Special Use Permit

Waldorf Astoria Lake Tahoe (“WALT”)

Crystal Bay, Nevada

APN: 123-071-04; 123-071-35; 123-071-36; 123-071-37
123-054-01; 123-053-02; 123-053-04; 123-052-02;
123-052-03; 123-052-04; 123-291-01

Prepared for:
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and

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August 2023

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INTRODUCTION

This narrative includes detail on the following:

- **Special Use Permits** (“SUP”) are required per WCDC Section 110.220.135 Crystal Bay Tourist Regulatory Zone for the following land uses:
  - Employee Housing – 14 2-bedroom units on site for a total of approximately 12K SF
  - Multiple Family Dwelling – 25 exclusive condominium units (2.5K – 5.4K SF) & 36 condominium units (1.7K – 4K SF) that can be rented by Waldorf Astoria Hotel
  - General Merchandise Stores – Curated Retail (up to 5K SF)
  - Vehicle Storage & Parking – Commercial parking garage that will charge for parking
  - Transmission & Receiving Facilities - Regional Communications Facility

Approval of these special use permits are required to allow for a proposed project consisting of a mixed-use resort. This development is proposed to include seven buildings, consisting of 76 hotel rooms, 61 condominium units, 14 employee housing units, with 10,000 SF of gaming space, a retail plaza, restaurants, swimming pool, wellness spa, outdoor amphitheater, and a commercial parking garage. Further information is provided in a narrative below which details the above special use permits.

1. PROJECT LOCATION

The WALT project site (the "Site") is approximately 14.373 acres (APNs 123-052-02, -03, -04; 123-053-03, -04; 123-054-01; 123-071-04, -35, -36, -37; 123-291-01; 123-042-01, -02) and is located in Crystal Bay in the midst of the commercial corridor of gaming venues, restaurants, office and single-family residential. See Figure 1 – Vicinity Map for the project location. The Site will be accessed via the following streets:

- Stateline Road, Lakeview Avenue and Big Water Way

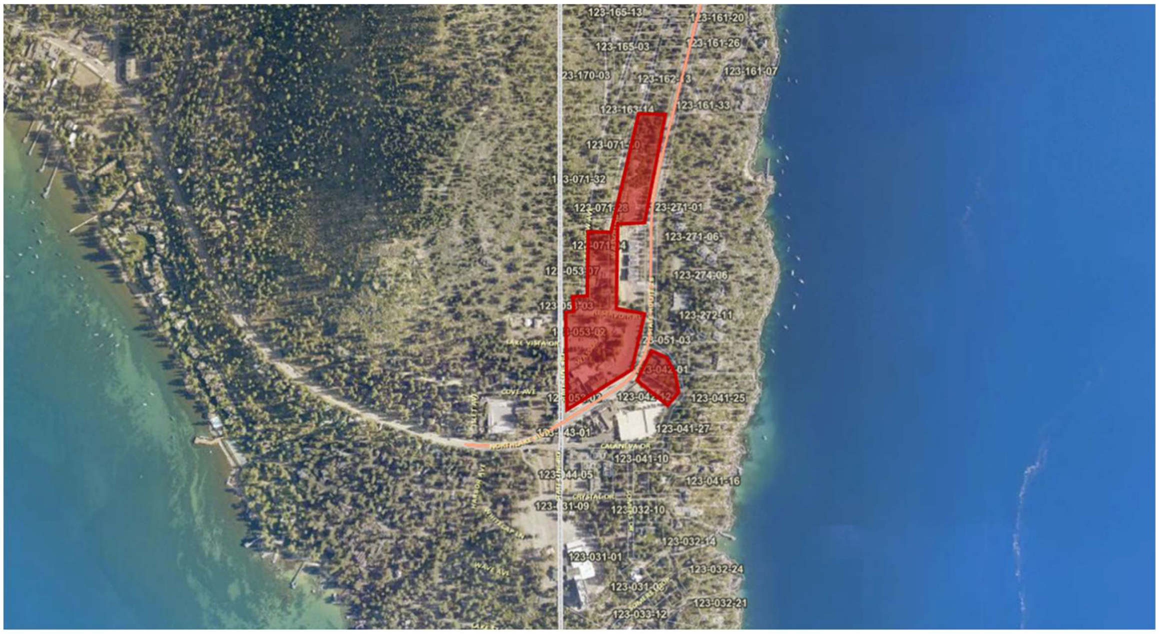


Figure 1 – Vicinity Map

2. EXISTING CONDTIONS

2.1 Site Information

The site currently consists of the four-story Tahoe Biltmore Lodge and Casino, six cottages, a two-story administrative building, two former hotel cottage units now vacant, and a storage building. The project area also includes two parcels located across Highway 28 from the Biltmore that currently host the Crystal Bay Motel, the adjacent office building, and an overflow parking lot. The Project area consists of a total of 14± acres on 13 separate parcels.

View of Project Site from SR-28 / Stateline

View of Project Site from SR-28

View of Project Site from SR-28 / Reservoir Rd

View of Project Site from Reservoir Rd

View of Project Site from Reservoir / Lakeview

View of Project Site from Reservoir / Lakeview

2.2 Slopes and Topography

The project area slopes from southeast to northwest – rising approximately 40 feet in elevation from the southern frontage along state 28 to the rear (north) of the current Biltmore parking lot and rises 80 feet in elevation to the intersection near Lakeview and Reservoir roads. Per Washoe County Development Standards Section 110.424.05, the site is applicable to Hillside Development. Further information about how the project responds to the Hillside Development requirements is provided in section 3.2 Hillside Development of this narrative.

2.3 Summary of Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) and Phase I Addendum was performed in 2007 by Kleinfelder, Inc. A Phase I ESA Update was conducted by David J. Herzog, CEG on February 9, 2015.

The 2007 Phase I ESA revealed one Recognized Environmental Condition (REC) on the subject site consisting of a small amount of soil containing diesel fuel on APN 123-053-02 and 123-052-04. A release occurred from a 4,000-gallon diesel underground storage tank (UST) removed in 1991. Almost all the contaminated soil was removed but some impacted soil could not be excavated due to difficult digging conditions in granite bedrock. Washoe County Health District (WCHD) granted site closure and acknowledged that some of the contamination remains in place. There is a possibility that contaminated soils may be encountered during future excavation activities. These soils would need to be removed and disposed of as non-hazardous petroleum contaminated soil in accordance with WCHD regulations.

The environmental database search by EDR, Inc. listed the Tahoe Biltmore as having three USTs on site including a 1,000-gallon diesel, a 550-gallon diesel, and a 550-gallon gasoline UST. These USTs are tested annually for leakage and comply with current UST regulations. The nearest adjacent sites listed by EDR, Inc. do not have the potential to impact the subject site.

Based on the prior Phase I ESA and the Phase I ESA Update, there is evidence for only one REC at the subject site consisting of small amounts of granite bedrock contaminated with diesel fuel in the area of the existing 1,000-gallon diesel UST on APNs 123-053-02 and 123-052-04. This will be of importance during excavation activities.

2.4 Geotechnical and Fault Studies

A geotechnical report was performed for the project by Holdrege & Kull on May 10, 2016. Based on their subsurface investigations conducted on the project site, weathered granite rock can be found from approximately 0.5 to 9 feet below the existing ground surface. Refer to Appendix K.

2.5 Tahoe Area Plan

The parcels that make up the project site are in the Crystal Bay Tourist regulatory zone, which is centered in the area where State Route 28 passes through the casino core. The overall vision for the area, according to the Tahoe Area Plan, is primarily focused on tourist activities. The area contains five casinos (including the now closed Biltmore on the project site) with accessory accommodation and commercial services.

The Tahoe Area Plan states that redevelopment in this regulatory zone plan may result in increasing the diversity of uses, but in general it expects that existing uses will be rehabilitated. The project fits both visions, rehabbing the previous gaming and hotel uses, while adding in a diverse arrangement of other uses, such as the outdoor amphitheater. The vision for the area is one of continued implementation of a tourist-oriented core. The area fills a unique niche as a historic center for tourism that connects Nevada and California, which is important to the community and the Region.

3. PROPOSED PROJECT

3.1 Project Summary

Waldorf Astoria Lake Tahoe and Residences ("WALT") (formerly Boulder Bay) property is in Crystal Bay, Nevada. The property associated with this application request is part of the revitalization of the Tahoe Biltmore property into an eco-friendly mixed-use project. EKN Tahoe, LLC is proceeding to complete the full build-out of the remaining components of the approved Boulder Bay CEP Project (FILE # CEPP 2008-0123) ("Project"). The Project has been refined to be better for the environment, community, and guests. The unit mix and types result in a net reduction of 157 units, a 47% reduction in unit density. This density reduction allows for additional amenity space to support the level of service necessary to achieve the desired experience. Hotel rooms were reduced from 275 rooms to 76 rooms and there is an increase in the number of residential condominium units from 59 units to 79 units (including the 18 units constructed in Building A "Granite Place"). There is no change to the approved gaming (10,000 sq. ft.), commercial (18,715 sq. ft.), or employee housing (14 units) components.

The parcels associated with these Special Use Permits (SUP) contain a total of approximately 13.143 acres. The actual land uses are defined below with the corresponding SUPs:

1. Employee Housing – 14 2-bedroom units on site for a total of approximately 12K SF
2. Multiple Family Dwelling – 25 exclusive condominium units (2.5K – 5.4K SF) & 36 condominium units (1.7K – 4K SF) that can be rented by Waldorf hotel
3. General Merchandise Stores – Curated Retail (up to 5K SF)
4. Vehicle Storage & Parking – Commercial parking garage that will charge for parking
5. Transmission & Receiving Facilities - Regional Communications Facility

The requested land use special use permits request is the next step in the overall development path that will allow for the project to energize in its movement forward. A tentative map request will coincide with this Special Use Permit (SUP) to obtain Washoe County approval of the commercial, hotel and residential construction. The Tentative Map request will remain in substantial conformance with the previous TRPA approval. The project applicant is meeting regularly with TRPA and will continue to do so through the life of the project to assure that the project and work to be performed do remain in substantial conformance with the existing approval.

3.1.1. Density

The Site is predominantly zoned Crystal Bay Tourist, with three APNs zoned as Crystal Bay (123-071-35, -36, & -37). Per Section 110.220.35 of the Washoe County Development Code, new residential and mixed-use developments within a town center (Crystal Bay Town Center Overlay) shall have a minimum density of 15 units per acre and a maximum density of 25 units per acre. The Project consists of 151 units on 10.4 acres. Therefore, the density of 14.5 units per acre meets the requirements of a town center.

3.1.2. Buildings

There are seven (7) buildings that are proposed within the proposed community. All the buildings have been designed to blend in with the natural grade by variating building heights, terracing of building pads, and utilizing stepped foundations. The proposed heights are in conformance with the Chapter 22.4 Amendment of the TRPA Code of Ordinances. Per the Amendment, a maximum height of 75 feet is allowed in the area "located on the mountain side of State Route 28 within the North

Stateline Community Plan boundary" where the Site is located. Refer to Appendix I, FEIS Appendix AC and DEIS Section 4.5 for documentation on the height amendment. Refer to Appendix G for floor plans and elevations.

3.1.3. Access and Circulation

The primary entrance to the Project will be on Lakeview Avenue and two secondary access driveways will be on NV-28 and Stateline Road. A traffic study was performed and can be found in Appendix N.

3.1.4. Landscaping

Landscaping is proposed throughout the project site per Washoe County standards to contain a variety of trees, shrubs, and amenity areas. Refer to Appendix M.

There is a total of 12.37 acres of proposed disturbance area within the project limits. A minimum of 20% of the disturbance area (2.47 acres) is required to be landscaped. The proposed landscape area is estimated to be 3.6 acres or 29% of the disturbance area, which exceeds this requirement.

Common open space requirements were calculated based on the requirement of two hundred (200) square feet of common open space per dwelling unit resulting in an open space of 7,800 square feet required. The current proposed plan includes 15,884 square feet of common open space which exceeds this requirement. Common open space amenities include a courtyard with seating, spas, pavilions, tables and chairs, fire pits, and a water feature.

3.1.5. Parking

Article 410 of the Washoe County Development Code (WCDC) specifies parking rates for the various land use types in the project, shown in Table 1 below.

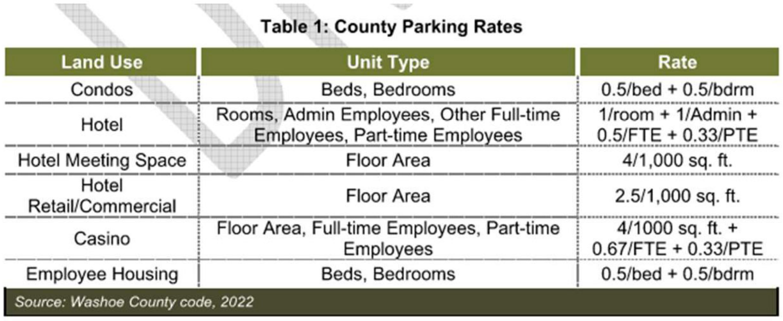
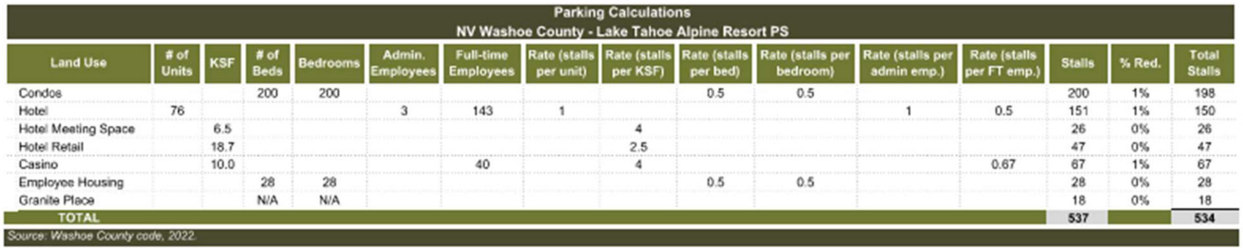


Table 1: County Parking Rates

Land Use	Unit Type	Rate
Condos	Beds, Bedrooms	0.5/bed + 0.5/bdrm
Hotel	Rooms, Admin Employees, Other Full-time Employees, Part-time Employees	1/room + 1/Admin + 0.5/FTE + 0.33/PTE
Hotel Meeting Space	Floor Area	4/1,000 sq. ft.
Hotel Retail/Commercial	Floor Area	2.5/1,000 sq. ft.
Casino	Floor Area, Full-time Employees, Part-time Employees	4/1000 sq. ft. + 0.67/FTE + 0.33/PTE
Employee Housing	Beds, Bedrooms	0.5/bed + 0.5/bdrm

Source: Washoe County code, 2022

Based on the County standards, the Project would be required to contain 534 stalls. With reductions made to account for internal capture and the fact that demand for different uses will peak at different times of the day, and factoring in a 5% buffer, 461 stalls would be required. Hales Engineering, who conducted a parking analysis for the Project, concluded that with proper implementation of Travel Demand Management strategies, with the aid of valet parking, 414 stalls would be adequate. Applicant would like to formally request to modify the parking standards of the Washoe County Code with reductions outlined in the parking analysis in Appendix O.



Parking Calculations
NV Washoe County - Lake Tahoe Alpine Resort PS

Land Use	# of Units	KSF	# of Beds	Bedrooms	Admin. Employees	Full-time Employees	Rate (stalls per unit)	Rate (stalls per KSF)	Rate (stalls per bed)	Rate (stalls per bedroom)	Rate (stalls per admin emp.)	Rate (stalls per FT emp.)	Stalls	% Red.	Total Stalls
Condos			200	200					0.5	0.5			200	1%	198
Hotel	76				3	143	1				1	0.5	151	1%	150
Hotel Meeting Space		6.5						4					26	0%	26
Hotel Retail		18.7						2.5					47	0%	47
Casino		10.0				40		4				0.67	67	1%	67
Employee Housing			28	28					0.5	0.5			28	0%	28
Granite Place			N/A	N/A									18	0%	18
TOTAL													537		534

Source: Washoe County code, 2022.

The project will have a parking garage with 424 dedicated parking stalls which can fit upwards of 461 vehicles with the envisioned valet operation plan. The purpose of the garage is to support the entire project, including the casino, hotel, residences, and retail spaces. Visitors and guests will be charged at a daily rate. The garage will be located predominantly underneath buildings B, C, D and F. The 424 parking stalls will include 16 compact stalls, 241 standard stalls & 167 tandem spaces.

3.1.6. Signage

A monument sign will be provided at the entry with the property name. The approximate location of the monument sign can be seen on the preliminary site and landscape plan in Appendix M. The signage plan will conform to article 505 of the Washoe County Code and will require a separate signage permit prior to construction.

The Site currently is home to the historical Tahoe Biltmore sign which will be removed by a historical preservation group to be preserved with the goal of finding a way to exhibit the sign in the new project. It will be preserved in accordance with Appendix V, “Cultural Resources Study”, of the Draft Environmental Impact Statement. Refer to Appendix I herein.

3.1.7. Lighting

Community lighting will be provided for site safety, walkway, and parking visibility and will be per Washoe County standards. No spillover of light is proposed over the property line.

3.1.8. Amenities

The proposed community will contain a swimming pool, wellness spa, gym, meeting space, restaurants, retail space, gaming, outdoor amphitheater, and a kids club. Building elevations and floorplans for the planned development, including amenity spaces, is included in Appendix G.

3.1.9. Public Facilities and Infrastructures

Schools – The property elementary zoning is for Incline Elementary. Middle and high school zoning is for Incline Middle School and Incline High School.

Fire Station – The nearest fire station serving the site is approximately 0.2 miles to the south (Crystal Bay Fire Station #2 located at 14 Cal Neva Dr).

Parks – The property is located approximately 3.0 miles southwest of the Preston Field & Playground, and 2.3 miles southwest of the Incline Village West Entrance Park. Additionally, the property is currently home to Sierra Park, which will be dedicated upon opening of the project.

Library – The property is located approximately 3.7 miles from the Incline Village Library, and approximately 1.8 miles from the Kings Beach Public Library.

Water and Sewer Service – Water and sewer service will be provided by the Incline Village General Improvement District (IVGID). IVGID has provided a Will Serve Letter and is included in Appendix K. Currently the project has banked 40.39-acre feet of water, which is anticipated to be sufficient for the project.

3.1.10. Approval Time Period

The applicant is requesting an approval term of five years instead of the typical two-year period. This is based off the expected timeframes of the project.

3.1.11. Boundary Line Adjustment

The proposed project continues to progress on the necessary approvals of Washoe County to consolidate the Site for the construction of the project, including the recent adjustment to conditions associated with the Grantie Place Tentative Map. It now requires a BLA to bifurcate the real estate associated with parcel 123-291-01. After the successful completion of the BLA, EKN Tahoe LLC will be the sole owner of the Site. Big Water Investments LLC, the current owner of the parcel, is contractually obligated to transfer the revised parcel to EKN Tahoe LLC as defined within the Purchase Sale Agreement.

3.1.12. Property Lines

The ultimate parcel lines associated with the Site will be realigned through the mapping process to avoid any structures crossing parcel lines. We anticipate filing a tentative map and several condominium maps to accomplish the ultimate site layout.

3.2 Hillside Development

The proposed development is classified as Hillside Development by Article 424 as thirty percent of the Site is in excess of fifteen percent in slope. The following specifies how Hillside Development requirements will be met.

3.2.1. Purpose

The proposed development is designed to meet the requirements outlined in Section 110.424.00 as outlined by the following responses in **bold**:

(a) Minimizing use of slopes subject to instability, erosion, landslide, flood hazards or drainage problems;

The Project's earth retaining systems will provide slope and roadway stability, while utilizing erosion control methods which are acceptable to both TRPA and Washoe County during the construction phases. Existing off-site drainage facilities will be protected and maintained both during and after construction and will follow TRPA and Washoe County regulations. On-Site drainage during and after construction shall meet and/or exceed drainage regulations as required and approved by TRPA and Washoe County.

(b) Minimizing the careless alteration of and disruption to the natural topography and landscape;

Significant grading is necessary for the construction of the TRPA approved project, the connector roads, and Wellness Way. Grading of the interior of the site is required to create subterranean parking structures that will help meet the Tahoe Area Plans' objectives of concealing automobile parking areas for this project. The buildings, when constructed, will be placed in a hillside adaptive manner.

(c) Providing safe and adequate vehicular and pedestrian access to and within hillside areas, including emergency access;

Pedestrian walkways will be provided in areas where no sidewalks or other pedestrian improvements exist in association with the roadway network. The previously approved variance and abandonment which outlines the alignment of the new connector roads will provide for safer vehicular access than what currently exists.

(d) Establishing stormwater runoff and erosion control techniques to minimize adverse water quality impacts resulting from non-point runoff;

All proposed stormwater runoff collection facilities will be submitted for review and approval by both TRPA and Washoe County, prior to construction of any storm drain and water quality facilities. The Project will meet the necessary BMP requirements within the Tahoe Basin as required by TRPA.

(e) Encouraging innovative grading techniques and building design which respond to the hillside terrain and natural contours of the land;

The earth retaining system will allow for a smaller disturbance footprint than would be typical with most wall systems, and the earth retaining system can be covered with soil at a gentler grade than what a stand-alone wall system can provide. The earth retaining system is anticipated to be concealed by the future buildings and covered with soil and landscaped to appear as a natural slope area. Certain segments of the wall may also be proposed to appear as stacked stone or other aesthetic appearances. The proposed design is in conformance with the site development and grading standards in Section 110.424.30 and 110.424.35. Building pads and heights will be varied to complement the existing slopes of the terrain.

(f) Minimizing impacts on existing trees and vegetation which reduce erosion, stabilize steep hillsides, enhance visual quality, protect water quality and preserve critical watershed recharge areas;

Existing vegetation found within the interior of the site will be significantly impacted, as will vegetation and trees found in the path of the proposed connector roadways. Tree loss is anticipated as part of the proposed major grading project. Landscaping, limited grading, and

erosion control measures are proposed in accordance with Washoe County standards. Refer to the site and grading plan in WSUP21-0035 for more detail.

(g) Encouraging the transfer of density to avoid hazardous areas and to protect environmentally sensitive and open space area; and

Density transfers were previously approved through initial planning and design of the project. The existing site has had a hotel/casino project since 1946, and as the development grew and added additional buildings, the site has utilized a terraced grading process to accommodate the additional development. Due to the existing project having been here for 75 years, the redevelopment of this site is not anticipated to have a detrimental impact on environmentally sensitive and open space areas.

(h) Minimizing impacts on prominent ridgelines, significant viewsheds, canyons and visually prominent rock outcroppings which reflect the visual value and scenic character of hillside areas.

The proposed design will not impact any ridgelines, significant viewsheds, canyons or prominent rock outcroppings. Please refer to viewshed analysis in Appendix H.

3.2.2. Constraint and Mitigation Analysis

The Washoe County Potential Natural Hazards Map contained within Article 220 (Tahoe Area Plan) shows that the subject property and most of the Crystal Bay Tourist Zone area presents minimal potential hazards associated with seismic, hydrologic and slope hazard areas.

3.2.3. Site Development Standards

The proposed development has been designed to encourage compatibility with the existing hillside. The proposed design is in conformance with the requirements outlined in Article 424 Hillside Development Section 110.424.15(a)(1-9) and Section 110.424.30.

3.2.4. Application Requirements

The following has been provided in WSUP21-0035 to supplement the hillside grading requirements:

- Slope Analysis
- Proposed Site and Grading Plans
- Cut and Fill Analysis
- Proposed Cross Sections
- Viewshed Analysis
- Preliminary Geotechnical Report and Fault Study
- Supplemental Special Use Permit Documents

3.3 Special Use Permit Request

The proposed project requests the following special use permits:

Employee Housing

Fourteen workforce housing units will be constructed on site for a total of approximately 12,000 square feet, located in Building G, on top of the proposed retail space. All the units will have two bedrooms each. This workforce housing is intended for use by the future resort staff and will be augmented with an off-site workforce housing option that will include at least ten infill housing units.

Multiple Family Dwelling

There will be two types of condominium units for sale. Twenty- five of them will be wholly owned by individuals ("Exclusive Condominium Units") but branded by the Waldorf Astoria. All these exclusive units will be in Building B. They will range from 2,500 to 5,400 square feet.

The remaining 36 condominium units ("Hotel Residential") will be contributed into the hotel rental pool for the hotel to rent them when the individual owner is not utilizing them. Building C will be exclusively Hotel Residential. Building H will have additional Hotel Residential over the retail space and Building E will also have Hotel Residential over the casino. These Hotel Residential units will range from 1,700 – 4,000 square feet.

General Merchandise Stores

On the ground floor of Buildings G and H, there will be approximately 5,000 square feet of curated retail. Tenants are yet to be determined. The retail is intended to elevate the Grove and internal pedestrian walkways.

Vehicle Storage & Parking

The project will have a parking garage with 424 dedicated parking stalls which can fit upwards of 460 vehicles with the envisioned valet operation plan. The purpose of the garage is to support the entire project, including the casino, hotel, residences, and retail spaces. Visitors and guests will be charged at a daily rate. The garage will be located predominantly underneath buildings B, C, D and F.

Transmission & Receiving Facilities

Washoe County Regional Communication System operates a Radio Communication Site out of one of the Project's parcels (APN: 123-053-04). The Microwave and LMR Radio Antennas are attached to the water tank owned by IVGID, but the radio equipment, batteries, routers, and switches of the repeater are located on the Project's parcel.

3.4 Special Use Permit Findings

1. Consistency. The granting of the special use permit is consistent with the policies and maps of the comprehensive plan elements and the Area plan in which the project is located.

   The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Tahoe Area Plan.

2. Adequate Public Facilities. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities must exist or will be provided.

IVGID has provided a Will Serve Letter and is included in Appendix J. Currently the project has banked 40.39-acre feet of water, which is anticipated to be sufficient for the project.. Roadway improvements are proposed to be upgraded along SR-28, Stateline Road, Lakeview Avenue, Big Water Road and Wassou Road and promote safe access to the development and to the community. The surrounding roadways will be constructed and fulfill all the conditions outlined in SUP Case Number WSUP21-0035. The proposed water quality BMP plan is a substantial update from the existing conditions. It incorporates improved technology which will achieve the required water quality treatment which exceeds TRPA standards by constructing onsite infiltration galleries and detention basins sized to capture, treat, and infiltrate peak flow volumes from a 50-year, 1-hour storm event. The project also proposes water quality treatment facilities that will improve accessibility of those facilities for long-term operations and maintenance.

3. Site Sustainability. The site must be physically suitable for the proposed use and for the intensity of development.

   The site has been thoroughly vetted through the environmental assessment process with mitigating measures in the certified EIS. Refer to Appendix I.

4. Issuance not Detrimental. Issuance of the permit may not be significantly detrimental to the public health, safety or welfare; have a detrimental impact on adjacent properties; or be detrimental to the character of the surrounding area.

   The site has been thoroughly vetted through the environmental assessment process with mitigating measures in the certified EIS. Refer to Appendix I.

APPENDIX A
Washoe County Development Application

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information

Staff Assigned Case No.: ______________

Project Name: Waldorf Astoria Lake Tahoe

Project Description: Approval of these special use permits are required to allow for a proposed project consisting of a mixed-use resort. This development is proposed to include seven buildings, consisting of 76 hotel rooms, 61 condominium units, 14 employee housing units, with 10,000 SF of gaming space, a retail plaza, restaurants, swimming pool, wellness spa, outdoor amphitheater, and a commercial parking garage. Further information is provided in a narrative above which details the above special use permits.

Project Address: 47 Reservoir Road, 101 Lakeview Avenue, 0 Wassou Road, 5 SR 28 and 0 SR 28

Project Area (acres or square feet): 13.143 acres

Project Location (with point of reference to major cross streets **AND** area locator):

The WALT project site is located in Crystal Bay in the midst of the commercial corridor of gaming venues, restaurants, office and single-family residential. The Site will be accessed via the following streets: Stateline Road, Lakeview Avenue and Big Water Way.

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
123-052-02, -03, -04	0.28, 0.28, & 3.23 acres	123-054-01 & 123-291-01	0.996 & 2.77 acres
123-053-02, -04	1.42 & 0.184 acres	123-071-04, -35, -36, -37	0.644, 0.451, 0.402, & 2.486 acres

Indicate any previous Washoe County approvals associated with this application:

Case No.(s). WSUP21-0035 - Grading Permit

Applicant Information (attach additional sheets if necessary)

Property Owner: 123-052-02, -03, -04; 053-02, -04; 054-01; 071-04, -35, -36, 37	~~**Professional Consultant:**~~ Owner: APN 123-291-01
Name: EKN Tahoe LLC	Name: Big Water Investments LLC (-291-01)
Address: 220 Newport Center Drive, Ste 11-262	Address: P.O. Box 6622
Newport Beach, CA Zip: 92660	Incline Village, NV Zip: 89450
Phone: Fax:	Phone: Fax:
Email: tom@ekndevgroup.com	Email: rwittenberg@intlsupplyco.com
Cell: 480.828.8959 Other:	Cell: 775.560.9527 Other:
Contact Person: Tom Jacobson	Contact Person:
Applicant/Developer:	**Other Persons to be Contacted:**
Name: EKN Tahoe LLC	Name: Austin Bergquist
Address: 220 Newport Center Drive, Ste 11-262	Address: 220 Newport Center Drive, Ste 11-262
Newport Beach, CA Zip: 92660	Newport Beach, CA Zip: 92660
Phone: Fax:	Phone: Fax:
Email: tom@ekndevgroup.com	Email: austin@ekndevgroup.com
Cell: 480.828.8959 Other:	Cell: 949.887.9129 Other:
Contact Person: Tom Jacobson	Contact Person: Austin Bergquist

For Office Use Only

Date Received: Initial:	Planning Area:
County Commission District:	Master Plan Designation(s):
CAB(s):	Regulatory Zoning(s):

APPENDIX C

Special Use Permit Application

Special Use Permit Application
Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

Approval of these special use permits are required to allow for a proposed project consisting of a mixed-use resort. This development is proposed to include seven buildings, consisting of 76 hotel rooms, 61 condominium units, 14 employee housing units, with 10,000 SF of gaming space, a retail plaza, restaurants, swimming pool, wellness spa, outdoor amphitheater, and a commercial parking garage. Further information is provided in a narrative below which details the above special use permits.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

A site plan is provided with the submittal package. Please see detailed narrative and site plan included in Exhibit G.

3. What is the intended phasing schedule for the construction and completion of the project?

Prior to Q2 2024, all of the vertical improvements, buildings & signage will be removed. The parking lot, sidewalks & horizontal infrastructure will then be removed at the start of grading season 2024. By the end of the grading season, all of the connector roads & associated utilities will be completed. Vertical construction will commence in grading season 2025 with excavation, haul off, & retaining walls starting with Building B. Following Building B will be Building D, Building C, Building E, Building F, & lastly Building G. The construction period is estimated to be 36 months.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The Tahoe Area Plan states that redevelopment in this regulatory zone plan may result in increasing the diversity of uses, but in general it expects that existing uses will be rehabilitated. The project fits both visions, rehabbing the previous gaming and hotel uses, while adding in a diverse arrangement of other uses, such as the outdoor amphitheater. The vision for the area is one of continued implementation of a tourist-oriented core. The area fills a unique niche as a historic center for tourism that connects Nevada and California, which is important to the community and the Region.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

Impacts have been thoroughly analyzed & quantified in the EIS in Appendix I.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

Impacts have been thoroughly analyzed & mitigation measures have been recommended in the EIS in Appendix I.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

Parking is indicated on the site plan. The project will have a parking garage with 424 dedicated parking stalls which can fit upwards of 461 vehicles with the envisioned valet operation plan. Refer to Appendix N for Landscape Plan. Lighting will be per Washoe County standards.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

☐ Yes	■ No

9. Utilities:

a. Sewer Service	Incline Village General Improvement District (IVGID)
b. Electrical Service	NV Energy
c. Telephone Service	Spectrum
d. LPG or Natural Gas Service	Southwest Gas
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	Spectrum
g. Water Service	Incline Village General Improvement District (IVGID)

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

~~h. Permit #~~	APN 123-052-04 (Appendix J)	acre-feet per year	40.20 banked
~~i. Certificate #~~	APN 123-053-04 (Appendix J)	acre-feet per year	0.19 banked
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

IVGID

10. Community Services (provided and nearest facility):

a. Fire Station	Crystal Bay Fire Station #2 located at 14 Cal Neva Dr
b. Health Care Facility	Incline Village Community Hospital
c. Elementary School	Incline Elementary
d. Middle School	Incline Middle School
e. High School	Incline High School
f. Parks	The property is currently home to Sierra Park, which will be dedicated upon opening of the project
g. Library	The property is located approximately 1.8 miles from the Kings Beach Public Library.
h. ~~Citifare~~ Bus Stop	On-site

T.A.R.T.

APPENDIX E
Exhibits from Tahoe Area Plan

Mixed-Use and Tourist Regulatory Zones

There are four regulatory zones in the plan area that are either mixed use or tourist in character: Crystal Bay, Incline Village Commercial, Incline Village Tourist, and Ponderosa Ranch. These areas are designated for mixed use development with more intense commercial uses and potentially other use classifications such as public service and light industrial. With the exception of Ponderosa Ranch and a large portion of the Incline Village Tourist regulatory zone, these areas largely correspond with the designated Town Centers. The mixed-use and tourist regulatory zones are subject to the Tahoe Area Design Standards provided in Appendix B of this document and established in the Washoe County Development Code (Article 110.220.1.) that articulates additional standards for buffering, landscaping, parking, and other design features intended to facilitate the mixed-use concept called for in each regulatory zone.

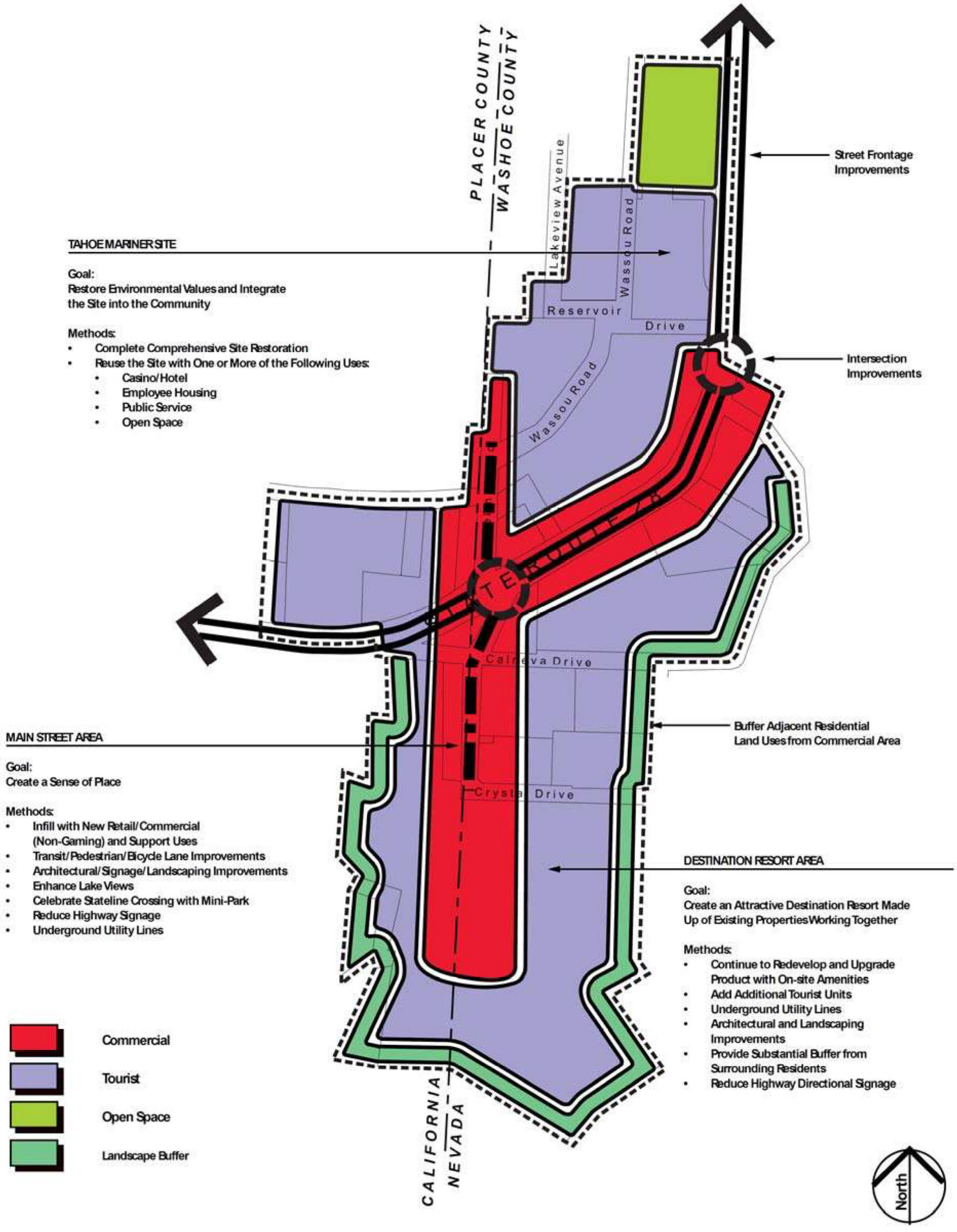
Permissible uses for each regulatory zone are established in Article 220 of the Washoe County Development Code (Appendix A). The list of permissible uses in each of these regulatory zones is broad and inclusive and contains uses from several land use classifications. As described in the existing conditions section above, the availability of commercial floor area, tourist accommodation units, residential bonus units and higher densities is focused on these regulatory zones. And finally, three of the plans (the Ponderosa Plan excepted) are largely coincidental with the Town Center overlays discussed above. This designation focuses important redevelopment incentives in these areas. Despite only three of the four mixed-use and tourist zones having the Town Center overlay designation, redevelopment is the foundation of the planning concept in each area.

These are important similarities. However, historical development patterns, differences in available permissible uses, and differences in available development rights combine to create large differences in the community character of these areas. These differences are reflected in the brief discussions of each mixed-use or tourist regulatory zones below.

Crystal Bay Tourist Regulatory Zone

Originally known as the North Stateline Community Plan, with borders extending into Placer County, California, the TRPA Governing Board allowed the plan to be bifurcated along the California-Nevada Stateline in December of 2011. The Crystal Bay Tourist regulatory zone is centered on the area where State Route 28 passes through the casino core. The overall vison for the area remains primarily focused on tourist activities. The area contains five casinos with accessory accommodation and commercial services. The multiple award-winning North Stateline Beautification Project was completed on the Nevada side of the plan area in 1999. The streetscape included extensive improvements to State Route 28, the addition of sidewalks, street lighting, landscaping and street furniture. A joint Nevada Department of Transportation (NDOT) and Caltrans storm drainage project, and the undergrounding of utilities across State Route 28 at North Stateline was completed with generous contributions and help of the Biltmore property owners in 2012.

Redevelopment in this regulatory zone plan may result in increasing the diversity of uses, but in general it is expected that existing uses will be rehabilitated. The vision for this area is one of continued implementation of a tourist-oriented core with design standards that emphasize historic preservation and that specify how the plan transitions and provides buffers to the surrounding residential areas. The unique niche the area fills as a historic center for tourism that connects Nevada and California is important to the community and the Region.



Street Frontage Improvements

Intersection Improvements

TAHOE MARINER SITE

Goal:
Restore Environmental Values and Integrate the Site into the Community

Methods:
- Complete Comprehensive Site Restoration
- Reuse the Site with One or More of the Following Uses:
  - Casino/Hotel
  - Employee Housing
  - Public Service
  - Open Space

MAIN STREET AREA

Goal:
Create a Sense of Place

Methods:
- Infill with New Retail/Commercial (Non-Gaming) and Support Uses
- Transit/Pedestrian/Bicycle Lane Improvements
- Architectural/Signage/Landscaping Improvements
- Enhance Lake Views
- Celebrate Stateline Crossing with Mini-Park
- Reduce Highway Signage
- Underground Utility Lines

Buffer Adjacent Residential Land Uses from Commercial Area

DESTINATION RESORT AREA

Goal:
Create an Attractive Destination Resort Made Up of Existing Properties Working Together

Methods:
- Continue to Redevelop and Upgrade Product with On-site Amenities
- Add Additional Tourist Units
- Underground Utility Lines
- Architectural and Landscaping Improvements
- Provide Substantial Buffer from Surrounding Residents
- Reduce Highway Directional Signage

MAP 2.3. CRYSTAL BAY TOURIST CONCEPT PLAN

APPENDIX F
ALTA

LEGAL DESCRIPTION

THE LAND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

LOT 1, IN BLOCK F OF NEVADA VISTA SUBDIVISION, BEING A SUBDIVISION OF PORTION OF LOTS 1 AND 2 AND I AND II IN SECTION 30, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M., STATE OF NEVADA, COUNTY OF WASHOE, ACCORDING TO THE MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON AUGUST 26, 1926.

EXCEPTING THEREFROM THAT PORTION THEREOF, CONVEYED TO THE COUNTY OF WASHOE, BY DEED RECORDED JULY 12, 1937, IN BOOK 111, PAGE 241, DEED RECORDS, AS INSTRUMENT NO. 78492.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548449.

APN: 123-042-01

PARCEL 2:

ALL THAT PORTION OF LOT 2, IN BLOCK F OF NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON AUGUST 26, 1926, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 2; THENCE ALONG THE NORTHERLY LINE THEREOF SOUTH 60°02' EAST 273.07 FEET TO THE NORTHEAST CORNER THEREOF, BEING A POINT ON THE NORTHWESTERLY LINE OF CALNEVA DRIVE; THENCE ALONG SAID NORTHWESTERLY LINE, SOUTH 43°15' WEST 70.00 FEET; THENCE LEAVING SAID CALNEVA DRIVE, NORTH 60°02' WEST 266.20 FEET TO A POINT ON THE SOUTHEASTERLY LINE OF NEVADA STATE ROUTE NO. 28; THENCE ALONG SAID LINE, AND THE WESTERLY LINE OF SAID LOT 2, NORTHERLY ALONG THE ARC OF A CURVE TO THE LEFT, WITH A RADIUS OF 290 FEET FOR AN ARC DISTANCE OF 73.11 FEET TO THE POINT OF BEGINNING.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: 123-042-02

PARCEL 4:

ALL OF BLOCK C OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON FEBRUARY 15, 1928.

EXCEPTING THEREFROM LOTS 1 AND 3

APN: 123-052-02 AND A PORTION OF 123-052-04

PARCEL 5:

BEGINNING AT THE NORTHEAST CORNER OF LOT 28, IN BLOCK C OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON FEBRUARY 15, 1928, SAID POINT BEING SOUTH 87°00'46" EAST A DISTANCE OF 531.90 FEET FROM THE NORTHWEST CORNER OF SECTION 30, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M., SAID CORNER BEING A STATE LINE MONUMENT; THENCE NORTH 88°58' EAST 30.30 FEET TO A POINT; THENCE SOUTH 0°37' WEST 44.53 FEET TO A POINT; THENCE ON A CURVE TO THE RIGHT THROUGH AN ANGLE OF 26°16'20" WITH A RADIUS OF 460 FEET, A DISTANCE OF 210.93 FEET; THENCE ON A CURVE WHOSE TANGENT BEARING IN NORTH 11°25'10" EAST THROUGH AN ANGLE OF 7°15'10" WITH A RADIUS OF 220.33 FEET A DISTANCE OF 27.89 FEET; THENCE NORTH 4°10' EAST 220.05 FEET TO THE POINT OF BEGINNING.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: THE REMAINING PORTION OF 123-052-04

PARCEL 6:

LOTS 1 AND 3, IN BLOCK C, OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON FEBRUARY 15, 1928.

APN: 123-052-03

PARCEL 7:

ALL OF BLOCK "D" OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA, ON FEBRUARY 15, 1928.

EXCEPTING THEREFROM THAT PORTION THEREOF, CONVEYED TO THE COUNTY OF WASHOE FOR ROAD PURPOSES (WASSOU ROAD RE-ALIGNMENT), AS SET FORTH IN A DEED RECORDED FEBRUARY 12, 1964, UNDER FILING NO. 406693, DEED RECORDS OF WASHOE COUNTY, NEVADA.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: 123-053-02 AND A PORTION OF 123-052-04

PARCEL 8:

LOTS 14, 15, 16, 17 AND 18 OF THE MATT GREEN UNOFFICIAL SUBDIVISION OF A PORTION OF LOT 4 OF SECTION 19, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE WESTERLY RIGHT-OF-WAY LINE OF NEVADA STATE HIGHWAY ROUTE NO. 28 (80 FEET WIDE) WITH THE SOUTH LINE OF SECTION 19, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M; THENCE ALONG SAID SOUTH LINE SOUTH 89°17'50" WEST 240.00 FEET; THENCE NORTH 0°35'38" EAST 40.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 0°35'38" EAST ALONG THE WESTERN LINE OF WASSOU ROAD, (40.00 FEET WIDE) A DISTANCE OF 460.93 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, TANGENT TO THE PRECEDING COURSE, WITH A RADIUS OF 2392.74 FEET FOR AN ARC DISTANCE OF 49.07 FEET; THENCE SOUTH 89°15'47" WEST 140.00 FEET TO THE EAST LINE OF LAKE VIEW AVENUE, (40 FEET WIDE); THENCE SOUTH 0°35'38" WEST ALONG SAID EAST LINE 510.00 FEET TO A LINE DRAWN SOUTH 89°17'50" WEST FROM THE POINT OF BEGINNING; THENCE NORTH 89°17'50" EAST 140.00 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL THAT CERTAIN REAL PROPERTY, LYING WITHIN THE EXTERIOR BOUNDARIES OF LOTS 17 AND 18 OF THE MATT GREEN UNOFFICIAL SUBDIVISION OF A PORTION OF LOT 4 OF SECTION 19, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: 123-054-01

PARCEL 9:

LOTS 14, 15, 16, 17 AND 18 OF THE MATT GREEN UNOFFICIAL SUBDIVISION OF A PORTION OF LOT 4 OF SECTION 19,TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE WESTERLY RIGHT-OF-WAY LINE OF NEVADA STATE HIGHWAY ROUTE NO. 28 (80 FEET WIDE) WITH THE SOUTH LINE OF SECTION 19, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M; THENCE ALONG SAID SOUTH LINE SOUTH 89°17'50" WEST 240.00 FEET; THENCE NORTH 0°35'38" EAST 40.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 0°35'38" EAST ALONG THE WESTERN LINE OF WASSOU ROAD, (40.00 FEET WIDE) A DISTANCE OF 460.93 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, TANGENT TO THE PRECEDING COURSE, WITH A RADIUS OF 2392.74 FEET FOR AN ARC DISTANCE OF 49.07 FEET; THENCE SOUTH 89°15'47" WEST 140.00 FEET TO THE EAST LINE OF LAKE VIEW AVENUE, (40 FEET WIDE); THENCE SOUTH 0°35'38" WEST ALONG SAID EAST LINE 510.00 FEET TO A LINE DRAWN SOUTH 89°17'50" WEST FROM THE POINT OF BEGINNING; THENCE NORTH 89°17'50" EAST 140.00 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL THAT CERTAIN REAL PROPERTY, LYING WITHIN THE EXTERIOR BOUNDARIES OF LOTS 14, 15 AND 16 OF THE MATT GREEN UNOFFICIAL SUBDIVISION OF A PORTION OF LOT 4 OF SECTION 19, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: 123-071-04

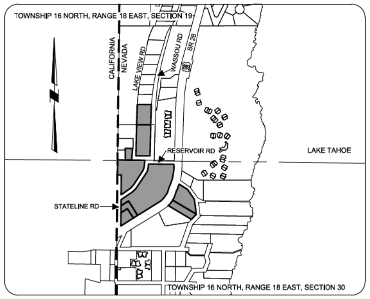
PARCEL 10:

A PORTION OF THE NW ¼ OF SECTION 30, TOWNSHIP 16 NORTH, RANGE 18 EAST, M.D.B.&M., BEING THAT PORTION OF RESERVOIR DRIVE ABANDONED BY THAT CERTAIN ORDER OF ABANDONMENT RECORDED FEBRUARY 12, 1964, UNDER FILING NO. 406694, LIENS AND MISCELLANEOUS, WASHOE COUNTY NEVADA RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTH ONE-QUARTER SECTION CORNER OF SAID SECTION 30; THENCE SOUTH 89°19'17" WEST 236.90 FEET TO THE NORTHEAST CORNER OF LOT 7, IN BLOCK D OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF, THENCE SOUTH 4°10'00" WEST 59.71 FEET ALONG THE WESTERLY RIGHT OF WAY LINE OF RESERVOIR DRIVE; THENCE SOUTH 85°50'00" EAST 40.00 FEET TO A POINT ON THE EASTERLY RIGHT OF WAY LINE OF RESERVOIR DRIVE, AND THE TRUE POINT OF BEGINNING; THENCE SOUTH 4°10'00" WEST 172.57 FEET ALONG SAID EASTERLY RIGHT OF WAY LINE TO A POINT; THENCE SOUTH 58°00'08" WEST 305.12 FEET ALONG THE SOUTHERLY RIGHT OF WAY LINE OF RESERVOIR DRIVE TO THE NORTHWEST CORNER OF LOT 2, IN BLOCK C OF THE ADDITION TO NEVADA VISTA SUBDIVISION, AS SHOWN ON THE OFFICIAL MAP THEREOF; THENCE NORTH 55°30'08" EAST 127.22 FEET TO THE BEGINNING OF A CURVE TO THE LEFT HAVING A RADIUS OF 194.34 FEET, A TOTAL CURVATURE OF 22°00'00" AND A LONG CHORD OF NORTH 44°30'08" EAST 74.16 FEET; THENCE ALONG SAID CURVE A DISTANCE OF 74.62 FEET TO A POINT OF TANGENCY; THENCE NORTH 33°30'08" EAST 41.04 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF RESERVOIR DRIVE; THENCE NORTH 58°00'08" EAST 48.15 FEET ALONG SAID NORTHERLY RIGHT OF WAY LINE TO A POINT; THENCE NORTH 4°10'00" EAST 40.76 FEET ALONG THE WESTERLY RIGHT OF WAY LINE OF RESERVOIR DRIVE TO A POINT; THENCE NORTH 33°30'08" EAST 41.18 FEET TO THE BEGINNING OF A CURVE TO THE LEFT HAVING A RADIUS OF 154.62 FEET, A TOTAL CURVATURE OF 29°20'08" AND A LONG CHORD OF NORTH 18°50'04" EAST 78.32 FEET; THENCE ALONG SAIDE CURVE A DISTANCE OF 79.17 FEET TO THE TRUE POINT OF BEGINNING.

THE ABOVE LEGAL DESCRIPTION WAS TAKEN FROM PRIOR DOCUMENT NO. 3548445.

APN: A PORTION OF 123-052-04



VICINITY MAP
NOT TO SCALE

TITLE INFORMATION

PRELIMINARY TITLE REPORT PREPARED BY REAL ADVANTAGE TITLE INSURANCE COMPANY & FIRST CENTENNIAL TITLE COMPANY OF NEVADA, COMMITMENT NO. 21016959-COM-1, DATED APRIL 2, 2021 AT 8:00 A.M.

VESTING INFORMATION

FEE SIMPLE

BOULDER BAY, LLC, A NEVADA LIMITED LIABILITY COMPANY

FLOOD ZONE DESIGNATION

THE SUBJECT PARCEL LIES WITHIN FEMA FLOOD ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. PER FLOOD INSURANCE RATE MAP NO. 32031C3400G, PANEL 3400 OF 3475, DATED MARCH 16, 2009.

UTILITY PURVEYORS

COMMUNICATION:	CHARTER COMMUNICATION SPECTRUM
ELECTRICITY:	NV ENERGY
GAS:	NV ENERGY
WATER:	INCLINE VILLAGE GID
SANITARY SEWER:	CITY OF RENO
TELEPHONE:	AT&T
STORM DRAIN:	CITY OF RENO

811
Know what's **below.**
Call before you dig.

SURVEYOR'S CERTIFICATE

TICOR TITLE OF NEVADA, INC AND CHICAGO TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2-4, 6(a), 6(b), 7(a) 8, 9, 13, AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON AUGUST 20, 2021.

DATE OF PLAT OR MAP: PRELIMINARY

KEVIN L. GERMAN, PLS 20461

KEVIN L. GERMAN
EXP: 06-30-23
No. 20461

REFERENCES

1. SUBDIVISION TRACT MAP NO. 198 FOR NEVADA VISTA SUBDIVISION, RECORDED AUGUST 26, 1926, FILE NO. 37826, OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.
2. SUBDIVISION TRACT MAP NO. 214 FOR ADDITION TO NEVADA VISTA SUBDIVISION, RECORDED FEBRUARY 15, 1928, FILE NO. 42437, OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.
3. RECORD OF SURVEY IN SUPPORT OF A BOUNDARY LINE ADJUSTMENT MAP NO. 6298 FOR USDA FOREST SERVICE AND WASHOE COUNTY, RECORDED SEPTEMBER 29, 2021, FILE NO. 5232175, OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.
4 DEED DOCUMENT NO. 3548445, RECORDED JUNE 27, 2007, OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.
5 PRELIMINARY TITLE REPORT AND DOCUMENTS REFERENCED THEREIN, FILE NO. 21016959-COM, DATED APRIL 2, 2021 AT 8:00 A.M.

NOTES

1. THE PLANIMETRIC INFORMATION SHOWN HEREON IS BASED UPON FIELD SURVEYS PERFORMED BY FROM 2018 TO 2021 BY CFA, INC.
2. EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS, OTHER THAN THOSE SPECIFIED IN THE PRELIMINARY TITLE REPORT AND POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF MAKING OF THIS SURVEY; BUILDING SETBACK LINES; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS; ZONING OR OTHER LAND USE REGULATIONS.
3. NO INVESTIGATION CONCERNING ENVIRONMENTAL AND SUBSURFACE CONDITIONS, OR THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES WHICH MAY EFFECT THE USE OR DEVELOPMENT OF THIS PROPERTY WAS MADE AS A PART OF THIS SURVEY.
4. UNLESS OTHERWISE NOTED, DOCUMENTS REFERENCED HEREON ARE OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.

SCHEDULE B - EXCEPTIONS TO COVERAGE

ITEM 1 PERTAINS TO "ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I-REQUIREMENTS ARE MET".

ITEM 2 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 3 PERTAINS TO "ANY FACTS, RIGHTS, INTERESTS, OR CLAIMS THAT ARE NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR THAT MAY BE ASSERTED BY PERSONS IN POSSESSION OF THE LAND".

ITEM 4 PERTAINS TO "EASEMENTS, LIENS OR ENCUMBRANCES, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS".

ITEM 5 PERTAINS TO "ANY ENCROACHMENTS, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCES AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND AND NOT SHOWN BY THE PUBLIC RECORDS". THIS SURVEY ADDRESSES SAID EXCEPTION.

ITEM 6 PERTAINS TO "UNPATENTED MINING CLAIMS, (B) RESERVATIONS OR EXCEPTIONS IN PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF, (C) WATER RIGHTS OR, CLAIMS OR TITLE TO WATER, WHETHER OR NOT THE MATTERS EXCEPTED UNDER (A), (B) OR (C) ARE SHOWN BY THE PUBLIC RECORDS. NOT SURVEY RELATED.

ITEM 7 PERTAINS TO "ANY LIEN OR RIGHT TO A LIEN FOR SERVICES, LABOR OR MATERIAL NOT SHOWN BY THE PUBLIC RECORDS".

ITEM 8 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 9 PERTAINS TO "ALL WATER, CLAIMS OR RIGHTS TO WATER, IN OR UNDER SAID LAND". NOT SURVEY RELATED.

ITEM 10 PERTAINS TO"ANY LIENS THAT MAY BE CREATED FOR DELINQUENT SEWER CHARGES OR ANY LIENS CREATED BY THE CENTRAL TRUCKEE MEADOWS REMEDIATION DISTRICT, THE GOLDEN VALLEY AQUIFER RECHARGE PROGRAM, OR THE NORTH SPANISH SPRINGS FLOODPLAIN DETENTION FACILITY OR ANY LIENS WHICH MAY BECOME DUE THE INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT". NOT SURVEY RELATED.

ITEM 11 PERTAINS TO "ANY ADDITIONAL LIENS WHICH MAY BE LEVIED BY REASON OF SAID PREMISES BEING WITH THE CRYSTAL BAY GENERAL IMPROVEMENT DISTRICT". NOT SURVEY RELATED.

ITEM 12 PERTAINS TO "ANY UNPAID CHARGES FOR DELINQUENT GARBAGE FEES". NOT SURVEY RELATED.

THE FOLLOWING ITEMS AFFECT PARCEL 1:

ITEM 13 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 14 PERTAINS TO "COVENANTS, CONDITIONS, RESTRICTIONS", RECORDED JULY 23, 1927, BOOK 72, PAGE 50, AS DOCUMENT NO. 40586, AND RECORDED NOVEMBER 20, 1928, BOOK 74, PAGE 399, AS DOCUMENT NO. 44530, AND RECORDED FEBRUARY 28, 1929, BOOK 75, PAGE 471, AS DOCUMENT NO. 46168, DEED RECORDS. REFERENCE IS MADE TO SAID DOCUMENTS FOR FULL PARTICULARS.

ITEM 15 PERTAINS TO "AN EASEMENT AND RIGHT OF WAY FOR DRAINAGE FACILITIES AND INCIDENTAL PURPOSES GRANTED TO THE COUNTY OF WASHOE", RECORDED OCTOBER 29, 1979, BOOK 1445, PAGE 109, DOCUMENT NO. 638454, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 16 PERTAINS TO "AN EASEMENT FOR PERMANENT EASEMENT AND RIGHT OF WAY FOR DRAINAGE FACILITIES AND INCIDENTAL PURPOSES GRANTED TO THE COUNTY OF WASHOE", RECORDED NOVEMBER 2, 1979, BOOK 1447, PAGE 11, DOCUMENT NO. 639442, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 17 PERTAINS TO "THE TERMS, COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JUNE 9, 2008, AS DOCUMENT NO. 3658272, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 2:

ITEM 18-19 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 20 PERTAINS TO "AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RESERVED BY BROCKWAY LAND, A WATER COMPANY", RECORDED SEPTEMBER 4, 1930, BOOK 83, PAGE 4482, DOCUMENT NO. 52475, OFFICIAL RECORDS. SAID EASEMENT IS BLANKET IN NATURE. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 21 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 9, 1992, BOOK 3562, PAGE 10, AS DOCUMENT NO. 1603871, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 22 PERTAINS TO "THE TERMS, COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 3:

ITEM 23 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 24 PERTAINS TO "AN EASEMENT AFFECTING A PORTION OF SAID LAND FOR PIPELINES AND INCIDENTAL PURPOSES,GRANTED TO CAL-NEVA, INCORPORATED", RECORDED SEPTEMBER 7, 1937, BOOK 111, PAGE 514, DOCUMENT NO. 79113, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 25 PERTAINS TO "AN EASEMENT AFFECTING A PORTION OF SAID LAND FOR ROADWAY, WATER PUMP, PIPELINES AND INCIDENTAL PURPOSES, GRANTED TO ED MALLEY", RECORDED APRIL 24, 1961, BOOK 577, PAGE 684, DOCUMENT NO. 335917, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 26 PERTAINS TO "AN EASEMENT AS GRANTED TO SIERRA PACIFIC POWER COMPANY, TO CONSTRUCT, OPERATE AND MAINTAIN ELECTRIC POWER AND COMMUNICATION LINES AND INCIDENTAL PURPOSES", RECORDED NOVEMBER 18, 1993, BOOK 3903, PAGE 79, DOCUMENT NO. 1733850, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 4:

ITEM 27 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 28 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 5, 1928, BOOK 74, PAGE 399, AS DOCUMENT NO. 44530 AND RECORDED FEBRUARY 28,1929, BOOK 75, PAGE 472, AS DOCUMENT NO. 46169, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 29 PERTAINS TO "AN EASEMENT AFFECTING A PORTION OF SAID LAND, FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, GRANTED TO BROCKWAY LAND, A WATER COMPANY", RECORDED SEPTEMBER 4, 1930, BOOK 83, PAGE 482, DOCUMENT NO. 52475, OFFICIAL RECORDS. SAID EASEMENT IS BLANKET IN NATURE. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 30 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 9, 1992, BOOK 3562, PAGE 10, AS DOCUMENT NO. 1603871, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 31 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 5 & 10:

ITEM 32-33 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 34 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 9, 1992, BOOK 3562, PAGE 10, AS DOCUMENT NO. 1603871, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 35 PERTAINS TO "AN EASEMENT AS GRANTED TO BELL TELEPHONE COMPANY OF NEVADA, TO CONSTRUCT, OPERATE AND UTILITIES AND COMMUNICATION LINES AND INCIDENTAL PURPOSES", RECORDED OCTOBER 25, 1946, BOOK 190, PAGE 3, DOCUMENT NO.146668, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 36 PERTAINS TO "THE TERMS, COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 6:

ITEM 37 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 38 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 5, 1928, BOOK 74, PAGE 399, AS DOCUMENT NO. 44530 AND RECORDED FEBRUARY 28,1929, BOOK 75, PAGE 472, AS DOCUMENT NO. 46169, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 39 PERTAINS TO "AN EASEMENT AFFECTING A PORTION OF SAID LAND, FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, GRANTED TO BROCKWAY LAND, A WATER COMPANY", RECORDED SEPTEMBER 4, 1930, BOOK 83, PAGE 482, DOCUMENT NO.52475, OFFICIAL RECORDS. SAID EASEMENT IS BLANKET IN NATURE. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 40 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED AUGUST 4, 1931, BOOK 88, PAGE 342, AS DOCUMENT NO. 56558 AND RECORDED AUGUST 4,1951, BOOK 88, PAGE 344, AS DOCUMENT NO. 56559, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 41 PERTAINS TO "AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, GRANTED TO SIERRA MOUNTAIN HOMES CORPORATION", RECORDED AUGUST 4, 1931, BOOK 88, PAGE 342, AS DOCUMENT NO. 56558 AND RECORDED AUGUST 4,1951, BOOK 88, PAGE 344, AS DOCUMENT NO. 56559, OFFICIAL RECORDS. EXACT LOCATION OF SAID EASEMENT IS NOT DISCLOSED OF RECORD. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

SCHEDULE B - EXCEPTIONS TO COVERAGE CONTINUED

ITEM 42 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 9, 1992, BOOK 3562, PAGE 10, AS DOCUMENT NO. 1603871, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 43 PERTAINS TO "THE TERMS, COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 7:

ITEM 44 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 45 PERTAINS TO "COVENANTS, CONDITIONS, RESTRICTIONS", RECORDED SEPTEMBER 5, 1928, BOOK 74, PAGE 399, AS DOCUMENT NO. 44530, AND RECORDED FEBRUARY 28, 1929, BOOK 75, PAGE 472, AS DOCUMENT NO. 46169, DEED RECORDS, WASHOE COUNTY , NEVADA. REFERENCE IS MADE TO SAID DOCUMENTS FOR FULL PARTICULARS.

