a three-legged "T-intersection" (with no southbound approach) under stop control on all approaches. The northbound approach consists of separate left and right-turn lanes and a bike lane. The eastbound approach consists of one (1) shared through and right-turn lane. The westbound approach consists of one (1) shared through and left-turn lane.

4. The intersection of ***Perimeter Drive and Axon Way*** is a three-legged "T-intersection" (with no southbound approach) under stop control on the northbound approach. The northbound approach consists of one (1) exclusive left-turn lane, a bike lane, and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) through lane and one (1) dedicated right-turn lane. The westbound approach consists of one (1) shared through and left-turn lane.

5. The intersection of ***Hayden Road and Princess Drive*** is a signalized four-legged intersection with split phasing between the westbound approach and eastbound approach, and permitted left-turn phasing in the northbound and southbound approaches. Both the northbound and southbound approaches each consist of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) shared left-turn and through lane and one (1) dedicated right-turn lane. The westbound approach consists of two (2) exclusive left-turn lanes and one (1) dedicated right-turn lane.

6. The intersection of ***Hayden Road and the EB Loop 101 Ramps*** is a signalized intersection within the Loop 101 tight urban diamond traffic interchange (TUDI). The northbound approach consists of three (3) through lanes and one (1) dedicated right-turn lane. The southbound approach consists of two (2) exclusive left-turn lanes and two (2) through lanes. The eastbound approach consists of one (1) exclusive left-turn lane, one (1) shared left-turn, through, and right-turn lane, and one (1) dedicated right-turn lane.

7. The intersection of ***Hayden Road and the WB Loop 101 Ramps*** is a signalized intersection within the Loop 101 TUDI. The northbound approach consists of one (1) exclusive left-turn lane and two (2) through lanes. The southbound approach consists of four (4) through lanes and one (1) dedicated right-turn lane. The westbound approach consists of one (1) exclusive left-turn lane, one (1) shared left-turn and through lane, one (1) shared through and right-turn lane, and one (1) dedicated right-turn lane.

8. The intersection of ***Hayden Road and Legacy Boulevard*** is a signalized three-legged "T-intersection" (with no westbound approach) with permitted left-turn phasing in the northbound and eastbound approaches. The northbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, and a bike lane. The southbound approach consists of two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) exclusive left-turn lane, a bike lane, and one (1) dedicated right-turn lane.

12. The intersection of ***82nd Street and Princess Drive*** is a four-legged-intersection under stop control in the northbound and southbound approaches. The northbound and southbound approaches each consist of one (1) exclusive left-turn lane, one (1) shared through/right-turn lane, and a bike lane. The eastbound and westbound approaches each consists of one (1) exclusive left-turn lane, one (1) through lane, one (1) shared through and right-turn lane, and a bike lane.

13. The intersection of ***82nd Street and Perimeter Drive*** is a signalized four-legged-intersection with permitted left-turn phasing on all approaches. The northbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The southbound approach consists of one (1) exclusive left-turn lane, one (1) through lane, one (1) shared through and right-turn lane, and a bike lane. The eastbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, and one (1) shared through and right-turn lane. The westbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane.

14. The intersection of ***Loop 101 SB Ramps and Princess Drive/Pima Road*** is a signalized intersection within the Loop 101 TUDI. The southbound approach consists of one (1) exclusive left-

turn lane, one (1) shared through and left-turn lane, one (1) shared through and right-turn lane and one (1) dedicated right-turn lane. The eastbound approach consists of three (3) through lanes and two (2) dedicate right-turn lanes. The westbound approach consists of two (2) exclusive left-turn lanes and three (3) through lanes.

15. The intersection of ***Loop 101 NB Ramps and Princess Drive/Pima Road*** is a signalized intersection within the Loop 101 TUDI. The northbound approach consists of one (1) exclusive left-turn lane, one (1) shared through and left-turn lane, one (1) through lane and one (1) channelized right-turn lane. The eastbound approach consists of one (1) exclusive left-turn lane and two (2) through lanes. The westbound approach consists of four (4) through lanes and one (1) dedicated right-turn lane.

16. The intersection of ***Hayden Road and Axon Way (formerly Mayo Boulevard)/Apartment Driveway*** is a four-legged-intersection under stop control in the eastbound and westbound approaches. The northbound and southbound approaches each consist of one (1) exclusive left-turn lane, two (2) through lanes, a bike lane, and one (1) dedicated right-turn lane. The eastbound and westbound approaches each consist of one (1) shared left-turn, through, and right-turn lane. *Please note that CivTech will* not *analyze this intersection under future conditions, since Axon Way will be realigned to the north and will no longer align with the apartment driveway. CivTech assumes that the City of Scottsdale may in the future use the existing curb cut as a driveway to a City parcel on the northeast corner of the intersection on which a fire station is expected; however, it will serve no purpose for the Axon development. CivTech recorded peak hour turning movements at the intersection solely for the purpose of reassigning the recorded turns into Axon Way from Hayden Road and from Axon Way onto Hayden Road to the realigned intersection.*

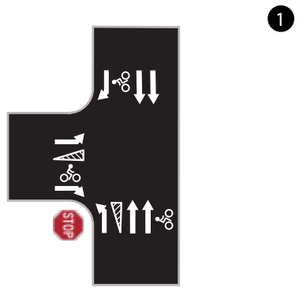
The existing stop controls and lane geometries within the project area are depicted in **Figure 2**.

TRAFFIC VOLUMES

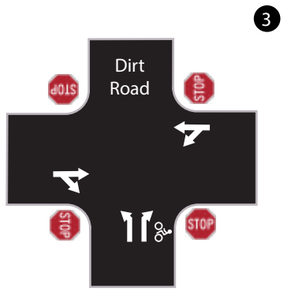
CivTech contracted Field Data Services of Arizona (FDS) Inc. to conduct turning movement counts at the above intersections. These turning movement counts were conducted on Tuesday July 11, 2023 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM during an average weekday. Existing turning movement traffic count data was also taken from the Maricopa Association Government (MAG) website for the following intersections:

- Hayden Rd & Legacy Blvd
- Hayden Rd & Loop 101 WB Ramps
- Hayden Rd & Loop 101 EB Ramps
- 82nd St & Axon Wy
- Hayden Rd & Axon Wy/Apartment Dwy
- Hayden Rd & Axon Wy/Union Hills Dr
- Hayden Rd & Mayo Blvd
- Hayden Rd & Princess Dr
- Perimeter Dr & Axon Wy

The existing traffic volumes observed for this study are presented in **Figure 3**. Traffic volumes data obtained for this study have been included in **Appendix B**.

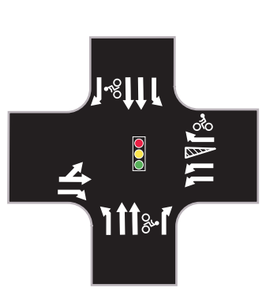


Hayden Rd & Mayo Blvd/Axon Wy

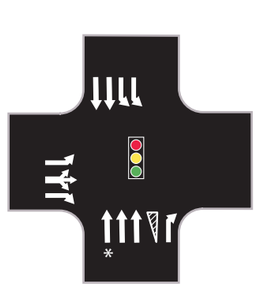


82nd St & Axon Wy

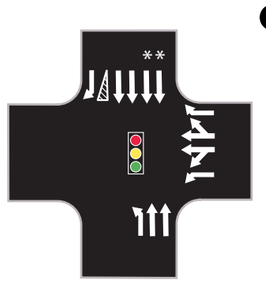
Perimeter Dr & Axon Wy



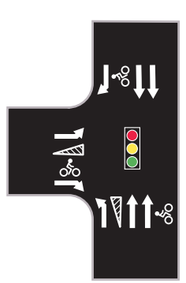
Hayden Rd & Princess Dr



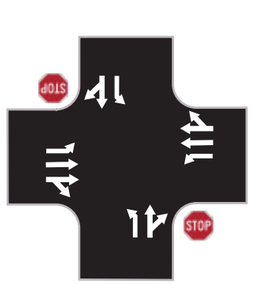
Hayden Rd & Loop 101 EB Ramps



Hayden Rd & Loop 101 WB Ramps



Hayden Rd & Legacy Blvd



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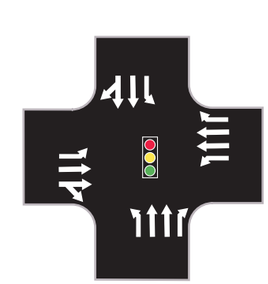
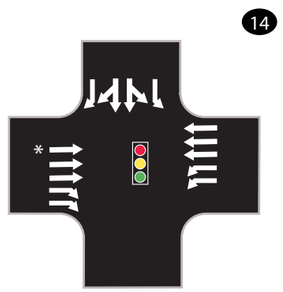
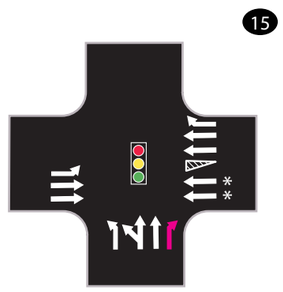


Perimeter & Princess Dr



Loop 101 SB Ramps @ Princess Dr/Pima Rd



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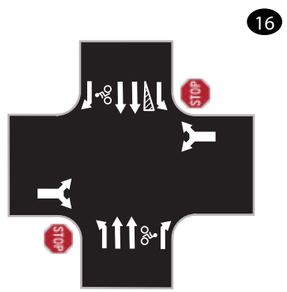
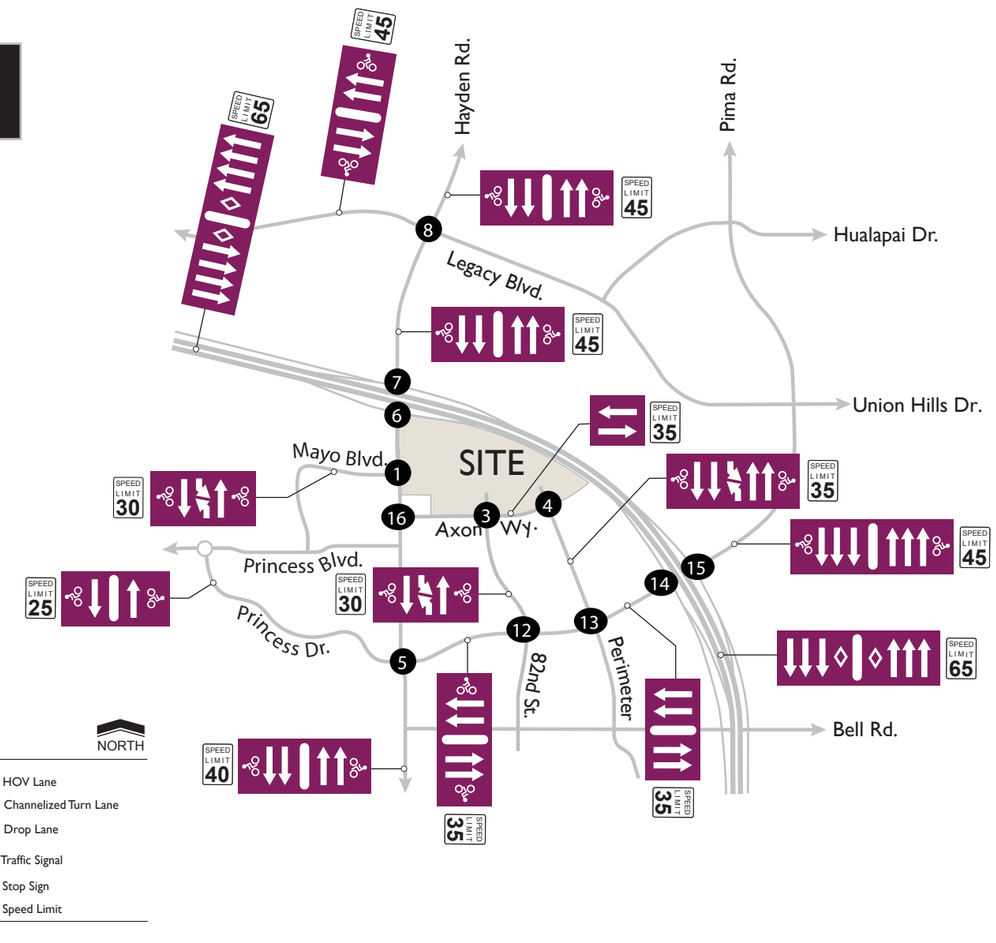


Hayden Rd & Axon Wy/Union Hills Dr

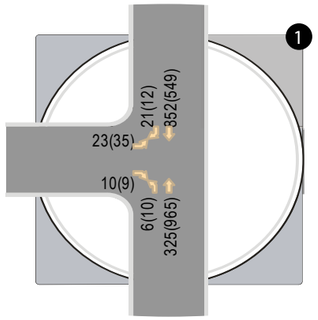


LEGEND

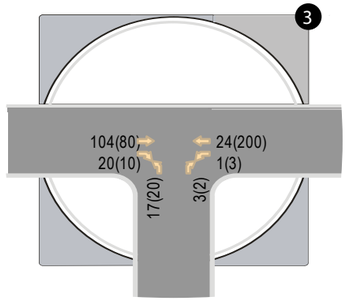
NORTH

- Thru or Turning Movement
- Two-Way Left Turn-Lane
- Raised Median
- Bike Lane
- Striped Carrot
- Raised Median
- HOV Lane
- Channelized Turn Lane
- Drop Lane
- Traffic Signal
- Stop Sign
- Speed Limit

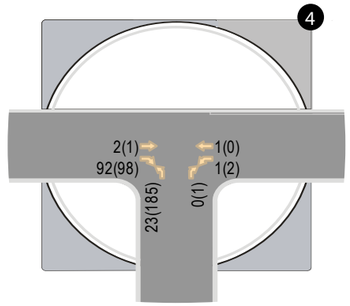
Figure 2: Existing Lane configurations and Traffic Controls



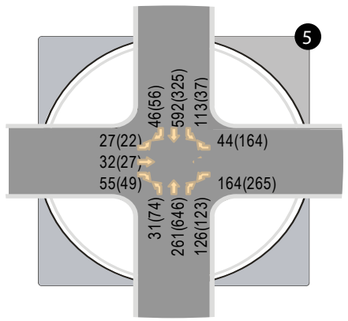
Hayden Rd & Mayo Blvd/Axon Wy



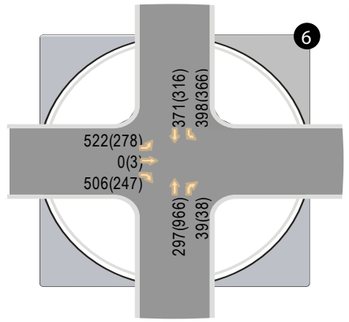
82nd St & Axon Wy



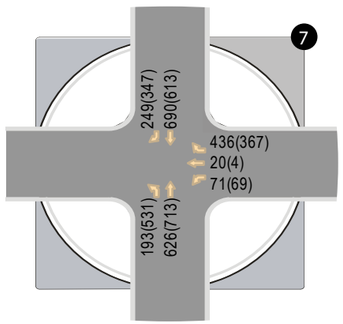
Perimter Dr & Axon Wy



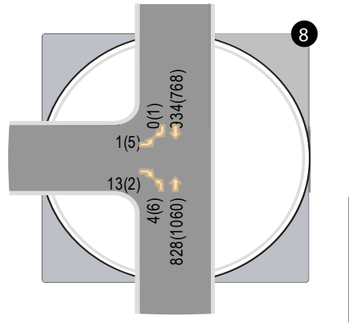
Hayden Rd & Princess Dr



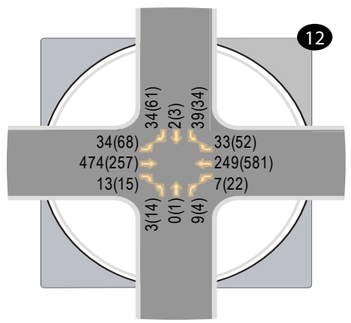
Hayden Rd & Loop 101 EB Ramps



Hayden Rd & Loop 101 WB Ramps



Hayden Rd & Legacy Blvd



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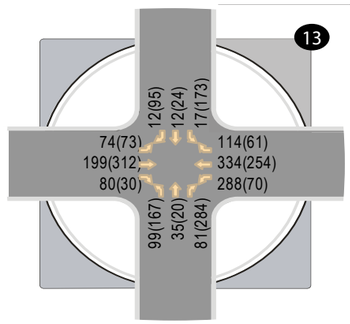

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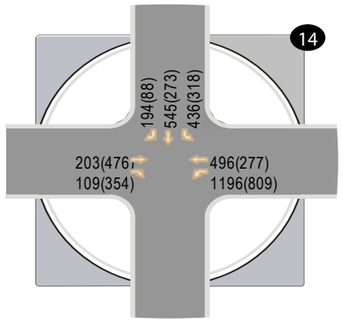
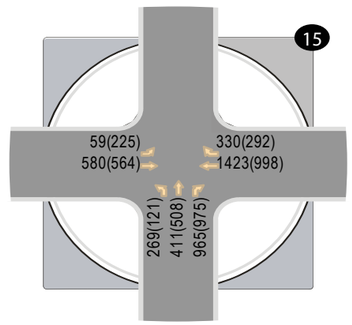
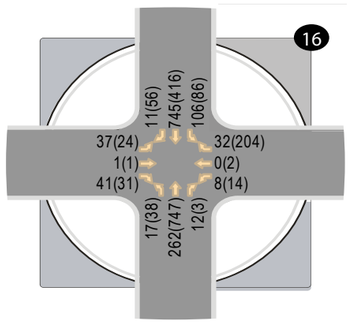


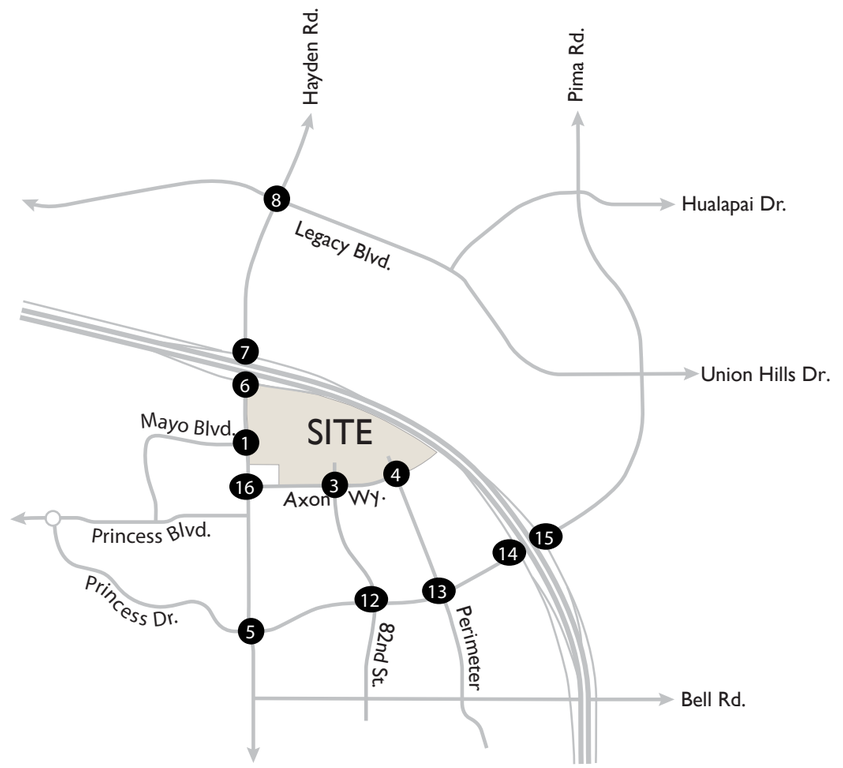
Loop 101 SB Ramps & Princess Dr/Pima Rd



Loop 101 NB Ramps & Princess Dr/Pima Rd



Hayden & Axon Wy/Apartment Dwy



NORTH

LEGEND

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

Figure 3: Existing Traffic Volumes

CRASH ANALYSIS

Crash data for the study area was obtained from the City of Scottsdale for the latest three (3) years of continuous data. In total, there have been 105 incidents within the study area in the years 2020-2022. A majority of these crashes occurred at intersections along Hayden Road within the vicinity of the site. The summary of intersection crash data is presented in **Table 1**.

TABLE 1 – INTERSECTION CRASH DATA SUMMARY

Intersection	Total	Year of Occurrence			Incident Severity		Incident Type						
		2022	2021	2020	Incident with Injury (# of Injuries)	# of Fatalities	Single Vehicle	Angle	Left Turn	Rear End	Head On	Sideswipe	Other
Hayden Rd & Mayo Blvd	3	1	1	1	1 (1)	0	1	1	1	0	0	0	0
Hayden Rd & Princess Dr	15	4	4	7	7 (15)	0	1	4	2	5	1	2	0
82nd St & Princess Dr	5	1	1	3	2 (3)	0	0	3	0	1	1	0	0
Perimeter Dr & Princess Dr	8	2	3	3	4 (6)	0	0	6	0	1	0	1	0
Hayden Rd & Loop 101(1)	28	6	15	7	9 (13)	0	4	5	4	14	0	1	0
Loop 101 & Princess Dr/ Pima Rd(1)	39	16	18	5	6 (8)	0	4	10	0	19	0	6	0
Hayden Rd & Legacy Blvd	7	2	0	5	2 (2)	0	1	1	2	1	0	2	0
Totals	**105**	**32**	**42**	**31**	**31 (48)**	**0**	**11**	**30**	**9**	**41**	**2**	**12**	**0**

(1) Combination of both intersections.

A review of the crash data summarized in **Table 1** reveals that there have been 105 crashes reported at nine (9) of the intersections within the vicinity of the site. The highest percentage type of crash at most intersection is rear end and angle collisions and the lowest percentage type of crash at most intersections is head on collisions. Crash analysis worksheets are included in **Appendix C**.

CAPACITY ANALYSIS

The concept of level of service (LOS) uses qualitative measures that characterize operational conditions within the traffic stream. The individual levels of service are described by factors that include speed, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations A through F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions. Levels of service for intersections are defined within ranges of average control delay per vehicle, the number of seconds a vehicle can expect to wait due to the presence of a traffic control device. lists the level of service criteria for signalized and unsignalized intersections. **Table 2** summarizes this information.

TABLE 2 – INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service	Control Delay (sec/veh)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80 (or v/c>1)	> 50 (or v/c>1)

Source: Exhibits 19-8, 20-2, 21-8, and 22-8, Highway Capacity Manual, 6th Edition (2016)

Synchro 11 software using the methodologies of the latest (6th) edition of the *Highway Capacity Manual* (HCM 2016) were used to calculate average per-vehicle control delays, from which movement, approach, and overall intersection levels of service are determined. At the two TUDIs, each of which has two "clustered" signals that cannot be analyzed by HCM 2016, CivTech applied the HCM 2000 methodology. The methods take into account lane geometry, traffic volumes, and traffic control (two-way stop, all-way stop, or signal). Synchro's analysis worksheets report individual movement delay/LOS and overall delay/LOS for signalized intersections and the worst-case delay/LOS and the average overall intersection delay for unsignalized intersections. Results of the existing, no build, and build scenarios level of service analyses conducted for the proposed development are summarized in **Table 3** for both peak hours. The output sheets for the existing conditions have been included in **Appendix D**.

TABLE 3 – EXISTING PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach	Existing LOS AM (PM)
1	Hayden Road & Mayo Boulevard	One-way stop (EB)	NB Left EB Left EB Right	B (A) D (D) B (B)
3	82nd Street & Axon Way	All-way stop	NB EB WB	A (A) A (A) A (A)
			Overall	***A (A)***
4	Perimeter Drive & Axon Way	One-way stop (NB)	NB Left NB Right WB Left	A (-) - (A) A (A)
5	Hayden Road & Princess Drive	Signal	NB SB EB WB	A (A) A (A) D (D) D (D)
			Overall	***B (B)***
6	Hayden Road & Loop 101 EB Ramps	Signal	NB Thru NB Right *NB Overall* SB Left SB Thru *SB Overall* EB Left EB Shared EB Right *EB Overall*	31.6 C (22.7 C) **162.8 F (126.4 F)** 47.7 D (27.1 C) **81.7 F (62.0 E)** 10.9 B (13.6 B) 47.6 D (39.5 D) 45.0 D (52.1 D) 41.7 D (48.9 D) 31.6 C (41.0 D) 39.6 D (47.5 D)
			Overall	***43.9 D (36.0 D)***
7	Hayden Road & Loop 101 WB Ramps	Signal	NB Left NB Thru *NB Overall* SB Thru SB Right *SB Overall* WB Left WB Shared WB Right *WB Overall*	**62.1 E (62.1 E)** 35.3 D (11.8 B) 41.9 D (33.3 C) 30.7 C (36.9 D) 51.6 D (50.1 D) 36.5 D (41.5 D) 30.7 C (42.2 D) 30.3 C (40.6 D) 30.8 C (41.1 D) 30.6 C (41.1 D)
			Overall	***37.0 D (37.6 D)***

TABLE 3 – EXISTING PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach	Existing LOS AM (PM)
8	Hayden Road & Legacy Boulevard	Signal	NB SB EB	A (A) A (A) D (D)
			Overall	***A (A)***
12	82nd Street & Princess Drive	Two-way stop (NB/SB)	NB Left NB Shared SB Left SB Shared EB Left WB Left	C (C) B (B) C (D) B (B) A (A) A (A)
13	Perimeter Drive & Princess Drive	Signal	NB SB EB WB	D (D) D (D) A (A) A (A)
			Overall	***B (C)***
14	Loop 101 SB Ramps & Princess Drive/Pima Road	Signal	SB Left SB Shared SB Right *SB Overall* EB Thru EB Right *EB Overall* WB Left WB Thru *WB Overall*	**65.3 E** (43.2 D) **63.8 E** (43.4 D) 41.3 D (37.5 D) **60.8 E** (42.6 D) 54.8 D (46.4 D) 52.5 D (44.8 D) 54.0 D (45.7 D) **393.8 F (69.3 E)** 17.8 B (10.8 B) **287.3 F** (53.8 D)
			Overall	***214.6 F (48.2 D)***
15	Loop 101 NB Ramps & Princess Drive/Pima Road	Signal	NB Left NB Shared NB Right *NB Overall* EB Left EB Thru *EB Overall* WB Thru WB Right *WB Overall*	49.1 D (40.1 D) 48.1 D (45.8 D) **166.0 F (127.1 F)** **115.8 F (93.7 F)** 39.3 D **(183.2 F)** **137.8 F (43.3 D)** **128.1 F (83.2 F)** 25.4 C (27.9 C) 23.4 C (29.6 C) 25.1 C (28.2 C)
			Overall	***79.2 E (68.1 E)***
16	Hayden Road & Axon Way/ Apartment Driveway	Two-way stop (EB/WB)	NB Left SB Left EB Shared WB Shared	A (A) A (B) **E (E)** B (C)

The results of the existing conditions analysis summarized in **Table 3** indicate that most study intersections and individual approaches operate with acceptable levels of service (LOS D or better). The only exceptions are at the signalized **Loop 101 & Princess Drive/Pima Road TUDI** and at the eastbound apartment driveway approach at the stop-controlled intersection of **Hayden Road & Axon Way/Apartment Driveway**.

The signalized intersection of **Loop 101 SB Ramps & Princess Dr/Pima Rd** operates with an overall delay of 214.6 sec/veh (LOS F) during the AM peak hour. The southbound and westbound approaches operate with overall delays of 60.8 sec/veh (LOS E) and 287.3 sec/veh (LOS F), respectively, during the AM peak hour.

The signalized intersection of **Loop 101 NB Ramps & Princess Dr/Pima Rd** operates with overall delays of 79.2 sec/veh (LOS E) and 68.1 sec/veh (LOS E) during the AM and PM peak hours, respectively. The northbound approach operates with overall delays of 115.8 sec/veh (LOS F) and 93.7 sec/veh (LOS F), respectively, during the AM and PM peak hours. The eastbound approach operates with overall delays of 128.1 sec/veh (LOS F) and 83.2 sec/veh (LOS F), respectively, during the AM and PM peak hours.

FUTURE ROADWAY IMPROVEMENTS

REGIONAL IMPROVEMENTS

Regional improvements from Princess Drive west along Loop 101 anticipated in CivTech's Crossroad 2011 Study have been implemented.

Mayo Boulevard will be connected between 78th Street and 73rd Place as other Crossroads East parcels are developed, providing a new minor arterial roadway between Hayden and Scottsdale Roads. In this study, CivTech has assumed that this connection will *not* be made before the study horizon year of 2030.

PROPOSED DEVELOPMENT

SITE LOCATION

Axon is proposing to build a World Headquarters Campus with a 425-room hotel and a 1,975 DU three- to five-story (i.e., mid-rise) multifamily residential community with a total of 47,180 SF of ground-floor commercial uses. The current Project is Phase 2 of the development of the site. Phase 2 will complement Phase 1, which is a 401,085 SF Axon office building. Phase 1 has already received all the necessary zoning and other approvals from the City of Scottsdale. The site consists of three individual Maricopa County Assessor numbered parcels and 10.03 acres of City roadway right of way that total 73.57 acres. Axon has acquired two of the parcels, 57.17-acre APN 215-07-407 and 1.76-acre APN 215-07-408. The third, 4.61-acre 215-07-409, is presently owned by the City of Scottsdale

SITE ACCESS

As shown in **Figure 4**, the former Mayo Boulevard east of Hayden Road has already been renamed Axon Way and realigned west of 82nd Street such that it intersects Hayden Road across from Mayo Boulevard. A review of Assessor maps shows that the ROW for this realignment has already been dedicated.