ITEM 46 PERTAINS TO "AN EASEMENT AFFECTING A PORTION OF SAID LAND, FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, GRANTED TO BROCKWAY LAND, A WATER COMPANY", RECORDED SEPTEMBER 4, 1930, BOOK 83, PAGE 482, DOCUMENT NO.52475, DEED RECORDS. SAID EASEMENT IS BLANKET IN NATURE. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 47 PERTAINS TO "AN EASEMENT FOR INGRESS AND EGRESS AND INCIDENTAL PURPOSES, GRANTED TO ED MALLEY", RECORDED MARCH 5, 1958, BOOK 470, PAGE 44, AS DOCUMENT NO. 284797, DEED RECORDS. AFFECTS THE NORTH 10 FEET OF THE WEST 134 FEET. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 48 PERTAINS TO "COVENANTS, CONDITIONS AND RESTRICTIONS", RECORDED SEPTEMBER 9, 1992, BOOK 3562, PAGE 10, AS DOCUMENT NO. 1603871, OFFICIAL RECORDS. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 49 PERTAINS TO "AN EASEMENT AS GRANTED TO SIERRA PACIFIC POWER COMPANY, TO CONSTRUCT, OPERATE AND MAINTAIN ELECTRIC POWER AND COMMUNICATION LINES AND INCIDENTAL PURPOSES", RECORDED MARCH 17, 1994, BOOK 4010, PAGE 954, DOCUMENT NO. 1776603, OFFICIAL RECORDS. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 8:

ITEM 50 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 51 PERTAINS TO "COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 52 PERTAINS TO "AN EASEMENT AGREEMENT FOR A PRIVATE WATER MAIN AND INCIDENTAL PURPOSES", RECORDED AUGUST 8, 2019, AS DOCUMENT NO. 4938068, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. SAID EASEMENT IS PLOTTED HEREON. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE FOLLOWING ITEMS AFFECT PARCEL 9:

ITEM 53 PERTAINS TO "TAXES AND IS NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ITEM 54 PERTAINS TO "COVENANTS, CONDITIONS AND PROVISIONS", RECORDED JULY 28, 2011, AS DOCUMENT NO. 4026550, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEM 55 PERTAINS TO "THE TERMS, COVENANTS, CONDITIONS AND PROVISIONS CONTAINED IN ACCESS AND PARKING EASEMENT", RECORDED NOVEMBER 22, 2019, AS DOCUMENT NO. 4975942, OFFICIAL RECORDS. AFFECTS SAID LAND AND OTHER LAND. SAID EASEMENT IS BLANKET IN NATURE. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

ITEMS 56-57 PERTAIN TO "DEEDS OF TRUST" AND ARE NOT ADDRESSED HEREON". NOT SURVEY RELATED.

ZONING & SETBACK REPORT

NO ZONING AND SETBACK REPORT WAS PROVIDED TO THE SURVEYOR AT THE DATE OF THIS SURVEY.

PRELIMINARY

MARK	DATE	REVISIONS	BY

PROFESSIONAL SEAL:

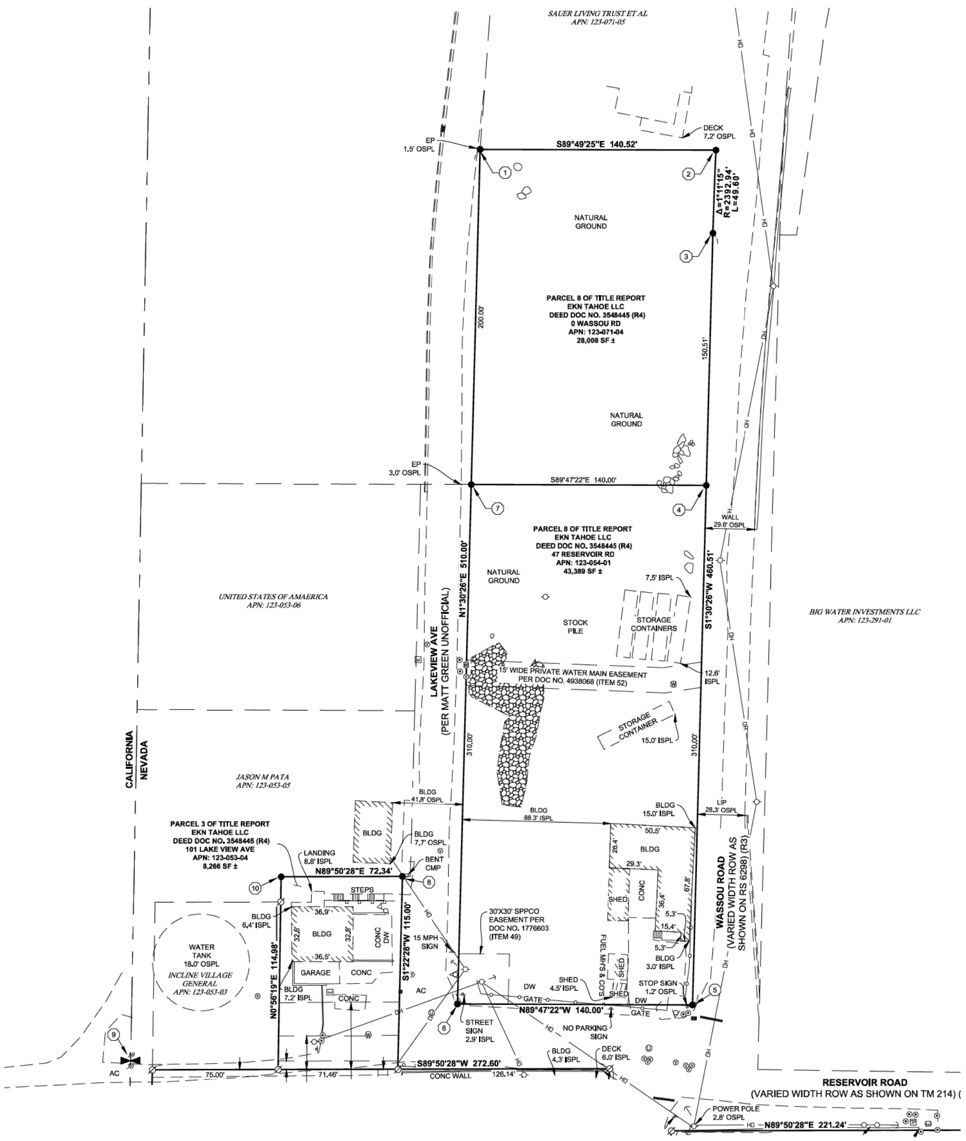
CFA, INC.
LAND SURVEYORS
CIVIL ENGINEERS
LANDUSE PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

ALTA/NSPS LAND TITLE SURVEY
FOR
BOULDER BAY, LLC
APN'S: 123-042-01 & 02, 123-052-02, 03, & 04,
123-053-02 & 04, 123-054-01, 123-071-04
CRYSTAL BAY WASHOE COUNTY NEVADA

JOB NO. 17042.09
DRAWN BY DRS
CHECKED BY KLG

SHEET 1 OF 4

X:\PROJECTS\17042.09\DWG\SURV\V-ALTA-BOULDER-BAY 9 PARCELS 2021.DWG <MJONES> 10/28/2021 12:00 PM



GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

LEGEND

- CFA CONTROL POINT
- FOUND PROPERTY CORNER AS NOTED
- DIMENSION POINT
- AREA LIGHT
- BENCH
- BOLLARD/POST
- CABLE TV BOX
- CABLE TV VAULT
- CATCH BASIN
- CLEANOUT
- CROSSWALK SIGNAL
- CONIFEROUS TREE WITH DIAMETER
- DECIDUOUS TREE WITH DIAMETER
- DROP INLET ROUND
- DROP INLET SQUARE
- ELECTRIC BOX
- ELECTRIC MARK
- ELECTRIC METER
- ELECTRIC VAULT
- FIRE HYDRANT
- FLAG POLE
- GAS METER
- GAS VALVE
- GUY WIRE
- HANDICAP PARKING
- HANDICAP RAMP
- PICNIC TABLE
- POWER POLE
- SANITARY SEWER MANHOLE
- SIGN
- STORM DRAIN MANHOLE
- STORM DRAIN MARK
- TELEPHONE BOX
- TELEPHONE MARK
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL VAULT
- TRANSFORMER
- TRASH CAN
- TRASH RECEPTACLE
- UTILITY MANHOLE
- UTILITY VAULT
- WATER BOX
- WATER METER
- WATER VALVE
- WATER VAULT
- WELL
- WHEEL STOP
- WROUGHT IRON FENCE
- CHAIN LINK FENCE
- GUARD RAIL
- UNDERGROUND GAS LINE
- OVERHEAD LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND STORM DRAIN
- UNDERGROUND TELEPHONE LINE
- ADJOINER LINE
- BOUNDARY LINE
- EASEMENT LINE
- SECTION LINE

AC	ASPHALTIC CONCRETE
APN	ASSESSOR PARCEL NUMBER
BFC	BACK FACE OF CURB
CMP	
CONC	CONCRETE
DW	DRIVEWAY
EP	EDGE OF PAVEMENT
FFC	FRONT FACE OF CURB
HC	HANDICAP
ISPL	INSIDE PROPERTY LINE
LS	LANDSCAPING
OSPL	OUTSIDE PROPERTY LINE
PM	PARCEL MAP
PTR	PRELIMINARY TITLE REPORT
RS	RECORD OF SURVEY MAP
(R1)	REFERENCE NUMBER
SW	SIDEWALK
SF	SQUARE FEET
TE	

SITE DATA

EXHIBIT "A" OF TITLE REPORT

PARCEL 3 OF PTR
APN: 123-053-04
AREA: 8,266 SF ±
ADDRESS: 101 LAKE VIEW AVE, INCLINE VILLAGE, NEVADA

PARCEL 8 OF PTR
APN: 123-054-01
AREA: 43,389 SF ±
ADDRESS: 47 RESERVOIR RD, INCLINE VILLAGE, NEVADA

PARCEL 8 OF PTR
APN: 123-071-04
AREA: 28,008 SF ±
ADDRESS: 0 WASSOU RD, INCLINE VILLAGE, NEVADA

FOUND MONUMENTATION TABLE

1. FOUND 5/8" REBAR
2. FOUND 1" IRON PIPE - BENT "RLS 2983"(S65°21'36"W 0.44')
3. FOUND 5/8" REBAR WITH PLASTIC CAP "PLS 20461"
4. FOUND 1" IRON PIPE (S6°32'42"W 0.36')
5. FOUND 5/8" REBAR WITH PLASTIC CAP "PLS 20461"
6. FOUND NAIL & TAG "PLS 20461"
7. FOUND 5/8" REBAR WITH PLASTIC CAP "PLS 20461"
8. FOUND 5/8" REBAR WITH PLASTIC CAP "PLS 20461"
9. FOUND 1/4 SECTION CORNER 19/30 BLM BRASS CAP
10. FOUND 1/2" REBAR
11. FOUND 3/4" IRON PIPE - BENT (S41°32'16"W 1.23')
12. FOUND BRASS CAP "RLS 886"
13. FOUND 3" BRASS DISC - HALF MISSING (N86°26'49"W 0.72')
14. FOUND 2" ALUMINUM CAP "NV TRANS STATELINE"
15. FOUND 1" IRON PIPE (N65°56'15"E 0.25')
16. FOUND IRON PIPE - BENT (S3°22'20"E 1.00')

TOTAL PARKING SPACES

APN	REGULAR SPACES	HANDICAP SPACES
123-042-01	15	0
123-042-02	41	0
123-052-03	15	1
123-052-02	N/A	N/A
123-052-04	169	7
123-053-02	73	0
123-053-04	N/A	N/A
123-054-01	N/A	N/A
123-071-04	N/A	N/A
TOTAL	313	8

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE, WEST ZONE NAD83(94) BASED ON REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS UTILIZING CORRECTIONS FROM THE NORTHERN NEVADA COOPERATIVE REAL TIME NETWORK COORDINATES AND DISTANCES HEREON ARE AT GROUND LEVEL BASED ON A COMBINED GRID TO GROUND FACTOR OF 1.000263.

PRELIMINARY

BY
REVISIONS
MARK
DATE

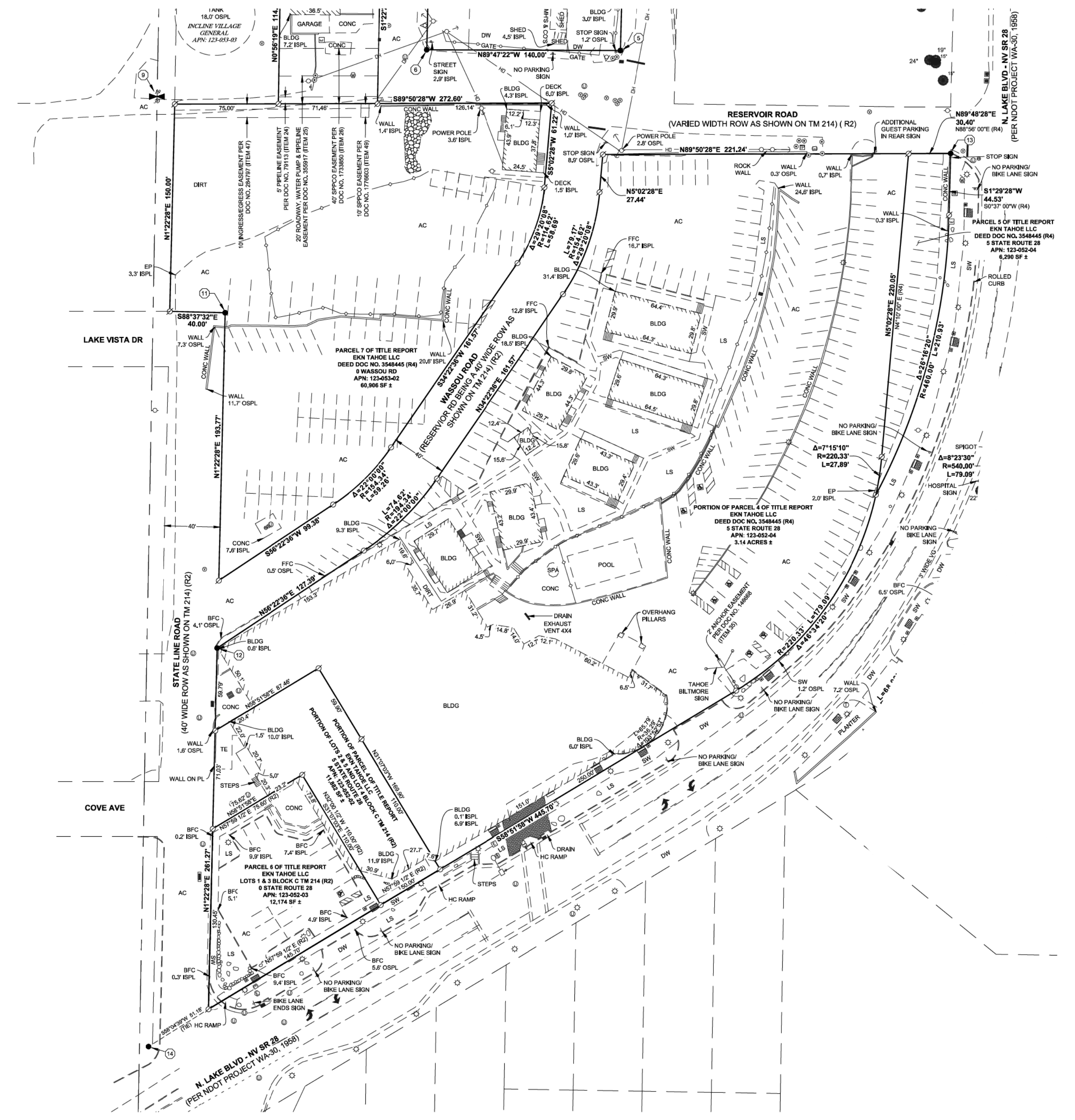
PROFESSIONAL SEAL:

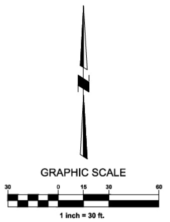
CFA, INC.
LAND SURVEYORS
CIVIL ENGINEERS
LANDUSE PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

ALTA/NSPS LAND TITLE SURVEY
FOR
BOULDER BAY, LLC
APN'S: 123-042-01 & 02, 123-052-02, 03, & 04,
123-053-02 & 04, 123-054-01, 123-071-04
CRYSTAL BAY WASHOE COUNTY NEVADA

JOB NO.	17042.09
DRAWN BY	DRS
CHECKED BY	KLG

SHEET 2 OF 4





LEGEND

- ◎ CFA CONTROL POINT
- ● FOUND PROPERTY CORNER AS NOTED
- Ø DIMENSION POINT
- ☼ AREA LIGHT
- ▭ BENCH
- ⊙ BOLLARD/POST
- Ⓒ CABLE TV BOX
- Ⓒ CABLE TV VAULT
- ■ CATCH BASIN
- ⊗ CLEANOUT
- CROSSWALK SIGNAL
- ● CONIFEROUS TREE WITH DIAMETER
- ✲ DECIDUOUS TREE WITH DIAMETER
- ● DROP INLET ROUND
- ▣ DROP INLET SQUARE
- Ⓔ ELECTRIC BOX
- △ ELECTRIC MARK
- Ⓔ ELECTRIC METER
- Ⓔ ELECTRIC VAULT
- ◁ FIRE HYDRANT
- △○ FLAG POLE
- Ⓖ GAS METER
- Ⓖ GAS VALVE
- ↗ GUY WIRE
- ♿ HANDICAP PARKING
- ▬ HANDICAP RAMP
- ▭ PICNIC TABLE
- -○- POWER POLE
- Ⓢ SANITARY SEWER MANHOLE
- ⊣ SIGN
- Ⓓ STORM DRAIN MANHOLE
- △ STORM DRAIN MARK
- Ⓣ TELEPHONE BOX
- △ TELEPHONE MARK
- TRAFFIC SIGNAL
- Ⓢ TRAFFIC SIGNAL VAULT
- Ⓣ TRANSFORMER
- ▣ TRASH CAN
- ◫ TRASH RECEPTACLE
- Ⓤ UTILITY MANHOLE
- Ⓤ UTILITY VAULT
- Ⓦ WATER BOX
- Ⓦ WATER METER
- Ⓥ WATER VALVE
- Ⓦ WATER VAULT
- Ⓦ WELL
- ▬ WHEEL STOP
- —◇—◇— WROUGHT IRON FENCE
- —○—○— CHAIN LINK FENCE
- GUARD RAIL
- —— G —— UNDERGROUND GAS LINE
- —— OH —— OVERHEAD LINE
- —— E —— UNDERGROUND ELECTRIC LINE
- —— W —— UNDERGROUND WATER LINE
- —— D —— UNDERGROUND STORM DRAIN
- —— T —— UNDERGROUND TELEPHONE LINE
- ADJOINER LINE
- BOUNDARY LINE
- EASEMENT LINE
- SECTION LINE

AC	ASPHALTIC CONCRETE
APN	ASSESSOR PACEL NUMBER
BFC	BACK FACE OF CURB
CMP	
CONC	CONCRETE
DW	DRIVEWAY
EP	EDGE OF PAVEMENT
FFC	FRONT FACE OF CURB
HC	HANDICAP
ISPL	INSIDE PROPERTY LINE
LS	LANDSCAPING
OSPL	OUTSIDE PROPERTY LINE
PM	PARCEL MAP
PTR	PRELIMINARY TITLE REPORT
RS	RECORD OF SURVEY MAP
(R1)	REFERENCE NUMBER
SW	SIDEWALK
SF	SQUARE FEET
TE	

SITE DATA

EXHIBIT "A" OF TITLE REPORT

PARCEL 6 OF PTR
APN: 123-052-03
AREA: 12,174 SF ±
ADDRESS: 0 STATE ROUTE 28, INCLINE VILLAGE, NEVADA

PARCEL 4 OF PTR
APN: 123-052-02
AREA: 11,882 SF ±
ADDRESS: 5 STATE ROUTE 28, INCLINE VILLAGE, NEVADA

PARCEL 4, 5, & 7 OF PTR
APN: 123-052-04
AREA: 3.28 ACRES ±
ADDRESS: 5 STATE ROUTE 28, INCLINE VILLAGE, NEVADA

TOTAL PARKING SPACES

APN	REGULAR SPACES	HANDICAP SPACES
123-042-01	15	0
123-042-02	41	0
123-052-03	15	1
123-052-02	N/A	N/A
123-052-04	169	7
123-053-02	73	0
123-053-04	N/A	N/A
123-054-01	N/A	N/A
123-071-04	N/A	N/A
TOTAL	313	8

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE, WEST ZONE NAD83(94) BASED ON REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS UTILIZING CORRECTIONS FROM THE NORTHERN NEVADA COOPERATIVE REAL TIME NETWORK COORDINATES AND DISTANCES HEREON ARE AT GROUND LEVEL BASED ON A COMBINED GRID TO GROUND FACTOR OF 1.000263.

PRELIMINARY

WARNING:
WRITTEN CONSENT IS REQUIRED OF CFA, OWNER OF DESIGNS AND DRAWINGS AS INSTRUMENTS OF SERVICE, FOR DUPLICATION AND-OR DISTRIBUTION OF DOCUMENTS.

REVISIONS
MARK
DATE
BY

PROFESSIONAL SEAL:

CFA, INC.
LAND SURVEYORS
CIVIL ENGINEERS
LANDUSE PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

ALTA/NSPS LAND TITLE SURVEY
FOR
BOULDER BAY, LLC
APN'S: 123-042-01 & 02, 123-052-02, 03, & 04,
123-053-02 & 04, 123-054-01, 123-071-04
CRYSTAL BAY WASHOE COUNTY NEVADA

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JOB NO. 17042.09
DRAWN BY DRS
CHECKED BY KLG

SHEET
3
OF
4

APPENDIX G

Proposed Site Plan & Cross Sections

Boulder Bay Redevelopment CEP Project

50% Schematic Design - TRPA Review Submission

Oct 12, 2022

AREA MAP

PROJECT DIRECTORY

OWNER
EKN Development Group
220 Newport Center Drive
Suite 11-262
Newport Beach, CA 92660
949.280.0716
Contact: Tom Jacobson
Tom@ekndevgroup.com

LANDSCAPE
Design Workshop
P.O. Box 5666
128 Market Street
Suite 3E
Stateline, NV 00000
775.636.6742
Contact: Steven Noll
snoll@designworkshop.com

M/E/P
IMEG
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Reno, NV 89502
775.374.5687
Contact: Katie Callender
Kathryn.M.Callender@imegcorp.com

ARCHITECT
SB Architects
415 Jackson Street Suite 100
San Francisco, CA 94111
415.673.8990
Contact: xxx
xxx@sb-architects.com
www.sb-architects.com

STRUCTURAL
JWSE Structural Engineers
100 Amber Grove Drive
Suite 109
Chico, California 95973
530.894.5345
Contact: Jim Wright
jwright@jwsestructural.com

GENERAL CONTRACTOR
SMC Construction, Co
1086 Greg Street
Sparks, NV 89431
775.324.1800
Contact: Jeff Janakus
JJanakus@smcco.biz

CIVIL
N Consulting Engineers, INC
4 Park Plaza
Irvine, CA 92614
949.396.1161

ARCHITECTS
www.sb-architects.com

415 Jackson Street, Suite 100
San Francisco, CA 94111
T 415/673-8990

A California Corporation

Boulder Bay Redevelopment CEP Project
50% Schematic Design - TRPA Review Submission
5 NV-28, Crystal Bay, NV

EKN Development Group
220 Newport Center Drive
Suite 11-262
Newport Beach, CA 92660

Issued
50% Schematic Design - TRPA Review Submission Oct 12, 2022

No.	Description	Date

Sheet Title Project No. 22139

COVER SHEET

Sheet No.

A0.00

Autodesk Docs://22139 Lake Tahoe Hotel & Residence/22139 - Lake Tahoe HR_R22.rvt

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ARCHITECTS
www.sb-architects.com

415 Jackson St, Suite 100
San Francisco, CA 94111
T 415/673-8990

A California Corporation

Consultants

Boulder Bay Redevelopment CEP Project

50% Schematic Design - TRPA Review Submission

5 NV-28, Crystal Bay, NV

Owner
EKN Development

Operator

Issued

50% Schematic Design - TRPA Review Submission Oct 12, 2022

No.	Description	Date

Sheet Title Project No. 22139

SHEET INDEX

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.01

Autodesk Docs://22139 Lake Tahoe Hotel & Residence/22139 - Lake Tahoe HR_R22.rvt

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PARKING SCHEDULE

TYPE	# OF SPACES
B	
STANDARD	39
TANDEM	6
	45
C	
COMPACT	3
STANDARD	15
TANDEM	40
	58
CASINO	
COMPACT	4
STANDARD	23
TANDEM	26
	53
E	
STANDARD	9
TANDEM	12
	21
H	
STANDARD	6
	6
HOTEL D & F	
COMPACT	3
STANDARD	64
TANDEM	83
	150
RETAIL	
COMPACT	6
STANDARD	85
	91
VALET	
STANDARD	36
	36
GRAND TOTAL	460
STANDARD & TANDEM SPACES (PARKING WITHOUT AISLE VALET STRATEGY)	424

LEVEL 02

TYPE	# OF SPACES
CASINO	
COMPACT	4
STANDARD	16
TANDEM	26
	46
E	
STANDARD	9
TANDEM	12
	21
HOTEL D & F	
COMPACT	3
STANDARD	44
TANDEM	39
	86
RETAIL	
COMPACT	3
STANDARD	72
	75
VALET	
STANDARD	36
	36
GRAND TOTAL	264

LEVEL 03

TYPE	# OF SPACES
B	
STANDARD	8
TANDEM	6
	14
C	
COMPACT	3
STANDARD	15
TANDEM	40
	58
CASINO	
STANDARD	7
	7
H	
STANDARD	6
	6
HOTEL D & F	
STANDARD	20
TANDEM	44
	64
RETAIL	
COMPACT	3
STANDARD	13
	16
GRAND TOTAL	165

LEVEL 04

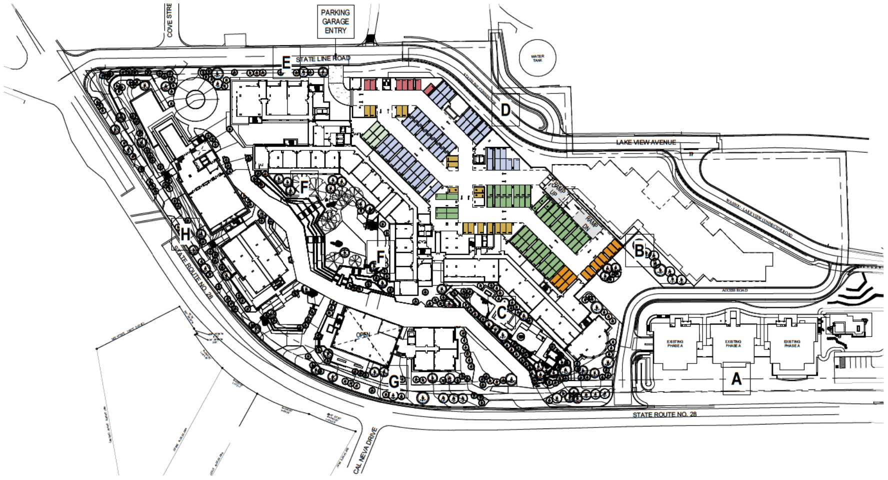
TYPE	# OF SPACES
B	
STANDARD	31
	31
GRAND TOTAL	31

KEY: PARKING STALL USE ASSIGNMENT

🟧	PARKING-B
🟩	PARKING-C
🟩	PARKING-E
🟩	PARKING-G
🟩	PARKING-H
🟥	PARKING-CASINO
🟦	PARKING-HOTEL D & F
🟨	PARKING-RETAIL
🟪	PARKING-VALET

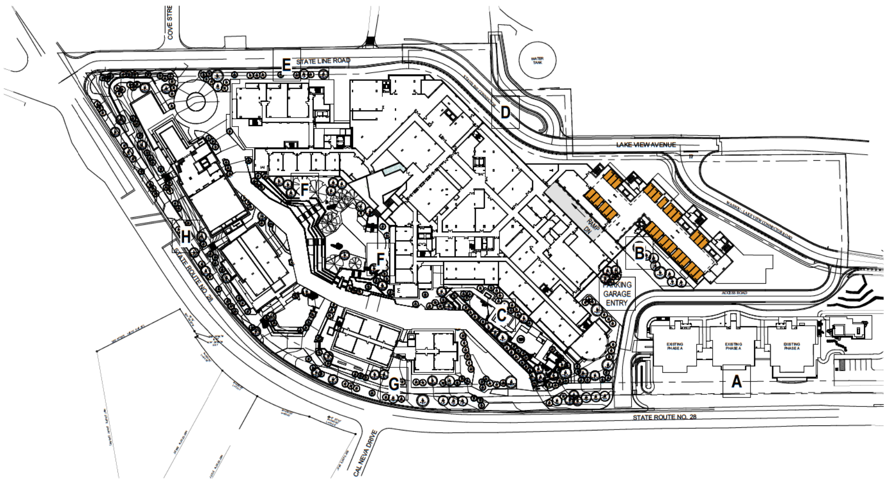
GENERAL NOTE:

THE PARKING STALL ASSIGNMENT AS SHOWN IN THE PLANS IS PRELIMINARY. PROPER DISTRIBUTION WILL BE COORDINATED WITH OPERATIONAL STRATEGY.



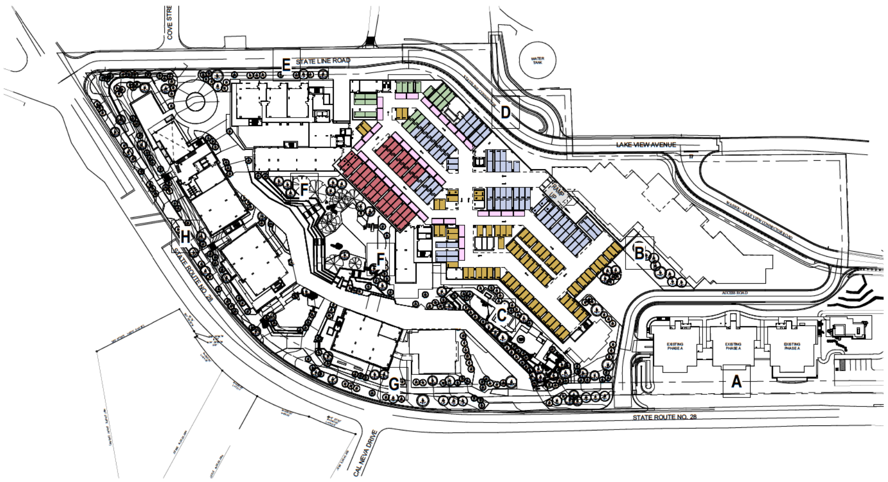
② PARKING - LEVEL 03

1" = 80'-0"



③ PARKING - LEVEL 04

1" = 80'-0"



① PARKING - LEVEL 02

1" = 80'-0"

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Project No. **22139**

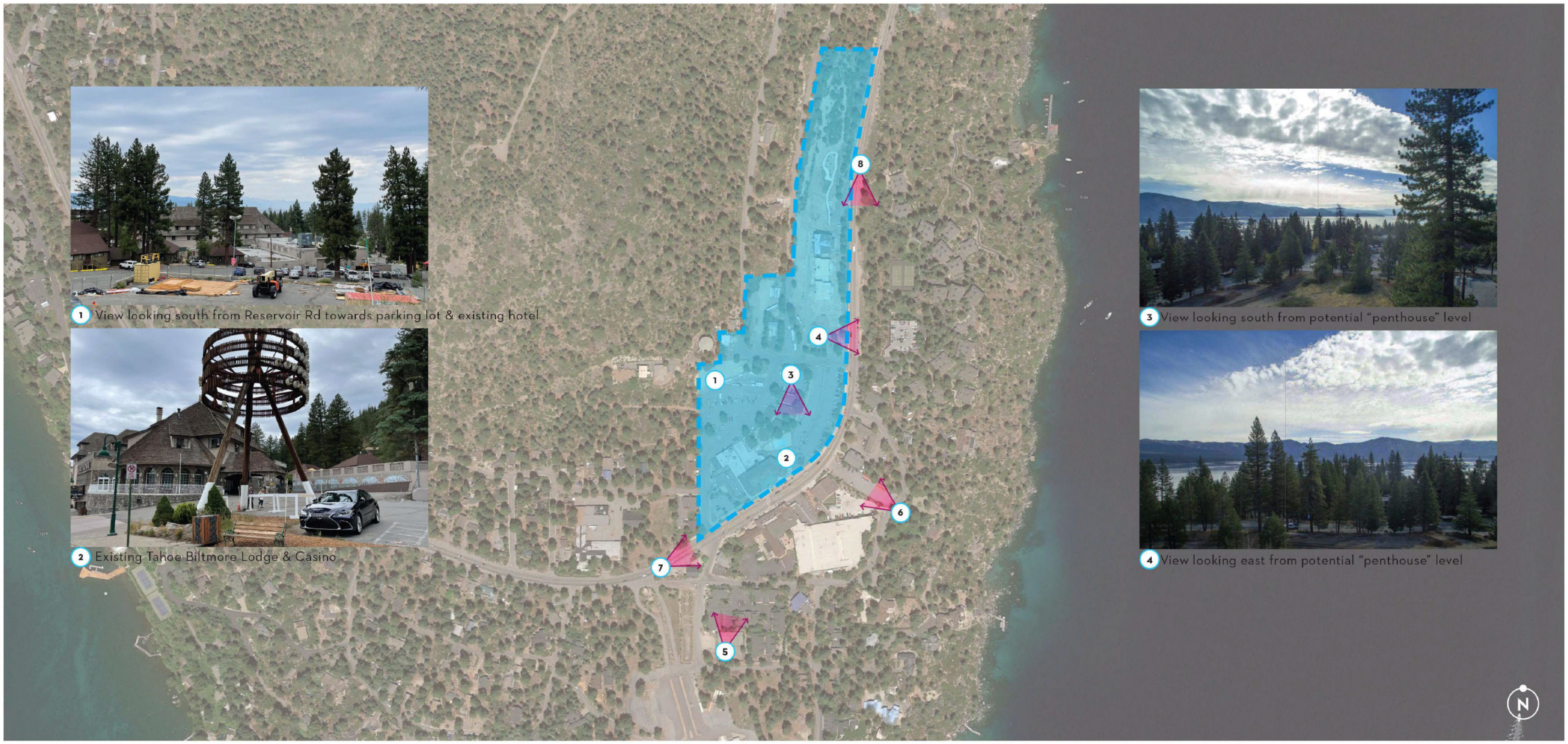
PARKING PLANS

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.30



① View looking south from Reservoir Rd towards parking lot & existing hotel

② Existing Tahoe Biltmore Lodge & Casino

③ View looking south from potential "penthouse" level

④ View looking east from potential "penthouse" level

⑤ Overall Aerial View 01

⑥ Overall Aerial View 02

⑦ Street view at State Line Road & SR 28 Intersection

⑧ Street View, South SR 28, Existing Phase A buildings.

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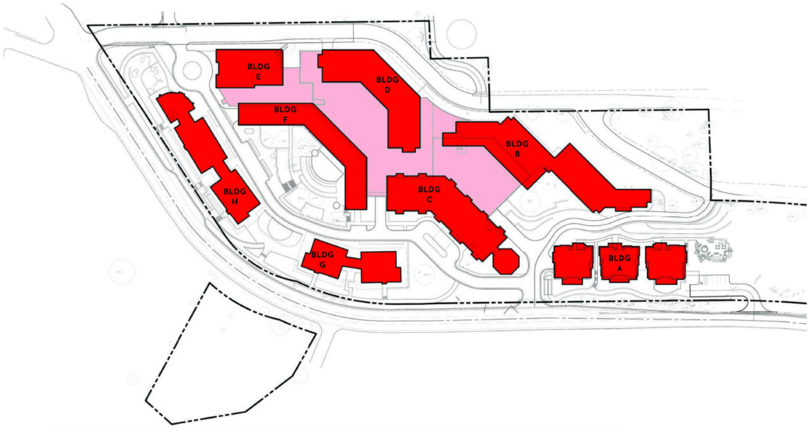
EXISTING CONDITIONS

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.40

ENTITLEMENT ANALYSIS APPROVED ALTERNATE C | BUILDING FOOTPRINT



LAKE TAHOE HOTEL AND RESIDENCE

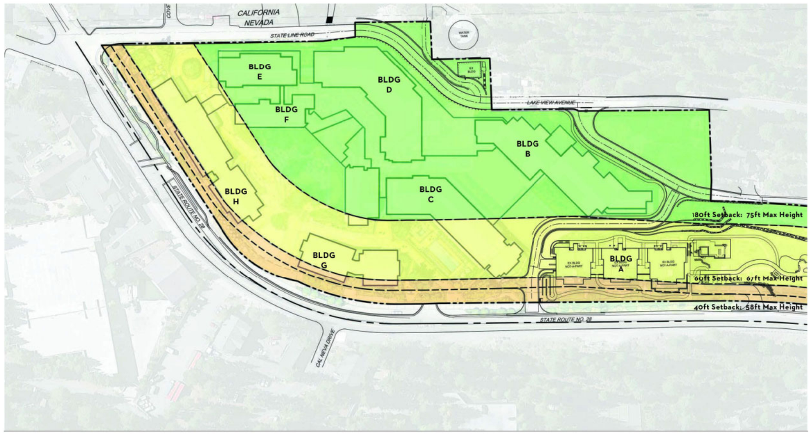
ENTITLEMENT ANALYSIS REVISED DESIGN | BUILDING FOOTPRINT

LAKE TAHOE HOTEL AND RESIDENCE

ENTITLEMENT ANALYSIS COMPARISON OVERLAY | BUILDING FOOTPRINT

LAKE TAHOE HOTEL AND RESIDENCE

ENTITLEMENT ANALYSIS BUILDING HEIGHT SETBACKS | BUILDING FOOTPRINT



LAKE TAHOE HOTEL AND RESIDENCE

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ENTITLEMENT ANALYSIS

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.41

Previously Approved Alternate C - Landscape Illustrative

Proposed Design Revision - Landscape Illustrative

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Project No. 22139

COMPARATIVE LANDSCAPE ILLUSTRATIVES

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.42

ENTITLEMENTS ANALYSIS

ALTERNATE C | VIEW 01

LAKE TAHOE HOTEL AND RESIDENCE

ENTITLEMENTS ANALYSIS

PROPOSED DESIGN REVISIONS | VIEW 01

LAKE TAHOE HOTEL AND RESIDENCE

ENTITLEMENTS ANALYSIS

ALTERNATE C | VIEW 02

LAKE TAHOE HOTEL AND RESIDENCE

ENTITLEMENTS ANALYSIS

PROPOSED DESIGN REVISIONS | VIEW 02

LAKE TAHOE HOTEL AND RESIDENCE

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Project No. 22139

RENDERING
COMPARISONS

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

Sheet No.

A0.43

MATERIALS BOARD

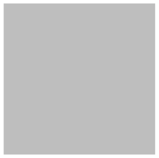
ST-01

DRY STACKED, SPLIT FACE STONE - LARGE UNIT FORMAT

ALTERNATE: LARGE FORMAT CULTURED STONE TO MATCH NATURAL COLOR AND COURSING

ST-02

ROUGH TEXTURED STONE SLAB PANELS



CP-01

CEMENT PLASTER - LIGHT GREY

GL-01

ANTI-REFLECTION VISION GLASS

CP-02

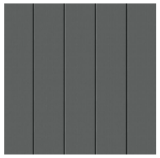
CEMENT PLASTER - COLOR MATCH STONE (ALTERNATE TO STONE)

MT-01

ANODIZED ALUMINIUM - CHARCOAL GREY

MT-02

ANODIZED ALUMINIUM - CHAMPAGNE BRONZE



MT-03

ZINC STANDING SEAM - GREY

WD-01

CEDAR - WARM GREY WOOD SIDING

SL-01

SHINGLE ROOF - DARK SLATE TONE

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MATERIALS BOARD

Phase

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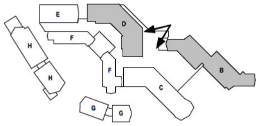
Sheet No.

A0.60

Hotel & Residence Arrival - Summer



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RENDERINGS

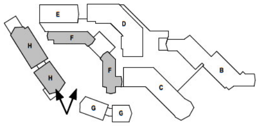
Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

A0.70

The Grove & Promenade



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RENDERINGS

Phase
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Sheet No.

A0.73

Hotel Pool Terrace

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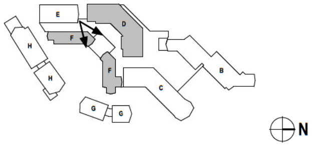

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RENDERINGS

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

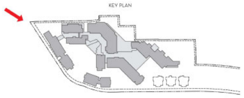
A0.74

EXISTING SITE CONDITIONS - UPDATED

PREVIOUS APPROVED ALTERNATE C

VIEW 01 - FROM SR 28 & STATELINE

View comparison when approaching the project site from the south along Highway SR 28 at the intersection of State Line Road.



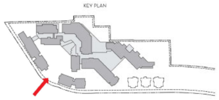
PROPOSED DESIGN REVISIONS

EXISTING SITE CONDITIONS - UPDATED

PREVIOUS APPROVED ALTERNATE C

VIEW 02 - FROM SR 28

View comparison when driving past the sweeping curve from west moving north along the project site on Highway SR 28.



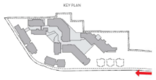
PROPOSED DESIGN REVISIONS

VIEW 03 - FROM SR 28 NEAR PHASE 1A

View comparison when approaching the site from the north, driving south, along Highway SR 28. This view focuses on the impact of Phase 1A, which is now existing. The project is hidden from this view due to the existing Phase 1A buildings and existing landscape.

SITE CONDITIONS PRIOR TO BUILDING A

PREVIOUS APPROVED ALTERNATE C



EXISTING SITE CONDITIONS

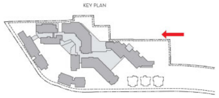
PROPOSED LANDSCAPE ADDITIONS

EXISTING SITE CONDITIONS - UPDATED

PREVIOUS APPROVED ALTERNATE C

VIEW 04 - FROM LAKE VIEW AVE.

View comparison when approaching the site from the east along Lakeview Ave. The highest level of building massing is shown being obscured by trees along the road. The clear view of the lake horizon is indicated along with the distant mountain ridge lines beyond.



PROPOSED DESIGN REVISIONS

EXISTING SITE CONDITIONS

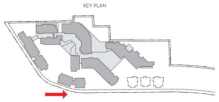
PROPOSED DESIGN REVISIONS

VIEW 05 - ADDITIONAL VIEW FROM SR 28

View comparison when driving north along SR 28 past buildings G, approaching Big Water Drive and existing condo buildings of Phase A.

The two story volume of building G is described screen intermittently by landscape elements and trees. Included in this view are the pedestrian improvements along the SR 28 frontage.

The larger trees anchoring the building C amenity area help screen the volume of the building beyond.



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RENDERINGS - SCENIC ANALYSIS

Phase

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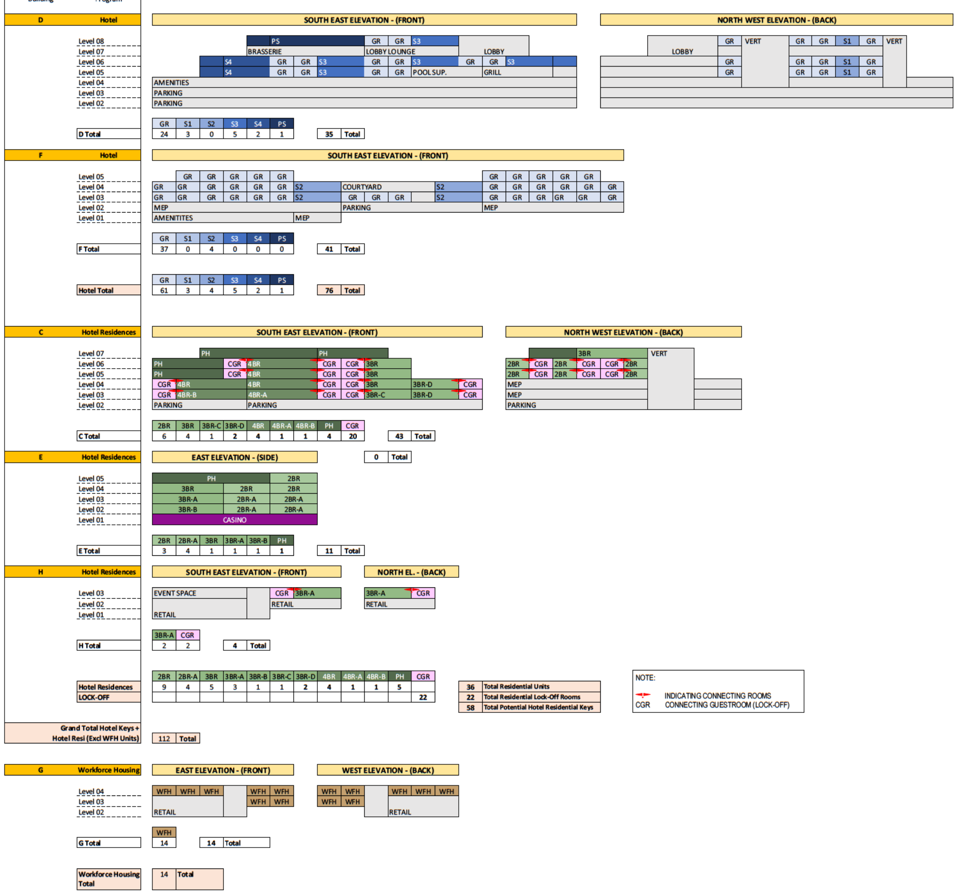
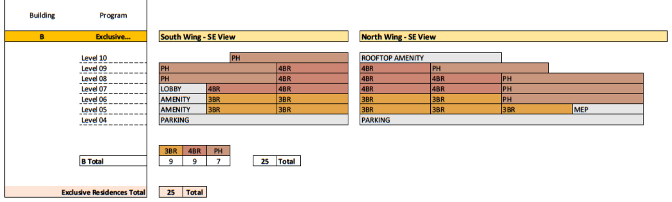
Lake Tahoe Hotel & Residences
Guestroom and Branded Hotel Residences Unit Summary
10/4/2022 **SCHEMATIC DESIGN**



Lake Tahoe Hotel & Residences
Exclusive Residences
Unit Summary
9/1/2022 **SCHEMATIC DESIGN**



RESIDENCE UNITS BY BUILDING	
UNIT TYPE	AREA
B	
SITE LEVEL 05	
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,573 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,599 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,583 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,563 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,309 SF
	12,628 SF
SITE LEVEL 06	
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,554 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,602 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,604 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	2,564 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	4,969 SF
	15,293 SF
SITE LEVEL 07	
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,906 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,914 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,947 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,909 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	4,962 SF
	16,638 SF
SITE LEVEL 08	
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,948 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,970 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,913 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	5,600 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	4,944 SF
	19,375 SF
SITE LEVEL 09	
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,939 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	2,956 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	5,594 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	5,315 SF
	16,804 SF
SITE LEVEL 10	
2.11 RESI UNIT TYPE PH - EXCLUSIVE	6,183 SF
	6,183 SF
25	86,922 SF
C	
SITE LEVEL 03	
2.10 RESI UNIT TYPE 3BR - HOTEL	2,414 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,419 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,698 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,719 SF
	10,250 SF
SITE LEVEL 04	
2.10 RESI UNIT TYPE 3BR - HOTEL	2,420 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,335 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,690 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,722 SF
	10,168 SF
SITE LEVEL 05	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,694 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,959 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,572 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,254 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,653 SF
2.10 RESI UNIT TYPE PH - HOTEL	3,987 SF
	14,119 SF

RESIDENCE UNITS BY BUILDING	
UNIT TYPE	AREA
SITE LEVEL 06	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,694 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,959 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,572 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,236 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,648 SF
2.10 RESI UNIT TYPE PH - HOTEL	3,970 SF
	14,079 SF
SITE LEVEL 07	
2.10 RESI UNIT TYPE 3BR - HOTEL	2,217 SF
2.10 RESI UNIT TYPE PH - HOTEL	3,978 SF
2.10 RESI UNIT TYPE PH - HOTEL	4,000 SF
	10,194 SF
23	58,810 SF
E	
SITE LEVEL 02	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,227 SF
	5,548 SF
SITE LEVEL 03	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,227 SF
	5,548 SF
SITE LEVEL 04	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	2,227 SF
	5,548 SF
SITE LEVEL 05	
2.10 RESI UNIT TYPE 2BR - HOTEL	1,661 SF
2.10 RESI UNIT TYPE PH - HOTEL	3,987 SF
	5,647 SF
11	22,292 SF
G	
SITE LEVEL 03	
2.11 RESI UNIT TYPE WFH	941 SF
2.11 RESI UNIT TYPE WFH	999 SF
2.11 RESI UNIT TYPE WFH	1,164 SF
2.11 RESI UNIT TYPE WFH	1,164 SF
	4,267 SF
SITE LEVEL 04	
2.11 RESI UNIT TYPE WFH	759 SF
2.11 RESI UNIT TYPE WFH	979 SF
2.11 RESI UNIT TYPE WFH	791 SF
2.11 RESI UNIT TYPE WFH	979 SF
2.11 RESI UNIT TYPE WFH	761 SF
2.11 RESI UNIT TYPE WFH	763 SF
2.11 RESI UNIT TYPE WFH	755 SF
2.11 RESI UNIT TYPE WFH	762 SF
2.11 RESI UNIT TYPE WFH	754 SF
2.11 RESI UNIT TYPE WFH	763 SF
	8,066 SF
14 WFH: 2 BEDROOM AFFORDABLE EMPLOYEE HOUSING UNITS	12,333 SF
H	
SITE LEVEL 03	
2.10 RESI UNIT TYPE 4BR - HOTEL	2,833 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	2,829 SF
	5,662 SF
2	5,662 SF

RESIDENCE UNITS BY TYPE	
UNIT TYPE	AREA
2.10 RESI UNIT TYPE 2BR - HOTEL	
E-2BR-A	1,661 SF
E-2BR-A	1,661 SF
E-2BR-A	1,661 SF
E-2BR-A	1,661 SF
E-2BR-A	1,661 SF
E-2BR-A	1,661 SF
C-2BR-C	1,694 SF
C-2BR-B	1,959 SF
C-2BR-D	1,572 SF
C-2BR-C	1,694 SF
C-2BR-B	1,959 SF
C-2BR-D	1,572 SF
E-2BR-A	1,661 SF
13	22,076 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	
E-3BR-A	2,227 SF
E-3BR-A	2,227 SF
C-3BR-C	2,414 SF
C-3BR-D	2,419 SF
E-3BR-A	2,227 SF
C-3BR-C	2,420 SF
C-3BR-D	2,335 SF
C-3BR-E	2,254 SF
C-3BR-E	2,236 SF
C-3BR-F	2,217 SF
10	22,975 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	
H-3BR-A	2,833 SF
H-3BR-A	2,829 SF
C-4BR-B	2,698 SF
C-4BR-A	2,719 SF
C-4BR-B	2,690 SF
C-4BR-A	2,722 SF
C-4BR-A	2,653 SF
C-4BR-A	2,648 SF
8	21,792 SF
2.10 RESI UNIT TYPE PH - HOTEL	
E-PH-A	3,987 SF
C-PH-B	3,987 SF
C-PH-B	3,970 SF
C-PH-C	3,978 SF
C-PH-D	4,000 SF
5	19,920 SF
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	
B-3BR-A	2,573 SF
B-3BR-A	2,599 SF
B-3BR-A	2,583 SF
B-3BR-A	2,563 SF
B-3BR-B	2,309 SF
B-3BR-A	2,554 SF
B-3BR-A	2,602 SF
B-3BR-A	2,604 SF
B-3BR-A	2,564 SF
9	22,951 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	
B-4BR-A	2,906 SF
B-4BR-A	2,914 SF
B-4BR-A	2,947 SF
B-4BR-A	2,909 SF
B-4BR-A	2,948 SF
B-4BR-A	2,970 SF
B-4BR-A	2,913 SF
B-4BR-A	2,939 SF
B-4BR-A	2,956 SF
9	26,402 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	
B-PH-A	4,969 SF
B-PH-A	4,962 SF
B-PH-B	5,600 SF
B-PH-B	5,594 SF
B-PH-C	5,315 SF
B-PH-D	6,183 SF
B-PH-A	4,944 SF
7	37,568 SF
2.11 RESI UNIT TYPE WFH	
G-WFH	941 SF
G-WFH	999 SF
G-WFH	1,164 SF
G-WFH	1,164 SF
G-WFH	759 SF
G-WFH	979 SF
G-WFH	791 SF
G-WFH	979 SF
G-WFH	761 SF
G-WFH	763 SF
G-WFH	755 SF
G-WFH	762 SF
G-WFH	754 SF
G-WFH	763 SF
14	12,333 SF
GRAND TOTAL: 75	186,019 SF

NOTES:
RESIDENTIAL UNITS (INCLUDES EXCLUSIVE, HOTEL RESIDENTIAL AND WORKFORCE HOUSING)

OVERALL PROGRAMMING AREA SUMMARY		
.	SUB-CATEGORY	AREA
1 - HOTEL		
	1.10 GUESTROOMS	38,364 SF
	1.10 GUESTROOMS TYPE 1S	4,321 SF
	1.10 GUESTROOMS TYPE 2S	2,473 SF
	1.10 GUESTROOMS TYPE 3S	6,312 SF
	1.10 GUESTROOMS TYPE 4S	4,386 SF
	1.10 GUESTROOMS TYPE PS	2,845 SF
	1.20 CIRCULATION	25,102 SF
	1.20 CIRCULATION VERT	3,415 SF
	1.30 HOTEL LOBBY & AMENITY	10,119 SF
	1.40 F&B	15,649 SF
	1.40 F&B SUPPORT	9,019 SF
	1.50 FUNCTION	13,332 SF
	1.80 BOH	45,831 SF
	1.80 BOH CIRCULATION	18,684 SF
	1.80 BOH VERT	8,330 SF
	1.80 MECHANICAL	52,565 SF
	1.91 WC	1,399 SF
		262,145 SF
2 - RESIDENCES		
	2.10 RESI UNIT TYPE 2BR - HOTEL	22,076 SF
	2.10 RESI UNIT TYPE 3BR - HOTEL	22,975 SF
	2.10 RESI UNIT TYPE 4BR - HOTEL	21,792 SF
	2.10 RESI UNIT TYPE PH - HOTEL	19,920 SF
	2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	22,951 SF
	2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	26,402 SF
	2.11 RESI UNIT TYPE PH - EXCLUSIVE	37,568 SF
	2.11 RESI UNIT TYPE WFH	12,333 SF
	2.20 RESI CIRCULATION	36,722 SF
	2.20 RESI CIRCULATION VERTICAL	5,244 SF
	2.20 RESI LOBBY & AMENITY	7,843 SF
	2.80 RESI BOH CIRCULATION	957 SF
	2.80 RESI SERVICE VERTICAL	18,411 SF
		255,197 SF
3 - RETAIL		
	3.20 RETAIL	18,718 SF
		18,718 SF
3 - SPA / WELLNESS		
	3.10 SPA	15,802 SF
		15,802 SF
4 - CASINO		
	4.0 CASINO	10,000 SF
		10,000 SF
5 - PARKING		
	5.0 PARKING	169,078 SF
	5.1 PARKING LOADING DOCK	2,778 SF
		171,856 SF
GRAND TOTAL		733,718 SF

TOTAL GUESTROOM SUMMARY		
SUB-CATEGORY	COUNT	AREA
HOTEL - INTERIOR		
1.10 GUESTROOMS	61	38,364 SF
1.10 GUESTROOMS TYPE 1S	5	4,321 SF
1.10 GUESTROOMS TYPE 2S	2	2,473 SF
1.10 GUESTROOMS TYPE 3S	5	6,312 SF
1.10 GUESTROOMS TYPE 4S	2	4,386 SF
1.10 GUESTROOMS TYPE PS	1	2,845 SF
	76	58,701 SF

HOTEL RESIDENCES SUMMARY		
SUB-CATEGORY	COUNT	AREA
RESIDENCE - INTERIOR		
2.10 RESI UNIT TYPE 2BR - HOTEL	13	22,076 SF
2.10 RESI UNIT TYPE 3BR - HOTEL	10	22,975 SF
2.10 RESI UNIT TYPE 4BR - HOTEL	8	21,792 SF
2.10 RESI UNIT TYPE PH - HOTEL	5	19,920 SF
	36	86,764 SF

TOTAL HOTEL RESIDENTAIL UNITS: 36
TOTAL LOCK-OFF ROOMS: 22
TOTAL POTENTIAL KEYS
(INCLUDING LOCK-OFFS): 58 KEYS

EXCLUSIVE RESIDENCES SUMMARY		
SUB-CATEGORY	COUNT	AREA
RESIDENCE - INTERIOR		
2.11 RESI UNIT TYPE 3BR - EXCLUSIVE	9	22,951 SF
2.11 RESI UNIT TYPE 4BR - EXCLUSIVE	9	26,402 SF
2.11 RESI UNIT TYPE PH - EXCLUSIVE	7	37,568 SF
	25	86,922 SF

WORK FORCE HOUSING SUMMARY		
SUB-CATEGORY	COUNT	AREA
RESIDENCE - INTERIOR		
2.11 RESI UNIT TYPE WFH	14	12,333 SF
	14	12,333 SF

WFH: 2 BEDROOM AFFORDABLE EMPLOYEE HOUSING UNITS

SB ARCHITECTS
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A California Corporation

Consultants

Boulder Bay Redevelopment CEP Project

50% Schematic Design - TRPA Review Submission

5 NV-28, Crystal Bay, NV

Owner
EKN Development

Operator

Issued

50% Schematic Design - TRPA Review Submission **Oct 12, 2022**

No.	Description	Date

Sheet Title Project No. **22139**

UNIT MATRIX & AREA SUMMARY

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

Sheet No.