Primary access to the site will be via the (future) signalized intersection of Hayden Road and Axon Way and three modern roundabouts along Axon Way:

Intersection 2 will be located approximately 500 feet east of Hayden Road (where Axon Way begins to curve to the south). This roundabout will also serve two driveways as the north and east legs.

Intersection 3 is the existing intersection of 82nd Street and Axon Way which will be improved to a 4-legged roundabout. The north leg will serve a driveway.

Intersection 4 is the existing intersection of Perimeter Drive and Axon Way which will be improved to a 3-legged roundabout. The north leg will serve a driveway and there will be no east leg.

Additional access will be provided by two driveways:

Access A will be located approximately 415 feet east of Hayden Road and will be restricted to right-in/right-out (RI/RO) movements only, serving primarily as the entrance to the residential land use at Building F. **Access B** will be located approximately 200 feet south of the first roundabout, approximately 660 feet east of Hayden Road and approximately 245 feet east of **Access A**; while movements will not be restricted at Access B, its location renders it to serve primarily as an exit from the parking garage provided beneath the building and it will be analyzed as such. Access B also serves as the primary entrance to the residential land use at Building E.

Figure 4: Site Plan and Access

TRIP GENERATION

The potential trip generation for the proposed development was estimated utilizing the latest (11th) edition of Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (TripGen11) and the 3rd Edition of its *Trip Generation Handbook*. TripGen11 contains data collected by various transportation professionals for a wide range of different land uses. The data are summarized in the report and average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and peak hour trips.

ITE's Land Use Code (LUC) 231, Mid-Rise Residential with Ground-Floor Commercial GFA (25-65k), was selected by CivTech as the appropriate land use for the residential use. Only average rates for the peak hours were published, that is, no regression equations have yet been developed due to only a handful of peak hour observations having been documented, with none of the observations occurring in a General/Suburban setting, only in a Dense Multi-Use Urban setting and a City Center Core setting. (Given the nature of the development rapidly occurring in this area, CivTech suggests that the Dense Multi-Use Urban setting is appropriate.[1]) Building E, which fronts Axon Way just west of 82nd Street, is one of five residential buildings; it is three-story and is, therefore, low-rise. Since its 241 DUs comprise just over twelve percent of the total dwellings proposed, CivTech did not calculate its trip differently. (Calculations not included here revealed that slightly fewer trips would be generated were 241 mid-rise DUs replaced by 241 low-rise DUs.) The Hotel is LUC 310 and is identified as Building D on the site plan.

INTERNAL CAPTURE

According to data presented in the *Trip Generation Handbook*, 3rd Edition, trips attracted to certain land uses are often shared. This means that a single trip (vehicle) to the proposed development may visit additional attractions within the site during the same visit, an occurrence known as internal capture. This is especially true for large multi-use developments. An example of this would be a business person, who generated a trip on their drive to work, who walks to the restaurant in their building for lunch. This restaurant trip is not a new trip on the roadway.

Internal capture in a multi-use development describes the attraction of trips from one of the development's lands use components by another and results in a trip that begins and ends onsite. The importance of internal capture in the qualification of traffic impact for a multi-use development is that internally captured trips comprise a portion of the total development's trip generation without using the external road system. As a result, a multi-use development will generally create less demand on the external road system (i.e., fewer external trips) than the sum of the trip generation potential of each of its use components when considered as single-use developments. The percentage of a multi-use development's total trip generation that will be internally captured will depend on the strength of the attraction between its land use components. The calculations of internal capture are provided in **Appendix E**; the results show an internal capture rate of just 5% for the entire campus.

[1] TripGen11 does not provide data for this use in a General/Suburban setting. CivTech understands, however, that the proposed zoning for the Axon campus is Planned Airpark Core Development (PCP) and the Airpark Character Area Plan calls for most of this area to be Type C – Higher Scale, which is intended to foster urban development types (mixed-use, higher density) to support the surrounding employment in the Airpark area. Thus, use of the "D" setting is appropriate.

However, CivTech understands Axon will offer workshops and product demonstrations for its clients and prospective clients in its new office building and that the hotel will be utilized by those clients visiting from out of the area. Therefore, to account for this, CivTech applied a 50% internal capture for the hotel land use.

Similarly, while Axon expects (and CivTech concurs) that some of its employees may likely lease nearby apartments, the location will be very desirable (as evidenced by the recent and expected development in the area and its proximity to a major urban freeway). Additionally, the proximity of the the apartment to the headquarters building allows for the possibility of leasing several units for extended stays by visitors, especially those from out of the country. Recognizing both of these possibilities, CivTech applied a reduction of ten percent to the trips generated by the apartments.

ALTERNATIVE MODES

Alternate modes of travel affect the number of trips on the roadway. Since the site is more than one-half mile from the nearest bus stop, it is considered by ITE as not being close to transit. However, CivTech understands that there will be bicycle trails to and through the campus. In addition, some Axon employees who reside in the adjacent apartments may walk to work, especially on very pleasant days. Therefore, CivTech applied a reduction of ten percent for the use of alternative modes of transportation to/from the office, a reduction not previously documented. The net trips generated are documented after the site trip generation discussion in the discussion of other developments that are considered in the analysis.

PASS-BY AND DIVERTED LINK TRIPS

Based on the published ITE data, as found in *Trip Generation Handbook*, 3rd Edition, it could be estimated that some portion of the traffic entering and exiting a commercial development would come from traffic already on the external street system. The term 'pass-by' trips refers to traffic already traveling on a study roadway from an origin to a destination that stops into the commercial development on the way. The term 'diverted link trips' refers to traffic on major roadway corridors, such as Hayden Road, that are diverted into the development from their original destination.

By attracting visits from those passing by a site, pass-by trips do have the positive impact of reducing the trips a development adds to adjacent roadways; however, there is no net effect on the trips entering or leaving a site driveway. Although the ground floor commercial uses are likely to be uses catering to residents (such as coffee shops, fast casual restaurants, convenience market, etc.) and that some passers-by may be attracted to and patronize these uses, since they have not yet been identified, CivTech elected to not estimate or apply pass-by/diverted trip peak hour reductions.

The anticipated trip generation is detailed in **Table 4** on page 23. Please note that a weekday trip generation rate was not published; therefore, CivTech estimated a rate by applying a ratio to a known rate. The daily rate (2.01) of the mid-rise multifamily *without* ground-floor commercial (LUC 221) was divided by the sum of the AM and PM peak hour rates (0.50 = 0.25 + 0.25) to develop a ratio (4.02). To find a daily rate for mid-rise multifamily *with* ground-floor commercial (LUC 231), the ratio was multiplied by the sum of the AM and PM peak hour rates (1.22 = 0.55 + 0.67) for the proposed use. The resulting daily rate for the proposed use was calculated as 4.90. These supplemental trip generation calculations are also provided in **Appendix E**.

TABLE 4 – TRIP GENERATION

Land Use	Quantity Units†	ITE Code	ITE Land Use Name	AM Distribution		PM Distribution	
				In	Out	In	Out
Multifamily	1,975 DUs	231	Mid-Rise Residential with Ground-Floor Commercial GFA (25-65k)	41%	59%	57%	43%
Hotel	425 Rooms	310	Hotel	56%	44%	51%	49%

Land Use	ADT		AM Peak Hour				PM Peak Hour			
	Avg. Rate	Total	Avg. Rate	In	Out	Total	Avg. Rate	In	Out	Total
Multifamily	4.90‡	9,678	0.55	445	641	1,086	0.67	754	569	1,323
Hotel	9.84*	4,184	0.48*	115	90	205	0.67*	146	141	287
Totals Trips		**13,862**		**560**	**731**	**1,291**		**900**	**710**	**1,610**
Internal Capture Reductions (Multifamily)	*10%*	*(968)*	*10%*	*(45)*	*(64)*	*(109)*	*10%*	*(75)*	*(57)*	*(132)*
Internal Capture Reductions (Hotel)	*50%*	*(2,092)*	*50%*	*(58)*	*(45)*	*(103)*	*50%*	*(73)*	*(71)*	*(144)*
Total "New" Trips		**10,802**		**457**	**622**	**1,079**		**752**	**582**	**1,334**

Notes: † KSF = 1,000 square feet; DUs = Dwelling Units

‡ No rate published. Average rate estimated assuming ratio of AM+PM to Daily rate was similar to that of mid-rise *without* commercial.

* Average rate was calculated by dividing total trips generated using regression equation by the number of units. (See below.)

CALCULATIONS (Equations shown only where applicable)			
Land Use [Units]	*Daily*	*AM Peak Hour*	*PM Peak Hour*
Multifamily [X = 1,975 DUs]	‡T_{Day} = 4.90X = 9,678	---	---
Hotel [X = 425 Rooms]	T_{Day} = 10.84X - 423.51 = 4,184	T_{AM} = 0.50X - 7.45 = 68	T_{PM} = 0.74X - 27.89 = 83

As currently proposed, Phase 2 of the Axon campus is anticipated to generate 13,862 trips on a typical weekday with 1,291 trips (560 in/731 out) generated during the AM peak hour and 1,610 trips (900 in/710 out) generated during the PM peak hour before any reductions are taken. Net of reductions for internal capture or interaction, Phase 2 is expected to generate 10,802 trips on a typical weekday with 1,079 trips (457 in/622 out) generated during the AM peak hour and 1,334 trips (752 in/582 out) generated during the PM peak hour.

TRIP DISTRIBUTION AND ASSIGNMENT

Two trip distributions were assumed for the proposed development one for employment to be applied to the residential trips and one for population to be applied to the trips generated by the Axon headquarters building and hotel. It is expected that the proposed development will generate trips based on future employment and population within a 12-mile radius of the site. Future total employment and population within a 12-mile radius of the site, as projected by the 2030 socio-economic data compiled by the Maricopa Association of Governments (MAG), were used as the bases to estimate trip distribution. The resulting trip distribution percentages for the study area are shown in **Table 7**. The trip distribution calculations are included in **Appendix F**.

TABLE 5 – SITE TRIP DISTRIBUTION

Direction (To/From)	Employment	Population
North on Hayden Road (north of Legacy Boulevard)	5%	5%
South on Hayden Road (south of Princess Drive)	15%	20%
South on Loop 101 (south of Princess Drive)	35%	30%
East on Princess Drive (east of Loop 101)	5%	5%
West on Loop 101 (west of Hayden Road)	40%	40%
Total	**100%**	**100%**

The trip distribution percentages noted in **Table 7** are illustrated on the roadway network within the study area in **Figure 5**. The percentages presented in **Figure 5** were applied to the site trips generated to determine the AM and PM peak hour site traffic at the intersections within the study area. The resulting site generated traffic for the proposed development is presented in **Figure 6**.

FUTURE BACKGROUND TRAFFIC

CivTech reviewed historical daily traffic volumes from the City of Scottsdale website Traffic Volume Map to estimate an average annual growth rate. Reported average daily traffic volumes on Hayden Road south of Loop 101 were 15,700 vehicles per day (vpd) in 2016, decreased to 12,600 vpd in 2018, and 15,100 vpd in 2020, an increase from 2018, but still not at 2016 levels. Thus, Hayden Road experienced a net average annual decrease from 2016 to 2020. Since a negative growth rate is not realistic, CivTech applied a modest 1% annual growth rate from 2023 to project 2025 and 2030 non-site or background traffic volumes. The factors applied were 1.02 (= 1.010^2) to 2025 and 1.072 (= 1.010^7) to 2030.

The projected background volumes for the opening year of 2025 are presented in **Figure 7**. The projected background volumes for the study horizon year of 2030 are presented in **Figure 8**.

TRIPS FROM OTHER DEVELOPMENTS

Axon Campus, Phase 1. Phase 1 of the Axon campus is the 401,085 SF World Headquarters. Phase 1 is located to the east of the current project. Phases 1 and 2 of the Axon campus will occupy the entirety of Crossroads East Parcel P13, with the exception of a small parcel that will be retained by the City of Scottsdale. As a Corporate Headquarters (ITE LUC 714) the Axon Offices are expected to generate 2,934 trips on a typical weekday with 515 trips (479 in/36 out) generated during the AM peak hour and 500 trips (45 in/455 out) generated during the PM peak hour. Applying a ten percent factor for use of alternative modes of transportation—such as walking and bicycling—as discussed above yields a net trip generation of 2,640 trips on a typical weekday with 463 trips (431 in/32 out) generated during the AM peak hour and 450 trips (40 in/410 out) generated during the PM peak hour

In addition to adding trips from Phase 1 and applying a factor that represents expected regional growth in traffic volumes, CivTech was asked by City reviewers to include traffic volumes generated by four other developments expected/approved by the City in the area. These are described below. CivTech studied the first two. Site trip assignment figures for each are included in **Appendix F**.

Optima McDowell Mountain Village. The Optima McDowell Mountain Village is a proposed mixed-use development located north of Mayo Boulevard and east of Scottsdale Road in the City of Scottsdale, Arizona. The development plans to consist of up to 1,390 DUs of luxury multi-family residences in six individual buildings with some retail on the ground floor and a lower courtyard area. The development will also provide an underground parking lot for residences that can be accessed from Mayo Boulevard.

Cavasson. The Cavasson development is a ±134-acre project located on the southwest corner of Hayden Road and Legacy Boulevard in Scottsdale. Proposed by NWGH, LLC, an entity of Nationwide Realty Investors, Ltd. (NRI), this development is separated into three (3) phases. Phase 1 consists of a 135-key hotel, 350 multifamily residential dwelling units, 11,000 SF of retail floor area with 6,000 SF of fast-casual restaurants, and 740,000 SF of office space. A review of the County Assessor website

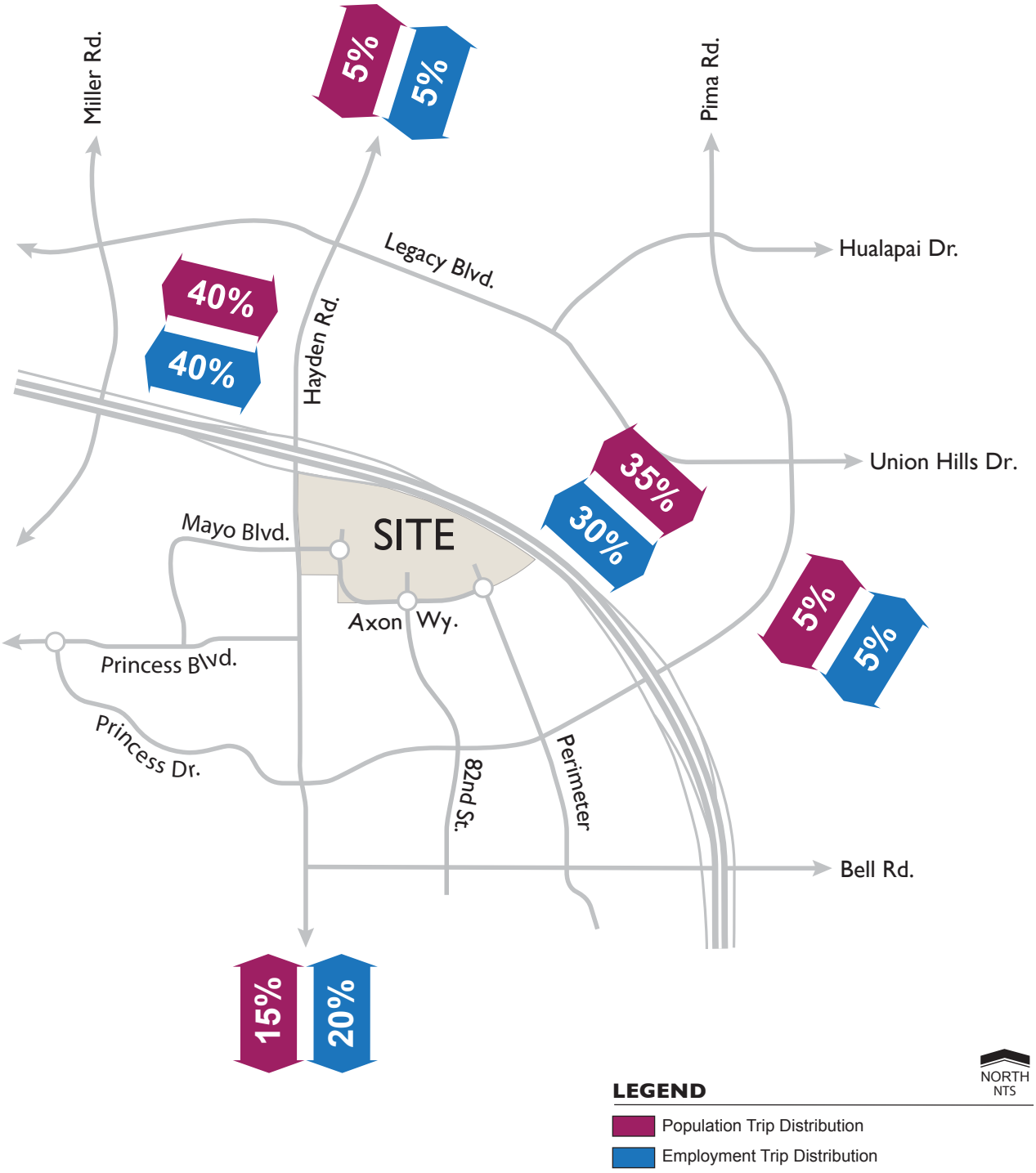
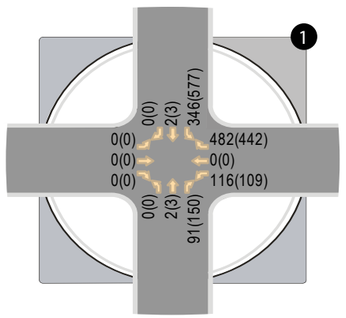
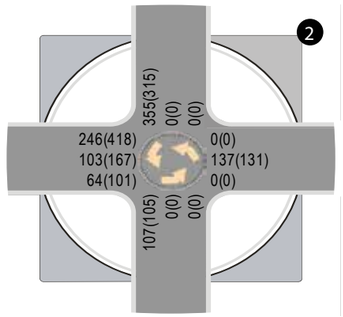


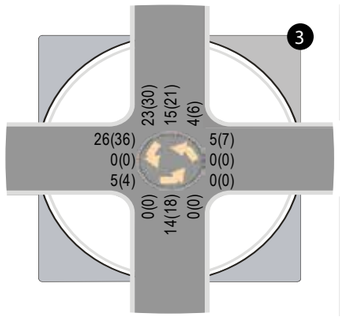
Figure 5: Trip Distribution



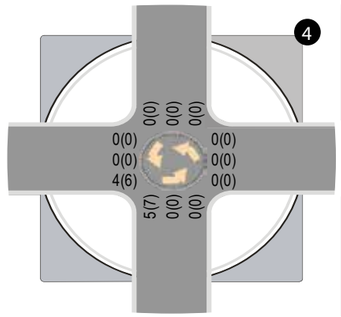
Hayden Rd & Mayo Blvd/Axon Wy



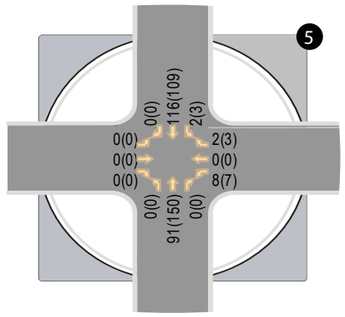
Axon Wy & Axon Wy



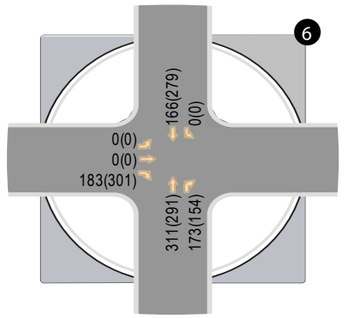
82nd St & Axon Wy



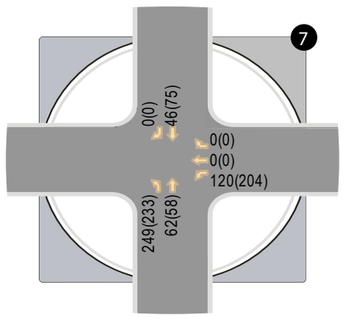
Perimeter Dr & Axon Wy



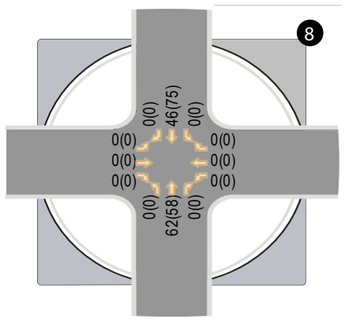
Hayden Rd & Princess Dr



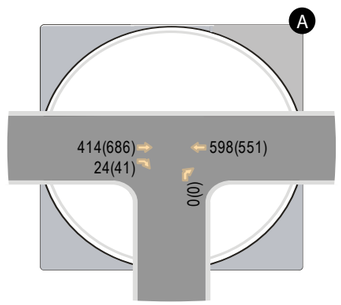
Hayden Rd & Loop 101 EB Ramps



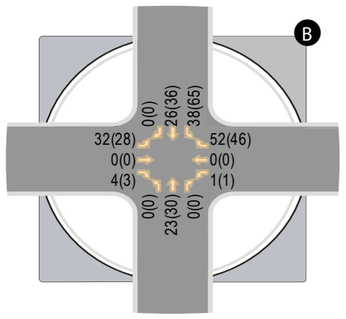
Hayden Rd & Loop 101 WB Ramps



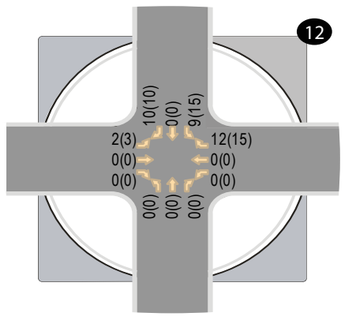
Hayden Rd & Legacy Blvd



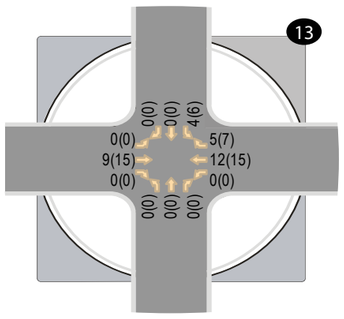
Access A & Axon Way



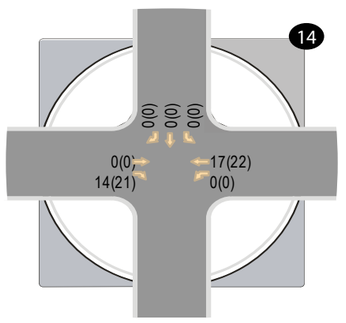
Axon Way & Access B



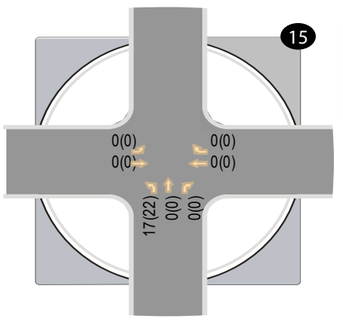
82nd St & Princess Dr



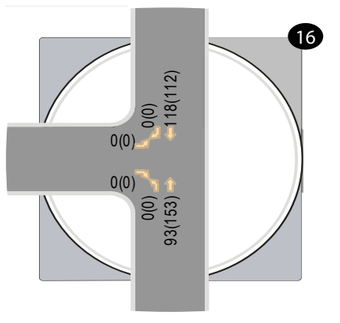
Princess Dr & Axon Wy



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Wy

LEGEND

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

NORTH

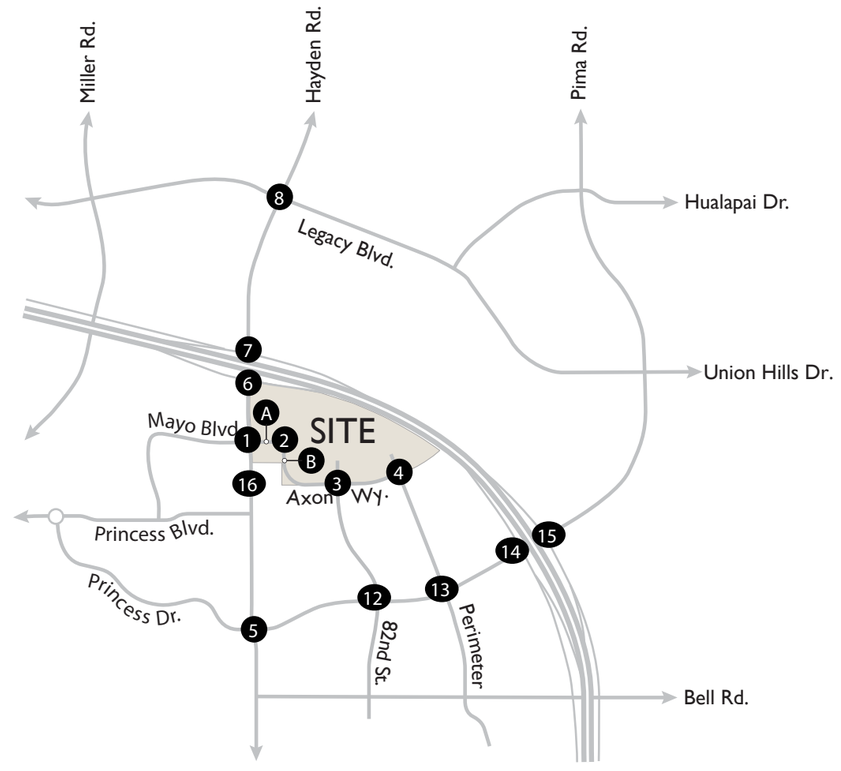
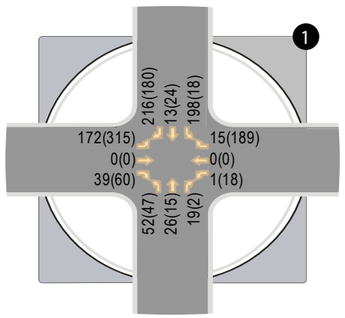
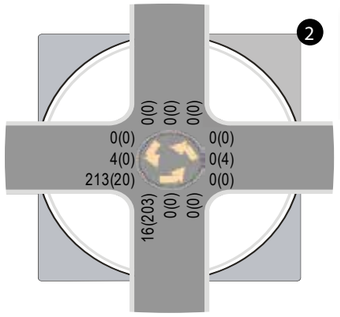


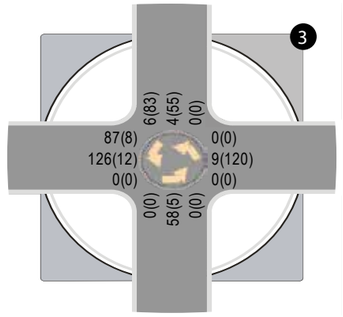
Figure 6: Site Generated Traffic Volumes