AG.00.1

PROGRAM AREA - BUILDING B

Level	NAME	AREA
SITE LEVEL 04		
SITE LEVEL 04	RESI STORAGE	2,305 SF
SITE LEVEL 04	PARKING	19,050 SF
SITE LEVEL 04	MEP	564 SF
SITE LEVEL 04	ST-B1	234 SF
SITE LEVEL 04	ST-B5	236 SF
SITE LEVEL 04	ELEV BP3	103 SF
SITE LEVEL 04	ELEV BS3	95 SF
SITE LEVEL 04	CORRIDOR	200 SF
SITE LEVEL 04	ELEV VEST	130 SF
SITE LEVEL 04	HSKP	150 SF
SITE LEVEL 04	MEP	59 SF
SITE LEVEL 04	ST-B4	231 SF
SITE LEVEL 04	ELEV BP2	103 SF
SITE LEVEL 04	ELEV BS2	95 SF
SITE LEVEL 04	CORRIDOR	200 SF
SITE LEVEL 04	ELEV VEST	130 SF
SITE LEVEL 04	HSKP	162 SF
SITE LEVEL 04	MEP	57 SF
SITE LEVEL 04	ST-B2	214 SF
SITE LEVEL 04	ELEV BP1	103 SF
SITE LEVEL 04	ELEV BS1	106 SF
SITE LEVEL 04	CORRIDOR	212 SF
SITE LEVEL 04	ELEV VEST	140 SF
SITE LEVEL 04	HSKP	135 SF
SITE LEVEL 04	MEP	49 SF
SITE LEVEL 04	ST-B3	310 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	ELEV VEST	87 SF
SITE LEVEL 04	STORAGE	597 SF
SITE LEVEL 04	GARAGE EXHAUST	271 SF
SITE LEVEL 04	BOH CIRC	59 SF
		26,824 SF
SITE LEVEL 05		
SITE LEVEL 05	B-3BR-A	2,573 SF
SITE LEVEL 05	B-3BR-A	2,599 SF
SITE LEVEL 05	B-3BR-A	2,583 SF
SITE LEVEL 05	B-3BR-A	2,563 SF
SITE LEVEL 05	B-3BR-B	2,309 SF
SITE LEVEL 05	MEP	3,460 SF
SITE LEVEL 05	RESIDENTIAL AMENITY	3,308 SF
SITE LEVEL 05	ST-B1	244 SF
SITE LEVEL 05	ST-B3	307 SF
SITE LEVEL 05	CIRC	2,848 SF
SITE LEVEL 05	ST-B6	247 SF
SITE LEVEL 05	ST-B5	213 SF
SITE LEVEL 05	ELEV BP3	103 SF
SITE LEVEL 05	ELEV BS3	95 SF
SITE LEVEL 05	ELEV VEST	130 SF
SITE LEVEL 05	HSKP	157 SF
SITE LEVEL 05	MEP	60 SF
SITE LEVEL 05	ST-B4	231 SF
SITE LEVEL 05	ELEV BP2	103 SF
SITE LEVEL 05	ELEV BS2	95 SF
SITE LEVEL 05	ELEV VEST	130 SF
SITE LEVEL 05	HSKP	162 SF
SITE LEVEL 05	MEP	57 SF
SITE LEVEL 05	ST-B2	211 SF
SITE LEVEL 05	ELEV BP1	103 SF
SITE LEVEL 05	ELEV BS1	106 SF
SITE LEVEL 05	ELEV VEST	146 SF
SITE LEVEL 05	HSKP	135 SF
SITE LEVEL 05	MEP	54 SF
SITE LEVEL 05	ELEV BP4	95 SF
SITE LEVEL 05	MEP	86 SF
SITE LEVEL 05	VEST	52 SF
SITE LEVEL 05	ELEV VEST	87 SF
SITE LEVEL 05	ELEV VEST	91 SF
SITE LEVEL 05	ELEV VEST	91 SF
SITE LEVEL 05	ELEV VEST	87 SF
SITE LEVEL 05	ELEV VEST	87 SF
SITE LEVEL 05	ELEV VEST	87 SF
		26,097 SF
SITE LEVEL 06		
SITE LEVEL 06	B-3BR-A	2,554 SF
SITE LEVEL 06	B-3BR-A	2,602 SF
SITE LEVEL 06	B-3BR-A	2,604 SF
SITE LEVEL 06	B-3BR-A	2,564 SF
SITE LEVEL 06	B-PH-A	4,969 SF
SITE LEVEL 06	RESI AMENITY	2,797 SF
SITE LEVEL 06	ST-B1	244 SF
SITE LEVEL 06	ST-B3	315 SF
SITE LEVEL 06	ST-B6	247 SF
SITE LEVEL 06	RESIDENTIAL CORRIDOR	2,835 SF
SITE LEVEL 06	ST-B5	213 SF
SITE LEVEL 06	ELEV BP3	103 SF
SITE LEVEL 06	ELEV BS3	95 SF
SITE LEVEL 06	ELEV VEST	130 SF
SITE LEVEL 06	HSKP	157 SF
SITE LEVEL 06	MEP	60 SF
SITE LEVEL 06	ST-B4	233 SF
SITE LEVEL 06	ELEV BP2	103 SF
SITE LEVEL 06	ELEV BS2	95 SF
SITE LEVEL 06	ELEV VEST	130 SF
SITE LEVEL 06	HSKP	162 SF
SITE LEVEL 06	MEP	59 SF
SITE LEVEL 06	ST-B2	224 SF
SITE LEVEL 06	ELEV BP1	103 SF
SITE LEVEL 06	ELEV BS1	106 SF
SITE LEVEL 06	ELEV VEST	143 SF
SITE LEVEL 06	HSKP	141 SF
SITE LEVEL 06	MEP	53 SF
SITE LEVEL 06	ELEV BP4	91 SF
SITE LEVEL 06	MEP	86 SF
SITE LEVEL 06	VEST	51 SF
SITE LEVEL 06	ELEV VEST	87 SF
SITE LEVEL 06	ELEV VEST	91 SF
SITE LEVEL 06	ELEV VEST	87 SF
SITE LEVEL 06	ELEV VEST	87 SF
SITE LEVEL 06	ELEV VEST	87 SF
SITE LEVEL 06	ELEV VEST	87 SF
		24,797 SF
SITE LEVEL 07		
SITE LEVEL 07	B-4BR-A	2,906 SF
SITE LEVEL 07	B-4BR-A	2,914 SF
SITE LEVEL 07	B-4BR-A	2,947 SF
SITE LEVEL 07	B-4BR-A	2,909 SF
SITE LEVEL 07	B-PH-A	4,962 SF
SITE LEVEL 07	RESI AMENITY	923 SF
SITE LEVEL 07	ST-B1	242 SF
SITE LEVEL 07	ST-B3	321 SF
SITE LEVEL 07	ST-B6	247 SF
SITE LEVEL 07	MEP	194 SF
SITE LEVEL 07	CIRC	525 SF
SITE LEVEL 07	ST-B5	213 SF
SITE LEVEL 07	ELEV BP3	103 SF
SITE LEVEL 07	ELEV BS3	103 SF
SITE LEVEL 07	RESIDENTIAL CORRIDOR	206 SF
SITE LEVEL 07	ELEV VEST	141 SF
SITE LEVEL 07	HSKP	142 SF
SITE LEVEL 07	MEP	56 SF
SITE LEVEL 07	ST-B4	228 SF
SITE LEVEL 07	ELEV BP2	103 SF
SITE LEVEL 07	ELEV BS2	103 SF
SITE LEVEL 07	RESIDENTIAL CORRIDOR	219 SF
SITE LEVEL 07	ELEV VEST	139 SF
SITE LEVEL 07	HSKP	142 SF
SITE LEVEL 07	MEP	55 SF
SITE LEVEL 07	ST-B2	224 SF
SITE LEVEL 07	ELEV BP1	103 SF
SITE LEVEL 07	ELEV BS1	106 SF
SITE LEVEL 07	RESIDENTIAL CORRIDOR	213 SF
SITE LEVEL 07	ELEV VEST	145 SF
SITE LEVEL 07	HSKP	146 SF
SITE LEVEL 07	MEP	57 SF
SITE LEVEL 07	MEP VAULT	1,162 SF
SITE LEVEL 07	ELEV BP4	92 SF
SITE LEVEL 07	STORAGE	183 SF
SITE LEVEL 07	ELEV VEST	91 SF
SITE LEVEL 07	EXIT CORRIDOR	118 SF
		23,684 SF
SITE LEVEL 08		
SITE LEVEL 08	B-PH-B	5,600 SF
SITE LEVEL 08	B-4BR-A	2,948 SF
SITE LEVEL 08	B-4BR-A	2,970 SF
SITE LEVEL 08	B-4BR-A	2,913 SF
SITE LEVEL 08	ST-B1	244 SF
SITE LEVEL 08	ST-B3	313 SF
SITE LEVEL 08	ST-B6	247 SF
SITE LEVEL 08	B-PH-A	4,944 SF
SITE LEVEL 08	MEP	195 SF
SITE LEVEL 08	ST-B5	236 SF
SITE LEVEL 08	ELEV BP3	103 SF
SITE LEVEL 08	ELEV DS3	95 SF
SITE LEVEL 08	RESIDENTIAL CORRIDOR	200 SF
SITE LEVEL 08	ELEV VEST	130 SF
SITE LEVEL 08	HSKP	150 SF
SITE LEVEL 08	MEP	58 SF
SITE LEVEL 08	ST-B4	235 SF
SITE LEVEL 08	ELEV BP2	103 SF
SITE LEVEL 08	ELEV DS2	95 SF
SITE LEVEL 08	RESIDENTIAL CORRIDOR	215 SF
SITE LEVEL 08	ELEV VEST	128 SF
SITE LEVEL 08	HSKP	162 SF
SITE LEVEL 08	MEP	55 SF
SITE LEVEL 08	ST-B2	213 SF
SITE LEVEL 08	ELEV BP1	103 SF
SITE LEVEL 08	ELEV DS1	95 SF
SITE LEVEL 08	RESIDENTIAL CORRIDOR	200 SF
SITE LEVEL 08	ELEV VEST	130 SF
SITE LEVEL 08	HSKP	162 SF
SITE LEVEL 08	MEP	63 SF
SITE LEVEL 08	ELEV VEST	87 SF
SITE LEVEL 08	EXIT CORRIDOR	83 SF
		23,476 SF
SITE LEVEL 09		
SITE LEVEL 09	B-PH-B	5,594 SF
SITE LEVEL 09	B-4BR-A	2,939 SF
SITE LEVEL 09	B-4BR-A	2,956 SF
SITE LEVEL 09	B-PH-C	5,315 SF
SITE LEVEL 09	ST-B3	319 SF
SITE LEVEL 09	ST-B1	242 SF
SITE LEVEL 09	MEP	193 SF
SITE LEVEL 09	ST-B5	229 SF
SITE LEVEL 09	ELEV BP3	103 SF
SITE LEVEL 09	ELEV BS3	103 SF
SITE LEVEL 09	RESIDENTIAL CORRIDOR	200 SF
SITE LEVEL 09	ELEV VEST	141 SF
SITE LEVEL 09	HSKP	136 SF
SITE LEVEL 09	MEP	53 SF
SITE LEVEL 09	ST-B4	226 SF
SITE LEVEL 09	ELEV BP2	103 SF
SITE LEVEL 09	ELEV BS2	103 SF
SITE LEVEL 09	RESIDENTIAL CORRIDOR	219 SF
SITE LEVEL 09	ELEV VEST	139 SF
SITE LEVEL 09	HSKP	142 SF
SITE LEVEL 09	MEP	55 SF
SITE LEVEL 09	ST-B2	223 SF
SITE LEVEL 09	ELEV BP1	103 SF
SITE LEVEL 09	ELEV DS1	106 SF
SITE LEVEL 09	RESIDENTIAL CORRIDOR	214 SF
SITE LEVEL 09	ELEV VEST	145 SF
SITE LEVEL 09	HSKP	151 SF
SITE LEVEL 09	MEP	59 SF
SITE LEVEL 09	ELEV VEST	87 SF
SITE LEVEL 09	EXIT CORRIDOR	90 SF
		20,689 SF
SITE LEVEL 10		
SITE LEVEL 10	B-PH-D	6,183 SF
SITE LEVEL 10	ST-B1	249 SF
SITE LEVEL 10	ST-B3	308 SF
SITE LEVEL 10	MEP	465 SF
SITE LEVEL 10	BOH	581 SF
SITE LEVEL 10	ELEV BP3	113 SF
SITE LEVEL 10	ELEV VEST	100 SF
SITE LEVEL 10	ST-B4	235 SF
SITE LEVEL 10	ELEV BP2	103 SF
SITE LEVEL 10	ELEV BS2	95 SF
SITE LEVEL 10	CORRIDOR	213 SF
SITE LEVEL 10	ELEV VEST	128 SF
SITE LEVEL 10	HSKP	162 SF
SITE LEVEL 10	MEP	61 SF
SITE LEVEL 10	ST-B2	225 SF
SITE LEVEL 10	ELEV BP1	108 SF
SITE LEVEL 10	ELEV BS1	106 SF
SITE LEVEL 10	RESIDENTIAL CORRIDOR	667 SF
SITE LEVEL 10	ELEV VEST	145 SF
SITE LEVEL 10	HSKP	151 SF
SITE LEVEL 10	MEP	56 SF
SITE LEVEL 10	MEP	677 SF
SITE LEVEL 10	CIRC	1,142 SF
SITE LEVEL 10	ELEV VEST	98 SF
SITE LEVEL 10	MEP	140 SF
SITE LEVEL 10	EXIT CORRIDOR	101 SF
SITE LEVEL 10	ELEV VEST	96 SF
SITE LEVEL 10	ELEV VEST	95 SF
		12,804 SF
GRAND TOTAL		158,372 SF

PROGRAM AREA - BUILDING C

Level	NAME	AREA
SITE LEVEL 02		
SITE LEVEL 02	MEP	230 SF
SITE LEVEL 02	ST-C3	264 SF
SITE LEVEL 02	ELEV CONTROL ROOM	223 SF
		716 SF
SITE LEVEL 03		
SITE LEVEL 03	MEP	1,638 SF
SITE LEVEL 03	C-4BR-B	2,698 SF
SITE LEVEL 03	C-4BR-A	2,719 SF
SITE LEVEL 03	C-3BR-C	2,414 SF
SITE LEVEL 03	C-3BR-D	2,419 SF
SITE LEVEL 03	ST-C2	229 SF
SITE LEVEL 03	ST-C3	227 SF
SITE LEVEL 03	ST-C1	180 SF
SITE LEVEL 03	CIRC	2,193 SF
SITE LEVEL 03	ELEV CPS1,CPS2	173 SF
SITE LEVEL 03	MEP	1,834 SF
SITE LEVEL 03	CIRC	295 SF
SITE LEVEL 03	MEP	837 SF
SITE LEVEL 03	BOH	807 SF
SITE LEVEL 03	DHW	695 SF
SITE LEVEL 03	DHW	177 SF
		19,535 SF
SITE LEVEL 04		
SITE LEVEL 04	ST-C2	210 SF
SITE LEVEL 04	ST-C3	223 SF
SITE LEVEL 04	ST-C1	188 SF
SITE LEVEL 04	ELEV CPS1,CPS2	173 SF
SITE LEVEL 04	HR	1,332 SF
SITE LEVEL 04	STORAGE	758 SF
SITE LEVEL 04	C-4BR-B	2,690 SF
SITE LEVEL 04	C-4BR-A	2,722 SF
SITE LEVEL 04	C-3BR-C	2,420 SF
SITE LEVEL 04	C-3BR-D	2,335 SF
SITE LEVEL 04	CIRC	2,722 SF
SITE LEVEL 04	GENERAL STORAGE	1,542 SF
SITE LEVEL 04	MEP	944 SF
SITE LEVEL 04	MEP	1,791 SF
SITE LEVEL 04	BOH	227 SF
SITE LEVEL 04	BOH	104 SF
SITE LEVEL 04	SATELLITE HK/STORAGE	414 SF
SITE LEVEL 04	EXECUTIVE OFFICE	1,905 SF
		22,702 SF
SITE LEVEL 05		
SITE LEVEL 05	RESIDENTIAL CORRIDOR	1,945 SF
SITE LEVEL 05	ST-C2	208 SF
SITE LEVEL 05	ST-C3	249 SF
SITE LEVEL 05	ST-C1	179 SF
SITE LEVEL 05	ELEV CPS1,CPS2	180 SF
SITE LEVEL 05	C-PH-B	3,987 SF
SITE LEVEL 05	C-4BR-A	2,653 SF
SITE LEVEL 05	C-3BR-E	2,254 SF
SITE LEVEL 05	C-2BR-C	1,694 SF
SITE LEVEL 05	C-2BR-B	1,959 SF
SITE LEVEL 05	C-2BR-D	1,572 SF
SITE LEVEL 05	BOH	483 SF
		17,363 SF
SITE LEVEL 06		
SITE LEVEL 06	RESIDENTIAL CORRIDOR	1,991 SF
SITE LEVEL 06	ST-C2	208 SF
SITE LEVEL 06	ST-C3	249 SF
SITE LEVEL 06	ST-C1	171 SF
SITE LEVEL 06	ELEV CPS1,CPS2	181 SF
SITE LEVEL 06	C-PH-B	3,970 SF
SITE LEVEL 06	C-4BR-A	2,648 SF
SITE LEVEL 06	C-3BR-E	2,236 SF
SITE LEVEL 06	C-2BR-C	1,694 SF
SITE LEVEL 06	C-2BR-B	1,959 SF
SITE LEVEL 06	C-2BR-D	1,572 SF
SITE LEVEL 06	BOH	485 SF
		17,363 SF
SITE LEVEL 07		
SITE LEVEL 07	RESIDENTIAL CORRIDOR	1,375 SF
SITE LEVEL 07	ST-C2	208 SF
SITE LEVEL 07	ST-C1	199 SF
SITE LEVEL 07	ELEV CPS1,CPS2	169 SF
SITE LEVEL 07	C-PH-C	3,978 SF
SITE LEVEL 07	C-PH-D	4,000 SF
SITE LEVEL 07	C-3BR-F	2,217 SF
SITE LEVEL 07	HSKP/IDF	473 SF
SITE LEVEL 07	ST-C3	262 SF
		12,881 SF
GRAND TOTAL		90,562 SF

PROGRAM AREA - BUILDING D

Level	NAME	AREA
Not Placed		
Not Placed	MEP WELL	Not Placed
		0 SF
SITE LEVEL 02		
SITE LEVEL 02	ST-D1	234 SF
SITE LEVEL 02	PARKING	86,424 SF
SITE LEVEL 02	MEP	705 SF
SITE LEVEL 02	MEP	790 SF
SITE LEVEL 02	MEP	1,109 SF
SITE LEVEL 02	ELEV DS1,DS2	227 SF
SITE LEVEL 02	GARAGE EXHAUST	300 SF
		89,789 SF
SITE LEVEL 03		
SITE LEVEL 03	ELEV DS1,DS2	227 SF
SITE LEVEL 03	ST-D1	286 SF
SITE LEVEL 03	PARKING	63,603 SF
SITE LEVEL 03	MEP	676 SF
SITE LEVEL 03	MEP	1,088 SF
SITE LEVEL 03	MEP	337 SF
		66,218 SF
SITE LEVEL 04		
SITE LEVEL 04	GYM/FITNESS	2,546 SF
SITE LEVEL 04	MOVEMENT AEROBIC	1,586 SF
SITE LEVEL 04	LOCKERS	669 SF
SITE LEVEL 04	SPA	8,379 SF
SITE LEVEL 04	SPA/GYM BOH	500 SF
SITE LEVEL 04	KIDS CLUB	1,478 SF
SITE LEVEL 04	FUNCTION B	3,642 SF
SITE LEVEL 04	COMISSARY KITCHEN	4,629 SF
SITE LEVEL 04	HOUSEKEEPING LAUNDRY	2,720 SF
SITE LEVEL 04	MAINTENANCE ENGINEERING	1,886 SF
SITE LEVEL 04	TEAM DINING KNOWLEDGE	1,814 SF
SITE LEVEL 04	ELEV DS1,DS2	221 SF
SITE LEVEL 04	ELEV DP1,DP2	184 SF
SITE LEVEL 04	ST-D1	270 SF
SITE LEVEL 04	LANDSCAPE MAINTENANCE	975 SF
SITE LEVEL 04	TEAM FACILITY LOCKERS	1,462 SF
SITE LEVEL 04	UNIFORM	522 SF
SITE LEVEL 04	SECURITY	343 SF
SITE LEVEL 04	RECIEVING	357 SF
SITE LEVEL 04	TRASH/RECYCLE	2,123 SF
SITE LEVEL 04	SATELLITE HK/STORAGE	1,066 SF
SITE LEVEL 04	BOH CIRC	10,283 SF
SITE LEVEL 04	SALON	643 SF
SITE LEVEL 04	SITTING GALLERY	705 SF
SITE LEVEL 04	ELEV VEST	211 SF
SITE LEVEL 04	LOADING DOCK	2,778 SF
SITE LEVEL 04	FLEX-FUNCTION A	3,906 SF
SITE LEVEL 04	FUNCTION C	1,097 SF
SITE LEVEL 04	BOH SUPPORT	842 SF
SITE LEVEL 04	CIRC	3,820 SF
SITE LEVEL 04	ST-D2	182 SF
SITE LEVEL 04	BOH	88 SF
SITE LEVEL 04	BOH CIRC	325 SF
SITE LEVEL 04	COMPACTOR	232 SF
		62,485 SF
SITE LEVEL 05		
SITE LEVEL 05	CIRC	2,021 SF
SITE LEVEL 05	D-GR-S4	2,193 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR-S3	1,047 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR-S1	791 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	BOH	1,229 SF
SITE LEVEL 05	POOL SUPPORT	1,291 SF
SITE LEVEL 05	POOL BAR GRILL	3,871 SF
SITE LEVEL 05	ELEV DS1,DS2	245 SF
SITE LEVEL 05	ELEV DP1,DP2	189 SF
SITE LEVEL 05	ST-D1	242 SF
SITE LEVEL 05	MEP CENTRAL PLANT	7,765 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	D-GR	626 SF
SITE LEVEL 05	SERVICE/EXIT CORRIDOR	597 SF
SITE LEVEL 05	ST-D2	205 SF
SITE LEVEL 05	BOH CIRC	162 SF
SITE LEVEL 05	BOH	251 SF
SITE LEVEL 05	BOH CIRC	62 SF
SITE LEVEL 05	MEP	1,381 SF
		28,548 SF
SITE LEVEL 06		
SITE LEVEL 06	CIRC	1,916 SF
SITE LEVEL 06	D-GR-S4	2,193 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR-S3	1,058 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR-S1	792 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	HSKP	232 SF
SITE LEVEL 06	D-GR-S3	1,056 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	ELEV DS1,DS2	227 SF
SITE LEVEL 06	ELEV DP1,DP2	189 SF
SITE LEVEL 06	ST-D1	242 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	D-GR	626 SF
SITE LEVEL 06	ST-D2	205 SF
SITE LEVEL 06	BOH CIRC	158 SF
SITE LEVEL 06	D-GR-S3	1,889 SF
SITE LEVEL 06	EXIT CORRIDOR	542 SF
SITE LEVEL 06	CIRC	220 SF
SITE LEVEL 06	BOH	1,635 SF
		18,814 SF
SITE LEVEL 07		
SITE LEVEL 07	ELEV DS1,DS2	239 SF
SITE LEVEL 07	ELEV DP1,DP2	200 SF
SITE LEVEL 07	ST-D1	232 SF
SITE LEVEL 07	BRASSERIE	4,849 SF
SITE LEVEL 07	KITCHEN	1,734 SF
SITE LEVEL 07	PEACOCK LOBBY	1,334 SF
SITE LEVEL 07	ENTRY LOBBY	7,035 SF
SITE LEVEL 07	ST-D2	194 SF
SITE LEVEL 07	BOH	579 SF
SITE LEVEL 07	GUEST ELEV VEST	220 SF
SITE LEVEL 07	BOH	347 SF
SITE LEVEL 07	SERVICE CORRIDOR	815 SF
SITE LEVEL 07	OFFICE	250 SF
		18,031 SF
SITE LEVEL 08		
SITE LEVEL 08	CIRC	1,167 SF
SITE LEVEL 08	D-GR-PS	2,845 SF
SITE LEVEL 08	D-GR	626 SF
SITE LEVEL 08	D-GR-S1	792 SF
SITE LEVEL 08	D-GR	626 SF
SITE LEVEL 08	D-GR	625 SF
SITE LEVEL 08	D-GR	626 SF
SITE LEVEL 08	HSKP	232 SF
SITE LEVEL 08	D-GR-S3	1,262 SF
SITE LEVEL 08	ELEV DS1,DS2	221 SF
SITE LEVEL 08	ST-D1	242 SF
SITE LEVEL 08	D-GR	626 SF
SITE LEVEL 08	D-GR	626 SF
SITE LEVEL 08	BOH	62 SF
SITE LEVEL 08	ST-D2	205 SF
SITE LEVEL 08	BOH CIRC	163 SF
SITE LEVEL 08	ELEV DP1, DP2	207 SF
SITE LEVEL 08	BOH	724 SF
SITE LEVEL 08	GUEST ELEV VEST	220 SF
		12,097 SF
SITE LEVEL 09		
SITE LEVEL 09	ST-D2	138 SF
		138 SF
GRAND TOTAL		296,120 SF

PROGRAM AREA - BUILDING E

Level	NAME	AREA
SITE LEVEL 00 - TUNNEL		
SITE LEVEL 00 - TUNNEL	SERVICE TUNNEL	2,624 SF
SITE LEVEL 00 - TUNNEL	STORAGE A	1,172 SF
SITE LEVEL 00 - TUNNEL	STORAGE B	846 SF
SITE LEVEL 00 - TUNNEL	ELEV FPS1,FPS2	231 SF
SITE LEVEL 00 - TUNNEL	ST-F1	197 SF
SITE LEVEL 00 - TUNNEL	ELEV VEST	312 SF
SITE LEVEL 00 - TUNNEL	ELEV CONTROL ROOM	106 SF
		5,488 SF
SITE LEVEL 01		
SITE LEVEL 01	ST-E1	210 SF
SITE LEVEL 01	CASINO	10,000 SF
SITE LEVEL 01	ST-E2	234 SF
SITE LEVEL 01	CIRC	2,792 SF
SITE LEVEL 01	MEP	480 SF
SITE LEVEL 01	ELEV EPS1,EPS2	223 SF
SITE LEVEL 01	GUEST ELEV VEST	231 SF
		14,170 SF
SITE LEVEL 02		
SITE LEVEL 02	E-2BR-A	1,661 SF
SITE LEVEL 02	E-3BR-A	2,227 SF
SITE LEVEL 02	E-2BR-A	1,661 SF
SITE LEVEL 02	HSKP/IDF	735 SF
SITE LEVEL 02	ST-E2	258 SF
SITE LEVEL 02	ST-E1	231 SF
SITE LEVEL 02	ELEV EPS1,EPS2	221 SF
SITE LEVEL 02	CIRC	1,181 SF
SITE LEVEL 02	GUEST ELEV VEST	230 SF
		8,404 SF
SITE LEVEL 03		
SITE LEVEL 03	E-3BR-A	2,227 SF
SITE LEVEL 03	E-2BR-A	1,661 SF
SITE LEVEL 03	E-2BR-A	1,661 SF
SITE LEVEL 03	BOH	559 SF
SITE LEVEL 03	CIRC	1,506 SF
SITE LEVEL 03	ST-E2	246 SF
SITE LEVEL 03	ST-E1	235 SF
SITE LEVEL 03	ELEV EPS1,EPS2	219 SF
SITE LEVEL 03	ELEV VEST	237 SF
		8,549 SF
SITE LEVEL 04		
SITE LEVEL 04	ST-E2	277 SF
SITE LEVEL 04	ST-E1	239 SF
SITE LEVEL 04	ELEV EPS1,EPS2	226 SF
SITE LEVEL 04	E-3BR-A	2,227 SF
SITE LEVEL 04	E-2BR-A	1,661 SF
SITE LEVEL 04	E-2BR-A	1,661 SF
SITE LEVEL 04	BOH	545 SF
SITE LEVEL 04	CIRC	1,188 SF
SITE LEVEL 04	ELEV VEST	243 SF
		8,265 SF
SITE LEVEL 05		
SITE LEVEL 05	ST-E2	264 SF
SITE LEVEL 05	ST-E1	244 SF
SITE LEVEL 05	ELEV EPS1,EPS2	215 SF
SITE LEVEL 05	E-PH-A	3,987 SF
SITE LEVEL 05	CIRC	1,000 SF
SITE LEVEL 05	E-2BR-A	1,661 SF
SITE LEVEL 05	ELEV VEST	235 SF
SITE LEVEL 05	HSKP/IDF	542 SF
		8,148 SF
GRAND TOTAL		53,024 SF

PROGRAM AREA - BUILDING F

Level	NAME	AREA
SITE LEVEL 01		
SITE LEVEL 01	SPEAKEASY	6,928 SF
SITE LEVEL 01	ST-F1	203 SF
SITE LEVEL 01	MEP	2,577 SF
SITE LEVEL 01	ELEV PP1	88 SF
SITE LEVEL 01	ELEV VEST	201 SF
SITE LEVEL 01	ELEV CONTROL ROOM	105 SF
SITE LEVEL 01	ELEV FPS1,FPS2	205 SF
SITE LEVEL 01	GUEST ELEV VEST	246 SF
SITE LEVEL 01	PUBLIC ELEV VEST	117 SF
SITE LEVEL 01	BOH STORAGE	925 SF
		11,594 SF
SITE LEVEL 02		
SITE LEVEL 02	SATELLITE HK/STORAGE	1,844 SF
SITE LEVEL 02	ELEV FPS1,FPS2	205 SF
SITE LEVEL 02	ST-F1	202 SF
SITE LEVEL 02	MEP	5,123 SF
SITE LEVEL 02	ELEV FPS4	194 SF
SITE LEVEL 02	ST-F2	190 SF
SITE LEVEL 02	MEP	2,481 SF
SITE LEVEL 02	ELEV PP1	86 SF
SITE LEVEL 02	MEP	465 SF
SITE LEVEL 02	ELEV CONTROL ROOM	196 SF
SITE LEVEL 02	ELEV VEST	105 SF
SITE LEVEL 02	ELEV VEST	191 SF
SITE LEVEL 02	MEP	464 SF
SITE LEVEL 02	GUEST ELEV VEST	227 SF
SITE LEVEL 02	EXIT CORRIDOR	558 SF
		12,532 SF
SITE LEVEL 03		
SITE LEVEL 03	MEP	657 SF
SITE LEVEL 03	ELEV FPS1,FPS2	228 SF
SITE LEVEL 03	ST-F1	223 SF
SITE LEVEL 03	F-GR	655 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR-S2	987 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR-S2	959 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	F-GR	677 SF
SITE LEVEL 03	CIRC	3,353 SF
SITE LEVEL 03	ST-F2	190 SF
SITE LEVEL 03	HSKP	349 SF
SITE LEVEL 03	MEP	2,175 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	PUBLIC ELEV VEST	103 SF
SITE LEVEL 03	WC	640 SF
SITE LEVEL 03	CIRC	544 SF
SITE LEVEL 03	ELEV FPP1	84 SF
SITE LEVEL 03	F-GR	626 SF
SITE LEVEL 03	ELEV VEST	118 SF
SITE LEVEL 03	ELEV FPS3,FPS4	197 SF
SITE LEVEL 03	GUEST ELEV VEST	147 SF
SITE LEVEL 03	HSKP	310 SF
SITE LEVEL 03	GUEST ELEV VEST	114 SF
SITE LEVEL 03	HSKP	696 SF
SITE LEVEL 03	EXIT CORRIDOR	148 SF
SITE LEVEL 03	MEP	116 SF
SITE LEVEL 03	MEP	535 SF
SITE LEVEL 03	GUEST ELEV VEST	218 SF
		22,560 SF
SITE LEVEL 04		
SITE LEVEL 04	F-GR	644 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-S2	1,471 SF
SITE LEVEL 04	F-S2	1,002 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	F-GR	702 SF
SITE LEVEL 04	ELEV FPS1,FPS2	226 SF
SITE LEVEL 04	ST-F1	223 SF
SITE LEVEL 04	IDF	117 SF
SITE LEVEL 04	ELEV FPS3,FPS4	195 SF
SITE LEVEL 04	ST-F2	195 SF
SITE LEVEL 04	F-GR	626 SF
SITE LEVEL 04	ELEV OVERRIDE	102 SF
SITE LEVEL 04	BOH	304 SF
SITE LEVEL 04	CIRC	1,152 SF
SITE LEVEL 04	BOH	176 SF
SITE LEVEL 04	GUESTROOM CORRIDOR	1,223 SF
SITE LEVEL 04	BOH	506 SF
SITE LEVEL 04	BOH CIRC	234 SF
SITE LEVEL 04	GUEST ELEV VEST	147 SF
SITE LEVEL 04	MEP	244 SF
SITE LEVEL 04	GUEST ELEV VEST	216 SF
SITE LEVEL 04	BOH CIRC	213 SF
		15,550 SF
SITE LEVEL 05		
SITE LEVEL 05	F-GR	639 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	ELEV FPS1,FPS2	209 SF
SITE LEVEL 05	ST-F1	223 SF
SITE LEVEL 05	HSKP	296 SF
SITE LEVEL 05	ELEV FPS3,FPS4	204 SF
SITE LEVEL 05	ST-F2	195 SF
SITE LEVEL 05	F-GR	626 SF
SITE LEVEL 05	CIRC	892 SF
SITE LEVEL 05	CIRC	954 SF
SITE LEVEL 05	ELEV VEST	200 SF
SITE LEVEL 05	BOH	181 SF
SITE LEVEL 05	MEP	114 SF
SITE LEVEL 05	GUEST ELEV VEST	134 SF
SITE LEVEL 05	HSKP	134 SF
SITE LEVEL 05	GUEST ELEV VEST	147 SF
SITE LEVEL 05	GUEST ELEV VEST	257 SF
		10,412 SF
GRAND TOTAL		72,647 SF

PROGRAM AREA - BUILDING G

Level	NAME	AREA
SITE LEVEL 02		
SITE LEVEL 02	RETAIL	5,745 SF
SITE LEVEL 02	ST-G1	248 SF
		5,993 SF
SITE LEVEL 03		
SITE LEVEL 03	ELEV GP1	132 SF
SITE LEVEL 03	ENTRY LOBBY	815 SF
SITE LEVEL 03	G-WFH	941 SF
SITE LEVEL 03	G-WFH	999 SF
SITE LEVEL 03	G-WFH	1,164 SF
SITE LEVEL 03	G-WFH	1,164 SF
SITE LEVEL 03	ST-G1	201 SF
SITE LEVEL 03	MEP MEZZ	2,231 SF
SITE LEVEL 03	ELEV VEST	165 SF
SITE LEVEL 03	GUESTROOM CORRIDOR	248 SF
		8,059 SF
SITE LEVEL 04		
SITE LEVEL 04	ELEV GP1	131 SF
SITE LEVEL 04	G-WFH	759 SF
SITE LEVEL 04	G-WFH	979 SF
SITE LEVEL 04	G-WFH	791 SF
SITE LEVEL 04	G-WFH	979 SF
SITE LEVEL 04	G-WFH	761 SF
SITE LEVEL 04	G-WFH	763 SF
SITE LEVEL 04	G-WFH	755 SF
SITE LEVEL 04	G-WFH	762 SF
SITE LEVEL 04	G-WFH	754 SF
SITE LEVEL 04	G-WFH	763 SF
SITE LEVEL 04	GUESTROOM CORRIDOR	602 SF
SITE LEVEL 04	ST-G1	195 SF
SITE LEVEL 04	GUEST ELEV VEST	154 SF
SITE LEVEL 04	RESIDENCE LOBBY	586 SF
SITE LEVEL 04	GUESTROOM CORRIDOR	248 SF
		9,983 SF
GRAND TOTAL		24,036 SF

PROGRAM AREA - BUILDING H

Level	NAME	AREA
SITE LEVEL 00 - TUNNEL		
SITE LEVEL 00 - TUNNEL	ELEV HPS1,HPS2	229 SF
SITE LEVEL 00 - TUNNEL	ELEV CONTROL ROOM	107 SF
SITE LEVEL 00 - TUNNEL	ELEV VEST	366 SF
SITE LEVEL 00 - TUNNEL	ST-H1	225 SF
SITE LEVEL 00 - TUNNEL	MEP	703 SF
		1,630 SF
SITE LEVEL 01		
SITE LEVEL 01	F&B TENANT	2,235 SF
SITE LEVEL 01	BOH PANTRY	1,365 SF
SITE LEVEL 01	RETAIL	4,485 SF
SITE LEVEL 01	ST-H1	209 SF
SITE LEVEL 01	ENTRY GALLERY	1,750 SF
SITE LEVEL 01	GUEST ELEV LOBBY	176 SF
SITE LEVEL 01	SERVICE ELEV VEST	231 SF
SITE LEVEL 01	ELEV HPS1,HPS2	199 SF
SITE LEVEL 01	RESTROOMS	667 SF
SITE LEVEL 01	JANITOR	46 SF
		11,361 SF
SITE LEVEL 02		
SITE LEVEL 02	ST-H2	224 SF
SITE LEVEL 02	RETAIL	2,005 SF
SITE LEVEL 02	ST-H3	282 SF
SITE LEVEL 02	ELEV LOBBY	414 SF
SITE LEVEL 02	MEP MEZZ	2,068 SF
SITE LEVEL 02	ST-H1	212 SF
SITE LEVEL 02	ELEV HPS3	143 SF
		5,348 SF
SITE LEVEL 03		
SITE LEVEL 03	MULTI FUNCTION HALL	4,367 SF
SITE LEVEL 03	H-3BR-A	2,833 SF
SITE LEVEL 03	H-3BR-A	2,829 SF
SITE LEVEL 03	ST-H3	273 SF
SITE LEVEL 03	ST-H2	202 SF
SITE LEVEL 03	ST-H1	217 SF
SITE LEVEL 03	GUEST ELEV VEST	173 SF
SITE LEVEL 03	SERVICE ELEV VEST	231 SF
SITE LEVEL 03	ELEV HPS1,HPS2	198 SF
SITE LEVEL 03	PRE-FUNCTION	1,385 SF
SITE LEVEL 03	SERVICE PANTRY	258 SF
SITE LEVEL 03	ELEV HPS3	133 SF
SITE LEVEL 03	EXIT VEST	199 SF
SITE LEVEL 03	GUEST ELEV VEST	412 SF
SITE LEVEL 03	CIRC	627 SF
SITE LEVEL 03	RECEPTION LOBBY	935 SF
SITE LEVEL 03	ELECT CLOSET	161 SF
SITE LEVEL 03	AV CLOSET	160 SF
		15,594 SF
SITE LEVEL 04		
SITE LEVEL 04	WC	92 SF
		92 SF
GRAND TOTAL		34,025 SF

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No.	Description	Date

Sheet Title
Project No. 22139

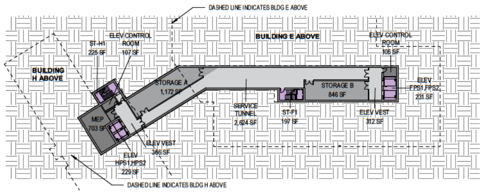
AREA SUMMARY

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

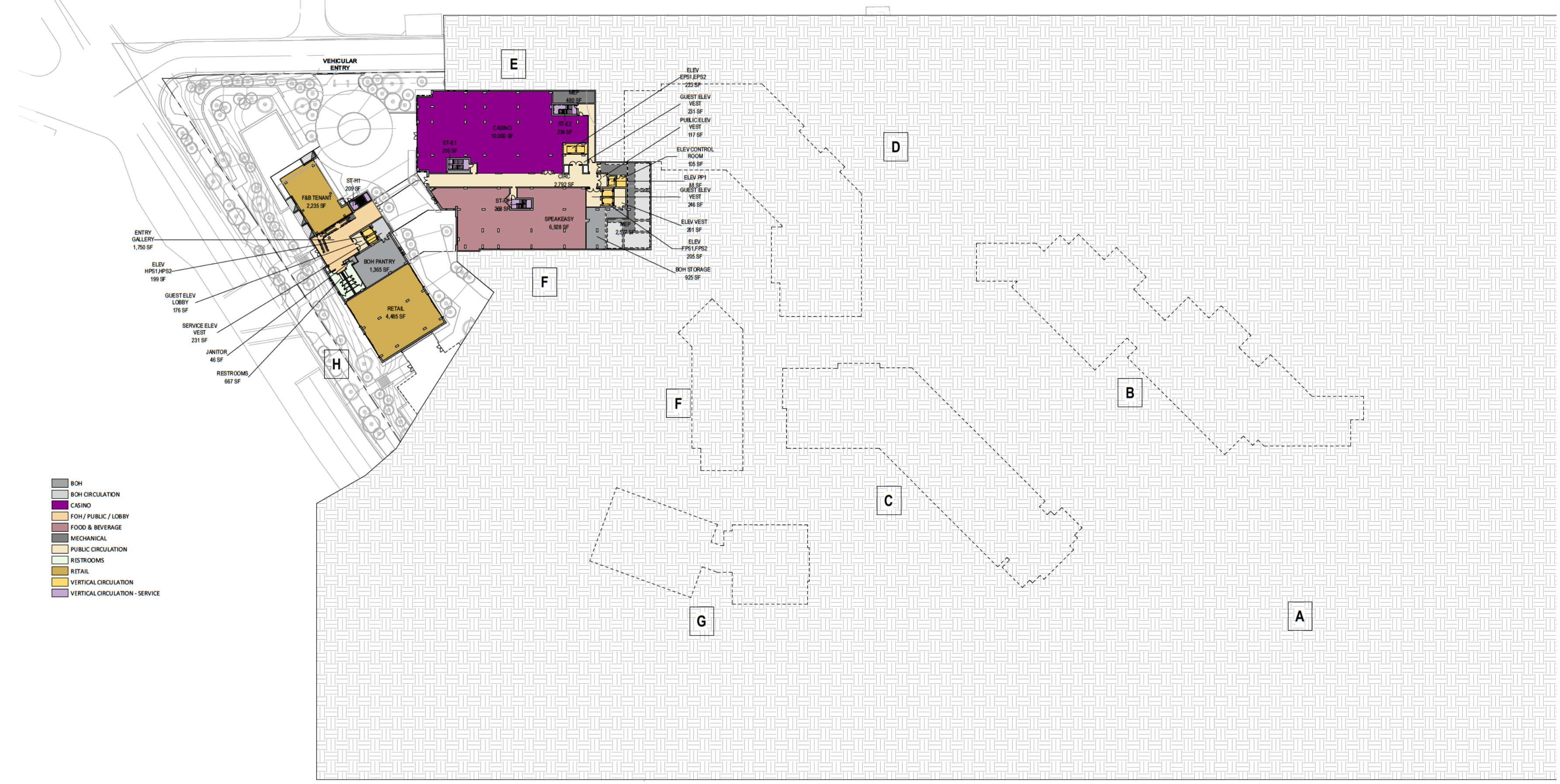
Sheet No.

AG.00.2



② SITE LEVEL 00 - TUNNEL

1" = 40'-0"



- ▨ BOH
- ▨ BOH CIRCULATION
- ▨ CASINO
- ▨ FOH / PUBLIC / LOBBY
- ▨ FOOD & BEVERAGE
- ▨ MECHANICAL
- ▨ PUBLIC CIRCULATION
- ▨ RESTROOMS
- ▨ RETAIL
- ▨ VERTICAL CIRCULATION
- ▨ VERTICAL CIRCULATION - SERVICE

① SITE LEVEL 01

1" = 40'-0"

N

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Sheet Title

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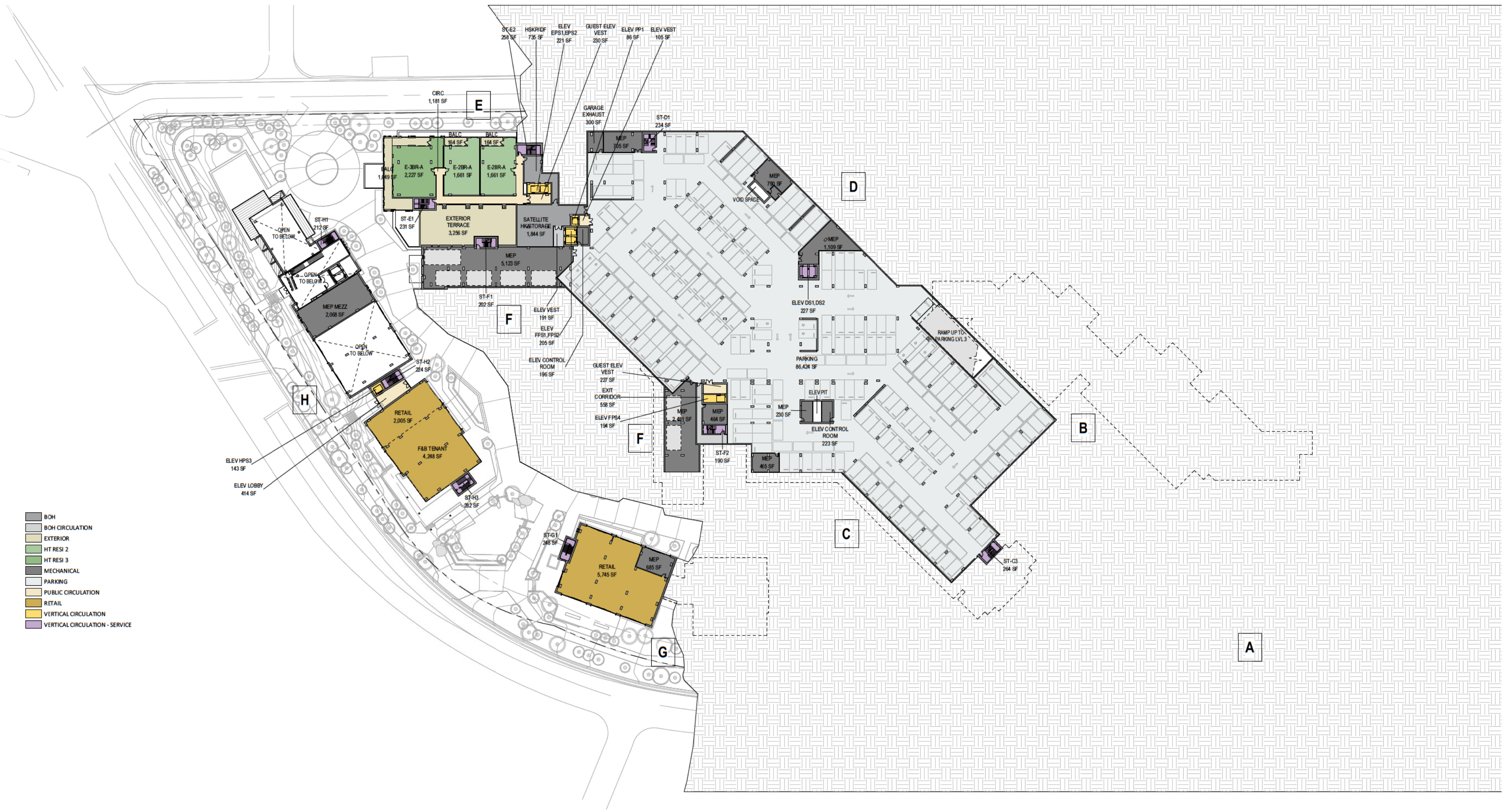
AREA PLAN - SITE LEVEL 01

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.01



1 SITE LEVEL 02

1" = 40'-0"

N

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Project No. **22139**

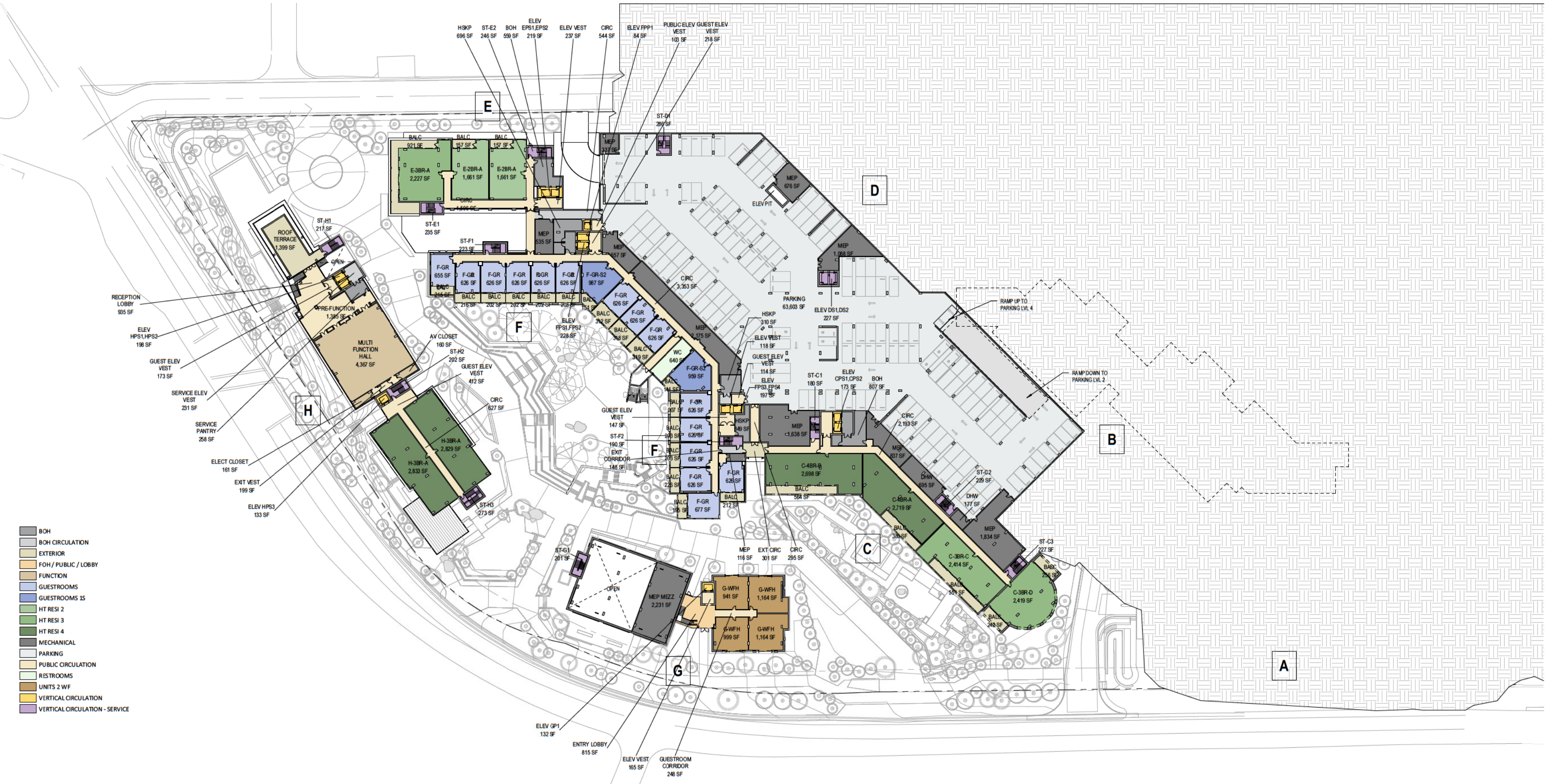
AREA PLAN - SITE LEVEL 02

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.02



① **SITE LEVEL 03**

1" = 40'-0"

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Sheet Title Project No. 22139

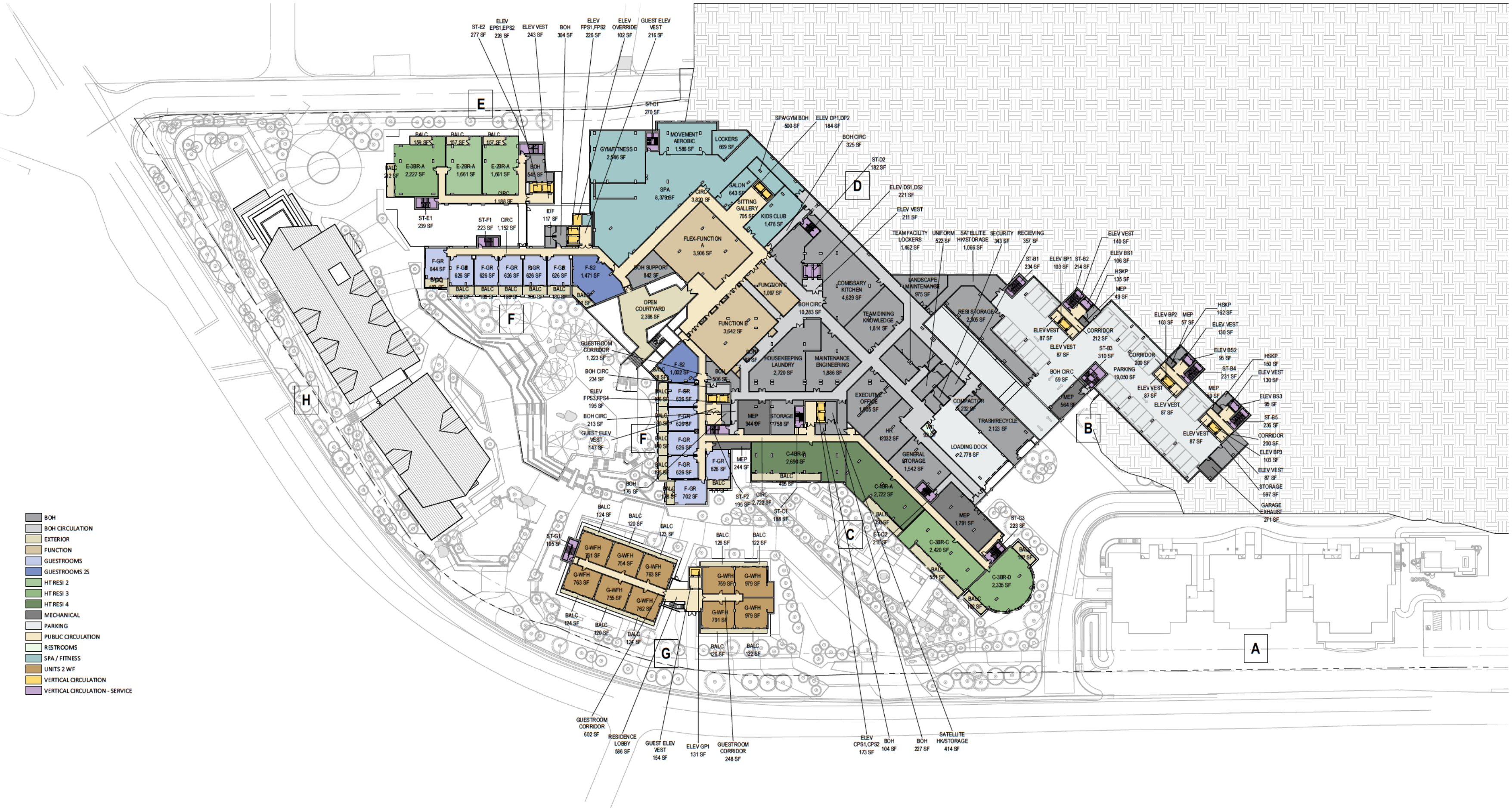
AREA PLAN - SITE LEVEL 03

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.03



① **SITE LEVEL 04**
1" = 40'-0"

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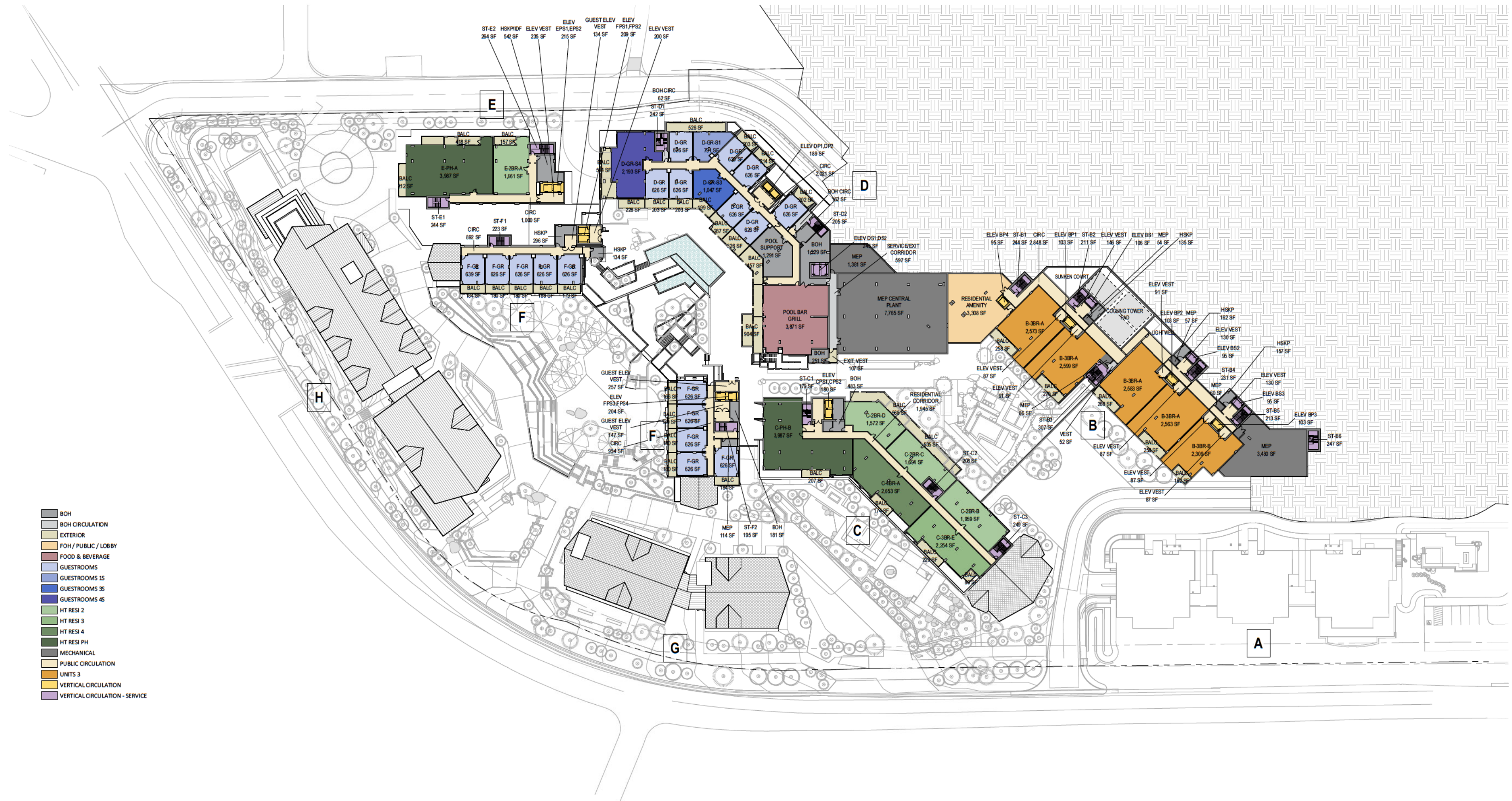
No.	Description	Date

Sheet Title
Project No. **22139**

AREA PLAN - SITE LEVEL 04

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.
AG.04



① **SITE LEVEL 05**
1" = 40'-0"

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No.	Description	Date

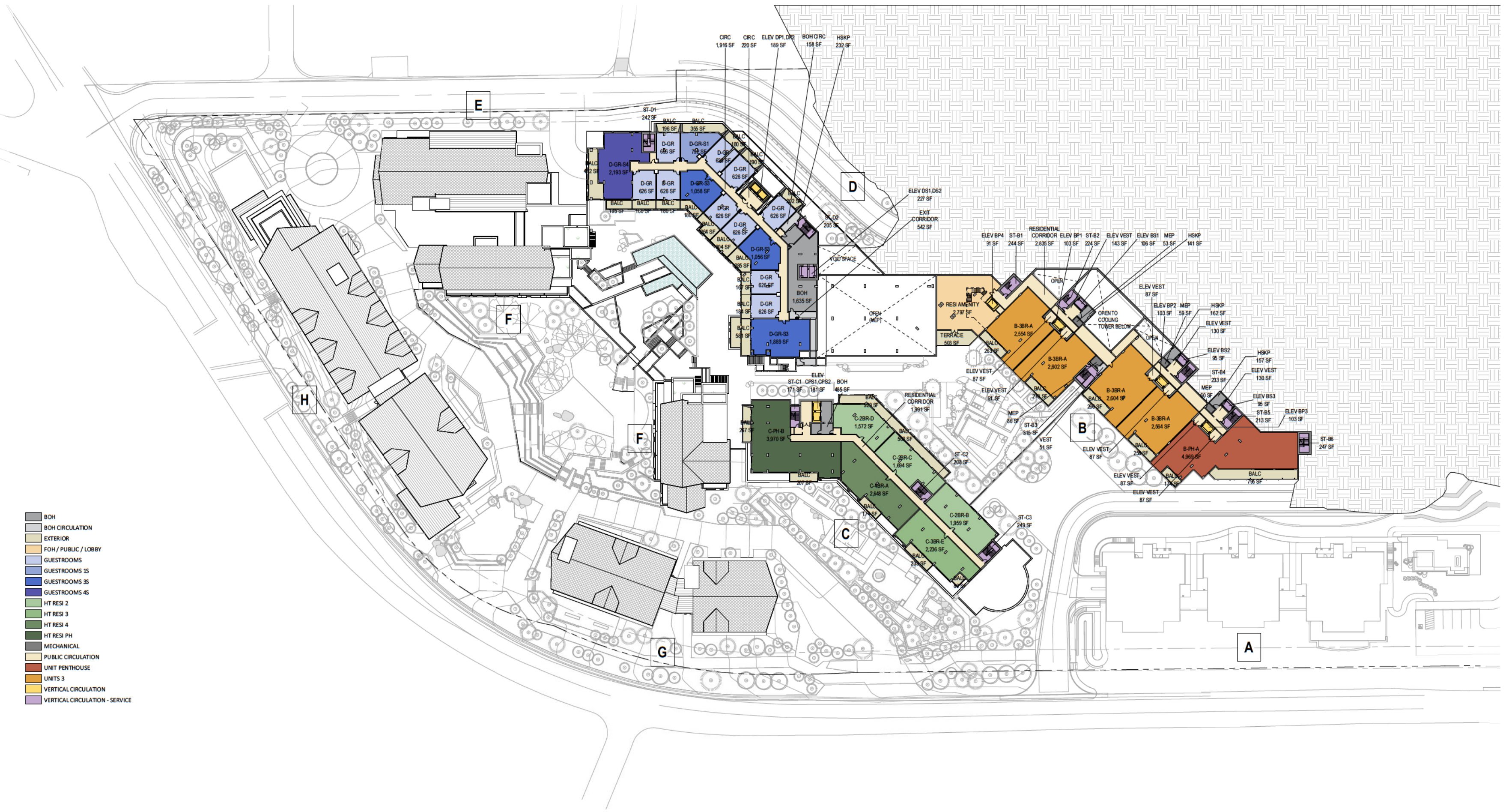
Sheet Title   Project No. 22139

AREA PLAN - SITE LEVEL 05

Phase   TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.05



① SITE LEVEL 06

1" = 40'-0"

N

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Project No. 22139

AREA PLAN - SITE LEVEL 06

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

Sheet No.