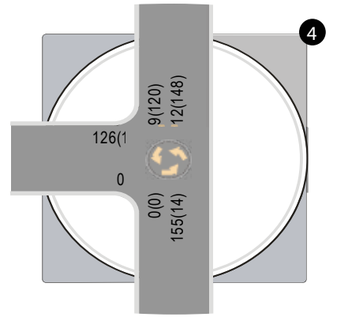
Hayden Rd & Mayo Blvd/Axon Wy



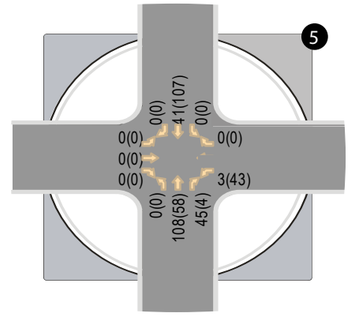
Axon Wy & Axon Wy



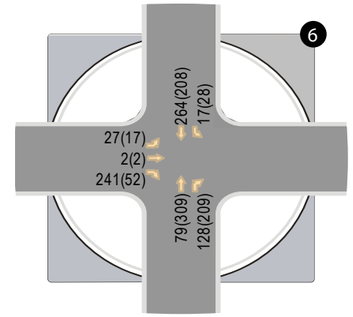
82nd St & Axon Wy



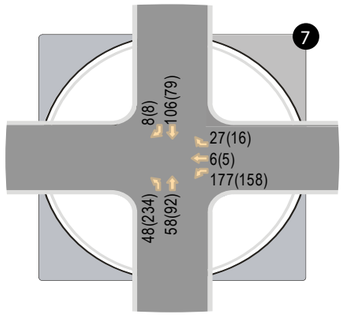
Perimeter Dr & Axon Wy



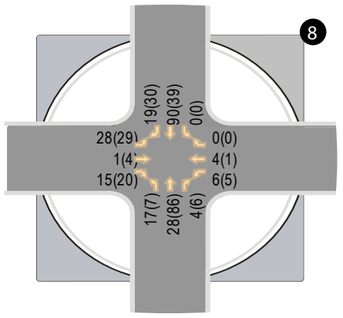
Hayden Rd & Princess Dr



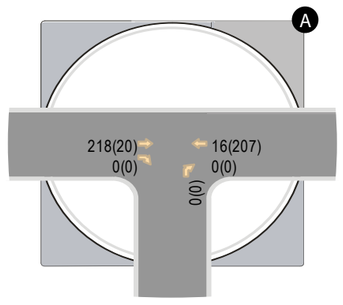
Hayden Rd & Loop 101 EB Ramps



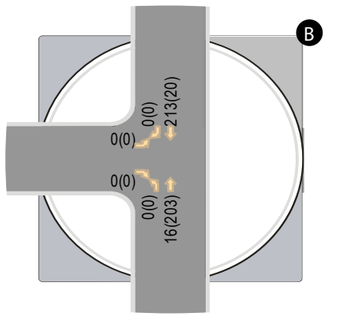
Hayden Rd & Loop 101 WB Ramps



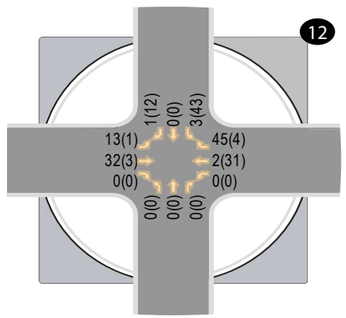
Hayden Rd & Legacy Blvd



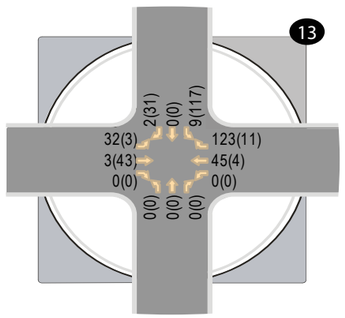
Access A & Axon Way



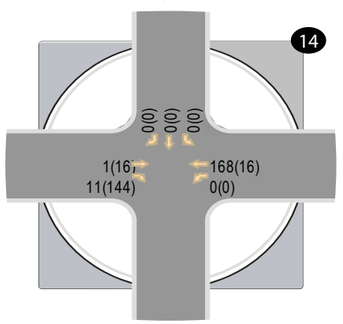
Axon Way & Access B



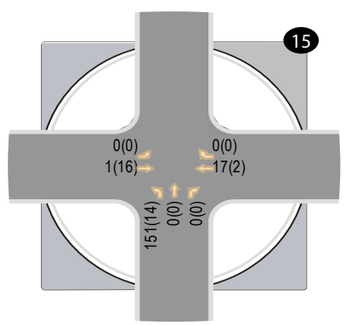
82nd St & Princess Dr



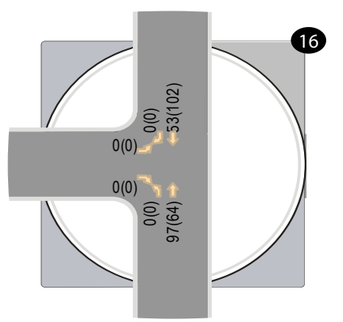
Perimeter Dr & Princess Dr



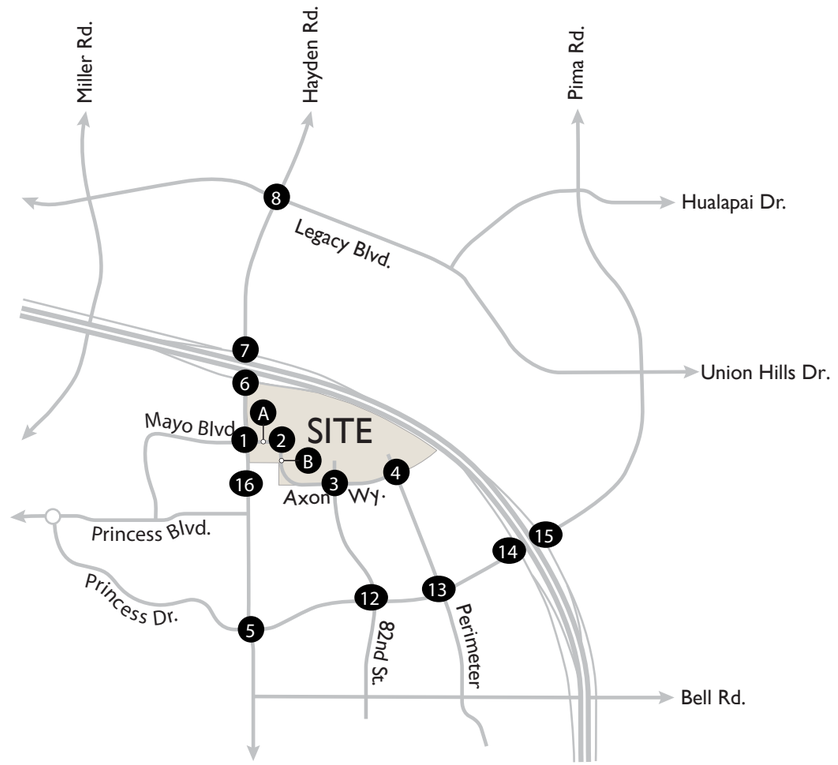
Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Wy

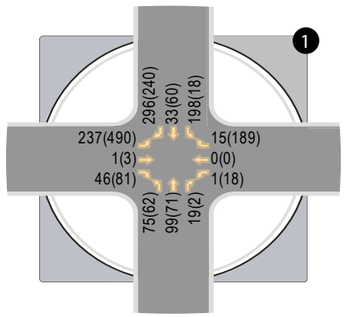


NORTH

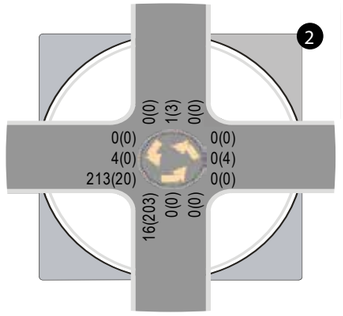
LEGEND

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

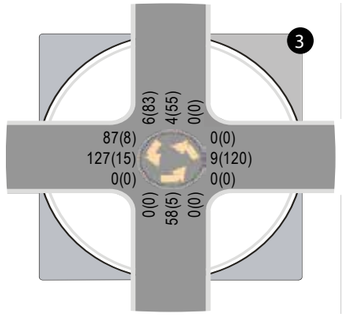
Figure 7: 2025 Surrounding Development Traffic Volumes



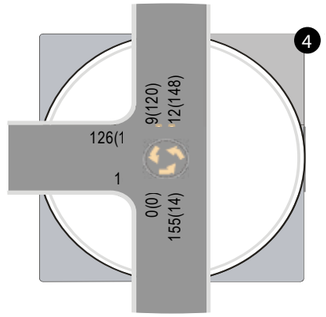
Hayden Rd & Mayo Blvd/Axon Wy



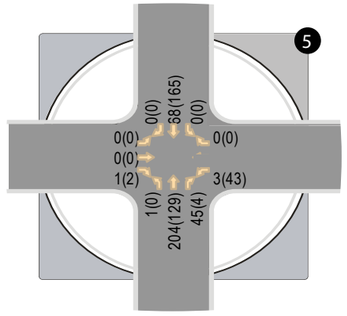
Axon Wy & Axon Wy



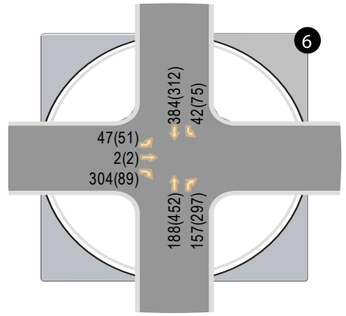
82nd St & Axon Wy



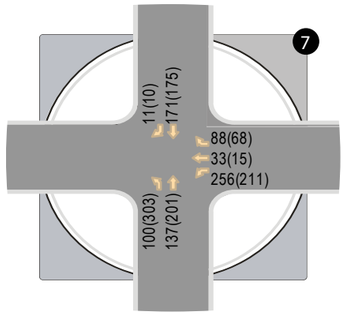
Perimeter Dr & Axon Wy



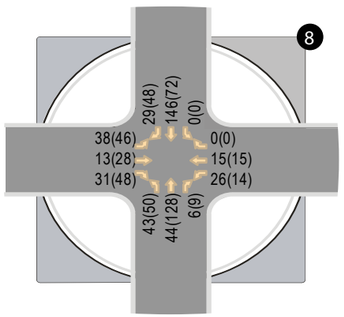
Hayden Rd & Princess Dr



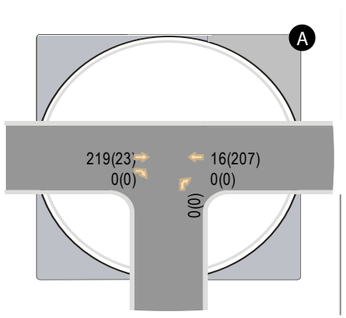
Hayden Rd & Loop 101 EB Ramps



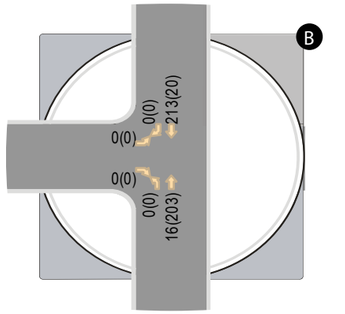
Hayden Rd & Loop 101 WB Ramps



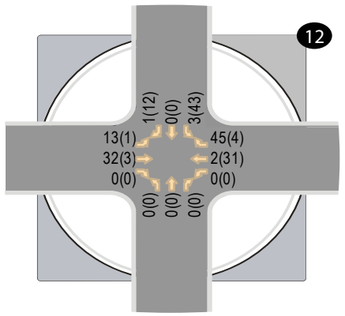
Hayden Rd & Legacy Blvd



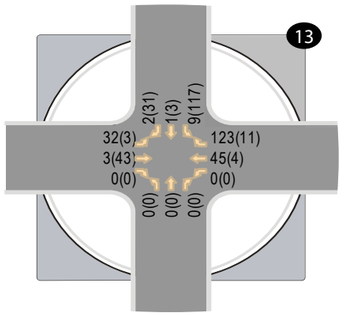
Access B & Axon Way



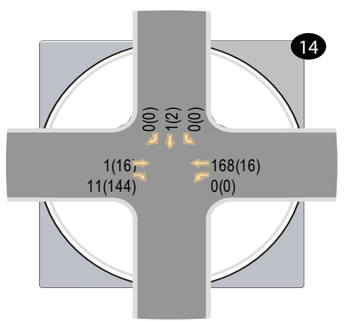
Axon Way & Access C



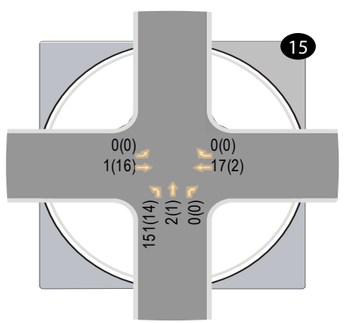
82nd St & Princess Dr



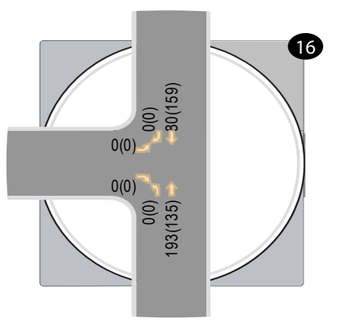
Perimeter Dr & Princess Dr



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Wy

LEGEND

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

NORTH

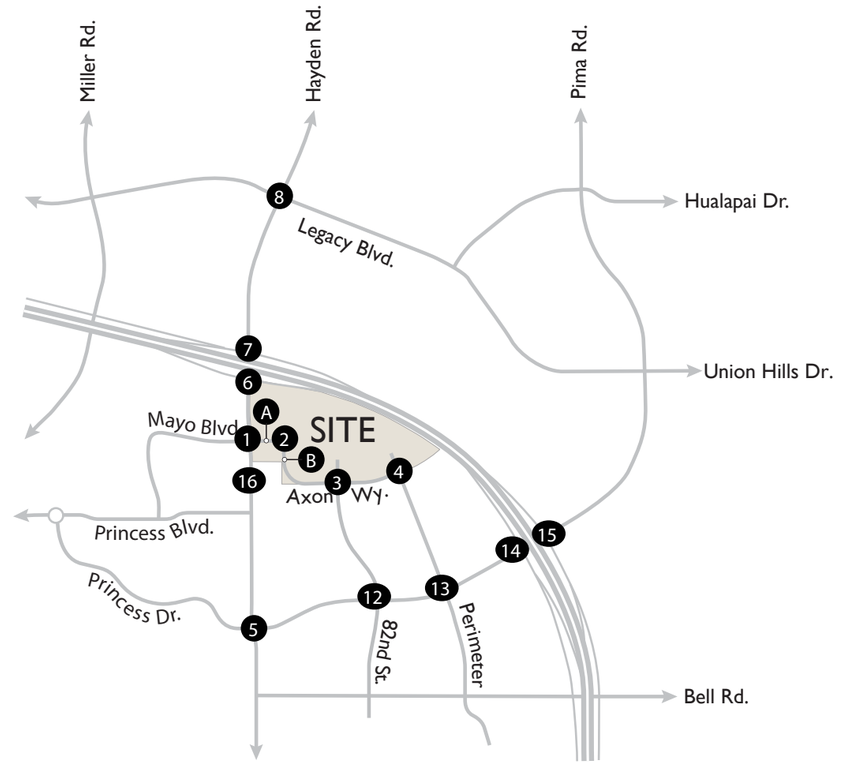
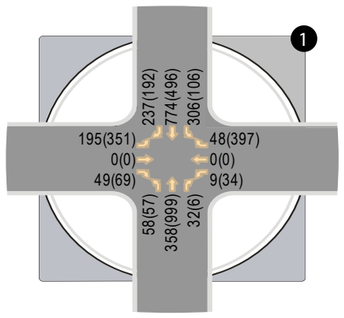
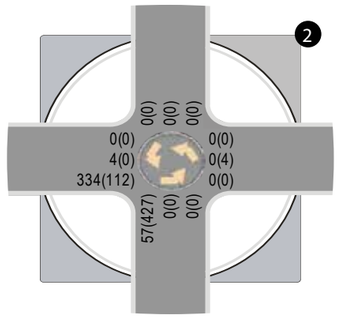


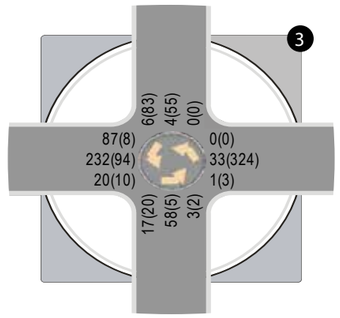
Figure 8: 2030 Surrounding Developments Traffic Volumes



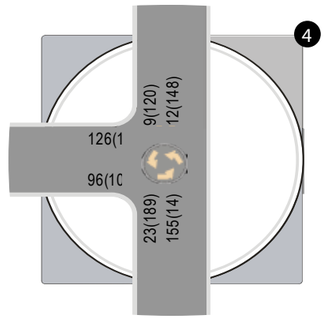
Hayden Rd & Mayo Blvd/Axon Wy



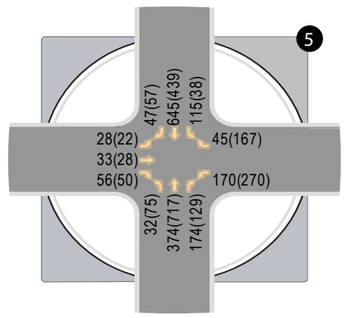
Axon Wy & Axon Wy



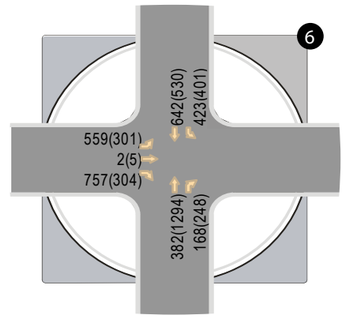
82nd St & Axon Wy



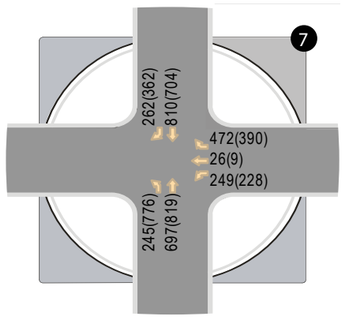
Perimeter Dr & Axon Wy



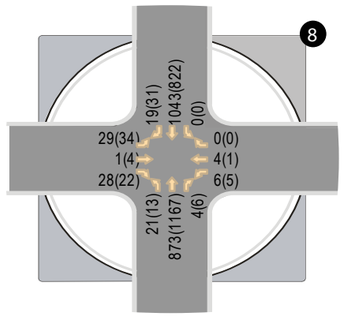
Hayden Rd & Princess Dr



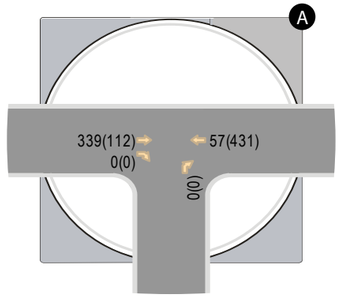
Hayden Rd & Loop 101 EB Ramps



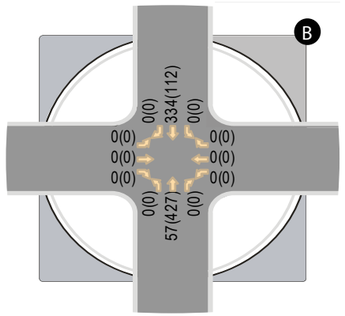
Hayden Rd & Loop 101 WB Ramps



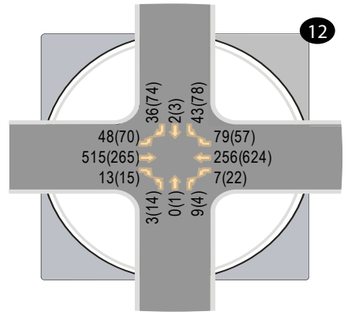
Hayden Rd & Legacy Blvd



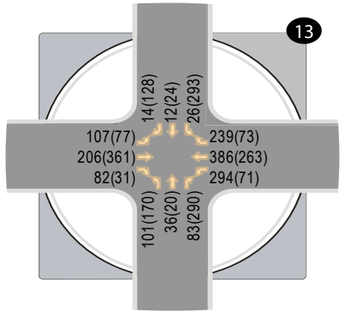
Access A & Axon Way



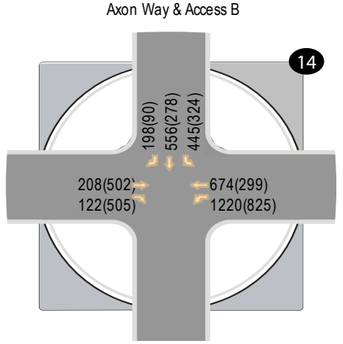
Axon Way & Access B



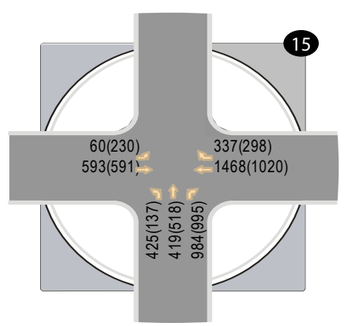
82nd St & Princess Dr



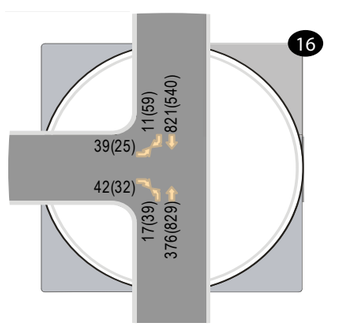
Perimeter Dr & Princess Dr



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Dwy

LEGEND

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

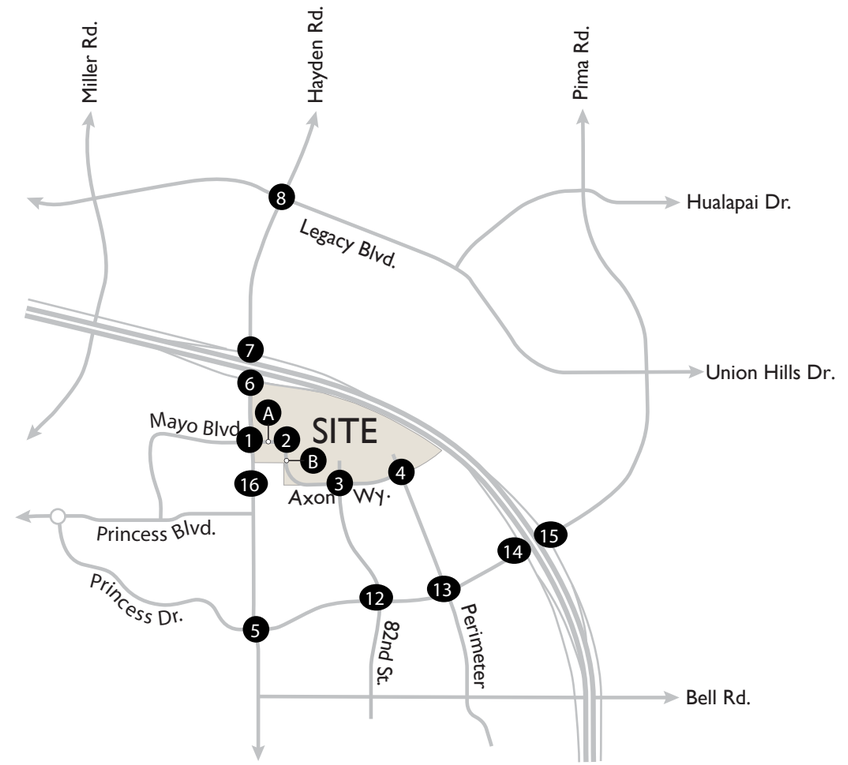


Figure 9: 2025 Background Traffic Volumes

reveals that two office buildings, representing approximately 85% of the total office floor area have been opened. (The third building is under construction and more than half of the floor area has been pre-leased to a single tenant.) Additionally, the retail and hotel uses are completed and opened. Therefore, CivTech adapted its model prepared in 2020 for its update for the NRI – Scottsdale (i.e., Cavasson) development. Although that document focused on site accesses, the model included (but did not report results for) several intersections in common with the Axon project. CivTech adjusted the model by accounting only for the components of Phase 1 that are not yet opened: the apartments and 15% of the offices.

Phase 2 of Cavasson is expected to consist of multiple hotels totaling 265 keys, 1,250 multifamily dwelling units, 183,000 SF of retail with 6,000 SF of fast-casual restaurants, and 1,060,000 SF of office space.

Phase 3 is expected to consist of multiple hotels totaling another 265 keys, 400 multifamily dwelling units, 67,500 SF of retail floor area with 6,000 SF of fast-casual restaurants, and 219,000 SF of office space. Two, 50,000-SF medical office buildings are under construction fronting Legacy Boulevard.

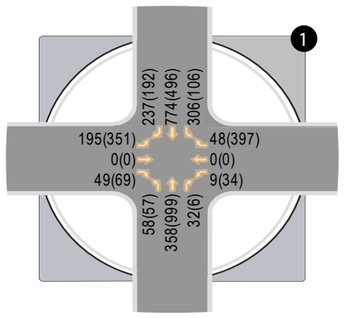
Northwest Corner Hayden Road and Mayo Boulevard. This development, proposed for approximately 73.2 acres, is a mixed-use development consisting of hospital, medical office, retail, senior living, office, and restaurant land uses. The development is anticipated to include a 352-bed hospital, 276,100 SF of medical offices, 144,780 SF of retail floor area, 250 DUs of senior living, 32,670 SF of General Office space, and 30,000 SF of restaurant floor area. Full build-out is not expected until 2040; therefore, CivTech estimated that 20% of its trips could be generated by 2025 and half of its by 2030.

Banner Scottsdale Medical Center. This development is proposed on yet-to-be acquired parcels of Arizona State Trust Land along the south side of the Mayo Boulevard alignment between Hayden and Scottsdale Roads. Phase 1 includes a 300-bed hospital as well as 686,000 SF of other medical offices and related facilities to be constructed by 2025. Phase 2 and Phase 3 will be built out by 2032 and 2045, respectively, and therefore, will not be included in this analysis.

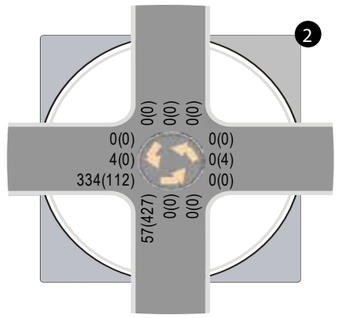
The turning movements expected from these other developments for the opening year of 2025 and for the study horizon year of 2030 are presented in **Figure 9** and **Figure 10**, respectively.

TOTAL TRAFFIC

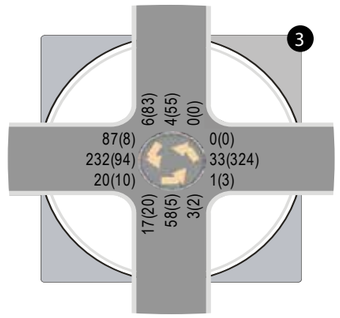
Total traffic was determined by adding the site generated traffic to the estimated projected background traffic. Total peak hour traffic volumes for the opening year of 2025 are shown in **Figure 11**. Total peak hour traffic volumes for the horizon year of 2030 are shown in **Figure 12**. It should be noted that in 2025 Build-Out of the project, the east leg of the existing intersection of **Hayden Road and Axon Way/Apartment Driveway** will be removed. CivTech redirected All existing and background traffic to/from the east leg of the intersection through the intersection of **Hayden Road and Axon Way**. Additionally, the east leg of the intersection of **Perimeter Drive and Axon Way** will be removed and the existing vehicular trips going through the east leg will not be analyzed in the Build scenario.



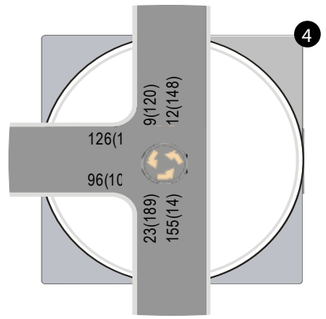
Hayden Rd & Mayo Blvd/Axon Wy



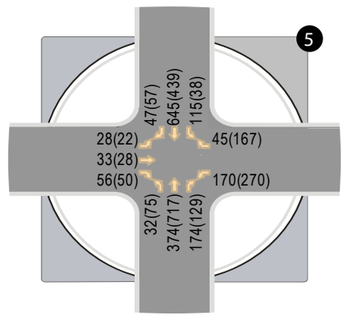
Axon Wy & Axon Wy



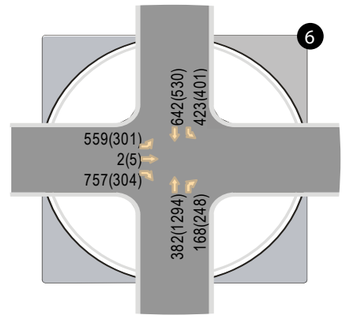
82nd St & Axon Wy



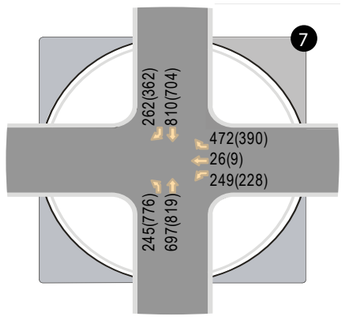
Perimeter Dr & Axon Wy



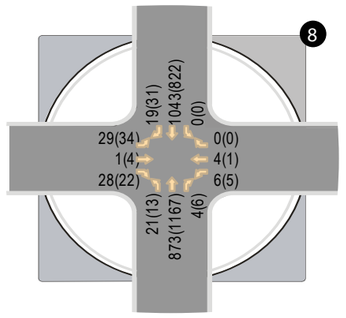
Hayden Rd & Princess Dr



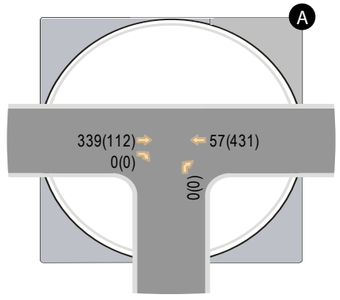
Hayden Rd & Loop 101 EB Ramps



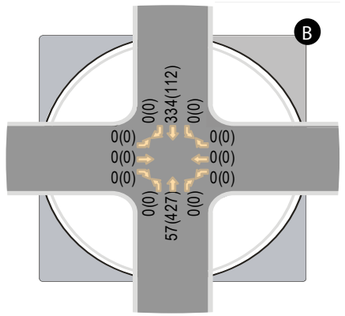
Hayden Rd & Loop 101 WB Ramps



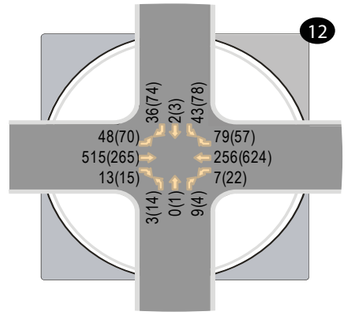
Hayden Rd & Legacy Blvd



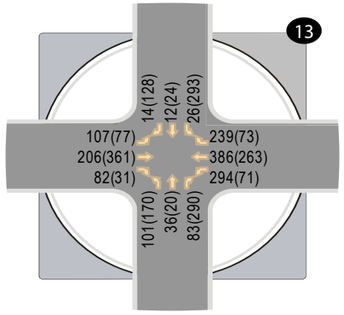
Access A & Axon Way



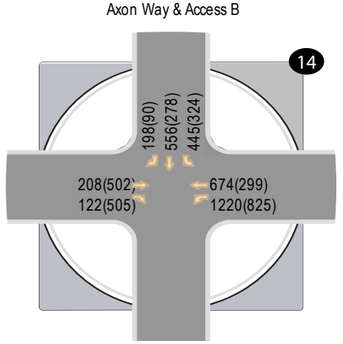
Axon Way & Access B



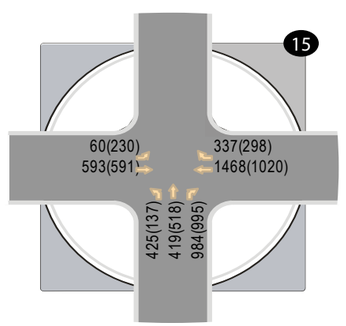
82nd St & Princess Dr



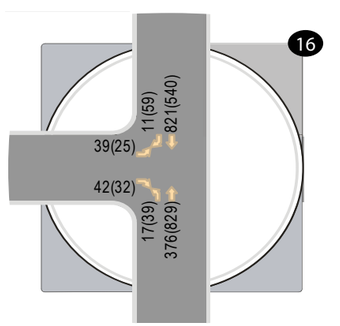
Perimeter Dr & Princess Dr



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Dwy

LEGEND

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

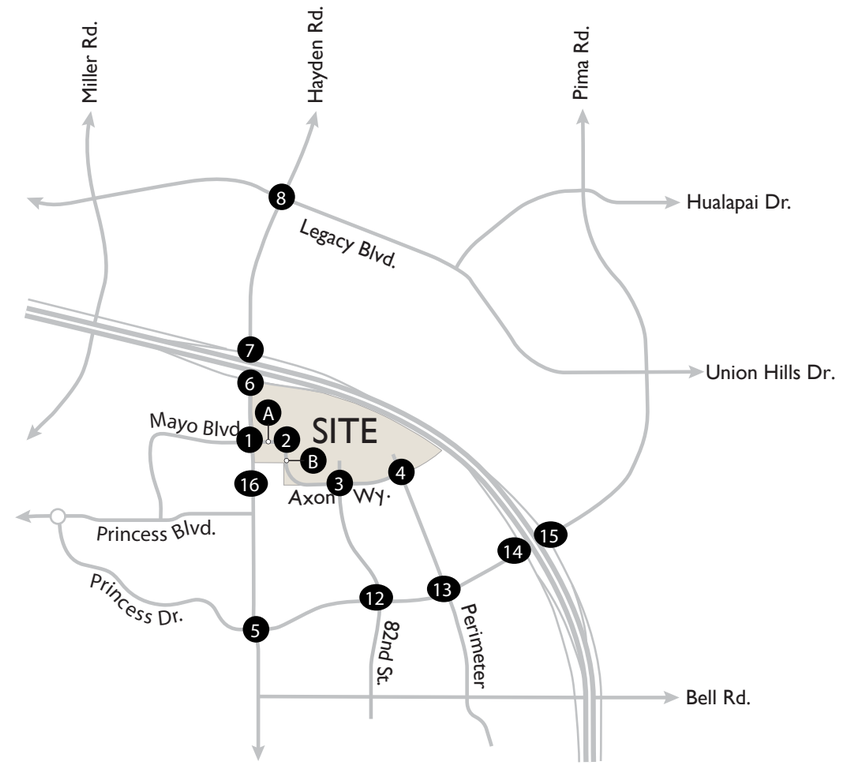
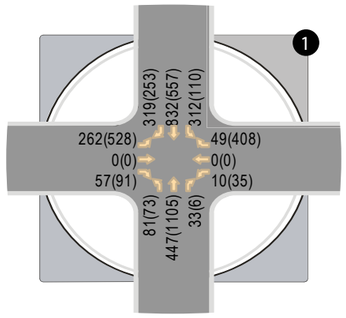
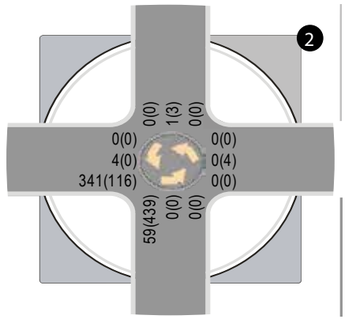


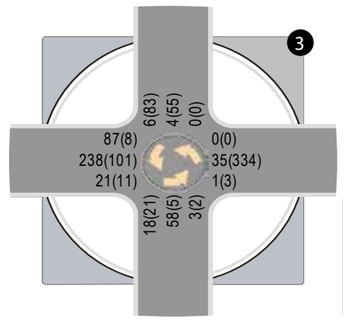
Figure 9: 2025 Background Traffic Volumes



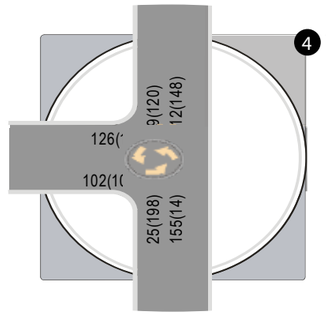
Hayden Rd & Mayo Blvd/Axon Wy



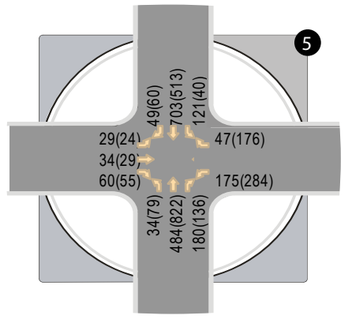
Axon Wy & Axon Wy



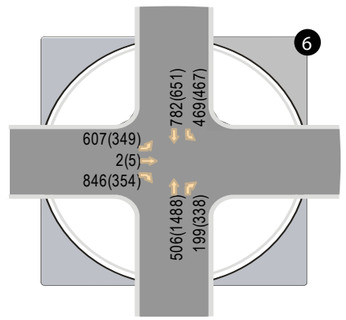
82nd St & Axon Wy



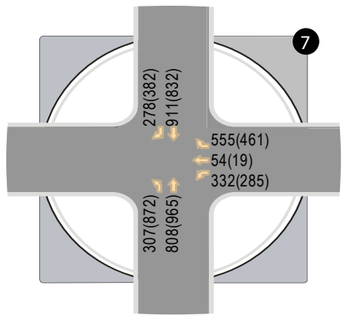
Perimeter Dr & Axon Wy



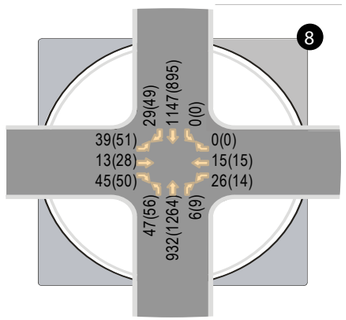
Hayden Rd & Princess Dr



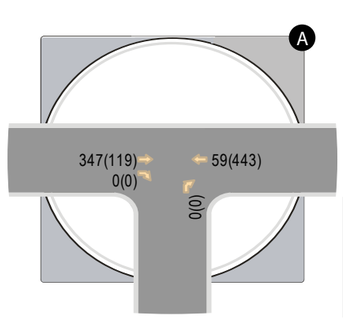
Hayden Rd & Loop 101 EB Ramps



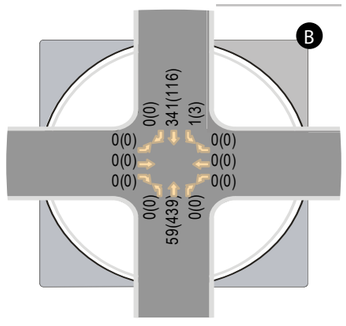
Hayden Rd & Loop 101 WB Ramps



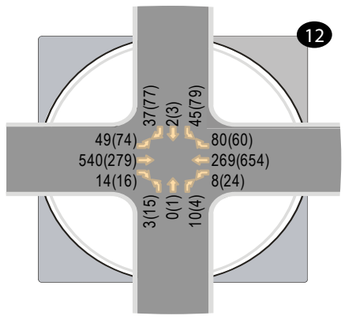
Hayden Rd & Legacy Blvd



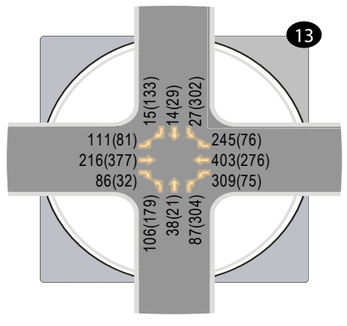
Access A & Axon Way



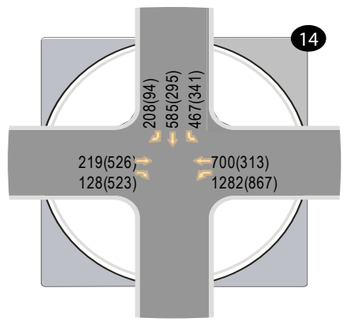
Axon Way & Access B



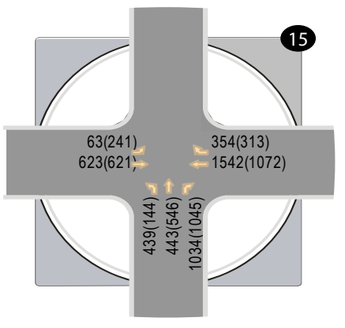
82nd St & Princess Dr



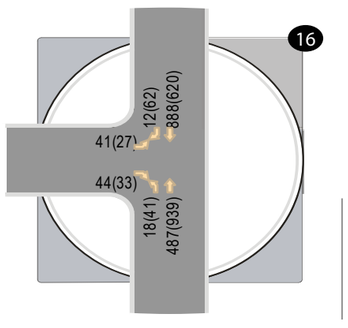
Princess Dr & Axon Wy



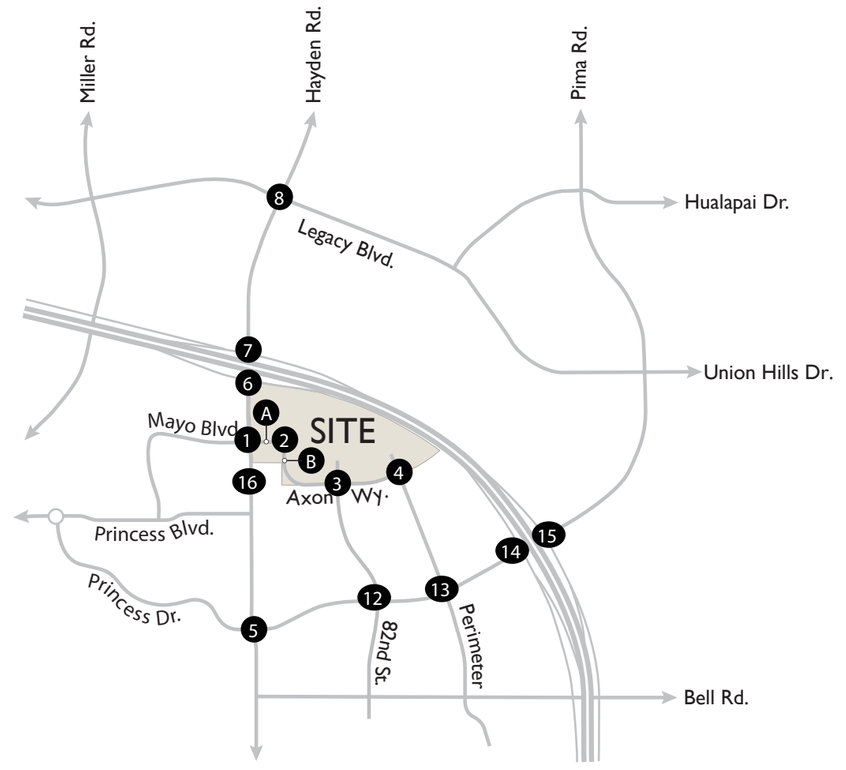
Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Dwy

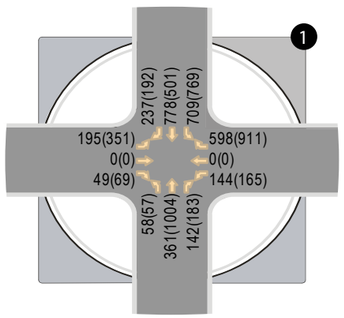


NORTH

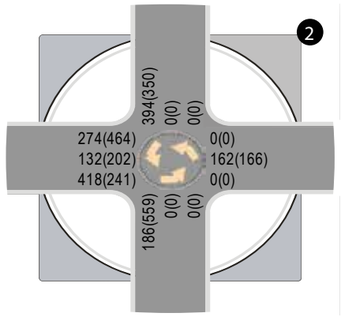
LEGEND

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

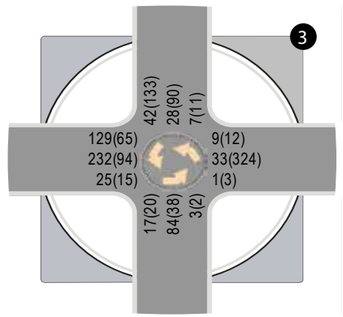
Figure 10: 2030 Background Traffic Volumes



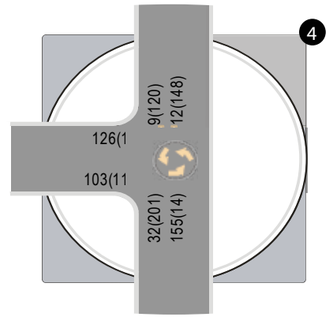
Hayden Rd & Mayo Blvd/Axon Wy



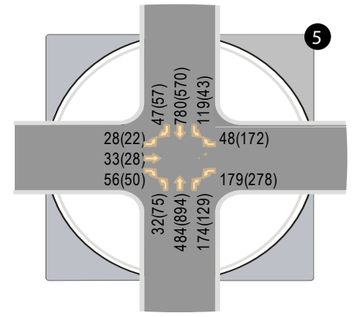
Axon Wy & Axon Wy



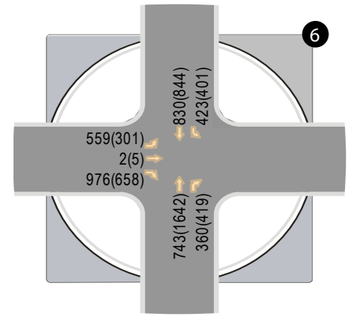
82nd St & Axon Wy



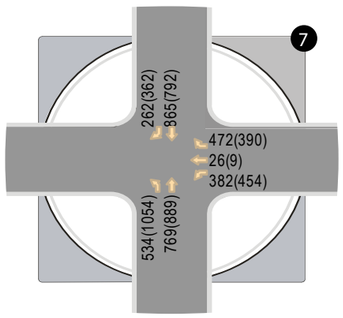
Perimeter Dr & Axon Wy



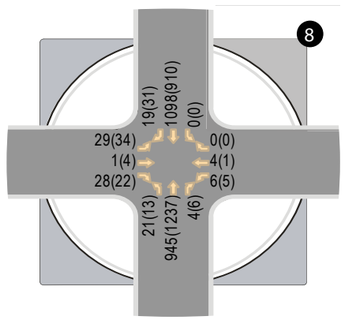
Hayden Rd & Princess Dr



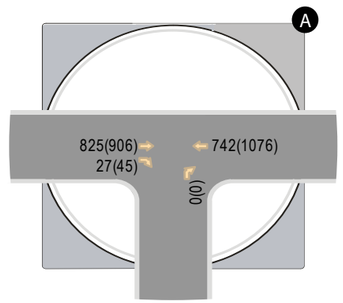
Hayden Rd & Loop 101 EB Ramps



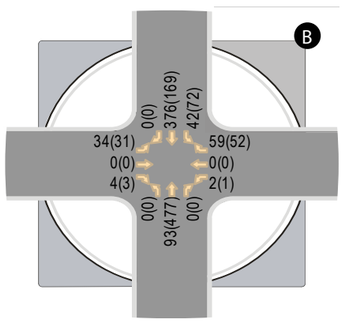
Hayden Rd & Loop 101 WB Ramps



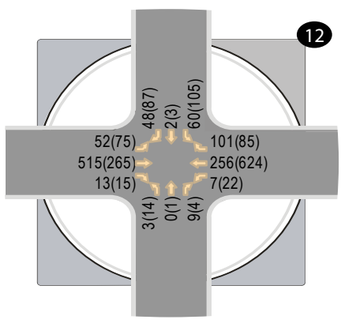
Hayden Rd & Legacy Blvd



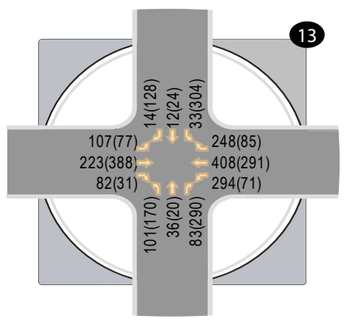
Access A & Axon Way



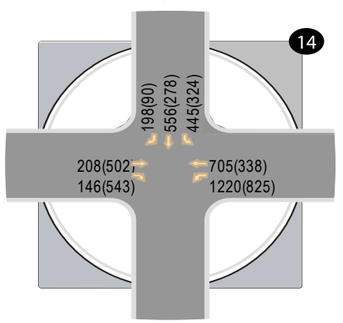
Axon Way & Access B



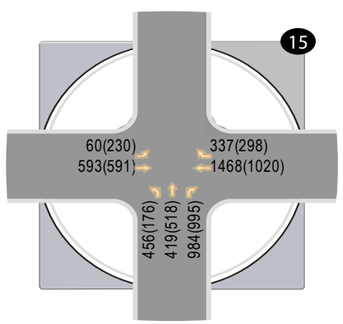
82nd St & Princess Dr



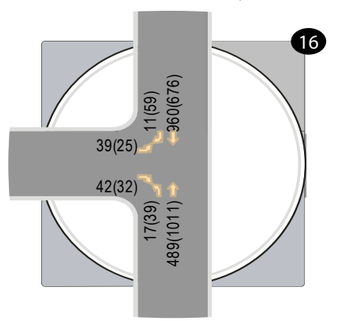
Princess Dr & Axon Wy



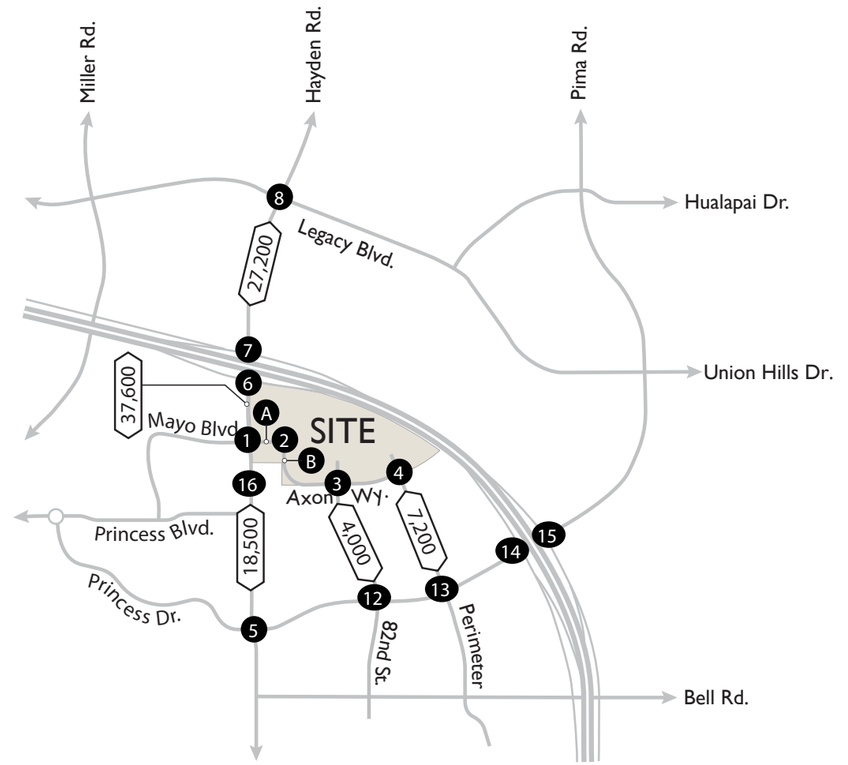
Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Wy



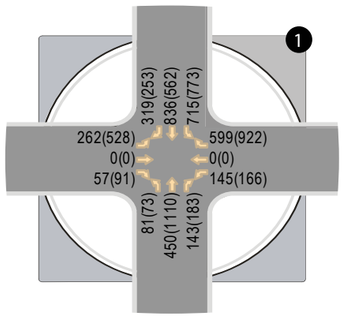
LEGEND

NORTH

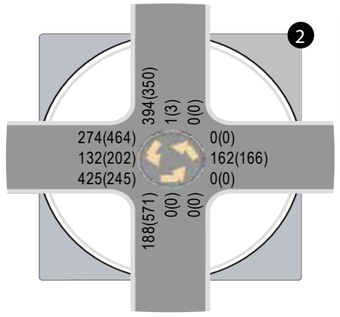
XX(XX) AM (PM) Peak Hour Traffic Volumes

18,500 Average Daily Traffic Volumes

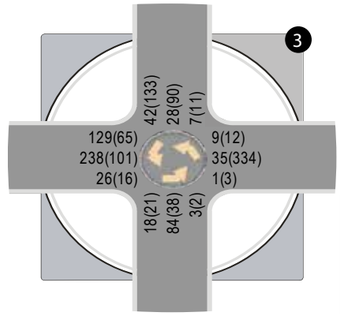
Figure 11: 2025 Total Traffic Volumes



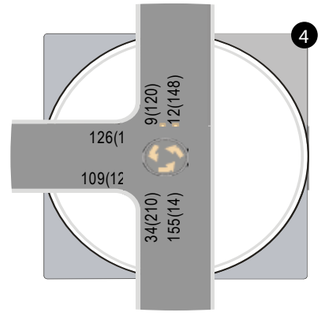
Hayden Rd & Mayo Blvd/Axon Wy



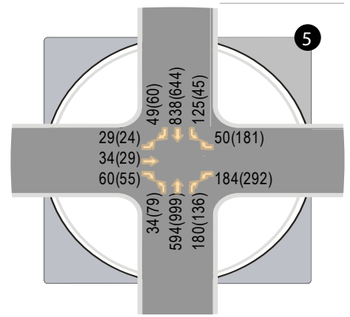
Axon Wy & Axon Wy



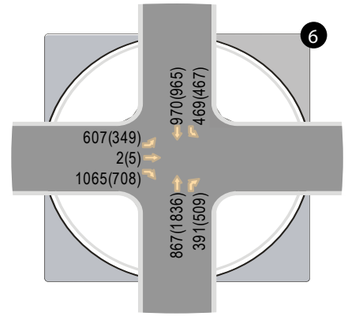
82nd St & Axon Wy



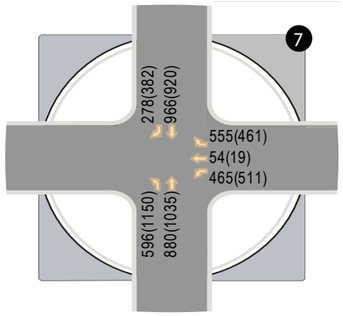
Perimeter Dr & Axon Wy



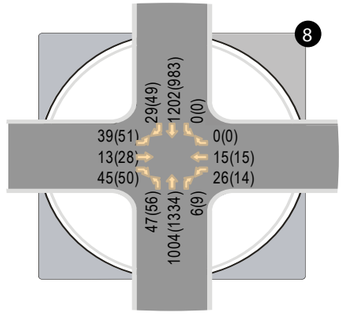
Hayden Rd & Princess Dr



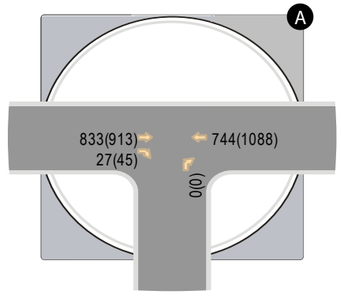
Hayden Rd & Loop 101 EB Ramps



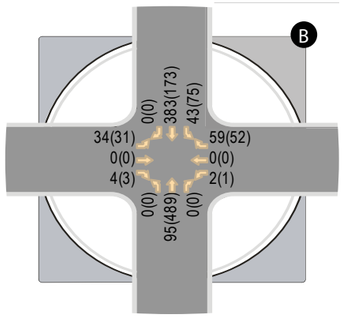
Hayden Rd & Loop 101 WB Ramps



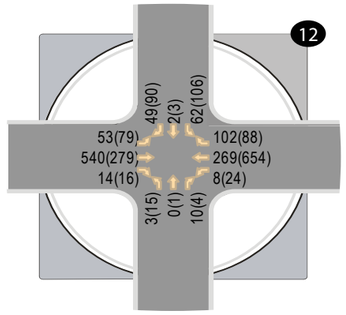
Hayden Rd & Legacy Blvd



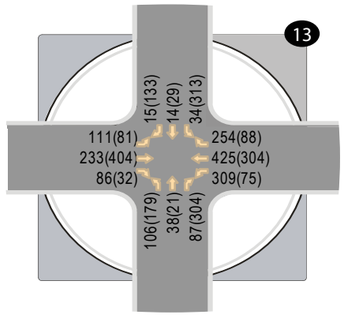
Access A & Axon Way



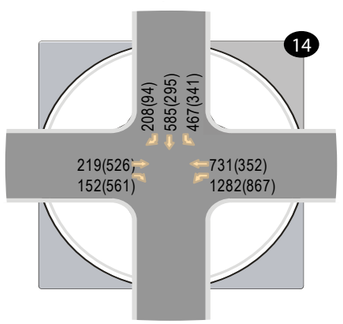
Axon Way & Access B



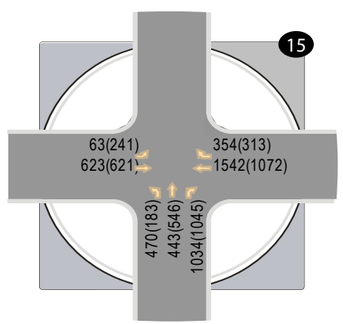
82nd St & Princess Dr



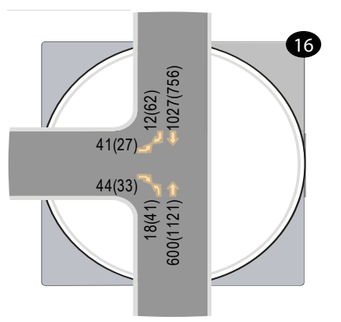
Princess Dr & Axon Wy



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Apartment Wy

LEGEND

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

18,500 Average Daily Traffic Volumes

NORTH

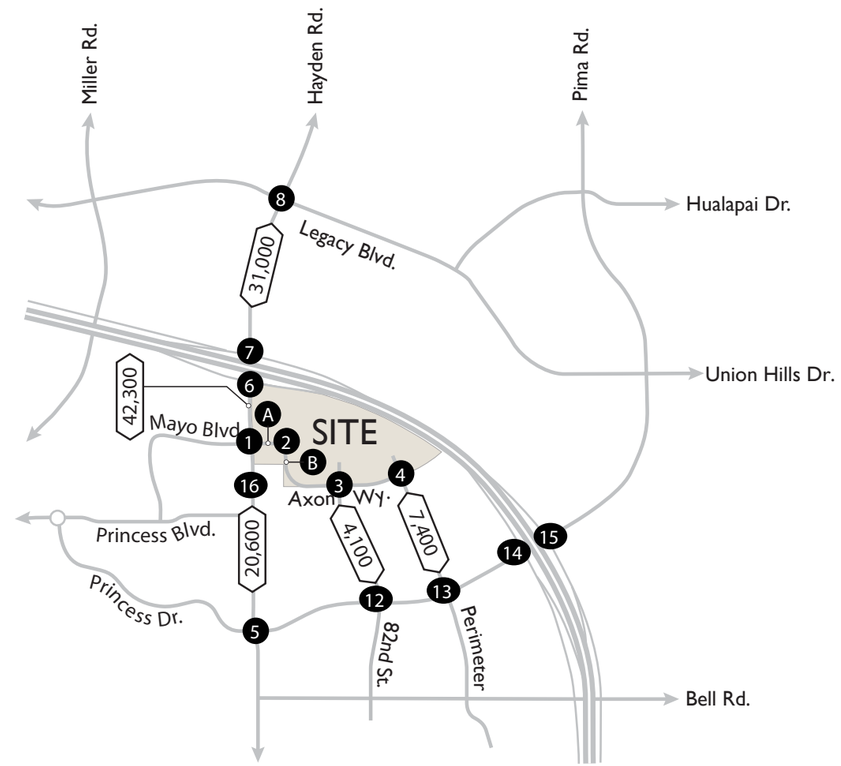


Figure 12: 2030 Total Traffic Volumes

TRAFFIC AND IMPROVEMENT ANALYSIS

INTERSECTION CAPACITY ANALYSIS

The overall intersection and approach levels of service are summarized **Table 8** for the 2025 and 2030 Background (No-Build) and Total (Build) conditions. Detailed analysis worksheets for the 2025 analysis can be found in **Appendix G** and in **Appendix H** for the 2030 analysis. It should be noted that delays are expected in both the Build and No Build scenarios. There are several proposed surrounding developments that are expected to be built out by 2030, further increasing delays at these intersections. CivTech analyzed the intersections within the site both with and without the addition of the surrounding developments for the 2030 Build scenario to demonstrate the delay solely caused by the Axon development. Both appendices include worksheets for mitigated intersections, where applicable. *Please note that, for the formerly three-legged intersection of Hayden Road and Mayo Boulevard, CivTech applied a signal cycle and timings for the background/no-build conditions based on other study intersections in the Hayden Road corridor. At this intersection and others where mitigations were applied in 2025 under the total/ build conditions, the mitigations were carried through to 2030. (Therefore, no results may be reported for unmitigated, Total/Build conditions.)*

*The right column of **Table 8** was included at Client request to documents the results reported in the original [draft] version of this report with only necessary adjustments made (intersections reconciled, trips recalculated, etc.). The intended purpose of this information is to demonstrate (if that be so) that it is primarily trips generated by these other developments that are causing the poorer levels of services reported at the study intersections.*