AG.06

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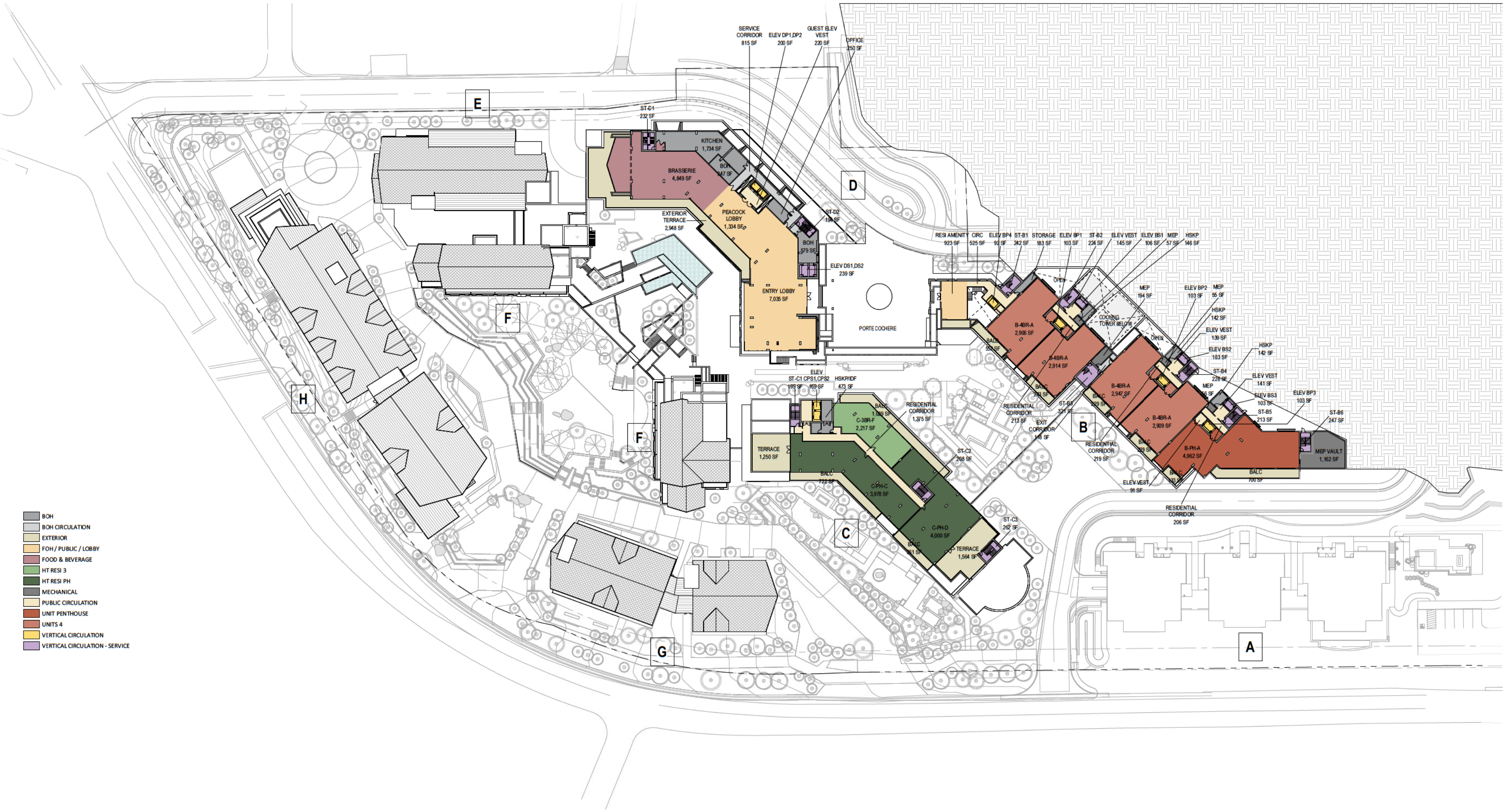

① **SITE LEVEL 07**
1" = 40'-0"

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AREA PLAN - SITE LEVEL 07

Phase

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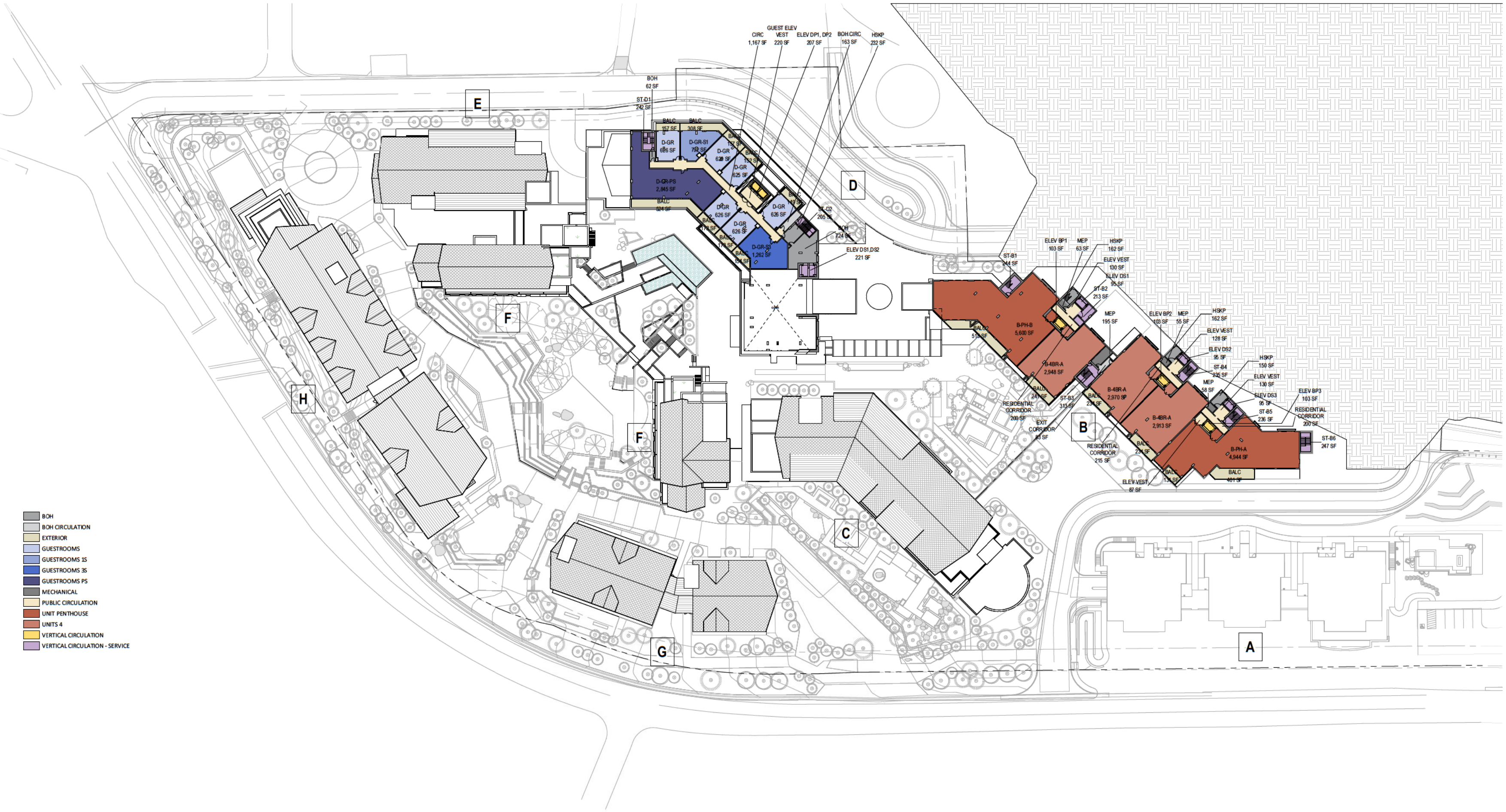
Sheet No.

AG.07



① **SITE LEVEL 08**
1" = 40'-0"

N

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No.	Description	Date

Sheet Title
Project No. 22139

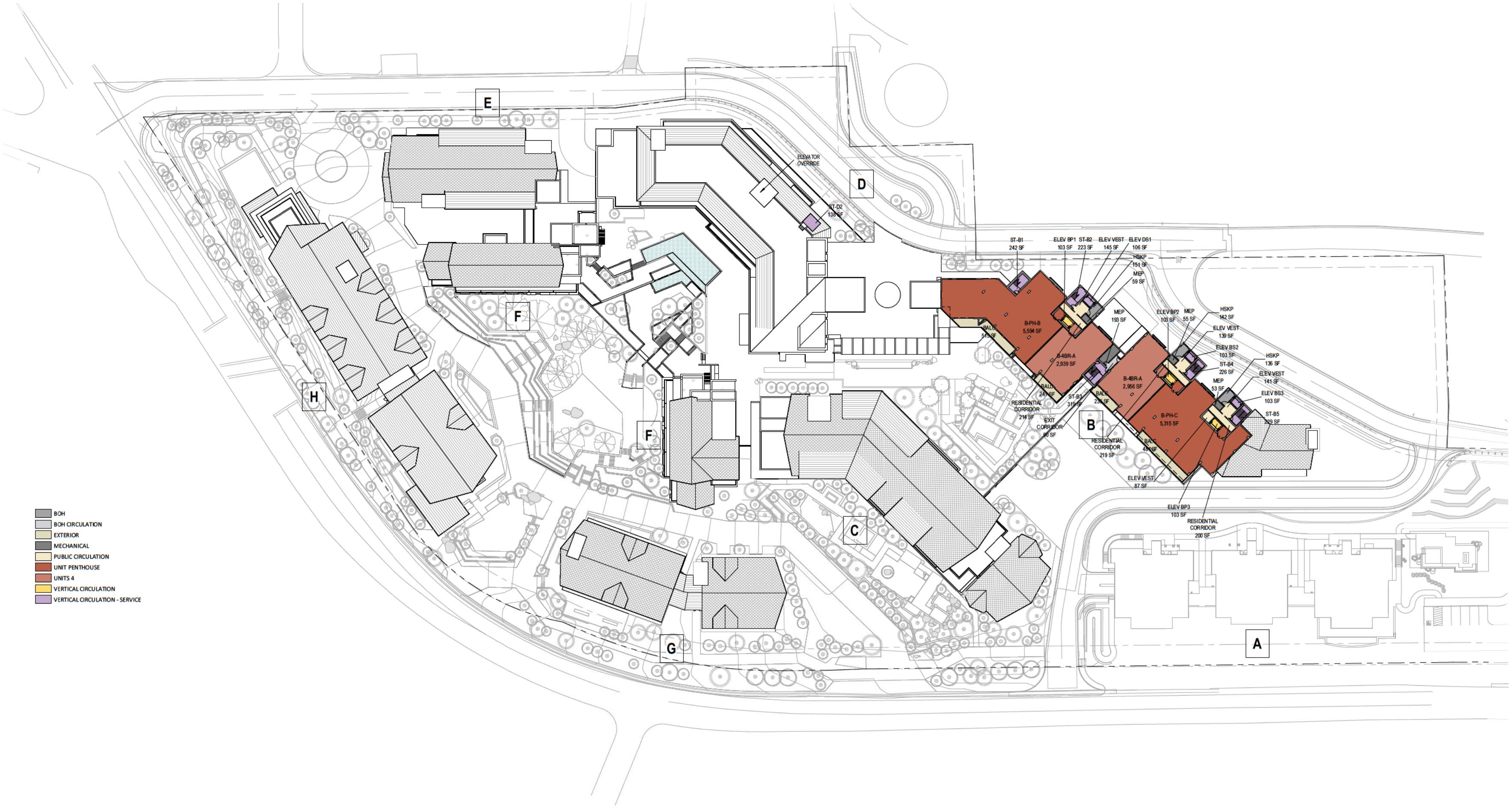
AREA PLAN - SITE LEVEL 08

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

Sheet No.

AG.08



① **SITE LEVEL 09**
1" = 40'-0"

N

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No.	Description	Date

Sheet Title
Project No. 22139

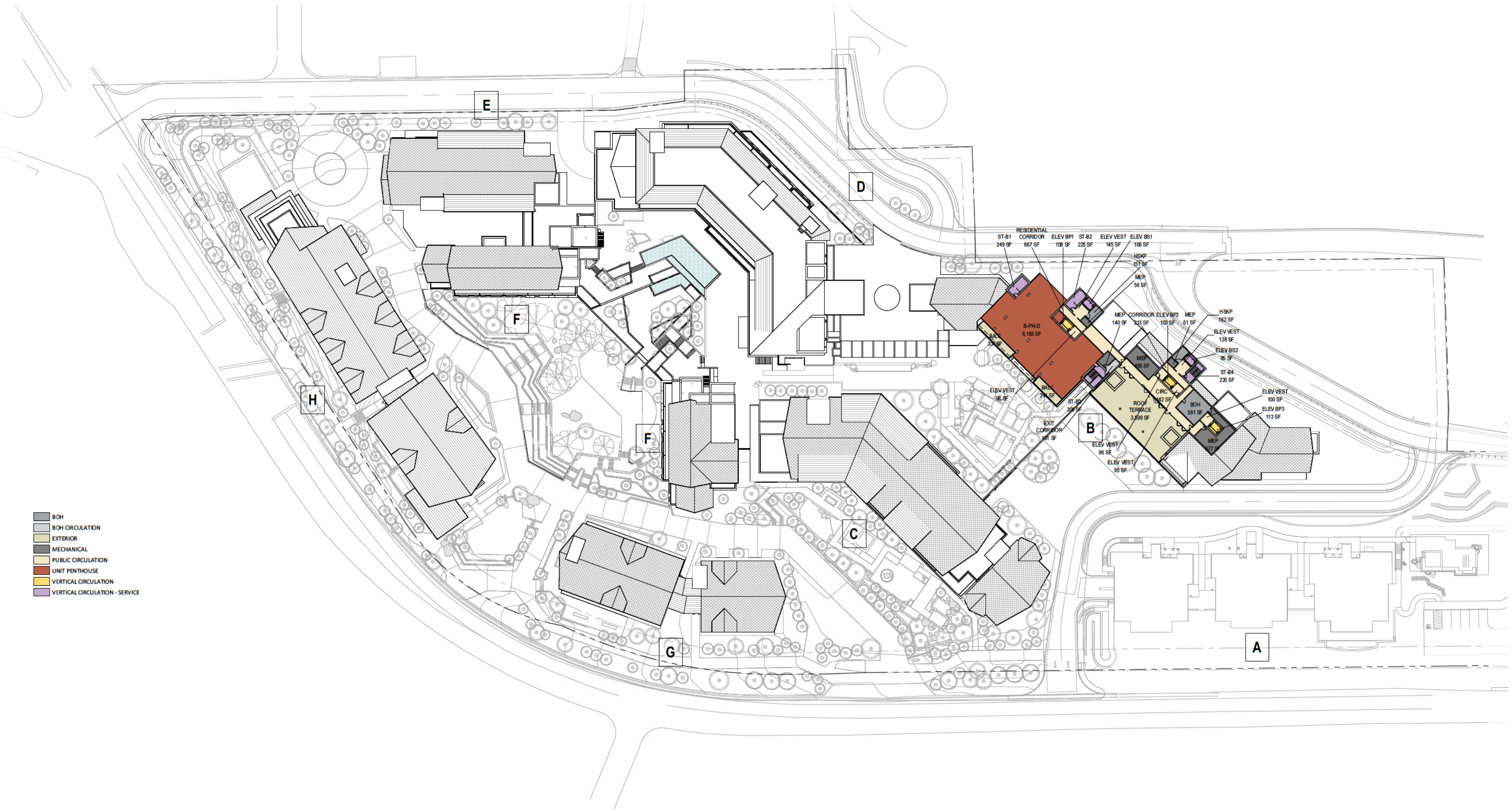
AREA PLAN - SITE LEVEL 09

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.09



- ▨ BOH
- ▨ BOH CIRCULATION
- ▨ EXTERIOR
- ▨ MECHANICAL
- ▨ PUBLIC CIRCULATION
- 🟥 UNIT PENTHOUSE
- 🟨 VERTICAL CIRCULATION
- 🟪 VERTICAL CIRCULATION - SERVICE

① **SITE LEVEL 10**

1" = 40'-0"

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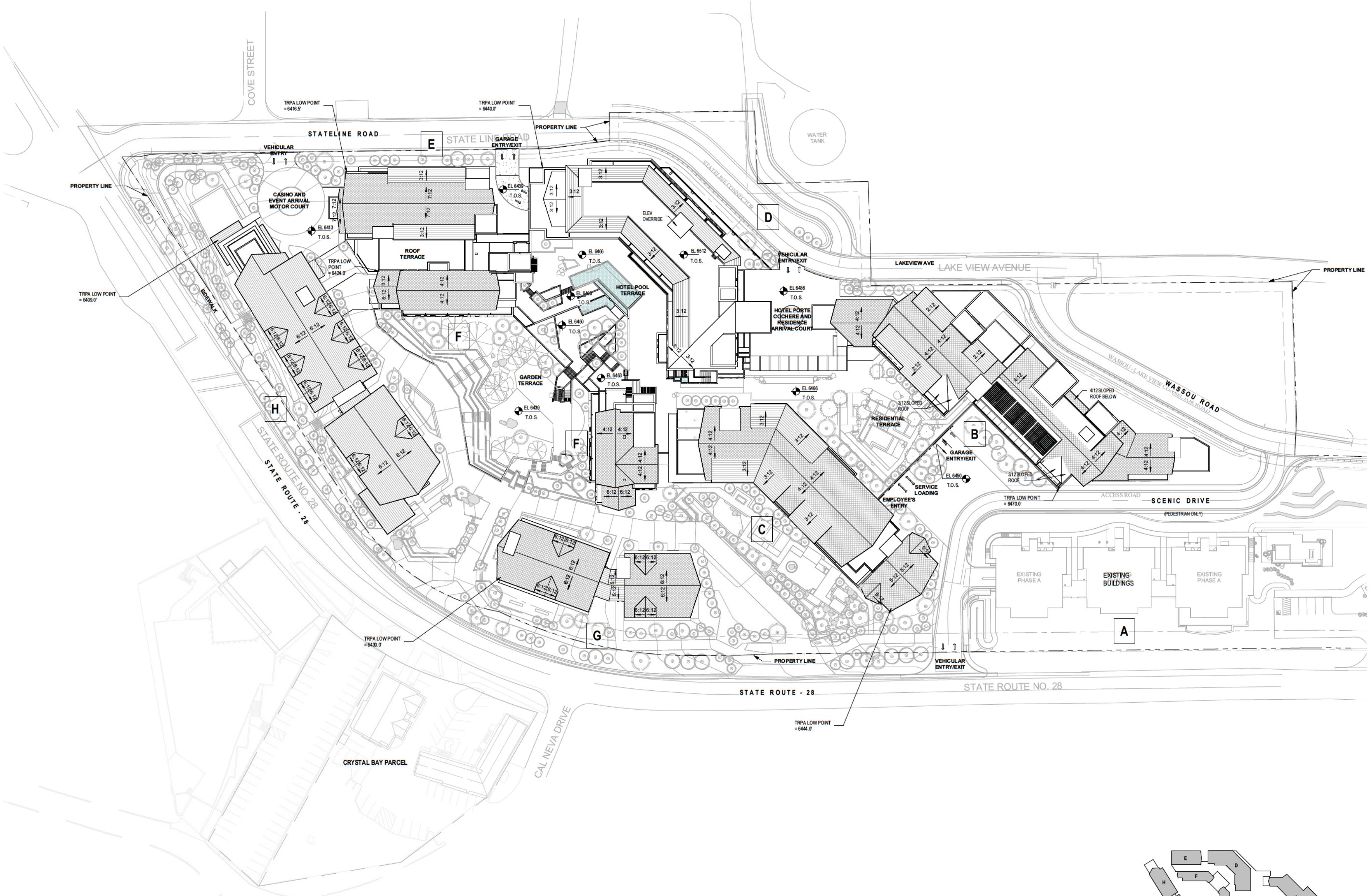
AREA PLAN - SITE LEVEL 10

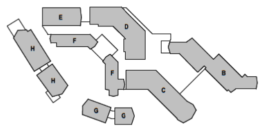
Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

AG.10





① **OVERALL BUILDING SITE PLAN**

1" = 40'-0"

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OVERALL SITE PLAN

Phase
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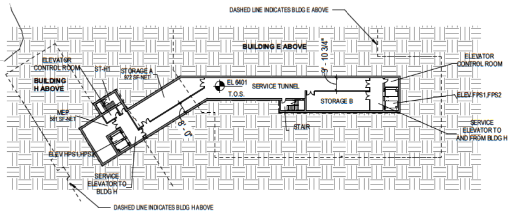
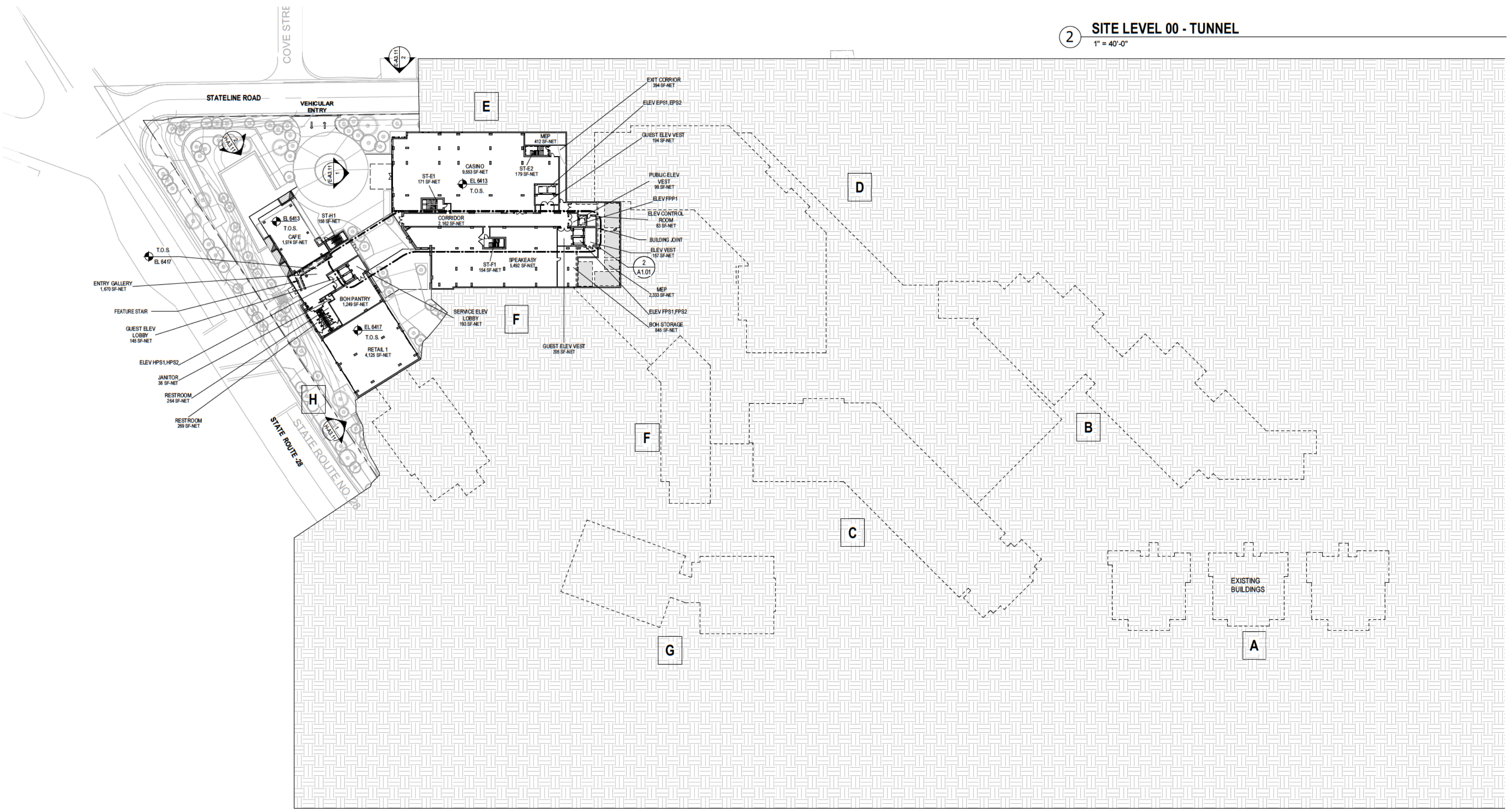
Sheet No.

A1.00



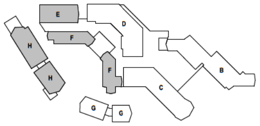
2 SITE LEVEL 00 - TUNNEL

1" = 40'-0"



1 SITE LEVEL 01

1" = 40'-0"



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Sheet Title
Project No. 22139

OVERALL PLAN - SITE LEVEL 01

Phase
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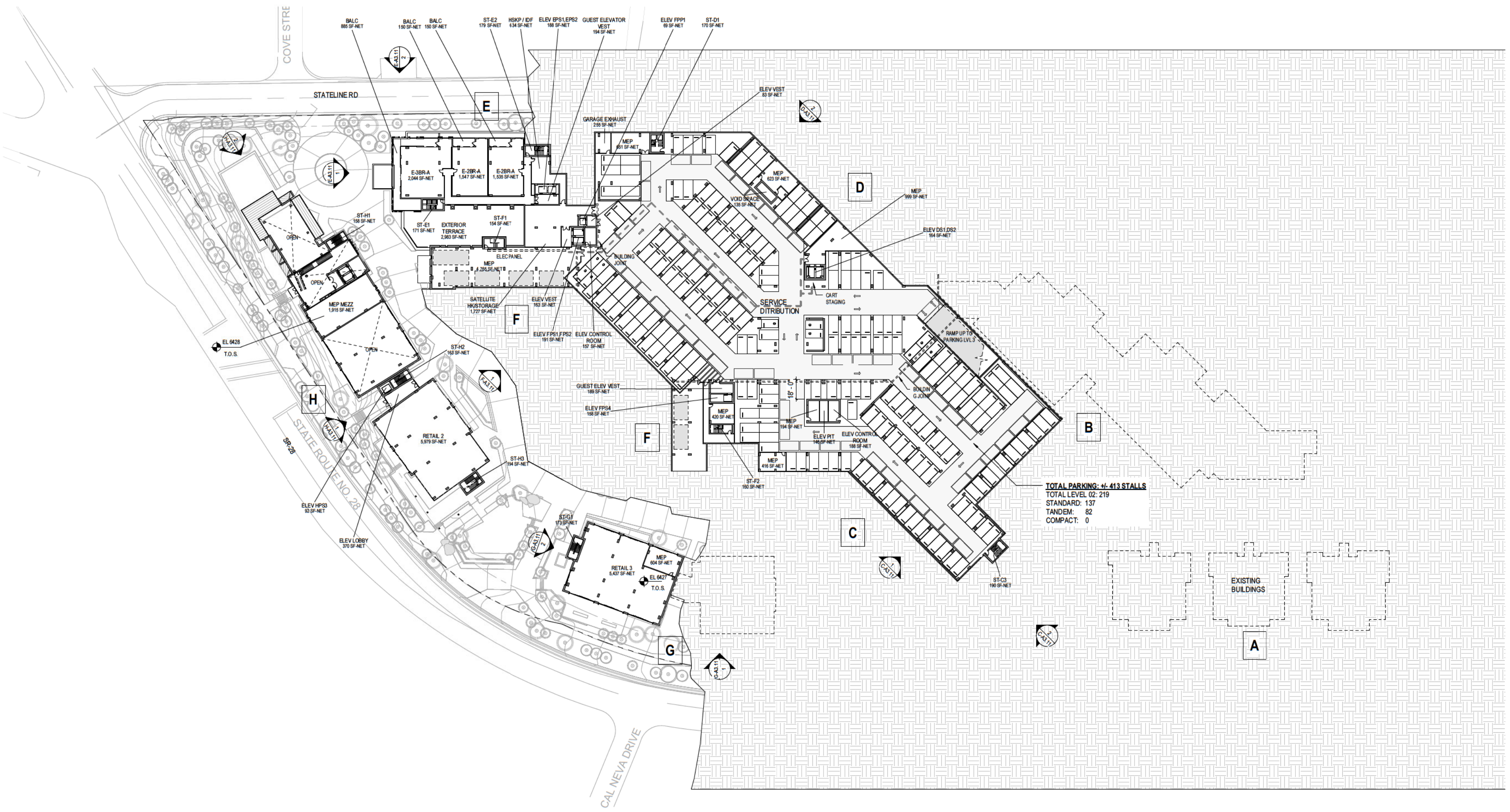
Sheet No.

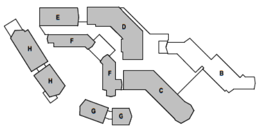
A1.01



TOTAL PARKING: +/- 413 STALLS
TOTAL LEVEL 02: 219
STANDARD: 137
TANDEM: 82
COMPACT: 0

1 SITE LEVEL 02

1" = 40'-0"



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OVERALL PLAN - SITE LEVEL 02

Phase

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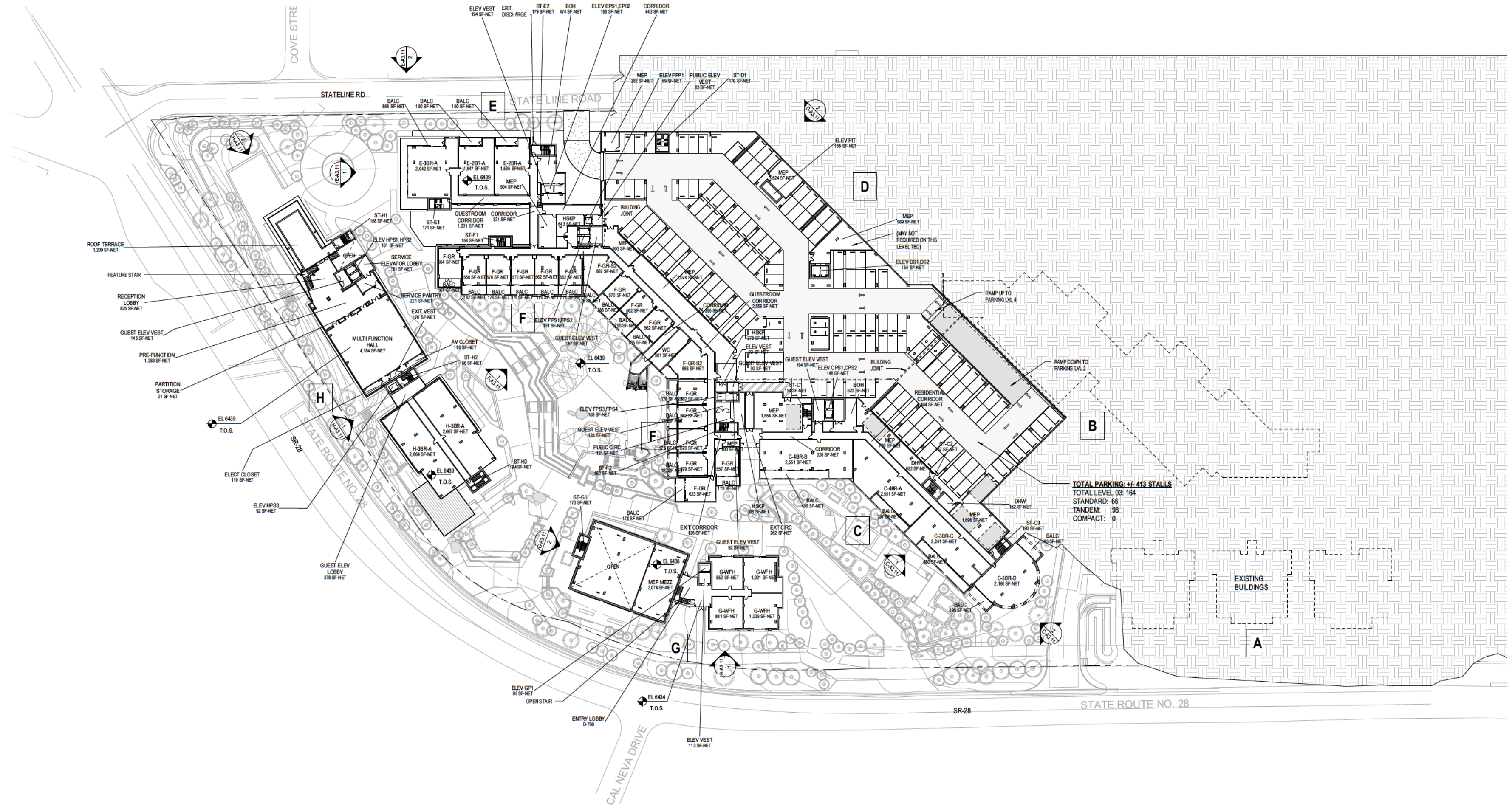
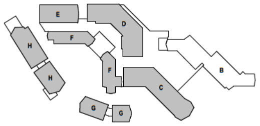
Sheet No.

A1.02



SITE LEVEL 03

1" = 40'-0"



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OVERALL PLAN - SITE LEVEL 03

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A1.03

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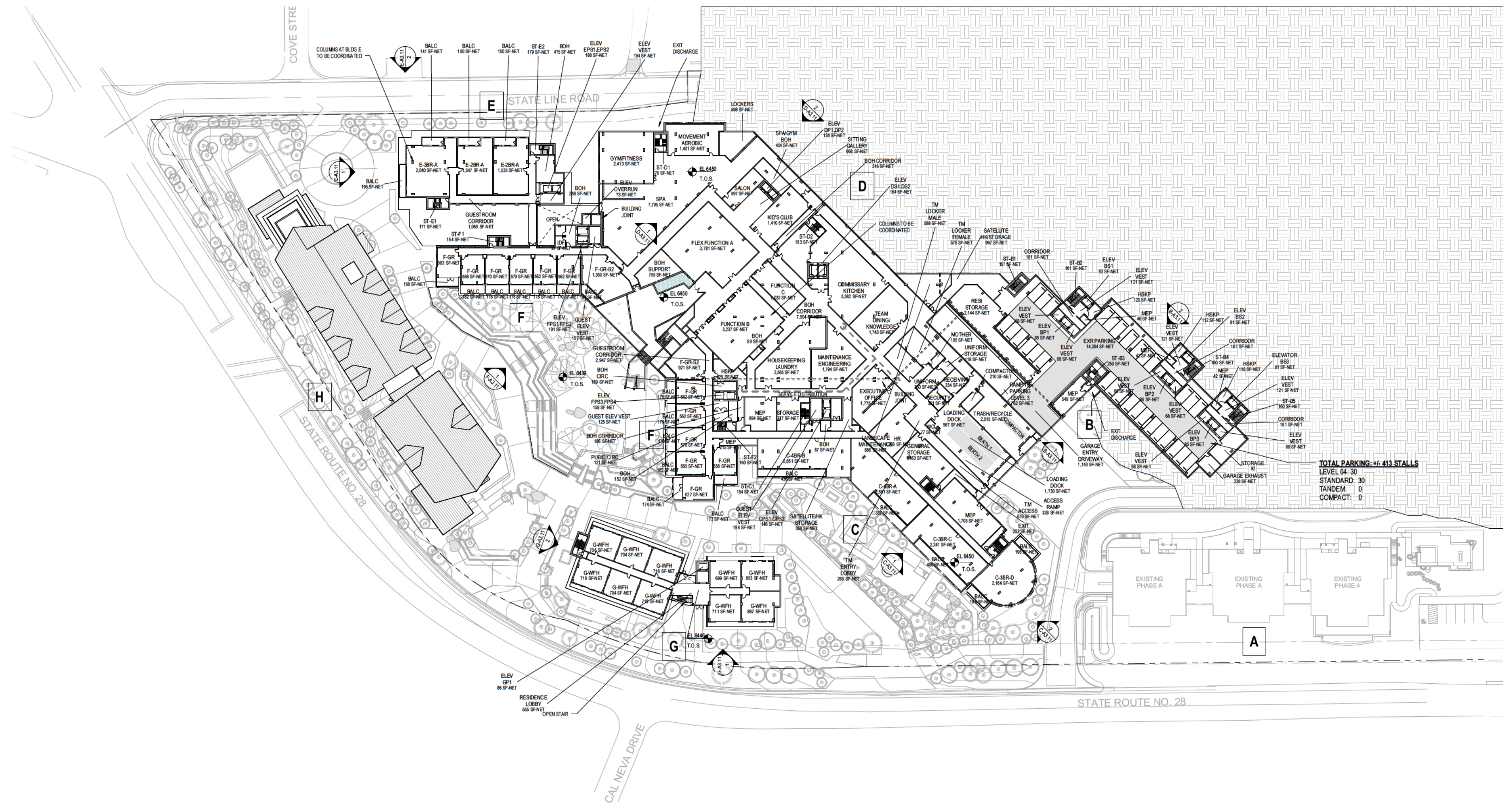
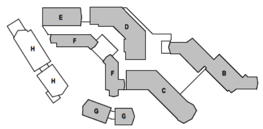


TOTAL PARKING: +/- 413 STALLS
LEVEL 04: 30
STANDARD: 30
TANDEM: 0
COMPACT: 0

1 SITE LEVEL 04

1" = 40'-0"



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OVERALL PLAN - SITE LEVEL 04

Phase
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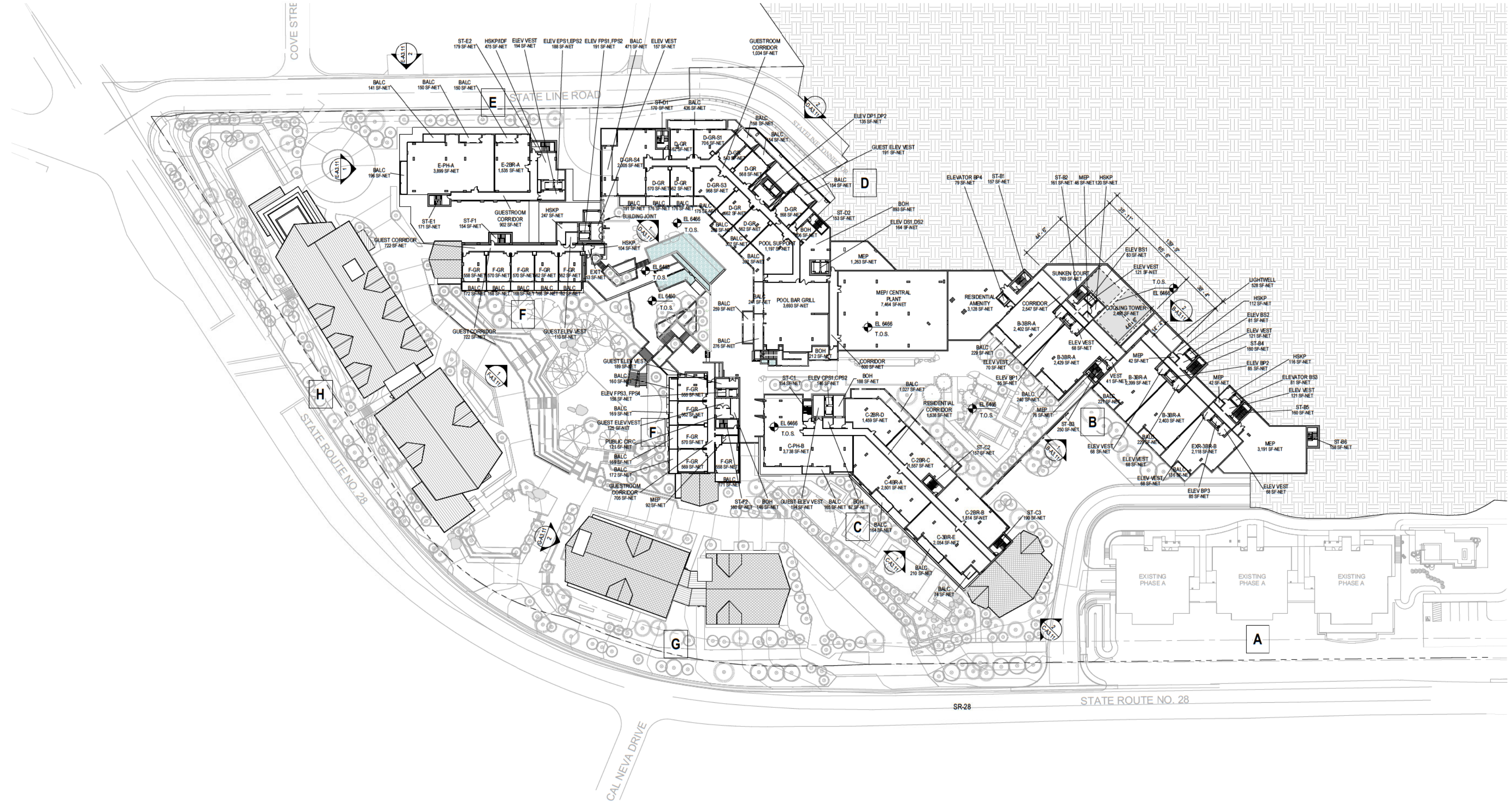
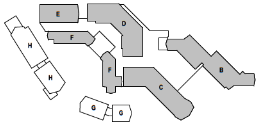
Sheet No.

A1.04



1 **SITE LEVEL 05**

1" = 40'-0"



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Sheet Title Project No. 22139

OVERALL PLAN - SITE LEVEL 05

Phase

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Sheet No.

A1.05

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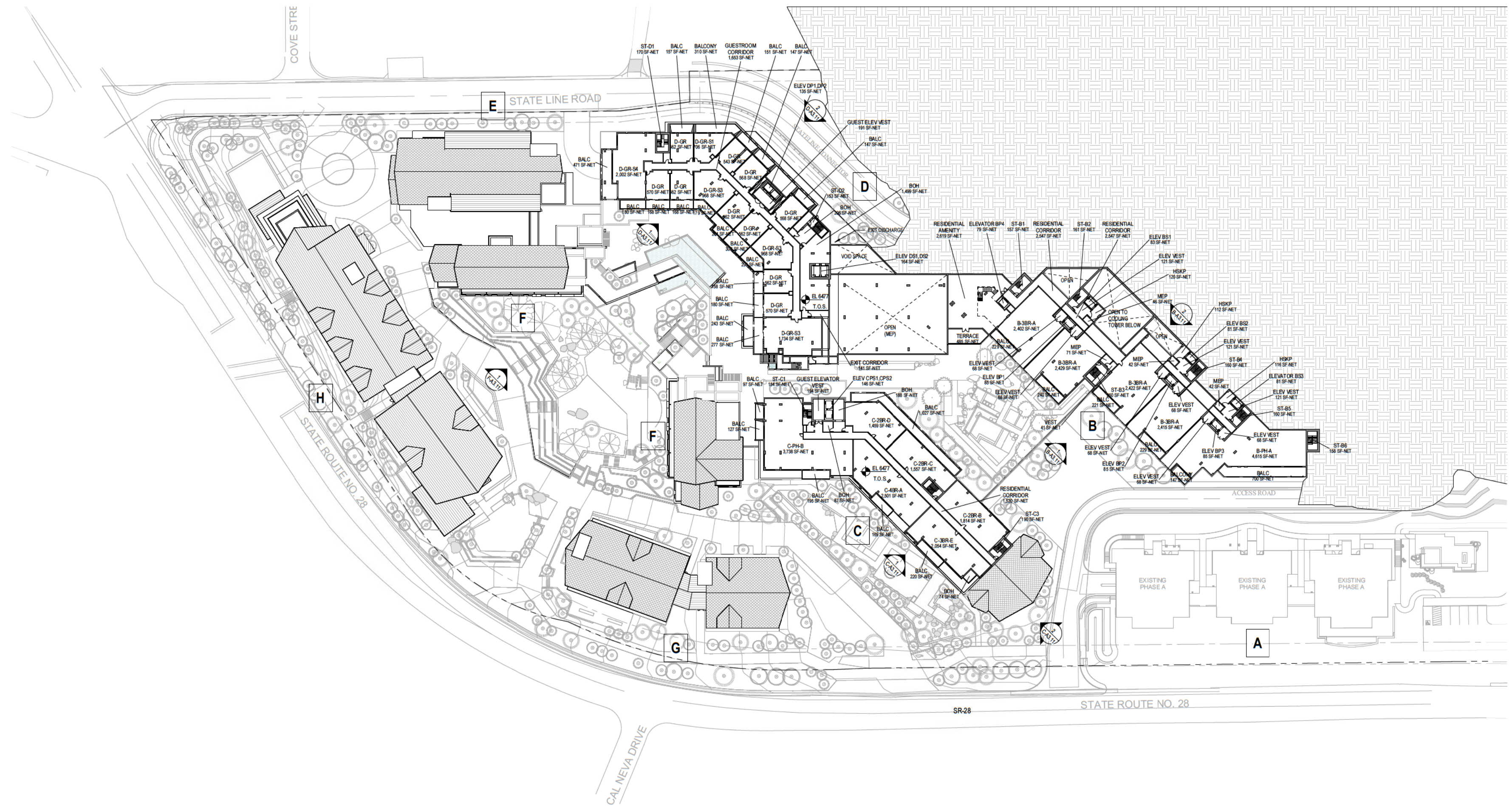
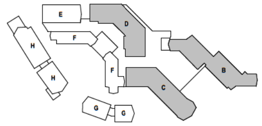


1 **SITE LEVEL 06**

1" = 40'-0"



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No.	Description	Date

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Project No. 22139

OVERALL PLAN - SITE LEVEL 06

Phase

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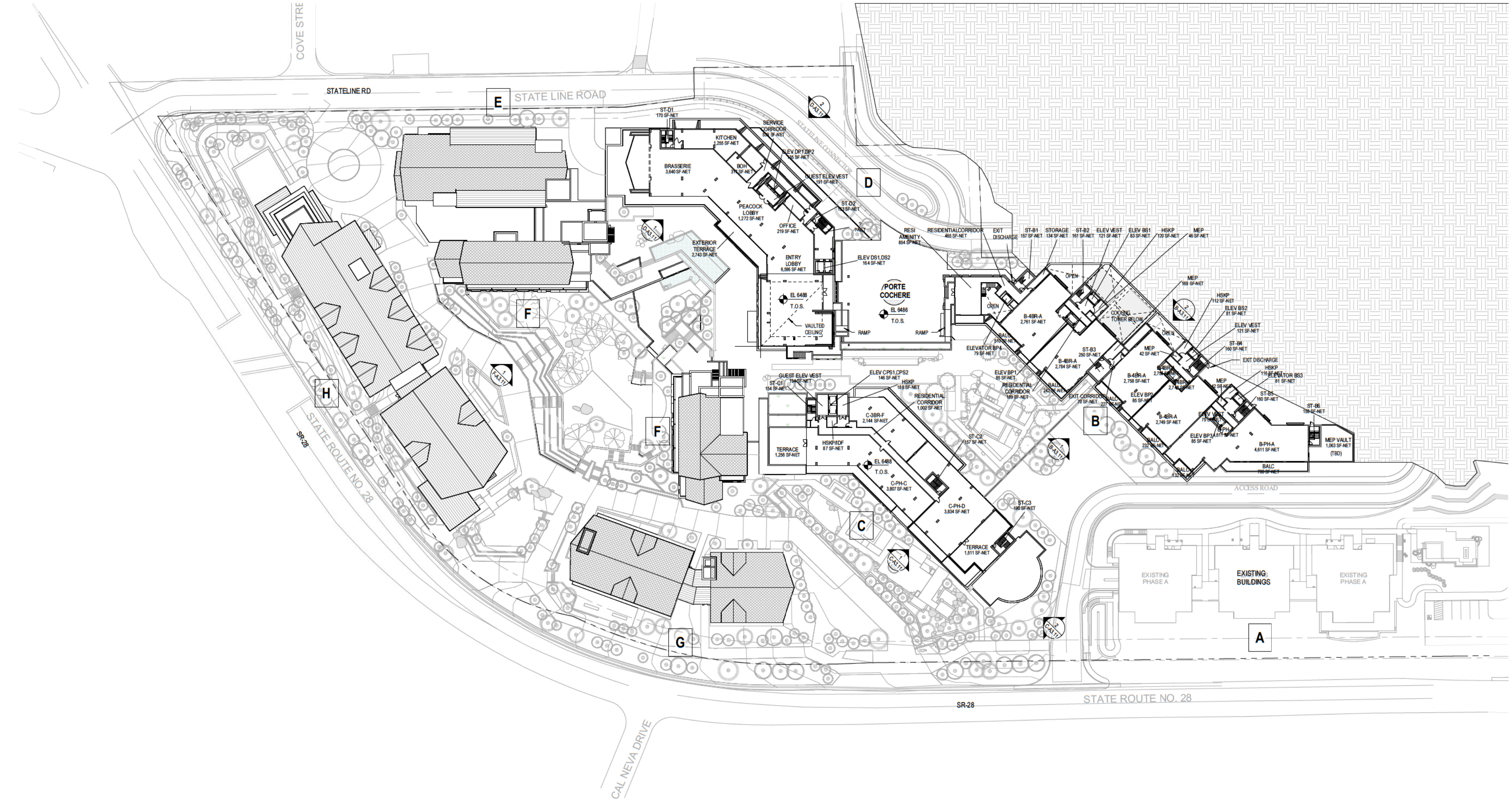
Sheet No.

A1.06



1 **SITE LEVEL 07**

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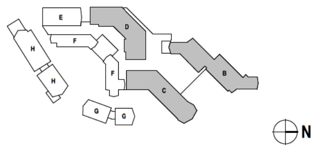

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OVERALL PLAN - SITE LEVEL 07

Phase

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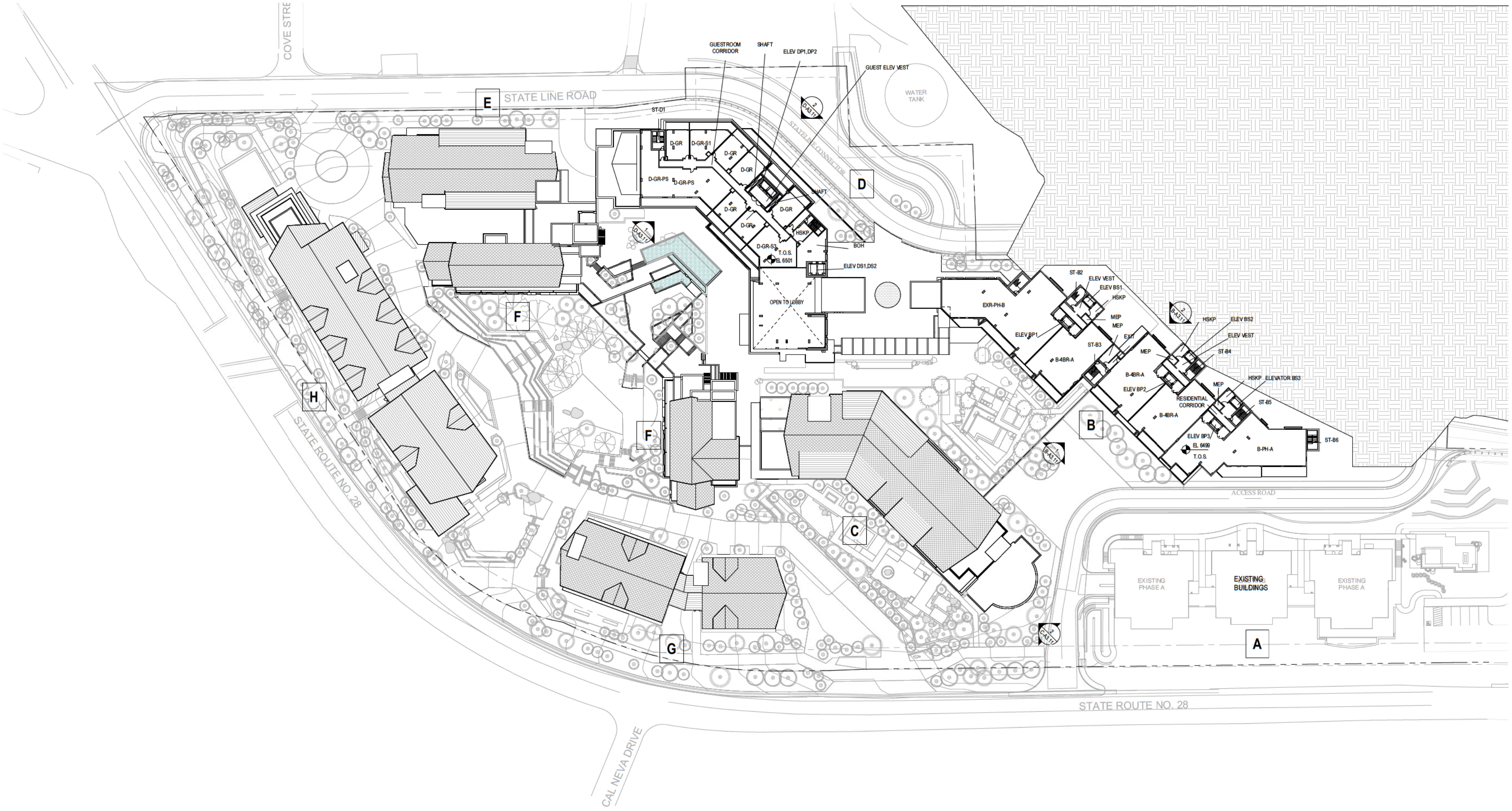
Sheet No.