TABLE 6 – PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2025		2030 (w/ Other Developments)		2030 (Axon Campus Only)
				No Build	Build	Build	Build	Build
				AM (PM)	AM(PM)	AM(PM)	AM(PM)	AM(PM)
1	Hayden Rd & Mayo Blvd/Axon Wy	Signalized	NB	A (C)	A (C)	A (D)	-	-
			SB	A (B)	**F (F)**	A (**E**)		
			EB	C (D)	**F (F)**	C (**F**)		
			WB	B (B)	**D** (**E**)	B (B)		
			Overall	***A (C)***	***F (F)***	***B (F)***	-	-
		Mitigated – Cycle length and signal timing adjustment, Lane additions: SBL, EBL, & WBR	NB	-	C (D)	-	C (**F**)	C (C)
			SB		D (C)		D (C)	C (C)
			EB		D (D)		**E** (**E**)	D (D)
			WB		D (D)		D (**E**)	D (D)
			Overall	**-**	***D (D)***	**-**	***D (E)***	***C (C)***
		Mitigated – Signal Timing Adjustment	NB	-	-	-	C (D)	-
			SB				D (D)	
			EB				D (D)	
			WB				D (D)	
			Overall	-	-	-	***D (D)***	-
2	Axon Wy & Axon Wy	Roundabout	NB	A (A)	A (**E**)	-	A (**F**)	A (**F**)
			SB	- (-)	A (B)		A (C)	A (C)
			EB	A (A)	A (A)		A (A)	A (A)
			WB	A (A)	A (A)		A (B)	A (B)
			Overall	***A (A)***	***A (C)***	**-**	***A (E)***	***A (E)***
3	82nd St & Axon Wy	Roundabout	NB	A (A)	A (A)	A (A)	A (A)	A (A)
			SB	A (A)	A (A)	A (A)	A (A)	A (A)
			EB	A (A)	A (A)	A (A)	A (A)	A (A)
			WB	A (A)	A (A)	A (A)	A (A)	A (A)
			Overall	***A (A)***	***A (A)***	***A (A)***	***A (A)***	***A (A)***

TABLE 6 – PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2025		2030 (w/ Other Developments)	2030 (Axon Campus Only)	
				No Build	Build	Build	Build	Build
				AM (PM)	AM(PM)	AM(PM)	AM(PM)	AM(PM)
4	Perimeter Dr & Axon Wy	Roundabout	NB	A (A)	A (A)	A (A)	A (A)	A (A)
			SB	A (A)	A (A)	A (A)	A (A)	A (A)
			EB	A (A)	A (A)	A (A)	A (A)	A (A)
			Overall	***A (A)***	***A (A)***	***A (A)***	***A (A)***	***A (A)***
5	Hayden Rd & Princess Dr	Signalized	NB	A (A)	A (A)	A (A)	-	-
			SB	A (A)	A (A)	A (A)		
			EB	**E** (**E**)	**E (E)**	E (E)		
			Overall	***A (A)***	***A (A)***	***A (A)***	***-***	***-***
		Mitigated – Signal Timing Adjustment	NB		A (A)		A (A)	A (A)
			SB	-	A (A)	-	A (A)	A (A)
			EB		D (D)		D (D)	D (D)
			Overall	***-***	***A (A)***	***-***	***A (A)***	***A (A)***
6	Hayden Rd & Loop 101 EB Ramps	Signalized	NB Thru	28.4 C (30.7 C)	33.0 C (30.0 C)	29.8 C (33.9 C)	-	-
			NB Right	50.0 D (37.4 D)	59.0 **E** (21.4 C)	55.6 **E** (39.5 D)		
			NB Overall	35.0 D (31.9 C)	41.2 D (28.2 C)	36.8 D (34.9 C)		
			SB Left	77.4 **E** (59.6 **E**)	73.3 **E** (61.7 **E**)	77.0 **E** (62.4 **E**)		
			SB Thru	20.4 B (22.3 C)	36.2 D (43.6 D)	23.4 C (23.1 C)		
			SB Overall	43.8 D (38.3 D)	49.2 D (49.7 D)	44.0 D (39.5 D)		
			EB Left	50.7 **E** (51.1 D)	58.9 E (44.3 D)	74.0 **E** (48.7 D)		
			EB Shared	41.0 D (46.5 D)	35.1 D (36.5 D)	37.9 D (44.5 D)		
			EB Right	29.1 C (39.7 D)	31.4 C (35.4 D)	30.5 C (36.9 D)		
			EB Overall	40.6 D (46.0 D)	41.7 D (38.3 D)	48.1 D (43.5 D)		
			Overall	***40.7 D (36.6 D)***	***44.0 D (36.8 D)***	***44.2 D (38.0 C)***	-	-
		Mitigated – Dual NB Left-turn Lane added, Signal Timing adjustment	NB Thru		33.3 D (38.4 D)		41.7 D (108.2 **F**)	32.3 C (50.2 D)
			NB Right		74.6 **E** (30.4 C)		100.5 **F** (38.5 D)	29.6 C (50.0 D)
			NB Overall		46.3 D (36.8 D)		58.9 **E** (93.7 **F**)	31.6 C (50.2 D)
			SB Left		28.7 C (26.8 C)		36.9 D (30.0 C)	76.6 **E** (24.9 C)
			SB Thru	-	17.6 B (30.9 C)	-	25.1 C (34.6 C)	22.6 C (45.6 D)
			SB Overall		21.5 C (29.6 D)		29.0 C (33.0 C)	44.4 D (38.1 D)
			EB Left		69.7 **E** (44.3 D)		93.2 **F** (43.0 D)	58.2 **E** (43.9 D)
			EB Shared		37.5 D (36.5 D)		50.0 D (34.5 C)	35.7 D (35.8 D)
			EB Right		30.9 C (35.4 D)		34.9 C (33.3 C)	32.1 C (34.7 C)
			EB Overall		45.8 D (38.3 D)		58.2 **E** (36.5 D)	41.6 D (37.7 D)
			Overall	***-***	***38.1 D (34.3 C)***	***-***	***49.0 D (63.4 E)***	***39.5 D (43.7 D)***
		Mitigated – Signal Timing Adjustment	NB Thru				38.9 D (47.8 D)	
			NB Right				85.6 **F** (30.0 C)	
			NB Overall				52.6 D (44.1 D)	
			SB Left				39.7 D (39.5 D)	
			SB Thru	-	-	-	34.2 C (50.8 D)	-
			SB Overall				36.0 D (47.0 D)	
			EB Left				77.2 **E** (45.7 D)	
			EB Shared				44.2 D (35.6 D)	
			EB Right				32.6 C (34.2 C)	
			EB Overall				50.4 D (38.0 D)	
			Overall	-	-	-	***46.4 D (43.6 D)***	-
7	Hayden Rd & Loop 101 WB Ramps	Signalized	NB Left	72.0 **E** (226.0 **F**)	470.5 **F** (619.3 **F**)	105.6 **F** (441.8 **F**)	-	-
			NB Thru	38.2 D (17.6 B)	30.3 C (20.9 C)	33.6 C (18.9 B)		
			NB Overall	47.3 D (119.0 **F**)	169.7 **F** (345.4 **F**)	53.5 D (227.0 **F**)		
			SB Thru	34.5 C (36.2 D)	37.9 D (37.1 D)	38.6 D (37.6 D)		
			SB Right	31.4 C (34.6 C)	33.6 C (34.6 C)	33.8 C (34.8 C)		
			SB Overall	33.7 C (35.7 D)	36.9 D (36.3 D)	37.5 D (36.7 D)		
			WB Left	29.8 C (44.7 D)	29.9 C (41.4 D)	28.0 C (39.4 D)		
			WB Shared	27.9 C (40.7 D)	27.9 C (37.8 D)	29.3 C (37.5 D)		
			WB Right	27.6 C (39.8 D)	26.7 C (34.3 C)	27.1 C (37.0 D)		
			WB Overall	28.2 C (41.4 D)	28.1 C (37.8 D)	28.2 C (38.0 D)		
			Overall	***36.8 D (76.5 E)***	***85.8 F (186.9 F)***	***40.4 D (129.0 F)***	-	-

TABLE 6 – PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2025		2030 (w/ Other Developments)		2030 (Axon Campus Only)
				No Build	Build	Build	Build	Build
				AM (PM)	AM(PM)	AM(PM)	AM(PM)	AM(PM)
7	Hayden Rd & Loop 101 WB Ramps (continued)	Mitigated – Dual NB Left-turn Lane added, Signal Timing adjustment	NB Left	-	38.8 D (57.4 **F**)	-	38.1 D (186.9 **F**)	77.6 **E** (63.5 **E**)
			NB Thru		36.5 D (24.3 C)		31.7 C (24.9 C)	34.7 C (22.0 C)
			NB Overall		37.5 D (42.3 **E**)		34.2 C (112.4 **F**)	53.1 D (45.2 D)
			SB Thru		40.1 D (38.5 D)		44.0 D (41.8 D)	36.9 D (41.0 D)
			SB Right		36.6 D (36.8 D)		36.8 D (37.1 D)	45.2 D (47.0 D)
			SB Overall		39.3 D (38.0 D)		42.4 D (40.5 D)	38.9 D (42.9 D)
			WB Left		31.4 C (41.4 D)		31.2 C (37.6 D)	28.6 C (37.9 D)
			WB Shared		29.2 C (37.8 D)		30.9 C (32.4 C)	26.8 C (35.2 D)
			WB Right		27.9 C (34.3 C)		28.4 C (32.0 C)	26.6 C (33.4 C)
			WB Overall		29.4 C (37.8 D)		30.4 C (35.1 D)	27.2 C (35.4 D)
			Overall	**-**	***36.0 D (40.1 D)***	**-**	***35.9 D (74.4 E)***	***42.0 D (42.6 D)***
		Mitigated – Signal Timing Adjustment	NB Left	-	-	-	38.9 D (104.2 **F**)	-
			NB Thru				34.2 C (19.8 B)	
			NB Overall				36.1 D (65.4 **E**)	
			SB Thru				46.9 D (47.2 D)	
			SB Right				38.3 D (40.2 D)	
			SB Overall				45.0 D (45.2 D)	
			WB Left				29.6 C (39.1 D)	
			WB Shared				29.3 C (33.5 C)	
			WB Right				27.1 C (33.0 C)	
			WB Overall				28.9 C (36.3 D)	
			Overall	-	-	-	***37.1 D (53.1 D)***	**-**
8	Hayden Rd & Legacy Blvd	Signalized	NB	A (A)	A (A)	A (A)	A (A)	A (A)
			SB	A (A)	A (A)	A (A)	A (A)	A (A)
			EB	D (D)	D (D)	D (D)	D (D)	D (D)
			WB	D (D)	D (D)	D (D)	D (D)	
			Overall	***A (A)***	***A (A)***	***A (A)***	***A (A)***	***A (A)***
A	Access A & Axon Wy	One-way Stop (NB)	NB Right	-	A (A)	-	A (A)	A (A)
B	Axon Wy & Access B	One-way Stop (EB)	NB Left	-	A (A)	-	A (A)	A (A)
			SB Left		A (A)	A (A)	A (A)	A (A)
			EB Shared		C (C)	-	C (D)	C (D)
			WB Shared		A (B)	-	A (B)	A (B)
12	82nd St & Princess Dr	Two-way Stop (NB/WB)	NB Left	C (C)	C (D)	C (D)	C (D)	C (D)
			NB Shared	B (B)	B (B)	B (B)	B (B)	B (B)
			SB Left	C (**F**)	C (**F**)	C (**F**)	D (**F**)	C (**F**)
			SB Shared	B (B)	B (B)	B (B)	B (B)	B (B)
			EB Left	A (A)	A (A)	A (A)	A (B)	A (A)
			WB Left	A (A)	A (A)	A (A)	A (A)	A (A)
13	Perimeter Dr & Princess Dr	Signalized	NB	D (**E**)	D (**E**)	D (**E**)	-	-
			SB	D (**F**)	D (**F**)	D (**F**)		
			EB	A (A)	A (A)	A (A)		
			WB	A (A)	A (A)	A (A)		
			Overall	***B (D)***	***B (E)***	***B (D)***	-	-
		Mitigated – Signal Timing Adjustment	NB	-	D (C)	-	D (D)	D (D)
			SB		D (D)		D (D)	D (D)
			EB		A (B)		A (B)	A (B)
			WB		A (B)		A (B)	A (B)
			Overall	**-**	***B (C)***	**-**	***B (C)***	***B (C)***
14	Loop 101 SB Ramps & Princess Dr/ Pima Rd	Signalized	SB Left	67.5 **E** (43.4 D)	67.5 **E** (43.4 D)	74.5 **E** (43.9 D)	-	-
			SB Shared	**66.2 E** (43.5 D)	66.2 **E** (43.5 D)	74.4 **E** (44.1 D)		
			SB Right	41.4 D (37.5 D)	41.4 D (37.5 D)	41.4 D (37.5 D)		
			SB Overall	**62.8 D** (42.8 D)	62.8 **E** (42.8 D)	69.4 **E** (43.2 D)		
			EB Thru	53.3 D (47.8 D)	53.3 D (47.8 D)	54.6 D (50.1 D)		
			EB Right	51.6 D (51.1 D)	53.4 D (52.9 D)	53.4 D (59.4 D)		
			EB Overall	52.6 D (49.4 D)	52.9 D (50.4 D)	54.1 D (55.0 D)		
			WB Left	39.1 D (66.2 **E**)	38.6 D (64.2 **E**)	42.1 D (61.5 **E**)		
			WB Thru	14.6 B (11.4 B)	15.1 B (12.7 B)	15.7 B (12.0 B)		
			WB Overall	30.1 C (51.0 D)	29.7 C (48.6 D)	31.6 D (47.1 D)		
			Overall	***43.9 D (48.4 D)***	***43.7 D (47.9 D)***	***46.9 D (49.1 D)***	-	-

TABLE 6 – PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2025		2030 (w/ Other Developments)	2030 (Axon Campus Only)	
				No Build	Build	Build	Build	Build
				AM (PM)	AM(PM)	AM(PM)	AM(PM)	AM(PM)
14	Loop 101 SB Ramps & Princess Dr/ Pima Rd (continued)	Mitigated – Signal Timing Adjustment	SB Left	-	54.2 D (44.3 D)	-	57.4 **E** (44.8 D)	57.4 **E** (44.8 D)
			SB Shared		53.2 D (44.4 D)		56.2 **E** (45.0 D)	56.1 **E** (45.0 D)
			SB Right		37.8 D (38.2 D)		37.9 D (38.2 D)	37.9 D (38.2 D)
			SB Overall		51.1 D (43.6 D)		53.7 D (44.1 D)	53.7 D (44.1 D)
			EB Thru		52.1 D (47.2 D)		52.1 D (49.6 D)	52.1 D (49.6 D)
			EB Right		51.3 D (52.3 D)		51.9 D (59.3 **E**)	51.0 D (58.7 **E**)
			EB Overall		51.8 D (49.8 D)		52.1 D (54.7 D)	51.6 D (54.4 D)
			WB Left		72.6 **E** (71.1 **E**)		90.2 **F** (65.5 **E**)	90.2 **F** (67.6 **E**)
			WB Thru		16.5 B (13.1 B)		17.7 B (13.9 B)	16.7 B (12.4 B)
			WB Overall		51.3 D (53.5 D)		60.8 **E** (49.1 D)	61.1 **E** (51.4 D)
			Overall	**-**	***51.3 D (49.8 D)***	**-**	***57.5 E (50.0 D)***	***57.6 E (50.8 D)***
		Mitigated – Signal Timing Adjustment	SB Left	-	-	-	57.4 **E** (44.8 D)	-
			SB Shared				56.2 **E** (45.0 D)	
			SB Right				37.9 D (38.2 D)	
			SB Overall				53.7 D (44.1 D)	
			EB Thru				54.2 D (49.6 D)	
			EB Right				53.7 D (59.3 **E**)	
			EB Overall				54.0 D (54.7 D)	
			WB Left				73.2 **E** (65.5 **E**)	
			WB Thru				17.7 B (13.9 B)	
			WB Overall				50.6 D (49.1 D)	
			Overall	-	-	-	***52.1 D (50.0 D)***	-
15	Loop 101 NB Ramps & Princess Dr/ Pima Rd	Signalized	NB Left	54.2 D (40.7 D)	55.7 **E** (42.0 D)	62.0 D (41.6 D)	-	-
			NB Shared	51.7 D (46.1 D)	52.7 D (46.2 D)	56.2 D (47.1 D)		
			NB Right	186.2 **F** (144.9 **F**)	186.2 **F** (144.9 **F**)	240.5 **F** (191.3 **F**)		
			NB Overall	123.5 **F** (103.9 **F**)	122.9 **F** (102.6 F)	151.3 **F** (130.4 **F**)		
			EB Left	39.6 D (192.5 **F**)	39.6 D (192.5 **F**)	38.6 D (213.0 **F**)		
			EB Thru	120.6 **F** (44.8 D)	120.6 **F** (44.8 D)	133.4 **F** (48.8 D)		
			EB Overall	112.8 **F** (86.1 **F**)	112.8 **F** (86.2 **F**)	123.7 **F** (96.2 **F**)		
			WB Thru	25.7 C (28.0 C)	25.7 C (28.0 C)	26.4 C (28.4 C)		
			WB Right	23.7 C (29.9 C)	23.7 C (29.9 C)	24.4 C (29.9 C)		
			WB Overall	25.3 C (28.4 C)	25.3 C (28.4 C)	25.8 C (28.7 C)		
			Overall	***81.1 F (73.2 E)***	***81.1 F (74.1 E)***	***95.5 F (87.4 F)***	**-**	**-**
		Mitigated – Signal Timing Adjustment	NB Left	-	48.2 D (42.8 D)	-	53.1 D (44.1 D)	58.7 E (42.5 D)
			NB Shared		46.6 D (47.3 D)		49.8 D (48.4 D)	53.3 D (66.9 E)
			NB Right		182.3 **F (**133.9 **F)**		230.9 **F** (179.9 **F**)	230.9 F (179.9 F)
			NB Overall		117.7 **F (**96.7 **F)**		141.3 **F** (122.4 **F**)	139.2 **F (**122.8 **F)**
			EB Left		44.5 D (133.1 **F)**		43.6 D (146.5 **F**)	43.0 D (146.5 F)
			EB Thru		105.4 **F** (44.1 D)		102.5 **F** (48.0 D)	103.8 **F** (48.0 **D)**
			EB Overall		**99.5 F (**69.0 **E)**		96.5 **F** (76.5 **E**)	97.6 **F (**76.5 **E)**
			WB Thru		29.3 C (29.4 C)		30.0 C (29.8 C)	30.0 C (29.8 C)
			WB Right		26.9 C (31.2 C)		27.7 C (31.3 C)	28.4 C (31.4 C**)**
			WB Overall		28.9 C (29.8 C)		29.6 C (30.1 C)	29.7 C (30.2 C)
			Overall	**-**	***78.3 E (67.3 E)***	**-**	***88.9 F (80.7 F)***	***89.3 F (82.7 F)***
		Mitigated – Signal Timing Adjustment	NB Left	-	-	-	53.1 D (44.1 D)	
			NB Shared				49.8 D (48.4 D)	
			NB Right				215.1 **F** (179.9 **F**)	
			NB Overall				133.4 **F** (122.4 **F**)	
			EB Left				43.0 D (146.5 **F**)	
			EB Thru				127.4 **F** (48.0 D)	
			EB Overall				118.8 **F** (76.5 **E**)	
			WB Thru				30.0 C (29.8 C)	
			WB Right				27.7 C (31.3 C)	
			WB Overall				29.6 C (30.1 C)	
			Overall	-	-	-	***88.8 F (80.7 F)***	

The results of the Synchro analysis summarized in **Table 8** indicate that the following Study Intersections operate with Levels of Service (LOS E or worse): **Hayden Road and Mayo Boulevard/Axon Way, Axon Way and Axon Way, Hayden Road and Princess Drive, Hayden Road and Loop 101, Perimeter Drive and Princess Drive, Loop 101 SB Ramps & Princess Drive/Pima Road** and **82nd Street and Princess Drive.**

Hayden Road and Mayo Boulevard/Axon Way

In the 2025 Build scenario, *using the same signal timing CivTech assumed for the background/no-build condition,* the signalized intersection of **Hayden Road and Mayo Boulevard/Axon Way** is expected to operate with overall intersection delays of 116.7 sec/veh (LOS F) and 547.5 sec/veh (LOS F) during the AM and PM peak hours, respectively. The southbound approach is expected to operate with delays of 133.4 sec/veh (LOS F) and 711.6 sec/veh (LOS F) during the AM and PM peak hours, respectively. The eastbound approach is expected to operate with delays of 359.5 sec/veh (LOS F) and 2,239.6 sec/veh (LOS F) during the AM and PM peak hours, respectively. The westbound approach is expected to operate with delays of 59.3 sec/veh (LOS E) and 100.8 sec/veh (LOS F) during the AM and PM peak hours, respectively.

- To address the expected delay at the intersection, CivTech recommends that the developer provide dual southbound left-turn lanes in the existing median, a westbound right-turn lane be provided, the cycle length be 120 seconds, and the initial signal timings be similar to the timings used by CivTech to achieve these results. Additionally, CivTech recommends that a dual eastbound left-turn lane be provided to sustain background volumes from the "Northwest Corner Hayden Road and Mayo Boulevard" surrounding development. This latter addition is recommended within its TIA at full-buildout, but given the high volumes after the construction of Phase 1, CivTech recommends advancing the construction to 2025. Axon Way must be constructed wide enough to provide two receiving lanes for the dual left turn movements. With these mitigations in place, the intersection is expected to operate with acceptable levels of service.

Axon Way and Axon Way Roundabout

In both Build scenarios, the roundabout of **Axon Way and Axon Way** is expected to operate at LOS F during the PM peak hour, with delay in the northbound approach of 93.0 sec/veh (LOS F) in 2025 and 99.7 sec/veh (LOS F) in 2030.

- To mitigate the delay at the intersection, CivTech recommends that the northbound shared through and right-turn lane becomes a shared through, left-turn and right-turn lane. This change will add a second northbound to westbound through lane on the north end of the roundabout, as well as an additional exit lane on the west leg of the roundabout. While HCM 2016 cannot analyze this mitigation/configuration, it is CivTech's professional opinion that this change will allow for better flow for the northbound left-turn, southbound right-turn, and eastbound left-turn movements.

Hayden Road and Princess Drive

In the 2025 No Build and Build scenarios, the signalized intersection of **Hayden Road and Princess Drive** is expected to operate with delays in the eastbound approach of 61.9 sec/veh (LOS E) and 62.9 sec/veh (LOS E) during the AM and PM peak hours, respectively.

- To mitigate the delay at the intersection, CivTech recommends that the signal timing be adjusted to increase the green time for the eastbound approach. With these mitigations in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

Hayden Road and Loop 101

In the 2025 No Build scenario, the signalized intersection of **Hayden Road and Loop 101 WB Ramps** is expected to operate with a delay in the northbound approach of 158.4 sec/veh (LOS F) during PM peak hour.

In the 2025 Build scenario, the intersection is expected to operate with an overall intersection delay of 93.0 sec/veh (LOS F) and 218.1 sec/veh (LOS F) during the AM and PM peak hours, respectively. The northbound approach is expected to operate with a delay of 187.1 sec/veh (LOS F) and 401.7 sec/veh (LOS F) during the AM and PM peak hours, respectively.

- To mitigate the delay at the intersection, CivTech recommends that the existing pavement be re-striped to add a second/dual northbound left-turn lane and the signal timing be adjusted. With these mitigations in place, the peak hour delays at the intersection in the 2025 Build scenarios are expected to be similar to those in the corresponding No Build scenarios.

Perimeter Drive and Princess Drive

In the 2025 No Build scenario, the signalized intersection of **Perimeter Drive and Princess Drive** is expected to operate with an overall intersection delay of 55.2 sec/veh (LOS E) during the PM peak hour. During the PM peak hour, the northbound and southbound approaches are expected to operate with delays of 57.7 sec/veh (LOS E) and 139.7 sec/veh (LOS F), respectively.

In the 2025 Build scenario, the signalized intersection of **Perimeter Drive and Princess Drive** is expected to operate with an overall intersection delay of 58.3 sec/veh (LOS E) during the PM peak hour. During the PM peak hour, the northbound and southbound approaches are expected to operate with delays of 57.7 sec/veh (LOS E) and 154.8 sec/veh (LOS F), respectively.

- To mitigate the delay at the intersection, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches during the PM peak hour. With this mitigation in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

Loop 101 and Princess Drive/Pima Road

In the 2025 No Build and Build scenarios, the signalized intersection of **Loop 101 SB Ramps & Princess Drive/Pima Road** is expected to operate with a delay in the southbound approach of 62.8 sec/veh (LOS E) during AM peak hour.

In the 2025 No Build scenario, the signalized intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays of 81.4 sec/veh (LOS F) and 73.2 sec/veh (LOS E) during the AM and PM peak hours, respectively. The northbound approach

is expected to operate with delays of 122.2 sec/veh (LOS F) and 103.1 sec/veh (LOS F) during the AM and PM peak hours, respectively. The eastbound approach is expected to operate with delays of 113.5 sec/veh (LOS F) and 86.1 sec/veh (LOS F) during the AM and PM peak hours, respectively.

In the 2025 Build scenario, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays of 81.6 sec/veh (LOS F) and 72.9 sec/veh (LOS E) during the AM and PM peak hours, respectively. The northbound approach is expected to operate with delays of 122.0 sec/veh (LOS F) and 101.7 sec/veh (LOS F) during the AM and PM peak hours, respectively. The eastbound approach is expected to operate with delays of 113.5 sec/veh (LOS F) and 86.1 sec/veh (LOS F) during the AM and PM peak hours, respectively.

- To mitigate the delay at the interchange during the AM peak hour, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches. To mitigate the delay at the interchange during the PM peak hour, CivTech recommends that signal timing be adjusted to increase the green time for the eastbound and westbound left-turn movements. With these mitigations in place, the intersection is expected to operate with delays in both the 2025 Build conditions approximating those in the respective No Build scenarios.

In the 2030 No Build scenario, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with a delay in the southbound approach of 69.4 sec/veh (LOS E) during the AM peak hour.

In the 2030 No Build scenario, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays of 95.5 sec/veh (LOS F) and 87.4 sec/veh (LOS F) during the AM and PM peak hours, respectively. The northbound approach is expected to operate with delays of 151.3 sec/veh (LOS F) and 130.4 sec/veh (LOS F) during the AM and PM peak hours, respectively. The eastbound approach is expected to operate with delays of 123.7 sec/veh (LOS F) and 96.2 sec/veh (LOS F) during the AM and PM peak hours, respectively.

In the 2030 Build scenario, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays of 88.9 sec/veh (LOS F) and 80.7 sec/veh (LOS F) during the AM and PM peak hours, respectively. The northbound approach is expected to operate with delays of 141.3 sec/veh (LOS F) and 122.4 sec/veh (LOS F) during the AM and PM peak hours, respectively. The eastbound approach is expected to operate with delays of 96.5 sec/veh (LOS F) and 76.5 sec/veh (LOS E) during the AM and PM peak hours, respectively.

- To mitigate the delay at the interchange, it is recommended that the signal timing be adjusted to increase the green time for the westbound left-turn movement. With this mitigation in place, the intersection is expected to operate with delays in both the 2025 and 2030 Build conditions approximating those in the respective No Build scenarios.

Unsignalized Stop-Controlled Intersections

82nd Street and Princess Drive. In both the No Build and Build scenarios, the unsignalized intersection of **82nd Street and Princess Drive** is expected to operate with some delays during the peak hours.

- It is not uncommon for traffic from low-volume stop-controlled roadways such as 82nd Street to experience higher delays for brief periods during the day when approaching a higher-volume major road; therefore, no mitigation is recommended for either intersection.

Axon Campus Only Analysis

As noted previously, City reviewers asked CivTech to include in its analyzed traffic volumes trips generated by several proposed surrounding developments expected to be built out by 2030, including at least one project that is not yet approved and with a draft TIMA only. Such trips could be expected to further increase delays at the study intersections. In the original draft version of this study, CivTech analyzed in its 2030 "Build" scenario the same study intersections with only the Axon campus and without the addition of trips from these surrounding developments. This allowed CivTech to demonstrate the delay solely caused by the Axon development. A review of the right-most column of **Table 8** reveals that, with trips only generated by the Axon campus and without trips from the several proposed surrounding developments, many of the intersections within the study area would operate with better levels of service and would require less mitigation and that it is trips from the other developments added at the City's request that are creating further operational issues.

TURN LANE WARRANTING AND QUEUE LENGTH ANALYSIS

RIGHT-TURN DECELERATION LANES

CivTech deferred to City of Scottsdale *Design Standards & Policies Manual*, 2018, section 5-3.206 to determine if right-turn lanes are warranted at the site accesses:

"Deceleration lanes are required at all new driveways on major arterials and at new commercial/retail driveways minor arterials. Deceleration lanes for driveways may also be required on collector streets and for non-commercial/retail driveways on minor arterials. The lane length should be based on the distance needed to allow the vehicle to exit the through lane and slow to a 15-mph travel speed. To determine the need for a deceleration lane on streets classified as a minor arterial or collector, use the following criteria:

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

Access A and Axon Way: With 10,769 vpd traveling eastbound on Axon Way, a posted speed limit of 35 mph, and up to 45 eastbound right turns expected during the PM peak hour, a deceleration lane is warranted for the eastbound right-turn lane at the intersection of Access A and Axon Way. CivTech recommends a dedicated eastbound right-turn lane be provided on Axon Way approaching Access A.

Axon Way and Access B: With no northbound or southbound right-turns expected during either peak hour, a right-turn deceleration lane is not warranted for the northbound or southbound approaches, and therefore is not recommended.

LEFT-TURN DECELERATION LANES

CivTech deferred to City of Scottsdale *Design Standards & Policies Manual*, 2018, section 5-3.206 to determine if left-turn lanes are warranted at the site accesses:

"Left-turn lanes may also be required at street intersections on minor collectors based on the projected left-turn volume and conflicting through volume. The lane lengths should be determined based on the anticipated turning volume and whether there is signalized or unsignalized traffic control."

CivTech deferred to section 7.15 of the *MCDOT Roadway Design Manual* to determine whether the left-turn volumes and conflicting through volumes are large enough to require a left-turn deceleration lane.

Access A and Axon Way: is a restricted access, which do not permit left-turns. Therefore, a left turn lane warrant analysis was not performed for this access.

Axon Way and Access B: With 584 vph traveling northbound on Axon way and 75 vph making the southbound left-turn into Access B during the PM peak hour, a deceleration lane is warranted for the southbound left-turn lane at the intersection of Axon Way and Access B. CivTech recommends a dedicated southbound left-turn lane be provided on Axon Way approaching Access B.

Left-turn Lane warrants are established for signalized and stop-controlled intersections, and therefore, was not utilized to determine if left-turn lanes are warranted for the roundabouts. Rather, left-turn lanes were considered based on how the intersection operates.

QUEUE LENGTH ANALYSIS

Adequate turn storage should be provided on any approach where turn lanes are permitted and/or warranted. A queuing analysis was performed for all warranted/recommended and existing intersection turn lanes where site traffic is expected as well as left-turn lanes adjacent to the site using the methodology documented on pages 9-96 through 9-99 of the latest (7th) edition of the American Association of Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (the AASHTO "Green Book"). The Green Book indicates that, "A deceleration lane should be sufficiently long to store the number of vehicles likely to accumulate in a queue during a critical period."

For a right-turn lane at an unsignalized driveway or intersection, the critical period has typically been two minutes and the storage length estimated as the length required to hold the average number of arriving vehicles per a two-minute period, of which there are 30 per hour. Thus, for unsignalized driveways and intersections, the storage length for a right-turn lane can be calculated by use of the following formula:

Storage Length = $\left\{\frac{(veh/hr)}{(30\ periods/hr)}\right\} \times VL$, where *VL* is an assumed average Vehicle Length of 25 feet.

For unsignalized intersections, the storage length for a left-turn lane is determined by the use of Equations 9-3 and 9-4 of the Green Book.

$$\text{Storage Length} = \left\{\frac{\ln[P(n>N)]}{\ln\frac{v}{c}} - 1\right\} \times VL \text{ [9-4]},$$

where $c = \frac{V_0 e^{-V_0 t_c/3600}}{1-e^{-V_0 t_c/3600}}$ [9-3] and *VL* is 25 feet.

Where signalized, the critical period per the Green Book is one-and-a-half to two signal cycles.[1] The equation used to calculate the queue storage for a right- *or* left-turn lane using AASHTO methodology is thus:

$$\text{Storage Length} = \left\{\frac{1.5\ x\ (veh/hr)}{(cycles/hr)}\right\} \times VL, \text{ where } VL \text{ is, again, 25 feet.}$$

The turn lane storage requirements for the study intersections are summarized in **Table 9**. Queue storage calculations are provided in **Appendix I**. A review of the results of the queue storage analysis summarized in **Table 9** reveals that most existing turn lanes will provide adequate queue storage capacity based on expected 2030 peak hour turning movement volumes.

TABLE 7 – TURN LANE QUEUE STORAGE LENGTHS

ID	Intersection	Intersection Control	Movement	Queue Storage (feet)				
				Existing(1)	AASHTO	ADOT(2)	HCM(3)	Recommended
1	Hayden Rd & Mayo Blvd/ Axon Wy	Signal	NB Left	200′	150′		115′	No change
			SB Left	375′	(4)1,400′		(4)1,170′	(4)(10)750′
			EB Left	300′	900′		365′	365′
			WB Left	-	300′	-	280′	280′
			NB Right	-	325′		130′	(9)150′
			SB Right	175′	(4)550′		(4)420′	(4)(12)355′
			WB Right	-	1,700′		290′	290′
5	Hayden Rd & Princess Dr	Signal	NB Left	155′	150′		25′	No change
			SB Left	255′	225′		35′	No change
			WB Left	(4)(8)300′	(4)600′	-	(4)380′	(8)No change
			NB Right	240′	350′		25′	No change
			SB Right	255′	100′		25′	No change
			EB Right	175′	100′		45′	No change
6	Hayden Rd & Loop 101 EB Ramps	Signal	SB Left	(4)500′	(4)800′	(4)755′	(4)320′	(5)(12)No change
			EB Left	430′	1,025′	930′	755′	(6)(12)No change
			NB Right	260′	(4)850′	(4)805′	(4)420′	(4)530′
			EB Right	430′	1,950′	1,630′	235′	(6)(10)No change
7	Hayden Rd & Loop 101 WB Ramps	Signal	NB Left	245′	(4)2,050′	(4)1,705′	(4)1,440′	(4)(5)(10)490′
			WB Left	495′	875′	805′	240′	(6)No change
			SB Right	235′	650′	655′	90′	(10)No change
			WB Right	495′	925′	855′	65′	(6)No change
8	Hayden Rd & Legacy Blvd	Signal	NB Left	250′	(4)100′		(4)50′	No change
			SB Left	-	>25′		>25′	(9)150′
			EB Left	-	100′		75′	(9)150′
			WB Left	-	50′	-	45′	(9)150′
			NB Right	-	25′		25′	(9)150′
			SB Right	160′	75′		25′	No change
			EB Right	-	100′		35′	(9)150′
			WB Right	-	>25′		>25′	(9)150′
A	Access A & Axon Wy	1-way stop (NB)	EB Right	-	50′	-	>25′	(9)150′
B	Axon Wy & Access B	2-way stop (EB/WB)	SB Left	-	25′	-	25′	(9)150′
12	82nd St & Princess Dr	2-way stop (NB/SB)	NB Left	105′	25′		25′	(7)No change
			SB Left	90′	25′	-	210′	(7)No change
			EB Left	100′	50′		25′	No change
			WB Left	85′	25′		25′	No change
13	Princess Dr & Perimeter Dr	Signal	NB Left	100′	300′		235′	(7)No change
			SB Left	210′	625′	-	525′	(7)No change
			EB Left	80′	225′		35′	No change

[1] AASHTO, under Section 9.7.2.2 (page 9-96) of the Green Book, indicates that storage length for a turn lane, exclusive of taper, "should usually be based on 1.5 to 2 times the average number of vehicles that would need to be stored per signal cycle" at a signalized intersection.

TABLE 7 – TURN LANE QUEUE STORAGE LENGTHS

ID	Intersection	Intersection Control	Movement	Queue Storage (feet)				
				Existing[1]	AASHTO	ADOT[2]	HCM[3]	Recommended
			WB Left	275′	525′		195′	No change
			NB Right	250′	525′		175′	No change
14	Loop 101 SB Ramps & Princess Dr/ Pima Rd	Signal	SB Left	355′	975′	230′	575′	[6]No change
			WB Left	[4][8]480′	[4]2,675′	[4]2,180′	[4]1,790′	[5][8]No change
			SB Right	355′	450′	480′	55′	[6]No change
			EB Right	[4][8]490′	[4]1,325′	[4]1,155′	[4]840′	[8]No change
15	Loop 101 NB Ramps & Princess Dr/ Pima Rd	Signal	NB Left	275′	1,175′	1,030′	500′	[6]No change
			EB Left	265′	525′	555′	480′	[5][10]No change
			NB Right	280′	2,200′	1,805′	1,080′	[11]No change
			WB Right	285′	750′	730′	285′	[10]No change

(1) Measured from beginning of stop bar to the end of the stripe.
(2) ADOT desired lengths used.
(3) HCM 95th percentile queue reported in vehicles/lane, assuming 1 vehicle ~ 25 feet.
(4) Total storage for dual turn lanes.
(5) Additional storage is provided downstream.
(6) Shared lane provides additional storage.
(7) TWLTL provides additional storage downstream.
(8) Dual lanes contain one lane of storage and one drop lane for additional storage downstream.
(9) City of Scottsdale standard storage length is 150 feet, with a 100-foot minimum length.
(10) Lack of right-of-way for extended queue lengths.
(11) Lane acts as a drop-lane.
(12) Site does not contribute or minimally contributes traffic to movement.

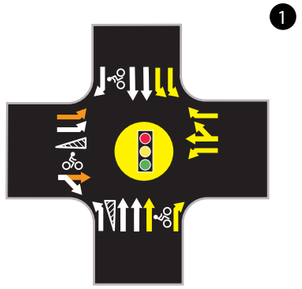
Figure 13 shows the future intersection lane configurations, turn lanes, and traffic controls.

SIGHT DISTANCE ANALYSIS

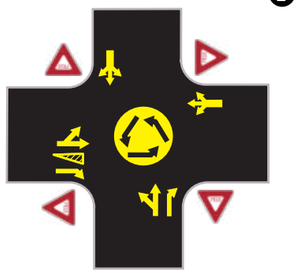
Adequate sight distance shall be provided at intersections and site access driveways to allow safe turning movements. There shall be sufficient unobstructed sight distance along both approaches of a street/driveway intersection and across their included corners to allow operators of vehicles to see each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

The City of Scottsdale provides minimum sight distance requirements based on the posted roadway speed and the number of through lanes in each direction of travel. Minimum sight distances should be provided on the Development Plans at each of the proposed access points per the City of Scottsdale *Design Standards & Policies Manual* (DS&PM).

Excerpts from the DS&PM are included in **Appendix J**.

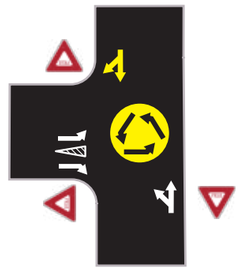


Hayden Rd & Mayo Blvd/Axon Wy



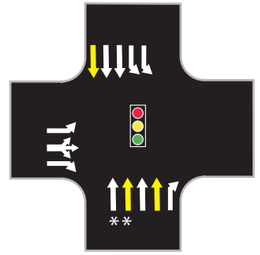
Axon Wy & Axon Wy

82nd St & Axon Wy



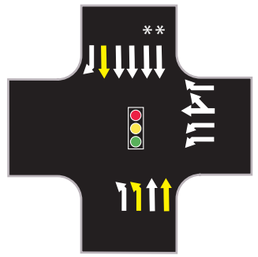
Perimeter Dr & Axon Wy

Hayden Rd & Princess Dr



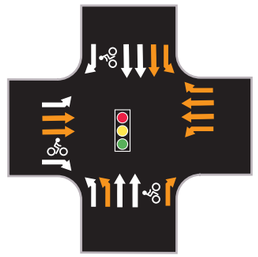
Hayden Rd & Loop 101 EB Ramps

* indicates through-left lane

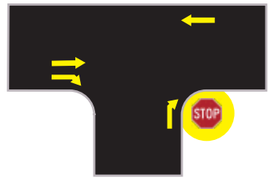


Hayden Rd & Loop 101 WB Ramps

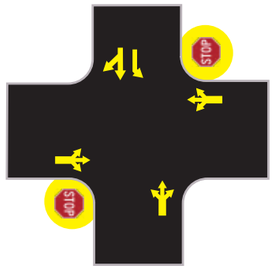
* indicates through-left lane



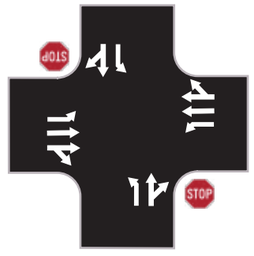
Hayden Rd & Legacy Blvd



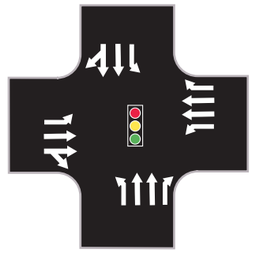
Access A & Axon Way



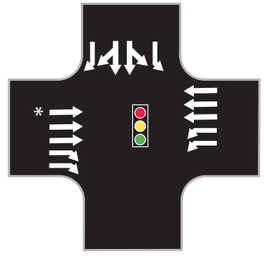
Axon Way & Access B



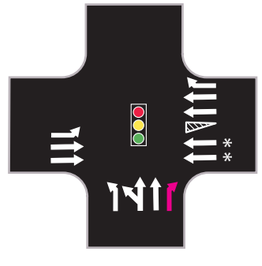
82nd St & Princess Dr



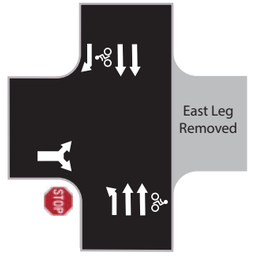
Perimeter & Princess Dr



Loop 101 SB Ramps @ Princess Dr/Pima Rd



Loop 101 NB Ramps @ Princess Dr/Pima Rd



Hayden Rd & Axon Wy/Union Hills Dr

LEGEND

NORTH

- Thru or Turning Movement
- Two-Way Left Turn-Lane
- Raised Median
- Bike Lane
- Striped Carrot
- Raised Median
- HOV Lane
- Channelized Turn Lane
- Drop Lane
- Traffic Signal
- Stop Sign
- Speed Limit

- Recommended Improvements
- Other Development Improvements

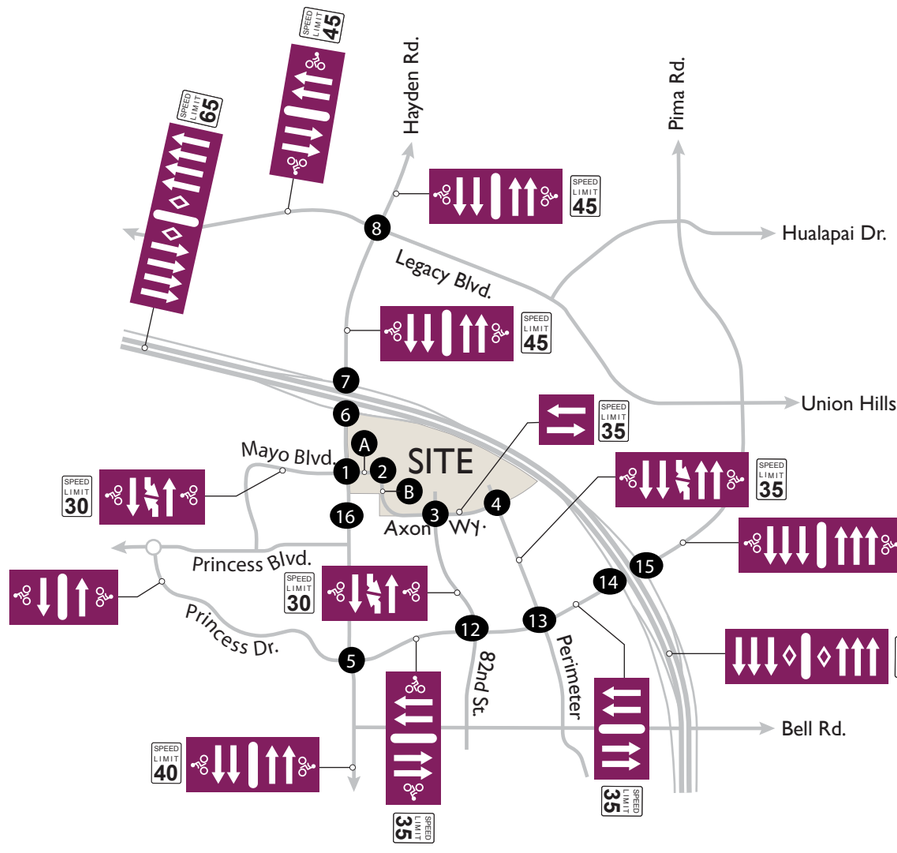


Figure 13: Proposed Lane Configurations and Traffic Controls

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations have been documented in this study:

GENERAL

- As currently proposed, Phase 2 of the Axon campus is anticipated to generate 13,862 trips on a typical weekday with 1,291 trips (560 in/731 out) generated during the AM peak hour and 1,610 trips (900 in/710 out) generated during the PM peak hour before any reductions are taken. Net of reductions for internal capture or interaction, Phase 2 is expected to generate 10,802 trips on a typical weekday with 1,079 trips (457 in/622 out) generated during the AM peak hour and 1,334 trips (752 in/582 out) generated during the PM peak hour.

EXISTING (2023)

- The results of the existing conditions analysis indicate that most study intersections and individual approaches operate with acceptable levels of service (LOS D or better). The only exceptions are at the signalized **Loop 101 Ramps & Princess Drive/Pima Road TUDI** and at the eastbound apartment driveway approach at the stop-controlled intersection of **Hayden Road & Axon Way/Union Hills Drive**.

FUTURE CONDITIONS (2025 & 2030)

AXON CAMPUS ONLY ANALYSIS

- The analysis demonstrated that, with trips only generated by the Axon campus and without trips from the several proposed surrounding developments, many of the intersections within the study area would operate with better levels of service and would require less mitigation and that it is trips from the other developments added at the City's request that are creating further operational issues.

COMPLETE ANALYSIS WITH ALL PROPOSED DEVELOPMENTS

- The results of the Synchro analysis indicate that the following Study Intersections operate with Levels of Service (LOS E or worse): **Hayden Road and Mayo Boulevard/Axon Way, Axon Way and Axon Way, Hayden Road and Princess Drive, Hayden Road and Loop 101, Perimeter Drive and Princess Drive, Loop 101 SB Ramps & Princess Drive/Pima Road** and **82nd Street and Princess Drive.**

- It should be noted that delays are expected in both the Build and No Build scenarios. There are several proposed surrounding developments that are expected to be built out by 2030, further increasing delays at these intersections. CivTech analyzed the intersections within the site both with and without the addition of the surrounding developments for the 2030 Build scenario to demonstrate the delay solely caused by the Axon development.

- Adding site traffic results in two signalized intersections (both being one-half of the two TUDIs) and several approach movements operating at LOS E of LOS F. These are as follows:

  - *Hayden Road and Mayo Boulevard/Axon Way*. In the 2025 Build scenario, *using the same signal timing CivTech assumed for the background/no-build condition,* the signalized intersection of

Hayden Road and Mayo Boulevard/Axon Way is expected to operate with overall intersection delays during the AM and PM peak hours, respectively. The southbound, eastbound, and westbound approaches are expected to operate with delays in both the AM and PM peak hours.

To address the expected delay at the intersection, CivTech recommends that the developer provide dual southbound left-turn lanes in the existing median, a westbound right-turn lane be provided, the cycle length be 120 seconds, and the initial signal timings be similar to the timings used by CivTech to achieve these results. Additionally, CivTech recommends that a dual eastbound left-turn lane be provided to sustain background volumes from the "Northwest Corner Hayden Road and Mayo Boulevard" surrounding development. This latter addition is recommended within its TIA at full-buildout, but given the high volumes after the construction of Phase 1, CivTech recommends advancing the construction to 2025. Axon Way must be constructed wide enough to provide two receiving lanes for the dual left turn movements. With these mitigations in place, the intersection is expected to operate with acceptable levels of service.

- *Axon Way and Axon Way Roundabout*. In both Build scenarios, the roundabout of **Axon Way and Axon Way** is expected to operate at LOS F in the northbound approach during the PM peak hour in both Build scenarios.

  - To mitigate the delay at the intersection, CivTech recommends that the northbound shared through and right-turn lane becomes a shared through, left-turn and right-turn lane. This change will add a second northbound to westbound through lane on the north end of the roundabout, as well as an additional exit lane on the west leg of the roundabout. While HCM 2016 cannot analyze this mitigation/configuration, it is CivTech's professional opinion that this change will allow for better flow for the northbound left-turn, southbound right-turn, and eastbound left-turn movements.

- *Hayden Road and Princess Drive*. In the 2025 No Build and Build scenarios, the signalized intersection of **Hayden Road and Princess Drive** is expected to operate with delays in the eastbound approach during the AM and PM peak hours.

  - To mitigate the delay at the intersection, CivTech recommends that the signal timing be adjusted to increase the green time for the eastbound approach. With these mitigations in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

- *Hayden Road and Loop 101*. In the 2025 No Build scenario, the signalized intersection of **Hayden Road and Loop 101 WB Ramps** is expected to operate with a delay in the northbound approach during PM peak hour.

  In the 2025 Build scenario, the intersection is expected to operate with an overall intersection delays and delays in the northbound approach during the AM and PM peak hours.

- To mitigate the delay at the intersection, CivTech recommends that the existing pavement be re-striped to add a second/dual northbound left-turn lane and the signal timing be adjusted. With these mitigations in place, the peak hour delays at the intersection in the 2025 Build scenarios are expected to be similar to those in the corresponding No Build scenarios.

- *Perimeter Drive and Princess Drive*. In the 2025 Build scenario, the signalized intersection of **Perimeter Drive and Princess Drive** is expected to operate with an overall intersection delay and delay in the northbound and southbound approaches during the PM peak hour.

  - To mitigate the delay at the intersection, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches during the PM peak hour. With this mitigation in place, the intersection is expected to operate with acceptable levels of service. With these same mitigations, the 2030 analysis produces similarly acceptable results, requiring no further mitigations.

- *Loop 101 and Princess Drive/Pima Road*. In the 2025 No Build and Build scenarios, the signalized intersection of **Loop 101 SB Ramps & Princess Drive/Pima Road** is expected to operate with a delay in the southbound approach during AM peak hour.

  In the 2025 No Build and Build scenarios, the signalized intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays and delays in the northbound and eastbound approaches during the AM and PM peak hours.

  - To mitigate the delay at the interchange during the AM peak hour, CivTech recommends that signal timing be adjusted to increase the green time for the northbound and southbound approaches. To mitigate the delay at the interchange during the PM peak hour, CivTech recommends that signal timing be adjusted to increase the green time for the eastbound and westbound left-turn movements. With these mitigations in place, the intersection is expected to operate with delays in both the 2025 Build conditions approximating those in the respective No Build scenarios.

  In the 2030 No Build and Build scenarios, the intersection of **Loop 101 NB Ramps & Princess Drive/Pima Road** is expected to operate with overall intersection delays and delays in the northbound and eastbound approaches during the AM and PM peak hours.

  - To mitigate the delay at the interchange, it is recommended that the signal timing be adjusted to increase the green time for the westbound left-turn movement. With this mitigation in place, the intersection is expected to operate with delays in both the 2025 and 2030 Build conditions approximating those in the respective No Build scenarios.

♦ *Unsignalized Stop-Controlled Intersections*

- 82nd Street and Princess Drive. In both the No Build and Build scenarios, the unsignalized intersection of **82nd Street and Princess Drive** is expected to operate with some delays during the peak hours.

- It is not uncommon for traffic from low-volume stop-controlled roadways such as Access A or 82nd Street to experience higher delays for brief periods during the day when approaching a higher-volume major road; therefore, no mitigation is recommended for either intersection.

TURN LANE WARRANTS

- Based on City criteria, with 10,769 vpd traveling eastbound on Axon Way, a posted speed limit of 35 mph, and up to 45 eastbound right turns expected during the PM peak hour, a deceleration lane is warranted for the eastbound right-turn lane at the intersection of Access A and Axon Way. CivTech recommends a dedicated eastbound right-turn lane be provided on Axon Way approaching Access A.

- Based on City criteria, with no northbound or southbound right-turns expected during either peak hour, a right-turn deceleration lane is not warranted for the northbound or southbound approaches, and therefore is not recommended.

QUEUE STORAGE

- The queue storage analysis reveals that most existing turn lanes will provide adequate queue storage capacity based on expected 2030 peak hour turning movement volumes.

LIST OF REFERENCES

Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis. Transportation Research Board, Washington, D.C., 2016.

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

Roadway Design Manual, Maricopa County Department of Transportation, Phoenix, Arizona, Revised March 2023.

Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, Washington, D.C., 2021.

Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington, D.C., 2014.

City of Phoenix Ordinance Section 31-13, City of Phoenix, Arizona, November 2010.

Street Planning and Design Guidelines, 12.1.2 Traffic Impact Studies, City of Phoenix, Arizona, December 2009.

Design Standards & Policies Manual, Geometrics, City of Scottsdale, Arizona, June 2014.

WOOD PATEL

CONCEPTUAL WATER DISTRIBUTION SYSTEM
BASIS OF DESIGN REPORT
FOR
AXON WAY & HAYDEN ROAD
December 13, 2023
WP# 205133.04

WOOD PATEL

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December 13, 2023

Mr. Levi Dillon, PE
Sr. Water Resource Engineer
City of Scottsdale
9379 East San Salvador Drive
Scottsdale, Arizona 85258

480.312.5319
ldillon@scottsdaleaz.gov

Re: **Axon Way & Hayden Road Project**
Conceptual Water Distribution System Basis of Design Report
WP# 205133.04

Dear Mr. Dillon:

The proposed Axon Way & Hayden Road project (Site) is a 74.44-acre site, located in the northwest quarter of Section 36, Township 4 North, Range 4 East of the Gila and Salt River Meridian. More specifically, the Site is located at the northeast corner of Hayden Road and Axon Way. Refer to the Vicinity Map at the back of this report for project location. Phase 1 of this project included one (1) proposed mixed-used structure with associated parking, landscape, hardscape and utilities as well as realignment of the existing Mayo Boulevard to be renamed as Axon Way. This report, however, is concerned with the improvements as part of phase 2 including six (6) proposed mixed-used structures and associated parking, landscape, hardscape and utilities. The six (6) proposed structures range between three (3) to five (5) stories tall each containing underground garage parking. Building D contains a five-story hotel whilst buildings A, B, C, E, and F contain residential units. Buildings C, D, and E also have proposed commercial space on the ground floor. Building A consists of approximately 360,053 square-feet containing 509 residential units with two (2) stories of underground parking. Building B consists of approximately 359,274 square-feet containing 515 residential units with two (2) stories of underground parking. Building C consists of approximately 349,057 square-feet containing 598 residential units with 11,050 square-feet of commercial space and two (2) stories of underground parking. Building D consists of approximately 218,699 square-feet containing 425 hotel rooms with 13,750 square-feet of commercial space and two (2) stories of underground parking. Building E consists of approximately 144,672 square-feet containing 241 residential units with 22,380 square-feet of commercial space and one (1) story of underground parking. Building F consists of approximately 112 multifamily residential units with a gross area of 95,115 square-feet and two (2) stories of underground parking.

Existing water infrastructure adjacent to the Site includes a public 16-inch waterline within Hayden Road and a public 12-inch waterline within the existing Mayo Boulevard. Two (2) existing water stubs extend from the 12-inch waterline to the Site. Refer to the attached Water Exhibit for a depiction of the existing water infrastructure surrounding the Site.

The design criteria used to estimate potable water demands and evaluate system hydraulics are based on Wood, Patel & Associates, Inc.'s (WOODPATEL) understanding of the published *City of Scottsdale Design Standards and Policies Manual*, 2018, *City of Phoenix Design Standards Manual for Water and Wastewater Systems*, 2017 and *International Fire Code,* 2015. The following is a summary of the primary design criteria utilized:

- Average Day Water Demand, Office: ..... 8.34×10^{-4} gpm/ sq. ft*
- Average Day Water Demand, Industrial (Phoenix): ..... 9.03×10^{-2} gpm/ 1,000 sq. ft
- Maximum Day Demand: ..... 2.0 x ADD
- Peak Hour Demand: ..... 3.5 x ADD
- Fire Flow Demand: ..... 3,625 gpm (7,250 gpm * 50% reduction)
- Minimum Residual Pressure, Peak Hour: ..... 50 psi
- Minimum Residual Pressure, Maximum Day + Fire Flow: ..... 30 psi

- Maximum System Pressure ..... 120 psi
- Maximum Pipe Head Loss, Maximum day Demand ..... 8 ft / 1000 ft
- Maximum Pipe Head Loss, Peak Hour Demand ..... 10 ft / 1000 ft
- Minimum Pipe Diameter, Public Water Line ..... 8 inches

Abbreviations: gpd = gallons per day; sf = square feet; ADD = average day demand; psi = pounds per square inch
*Includes both inside and outside use per Figure 6-1.2, COS Design Standards & Policies Manual

Proposed water infrastructure includes two (2) 12-inch waterline loops. The first proposed loop will be located near the southwest corner of the site in proximity to proposed building E and connects to another 12-inch waterline that is a part of the improvements in phase 1 of this project. The second proposed loop is located on the northwest corner of the site. The loop will connect to the existing waterline in Hayden Road and will also connect into waterlines included in the phase 1 improvements. Fire protection for the project will be provided by a combination of a fire service for building fire sprinklers, a proposed remote fire department connection, and proposed fire hydrants that have been located to meet City of Scottsdale coverage requirements.

The average day water demand for the Site is projected to be approximately 853 gallons per minute (gpm). Maximum day demands and peak hour demands are projected to be 1,707 gpm and 2,988 gpm, respectively (refer to the attached calculations).

WaterCAD V10i, by Haestad Methods, was utilized to analyze the existing water distribution system and proposed improvements. Results from a fire hydrant flow test, conducted on March 12, 2020, by Arizona Flow Testing LLC, were utilized to simulate the City of Scottsdale water supply for the project (refer to attached modeling results).

The hydraulic modeling results indicate the proposed system is capable of delivering peak hour demands, totaling 1,768 gpm, to the proposed Site, with pressures ranging from 62 to 70 pounds per square inch (psi).

The *Fire Flow + Max Day* results from the model indicate that while using the reduced flow test results, per City of Scottsdale requirements, the proposed fire flow system can deliver the modeled flow of 2,000 gpm while maintaining minimums pressures of 30 psi throughout the site.

Thank you for your review of the Conceptual Water Distribution System Basis of Design Report provided for the Axon Way & Hayden Road Project. Feel free to contact me if you have any questions.

Sincerely,

Wood, Patel & Associates, Inc.