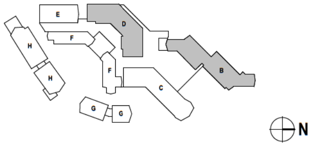
A1.07



SITE LEVEL 08

1

1" = 40'-0"



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Sheet Title

Project No. **22139**

OVERALL PLAN - SITE LEVEL 08

Phase

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A1.08

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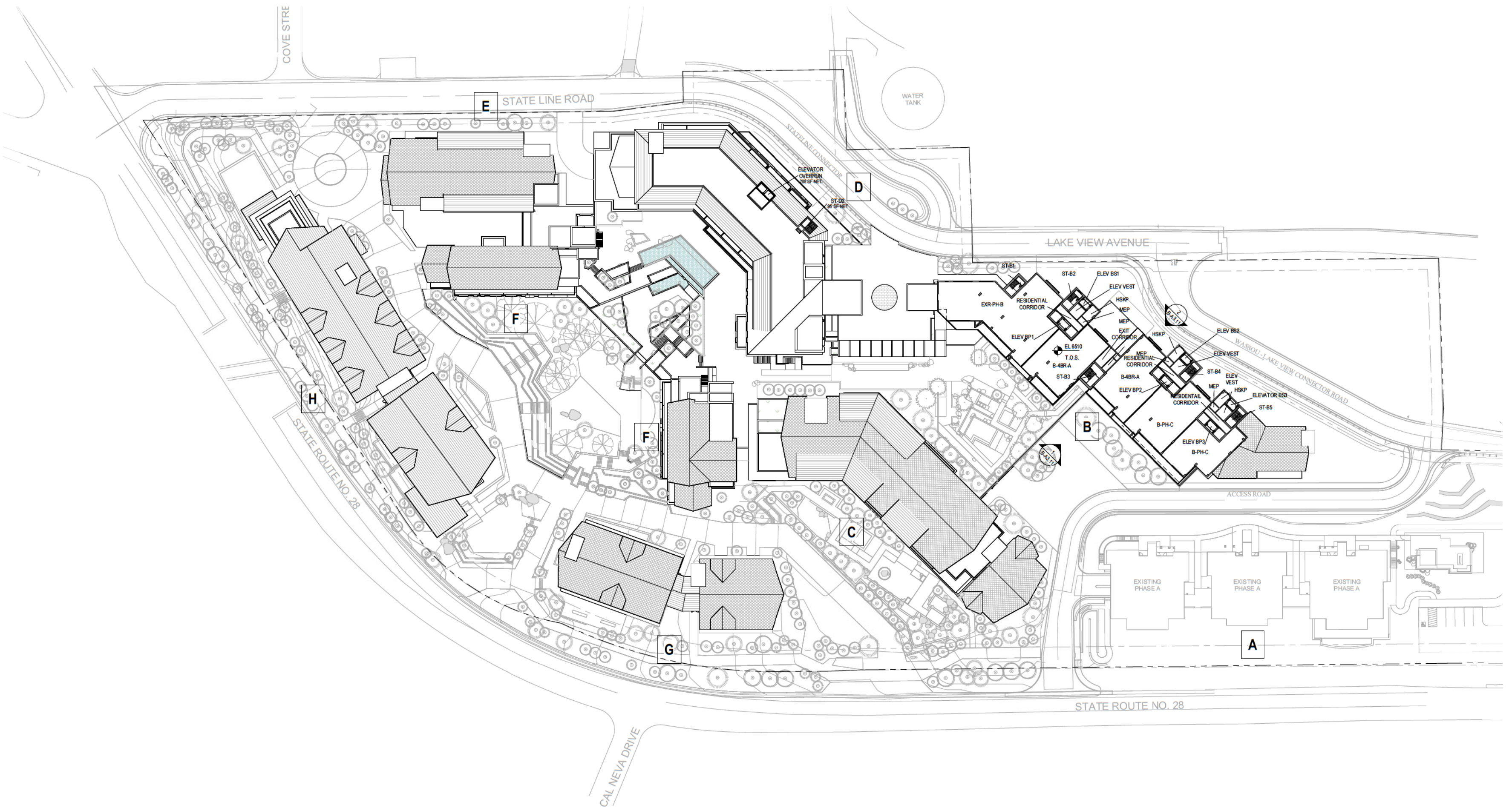
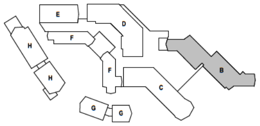


① **SITE LEVEL 09**

1" = 40'-0"



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OVERALL PLAN - SITE LEVEL 09

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

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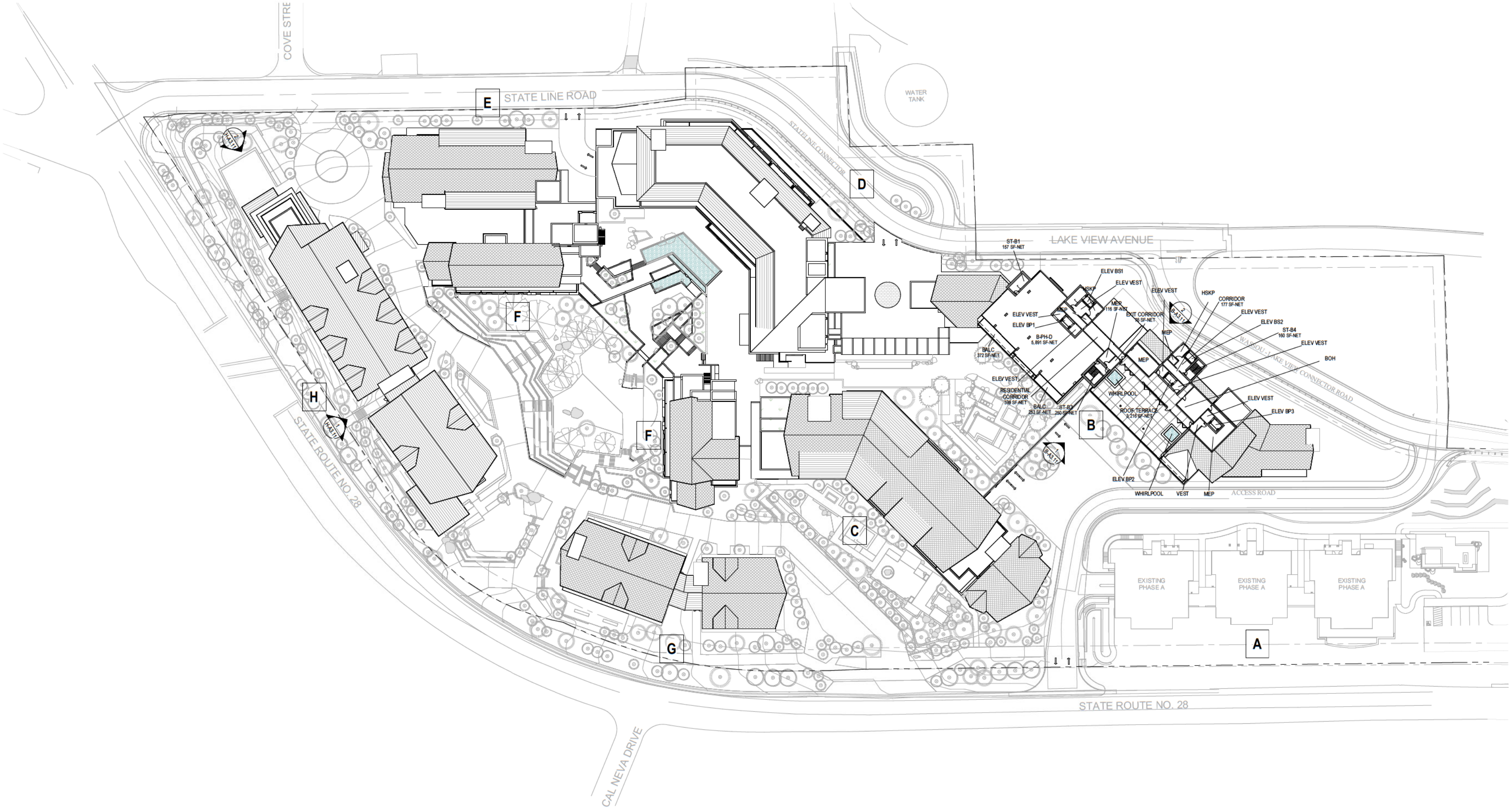
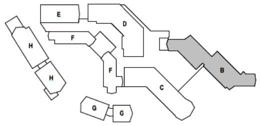


① SITE LEVEL 10

1" = 40'-0"



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Project No. 22139

OVERALL PLAN - SITE
LEVEL 10

Phase

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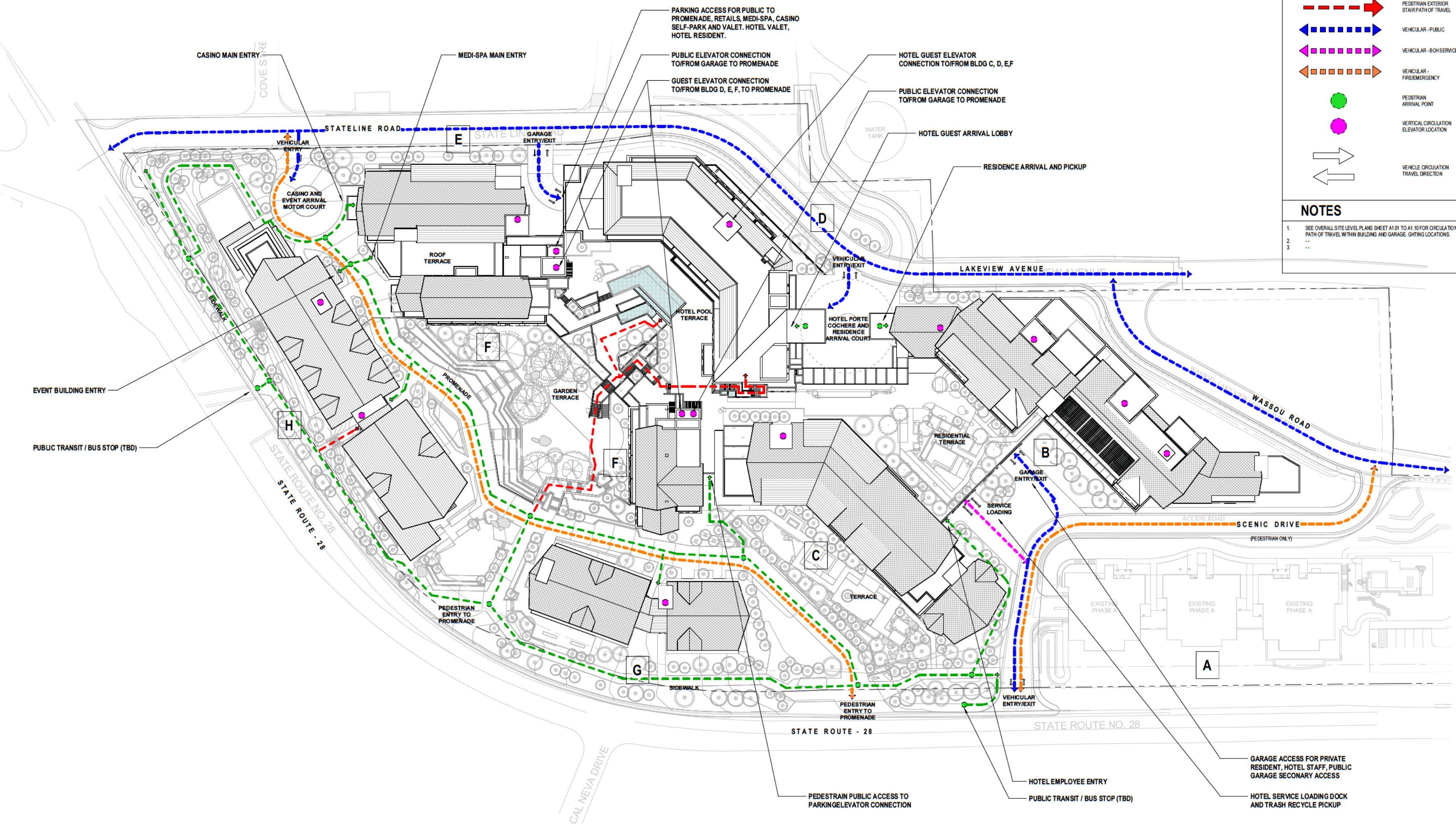
ONGOING, FURTHER
COORDINATION FORTHCOMING

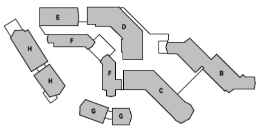
Sheet No.

A1.10



1 OVERALL SITE CIRCULATION PLAN

1" = 40'-0"



BUILDING DIRECTORY

A	EXISTING RESIDENTIAL BUILDING
B	EXCLUSIVE (PRIVATE) RESIDENTIAL BUILDING
C	HOTEL RESIDENCE BUILDING
D	MAIN HOTEL BUILDING (GUEST ARRIVAL BUILDING)
E	HOTEL RESIDENCE BUILDING (INCLUDES CASINO AT GROUND LEVEL)
F	HOTEL BUILDING (SPLIT INTO TWO WINGS: EAST AND SOUTH)
G	RETAIL AND WORKFORCE HOUSING BUILDING
H	RETAIL AND EVENT / MULTI-FUNCTION BUILDING

LEGEND

🟩 - - - →	PEDSTRIAN PATH OF TRAVEL
🟥 - - - →	PEDSTRIAN EXTERIOR STAIR PATH OF TRAVEL
◀ ■ ■ ■ ▶	VEHICULAR - PUBLIC
◀ ■ ■ ■ ▶	VEHICULAR - BOH SERVICE
◀ ■ ■ ■ ▶	VEHICULAR - FIRE/EMERGENCY
●	PEDSTRIAN ARRIVAL POINT
●	VERTICAL CIRCULATION ELEVATOR LOCATION
⇨ ⇦	VEHICLE CIRCULATION TRAVEL DIRECTION

NOTES

1. SEE OVERALL SITE LEVEL PLANS SHEET A1.01 TO A1.10 FOR CIRCULATION / PATH OF TRAVEL WITHIN BUILDING AND GARAGE. GHTING LOCATIONS.
2. - -
3. - -

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No.	Description	Date

Sheet Title

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OVERALL PLAN - SITE CIRCULATION

Phase

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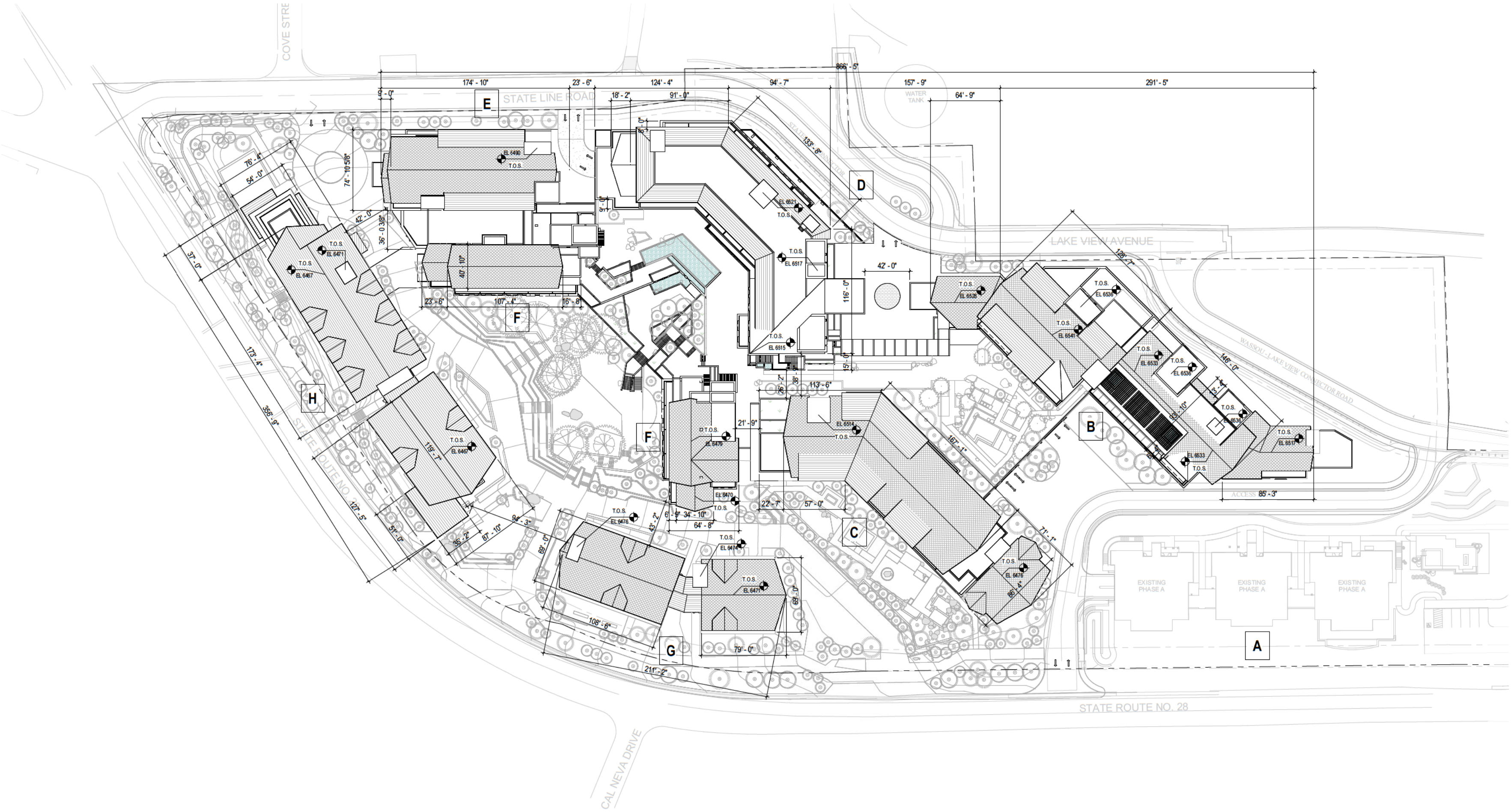
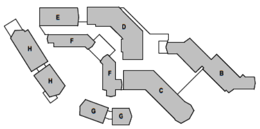
Sheet No.

A1.11



① OVERALL SITE BLDG DIMENSION REFERENCE PLAN

1" = 40'-0"



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OVERALL PLAN - BLDG
DIMENSIONAL REFERENCE

Phase
TECHNICAL COORDINATION IS
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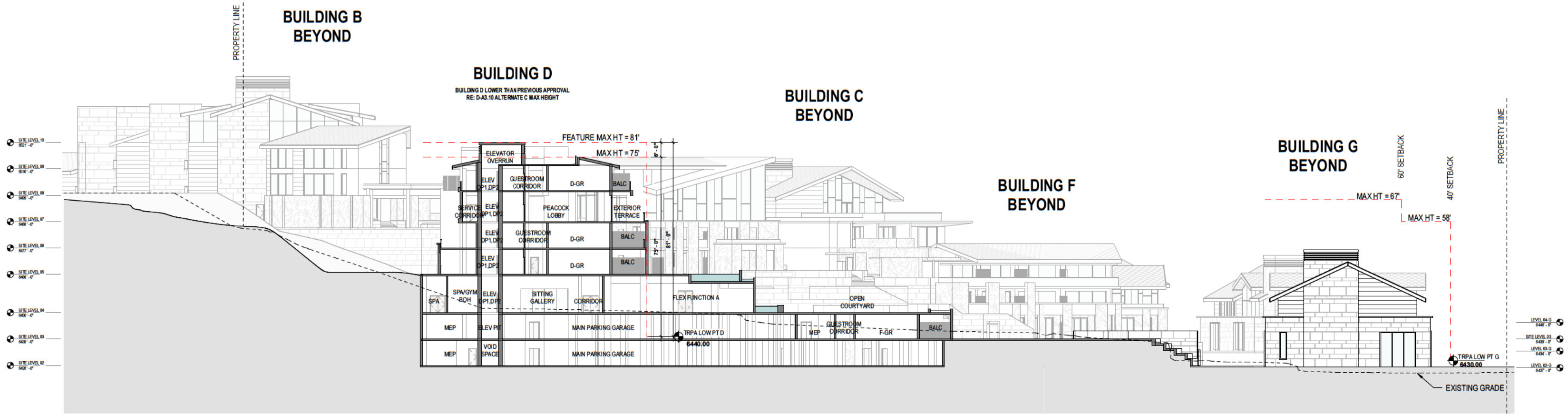
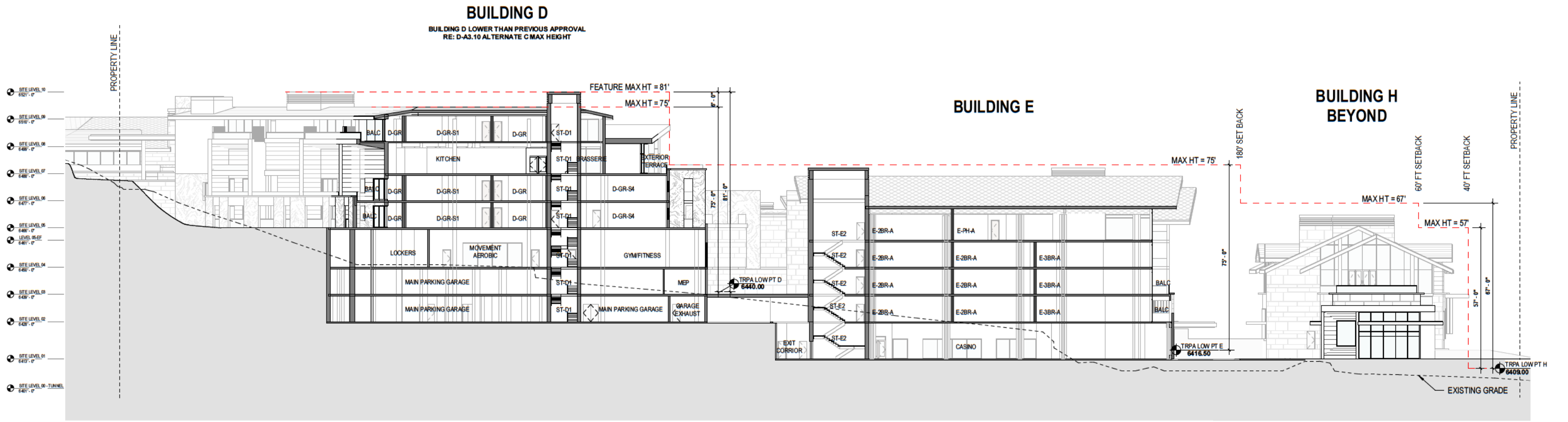
COORDINATION FORTHCOMING

Sheet No.

A1.12



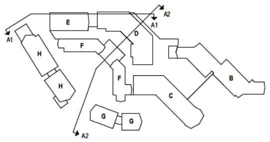
② SITE SECTION A2
1" = 20'-0"



① SITE SECTION A1
1" = 20'-0"

BUILDING D NOTE:

TOTAL BUILDING HEIGHT LESS THAN TOTAL BUILDING HEIGHT OF PRIOR APPROVAL. FEATURE ELEMENTS AND RIDGE LINES EXTEND INTO THE ALLOWABLE 6FT ABOVE IN ORDER TO MAINTAIN PITCHED ROOF FORMS. FLAT ROOF FORMS WOULD BE REQUIRED OTHERWISE TO MAINTAIN GUEST ROOM AND PUBLIC SPACE HEIGHT REQUIREMENTS.



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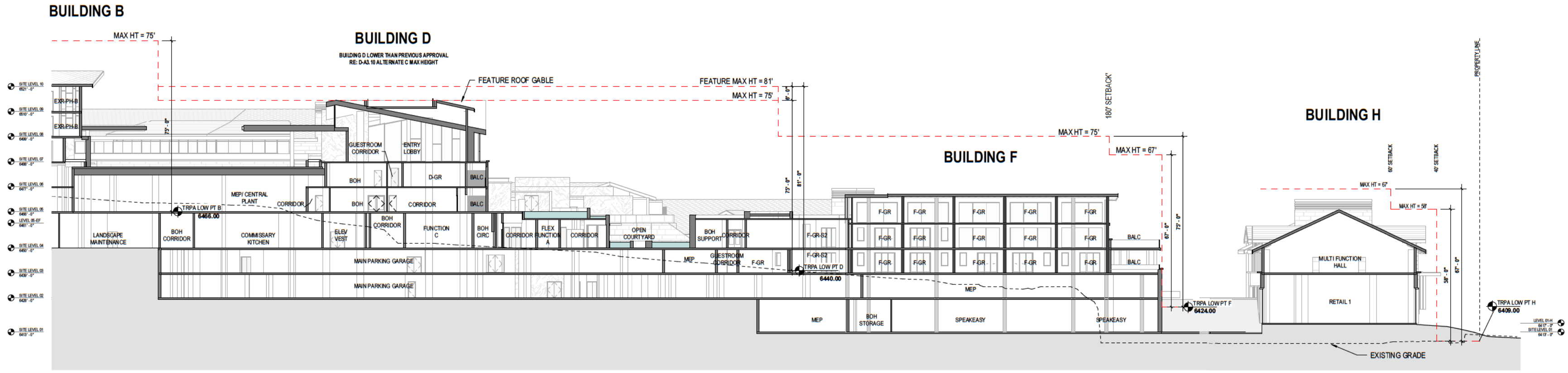
Project No. 22139

SITE SECTION

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

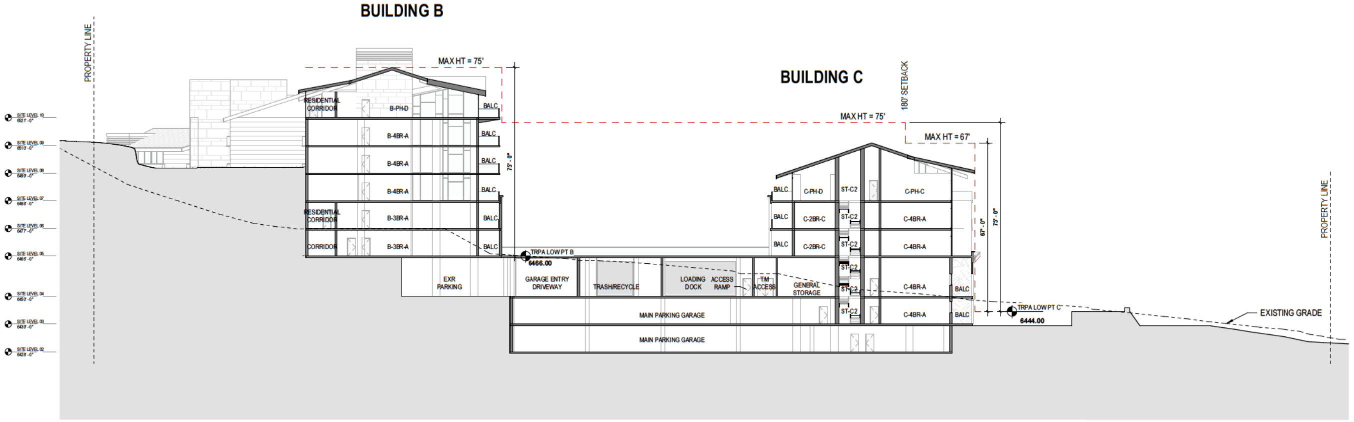
Sheet No.

A1.40



SITE SECTION A4

② 1" = 20'-0"

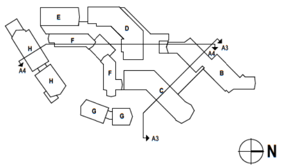


SITE SECTION A3

① 1" = 20'-0"

BUILDING D NOTE:

TOTAL BUILDING HEIGHT LESS THAN TOTAL BUILDING HEIGHT OF PRIOR APPROVAL. FEATURE ELEMENTS AND RIDGE LINES EXTEND INTO THE ALLOWABLE 6FT ABOVE IN ORDER TO MAINTAIN PITCHED ROOF FORMS. FLAT ROOF FORMS WOULD BE REQUIRED OTHERWISE TO MAINTAIN GUEST ROOM AND PUBLIC SPACE HEIGHT REQUIREMENTS.



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SITE SECTION

Phase

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Sheet No.

A1.41

NOTE
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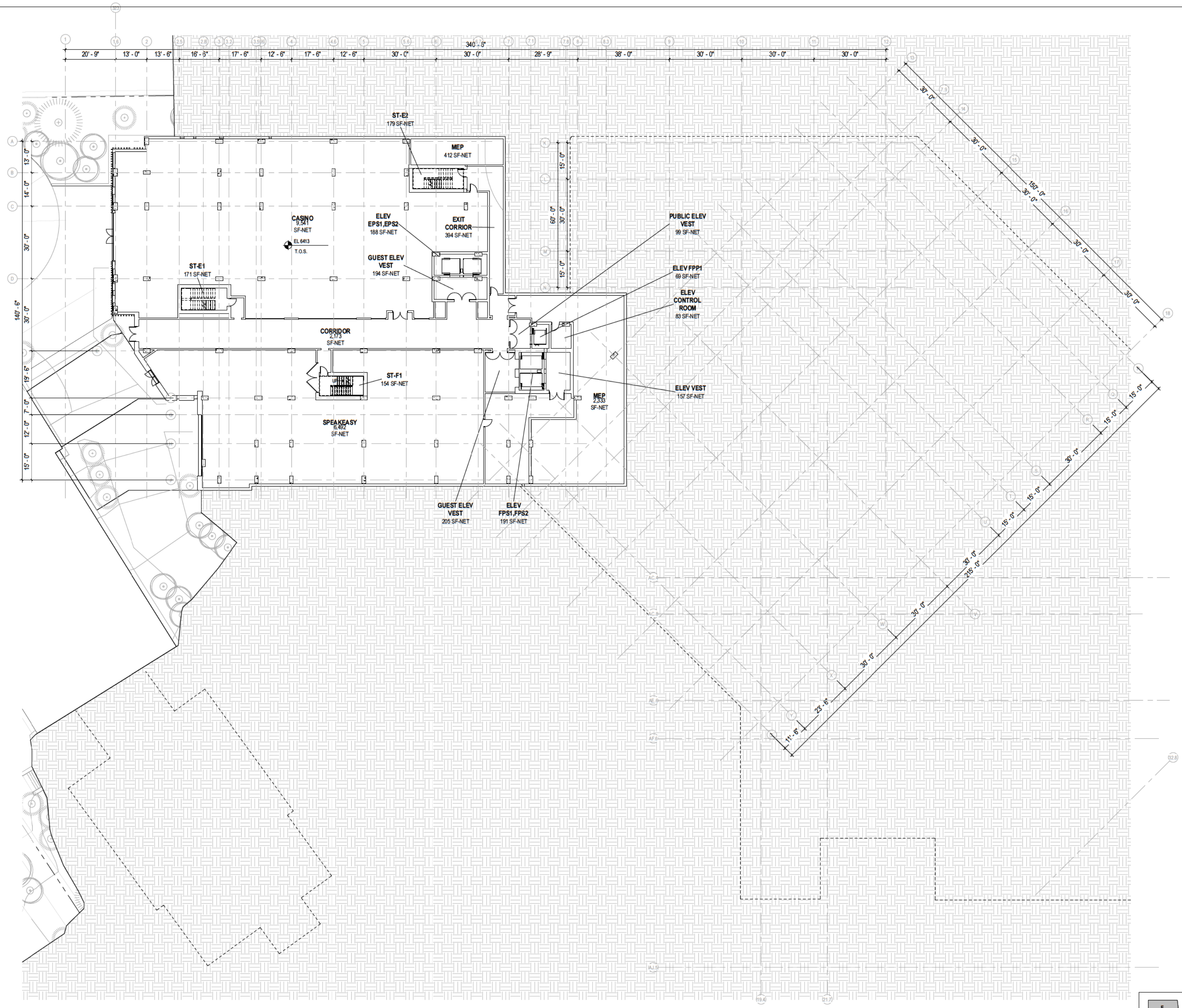
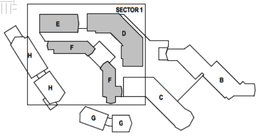


① SECTOR 01 - LEVEL 01
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 01 - SECTOR 1

Phase
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A2.01.1

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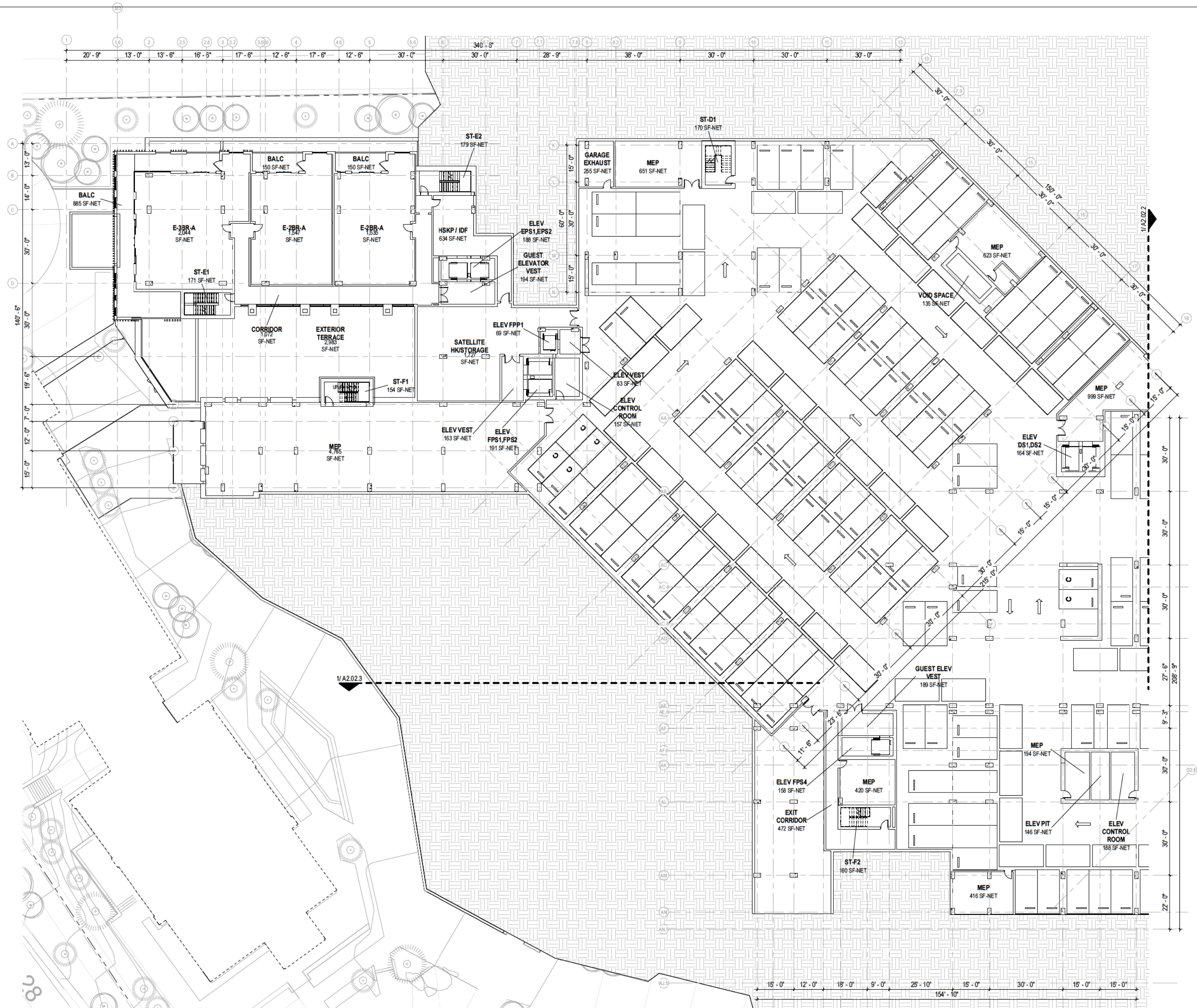

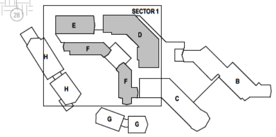

① SECTOR 01 - LEVEL 02

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 02 - SECTOR 1

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A2.02.1

NOTE
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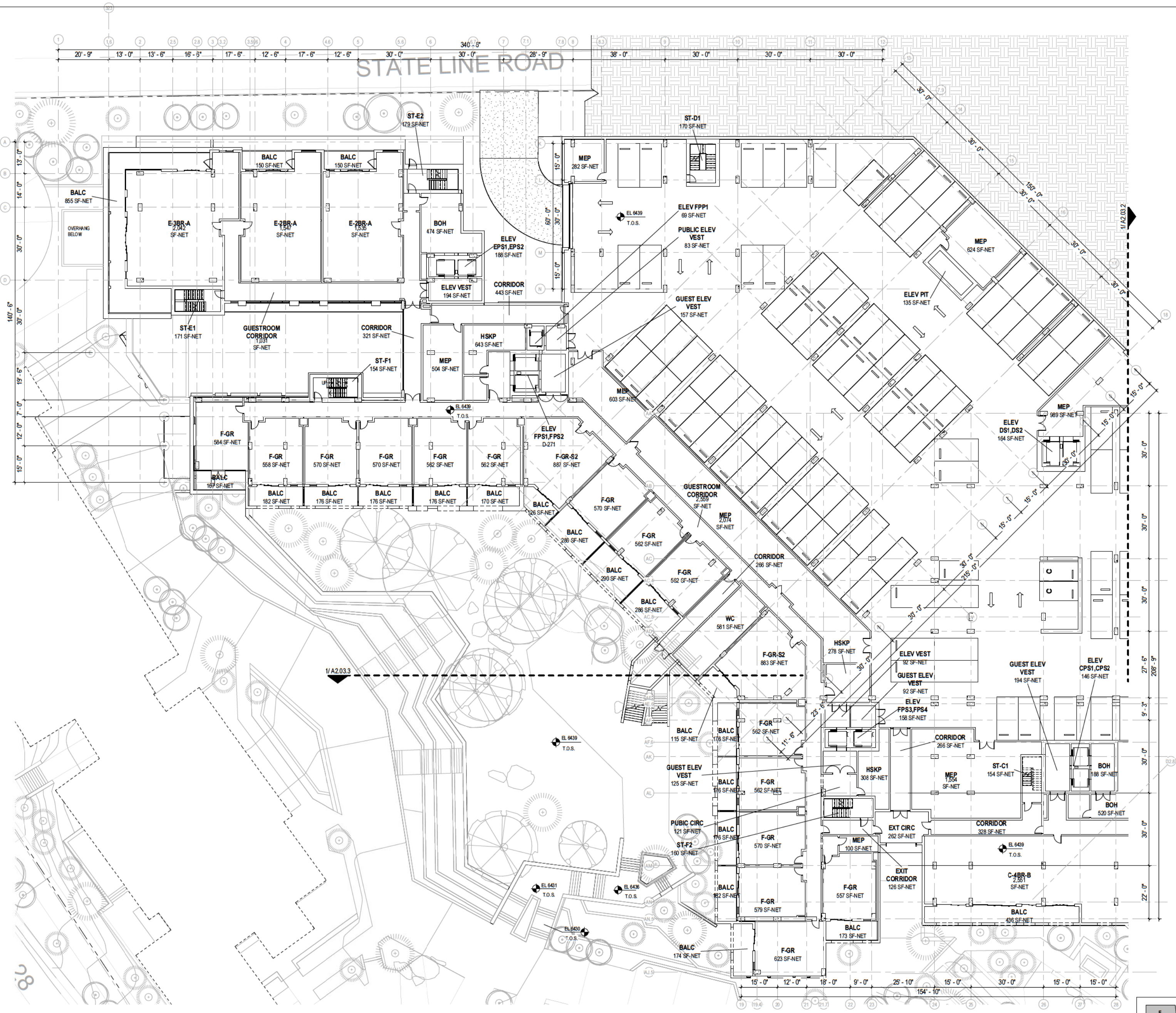

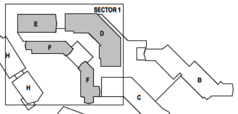

① **SECTOR 01 - LEVEL 03**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 03 - SECTOR 1

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A2.03.1

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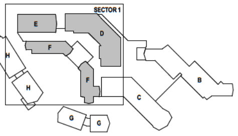

① **SECTOR 01 - LEVEL 04**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 04 - SECTOR 1

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A2.04.1

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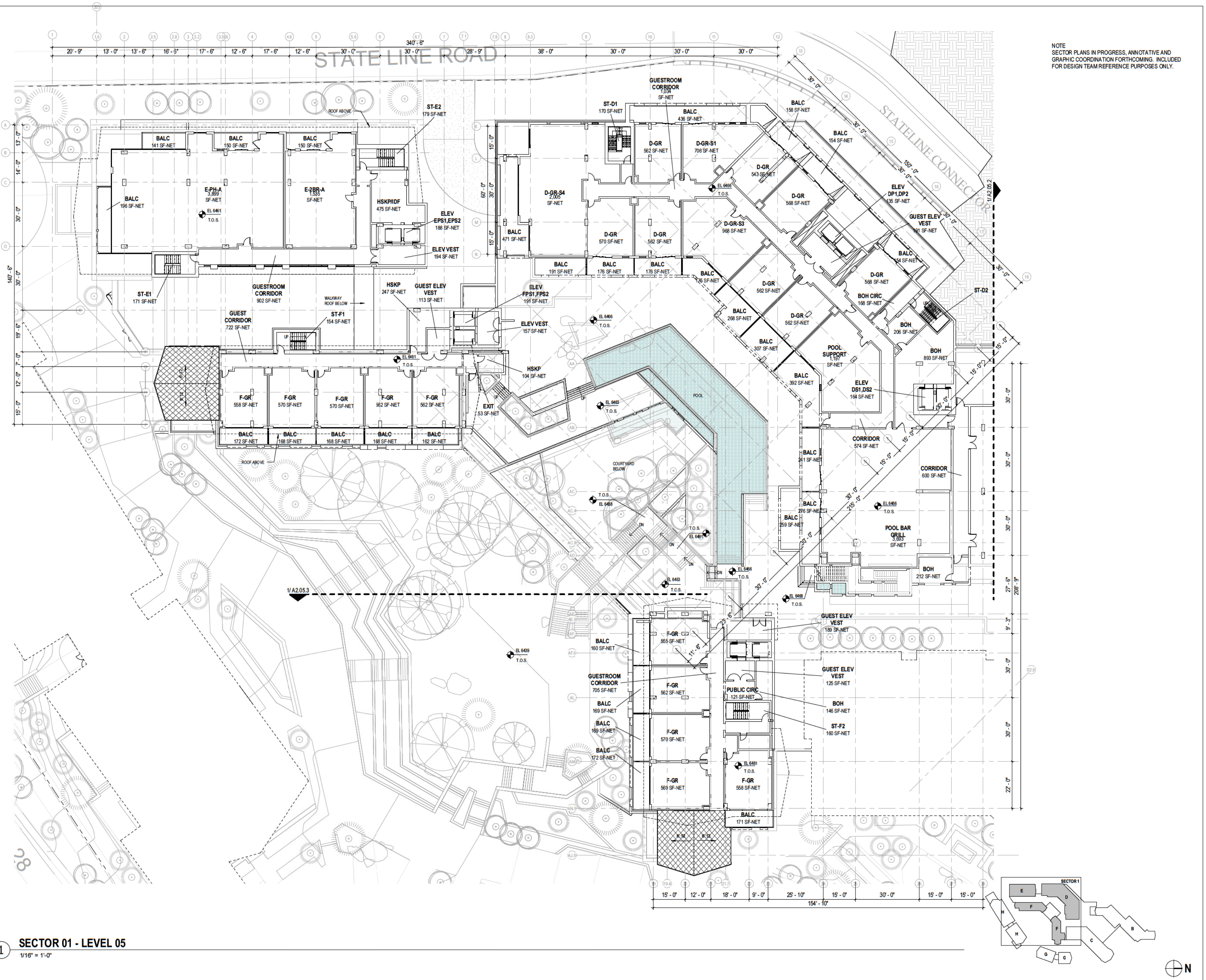

1 SECTOR 01 - LEVEL 05

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 05 - SECTOR 1

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A2.05.1

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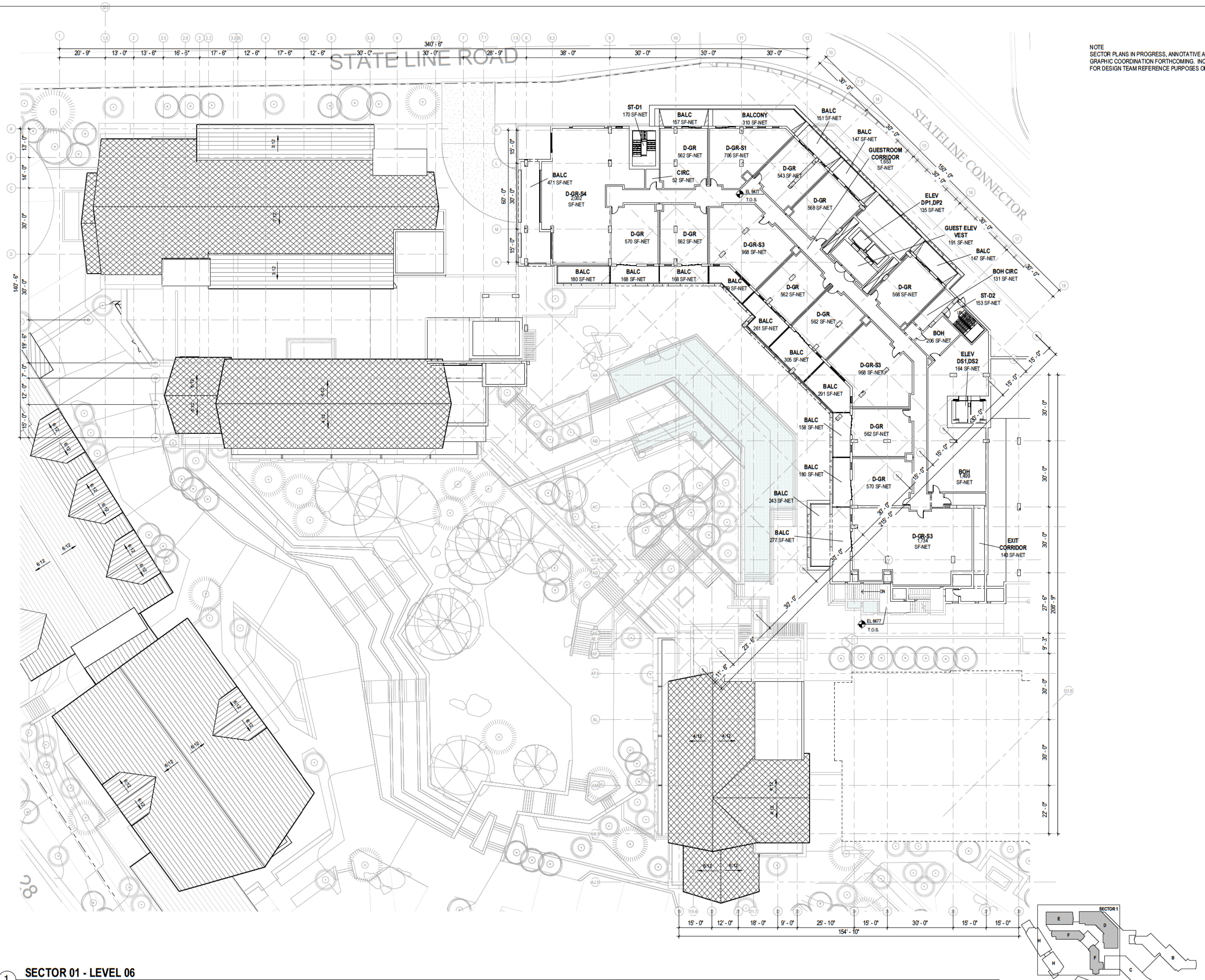

① **SECTOR 01 - LEVEL 06**

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 06 - SECTOR 1

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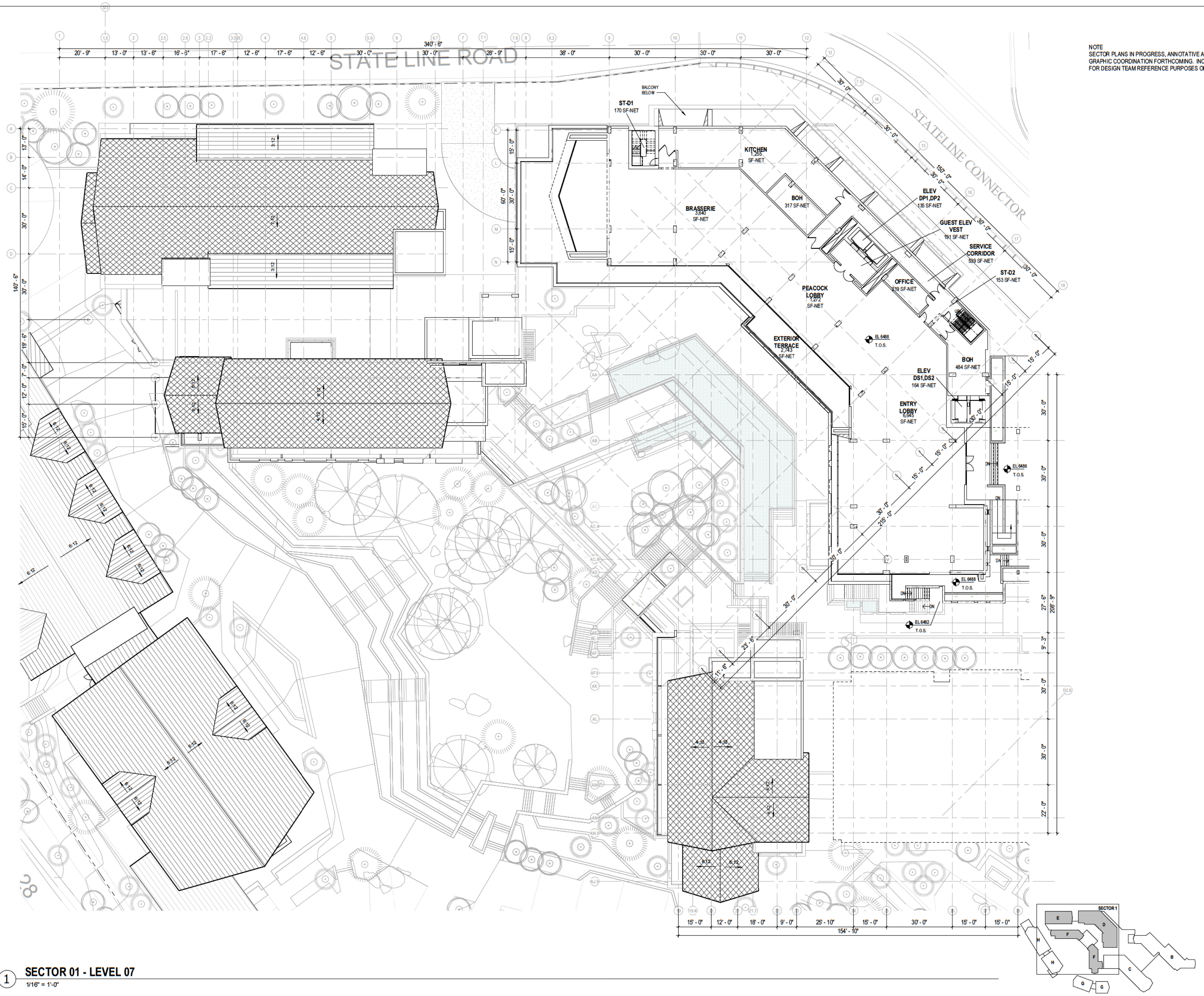
A2.06.1



NOTE
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1 **SECTOR 01 - LEVEL 07**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 07 - SECTOR 1

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A2.07.1

NOTE
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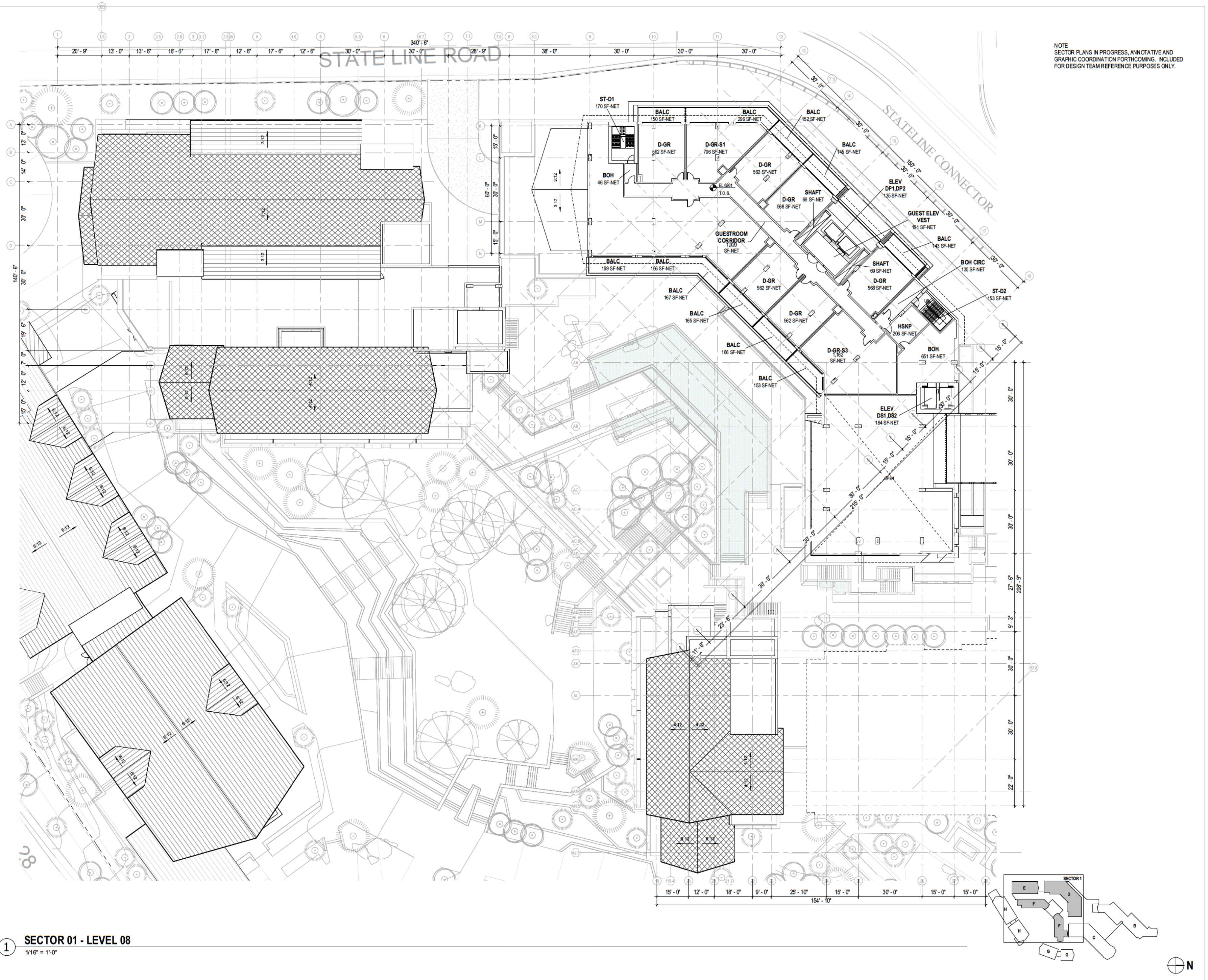

1 SECTOR 01 - LEVEL 08

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 08 - SECTOR 1

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A2.08.1

NOTE
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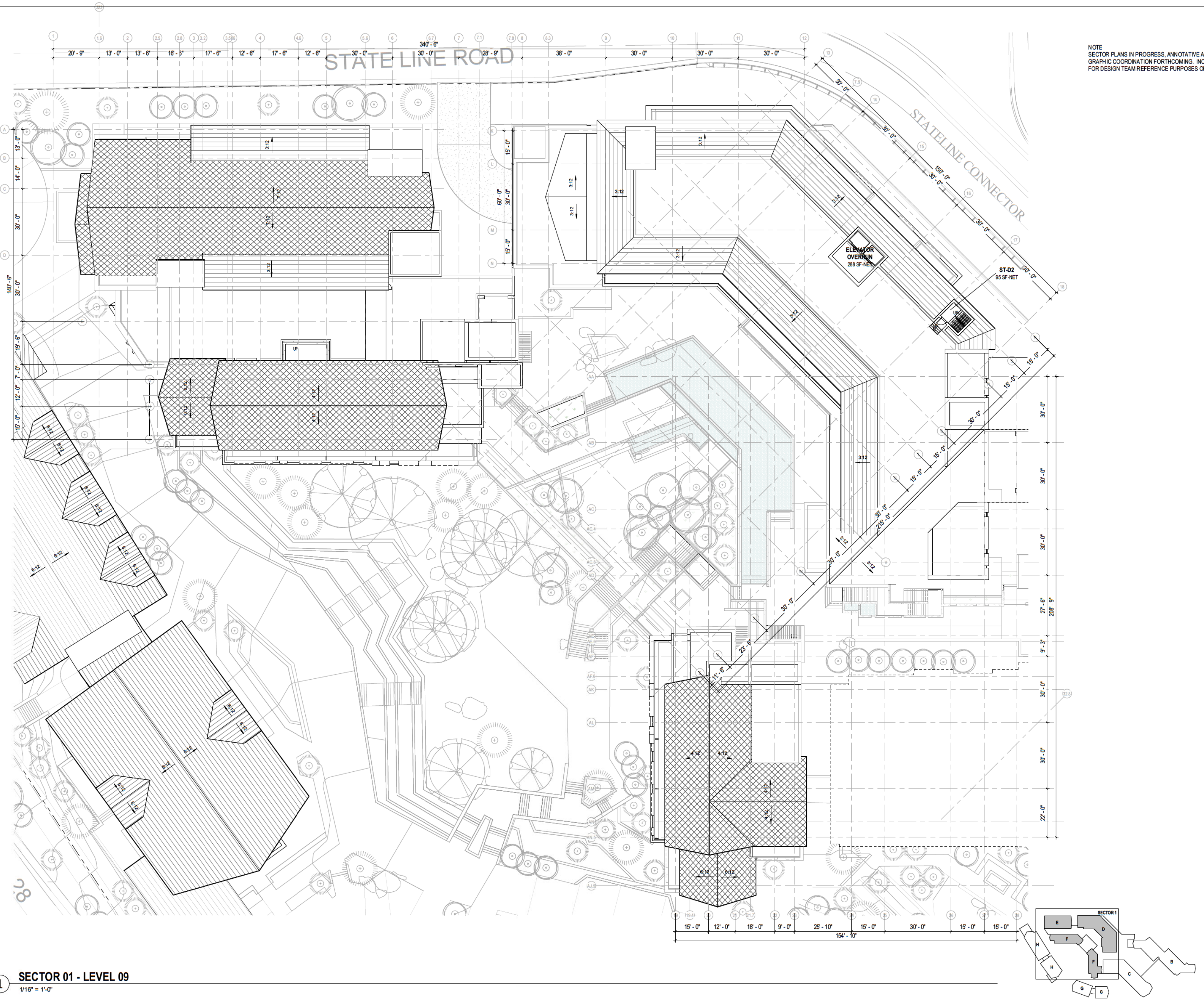

SECTOR 01 - LEVEL 09

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 09 - SECTOR 1

Phase

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Sheet No.

A2.09.1

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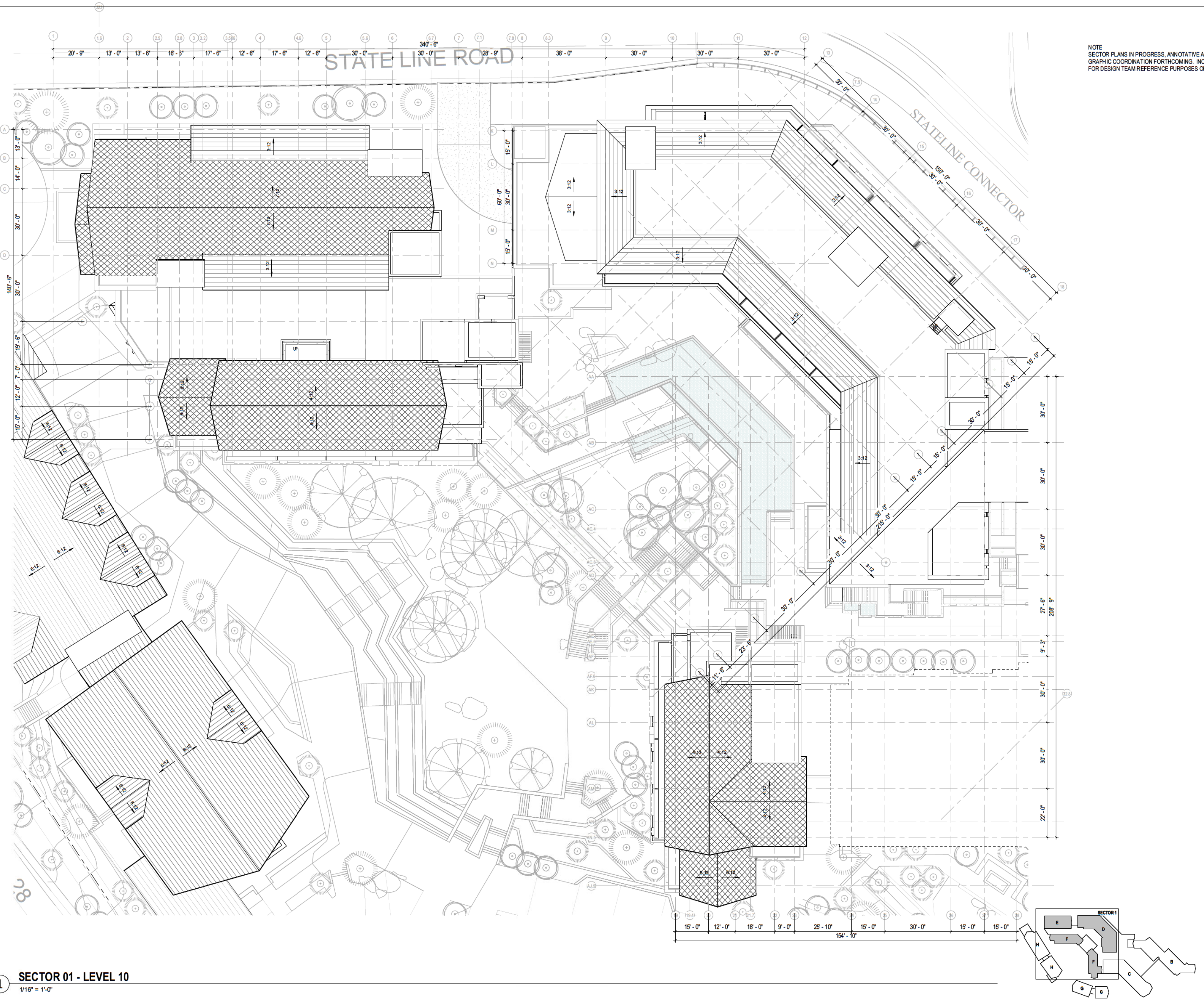

SECTOR 01 - LEVEL 10

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 10 - SECTOR 1

Phase

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Sheet No.