Nicholas Brown, **PE**
Project Manager

EXPIRES 03-31-25

CALCULATIONS AND HYDRAULIC MODELING RESULTS

WOOD PATEL

TABLE 1
WATER DISTRIBUTION SYSTEM DESIGN CRITERIA

Project	Axon Way & Hayden Road
Location	Scottsdale Arizona
Project Number	205133.04
Project Engineer	Nicholas Brown, P.E.
References	City of Scottsdale Design Standards & Policies Manual (2018)

RESIDENTIAL WATER DEMANDS			
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**NOTES**
	VALUE	**UNITS**	
< 2 DU/ac	0.69	gpm/unit	Note 1
2-2.9 DU/ac	0.66	gpm/unit	Note 1
3-7.9 DU/ac	0.36	gpm/unit	Note 1
8-11.9 DU/ac	0.33	gpm/unit	Note 1
12-22 DU/ac	0.33	gpm/unit	Note 1
High Density Condominium	0.27	gpm/unit	Note 1
Resort Hotel (includes site amenities)	0.63	gpm/unit	Note 1

NON-RESIDENTIAL WATER DEMANDS			
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**NOTES**
	VALUE	**UNITS**	
Restaurant	0.00181	gpm/sf	Note 1
Commercial/Retail	0.00111	gpm/sf	Note 1
Commercial High Rise	0.000834	gpm/sf	Note 1
Office	0.000834	gpm/sf	Note 1
Institutional	1.88	gpm/acre	Note 1
Industrial	1.44	gpm/acre	Note 1
Research and Development	1.79	gpm/acre	Note 1

LANDSCAPE WATER DEMANDS			
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**NOTES**
	VALUE	**UNITS**	
Natural Area Open Space	0.00	gpm/acre	Note 1
Developed Open Space - Parks	2.49	gpm/acre	Note 1
Developed Open Space - Golf Course	5.96	gpm/acre	Note 1

HYDRAULIC MODELING CRITERIA				
	DESCRIPTION	**VALUE**	**UNITS**	**NOTES**
MAX DAY FLOW				
	Max Day Flow = Peaking Factor (PF) x ADD	2 x ADD	gpm	Note 1
PEAK HOUR FLOW				
	Peak Hour Flow = Peaking Factor (PF) x ADD	3.5 x ADD	gpm	Note 1
MODELED FIRE HYDRANT FLOW (MINIMUM)				
☐	Residential, 0 - 3,600 sf fire-flow calculation area	1,000	gpm	Note 3
☐	Residential, 3,601 - 4,800 sf fire-flow calculation area	1,750	gpm	Note 4
☐	Residential, 4,801 - 6,200 sf fire-flow calculation area	2,000	gpm	Note 4
☐	Residential, 6,201 - 7,700 sf fire-flow calculation area	2,250	gpm	Note 4
☐	Residential, 7,701 - 9,400 sf fire-flow calculation area	2,500	gpm	Note 4
☐	Residential, 9,401 - 11,300 sf fire-flow calculation area	2,750	gpm	Note 4
☐	Multi-Family Residential	Varies	gpm	Note 2
☐	Commercial	Varies	gpm	Note 2
HYDRAULICS				
	Residual Pressure Range, Peak Hour	50-150	psi	Note 1
	Minimum Residual Pressure, Max Day + Fire Flow (Hydrant)	30	psi	Note 1
	Minimum Residual Pressure, Max Day + Fire Flow (Domestic Service)	15	psi	Note 1
	Minimum Pipe Diameter, Looped System	6	in	Note 1
	Hazen-Williams C-value	130	-	Note 1

Notes:
1. Per City of Scottsdale Design Standards & Policies Manual (2018)
2. Per 2015 International Fire Code as adopted by the City of Scottsdale with 50% reduction applied.
3. Residential limited to one- and two-family dwellings, assumes Type V-B construction, and has a 1-hour fire duration
4. Residential limited to one- and two-family dwellings, assumes Type V-B construction, and has a 2-hour fire duration

WOOD PATEL

TABLE 2
WATER DEMAND DESIGN FLOWS

Project Axon Way & Hayden Road
Location Scottsdale Arizona
Project Number 205133.04
Project Engineer Nicholas Brown, P.E.
References City of Scottsdale Design Standards & Policies Manual (2018)

BUILDING ID	CONSTRUCTION TYPE	BUILDING AREA	LAND USE	APPLICABLE UNIT	NUMBER OF UNITS	GPM/APPLICABLE UNIT[1]	AVERAGE DAILY DEMAND		MAX DAY DEMAND		PEAK HOUR DEMAND		Fire Flow[2]
							(gpm)	Total (gpm)	(gpm)	Total (gpm)	(gpm)	Total (gpm)	(gpm)
A	IA & IIIA	360,053	High Density Condominium	gpm/unit	509	0.27	137.4	**137**	274.8	**275**	480.9	**481**	**2,000**
B	IA & IIIA	359,274	High Density Condominium	gpm/unit	515	0.27	139.1	**139**	278.2	**278**	486.9	**487**	**2,000**
C	IA & IIIA	349,057	High Density Condominium	gpm/unit	598	0.27	161.5	**174**	323.0	**348**	565.3	**608**	**2,000**
			Commercial/Retail	gpm/sf	11,050	0.00111	12.3		24.6		43.1		
D	IA & IIIA	218,699	Resort Hotel (includes site amenities)	gpm/unit	425	0.63	267.8	**283**	535.6	**566**	937.3	**991**	**2,000**
			Commercial/Retail	gpm/sf	13,750	0.00111	15.3		30.6		53.6		
E	IA & IIIA	144,672	High Density Condominium	gpm/unit	241	0.27	65.1	**90**	130.2	**180**	227.9	**315**	**2,000**
			Commercial/Retail	gpm/sf	22,380	0.00111	24.8		49.6		86.8		
F	IA & IIIA	95,115	High Density Condominium	gpm/unit	112	0.27	30.2	**30**	60.4	**60**	105.7	**106**	**2,000**
								Total 853		**1,707**		**2,988**	

Notes
1. GPM values are based on a 12-hour active water used period per 24-hour day per the City of Scottsdale Design Standards and Policy Manual.
2. Fire Flows determined from IFC Section B105, applying a 50% reduction due to fire sprinkler systems.

Axon Way & Hayden Road
FlexTable: Junction Table
Active Scenario: Calibration Static

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Is Active?
FH-FLOW A (EX)	1,586.00	0	1,764.75	77	True
FH-FLOW B (EX)	1,595.87	0	1,764.75	73	True
FH-TEST (EX)	1,590.98	0	1,764.75	75	True
J-3 (EX)	1,599.01	0	1,764.75	72	True
J-7 (PH 2)	1,591.24	0	1,764.75	75	True
J-15 (PH 1)	1,595.00	0	1,764.75	73	True
J-16 (PH 1)	1,584.45	0	1,764.75	78	True
J-17 (EX)	1,584.83	0	1,764.75	78	True

Axon Way & Hayden Road
FlexTable: Junction Table
Active Scenario: Calibration Residual

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Is Active?
FH-FLOW A (EX)	1,586.00	1,550	1,698.87	49	True
FH-FLOW B (EX)	1,595.87	2,148	1,697.45	44	True
FH-TEST (EX)	1,590.98	0	1,702.38	48	True
J-3 (EX)	1,599.01	0	1,698.87	43	True
J-7 (PH 2)	1,591.24	0	1,698.87	47	True
J-15 (PH 1)	1,595.00	0	1,698.78	45	True
J-16 (PH 1)	1,584.45	0	1,698.87	50	True
J-17 (EX)	1,584.83	0	1,698.87	49	True

Axon Way & Hayden Road
FlexTable: Junction Table
Active Scenario: Calibration Max

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)	Is Active?
FH-FLOW A (EX)	1,586.00	2,276	1,630.60	19	True
FH-FLOW B (EX)	1,595.87	3,154	1,627.69	14	True
FH-TEST (EX)	1,590.98	0	1,637.74	20	True
J-3 (EX)	1,599.01	0	1,630.60	14	True
J-7 (PH 2)	1,591.24	0	1,630.60	17	True
J-15 (PH 1)	1,595.00	0	1,630.41	15	True
J-16 (PH 1)	1,584.45	0	1,630.60	20	True
J-17 (EX)	1,584.83	0	1,630.60	20	True

Axon Way & Hayden Road
FlexTable: Junction Table
Active Scenario: Average Day Demand

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)	Is Active?
BLDG A DOM	1,598.35	137	70	1,760.01	True
BLDG B DOM	1,598.53	139	70	1,760.01	True
BLDG C DOM	1,602.48	174	68	1,760.01	True
BLDG D DOM	1,595.22	283	71	1,760.06	True
BLDG E DOM	1,595.38	90	71	1,760.04	True
BLDG F DOM	1,590.86	30	73	1,760.05	True
FH-1 (PH 2)	1,600.00	0	69	1,760.04	True
FH-2 (PH 2)	1,603.82	0	68	1,760.06	True
FH-3 (PH 2)	1,603.90	0	68	1,760.10	True
FH-4 (PH 2)	1,606.00	0	67	1,760.03	True
FH-5 (PH-2)	1,597.00	0	71	1,760.02	True
FH-6 (PH 2)	1,593.00	0	72	1,760.02	True
FH-7 (PH 2)	1,593.09	0	72	1,760.04	True
FH-8 (PH 2)	1,595.01	0	71	1,760.08	True
FH-9 (PH 2)	1,594.00	0	72	1,760.08	True
FH-10 (PH 2)	1,590.78	0	73	1,760.05	True
FH-11 (PH 1)	1,591.62	0	73	1,760.05	True
FH-17 (PH 1)	1,588.09	0	74	1,760.06	True
FH-18 (PH 1)	1,599.85	0	69	1,760.12	True
FH-19 (PH 1)	1,594.07	0	72	1,760.16	True
FH-FLOW A (EX)	1,586.00	0	75	1,760.24	True
FH-FLOW B (EX)	1,595.87	0	71	1,760.47	True
FH-TEST (EX)	1,590.98	0	73	1,760.62	True
J-1 (PH 2)	1,604.43	0	67	1,760.04	True
J-2 (PH 1)	1,605.24	0	67	1,760.13	True
J-2 (PH 2)	1,602.03	0	68	1,760.01	True
J-3 (EX)	1,599.01	0	70	1,760.04	True
J-3 (PH 2)	1,592.13	0	73	1,760.04	True
J-4 (PH-2)	1,595.20	0	71	1,760.08	True
J-6 (PH 1)	1,603.62	0	68	1,760.12	True
J-7 (PH 1)	1,600.67	0	69	1,760.12	True
J-7 (PH 2)	1,591.24	0	73	1,760.05	True
J-10 (PH 1)	1,589.99	0	74	1,760.05	True
J-12 (PH 1)	1,594.93	0	71	1,760.12	True
J-13 (PH 1)	1,593.22	0	72	1,760.18	True
J-14 (PH 1)	1,599.38	0	70	1,760.29	True
J-15 (PH 1)	1,595.00	0	72	1,760.47	True
J-16 (PH 1)	1,584.45	0	76	1,760.09	True
J-16 (PH 1)	1,591.05	0	73	1,760.05	True
J-17 (EX)	1,584.83	0	76	1,760.05	True

Axon Way & Hayden Road

FlexTable: Pipe Table

Active Scenario: Average Day Demand

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1 (PH 2)	FH-1 (PH 2)	J-1 (PH 2)	528	12.0	130.0	0	0.00	0.000
P-2 (PH 2)	FH-2 (PH 2)	J-1 (PH 2)	200	12.0	130.0	175	0.50	0.100
P-3 (PH 2)	FH-2 (PH 2)	FH-3 (PH 2)	367	12.0	130.0	-175	0.50	0.100
P-4 (PH 2)	J-6 (PH 1)	FH-3 (PH 2)	207	12.0	130.0	175	0.50	0.100
P-5 (PH 2)	J-1 (PH 2)	FH-4 (PH 2)	174	12.0	130.0	175	0.50	0.100
P-6 (PH 2)	FH-4 (PH 2)	BLDG C DOM	155	12.0	130.0	175	0.50	0.101
P-7 (PH 2)	BLDG C DOM	J-2 (PH 2)	64	12.0	130.0	1	0.00	0.000
P-8 (PH 2)	FH-5 (PH-2)	BLDG B DOM	263	12.0	130.0	131	0.37	0.058
P-9 (PH 2)	BLDG A DOM	BLDG B DOM	50	12.0	130.0	8	0.02	0.000
P-10 (PH 2)	J-2 (PH 2)	BLDG A DOM	73	12.0	130.0	145	0.41	0.071
P-11 (PH 2)	J-2 (PH 2)	FH-6 (PH 2)	130	12.0	130.0	-144	0.41	0.071
P-12 (PH 2)	J-3 (PH 2)	FH-6 (PH 2)	301	12.0	130.0	144	0.41	0.070
P-13 (PH 2)	J-10 (PH 1)	J-3 (PH 2)	164	12.0	130.0	102	0.29	0.037
P-14 (PH 2)	J-3 (PH 2)	FH-7 (PH 2)	244	12.0	130.0	-43	0.12	0.008
P-15 (PH 2)	FH-7 (PH 2)	BLDG E DOM	80	12.0	130.0	-43	0.12	0.008
P-16 (PH 2)	BLDG D DOM	BLDG E DOM	244	12.0	130.0	133	0.38	0.060
P-17 (PH 2)	J-4 (PH-2)	BLDG D DOM	38	12.0	130.0	416	1.18	0.498
P-18 (PH 2)	J-12 (PH 1)	J-4 (PH-2)	88	12.0	130.0	416	1.18	0.499
P-19 (PH 2)	J-4 (PH-2)	FH-8 (PH 2)	89	12.0	130.0	0	0.00	0.000
P-20 (PH 2)	FH-8 (PH 2)	FH-9 (PH 2)	485	12.0	130.0	0	0.00	0.000
P-29 (PH 1)	J-12 (PH 1)	FH-18 (PH 1)	323	12.0	130.0	-9	0.03	0.000
P-30 (PH 1)	FH-18 (PH 1)	J-7 (PH 1)	72	12.0	130.0	-9	0.03	0.002
P-31 (PH 1)	J-2 (PH 1)	J-6 (PH 1)	110	12.0	130.0	184	0.52	0.111
P-32 (PH 1)	J-14 (PH 1)	J-2 (PH 1)	1,439	12.0	130.0	184	0.52	0.110
P-33 (PH 1)	J-14 (PH 1)	J-13 (PH 1)	801	12.0	130.0	204	0.58	0.133
P-34 (PH 1)	J-13 (PH 1)	FH-19 (PH 1)	57	12.0	130.0	407	1.15	0.479
P-35 (PH 1)	FH-19 (PH 1)	J-12 (PH 1)	77	12.0	130.0	407	1.15	0.480
P-36 (PH 1)	FH-FLOW A (EX)	J-13 (PH 1)	450	12.0	130.0	203	0.58	0.132
P-37 (PH 1)	J-15 (PH 1)	J-14 (PH 1)	412	12.0	130.0	387	1.10	0.438

Axon Way & Hayden Road

FlexTable: Pipe Table

Active Scenario: Average Day Demand

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-38 (EX)	J-15 (PH 1)	FH-FLOW B (EX)	127	12.0	130.0	0	0.00	0.000
P-39 (EX)	J-15 (PH 1)	FH-TEST (EX)	345	12.0	130.0	-387	1.10	0.437
P-40 (EX)	FH-FLOW A (EX)	FH-TEST (EX)	614	12.0	130.0	-466	1.32	0.615
P-41 (EX)	J-17 (EX)	J-16 (PH 1)	707	12.0	130.0	-121	0.34	0.051
P-41 (EX)	FH-FLOW A (EX)	J-16 (PH 1)	730	12.0	130.0	263	0.74	0.213
P-42 (EX)	J-7 (PH 2)	J-17 (EX)	568	16.0	130.0	-121	0.19	0.012
P-43 (EX)	J-7 (PH 2)	J-3 (EX)	507	16.0	130.0	131	0.21	0.014
P-44 (PH 1)	J-7 (PH 2)	J-16 (PH 1)	198	12.0	130.0	-9	0.03	0.001
P-45 (PH 1)	BLDG F DOM	FH-11 (PH 1)	129	12.0	130.0	-39	0.11	0.007
P-46 (PH 1)	FH-11 (PH 1)	J-10 (PH 1)	49	12.0	130.0	-39	0.11	0.005
P-47 (PH 1)	FH-17 (PH 1)	J-10 (PH 1)	255	12.0	130.0	141	0.40	0.068
P-48 (PH 1)	J-16 (PH 1)	FH-17 (PH 1)	368	12.0	130.0	141	0.40	0.067
P-49 (PH 1)	J-7 (PH 1)	J-6 (PH 1)	201	12.0	130.0	-9	0.03	0.000
P-50 (PH 1)	J-16 (PH 1)	BLDG F DOM	190	12.0	130.0	-9	0.03	0.000
P-51 (PH 1)	FH-10 (PH 2)	J-16 (PH 1)	89	12.0	130.0	0	0.00	0.000
P-52 (PH 1)	FH-5 (PH-2)	J-3 (EX)	300	12.0	130.0	-131	0.37	0.059
P-PUMP	PUMP	FH-TEST (EX)	35	48.0	130.0	853	0.15	0.000
P-RESERVOIR	RESERVOIR	PUMP	24	48.0	130.0	853	0.15	0.000

Axon Way & Hayden Road
FlexTable: Junction Table
Active Scenario: Peak Hour Demand

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)	Is Active?
BLDG A DOM	1,598.35	479	64	1,746.28	True
BLDG B DOM	1,598.53	487	64	1,746.28	True
BLDG C DOM	1,602.48	174	62	1,746.37	True
BLDG D DOM	1,595.22	283	66	1,746.73	True
BLDG E DOM	1,595.38	315	65	1,746.56	True
BLDG F DOM	1,590.86	30	67	1,746.54	True
FH-1 (PH 2)	1,600.00	0	63	1,746.53	True
FH-2 (PH 2)	1,603.82	0	62	1,746.63	True
FH-3 (PH 2)	1,603.90	0	62	1,746.82	True
FH-4 (PH 2)	1,606.00	0	61	1,746.44	True
FH-5 (PH-2)	1,597.00	0	65	1,746.37	True
FH-6 (PH 2)	1,593.00	0	66	1,746.41	True
FH-7 (PH 2)	1,593.09	0	66	1,746.55	True
FH-8 (PH 2)	1,595.01	0	66	1,746.79	True
FH-9 (PH 2)	1,594.00	0	66	1,746.79	True
FH-10 (PH 2)	1,590.78	0	67	1,746.53	True
FH-11 (PH 1)	1,591.62	0	67	1,746.54	True
FH-17 (PH 1)	1,588.09	0	69	1,746.62	True
FH-18 (PH 1)	1,599.85	0	64	1,746.93	True
FH-19 (PH 1)	1,594.07	0	66	1,747.06	True
FH-FLOW A (EX)	1,586.00	0	70	1,747.37	True
FH-FLOW B (EX)	1,595.87	0	66	1,748.26	True
FH-TEST (EX)	1,590.98	0	68	1,748.84	True
J-1 (PH 2)	1,604.43	0	61	1,746.53	True
J-2 (PH 1)	1,605.24	0	61	1,746.97	True
J-2 (PH 2)	1,602.03	0	62	1,746.35	True
J-3 (EX)	1,599.01	0	64	1,746.48	True
J-3 (PH 2)	1,592.13	0	67	1,746.53	True
J-4 (PH-2)	1,595.20	0	66	1,746.79	True
J-6 (PH 1)	1,603.62	0	62	1,746.93	True
J-7 (PH 1)	1,600.67	0	63	1,746.93	True
J-7 (PH 2)	1,591.24	0	67	1,746.53	True
J-10 (PH 1)	1,589.99	0	68	1,746.55	True
J-12 (PH 1)	1,594.93	0	66	1,746.93	True
J-13 (PH 1)	1,593.22	0	67	1,747.16	True
J-14 (PH 1)	1,599.38	0	64	1,747.57	True
J-15 (PH 1)	1,595.00	0	66	1,748.26	True
J-16 (PH 1)	1,584.45	0	70	1,746.72	True
J-16 (PH 1)	1,591.05	0	67	1,746.53	True
J-17 (EX)	1,584.83	0	70	1,746.56	True

Axon Way & Hayden Road

FlexTable: Pipe Table

Active Scenario: Peak Hour Demand

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-1 (PH 2)	FH-1 (PH 2)	J-1 (PH 2)	528	12.0	130.0	0	0.00	0.000
P-2 (PH 2)	FH-2 (PH 2)	J-1 (PH 2)	200	12.0	130.0	419	1.19	0.507
P-3 (PH 2)	FH-2 (PH 2)	FH-3 (PH 2)	367	12.0	130.0	-419	1.19	0.507
P-4 (PH 2)	J-6 (PH 1)	FH-3 (PH 2)	207	12.0	130.0	419	1.19	0.507
P-5 (PH 2)	J-1 (PH 2)	FH-4 (PH 2)	174	12.0	130.0	419	1.19	0.507
P-6 (PH 2)	FH-4 (PH 2)	BLDG C DOM	155	12.0	130.0	419	1.19	0.508
P-7 (PH 2)	BLDG C DOM	J-2 (PH 2)	64	12.0	130.0	245	0.70	0.187
P-8 (PH 2)	FH-5 (PH-2)	BLDG B DOM	263	12.0	130.0	352	1.00	0.366
P-9 (PH 2)	BLDG A DOM	BLDG B DOM	50	12.0	130.0	135	0.38	0.061
P-10 (PH 2)	J-2 (PH 2)	BLDG A DOM	73	12.0	130.0	614	1.74	1.029
P-11 (PH 2)	J-2 (PH 2)	FH-6 (PH 2)	130	12.0	130.0	-369	1.05	0.400
P-12 (PH 2)	J-3 (PH 2)	FH-6 (PH 2)	301	12.0	130.0	369	1.05	0.400
P-13 (PH 2)	J-10 (PH 1)	J-3 (PH 2)	164	12.0	130.0	189	0.54	0.116
P-14 (PH 2)	J-3 (PH 2)	FH-7 (PH 2)	244	12.0	130.0	-180	0.51	0.106
P-15 (PH 2)	FH-7 (PH 2)	BLDG E DOM	80	12.0	130.0	-180	0.51	0.106
P-16 (PH 2)	BLDG D DOM	BLDG E DOM	244	12.0	130.0	495	1.40	0.689
P-17 (PH 2)	J-4 (PH-2)	BLDG D DOM	38	12.0	130.0	778	2.21	1.592
P-18 (PH 2)	J-12 (PH 1)	J-4 (PH-2)	88	12.0	130.0	778	2.21	1.592
P-19 (PH 2)	J-4 (PH-2)	FH-8 (PH 2)	89	12.0	130.0	0	0.00	0.000
P-20 (PH 2)	FH-8 (PH 2)	FH-9 (PH 2)	485	12.0	130.0	0	0.00	0.000
P-29 (PH 1)	J-12 (PH 1)	FH-18 (PH 1)	323	12.0	130.0	42	0.12	0.007
P-30 (PH 1)	FH-18 (PH 1)	J-7 (PH 1)	72	12.0	130.0	42	0.12	0.007
P-31 (PH 1)	J-2 (PH 1)	J-6 (PH 1)	110	12.0	130.0	378	1.07	0.418
P-32 (PH 1)	J-14 (PH 1)	J-2 (PH 1)	1,439	12.0	130.0	378	1.07	0.418
P-33 (PH 1)	J-14 (PH 1)	J-13 (PH 1)	801	12.0	130.0	421	1.19	0.511
P-34 (PH 1)	J-13 (PH 1)	FH-19 (PH 1)	57	12.0	130.0	820	2.32	1.755
P-35 (PH 1)	FH-19 (PH 1)	J-12 (PH 1)	77	12.0	130.0	820	2.32	1.753
P-36 (PH 1)	FH-FLOW A (EX)	J-13 (PH 1)	450	12.0	130.0	398	1.13	0.461
P-37 (PH 1)	J-15 (PH 1)	J-14 (PH 1)	412	12.0	130.0	799	2.27	1.673

Axon Way & Hayden Road

FlexTable: Pipe Table

Active Scenario: Peak Hour Demand

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/1000ft)
P-38 (EX)	J-15 (PH 1)	FH-FLOW B (EX)	127	12.0	130.0	0	0.00	0.000
P-39 (EX)	J-15 (PH 1)	FH-TEST (EX)	345	12.0	130.0	-799	2.27	1.673
P-40 (EX)	FH-FLOW A (EX)	FH-TEST (EX)	614	12.0	130.0	-969	2.75	2.390
P-41 (EX)	J-17 (EX)	J-16 (PH 1)	707	12.0	130.0	-269	0.76	0.223
P-41 (EX)	FH-FLOW A (EX)	J-16 (PH 1)	730	12.0	130.0	571	1.62	0.897
P-42 (EX)	J-7 (PH 2)	J-17 (EX)	568	16.0	130.0	-269	0.43	0.055
P-43 (EX)	J-7 (PH 2)	J-3 (EX)	507	16.0	130.0	352	0.56	0.090
P-44 (PH 1)	J-7 (PH 2)	J-16 (PH 1)	198	12.0	130.0	-82	0.23	0.025
P-45 (PH 1)	BLDG F DOM	FH-11 (PH 1)	129	12.0	130.0	-112	0.32	0.045
P-46 (PH 1)	FH-11 (PH 1)	J-10 (PH 1)	49	12.0	130.0	-112	0.32	0.044
P-47 (PH 1)	FH-17 (PH 1)	J-10 (PH 1)	255	12.0	130.0	301	0.85	0.275
P-48 (PH 1)	J-16 (PH 1)	FH-17 (PH 1)	368	12.0	130.0	301	0.85	0.275
P-49 (PH 1)	J-7 (PH 1)	J-6 (PH 1)	201	12.0	130.0	42	0.12	0.007
P-50 (PH 1)	J-16 (PH 1)	BLDG F DOM	190	12.0	130.0	-82	0.23	0.024
P-51 (PH 1)	FH-10 (PH 2)	J-16 (PH 1)	89	12.0	130.0	0	0.00	0.000
P-52 (PH 1)	FH-5 (PH-2)	J-3 (EX)	300	12.0	130.0	-352	1.00	0.366
P-PUMP	PUMP	FH-TEST (EX)	35	48.0	130.0	1,768	0.31	0.000
P-RESERVOIR	RESERVOIR	PUMP	24	48.0	130.0	1,768	0.31	0.000

Axon Way & Hayden Road

Fire Flow Node FlexTable: Fire Flow Results Table

Active Scenario: Max Day + Fire Flow (Fire Flow Analysis)

Label	Elevation (ft)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Calculated System Lower Limit) (psi)	Satisfies Fire Flow Constraints?	Pressure (Calculated Residual @ Total Flow Needed) (psi)
BLDG A DOM	1,598.35	2,342	2,363	30	33	30	True	33
BLDG B DOM	1,598.53	2,348	2,370	30	33	30	True	33
BLDG C DOM	1,602.48	2,435	2,448	30	31	30	True	32
BLDG D DOM	1,595.22	2,708	2,770	30	34	30	True	35
BLDG E DOM	1,595.38	2,225	2,276	30	34	30	True	35
BLDG F DOM	1,590.86	2,075	2,117	30	36	30	True	37
FH-1 (PH 2)	1,600.00	2,000	2,010	30	30	30	True	31
FH-2 (PH 2)	1,603.82	2,000	2,021	30	31	30	True	31
FH-3 (PH 2)	1,603.90	2,000	2,043	30	31	30	True	32
FH-4 (PH 2)	1,606.00	2,000	2,001	30	30	31	True	30
FH-5 (PH-2)	1,597.00	2,000	2,029	30	33	30	True	34
FH-6 (PH 2)	1,593.00	2,000	2,024	30	35	30	True	36
FH-7 (PH 2)	1,593.09	2,000	2,049	30	35	30	True	36
FH-8 (PH 2)	1,595.01	2,000	2,066	30	34	30	True	35
FH-9 (PH 2)	1,594.00	2,000	2,066	30	33	30	True	34
FH-10 (PH 2)	1,590.78	2,000	2,041	30	36	30	True	36
FH-11 (PH 1)	1,591.62	2,000	2,043	30	36	30	True	37
FH-17 (PH 1)	1,588.09	2,000	2,048	30	37	30	True	38
FH-18 (PH 1)	1,599.85	2,000	2,069	30	32	30	True	34
FH-19 (PH 1)	1,594.07	2,000	2,086	30	35	30	True	37
FH-FLOW A (EX)	1,586.00	2,000	2,114	30	39	30	True	41
FH-FLOW B (EX)	1,595.87	2,000	2,192	30	34	30	True	37
FH-TEST (EX)	1,590.98	2,000	2,270	30	38	30	True	42
J-1 (PH 2)	1,604.43	2,000	2,010	30	31	30	True	31
J-2 (PH 1)	1,605.24	2,000	2,064	30	30	30	True	31
J-2 (PH 2)	1,602.03	2,000	2,018	30	31	30	True	32
J-3 (EX)	1,599.01	2,000	2,036	30	32	30	True	33
J-3 (PH 2)	1,592.13	2,000	2,039	30	36	30	True	37
J-4 (PH-2)	1,595.20	2,000	2,066	30	34	30	True	36
J-6 (PH 1)	1,603.62	2,000	2,060	30	31	30	True	32
J-7 (PH 1)	1,600.67	2,000	2,066	30	32	30	True	33
J-7 (PH 2)	1,591.24	2,000	2,039	30	36	30	True	37
J-10 (PH 1)	1,589.99	2,000	2,043	30	37	30	True	37
J-12 (PH 1)	1,594.93	2,000	2,075	30	35	30	True	36
J-13 (PH 1)	1,593.22	2,000	2,095	30	36	30	True	37
J-14 (PH 1)	1,599.38	2,000	2,124	30	33	30	True	35
J-15 (PH 1)	1,595.00	2,000	2,192	30	35	30	True	38
J-16 (PH 1)	1,584.45	2,000	2,052	30	39	30	True	40
J-16 (PH 1)	1,591.05	2,000	2,041	30	36	30	True	37
J-17 (EX)	1,584.83	2,000	2,041	30	39	30	True	39

FIRE HYDRANT FLOW TEST

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Hayden/ Union Hills
Project Address:	Union Hills & 82nd Street, Scottsdale, Arizona, 85255
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	21181
Flow Test Permit No.:	C64955
Date and time flow test conducted:	April 14, 2021 at 6:50 AM
Data is current and reliable until:	October 14, 2021
Conducted by:	F. Vaughan & S. Ballard – Az. Flow Testing, LLC (480-250-8154)
Coordinated by:	Jared Berry – City of Scottsdale-Inspector (602-541-4942)

Raw Test Data

Static Pressure: **75.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **48.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **17.0 PSI Hyd A**
25.0 PSI Hyd B
(Measured in pounds per square inch)

Diffuser Orifice Diameter: One 4-inch Hose Monster (B)
(Measured in inches) One 4 inch Pollard Diffuser (A)

Coefficient of Diffuser: 0.7875/(B) and 0.9/(A)

Flowing GPM: **3,698 GPM**
(Measured in gallons per minute)
1,550 GPM + 2,148 GPM = 3,698 GPM

GPM @ 20 PSI: **5,431 GPM**

Data with 10% Safety Factor

Static Pressure: **67.5 PSI**
(Measured in pounds per square inch)

Residual Pressure: **40.5 PSI**
(Measured in pounds per square inch)

Distance between hydrants: See Below

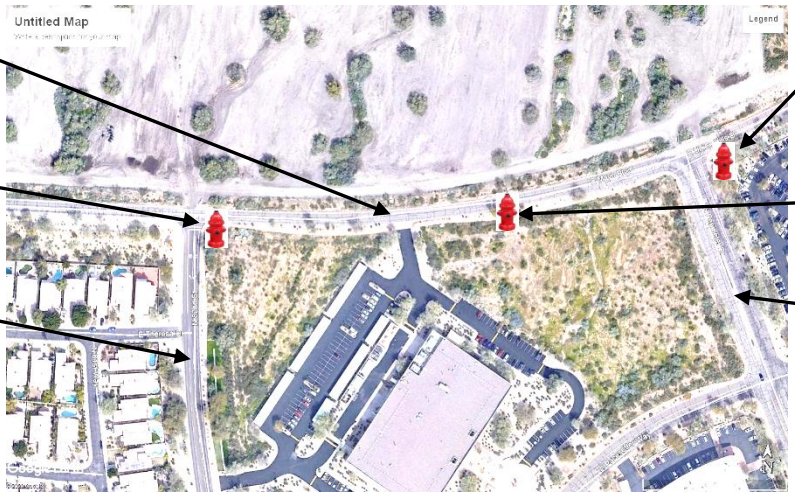
Main size: Not Provided

Flowing GPM: **3,698 GPM**

GPM @ 20 PSI**:** **5,018 GPM**

Flow Test Location

North



East Mayo Blvd.