A2.10.1

NOTE
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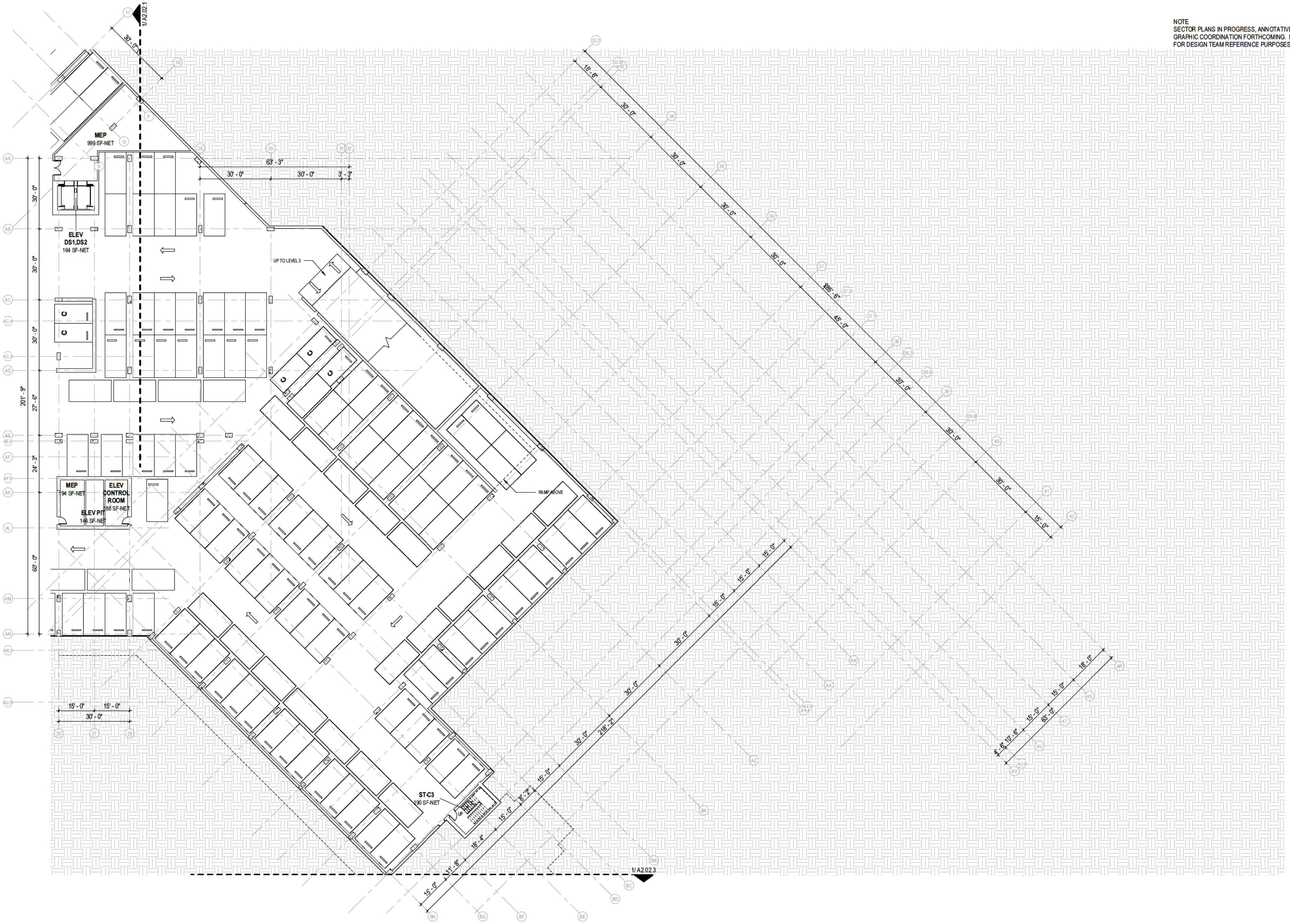
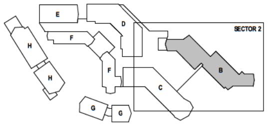


1 SECTOR 02 - LEVEL 02

1/16" = 1'-0"



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FLOOR PLAN - LEVEL 02 - SECTOR 2

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Sheet No.
A2.02.2

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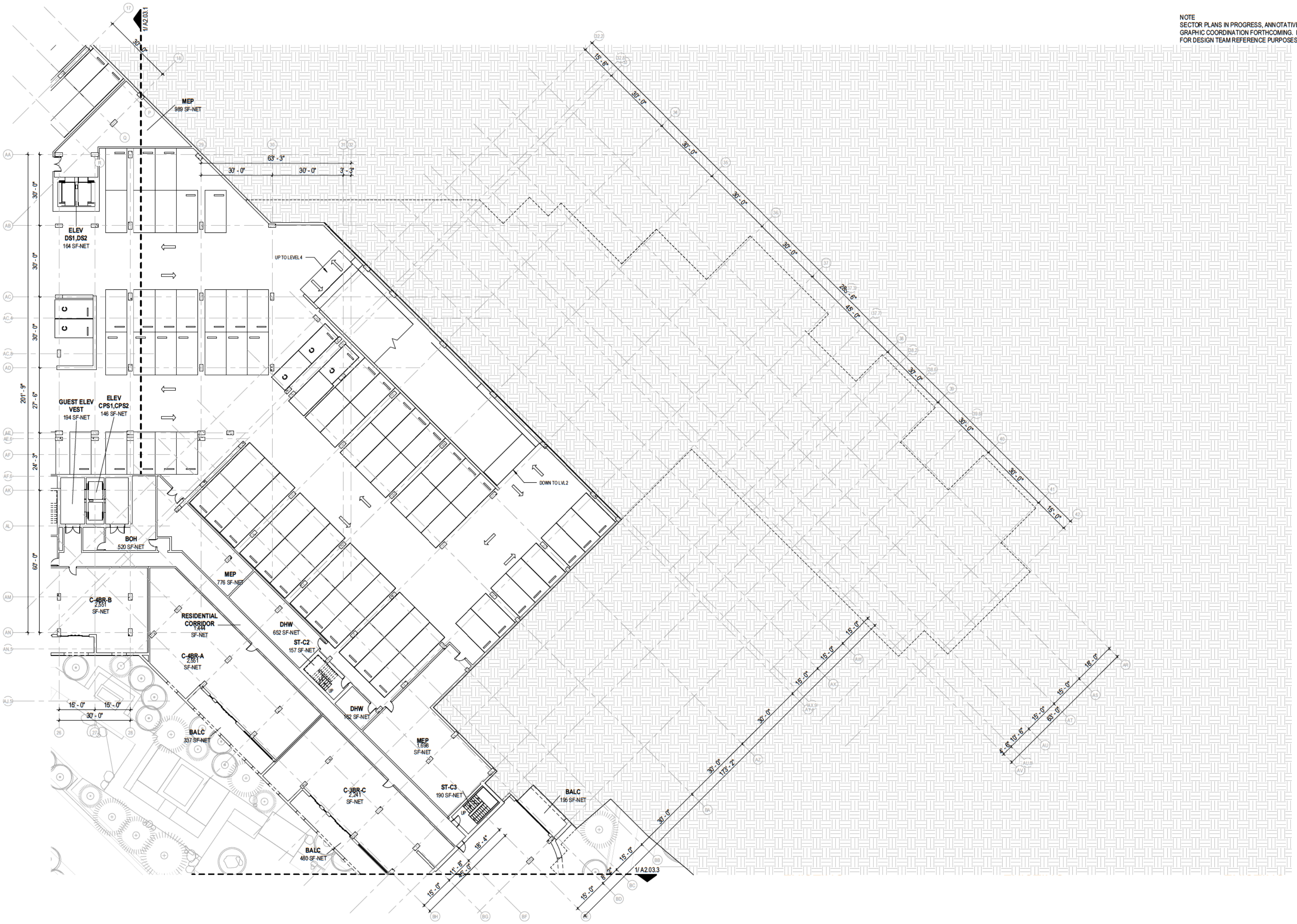
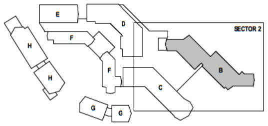


SECTOR 02 - LEVEL 03

1/16" = 1'-0"



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FLOOR PLAN - LEVEL 03 - SECTOR 2

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Phase

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A2.03.2

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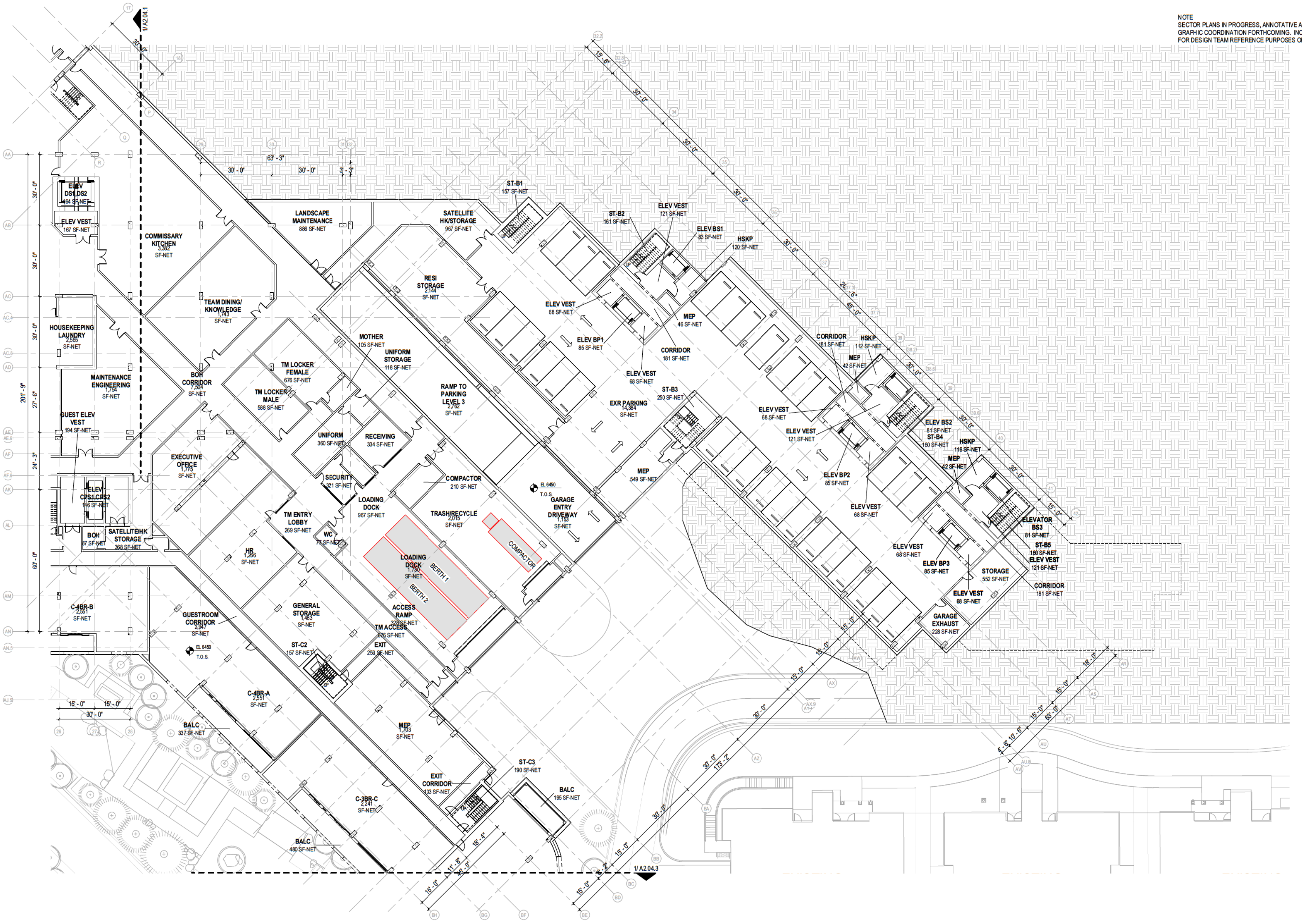
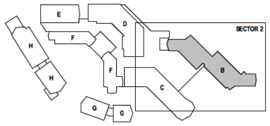


1 **SECTOR 02 - LEVEL 04**
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 04 - SECTOR 2

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

Sheet No.
A2.04.2

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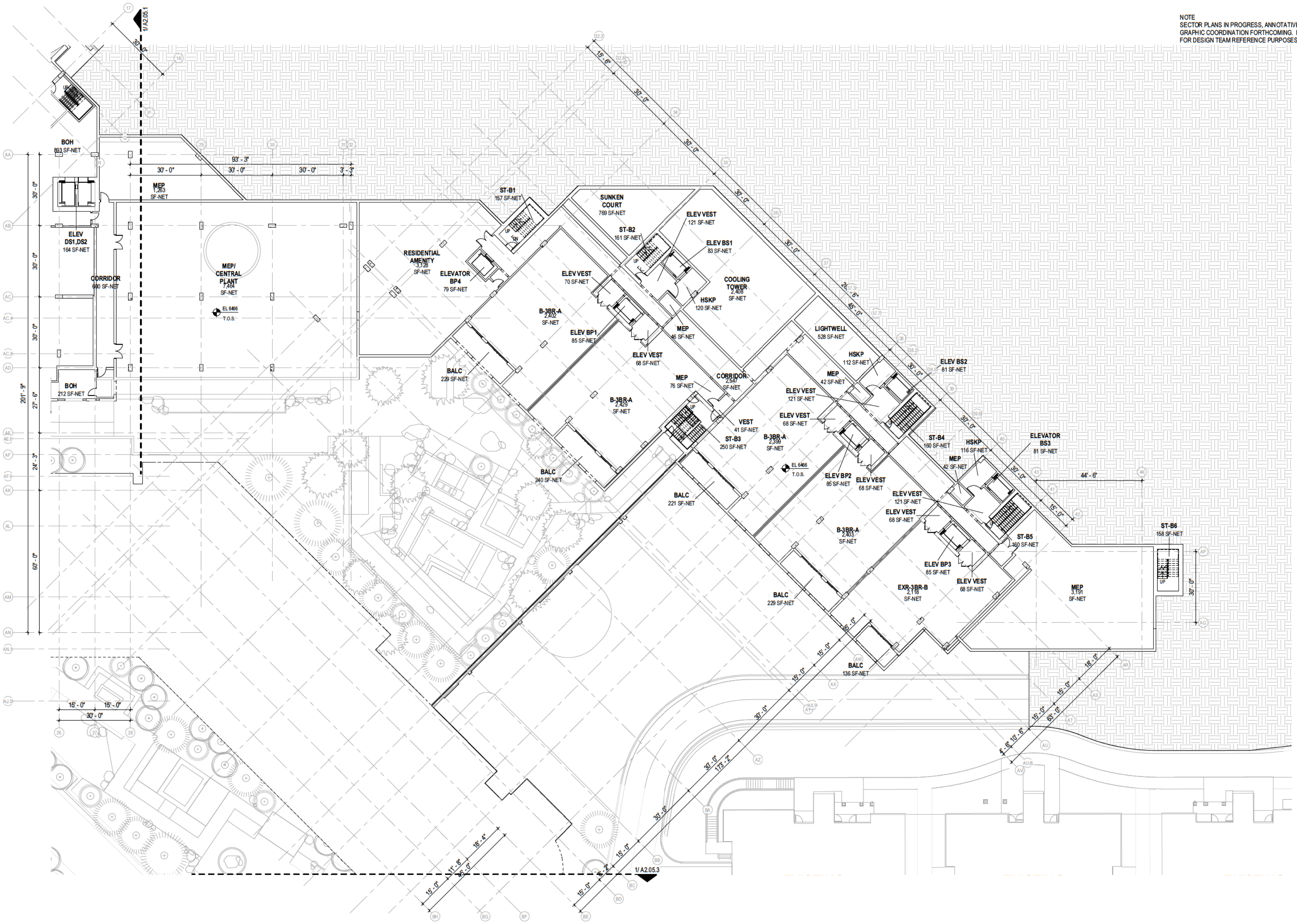
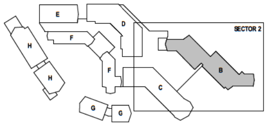


① **SECTOR 02 - LEVEL 05**

1/16" = 1'-0"



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Project No. 22139

FLOOR PLAN - LEVEL 05 - SECTOR 2

Phase

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Sheet No.

A2.05.2

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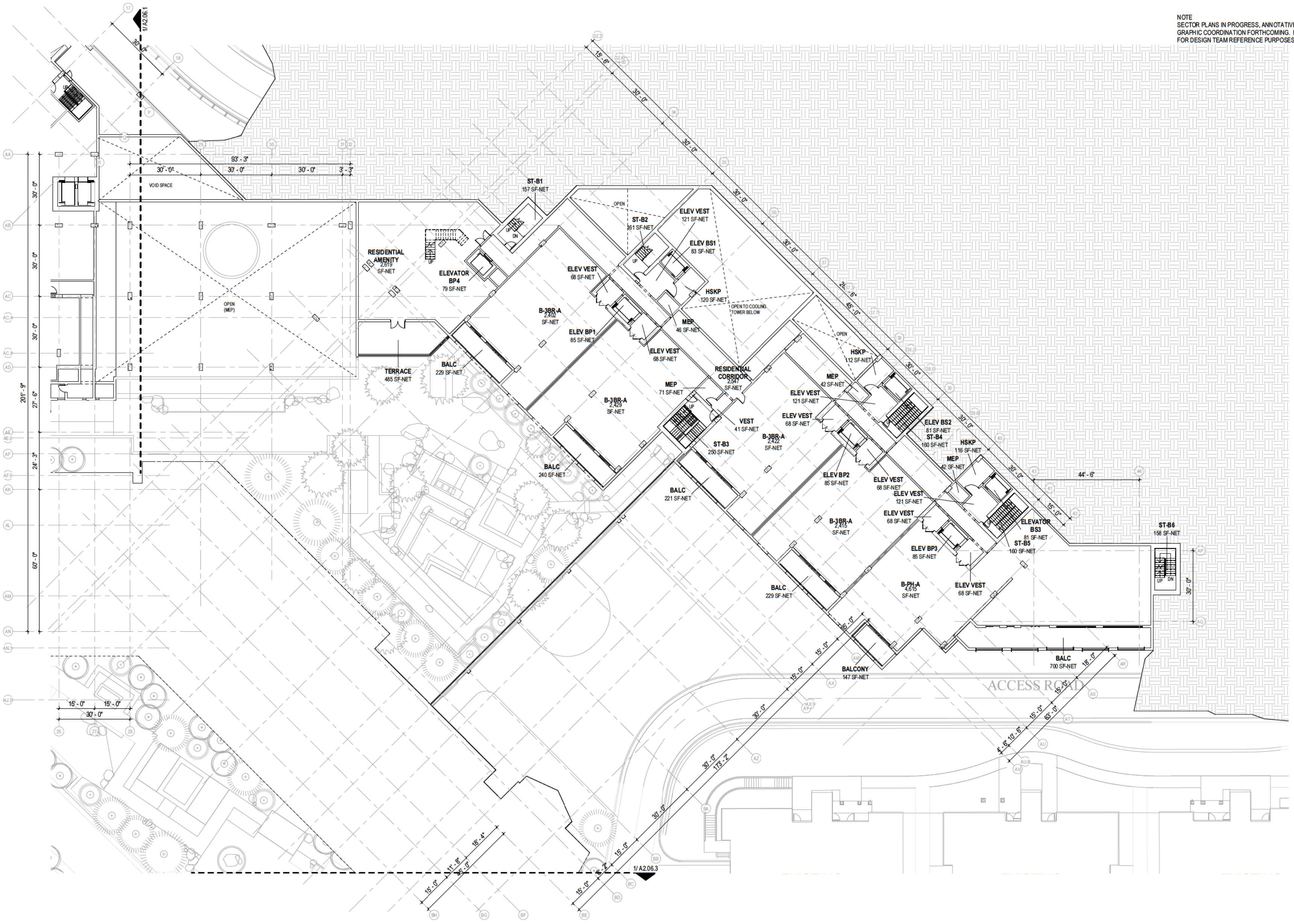

① **SECTOR 02 - LEVEL 06**
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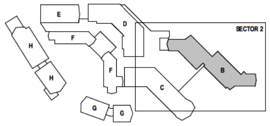

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FLOOR PLAN - LEVEL 06 - SECTOR 2

Phase
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Sheet No.
A2.06.2

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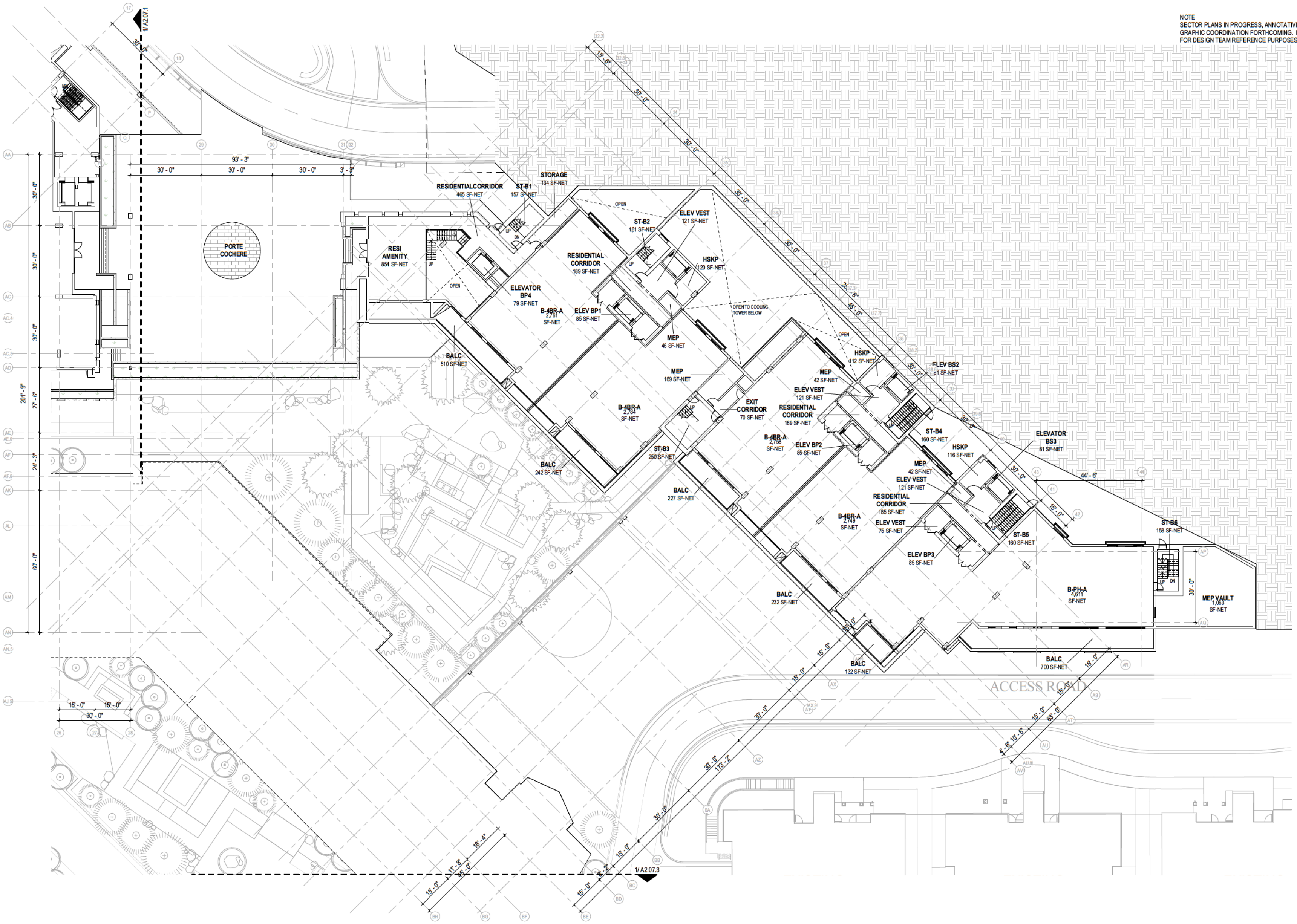
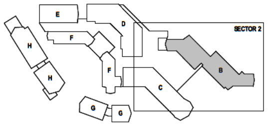


1 **SECTOR 02 - LEVEL 07**

1/16" = 1'-0"



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Project No. 22139

FLOOR PLAN - LEVEL 07 - SECTOR 2

Phase

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A2.07.2

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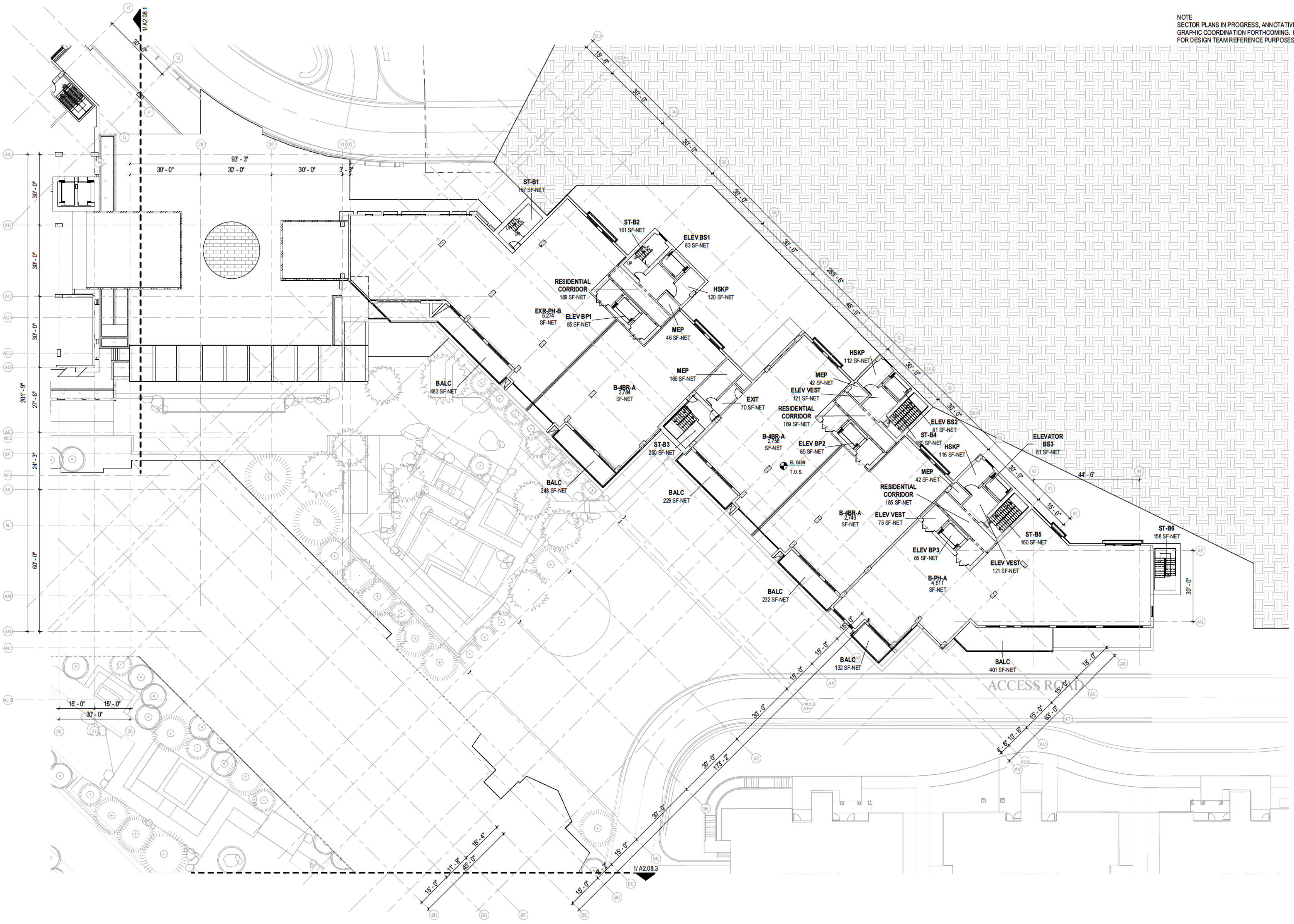
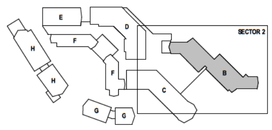


① **SECTOR 02 - LEVEL 08**
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 08 - SECTOR 2

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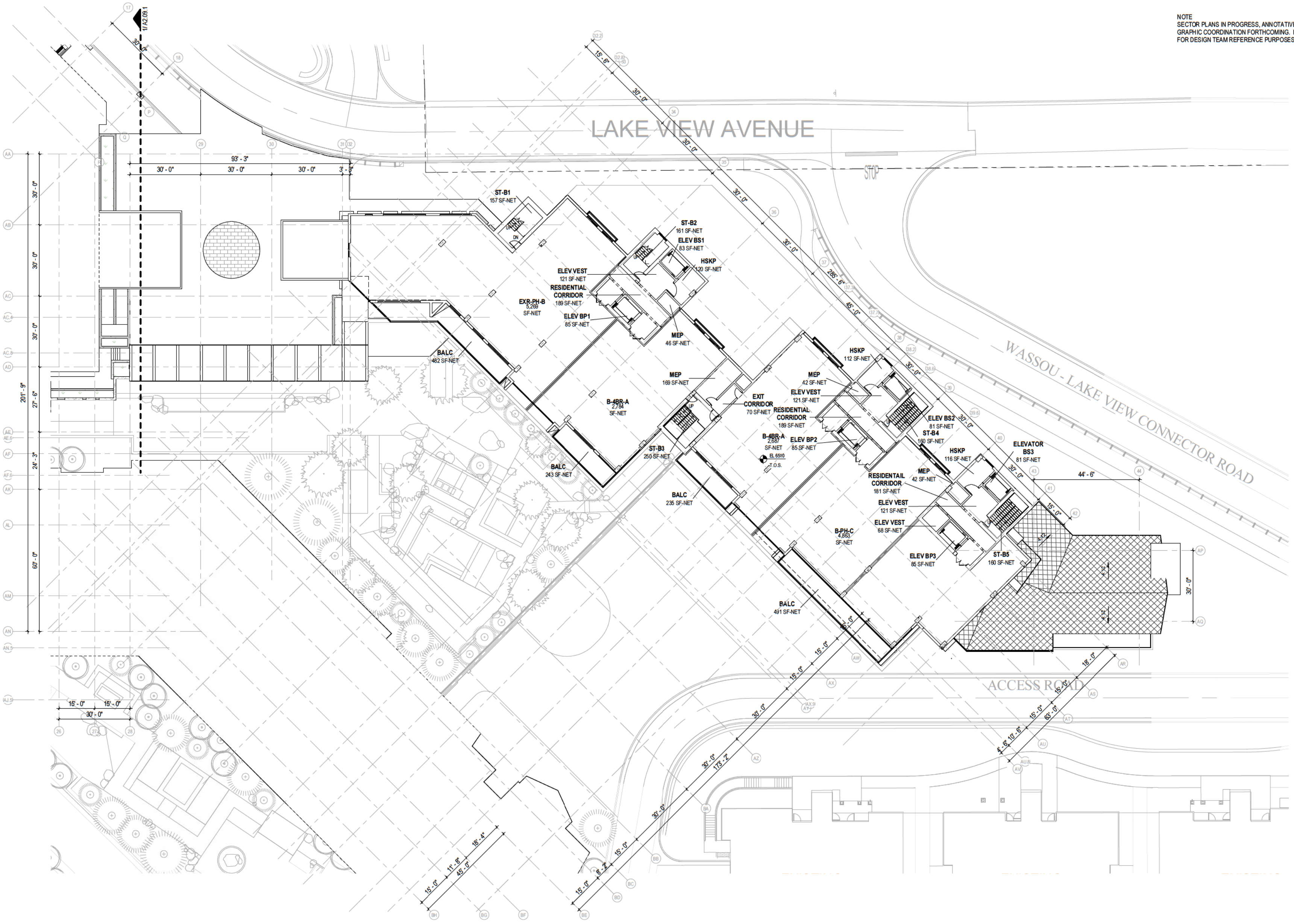
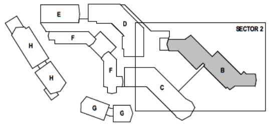


① SECTOR 02 - LEVEL 09
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 09 - SECTOR 2

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A2.09.2

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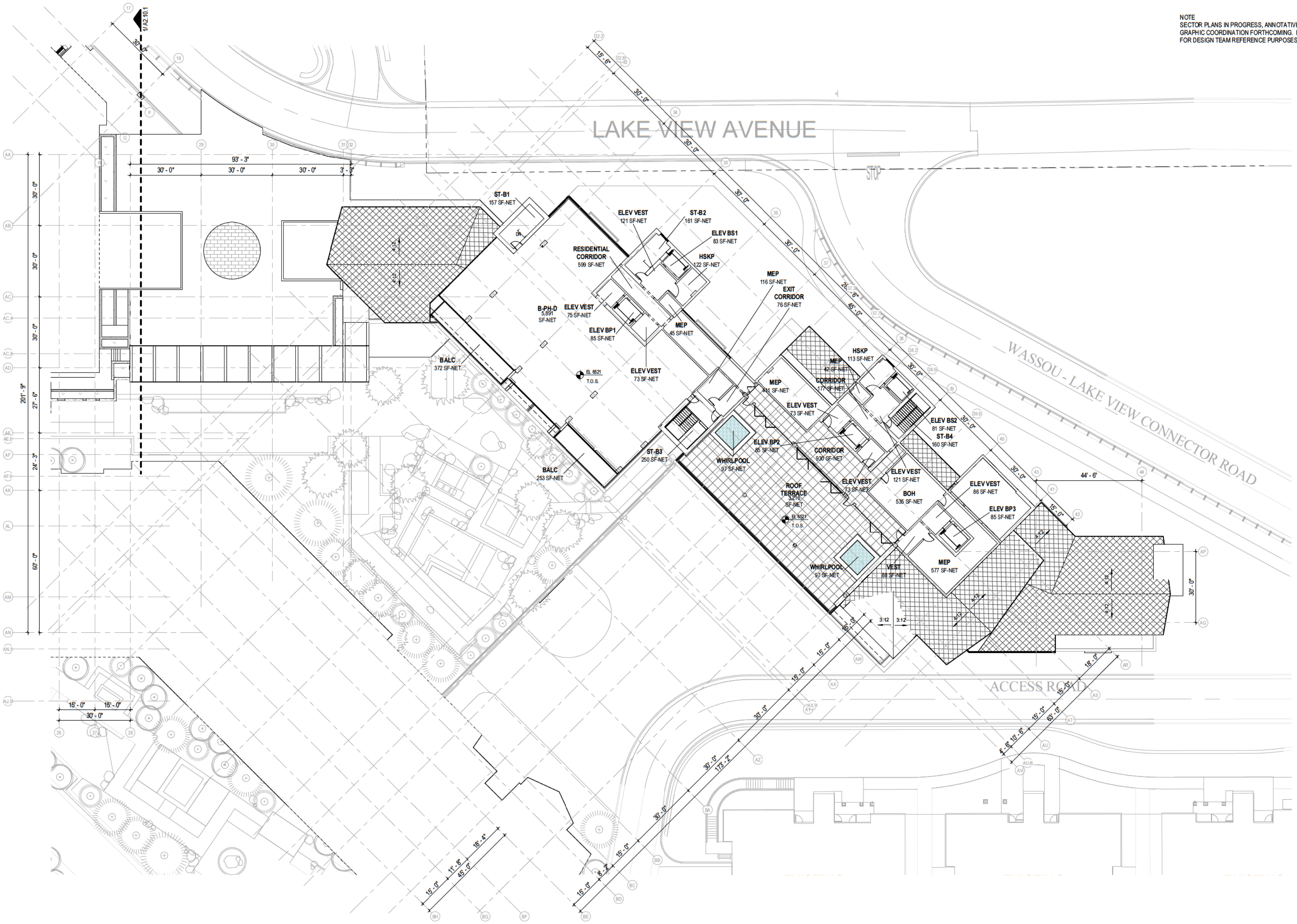

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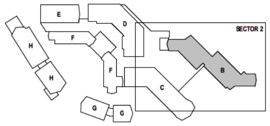
SECTOR 02 - LEVEL 10

1/16" = 1'-0"



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FLOOR PLAN - LEVEL 10 - SECTOR 2

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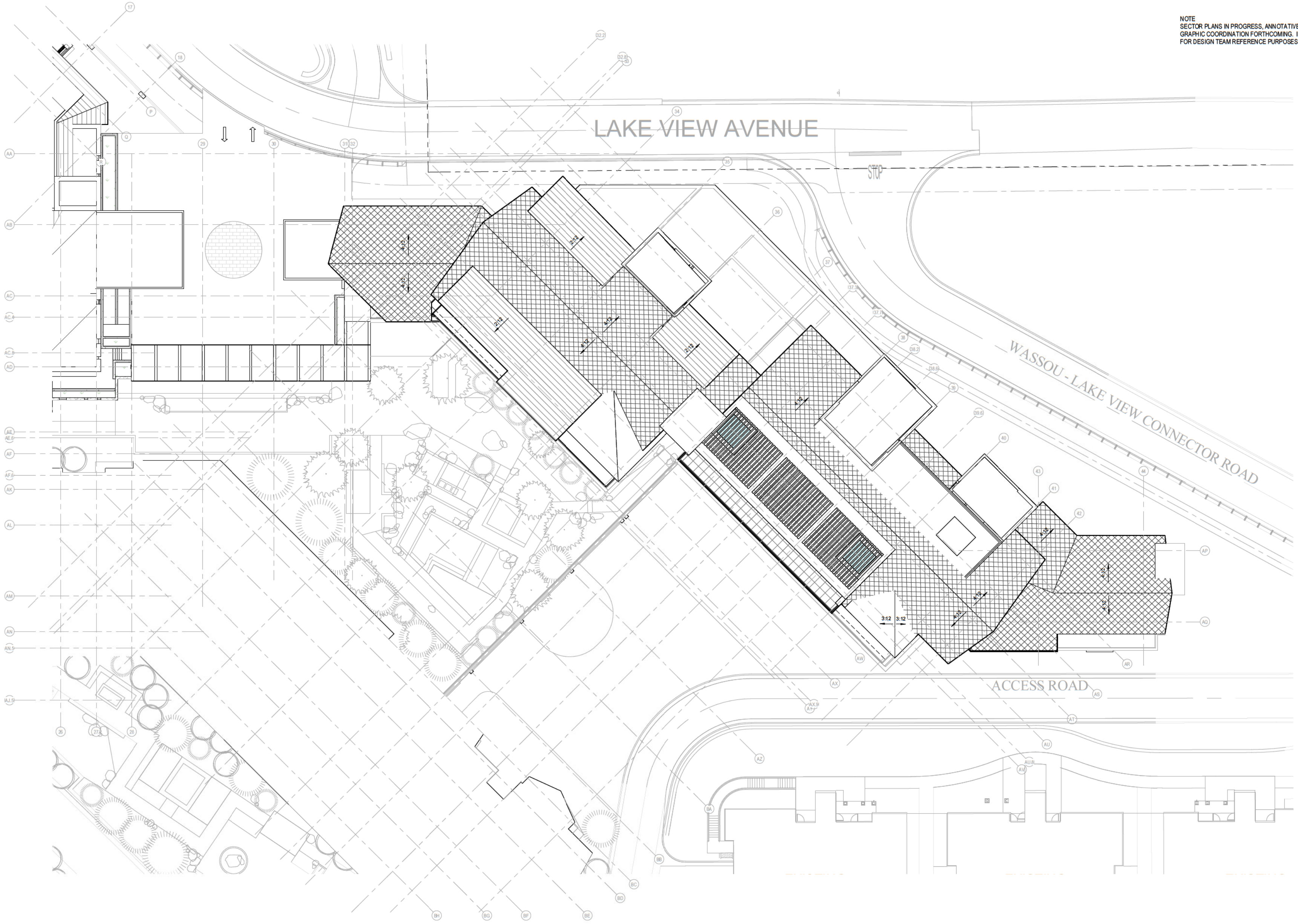

① **SECTOR 02 - ROOF PLAN**
1/16" = 1'-0"

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ROOF PLAN- SECTOR 2

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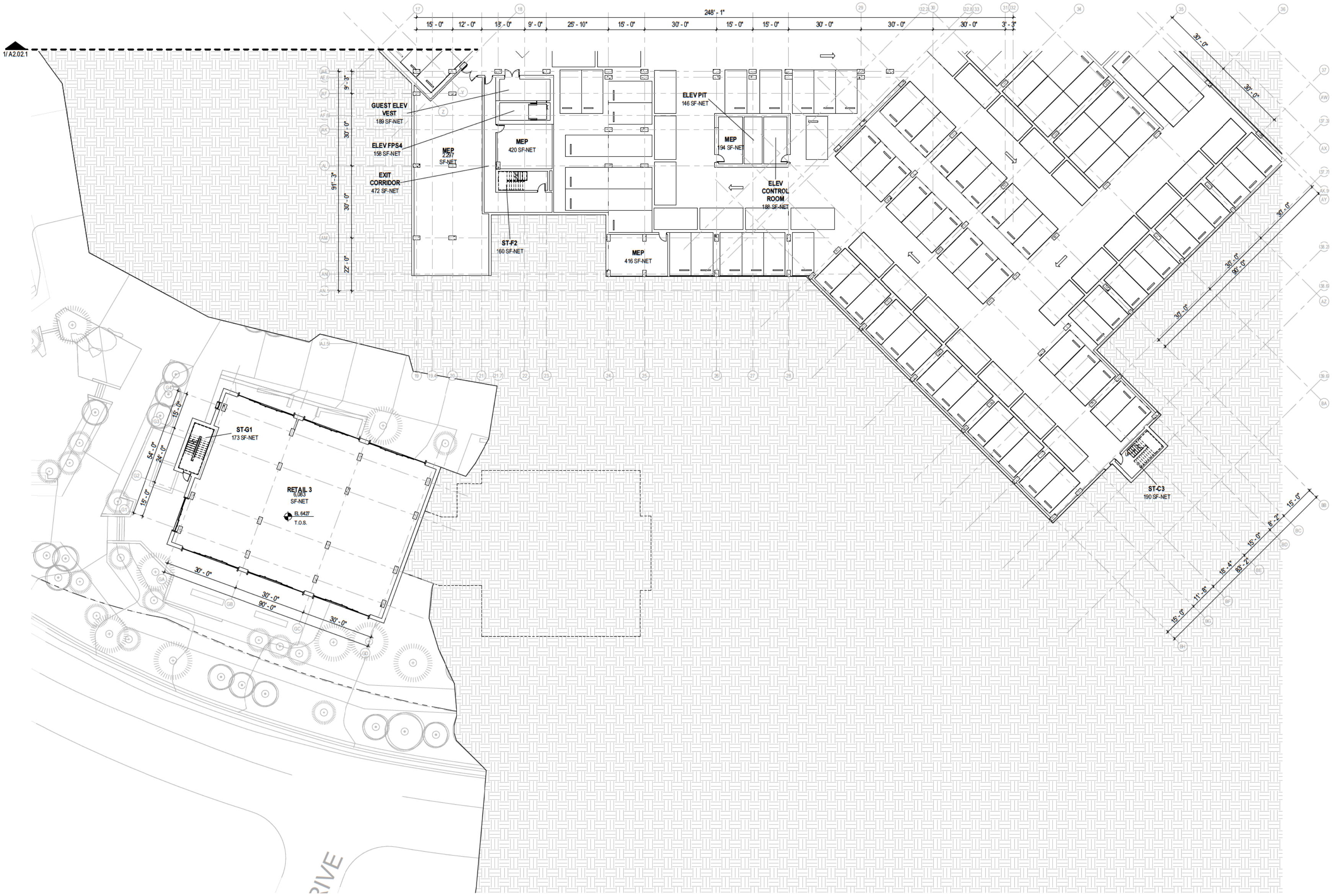
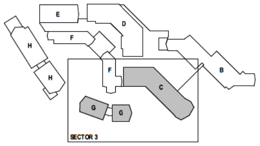


① **SECTOR 03 - LEVEL 02**
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 02 - SECTOR 3

Phase

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A2.02.3

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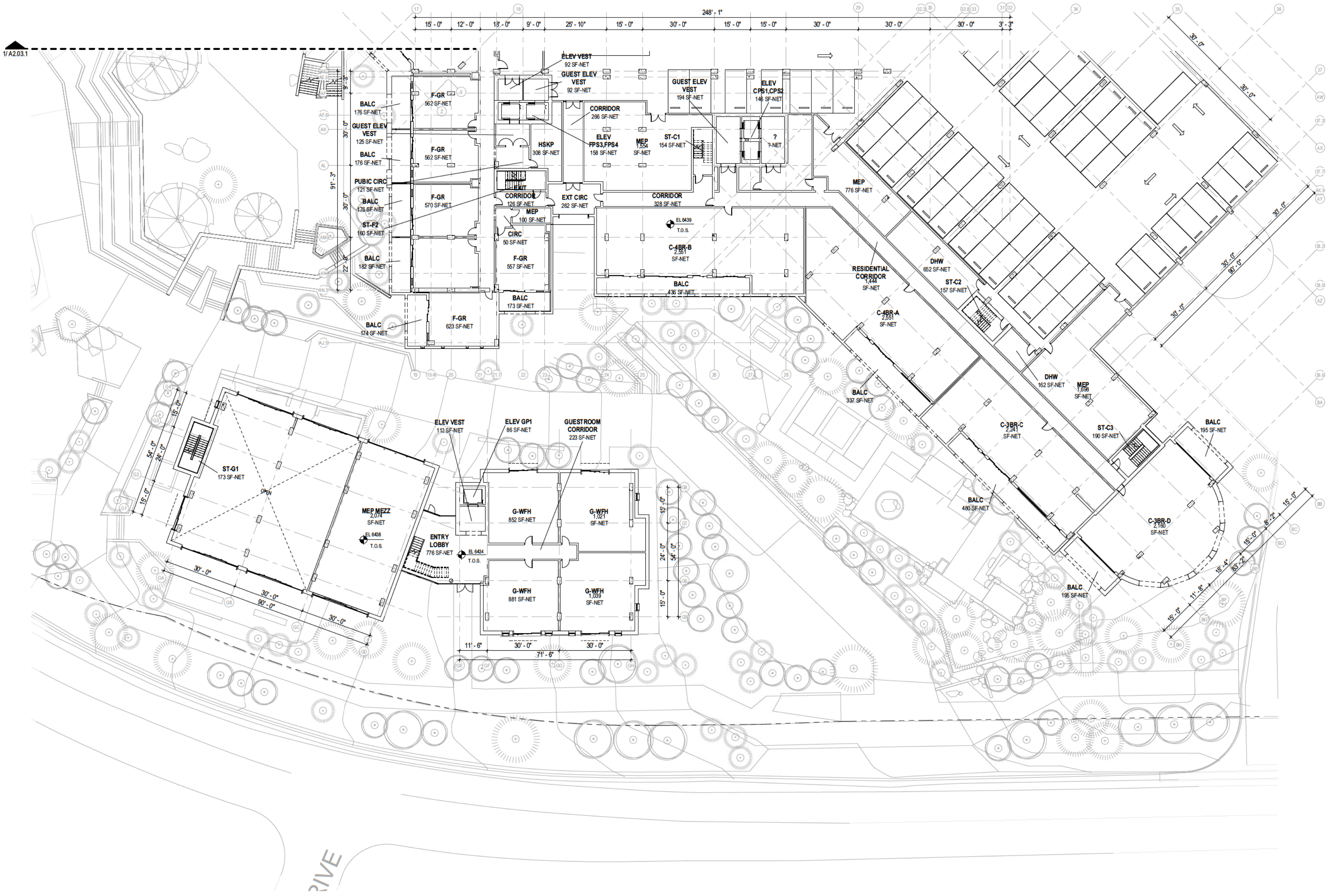
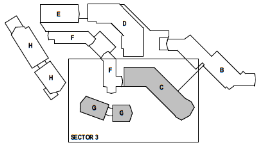


① **SECTOR 03 - LEVEL 03**
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 03-SECTOR 3

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A2.03.3

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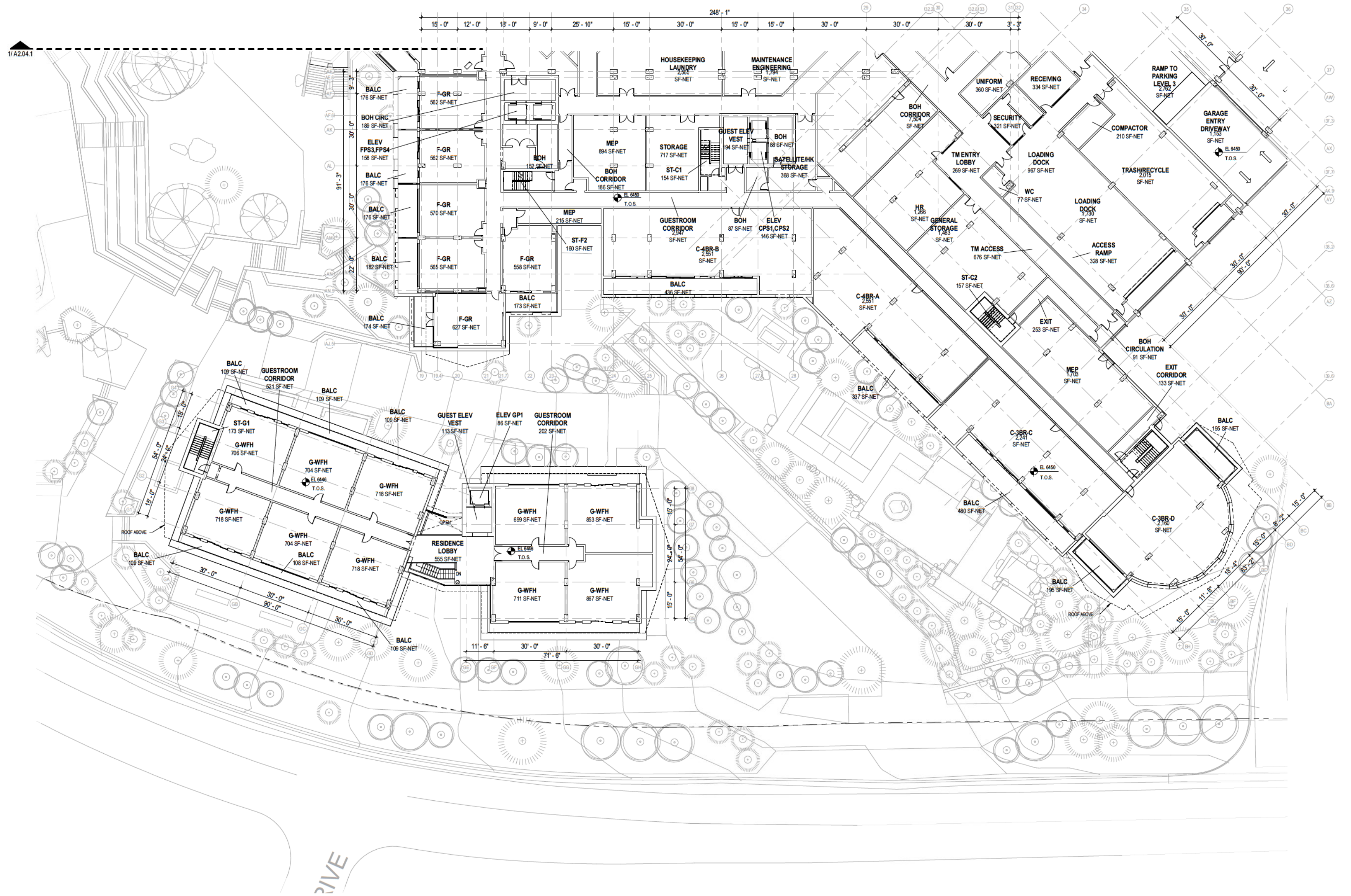
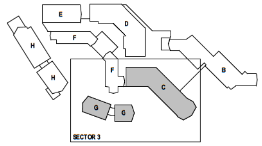


SECTOR 03 - LEVEL 04

1/16" = 1'-0"



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FLOOR PLAN - LEVEL 04- SECTOR 3

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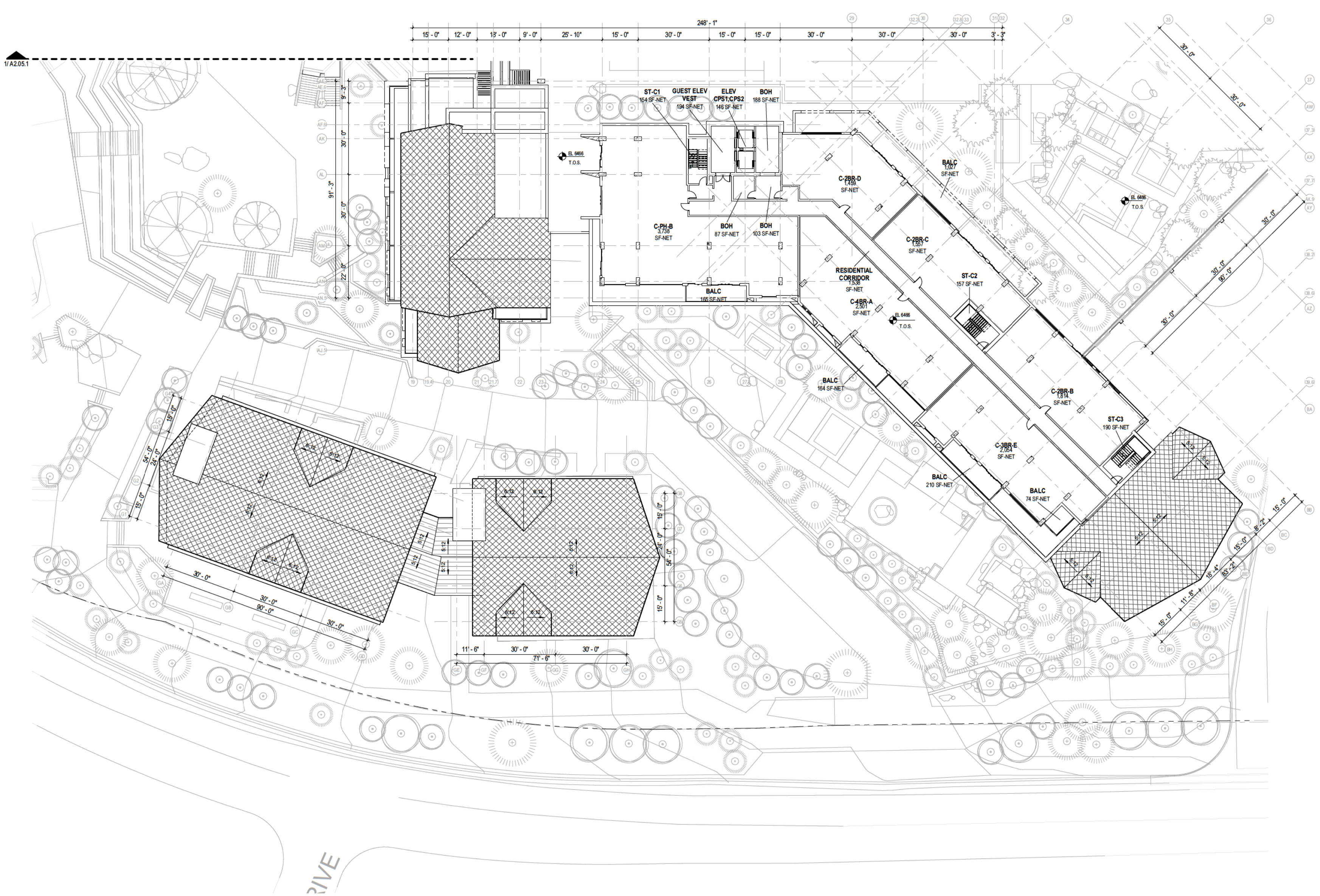

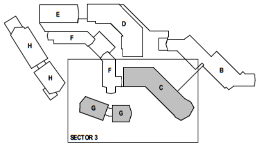

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① **SECTOR 03 - SITE LEVEL 05**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 05 - SECTOR 3

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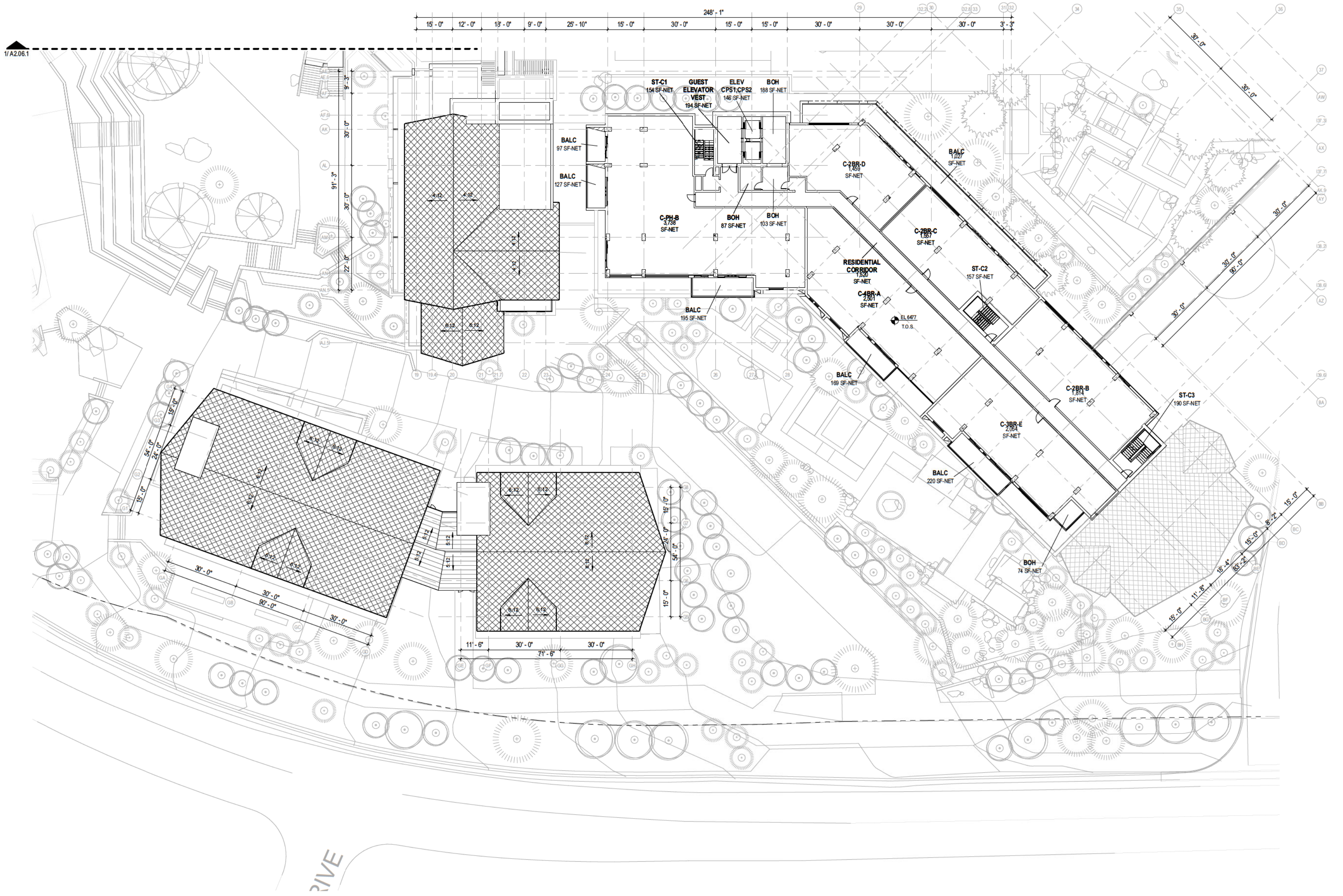
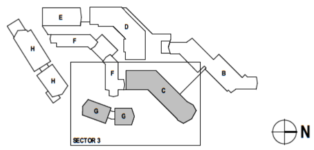


① **SECTOR 03 - SITE LEVEL 06**
1/16" = 1'-0"



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FLOOR PLAN - LEVEL 06 - SECTOR 3

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A2.06.3

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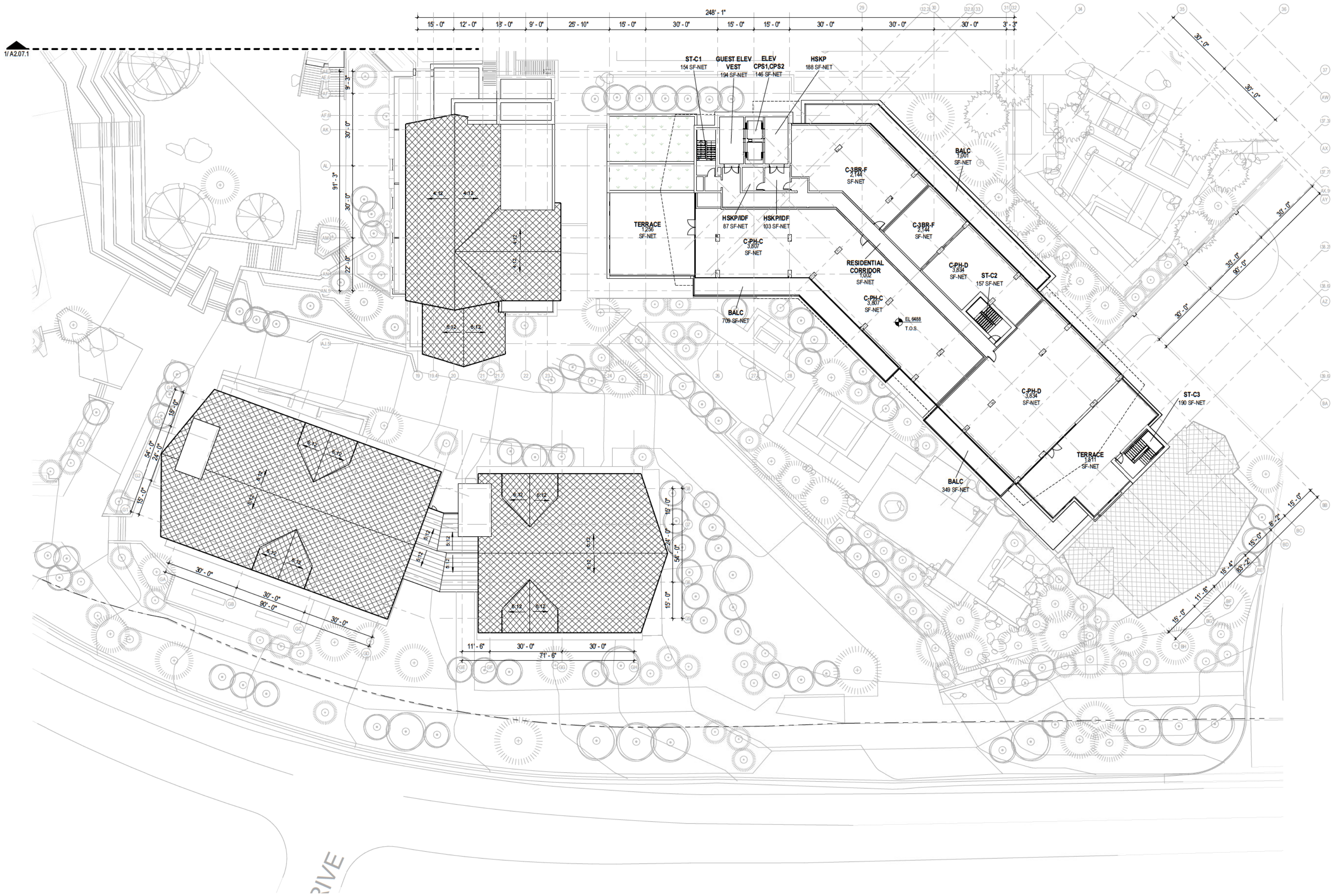
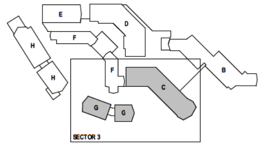


① **SECTOR 03 - SITE LEVEL 07**

1/16" = 1'-0"



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FLOOR PLAN - LEVEL 07 - SECTOR 3

Phase TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

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A2.07.3

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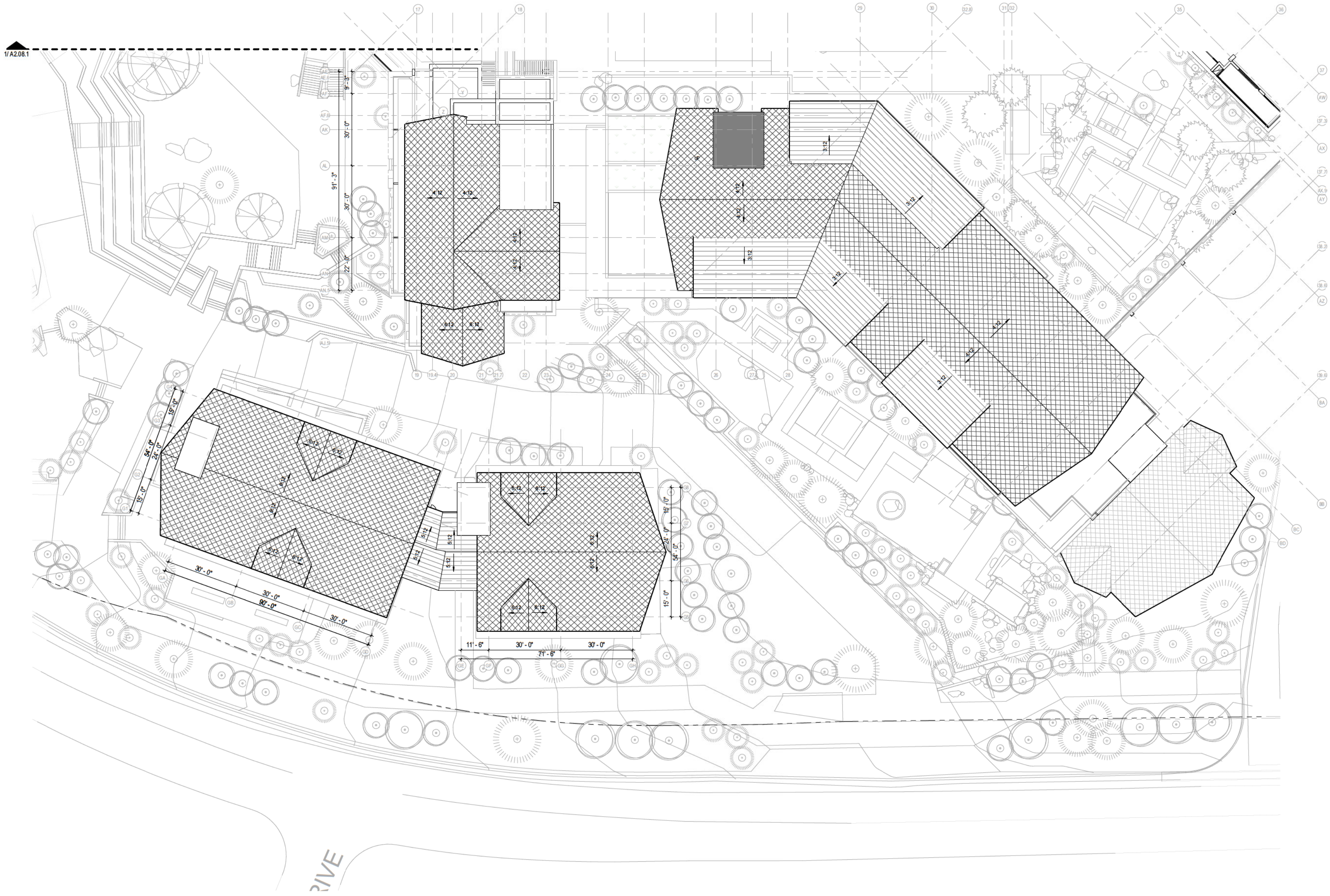

① **SECTOR 03 - LEVEL 08**

1/16" = 1'-0"

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FLOOR PLAN - LEVEL 08 - SECTOR 3

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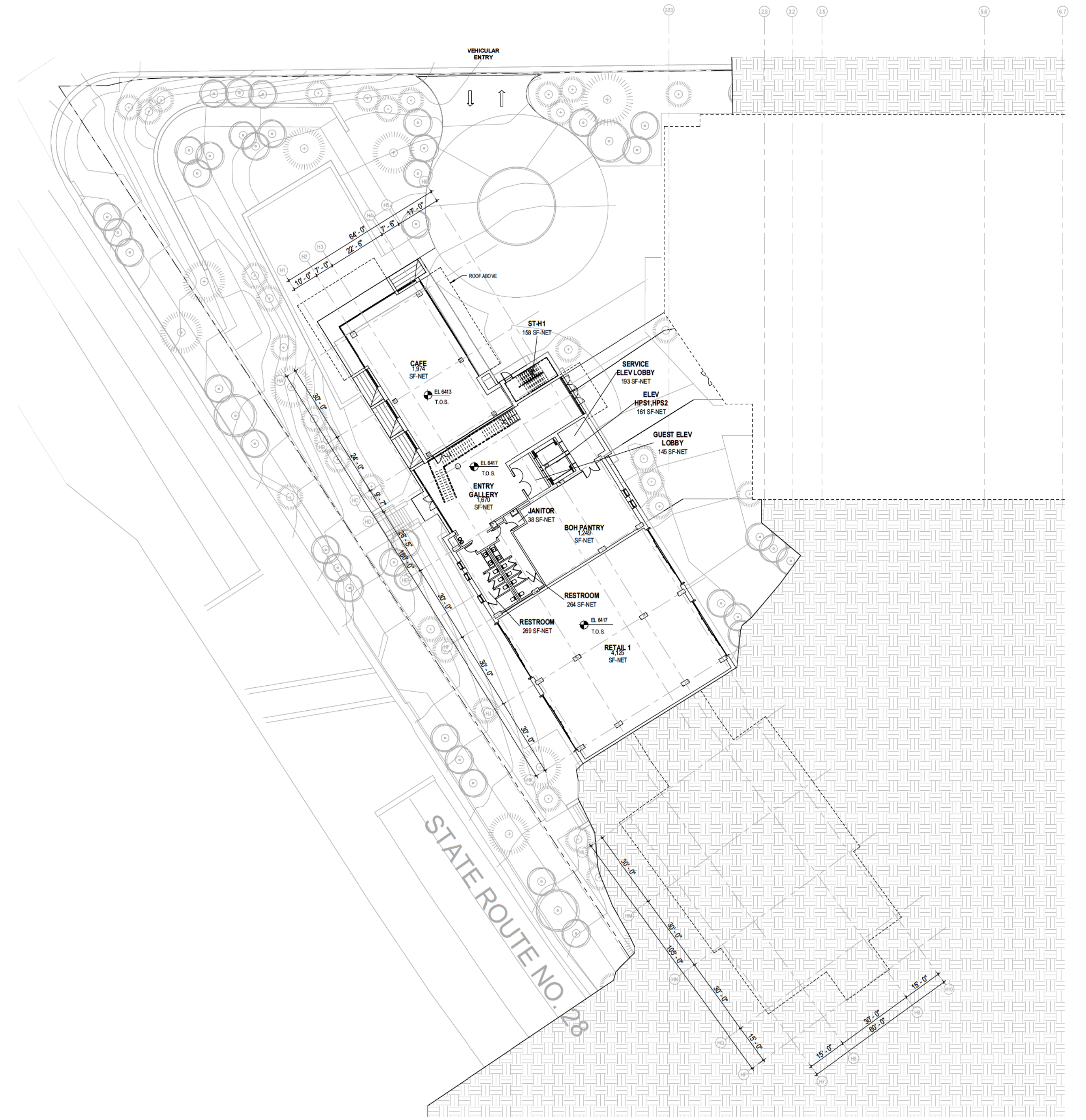
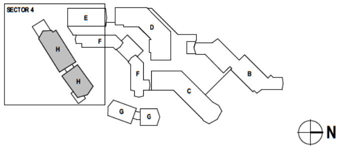


① **SECTOR 04 - LEVEL 01**

1/16" = 1'-0"



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Project No. 22139

FLOOR PLAN - LEVEL 01 - SECTOR 4

Phase

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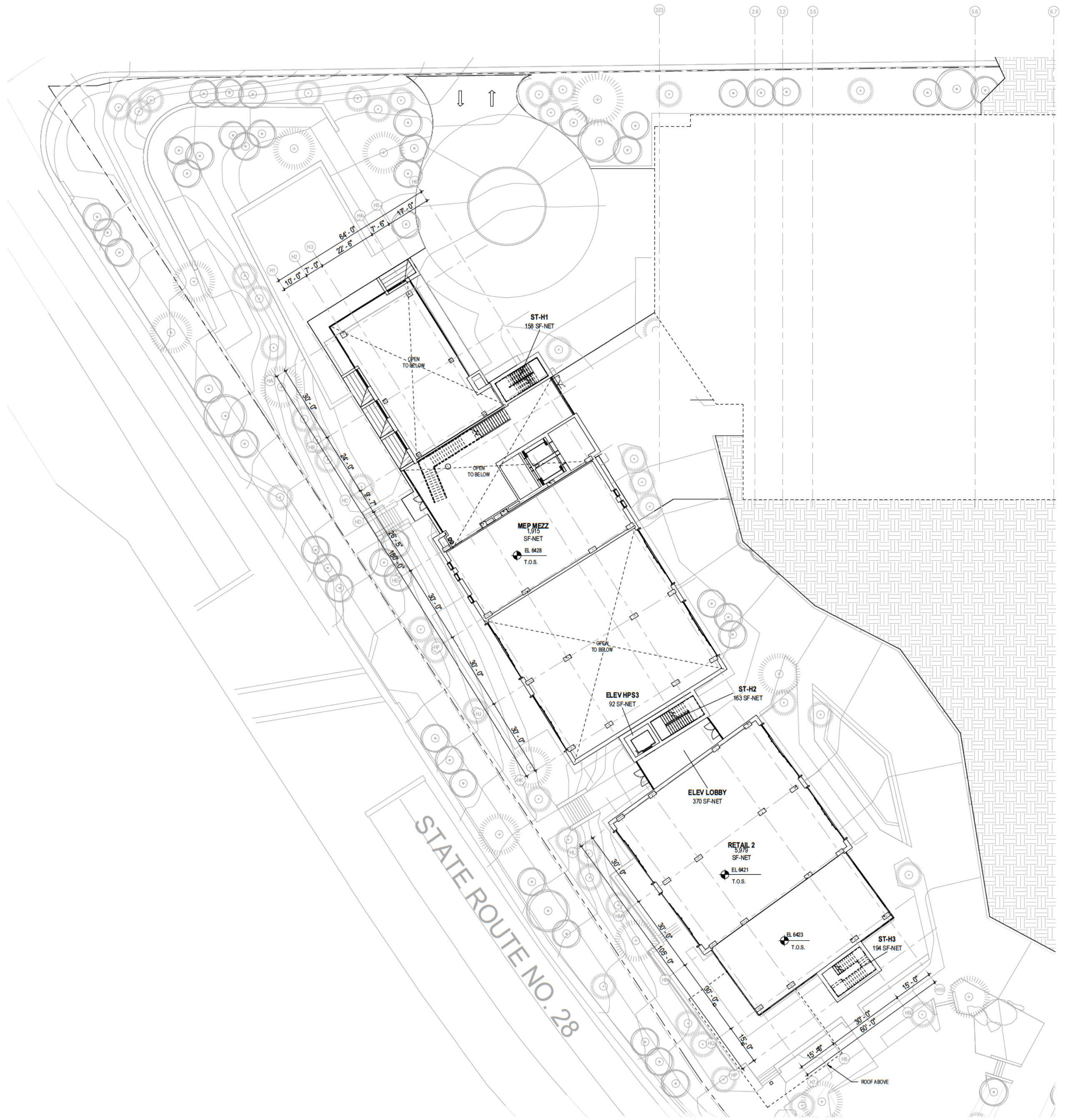

① **SECTOR 04 - LEVEL 02**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 02 - SECTOR 4

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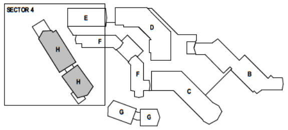
① **SECTOR 04 - SITE LEVEL 03**
1/16" = 1'-0"



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No.	Description	Date

Sheet Title Project No. 22139

FLOOR PLAN - LEVEL 03 - SECTOR 4

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING
Phase

Sheet No.
A2.03.4

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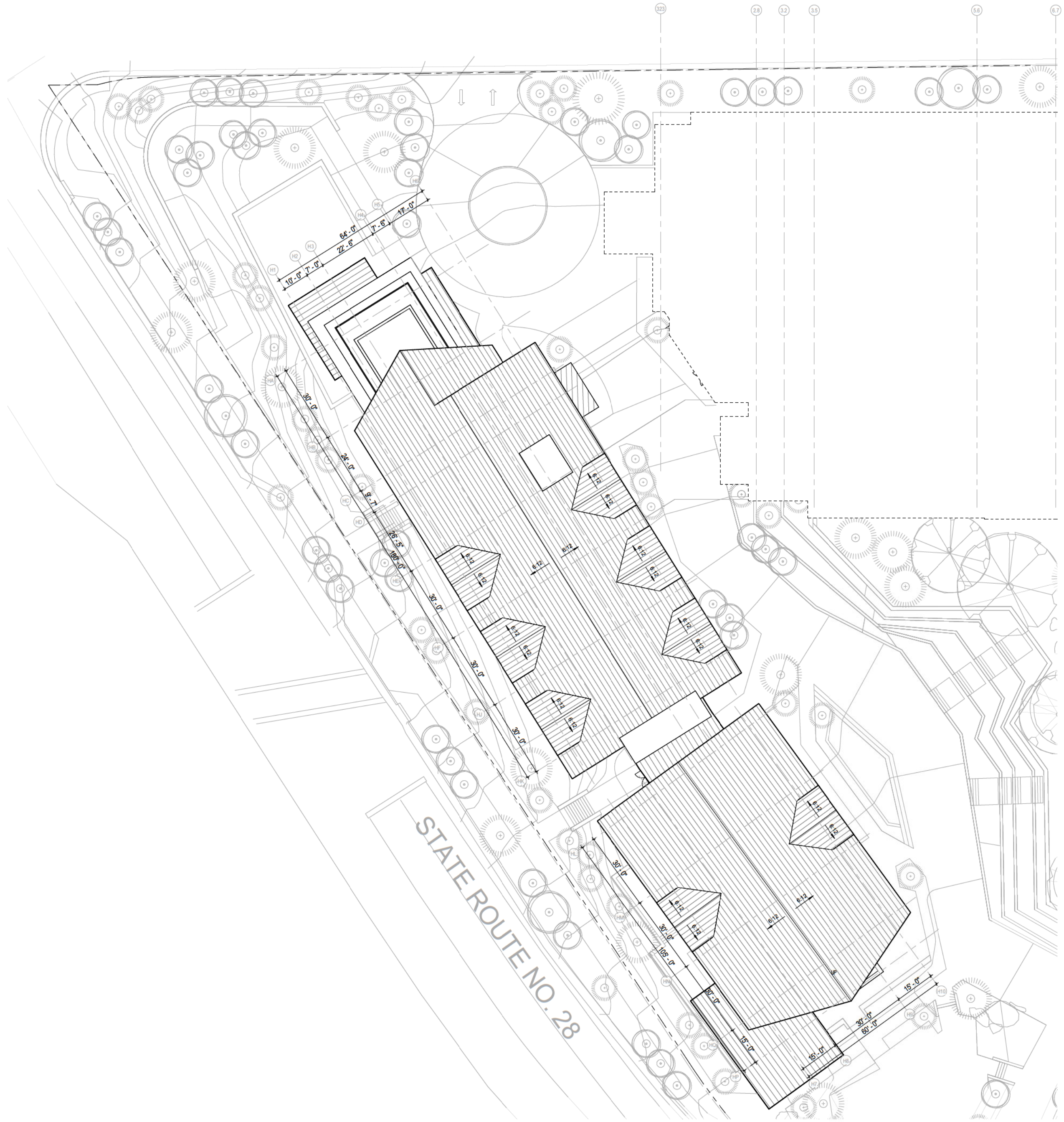
NOTE
SECTOR PLANS IN PROGRESS, ANNOTATIVE AND GRAPHIC COORDINATION FORTHCOMING. INCLUDED FOR DESIGN TEAM REFERENCE PURPOSES ONLY.



① **SECTOR 04 - SITE LEVEL 04**
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 04 - SECTOR 4

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.
A2.04.4

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING B
1/16" = 1'-0"

① BUILDING B - SOUTHWEST ELEVATION

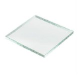
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY


WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

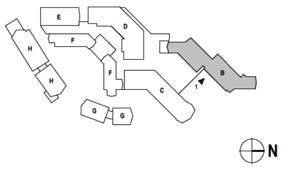
BUILDING D NOTE:

TOTAL BUILDING HEIGHT LESS THAN TOTAL BUILDING HEIGHT OF PRIOR APPROVAL. FEATURE ELEMENTS AND RIDGE LINES EXTEND INTO THE ALLOWABLE 6FT ABOVE IN ORDER TO MAINTAIN PITCHED ROOF FORMS. FLAT ROOF FORMS WOULD BE REQUIRED OTHERWISE TO MAINTAIN GUEST ROOM AND PUBLIC SPACE HEIGHT REQUIREMENTS.

GENERAL NOTES:

THE PROPOSED ELEVATIONS ARE CONSISTENT WITH THE OVERALL HEIGHT AND MASSING OF THE PREVIOUS SUBMITTAL. THE LANDING POINTS FOR THE TRPA LOW POINTS AND THE MAXIMUM BUILDING HEIGHTS HAVE BEEN COORDINATED. THE TRPA LOW POINTS MAY VARY DUE TO EROSION OR SITE ALTERATIONS SINCE THE PREVIOUS SUBMITTAL.

FINAL WINDOW PLACEMENT PENDING INTERIOR DESIGN INPUT. LOCATIONS AND SIZES SHOWN AS INDICATIVE PENDING DESIGN COORDINATION.



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Project No. 22139

BLDG B- EXTERIOR ELEVATION

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

B-A3.10

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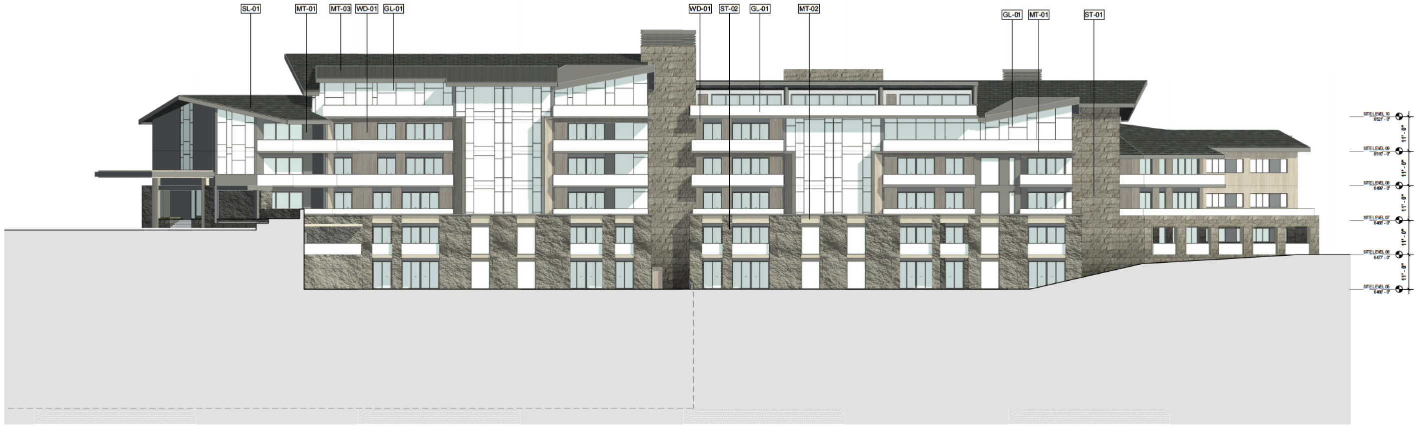
② **BUILDING B - NORTHWEST ELEVATION**

1/16" = 1'-0"



① **BUILDING B - SOUTHEAST ELEVATION**

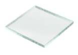
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY

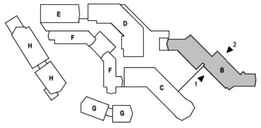

WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

GENERAL NOTES:

THE PROPOSED ELEVATIONS ARE CONSISTENT WITH THE OVERALL HEIGHT AND MASSING OF THE PREVIOUS SUBMITTAL. THE LANDING POINTS FOR THE TRPA LOW POINTS AND THE MAXIMUM BUILDING HEIGHTS HAVE BEEN COORDINATED. THE TRPA LOW POINTS MAY VARY DUE TO EROSION OR SITE ALTERATIONS SINCE THE PREVIOUS SUBMITTAL.

FINAL WINDOW PLACEMENT PENDING INTERIOR DESIGN INPUT. LOCATIONS AND SIZES SHOWN AS INDICATIVE PENDING DESIGN COORDINATION.



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Project No. 22139

BLDG B- EXTERIOR ELEVATION

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Phase

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B-A3.11

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PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING C
1/16" = 1'-0"

1 BUILDING C - SOUTHEAST ELEVATION

1/16" = 1'-0"

GENERAL NOTES:

THE PROPOSED ELEVATIONS ARE CONSISTENT WITH THE OVERALL HEIGHT AND MASSING OF THE PREVIOUS SUBMITTAL. THE LANDING POINTS FOR THE TRPA LOW POINTS AND THE MAXIMUM BUILDING HEIGHTS HAVE BEEN COORDINATED. THE TRPA LOW POINTS MAY VARY DUE TO EROSION OR SITE ALTERATIONS SINCE THE PREVIOUS SUBMITTAL.

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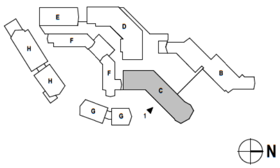
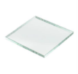


MATERIALS

ST-01: SPLIT FACE STONE

ST-02: ROUGH STONE SLAB PANELS

CP-01: CEMENT PLASTER - LIGHT GREY



GL-01: VISION GLASS - ANTI-REFLECTION

MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY

MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE

MT-03: ZINC STANDING SEAM - GREY

WD-01: CEDAR - WARM GREY WOOD SIDING

SL-01: SHINGLE ROOF

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BLDC C- EXTERIOR ELEVATION

Phase
TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.
C-A3.10

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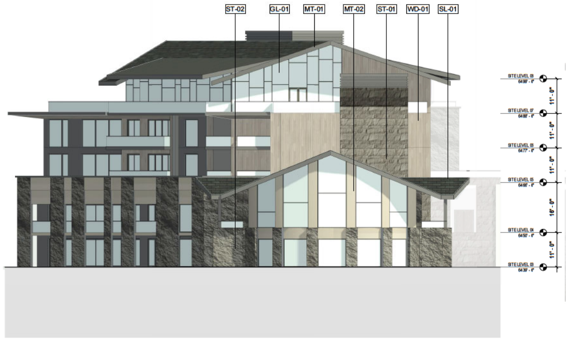


2 BUILDING C - NORTHEAST ELEVATION

1/16" = 1'-0"

1 BUILDING C - SOUTH EAST ELEVATION

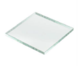
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY


WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

GENERAL NOTES:

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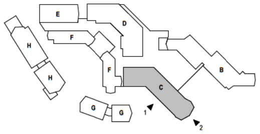

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BLDG C- EXTERIOR ELEVATION

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TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.
C-A3.11

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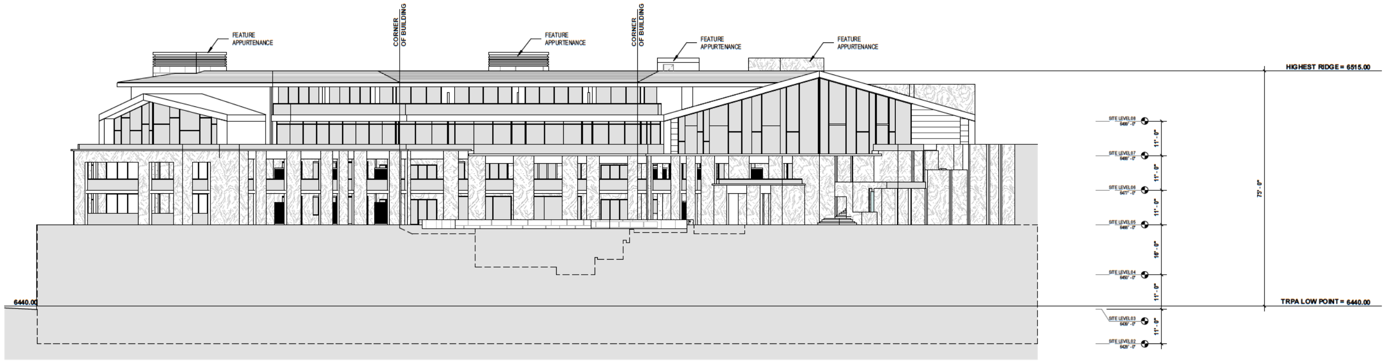
PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING D
1/16" = 1'-0"



① BUILDING D - SOUTHEAST ELEVATION

1/16" = 1'-0"

BUILDING D NOTE:

TOTAL BUILDING HEIGHT LESS THAN TOTAL BUILDING HEIGHT OF PRIOR APPROVAL. FEATURE ELEMENTS AND RIDGE LINES EXTEND INTO THE ALLOWABLE 6FT ABOVE IN ORDER TO MAINTAIN PITCHED ROOF FORMS. FLAT ROOF FORMS WOULD BE REQUIRED OTHERWISE TO MAINTAIN GUEST ROOM AND PUBLIC SPACE HEIGHT REQUIREMENTS.

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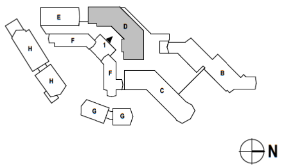
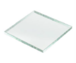


MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY


WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

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BLDG D- EXTERIOR ELEVATION

Phase

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Sheet No.

D-A3.10

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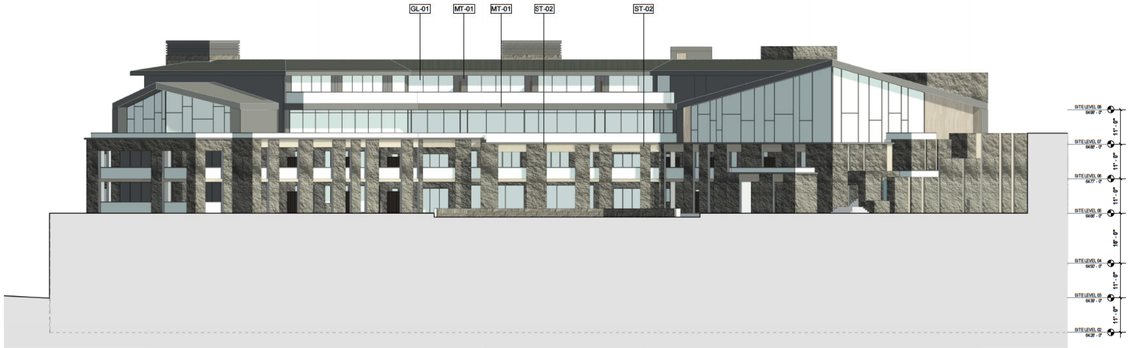
2 BUILDING D - NORTHWEST ELEVATION

1/16" = 1'-0"



1 BUILDING D - SOUTHEAST ELEVATION

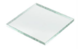
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY


WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

BUILDING D NOTE:

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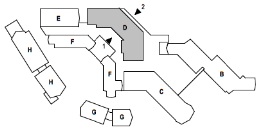
FINAL WINDOW PLACEMENT PENDING INTERIOR DESIGN INPUT. LOCATIONS AND SIZES SHOWN AS INDICATIVE PENDING DESIGN COORDINATION.



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Sheet Title Project No. 22139

BLDG D- EXTERIOR ELEVATION

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Sheet No.

D-A3.11

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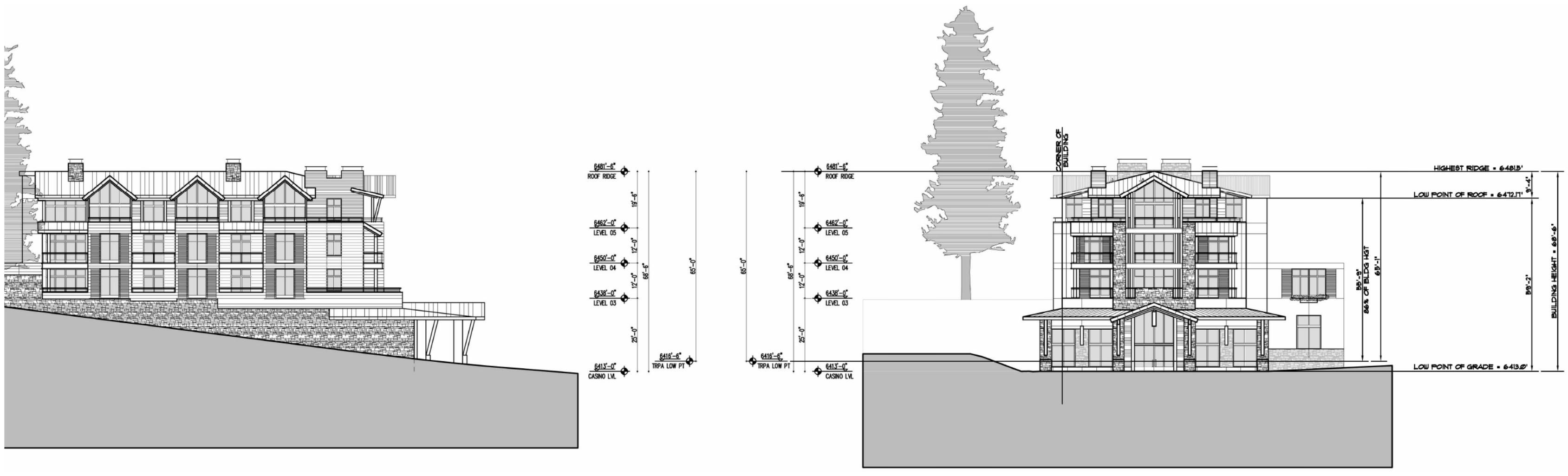

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING E
1/16" = 1'-0"

② BUILDING E - WEST ELEVATION

1/16" = 1'-0"

① BUILDING E - SOUTH ELEVATION

1/16" = 1'-0"

MATERIALS

- ST-01: SPLIT FACE STONE
- ST-02: ROUGH STONE SLAB PANELS
- CP-01: CEMENT PLASTER - LIGHT GREY
- GL-01: VISION GLASS - ANTI-REFLECTION
- MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY
- MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE
- MT-03: ZINC STANDING SEAM - GREY
- WD-01: CEDAR - WARM GREY WOOD SIDING
- SL-01: SHINGLE ROOF

GENERAL NOTES:

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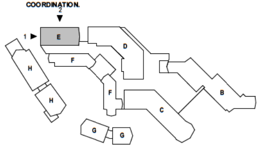

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BLDG E- EXTERIOR ELEVATION

Phase
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Sheet No.
E-A3.10

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② **BUILDING E - WEST ELEVATION**

1/16" = 1'-0"

① **BUILDING E - SOUTH ELEVATION**

1/16" = 1'-0"

GENERAL NOTES:

THE PROPOSED ELEVATIONS ARE CONSISTENT WITH THE OVERALL HEIGHT AND MASSING OF THE PREVIOUS SUBMITTAL. THE LANDING POINTS FOR THE TRPA LOW POINTS AND THE MAXIMUM BUILDING HEIGHTS HAVE BEEN COORDINATED. THE TRPA LOW POINTS MAY VARY DUE TO EROSION OR SITE ALTERATIONS SINCE THE PREVIOUS SUBMITTAL.

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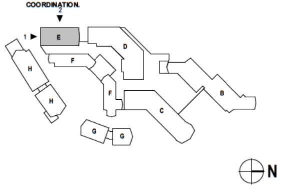

MATERIALS

- ST-01: SPLIT FACE STONE
- ST-02: ROUGH STONE SLAB PANELS
- CP-01: CEMENT PLASTER - LIGHT GREY
- GL-01: VISION GLASS - ANTI-REFLECTION
- MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY
- MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE
- MT-03: ZINC STANDING SEAM - GREY
- WD-01: CEDAR - WARM GREY WOOD SIDING
- SL-01: SHINGLE ROOF

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Sheet Title Project No. **22139**

BLDG E- EXTERIOR ELEVATION

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

E-A3.11

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PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING F
1/16" = 1'-0"

1 BUILDING F - SOUTHEAST ELEVATION

1/16" = 1'-0"

GENERAL NOTES:

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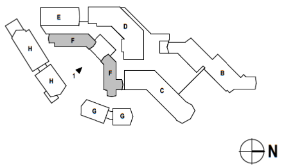

MATERIALS

ST-01: SPLIT FACE STONE

ST-02: ROUGH STONE SLAB PANELS

CP-01: CEMENT PLASTER - LIGHT GREY

GL-01: VISION GLASS - ANTI-REFLECTION

MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY

MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE

MT-03: ZINC STANDING SEAM - GREY

WD-01: CEDAR - WARM GREY WOOD SIDING

SL-01: SHINGLE ROOF

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BLDG F- EXTERIOR ELEVATION

Phase

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Sheet No.

F-A3.10

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1 BUILDING F - SOUTHEAST ELEVATION

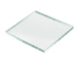
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY


GL-01: VISION GLASS - ANTI-REFLECTION


MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY


MT-02: ANODIZED ALUMINIUM - CHAMPAGNE BRONZE


MT-03: ZINC STANDING SEAM - GREY


WD-01: CEDAR - WARM GREY WOOD SIDING


SL-01: SHINGLE ROOF

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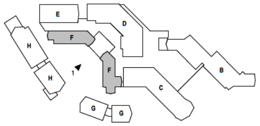

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BLDG F- EXTERIOR ELEVATION

Phase

TECHNICAL COORDINATION IS ONGOING, FURTHER COORDINATION FORTHCOMING

Sheet No.

F-A3.11

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING G
1/16" = 1'-0"

1 BUILDING G - EAST ELEVATION

1/16" = 1'-0"

GENERAL NOTES:

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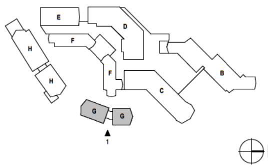

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MATERIALS

- ST-01: SPLIT FACE STONE
- ST-02: ROUGH STONE SLAB PANELS
- CP-01: CEMENT PLASTER - LIGHT GREY
- GL-01: VISION GLASS - ANTI-REFLECTION
- MT-01: ANODIZED ALUMINIUM - CHARCOAL GREY
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- WD-01: CEDAR - WARM GREY WOOD SIDING
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BLDG G- EXTERIOR ELEVATION

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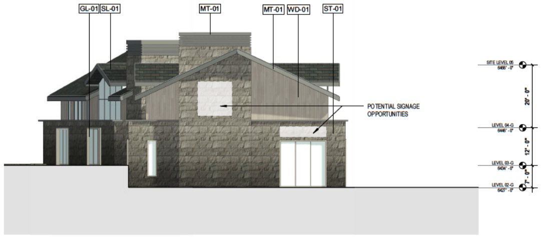


② **BUILDING G - SOUTH ELEVATION**
1/16" = 1'-0"

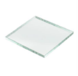
① **BUILDING G - EAST ELEVATION**
1/16" = 1'-0"

MATERIALS


ST-01: SPLIT FACE STONE


ST-02: ROUGH STONE SLAB PANELS


CP-01: CEMENT PLASTER - LIGHT GREY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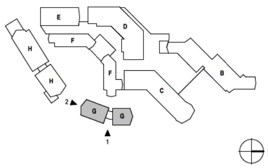

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BLDG G- EXTERIOR ELEVATION

Phase
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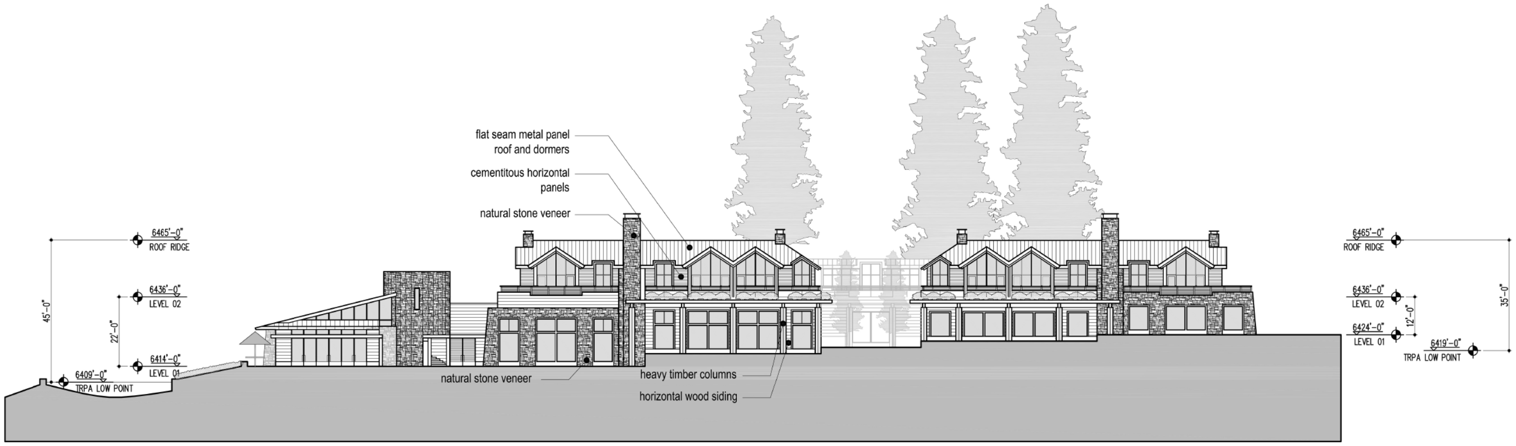

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING H
1/16" = 1'-0"

① BUILDING H - SOUTHEAST ELEVATION

1/16" = 1'-0"

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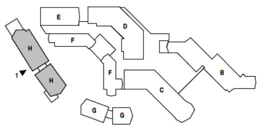

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MATERIALS


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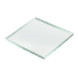
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BLDG H- EXTERIOR ELEVATION

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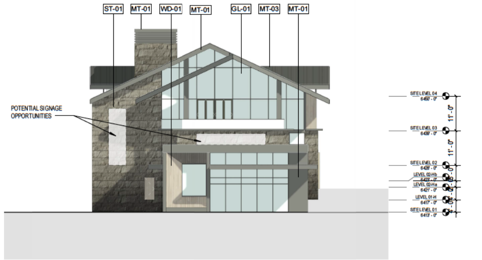
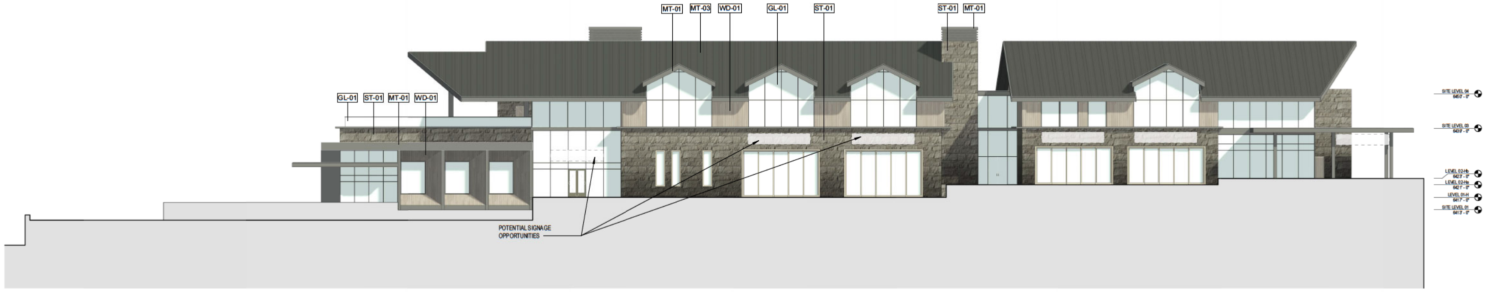


② BUILDING H - SOUTHWEST ELEVATION

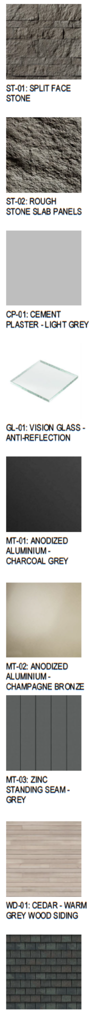
1/16" = 1'-0"



① BUILDING H - SOUTHEAST ELEVATION

1/16" = 1'-0"

MATERIALS



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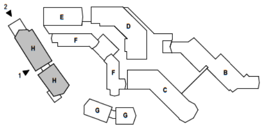

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BLDG H- EXTERIOR ELEVATION

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APPENDIX H
Scenic Analysis

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Memorandum

To: Tom Jacobson, EKN Development Group

From: Rob Brueck

Date: October 14, 2022

Subject: Scenic Quality Evaluation of Lake Tahoe Hotel & Residences (formerly Boulder Bay) Project Revisions

This memorandum provides an evaluation of scenic quality associated with revisions to the Boulder Bay project approved by TRPA in 2011 and documented in the site plans prepared by SB Architects for the Lake Tahoe Hotel & Residences (50% Schematic Design – TRPA Review Submission dated 10/12/2022). The evaluation focuses on how the proposed project revisions may change the scenic quality analysis and conclusions included in the 2009 Draft Environmental Impact Statement for the project.

Lake Tahoe Hotel & Residences Project Revisions

With a change in ownership, the Boulder Bay project approved by TRPA in 2011 has been revised with a modern interpretation of the traditional mountain vernacular in the region. The contemporary architectural vocabulary will utilize clean lines, varied pitched roofs, deep terraces and balconies. Expressing the context, it will feature a material palette of warm wood tones, accented by natural stone with complimentary metal tones capturing and mirroring the magnificence of the Sierra Nevada Mountains.

Figure 1 documents the 2011 approved Alternative C site plan and current proposal. Notable differences include a reduction in the size of building F to expand the public plaza (e.g., the Grove) located in the middle of the development and the addition of a guest arrival area located between buildings B and D. With the new guest arrival location off of Stateline/Lake View Avenue, the current proposal eliminates the proposed vehicular roadway (Boulder Way) that would have paralleled State Route 28 (SR 28) behind buildings G and H.

Figure 2 documents examples of changes to building design and architectural character with a comparison of elevations for building F (top two elevations) as viewed from the interior plaza (e.g., the Grove) and building H (bottom two elevations) as viewed from SR 28. The first elevation represents the building design as approved in 2011. The second elevation represents the current design revision.

Under the project revisions, the configuration of proposed buildings would not be substantially changed, but would include slight changes to footprint size, placement and architectural design. Therefore, this evaluation focuses on the changes relative to the original analysis included in the Boulder Bay Draft Environmental Impact Statement (DEIS).

Figure 1: Site Plan Comparison

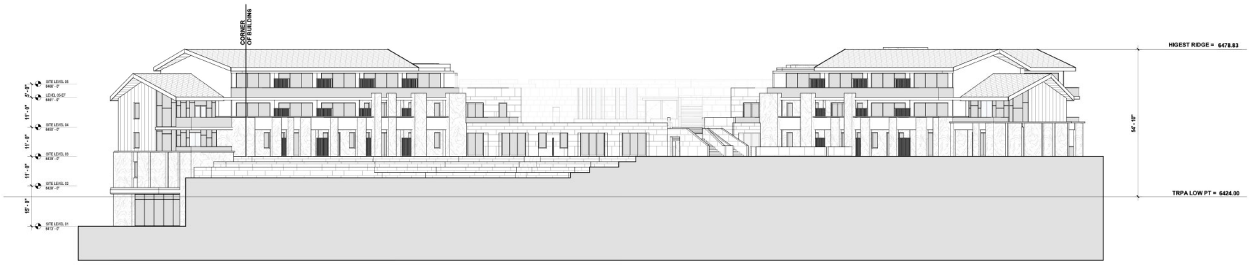
Previously Approved Alternate C - Landscape Illustrative

Proposed Design Revision - Landscape Illustrative

Figure 2: Comparison of Building F (top) and Building H (bottom) Elevations

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING F
1/16" = 1'-0"



1 **BUILDING F - SOUTHEAST ELEVATION**

1/16" = 1'-0"

PRIOR SUBMITTAL - ALTERNATE C

ELEVATION - BUILDING H
1/16" = 1'-0"

1 **BUILDING H - SOUTHEAST ELEVATION**

1/16" = 1'-0"

TRPA SCENIC RESOURCE UNITS

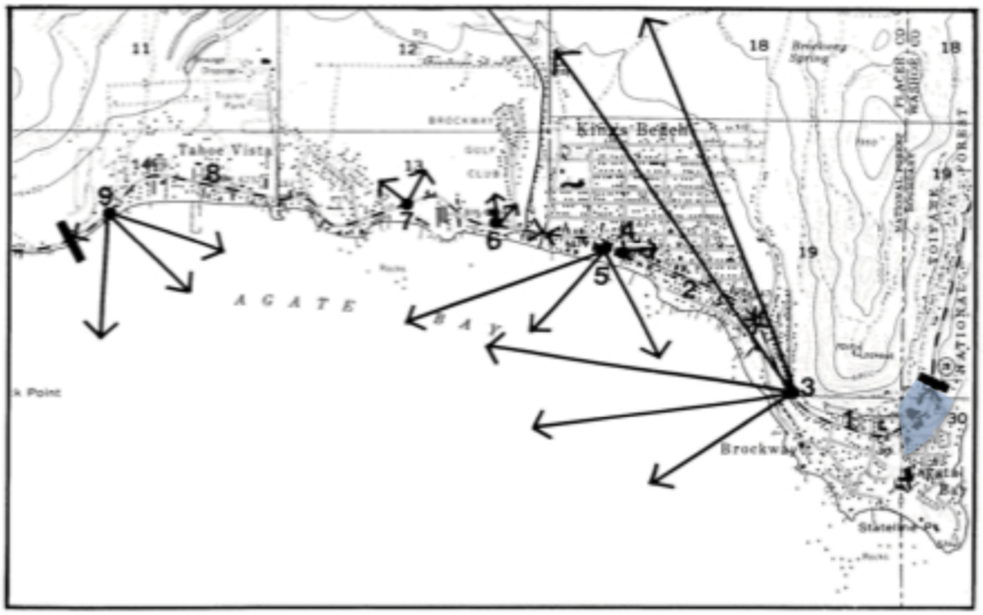
The 2009 DEIS provided a description of the visual setting and scenic resources of the project area, identified scenic impacts that would result from implementation of the Project (Alternative C), and recommended scenic mitigation measures. The Project area is visible from the portion of SR 28 designated as Roadway Unit 20D: North Stateline (highlighted blue in Figure 3) and Shoreline Unit 23: Crystal Bay (Figure 10) from Lake Tahoe.

The following evaluation describes the applicable scenic resources that were addressed in the 2009 DEIS and provides an analysis of how the proposed project revisions may change the scenic quality conclusions that were identified for the project.

Roadway Travel Unit 20D (North Stateline Casino Core)

The Project area is located along the portion of SR 28 originally designated as Scenic Roadway Unit 20. In 2001, TRPA divided this Roadway Unit into four sub-units because of its length and diversity of character. The Washoe County portion of the Roadway Unit was relabeled 20D. The scenic quality rating is based on foreground, middleground and background views, views to the lake from the roadway, and other special features. The 2019 scenic quality travel route ratings are listed on TRPA's website (https://thresholds.laketahoeinfo.org/ThresholdIndicator/Detail/58). Roadway Unit 20D: North Stateline Core is a nonattainment area with a threshold composite score of 13.5 out of a possible score of 30; any units with a score of 15 or less are considered nonattainment areas in need of visual improvements.

Figure 3: Roadway Unit 20D (North Stateline Casino Core)



The 2009 DEIS (HBA, page 4.5-2) provided the following setting information for Roadway Unit 20D. This unit score increased from 13 in 2001 to 13.5 in 2006 due to the removal of a billboard (note: no changes have been made to the unit scores since 2006). Near the project site, the scenic quality is rated as low due to the poor quality of the high-density commercial uses and housing. This roadway unit is categorized as an "urban, rural transition visual environment." The segment of the roadway unit in the project area is categorized as an urban environment. Urban scenic highway corridors are generally urbanized areas where man-made development is the dominant visual feature. According to the TRPA Scenic Quality Improvement Program (SQIP), the Stateline area is considered an "area of concern" due to a disorganized visual character that contains poorly designed and/or maintained structures placed close to the roadway with little landscaping, uncoordinated signage, and visible overhead lines and satellite dish antennae. In addition, highly visible parking directly off SR 28 further affects the visual quality and contributes to traffic issues that also affect the visual character of the Stateline area. The SQIP also states that the scale, height and density of structures in the casino core are problematic and in contrast with the surrounding area. The SQIP recommends landscaping along the roadway and within developments (Chapter 30), signage consistent with TRPA guidelines (Chapter 26), landscape screening, and architectural upgrades to the casino buildings so that they reflect the natural character of Lake Tahoe. The Project responds to this recommendation by including landscaping along public roadways, integrating signage into the pedestrian amenities and building facades, and replacing the large monotone exterior of the Biltmore casino structure with building colors and materials more in line with the nearby natural landscape.

Roadway Unit 20 has an overall scenic quality rating of 2 and a rating of 2 for each of the scenic quality rating indicators (SQIP 1988 rating). Scenic quality rating indicators include: 1) Unity – the extent in which a landscape feature can be described as cohesive, 2) Vividness – a memorable or distinct quality, 3) Variety – the intermixture of interesting elements of a landscape unit, and 4) Intactness – the extent to which a landscape retains its natural condition.

Impact SR-2 of the DEIS (page 4.5-46) concludes that:

> "the Project will result in site changes visible from SR 28 and Lake Tahoe. Views of project structures will be minimal from Lake Tahoe (DEIS Figure 4.5-12), and will not be visible from Scenic Recreation Units 7 or 8 (DEIS Figure 4.5-3). The project will be highly visible from SR 28, other local roadways and adjacent casinos and residences. While the project will be highly visible from SR 28, redevelopment of the project area will improve the architectural character of the area, will increase and improve landscaping, and will include the restoration of several previously disturbed areas (e.g., the former Tahoe Mariner site, Crystal Bay Motel, and the offsite Stateline mini-park site under a Boulder Bay agreement with Placer County)."

Key takeaways from the DEIS analysis of the original Project (Alternative C) include:

- Despite the increase in foreground structural elements at this location compared to the existing surface parking lot, the project would not decrease views through the project area to the ridgeline located to the northwest;

- Structures set back less than 60 feet from the State Route 28 edge of pavement may not exceed three stories tall, buildings G and H shall be reduced to two stories tall;

- While the project will be highly visible from SR 28, redevelopment of the project area will improve the architectural character of the area, will increase and improve landscaping, and will include the restoration of several previously disturbed areas;

- All of the structures would utilize the "Alpine Elegance" style of architecture promoted in the Community Plan and TRPA design guidelines. Buildings will consist of wood and stone treatments, gables, overhangs, and multiple planes;

- Reflective building materials shall be avoided and any metal roofing shall be consistent with TRPA recommended materials and colors;

- The spacing of the proposed buildings provides several viewsheds into and through the project area to the ridgeline behind as viewed from SR 28;

- While the existing casino structure is highly visible from SR 28 and does not blend with the natural background views, the structures (buildings G and H) closest to SR 28 under Alternative C are less dense, less massive, and more in character with the urban and natural landscape of Crystal Bay;

- The area will remain predominantly urban, but will also include some improvement with the removal and restoration of the Crystal Bay Motel, development of the mini-park at the Stateline under a Boulder Bay agreement with Placer County, and proposed landscaping along pedestrian spaces;

- The removal of the storage area located below Lakeview Avenue and its replacement with the realigned Wassou Road and building's A and B will not adversely affect overall visual quality because neither the proposed buildings or roadway modifications will block existing views of Lake Tahoe as seen from the northern end of the project area or the adjacent residential neighborhood to the north.

- However, the upper floor and roofline of building A will be highly visible from passing motorists due to the proximity of the building's location to SR 28. Based on the loss of natural views from SR 28 viewpoints due to the visibility of building A's roofline, this impact was identified as significant. Mitigation measure SR-1B (Redesign building A) was included in the DEIS to reduce the potential impact to less than significant.

In summary, the 2009 DEIS (page 4.5-49) documented anticipated benefits to the roadway unit ratings from implementation of the Alternative C Project as follows:

> "Table 4.5-6 documents the changes to scenic roadway and shoreline unit travel route ratings for Alternative C. Roadway Unit 20D will see a 1.5 point improvement to the threshold composite with the increased scoring for manmade features and roadway distractions. The Roadway Unit 20D man-made features travel route rating criteria will improve from 2.5 to 3.5 as a result of the removal of man-made distractions including approximately 0.5 mile of overhead utilities, non-conforming signage (including the 60 foot tall Tahoe Biltmore sign), the Crystal Bay Motel, and the 76-foot tall Tahoe Biltmore hotel and casino building which does not provide adequate setback from SR 28. This improvement is limited to 1 point because of the increase in overall man-made features within the project area, including new man-made features on the northern end of the project area in the location of the open space required in the current Tahoe Mariner Settlement Agreement. The roadway distractions travel route rating criteria will improve from 3 to 3.5 as a result of the removal of two uncontrolled curb cuts on SR 28 (current Tahoe Biltmore parking lot access points and Reservoir road) and improvements to pedestrian and bicycle amenities along SR 28 that will improve pedestrian-auto safety."
>
> As part of the Project approval in 2011, deed restricted open space outlined in the Tahoe Mariner Settlement Agreement was relocated to other areas in the Boulder Bay project area. This relocation allowed for the consolidation of urban land uses on the southern end of the project area and preservation of the entirety of the far northern end.

Table 4.5-6

Alternative C - Scenic Roadway and Shoreline Unit Travel Route Ratings

	Roadway Unit 20D		Shoreline Unit 23	
	Existing Rating	Change	Existing Rating	Change
Manmade Features	2.5	**3.5**	1	1
Roadway Distractions	3	**3.5**	--	--
Road Structure	3	3	--	--
Lake Views	1	1	--	--
Landscape Views	1	1	3	3
Variety	3	3	3	3
Threshold Composite	13.5	15.0	7	7
Status	Non-attainment	Non-attainment	Non-attainment	Non-attainment

Source: Hauge Brueck Associates, 2009

Note: Changes as a result of the Project would improve the Roadway Unit 20D rating.

Analysis of Revised Project

To assist with this evaluation, updated photographic simulations (Figures 4 to 8) were prepared by project architects (SB Architects, 2022) to show how the revised Lake Tahoe Hotel & Residences Project design compares to the scenic quality analysis prepared for the Boulder Bay Project (Alternative C) in the 2009 DEIS. Each viewpoint (with the exception of Figure 8 which provides a new viewpoint location for this study) includes the existing condition, the 2009 simulation prepared for Alternative C and the simulation prepared for the current Project revision (2022). As shown in the simulations, the proposed revision to building location, footprint and architectural style result in minimal change to the overall building height and massing that was documented in the 2009 DEIS simulations. Noticeable changes are evident from viewpoints 13 and 14 (Figures 4 and 5).

At viewpoint 13 (SR 28 and Stateline) the casino façade (building E on left side of the image) is closer to the viewpoint location in the revised plan and somewhat wider and taller. However, neither the 2009 or current building design block views of a mapped TRPA scenic resource or ridgeline from this viewpoint, and both offer an improvement to building setback from the roadway, architectural style, and landscaping as compared to the existing Biltmore structure. At viewpoint 14 (Biltmore parking lot from SR 28), the revised location, size and architectural design of buildings G and H will continue to provide views through the project site of the ridgeline to the west and improve manmade features by replacing existing surface parking and retaining walls with buildings and landscaping that are consistent with Area Plan community design goals.

At viewpoint 15, building A is now seen alongside the roadway in the existing condition photo, as it was completed as Phase 1A in 2018. As shown in the 2009 simulation (Figure 6), vegetative planting was proposed along the roadway on either side of the park access roadway to screen the lower floors of the building. The landscaping proposed alongside SR 28 for the 2009 Project was revised as part of project review in 2017 to address changes to the park entrance roadway configuration (green areas highlighted on Figure 9), but has not been effective at providing the screening simulated during the DEIS analysis. It is likely that the small existing conifers will take another 5 to 10 years of growth to provide the proposed level of building screening. As such, additional landscaping, consisting of larger diameter trees, shall be required on each side of the park access roadway to improve screening of the building A ground level floors as viewed from the SR 28 viewpoint. Figure 9 shows the location of the required supplemental planting and the Figure 6 simulation documents the additional planting on each side of the park entrance roadway that is necessary to comply with the DEIS screening mitigation. The proposed supplemental planting includes 2 evergreen trees approximately 10-12 feet tall on the south side of the park access roadway and 3 evergreen trees approximately 10-12 feet tall on the north side of the park access roadway.

A new viewpoint (Figure 8) was added for this analysis to document potential changes to viewpoints while traveling north on SR 28. As shown in this new viewpoint location, existing vegetation that is proposed to remain within the SR 28 right of way along with proposed landscaping within the pedestrian corridor provides effective screening of proposed buildings (e.g., buildings G and C) and the south side of building A. As such, the existing vegetation shown in the simulation (highlighted in green) shall be protected and maintained in this location. A review of the site plan confirms that these four evergreen trees are healthy and will not be damaged during grading for utilities or the building G site preparation. Each of the trees is on the SR 28 side of the proposed pedestrian walkway and over 20 feet from the building G foundation.

At viewpoint 16, the simulation for the revised Project is consistent with the building height and massing proposed in the 2009 DEIS. From this Lake View Avenue viewpoint located above the Project in the residential neighborhood, the proposed buildings will not obstruct views to Lake Tahoe nor the ridgelines beyond.

Conclusion

In each viewpoint location, the revised Project structures are consistent with the building design, location and massing analyzed in the 2009 DEIS. Therefore, with the recommendations summarized below (e.g., protect the existing trees shown in the new simulation viewpoint and supplement building A vegetative screening), the revised project does not result in new scenic quality impacts associated with the overall threshold composite score for Roadway Unit 20D, nor does it require additions to the existing mitigation measures included in the DEIS. The scenic quality threshold improvement scores identified in the 2009 DEIS (Table 4.5-6) should continue to be realized following Project construction and subsequent TRPA evaluation.

Summary of Recommendations

1. Additional landscaping, consisting of taller evergreen trees, shall be required on each side of the park access roadway to improve screening of the building A ground level floors as viewed from the SR 28 viewpoint 15 (see areas highlighted in green on Figure 9 and the simulated planting plan on Figure 6). These trees shall be included on the Project landscaping plan for TRPA review and approval as part of the Permit Revision process.

2. Existing vegetation located adjacent to building G consisting of four conifer trees within or near the SR 28 right of way and shown in the photo simulation (see trees highlighted in green in Figure 8) shall be protected and maintained as part of the Project plans.

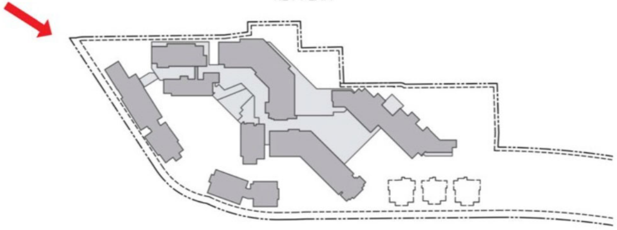
Figure 4: Viewpoint 13 from SR 28 and Stateline

EXISTING SITE CONDITIONS - UPDATED

VIEW 01 - FROM SR 28 & STATELINE

View comparison when approaching the project site from the south along Highway SR 28 at the intersection of State Line Road.