Flow Fire Hydrant A (630 Feet from Pressure Hydrant)

North 82nd Street

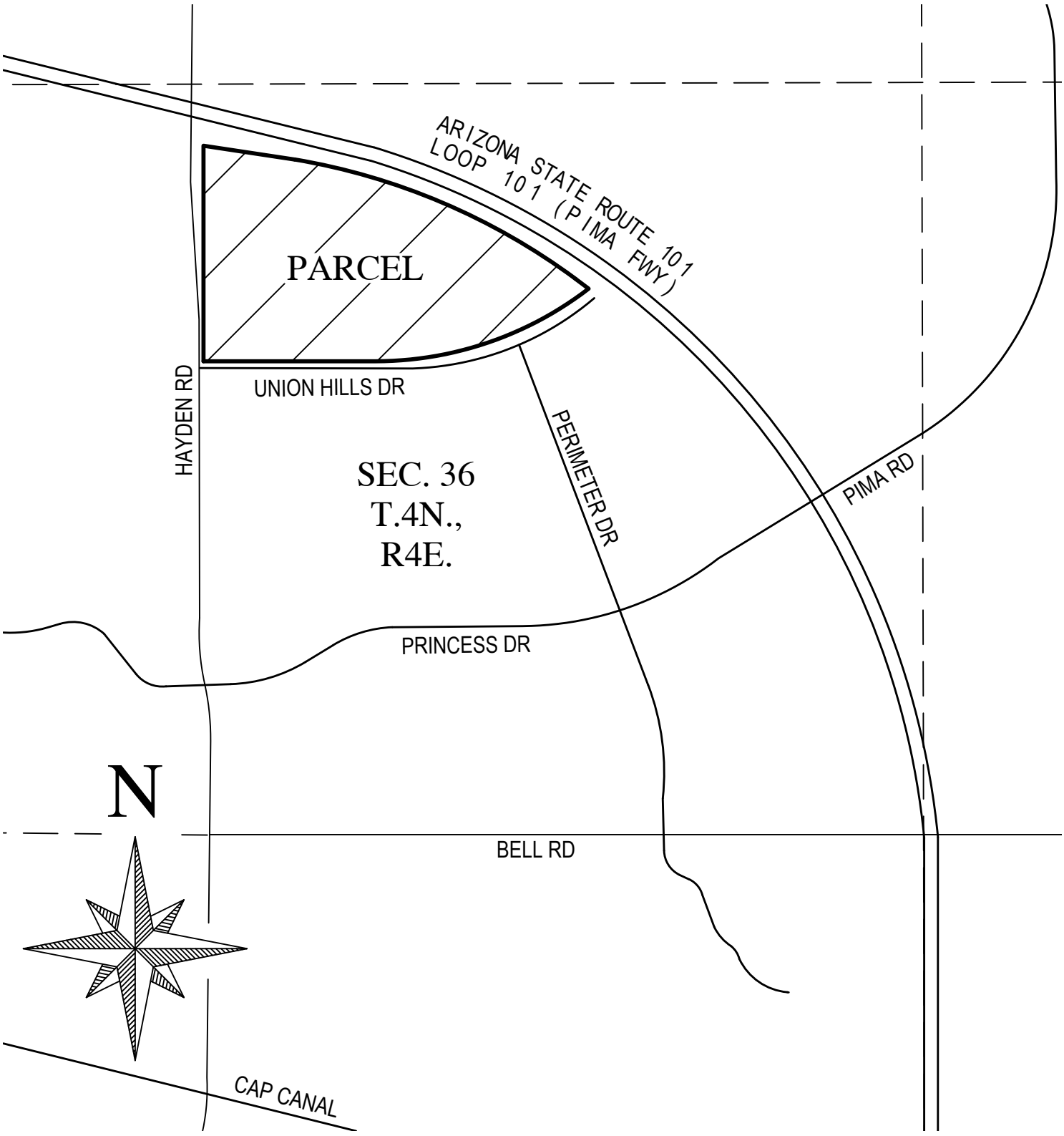
Flow Fire Hydrant B (450 Feet from Pressure Hydrant)

Pressure Fire Hydrant

North Perimeter Drive

Project Site
Union Hills & 82nd Street

VICINITY MAP



WOOD PATEL

AXON WAY & HAYDEN ROAD

VICINITY MAP

DATE	08-02-23	SCALE	1" = 1000'	SHEET	1 OF 1
JOB NO.	205133.04	DESIGN	BLJ	CHECK	NEB
		DRAWN	BLJ		

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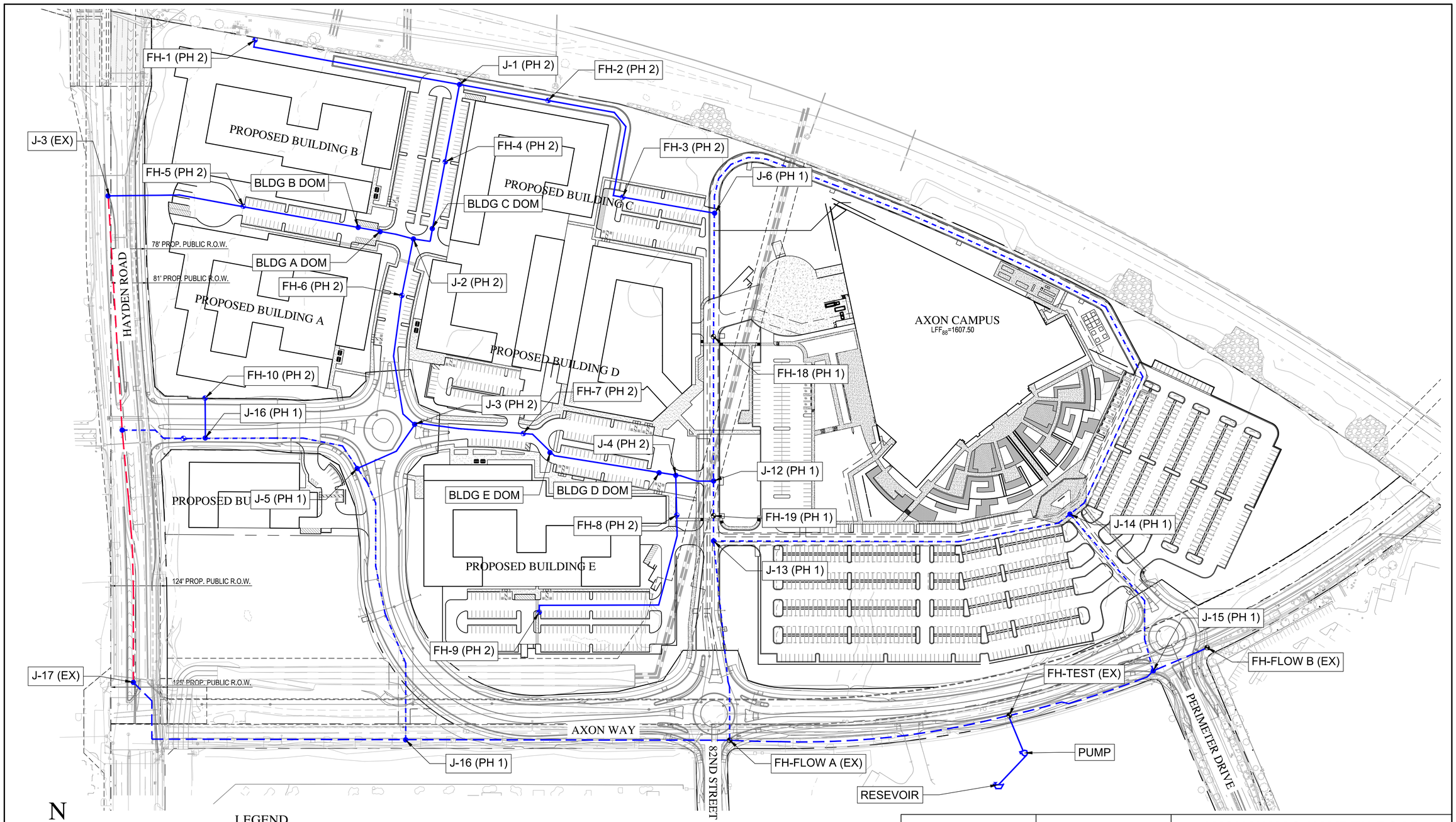
WATER EXHIBIT



N

0 50 100

Horz. 1 in. = 100 ft.

LEGEND

- EXISTING 16" WATER PIPE
- EXISTING 12" WATER PIPE
- PHASE 1 WATER PIPE
- PROPOSED 12" WATER PIPE
- PROPERTY BOUNDARY
- HYDRAULIC MODEL
- J-10 JUNCTION NODE AND LABEL
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

AXON WAY & HAYDEN ROAD

WATER SYSTEM MAP

DATE	12-13-2023	SCALE	1" = 100'	SHEET	1 OF 1
JOB NO.	205133.04	DESIGN	AF	DRAWN	BP

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WOOD PATEL

CONCEPTUAL WASTEWATER COLLECTION SYSTEM
BASIS OF DESIGN REPORT
FOR
AXON WAY & HAYDEN ROAD PROJECT

December 13, 2023
WP# 205133.04

WOOD PATEL

December 13, 2023

Mr. Levi Dillon, PE
Sr. Water Resource Engineer
City of Scottsdale
9379 East San Salvador Drive
Scottsdale, Arizona 85258

480.312.5319
ldillon@scottsdaleaz.gov

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Phoenix AZ 85021
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www.woodpatel.com

Re: **Axon Way & Hayden Road Project**
Conceptual Wastewater Collection System Basis of Design Report
WP# 205133.04

Dear Mr. Dillon:

The proposed Axon Way & Hayden Road Project (Site) is a 74.44-acre site, located in the northwest quarter of Section 36, Township 4 North, Range 4 East of the Gila and Salt River Meridian. More specifically, the Site is located at the northeast corner of Hayden Road and Mayo Boulevard. Refer to the Vicinity Map at the back of this report for project location. Phase 1 of this project includes one (1) proposed mixed-used structure, associated parking, landscape, hardscape and utilities as well as realignment of the existing Mayo Boulevard to be renamed as Axon Way. This report, however, is concerned with the improvements as part of phase 2 including six (6) proposed mixed-used structures and associated parking, landscape, hardscape and utilities. The six (6) proposed structures range between three (3) to five (5) stories tall each containing underground garage parking. Building D contains a five-story hotel whilst buildings A, B, C, E, and F contain residential units. Buildings C, D, and E also have proposed commercial space on the ground floor. Building A consists of approximately 360,053 square-feet containing 509 residential units with two (2) stories of underground parking. Building B consists of approximately 359,274 square-feet containing 515 residential units with two (2) stories of underground parking. Building C consists of approximately 349,057 square-feet containing 598 residential units with 11,050 square-feet of commercial space and two (2) stories of underground parking. Building D consists of approximately 218,699 square-feet containing 425 hotel rooms with 13,750 square-feet of commercial space and two (2) stories of underground parking. Building E consists of approximately 144,672 square-feet containing 241 residential units with 22,380 square-feet of commercial space and one (1) story of underground parking. Building F consists of approximately 112 multifamily residential units with a gross area of 95,115 square-feet and two (2) stories of underground parking.

Wastewater flows from the proposed buildings will discharge to three (3) proposed onsite sewer lines. Each of these proposed onsite sewer lines will connect to offsite/public sewer lines as part of phase 1 improvements. Wastewater flows from proposed building E will follow a prosed 8-inch line and are to discharge into an existing stub as part of the offsite/public sewer lines included in phase 1 improvements. This offsite/public sewer line (south collection system) will outfall to the existing 12-inch sewer line in Hayden Road.

The offsite/public sewer line included in the north collection system will be constructed in the realigned Mayo Boulevard and is intended to also serve Wastewater flows from buildings A, B, C, D, and E. There are two (2) stubs as part of this north collection system allowing for the proposed onsite sewer lines to connect. Flows from building F will follow a proposed 8-inch line, then connect to a stub in this north collection system. Flows from buildings A, B, C, D, and E will follow a 10-inch line that then increases in size to 12 inches before also connecting to a stub in this north collection system. Wastewater flows from the proposed onsite sewer line will then outfall to the existing 12-inch sewer line in Hayden Road.

The design criteria used to estimate wastewater flows and evaluate system hydraulics are based on Wood, Patel & Associates, Inc.'s (WOODPATEL) understanding of the

- Average Day Wastewater Demand, Office: ..... 0.4 gpd / sq. ft
- Average Day Wastewater Demand, Industrial (Phoenix): ..... 50 gpd / 1,000 sq. ft
- Peak Factor, Office: 3
- Peak Factor, Industrial: ..... $1+14/(4+P^{1/2})$
- Minimum Mean Full Flow Velocity: ..... 2.50 fps
- Minimum Peak Full Flow Velocity: ..... 10.0 fps
- Minimum Peak Flow d/D Ratio (12" dia. or less sewers): ..... d/D = 0.65

Abbreviations: gpd = gallons per day; fps = feet per second; P=population/1,000

Based on the above design criteria, the projected average day flow for the proposed Site is calculated to be 619,590 gallons per day (gpd), or 430 gallons per minute (gpm). The peak flow is projected to be 1,956,322 gpd, or 1,359 gpm. The proposed sewer slopes, projected flow velocities, and pipe flow capacities are summarized on the attached spreadsheets. It is assumed the infiltration and inflow from wet weather has been accounted for in the published design flow rates for the development and the maximum d/D. Therefore, those flows have not been added into the calculations.

Thank you for your review of the Conceptual Wastewater Collection System Basis of Design Report provided for the Axon Way & Hayden Road Project. Feel free to contact me if you have any questions.

Sincerely,

Wood, Patel & Associates, Inc.

Nicholas Brown, **PE**
Project Manager

EXPIRES 03-31-25

CALCULATIONS AND MODELING RESULTS

WOOD PATEL

TABLE 1
WASTEWATER DESIGN CRITERIA

Project	Axon - Phase 2
Location	Scottsdale AZ
Project Number	205133
Project Engineer	Nicholas Brown, PE
References	City of Scottsdale Design Standards and Policy Manual (2018)

RESIDENTIAL WASTEWATER DEMANDS			
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**POPULATION[1]**
	VALUE	**UNITS**	
Single Family Residential	250	gpd/DU	2.5 Persons per DU
Multi-Family Residential	220	gpd/DU	2.2 Persons per DU

NON-RESIDENTIAL WASTEWATER DEMANDS				
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**POPULATION[1]**	**Peaking Factor (PF)**
	VALUE	**UNITS**		
Commercial/Retail	0.5	gpd/sf	0.005 Persons per sf	3
Office	0	gpd/sf	0.004 Persons per sf	3
Restaurant	1	gpd/sf	0.012 Persons per sf	6
High Density Condominium	140	gpd/unit	1.4 Persons per unit	4.5
Resort Hotel	380	gpd/room	3.8 Persons per room	4.5
School: without cafeteria	30	gpd/student	0.3 Persons per Student	6
School: with cafeteria	50	gpd/student	0.5 Persons per Student	6
Cultural	0.1	gpd/sf	0.001 Persons per sf	3
Clubhouse for Subdivision Golf Course	200	gpd/DU	2 Persons per patron x2 patrons per du per day	4.5
Fitness Center/ Spa/ Health Club	0.8	gpd/sf	0	3.5
Industrial	50	gpd/1,000 sf	0.5 Persons per 1,000 sf	-

HYDRAULIC MODELING CRITERIA		
DESCRIPTION		**VALUE[2]**
PEAK FLOW		
	Peak Flow = Peaking Factor (PF) x ADD	$[1+14/(4+P^{1/2})]$ x ADD
	(PF is based on upstream population, P = Population/1,000)	
HYDRAULICS		
	Minimum Pipe Diameter (in)	8
	Manning's "n" value	0.013
	Maximum d/D ratio at peak flow (D ≤ 12")	0.65
	Maximum d/D ratio at peak flow (D > 12")	0.7

PIPE SIZE	MEAN VELOCITY[2]		DESIGN SLOPE[2]	
(in)	Minimum (ft/sec)	Maximum (ft/sec)	Minimum (%)	Maximum (%)
6	2.5	10.0	0.520	6.980
8	2.5	10.0	0.520	6.980
10	2.5	10.0	0.390	5.121
12	2.5	10.0	0.310	3.919

Notes

1. Based on Arizona Administrative Code, Title 18, Chapter 9 value of 100 gallons per capita per day.
2. Per City of Scottsdale Design Standards and Policy Manual (2018)

TABLE 2
WASTEWATER MODEL, FULL BUILD-OUT CONDITION

Project	Axon - Phase 2
Location	Scottsdale AZ
Project Number	205133
Project Engineer	Nicholas Brown, PE
References	City of Scottsdale Design Standards and Policy Manual (2018)
	Arizona Administrative Code, Title 18, Chapter 9

LAND USE

FROM NODE	TO NODE	Multi-Family Residential (DU)	Commercial/Retail (sf)	Resort Hotel (Rooms)	SEWER NODE ADD (gpd)	TOTAL ADD (gpd)	PEAKING FACTOR	PEAK FLOW (gpd)	PEAK FLOW (gpm)
Outfall 1 SSMH #1 TO EX. SSMH #15									
Building B & Building C	MH #1	1,113	11,050		250,385	250,385	4.0	1,001,540	696
MH #1	MH #2				0	250,385	4.0	1,001,540	696
MH #2	MH #3				0	250,385	4.0	1,001,540	696
MH #3	MH #4				0	250,385	4.0	1,001,540	696
MH #4	EX. MH #15	509	13,750	425	280,355	530,740	4.0	2,122,960	1,474
Total Outfall 1		**1,622**	**24,800**	**425**	**530,740**	**530,740**	**4.0**	**2,122,960**	**1,474**

TABLE 2
WASTEWATER MODEL, FULL BUILD-OUT CONDITION

Project	Axon - Phase 2
Location	Scottsdale AZ
Project Number	205133
Project Engineer	Nicholas Brown, PE
References	City of Scottsdale Design Standards and Policy Manual (2018)
	Arizona Administrative Code, Title 18, Chapter 9

LAND USE

FROM NODE	TO NODE	Multi-Family Residential (DU)	Commercial/Retail (sf)	Resort Hotel (Rooms)	SEWER NODE ADD (gpd)	TOTAL ADD (gpd)	PEAKING FACTOR	PEAK FLOW (gpd)	PEAK FLOW (gpm)
Outfall 2 BLDG E TO EX. SSMH #11									
Building E	EX. MH #11	241	22,380		64,210	64,210	4.0	256,840	178
Total Outfall 2		**241**	**22,380**	**0**	**64,210**	**64,210**	**4.0**	**256,840**	**178**
Outfall 3 BLDG F TO EX. SSMH #17									
Building F	EX. MH #17	112			24,640	24,640	4.0	98,560	68
Total Outfall 3		**112**	**0**	**0**	**24,640**	**24,640**	**4.0**	**98,560**	**68**

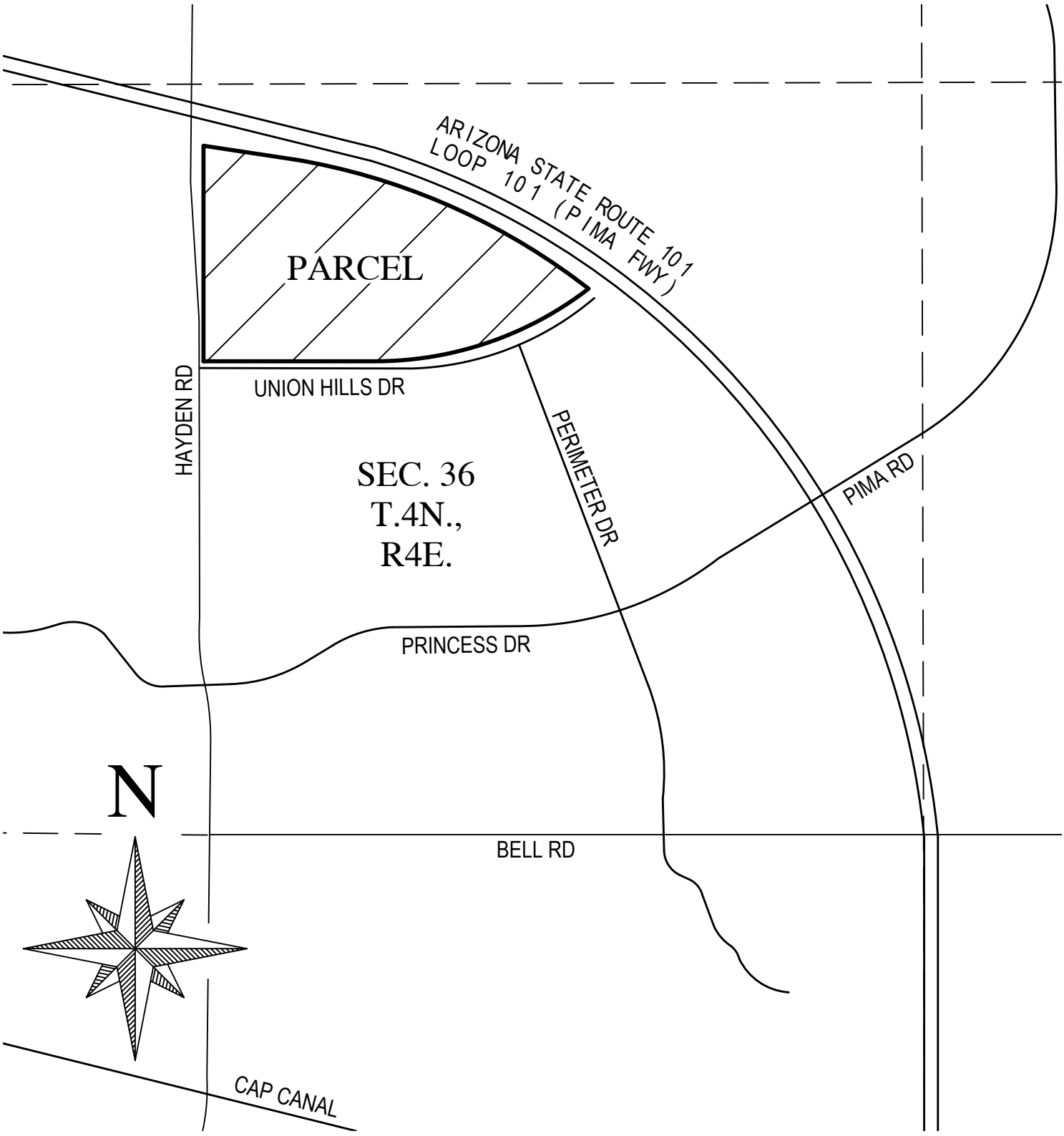
WOOD PATEL

TABLE 3
CALCULATED PIPE CAPACITIES, FULL BUILD-OUT CONDITION

Project	Axon - Phase 2
Location	Scottsdale AZ
Project Number	205133.04
Project Engineer	Nicholas Brown, PE
References	City of Scottsdale Design Standards and Policy Manual (2018)
	ADEQ Bulletin No. 11

						PEAK FLOW RESULTS					
FROM NODE	**TO NODE**	**PIPE SIZE**	**MODELED PIPE SLOPE**	**PIPE CAPACITY (FULL)**		**PEAK FLOW**	**PEAK FLOW**	**d/D**	**MEAN VELOCITY (at d/D=0.65)**	**SURPLUS CAPACITY**	**PERCENT OF CAPACITY**
		(in)	**(ft/ft)**	**(gpd)**	**(gpm)**	**(gpd)**	**(gpm)**		**(ft/sec)**	**(gpd)**	**(%)**
Outfall 1 SSMH #1 TO EX. SSMH #15											
Building B & Building C	MH #1	10	0.0100	1,419,982	986	1,001,540	696	0.62	4.4	418,442	70.5%
MH #1	MH #2	10	0.0100	1,419,982	986	1,001,540	696	0.62	4.4	418,442	70.5%
MH #2	MH #3	10	0.0100	1,419,982	986	1,001,540	696	0.62	4.4	418,442	70.5%
MH #3	MH #4	10	0.0100	1,419,982	986	1,001,540	696	0.62	4.4	418,442	70.5%
MH #4	EX. MH #15	12	0.0100	2,309,048	1604	2,122,960	1,474	0.64	5.0	186,088	91.9%
Outfall 2 BLDG E TO EX. SSMH #11											
Building E	EX. MH #11	8	0.0100	783,170	544	256,840	178	0.49	3.8	526,330	32.8%
Outfall 3 BLDG F TO EX. SSMH #17											
Building F	EX. MH #17	8	0.0100	783,170	544	98,560	68	0.24	3.9	684,610	12.6%

VICINITY MAP



WOOD PATEL

AXON WAY & HAYDEN ROAD

VICINITY MAP

DATE	08-02-23	SCALE	1" = 1000'	SHEET	1 OF 1
JOB NO.	205133.04	DESIGN	BLJ	CHECK	NEB
		DRAWN	BLJ		

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WASTEWATER EXHIBIT

BUILDING B CONNECTION
MH #1
BUILDING C CONNECTION
PROPOSED BUILDING B
PROPOSED BUILDING C
MH #2
MH #3
78' PROP. PUBLIC R.O.W.
81' PROP. PUBLIC R.O.W.
HAYDEN ROAD
PROPOSED BUILDING A
MH #4
BUILDING D CONNECTION
PROPOSED BUILDING D
BUILDING A CONNECTION
EX. MH #17
CONNECT TO EXISTING SEWER STUB-OUT
EX. MH #17
EX. MH #15
BUILDING F CONNECTION
CONNECT TO EXISTING SEWER STUB-OUT
PROPOSED BUILDING F
PROPOSED BUILDING E
124' PROP. PUBLIC R.O.W.
EX. MH #11
BUILDING E CONNECTION
EX. MH #11
EX. MH #10
125' PROP. PUBLIC R.O.W.
EX. MH #13
EX. MH #10
AXON WAY
AXON CAMPUS
LFF_{88}=1607.50
PERIMETER DRIVE

N

0 50 100
Horz. 1 in. = 100 ft.

LEGEND

- EXISTING SEWER PIPE
- EXISTING PHASE 1 SEWER PIPE
- PROPOSED SEWER PIPE
- PROPERTY BOUNDARY
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

AXON WAY & HAYDEN ROAD

WASTEWATER SYSTEM MAP

DATE	12-13-2023	SCALE	1" = 100'	SHEET	1 OF 1
JOB NO.	205133.04	DESIGN	AF	DRAWN	BP

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