KEY PLAN



PREVIOUS APPROVED ALTERNATE C

PROPOSED DESIGN REVISIONS

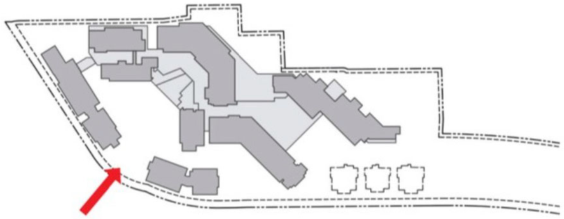
Figure 5: Viewpoint 14 from SR 28

EXISTING SITE CONDITIONS - UPDATED

VIEW 02 - FROM SR 28

View comparison when driving past the sweeping curve from west moving north along the project site on Highway SR 28.

KEY PLAN



PREVIOUS APPROVED ALTERNATE C

PROPOSED DESIGN REVISIONS

Figure 6: Viewpoint 15 from SR 28 Looking South at Building A (Phase 1)

SITE CONDITIONS PRIOR TO BUILDING A

PREVIOUS APPROVED ALTERNATE C

EXISTING SITE CONDITIONS

PROPOSED LANDSCAPE ADDITIONS

Figure 7: Viewpoint 16 from Lake View Avenue

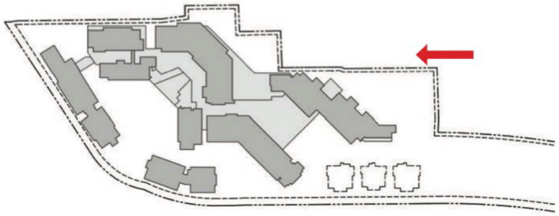
EXISTING SITE CONDITIONS - UPDATED

PREVIOUS APPROVED ALTERNATE C

VIEW 04 - FROM LAKE VIEW AVE.

View comparison when approaching the site from the east along Lakeview Ave. The highest level of building massing is shown being obscured by trees along the road. The clear view of the lake horizon is indicated along with the distant mountain ridge lines beyond.

KEY PLAN



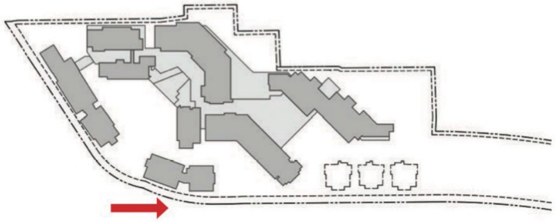
PROPOSED DESIGN REVISIONS

Figure 8: New Viewpoint Looking North on SR 28

EXISTING SITE CONDITIONS

PROPOSED DESIGN REVISIONS

KEY PLAN



VIEW 05 - ADDITIONAL VIEW FROM SR 28

View comparison when driving north along SR 28 past buildings G, approaching Big Water Drive and existing condo buildings of Phase A.

The two story volume of building G is described screen intermittently by landscape elements and trees. Included in this view are the pedestrian improvements along the SR 28 frontage.

The larger trees anchoring the building C amenity area help screen the volume of the building beyond.

Figure 9: 2022 Planting Plan for Building A Screening

Shoreline Travel Unit 23 (Crystal Bay)

The Project area is located west of Crystal Bay (Shoreline Unit 23) on Lake Tahoe's north shore between King's Beach and Incline Village (see blue highlighted area on Figure 10). Shoreline Unit 23: Crystal Bay is a nonattainment area with a threshold composite score of 7.5 out of a possible score of 15; any units with a score of 7 or less are considered nonattainment areas in need of visual improvements. Unit 23 is considered nonattainment because the current composite score of 7.5 is less than the score of 11 that was recorded in 1982.

The 2009 DEIS (HBA, page 4.5-3) provided the following setting information. "Near the project site, shoreline views from Lake Tahoe are primarily of homes interspersed with trees and other vegetation along rocky slopes and cliffs. The spread of visible structural development in the past led to a lowering of the shoreline travel route rating near the project area. Mountain ridges are visible in the background, while middle and foreground views contain the natural landscape of trees, shrubs and rocky slopes interspersed with residences and other structures. The Project area is located east of Stateline Point, a distinctive and rocky point on Lake Tahoe and therefore not visible from Brockway (Shoreline Unit 22)."

Figure 10: Shoreline Unit 23 (Crystal Bay)

Analysis of Revised Project

Impact SR-2 of the 2009 DEIS discloses that the top floor and roofline of building C will be visible from Lake Tahoe (page 4.5-46) through an existing forest clearing, but concludes that the visible portion of the structure will not exceed the height of the existing trees and would be similar to the visibility of the existing Crystal Bay Motel that is proposed for demolition. The DEIS concludes that Alternative C development will only be visible where existing development is currently visible, and so the impact as viewed from Lake Tahoe viewpoints is considered to be less than significant. The project revisions would not substantially increase the height or location of building C and therefore the 2009 DEIS impact conclusions for Shoreline Unit 23 would remain unchanged.

Scenic Recreational Resources

In addition to the roadway and shoreline unit resources discussed above, there are scenic recreational resources nearby the project site including Burnt Cedar Beach (Unit 8), Incline Beach (Unit 7) and Ski Incline (Unit 6), all of which are located east of the project area. The 2009 DEIS (page 4.5-4) provides the following setting information for these nearby recreational resources:

> "Ski Incline includes distant views of the lake and southwestern shores, while the two beaches provide wide views of the lake and surrounding shorelines. Each scenic recreation area is rated in attainment as shown in Table 4.5-2. According to the 2001 scenic quality rating, development at Stateline, primarily road cuts and structures extending above the canopy level or located on the slopes of Crystal Bay are visible from the beaches and detract from the natural scenic quality. Views toward the project area from the beaches are shown in Figure 4.5-3. Views from Ski Incline do not include the project site due to distance, topography and screening vegetation (as viewed from the ski resort) at the ski resort; therefore, they are not included in the figure."

DEIS page 4.5-21 documents that the project area is not visible from the two Incline beaches or other recreational areas to the west. Therefore, no additional analysis of recreational resources is required.

> “As discussed under Scenic Recreation Units 7 and 8, the project site is not visible from area beaches located to the east because of the distance between the beaches and the project area. From the west, the project site is not visible from the lake or SR 28 due to intervening topography and vegetation located on Stateline Point.”

APPENDIX I

Environmental Impact Statement – Final & Draft Versions

This Appendix is Provided in a Separate Document

APPENDIX J
IVGID Will Serve Letter

INCLINE VILLAGE
GENERAL IMPROVEMENT DISTRICT
1220 Sweetwater Road
Incline Village, NV 89451

CONDITIONAL WILL SERVE LETTER
Dedication to IVGID Required

April 8, 2008

Boulder Bay LLC
P.O. Box 307
Crystal Bay NV, 89451

RE: **Boulder Bay Project – Tahoe Biltmore Redevelopment**
Crystal Bay, *APNs 123-052-02, 123-052-03, 123-052-04, 123-053-02, 123-053-04*
123-054-01,123-071-04, 123-071-34, 123-071-35, 123-071-36, 123-071-37

Dear Mr. GilanFarr:

This letter serves to notify you that the subject development is within the jurisdictional boundaries of the Incline Village General Improvement District *(IVGID, or District)*, and that the District will serve the proposed project with water and sewer service and solid waste removal subject to the project's final utility plans meeting design, material, and installation requirements of the District, and subject to the assignment of water rights to IVGID in accordance with IVGID's Water Rights Dedication Procedures. In addition:

(1) Water rights associated with this property, if any, shall be assigned to the District.
(2) All requirements shall be met regarding STANDARD SPECIFICATIONS FOR IVGID's WATER, SEWER, AND PRIVATE COMMUNAL UTILITY SYSTEMS.
(3) Meters and control manholes shall be placed off the property as approved by IVGID.
(4) Cost for additional water storage or delivery capacity shall be borne by Applicant.
(5) Separately owned parcels shall not be served by the same service connection.
(6) All taxes and assessments on the parcel are current and shall remain current.

The Applicant for the subject project plans to redevelop the Tahoe Biltmore and related properties into a world-class destination resort community on 13.5 acres and will provide the following service and amenities; 217 hotel rooms and suites, 149 fractional ownership condominiums, 21 whole ownership condominiums, 34 on-site workforce housing units, 30,000 sf of dining and retail, 20,000 sf of health and wellness center, 12,500 sf of convention and meeting space, and 10,000 sf of gaming.

A Water Rights Calculation Worksheet has not been completed for this project at this time. This project will be required to assign additional water rights to the District to serve the proposed development as a condition of issuance of a Final Will Serve Letter and project approval. This is in accordance with IVGID's Water Management Plan and Policies and is contingent upon existing permitted water rights and sewer capacities, including any action brought against the District contesting such permitted rights or capacities. The parcels listed above have been previously analyzed for historical water use and APN 123-052-04 has an allotment of 40.20 acre-feet and APN 123-053-04 has an allotment on 0.19 acre-feet. The 40.39 AF will be applied to this development reducing the total amount required to be dedicated.

The Applicant agrees to hold IVGID harmless from any costs, damages, or expenses incurred by the Applicant in the event IVGID fails to be able to supply water or sewer connections, or for any delays to the Applicant's project schedule caused by IVGID's review and approval procedures. In the event additional water service demand is required by future change in service requests, additional water rights issues shall be addressed at that time.

Very truly yours,

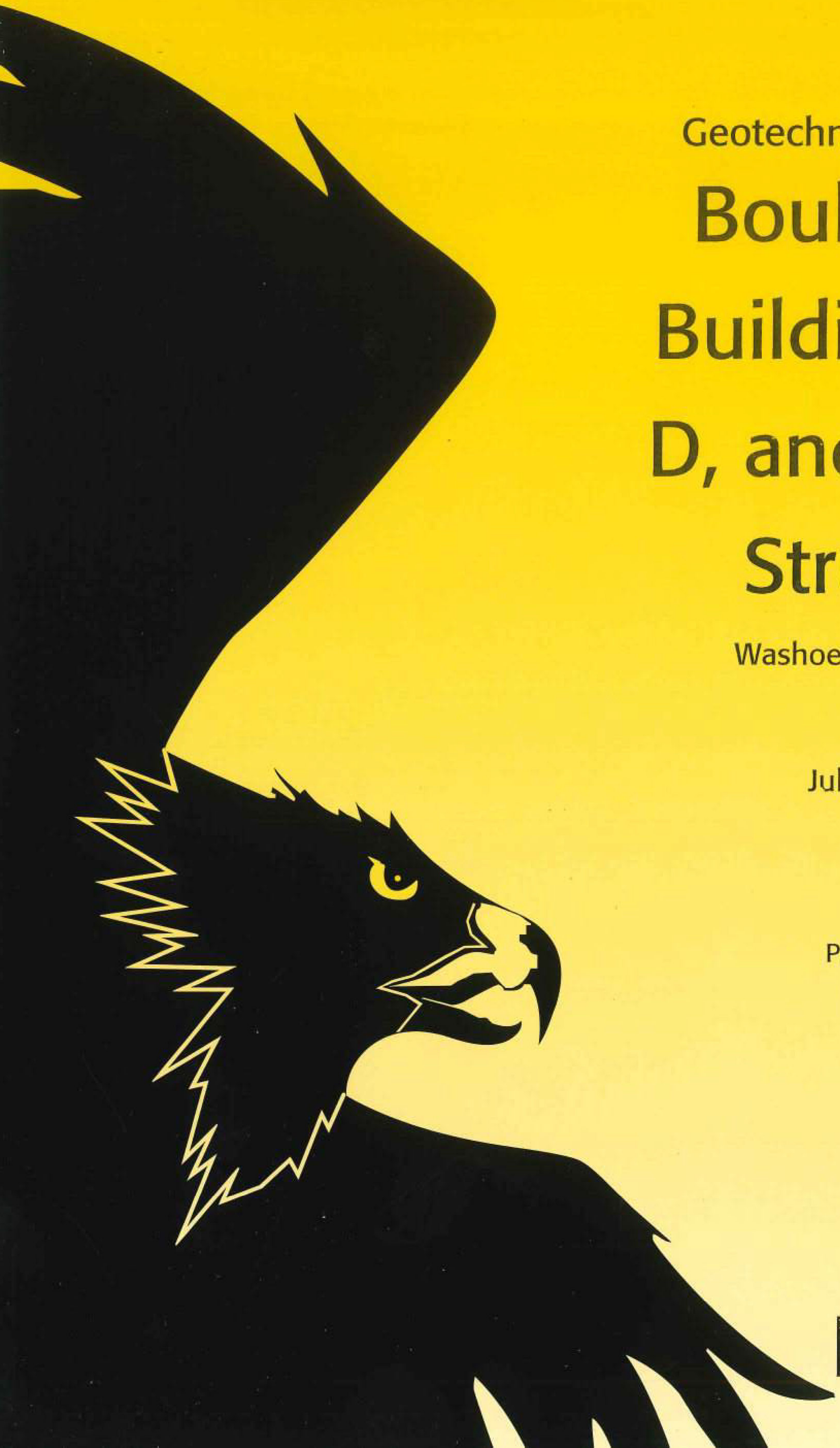
Joseph J Pomroy, P.E.
Director of Public Works

c: *APN file*
Will Serve file
T. Buxton

I:\Engineering\OPS\WILLSERV\123-052-02 et al Cond.doc

APPENDIX K
Preliminary Geotechnical Report & Fault Study

Black Eagle Consulting, Inc.



Geotechnical Investigation

Boulder Bay Buildings B, C, D, and Parking Structure

Washoe County, Nevada

July 13, 2018

Prepared for
CFA, Inc.

Black Eagle Consulting, Inc.
Geotechnical & Construction Services

Mr. Mike Wilhelm, P.E., W.R.S.
CFA, Inc.
1150 Corporate Boulevard
Reno, Nevada 89502

July 13, 2018
Project No.: 0091-52-1

L

RE: Geotechnical Investigation
Boulder Bay Buildings B, C, D, and Parking Structure
Crystal Bay, Washoe County, Nevada

Dear Mr. Wilhelm:

Black Eagle Consulting, Inc. is pleased to present the results of our geotechnical investigation for the above-referenced project. Our investigation consisted of research, field exploration, laboratory testing, and engineering analysis to allow formulation of geotechnical conclusions and recommendations for design and construction of this project.

The overall Boulder Bay project involves the complete redevelopment of the current Tahoe Biltmore property located in Crystal Bay, Washoe County, Nevada. The first phase of the project includes Building A, which is currently under construction. The second phase consists of the northbound extension of Stateline Road to connect with Lakeview Avenue and ultimately with Wassou Road to form a perimeter roadway around the Boulder Bay project. Subsequent future phases of the project will involve the construction of 7 additional buildings and a parking structure. This report is relevant to Buildings B, C, D, and the proposed parking structure.

The site exhibits a thin silty sand soil cover underlain by generally weathered granitic bedrock; these on-site materials will provide excellent support for the proposed improvements in cuts and also as compacted structural fill. The most significant constraint to construction of the project includes moderate to steeply sloping topography and below-grade building levels that will necessitate significant cuts and fills and tall site and building retaining walls.

We appreciate having the opportunity to work with you on this project. If you have any questions regarding the content of the attached report, please do not hesitate to contact us.

Sincerely,

Black Eagle Consulting, Inc.

PROFESSIONAL ENGINEER - STATE OF NEVADA
PANCHALINGAM
VIMALARAJ
Exp. 6-30-20
CIVIL
No. 19732

Vimalaraj
7/13/18

Jeff Jones

Vimal P. Vimalaraj, P.E.
Engineering Division Manager

Jeffrey M. Jones, P.E.
Senior Geotechnical Engineer

Copies to: Addressee (3 copies and PDF)
JP:JMJ:LJJ:PV:cjr

Black Eagle Consulting, Inc.
Geotechnical & Construction Services
1345 Capital Boulevard, Suite A
Reno, Nevada 89502-7140
Tel: 775/359-6600 Fax: 775/359-7766
Email: mail@blackeagleconsulting.com

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Introduction

Presented herein are the results of Black Eagle Consulting, Inc.'s (BEC's) geotechnical investigation, laboratory testing, and associated geotechnical design recommendations for Buildings B, C, D, and the proposed parking structure at the Boulder Bay project in the Crystal Bay community area of Washoe County, Nevada, directly east of the State of California border. These recommendations are based on surface and subsurface conditions encountered in our explorations and on details of the proposed project as described in this report. The objectives of this study were to:

1. Determine general soil, bedrock, and groundwater conditions pertaining to design and construction of the proposed project.
2. Provide recommendations for design and construction of the project as related to these geotechnical conditions.

The area covered by this report is shown on Plate 1 (Plot Plan). Our investigation included field exploration, laboratory testing, and engineering analysis to determine the physical and mechanical properties of the various on-site materials. Results of our field exploration and testing programs are included in this report and form the basis for all conclusions and recommendations.

The services described above were conducted in accordance with the BEC proposal dated January 3, 2018, and the associated CFA, Inc. Professional Services Agreement dated March 15, 2018, which was signed by Mr. Bob LaRiviere of CFA, Inc.

Project Description

The overall Boulder Bay project will involve the complete redevelopment of the current Tahoe Biltmore property as well as the realignment of Wassou Road, connecting the north end of Stateline Road to Lakeview Avenue, and connecting Lakeview Avenue to Wassou Road. The overall project will be a mixed-use development with 8 separate buildings that will host a hotel, condominiums, a health and wellness center, meeting and banquet space, a restaurant, retail shops, a fitness center, a small casino, a swimming pool, and a spa. Buildings are proposed to include 2 to 8 stories, with some including 1 or more below-grade levels. A 3-story, above-grade parking structure is proposed south and east of Building D. The overall Boulder Bay project area is contained in Sections 19 and 30, Township 16 North, Range 18 East, Mount Diablo Meridian.

The first phase of the project is in progress and includes Building A, which is currently under construction. Building A will host 18 luxury condominiums. The second phase consists of the northbound extension of Stateline Road to connect with Lakeview Avenue and ultimately with Wassou Road to form a perimeter roadway around the Boulder Bay project. Black Eagle Consulting, Inc. prepared a geotechnical investigation report for the second phase titled *Preliminary Geotechnical Investigation, Boulder Bay Stateline Road – Lakeview Avenue – Wassou Road Interconnect, Washoe County, Nevada*, dated June 14, 2018 (BEC, 2018). This second phase will involve various realignment, reconstruction, and extension of the existing streets as well as abandonment of portions of Reservoir Road and Wassou Road. This report and the recommendations contained here are relevant to the design and construction of Buildings B, C, D, and the proposed 3-story parking structure.

Detailed plans regarding the type of construction were unavailable at the time of this report; however, we anticipate the structures will utilize some combination of Portland Cement Concrete (PCC) columns and walls and steel-framed construction. We assume the buildings will be supported on PCC spread and continuous footing systems with PCC slab-on-grade ground floors and PCC post-tensioned or conventionally reinforced floor decks.

We understand current plans are considering 2 different potential options for Building B. The first option would be a 6-story building with an approximate lower level finished floor of 6,465 feet above mean sea level (msl). The second option would be an 8-story building with an approximate lower level finished floor elevation of 6,445 feet above msl. Material cuts of a few feet up to greater than 20 feet will be needed to establish a finished floor elevation of 6,465 feet above msl and about 20 to greater than 40 feet if the 8-story option is selected.

Buildings C and D are proposed as 6-story structures with approximate lower level finished floor elevations of 6,422 feet above msl. This design grade will require material cuts on the order of 15 to 30 feet.

We anticipate the 3-story parking structure will be a PCC structure with conventionally reinforced PCC columns and walls and post-tensioned PCC beams and parking decks. The parking structure lower level floor will match the elevation of Buildings C and D. This design grade will require material cuts on the order of 20 to 30 feet. A pool deck area is planned for the roof of the parking structure.

Site Conditions

The site of proposed Building B consists of a previously graded area currently being utilized for staging of construction trailers, equipment and materials needed for construction of Boulder Bay Building A, as well as a portion of the existing Wassou Road alignment. The site of proposed Building C consists of an area of the existing asphalt concrete parking lot, a portion of the existing Reservoir Road alignment, and a previously graded area associated with the current construction of Boulder Bay Building A. The site of proposed Building D as well as the proposed parking structure consists of an asphalt concrete parking area with a small retaining wall. The parking area slopes at approximately 8 to 10 percent to the south.

The overall site topography in the area of proposed Buildings B, C, D, and the parking structure generally slopes in a south to southeasterly direction at gradients ranging from approximately 5 to 15 percent.

Exploration

The overall Boulder Bay site was explored by advancing borings and hand auger holes and performing shear wave velocity surveys of the subsurface materials.

Drilling

The Boulder Bay site was explored during mid-April 2018 by drilling 12 test borings. The exploration associated with Buildings B, C, D, and the parking structure included 8 of the 12 borings (borings B-05 through B-12). The borings were advanced using solid-stem auger (SSA) and HQ coring techniques with a track-mounted CME 550 drill rig and a truck-mounted Diedrich D-120 drill rig. The SSA borings were advanced using 4-inch- and 6-inch-outside-diameter (O.D.) augers. The HQ core barrels are 96 millimeter (mm) O.D. and 63.5 mm inside diameter. Where refusal occurred using SSA drilling techniques, borings were advanced using HQ coring techniques to obtain continuous sampling of the bedrock/soil matrix. The maximum depth of drilling exploration was approximately 41 feet below the existing ground surface. The locations of the test borings are shown on Plate 1. All borings drilled for the project throughout the project site, including along the roadway alignments, are included for reference.

During SSA drilling, the native soils were sampled in-place every 2.5 to 5 feet by use of a standard, 2-inch-O.D., split-spoon sampler driven by a 140-pound automatic drive hammer with a 30-inch stroke. The number of blows to drive the sampler the final 12 inches of an 18-inch penetration (Standard Penetration Test [SPT]; American Society for Testing and Materials [ASTM] D 1586) into undisturbed soil is an indication of the density and consistency of the material.

A 3-½-inch-O.D., split-spoon sampler (ASTM D 3550), also known as a Modified California (MC) sampler, was used to sample soils containing gravel or where approximate in-place densities of subsurface materials were required. Sampling methods used were similar to the SPT but also included the use of 2-½-inch-diameter, 6-inch-long, brass sampling tubes placed inside the split-spoon sampler. Because of the larger diameter of the sampler, blow counts are typically higher than those obtained with the SPT and should not be directly equated to SPT blow counts. The logs indicate the type of sampler used for each sample.

Bedrock was continuously cored at 1 boring location, boring B-09, starting at a depth of 20.5 feet through the maximum depth of exploration, approximately 41 feet. Rock cores were extracted from the HQ core barrels and placed in core boxes. Rock cores were sampled in accordance with ASTM D2113-08 to identify various indicators regarding the geological, physical, and engineering nature of the bedrock.

Shear Wave Velocity Survey

Four refraction micro-tremor surveys were performed to evaluate the average shear wave velocity within the upper 100 feet of subsurface materials. Shear wave velocity is used to determine the seismic soil profile classification per the *International Building Code* ([*IBC*] International Code Council [ICC], 2012). Shear wave velocity is also used to estimate the rippability of site bedrock using seismic velocity charts developed by Caterpillar, Inc. (2012). The compressional or seismic wave velocities were estimated by multiplying shear wave velocities by a factor of 2.5. The methodology of shear wave velocity analysis is included in Appendix A (Shear Wave Velocity Modeling Results). The approximate locations of the geophysical survey lines are shown on Plate 1. Results below 75 feet depth are generally not very meaningful or reliable, but shear wave velocities are expected to increase with depth relative to the values measured at shallower depths.

Material Classification

A geologist examined and identified all materials in the field in accordance with ASTM D 2488. During SSA drilling, representative samples were placed in sealed plastic bags and returned to our Reno, Nevada laboratory for testing. Recovered rock cores were handled in accordance with ASTM D 5079 and placed in cardboard core boxes and returned to our Reno, Nevada laboratory for testing and further analysis. During HQ coring, the sampled core in each core run was logged, describing weathering, fracturing, strength, and quality of the rock as measured by Rock Quality Designation. Rock Quality Designation is a scale describing the proportion of intact, durable rock within the formation. The scale, from 0 to 100 percent, is broken into the categories of Very Poor (0 to 25 percent), Poor (25 to 50 percent), Fair (50 to 75 percent), Good (75 to 90 percent), and Excellent (90 to 100 percent) Rock Quality.

Logs on the test borings and hand auger holes are presented as Plate 2 (Exploration Logs), and a Unified Soil Classification System (USCS) chart has been included as Plate 3 (USCS Soil Classification Chart).

Laboratory Testing

All soils testing performed in the BEC soils laboratory is conducted in general accordance with the standards and methodologies described in Volume 4.08 of the ASTM Standards.

Index Tests

Samples of each significant soil type were analyzed to determine their in-situ moisture content (ASTM D 2216), grain size distribution (ASTM D 422), and plasticity index (ASTM D 4318). The results of these tests are shown on Plate 4 (Index Test Results). Test results were used to classify the soils according to ASTM D 2487 and to verify field logs, which were then updated as appropriate. Classification in this manner provides an indication of the soil's mechanical properties and can be correlated with published charts (Bowles, 1996; Naval Facilities Engineering Command [NAVFAC], 1986a and b). The index test results on both soils and bedrock sampled as soils were used to evaluate bearing capacity, lateral earth pressures, settlement potential, and their suitability for use as fills.

Direct Shear Test

A direct shear test (ASTM D 3080) was performed on a representative sample of material. The test was run on a remolded, inundated sample under various normal loads in order to develop a Mohr's strength envelope. For the remolded sample, the sample was screened to remove particles larger than the number 4 sieve prior to testing. Results of the test are shown on Plate 5 (Direct Shear Test Results) and were used in calculation of bearing capacities, friction factors, and lateral earth pressures.

Direct Shear Test

R-Value Test

A resistance value (R-value) test (ASTM D 2844) was performed on a representative sample of soil/bedrock materials to be used in roadways. Resistance value testing is a measure of subgrade strength and expansion potential and is used in design of flexible pavements. Results of the R-value test are shown on Plate 6 (R-Value Test Results).

Laboratory Moisture-Density Relation Test

A moisture-density relation test (ASTM D 1557) was performed on a representative sample of the native soils. The maximum density shown by this test is compared with field densities to determine the percent of relative compaction. The moisture density curve is included as Plate 7 (Compaction Test Report).

Unconfined Compressive Strength Test

An intact rock core was tested to determine its unconfined compressive strength. The core was trimmed to exhibit a height to diameter ratio of approximately 2:1. The unconfined compressive strength can be used to evaluate bearing capacity of intact in-place rock.

Unconfined compressive strength testing was performed in general accordance with ASTM D 2166 and D 7012. Test results are shown on Plate 8 (Rock Core Analyses).

Chemical Tests

Chemical testing was performed on representative samples of site foundation soils to evaluate the site materials' potential to corrode steel and PCC in contact with the ground. The samples were tested for pH, resistivity, redox potential, soluble sulfates, and sulfides. The results of the chemical tests are shown in Appendix B (Chemical Test Results). Chemical testing was performed by Silver State Analytical Laboratories of Reno, Nevada.

Geologic and General Soil Conditions

The site is located within the Lake Tahoe basin of the Sierra Nevada. Lake Tahoe formed within a fault bounded basin adjacent to the eastern front of the Sierra Nevada. Overall, the area consists of young, unconsolidated glacial, lacustrine and fluvial sediments overlying shallow granitic bedrock of the Sierra batholith. The Nevada Bureau of Mines and Geology (NBMG) has mapped the site as Cretaceous age *Hornblende granodiorite* described as *light to medium gray, medium grained, hypidiomorphic. Massive-structureless to weakly foliated on mafic minerals. Sparse mafic inclusions occurs on peninsula of Stateline Point* (Grose, 1985).

The site soils and bedrock are generally consistent with the NBMG geologic map. Our exploration encountered a surficial layer of alluvial silty sand soils up to 3 feet thick. Isolated areas along the existing roads contain fill soils derived from the alluvium; fill soils were encountered up to 4 feet thick in boring B-04. Granitic bedrock underlies the alluvial and fill soils, becoming less weathered and harder with depth. The granitic rock is variably weathered, with moderate to severe weathering through depths of 7 to 20 feet beneath the existing grade. The deeper granitic rock is slightly to moderately weathered and is generally weak to moderately strong to the maximum depth of exploration, 41 feet beneath the ground surface. The deeper granitic bedrock includes hard "corestones" of intact hard bedrock (see photo of cores).

Granitic Bedrock Cores
Boring B-09, 20.5 to 40.8 Feet

The surficial fill and alluvial soils were difficult to distinguish in our borings and are described here together. The surficial silty sand materials are described as brown, moist, medium dense, and as containing 15 to 26 percent non-plastic fines and up to 20 percent subangular to subrounded gravel.

The underlying weathered granitic rock has been weathered to soil materials but still retains its original rock textures. These materials were easily drilled using SSA drilling techniques and will excavate like soil materials. The weathered zone may contain durable cobble/boulder-sized corestones, but they are expected to be in relatively low quantities. These rock materials were sampled as silty sand in SPT/MC samples and auger cuttings and are described as tan to brown to light gray, moist, medium dense to dense, and as containing about 15 to 26 percent non-plastic fines, 74 to 85 percent fine to coarse sand, and trace amounts of fine gravel.

Deeper decomposed granite materials are present starting at depths of 7 to 15 feet and have been variably weathered to weak to moderately strong rock. These materials will include durable cobbles and boulders and larger areas of intact hard rock. These rock materials were sampled as silty sand in SPT/MC samples and auger cuttings and are described as light gray, moist, medium dense to dense, and as containing about 15 to 25 percent non-plastic to low plasticity fines, 75 to 85 percent fine to coarse sand, and trace amounts of fine gravel. Generally, this unit sampled with refusal SPT blow counts and required rock coring in 1 location.

Groundwater was not encountered during exploration, and the static groundwater table is expected to lie at a depth well below that which would affect construction. However, seasonal snowmelt runoff will produce perched water conditions. This is particularly true with respect to shallow groundwater seepage that may occur as a result of sloping topography combined with fracture systems and a stratigraphy that consists of surficial soils overlying relatively impermeable bedrock.

Geologic Hazards

Seismicity

Much of the western United States is a region of moderate to intense seismicity related to movement of crustal masses (plate tectonics). By far, the most seismically active regions, outside of Alaska, are in the vicinity of the San Andreas Fault system of western California. Other seismically active areas include the Wasatch Front in Salt Lake City, Utah, which forms the eastern boundary of the Basin and Range physiographic province, and the eastern front of the Sierra Nevada Mountains, which is the western margin of the province. The Lake Tahoe area lies within the eastern extent of the Sierra Nevada, within the western extreme of the Basin and Range. It must be recognized that there are probably few regions in the United States not underlain at some depth by older bedrock faults. Even areas within the interior of North America have a history of strong seismic activity.

Lake Tahoe lies within a region with a high potential for strong earthquake shaking. Seismicity within the north Lake Tahoe area is considered about average for the western Basin and Range Province (Ryall and Douglas, 1976). It is generally accepted that a maximum credible earthquake in this area would be in the range of magnitude 7 to 7.5 along the frontal fault system of the Eastern Sierra Nevada. The most active segment of this fault system in the north Lake Tahoe area is located at the base of the mountains near Washoe Lake, some 8 miles east of the project.

Faults

An earthquake hazards map is not available for the project area. The NBMG *My Hazards* web mapping tool (NBMG, 2018) and the geologic map (Grose, 1985) show the North Tahoe fault located approximately ½ mile east of the site and oriented in a north-south direction. The Nevada Earthquake Safety Council (1998) has developed and adopted the criteria for evaluation of Quaternary age earthquake faults. *Holocene Active Faults* are defined as those with evidence of movement within the past 10,000 years (Holocene time). Those faults with evidence of displacement during the last 130,000 years are termed *Late Quaternary Active Faults*. A *Quaternary Active Fault* is one that has moved within the last 1.6 million years. An *Inactive Fault* is a fault *without recognized activity within Quaternary time* (last 1.6 million years). Holocene Active Faults normally require that occupied structures be set back a minimum of 50 feet (100-foot-wide zone) from the ground surface fault trace. An *Occupied Structure* is considered a building, as defined by the *IBC*, *which is expected to have a human occupancy rate of more than 2,000 hours per year* (ICC, 2012).

The North Tahoe fault mapped in the general area of the project site is considered a *Late Quaternary Active Fault*. Because no fault is mapped as passing through or adjacent to the project, no additional fault investigation or setbacks are necessary for this project.

Ground Motion and Liquefaction

Mapping by the United States Geological Survey (USGS, 2018) indicates that there is a 2 percent probability that a *bedrock* ground acceleration of 0.66 g will be exceeded in any 50-year interval. Only localized amplification of ground motion would be expected during an earthquake.

Because the site area is underlain by a thin cover of soils and bedrock at shallow depths, liquefaction is not possible.

Flood Plains

The Federal Emergency Management Agency (FEMA) has identified the site as lying in unshaded Zone X, or outside the limits of a 500-year flood plain (FEMA, 2009).

Other Geologic Hazards

A moderate potential for dust generation is present if grading is performed in dry weather. No other geologic hazards were identified.

Discussion and Recommendations

General Information

The overall Boulder Bay project involves the complete redevelopment of the current Tahoe Biltmore property with a mixed-use development consisting of 8 separate buildings and a 3-story parking structure. As part of the project, several of the surrounding roadways will be reconfigured and reconstructed. The first phase of the project is in progress and includes the design and construction of Building A, which is currently under construction. The second phase consists of the necessary roadway realignment and reconstruction. Subsequent phases following the roadway work will consist of constructing the remaining buildings. This report pertains to the design and construction of Buildings B, C, D, and the proposed 3-story parking structure.

The recommendations provided herein, and particularly under **Site Preparation, Mass Grading, Foundation, Retaining Walls,** and **Quality Control**, are intended to minimize risks of structural distress related to consolidation of native soils and/or structural fills. These recommendations, along with proper design and construction of the structure and associated improvements, work together as a system to improve overall performance. If any aspect of this system is ignored or is poorly implemented, the performance of the project will suffer. Sufficient quality control should be performed to verify that the recommendations presented in this report are followed.

Structural areas referred to in this report include all areas of buildings, concrete slabs and asphalt pavements, as well as pads for any minor structures. The term engineer, as presented below, pertains to the civil or geological engineer that has prepared the geotechnical engineering report for the project or who serves as a qualified geotechnical professional on behalf of the owner.

All compaction requirements presented in this report are relative to ASTM D 1557.

Any evaluation of the site for the presence of surface or subsurface hazardous substances is beyond the scope of this investigation. When suspected hazardous substances are encountered during routine geotechnical investigations, they are noted in the exploration logs and immediately reported to the client. No such substances were revealed during our exploration.

Site Preparation

All vegetation shall be stripped and grubbed from structural areas and removed from the site. A stripping depth of 0.5 feet is anticipated in portions of the site. Large trees and associated roots greater than ½ inch in diameter shall be removed, where necessary, to a minimum depth of 12 inches below finished grade. Large roots (greater than 6 inches in diameter) shall be removed to the maximum depth possible. Vegetation and topsoil should be hauled off site or stockpiled for use in landscaping areas. Resulting excavations shall be backfilled with structural fill compacted to 90 percent relative compaction.

The project will include demolition of various existing site improvements. Where needed, the existing pavement shall be removed either by pulverizing or simply by heavy equipment. Pulverized or recycled asphalt pavement may be reused as structural fill or aggregate base. Remnants from demolition activities should be removed from the site, including all existing foundation elements and slabs. Demolition of existing improvements should include rerouting, removal, or in-place abandonment of underground utilities. Utilities should be adequately capped or rerouted at the project perimeter in accordance with the requirements of the governing agencies. Abandoned underground utility pipes should be removed from the site or, if the pipes are left in place, they should be filled with flowable fill such as grout or controlled low-strength material. The contractor should take adequate precautions when grading the site to reduce the potential for damage to existing utilities that are to remain in service.

All soils areas to receive structural fill or structural loading shall be densified to at least 90 percent relative compaction. Bedrock shall be cleaned as much as practical to remove loose materials. Asphalt concrete pavement areas that will receive structural fill may be removed by heavy equipment or broken up utilizing a large sheeps-foot roller.

Trenching, Excavation and Utility Backfill

Excavation Characteristics

The site is overlain by a relatively thin layer of native overburden soils with areas of granular fill derived from native materials. Granitic bedrock underlies the entire area at shallow depths and was encountered in our borings at depths ranging from 2 to 5.5 feet below the existing ground surface. The overburden soils and any fill materials will be excavatable using conventional earthmoving equipment. The granitic bedrock exhibits varying degrees of weathering and is generally moderately weathered to decomposed in the upper 20 feet and fresh to slightly weathered below 20 feet. However, it should be understood that bedrock can always contain isolated, very hard corestones at any depth. The excavation rate will be slow within the granitic bedrock, and the use of aggressive excavation techniques such as single-shank rippers, hydraulic hammers, or other rock breaking equipment may be needed to achieve proposed site grades. In general, the deeper the excavations advance into bedrock, the more difficult excavation will become.

Table 1 (Shear Wave Velocity Results) identifies the calculated seismic velocities based on the measured average shear wave velocity survey conducted throughout the overall Boulder Bay site. The seismic velocity values can be correlated to published rippability charts (Caterpillar, 2012); rippability charts for CAT© D8 and D9 bulldozers are included in Appendix C (Rippability Charts). The published rippability charts do not take into account efficiency or resulting particle size of ripped bedrock material. Based on our site exploration and the shear wave velocity results, the site bedrock will be rippable using a CAT© D8 ripping dozer with a single shank to depths of up to 20 feet. Use of larger equipment, such as a CAT© D9 or larger, will result in more reliable ripping production and will be needed when excavations extend deeper than 20 feet. Again, harder bedrock will require more aggressive techniques.

TABLE 1 – SHEAR WAVE VELOCITY RESULTS

Line Number/ Location	Shear Wave Velocity (fps[1])	P-Wave Velocity (fps)
1	2,045	5,113
2	1,590	3,975
3	1,540	3,850
4	1,390	3,475

[1] Average shear wave velocity within 100 feet depth. FPS = feet per second. Refer to Appendix A for detailed shear wave velocity analysis results.

Temporary trenches with near-vertical sidewalls should be stable to a depth of approximately 4 feet. Temporary trenches are defined as those that will be open for less than 24 hours. Excavations to greater depths will require shoring or laying back of sidewalls to maintain adequate stability. Regulations contained in Part 1926, Subpart P, of Title 29 of the Code of Federal Regulations (2010) require that temporary sidewall slopes be no greater than those presented in Table 2 (Maximum Allowable Temporary Slopes).

TABLE 2 - MAXIMUM ALLOWABLE TEMPORARY SLOPES

Soil or Rock Type	Maximum Allowable Slopes[1] for Deep Excavations less than 20 Feet Deep[2]
Stable Rock	Vertical (90 degrees)
Type A[3]	3H:4V (53 degrees)
Type B	1H:1V (45 degrees)
Type C	3H:2V (34 degrees)

Notes:

[1] Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.

[2] Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

[3] A short-term (open 24 hours or less) maximum allowable slope of 1H:2V (63 degrees) is allowed in excavation in Type A soils that are 12 feet or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet in depth shall be 3H:4V (53 degrees).

The State of Nevada, Department of Industrial Relations, Division of Occupational Safety and Health Administration (OSHA) has adopted and strictly enforces these regulations, including the classification system and the maximum slopes. In general, Type A soils are cohesive, non-fissured soils with an unconfined compressive strength of 1.5

tons per square foot (tsf) or greater. Type B are cohesive soils with an unconfined compressive strength between 0.5 and 1.5 tsf. Type C soils have an unconfined compressive strength below 0.5 tsf. Numerous additional factors and exclusions are included in the formal definitions. The client, owner, design engineer, and contractor shall refer to Appendix A and B of Subpart P of the previously referenced Federal Register for complete definitions and requirements on sloping and benching of trench sidewalls. Appendices C through F of Subpart P apply to requirements and methodologies for shoring.

On the basis of our exploration, the overburden soils and fill materials are considered Type C. The granitic bedrock is generally Type A with areas of stable rock at depth. Any soil areas in question shall be considered Type C, and any bedrock areas in question shall be considered Type B, unless specifically examined by the engineer during construction. All trenching shall be performed and stabilized in accordance with local, state, and OSHA standards.

Utility Trench Backfill

The maximum particle size in trench backfill shall be 4 inches. Bedding and initial backfill 12 inches over the pipe will require import and shall conform to the requirements of the utility having jurisdiction. Bedding and initial backfill shall be densified to at least 90 percent relative compaction. Native granular soil and excavated bedrock will provide adequate final backfill as long as oversized particles are excluded, and it shall be placed in maximum 8-inch-thick loose lifts that are compacted to a minimum of 90 percent relative compaction in all structural areas.

Construction Dewatering

Groundwater was not encountered in our borings, and the static groundwater table is expected to be at a depth well below that which would affect construction. However, if construction occurs during the spring snowmelt season, perched seepage water flowing along the soil and bedrock interface and possible fracture systems may be encountered during excavation, such that construction dewatering may be necessary. If significant seepage water is encountered during earthwork, we should be contacted to provide site-specific recommendations based on the observed conditions.

Mass Grading

Vertical relief across the site is high, and the buildings are anticipated to have below-grade levels. We expect deep cuts in excess of 30 feet and potentially up to 40 feet within the underlying granitic bedrock will be needed to achieve design grades. The proposed finished floor elevations and approximate existing elevations are listed in Table 3 (Proposed Finished Floor Elevations and Expected Excavation Depths).

TABLE 3 – PROPOSED FINISHED FLOOR ELEVATIONS AND EXPECTED EXCAVATION DEPTHS			
Building Name/Option	**Lowest Finished Floor Elevation***	**Approximate Ground Surface Elevations***	**Expected Excavation Depths (ft)**
B – Option 1	6,465	6,468 – 6,485	3 – 25
B – Option 2	6,445	6,468 – 6,485	25 – 45
C	6,422	6,445 – 6,453	28 – 36
D	6,422	6,440 – 6,452	23 – 35
Parking Structure	6,422	6,440 – 6,450	23 - 33
* Elevations in feet above msl.			

Native granular soils and excavated bedrock will be suitable for structural fill provided particles larger than 6 inches are removed. If imported structural fill is required on this project, we recommend it satisfy the specifications presented in Table 4 (Guideline Specification for Imported Structural Fill).

TABLE 4 - GUIDELINE SPECIFICATION FOR IMPORTED STRUCTURAL FILL		
Sieve Size	**Percent by Weight Passing**	
4 Inch	100	
3/4 Inch	70 – 100	
No. 40	15 – 70	
No. 200	5 – 20	
Percent Passing No. 200 Sieve	**Maximum Liquid Limit**	**Maximum Plastic Index**
5 – 10	50	20
11 – 20	40	15

These recommendations are intended as guidelines to specify a readily available, prequalified material. Adjustments to the recommended limits can be provided to allow the use of other granular, non-expansive material. Any such adjustments must be made and approved by the engineer, in writing, prior to importing fill to the site.

All fill placed on hillsides steeper than 5H:1V (horizontal to vertical) shall be keyed into existing materials in equipment-wide benches. The maximum vertical separation between benches shall be 6 feet.

Whenever possible, structure foundations shall not be placed partially on bedrock and partially on structural fill. Where structure foundations will be placed partially on bedrock and partially on structural fill due to cut and fill operations, differential settlement of the structural fill may be on the order of 1 percent of the maximum fill height, which would result in differential settlement of structure foundations. Such differential settlement should be minimized. Measures to minimize such differential settlement may include providing a gradual transition from the bedrock to structural fill and/or over-excavating a portion of the bedrock and backfilling with structural fill.

Excavated fresh to slightly weathered granitic bedrock materials may not break down into soil-sized particles under the mechanics of ripping, loading, transportation, placement and/or compaction. Such materials may have greater than 30 percent retained on the ¾-inch sieve, such that standard density testing is not valid. These materials will be treated as rock fills with a maximum lift thickness and maximum particle size of 12 inches. A proof rolling program of at least 5 single passes of a minimum CAT® 815 roller in mass grading, or at least 5 complete passes with hand compactors in footing trenches, is recommended.

Any structural fill within building areas shall be placed in maximum 8-inch-thick loose lifts, each densified to at least 95 percent relative compaction. All other structural fill shall be densified to a minimum 90 percent relative compaction.

Grading shall not be performed with or on frozen soils.

Seismic Design Parameters

The 2012 *IBC* (ICC, 2012), adopted by Washoe County, requires a detailed soils evaluation to a depth of 100 feet to develop appropriate soils criteria. Site-specific geophysical analyses were performed and indicate that the subsurface materials exhibit shear wave velocities in the range of 1,390 to 2,045 feet per second. The results of the geophysical analyses performed at the site indicate that Site Class C is appropriate. The recommended seismic design criteria are presented in Table 5 (Seismic Design Criteria Using 2012 *International Building Code*).

TABLE 5 - SEISMIC DESIGN CRITERIA USING 2012 *INTERNATIONAL BUILDING CODE* (USGS, 2018)	
Approximate Latitude	39.229
Approximate Longitude	120.005
Spectral Response at Short Periods, S_s, percent of gravity	166.1
Spectral Response at 1-Second Period, S_1, percent of gravity	57.0
Site Class	C
Risk Category	II
Site Coefficient F_a, decimal	1.00
Site Coefficient F_v, decimal	1.30
Site Adjusted Spectral Response at Short Periods, S_{MS}, percent of gravity	166.1
Site Adjusted Spectral Response at Long Periods, S_{M1}, percent of gravity	74.1
Design Spectral Response at Short Periods, S_{DS}, percent of gravity	110.7
Design Spectral Response at Long Periods, S_{D1}, percent of gravity	49.4
Seismic Design Category	D

Foundation

The most economical method of foundation support lies in spread footings bearing on structural fill or granitic bedrock. Individual column footings and continuous wall footings underlain by compacted native soils or structural fill can be designed for a net maximum allowable bearing pressure of 3,500 pounds per square foot (psf). Based on the proposed finished floor elevations, the majority of foundations are anticipated be at elevations in excess of 20 feet below the existing ground surface. Individual column footings and continuous wall footings underlain by competent granitic bedrock can be designed for a net maximum allowable bearing pressure ranging from 5,000 psf for foundations less than 20 feet below the existing ground surface to 8,000 psf for foundations constructed at depths greater than 20 feet below the existing ground surface.

Column and wall footings should have minimum footing widths of 30 and 18 inches, respectively. The net allowable bearing pressure is the pressure at the base of the footing in excess of the adjacent overburden pressure. This allowable bearing value should be used for dead plus ordinary live loads. Ordinary live loads are that portion of the design live load that will be present during the majority of the life of the structure. Design live loads are loads that are produced by the use and occupancy of the building, such as by moveable objects, including people or equipment, as well as snow loads. These bearing values may be increased by one-third for total loads. Total loads are defined as the maximum load imposed by the required combinations of dead load, design live loads, snow loads, and wind or seismic loads.

With these allowable bearing pressures, total foundation movements of approximately ¾ inch should be anticipated for foundations supported on native soils or structural fill. Foundations bearing on granitic bedrock will experience negligible settlement. Differential movement between footings with similar loads, dimensions, and base elevations should not exceed two-thirds of the values provided above for total movements. The majority of the anticipated movement will occur during the construction period as loads are applied.

Lateral loads, such as wind or seismic, may be resisted by passive soil pressure and friction on the bottom of the footing. The recommended coefficient of base friction is 0.5 for soils and structural fill and 0.6 for granitic bedrock. These values have been reduced by a factor of 1.5 on the ultimate soil strength. Design values for active and passive equivalent fluid pressures are 34 and 400 psf per foot of depth, respectively, for spread footings bearing on compacted native soils or structural fill and backfilled with structural fill. Design values for active and passive equivalent fluid pressures bearing on bedrock and placed against undisturbed granitic bedrock are 25 and 600 psf per foot of depth, respectively. All exterior footings should be placed a minimum 2 feet below adjacent finished grade for frost protection.

If loose, soft, wet, or disturbed soils are encountered at the foundation subgrade, these soils should be removed to expose undisturbed granular soils or granitic bedrock and the resulting over-excavation backfilled with compacted structural fill. The base of all excavations should be dry and free of loose soils at the time of concrete placement.

Retaining Walls

Based on the existing topography and the proposed lower level finished floor elevations of the buildings, we anticipate the project will incorporate multiple retaining walls which are likely to include both site retaining walls and below-grade basement retaining walls for portions of each of the buildings. We assume site retaining walls may include some combination of shallowly founded, flexible-type retaining walls, such as mechanically stabilized earth walls or gravity block walls, or rigid cast-in-place PCC walls. Below-grade basement walls are likely to be rigid cast-in-place PCC walls, potentially in combination with a reinforced excavation utilizing soil nails or rock bolts and shotcrete. Specialized contractors are readily available for design/build of any needed specialized walls. Black Eagle Consulting, Inc. can coordinate with these contractors as well as provide special inspection as desired.

Retaining Wall Design Parameters

Table 6 (Lateral Earth Pressure Values [Equivalent Fluid Density]) provides design parameters for fully drained retaining walls with vertical back faces, horizontal backfill, and no surcharge loads next to the top of the wall. Recommendations for retaining wall drainage are provided in the **Retaining Wall Drainage Design** section. Surcharge loads, including construction and traffic loads, should be added to the following values. While the recommendations here may be suitable for other conditions, we should be consulted for retaining walls with unusual conditions such as sloping backfill (steeper than provided in Table 6), sloping retaining walls, or the presence of hydrostatic pressure. We should also be consulted where retaining walls exceed 20 feet in height. It is noted that the Table 6 parameters assume temporary excavations into soil and bedrock at typical slopes and backfilling with retaining wall backfill. These values are conservative for retaining walls in the area where cut is to be made into competent bedrock at a steeper ratio or where permanent shoring systems are to be used. Depending on the final design and retaining wall configurations, BEC can provide reduced, appropriate earth pressure values when requested as a separate scope of work.

TABLE 6 - LATERAL EARTH PRESSURE VALUES (EQUIVALENT FLUID DENSITY), pcf[1]

Retained Slope	Static		Dynamic	
	Active*	Passive**	Active*	Passive**
Level	31	150	50	230
3H:1V	39	NA[2]	77	NA[2]

[1] Pounds per Cubic Foot
[2] No sloping ground considered on passive side. Use values for level ground.
*For walls that are free to yield at least 0.2 percent of the wall height.
**The values presented have been reduced from the ultimate passive resistance values by 67 and 50 percent to limit deflection under static and dynamic conditions, respectively.

Restrained walls should be designed to resist an at-rest equivalent fluid density (static value) of 55 pounds per cubic foot.

The allowable bearing pressure values for retaining wall foundations are provided above in the **Foundation** section. Lateral loads will be resisted by friction along the base of retaining wall footings and by passive resistance against buried foundation walls. Foundation wall footings cast directly on compacted native soils or structural fill can be designed using a coefficient of base friction of 0.5. Retaining wall footings cast directly on competent bedrock can be designed using a coefficient of base friction of 0.6. These values have been reduced by a factor of 1.5 on the ultimate soil strength.

Retaining Wall Drainage Design

For cast-in-place PCC and gravity walls, subsurface foundation drainage must be installed along the retaining wall foundations. The wall foundation drainage system for these walls may be accomplished by placing a non-woven geotextile/gravel system with a network of perforated drain pipes below and along the outside base of the footings. The geotextile shall meet or exceed the minimum properties presented in Table 7 (Minimum Required Properties for Drainage Geotextile).

TABLE 7 - MINIMUM REQUIRED PROPERTIES FOR DRAINAGE GEOTEXTILE	
Grab Tensile (ASTM D 4632)	90 lbs.
Puncture Strength (ASTM D 4833)	50 lbs.
Burst Strength (ASTM D 3786)	150 psi.

A trench shall be excavated to a depth of at least 6 inches below the base and directly adjacent to the outside of the footings. A perforated, 4-inch-diameter drain pipe shall be placed in the bottom of the trench and graded to drain downslope. A minimum of 12 inches of Class C drain rock (*Standard Specifications for Public Works Construction* [*SSPWC*], 2012) shall be placed above the drain pipe and around the footing, then covered by the geotextile.

All retaining walls should have an appropriate drainage system to reduce accumulation of water and development of pore water pressure unless the walls are designed to resist hydrostatic pressure. Retaining wall drainage for site retaining walls can be accomplished by installing granular backfill and a weep hole drain system at the bottom of the wall (or a prefabricated drain system discussed below, if preferred). The drain rock section shall be a minimum of 18 inches wide and extend to within 12 inches of finished grade. A drainage geotextile (Table 7) shall be placed between the drain rock backfill and the native soils to prevent migration of fines into the drain rock. The drainage geotextile may be eliminated where retaining walls are constructed against bedrock and the backfill is to include entirely drain rock.

Retaining wall drainage for below-grade building walls shall include a drain section discussed above or the installation of a prefabricated drain system that is hydraulically connected to the foundation drain system. A prefabricated drain system consists of a three-dimensional mesh or waffle structure with a geotextile on one side, such as Mirafi® *Miradrain G100N,* that is fastened to the back side of the wall with the geotextile side facing the backfill. The prefabricated drain mat connects at the bottom of the wall either to a drain pipe or empties into drain rock backfill wrapped in a geotextile at the base of the wall that then drains downslope of the structure to a storm drain or to one or more sump locations from which collected water can be pumped into a storm drain.

A concrete interceptor swale or properly designed rock-lined swale shall be included at the backfill surface to direct runoff away from the wall.

Snow storage locations on the project site should be restricted to paved areas where positive surface drainage is maintained. Snow should not be stored above the retained zone of the retaining walls.

Retaining Wall Backfill

Native soils and excavated bedrock can be used as wall backfill provided particles larger than 4 inches are removed. Backfill behind retaining walls shall be compacted to 90 percent of the material's maximum dry density in accordance with ASTM D 1557, but it shall not be densified to more than approximately 92 percent relative density to minimize pressure against the walls. Care must be exercised when compacting backfill against retaining walls and foundations. To reduce temporary construction loads on the walls, heavy equipment shall not be used for placing and compacting fill within a region as determined by a 0.5H:1V line drawn upward from the bottom of the wall, or within 3 feet of the wall, whichever is greater. We recommend that hand-operated compaction equipment be used to compact soils adjacent to retaining walls.

Where structural improvements (e.g., sidewalks, drives, etc.) are to be located above retaining wall backfill, it is critically important that compaction of these materials be diligently tested and inspected to minimize any undesirable differential movement.

Waterproofing Walls

Cast-in-place PCC walls should be waterproofed in accordance with the recommendations of the project structural engineer. To reduce the potential for water- and sulfate/salt-related damage or efflorescence to the retaining walls, particular care should be taken in selection of the appropriate type of waterproofing material to be utilized and in the application of this material. Any cold joints, such as between footings and walls, should be waterproofed with an appropriate, highly durable sealant. Basement seepage is extremely difficult and costly to repair; therefore, the wall drainage and waterproofing systems for basement retaining walls of the buildings must be well-designed and properly installed.

Retaining Wall Backfill Settlement

We anticipate retaining walls up to 20 feet tall will be constructed. In general, the compacted backfill could undergo internal consolidation of about one half a percent of the fill depth. This internal consolidation of compacted backfill could be significant for wall backfill in excess of 10 feet. The settlement associated with internal consolidation of compacted backfill 20 feet thick could be on the order of 1 to 1.5 inches. This level of settlement may adversely impact any structural improvements founded on the wall backfill (e.g., pavements and flatwork). With the use of granular structural fill, we anticipate the majority of internal consolidation of backfill soils will be complete about 30 days after fill placement. We recommend improvements such as exterior flatwork constructed over backfill zones be minimized as much as possible or alternatively constructed to span across the backfill zone. At an absolute minimum, all structural improvements that are to be founded on backfill of 10 feet or more shall be delayed a minimum of 30 days after completion of backfill placement. The project schedule shall incorporate this required time delay.

Subsidence and Shrinkage

Subsidence of native soils or granitic bedrock exposed in cut should be negligible. On-site soils excavated and recompacted in structural fills should experience quantity shrinkage of approximately 10 percent, including removal of oversized particles. In other words, 1 cubic yard of excavated granular alluvium will generate about 0.9 cubic yards of structural fill at 95 percent relative compaction. The quantity of shrinkage/swell of granitic bedrock materials is difficult to predict and will vary depending on the degree of weathering and the presence of hard, oversized rocks within the generally weathered bedrock. Considering a low percentage of oversized particles, we expect the quantity of shrinkage/swell of the on-site, generally weathered granitic bedrock will vary between 5 percent shrinkage to 5 percent swell.

Slope Stability and Erosion Control

Stability of cut and filled surfaces involves 2 separate aspects. The first concerns true slope stability related to mass wasting, landslides, or the en masse downward movement of soil or rock. Stability of cut and fill slopes is dependent upon shear strength, unit weight, moisture content, and slope angle. The *IBC* (ICC, 2012), adopted by Washoe County, allows cut and fill slopes up to 2H:1V in the type of soils present at this site. The exploration and testing program conducted during this investigation confirms 2H:1V slopes will be stable at the site. Steeper slopes will be allowed in competent granitic bedrock but should be evaluated on a case-by-case basis. Once final design details become available, BEC can perform location-specific slope stability analyses to evaluate any steeper slopes when requested.

The second aspect of stability involves erosion potential and is dependent on numerous factors involving grain size distribution, cohesion, moisture content, slope angle, and the velocity of water or wind on the ground surface. We recommend erosion control of cut and fill for soil slopes that are 5H:1V or steeper. Soil slopes between 3H:1V and 5H:1V can be stabilized by hydroseeding. Soil slopes steeper than 3H:1V require mechanical stabilization with such alternatives as rock rip-rap or erosion control matting. The shallow, weathered granitic bedrock at the site may also need to be considered soil-like material depending on the severity of weathering and the potential for erosion. Erosion protection is not necessary for cut slopes made into competent granitic bedrock; however, such rock is generally only present at depth within the site.

Dust potential at this site will be moderate during dry periods. Temporary (during construction) and permanent (after construction) erosion control will be required for all disturbed areas. The contractor shall prevent dust from being generated during construction in compliance with all applicable city, county, state, and federal regulations. The contractor shall submit an acceptable dust control plan to the Washoe County District Health Department prior to starting site preparation or earthwork. Project specifications should include an indemnification by the contractor of the owner and engineer for any dust generation during the construction period. The owner will be responsible for mitigation of dust after accepting the project.

In order to minimize erosion and downstream impacts to sedimentation from this site, best management practices with respect to stormwater discharge shall be implemented.

Concrete Slabs

All concrete slabs shall be directly underlain by at least 4 inches of imported Type 2, Class B aggregate base (*SSPWC*, 2012). Aggregate base courses shall be densified to at least 95 percent relative compaction.

Final design of the building floor slab (both thickness and reinforcement) shall be performed by the project structural engineer. Coefficient of subgrade reaction (K-value) values of 200 and 350 pounds per cubic inch are appropriate for use in design of concrete slabs founded on compacted soil/structural fill and granitic bedrock, respectively. Any interior concrete slab-on-grade floors shall be a minimum of 4 inches thick. Floor slab reinforcement, as a minimum, shall consist of No. 3 reinforcing steel placed on 24-inch centers in each direction, or flat sheets of 6x6, W4.0xW4.0 welded wire mesh (WWM). Rolls of WWM are not recommended for use because vertically centered placement of rolled WWM within a floor slab is difficult to achieve. All reinforcing steel and WWM shall be centered in the floor slab through the use of concrete dobies or an approved equivalent

Valley gutters shall include at least 6 inches of fibermesh concrete (4,000 pounds per square inch [psi]). These exterior rigid pavements have been designed using the American Association of State Highway and Transportation Officials (1993) method for concrete with a 28-day flexural strength of 570 psi (approximately 4,000 psi compressive strength).

The Crystal Bay area is a region with low relative humidity. As a consequence, concrete flatwork is prone to excessive shrinking and curling. Concrete mix proportions and construction techniques, including the addition of water and improper curing, can adversely affect the finished quality of concrete and result in cracking, curling, and the spalling of slabs. We recommend that all placement and curing be performed in accordance with procedures outlined by the American Concrete Institute (2008) and this report. Special considerations shall be given to concrete placed and cured during hot or cold weather temperatures, low humidity conditions, and windy conditions such as are common in the Crystal Bay area.

Proper control joints and reinforcement shall be provided to minimize any damage resulting from shrinkage, as discussed below. In particular, crack-control joints shall be installed on maximum 10-foot centers and shall be installed to a minimum depth of 25 percent of the slab thickness. Saw-cuts, zip strips, and/or trowel joints are acceptable; however, saw-cut joints must be installed as soon as initial set allows and prior to the development of internal stresses that will result in a random crack pattern. If trowel joints are used, they will need to be grouted over prior to installation of floor coverings.

Concrete shall not be placed on frozen in-place soils.

Any interior concrete slab-on-grade floors will require a moisture barrier system. Installation shall conform to the specifications provided for a Class B vapor restraint (ASTM E 1745-97). The vapor barrier shall consist of placing a

10-mil-thick Stego® Wrap Vapor Barrier or an approved equal directly on a properly prepared subgrade surface. A 4-inch-thick layer of aggregate base shall be placed over the vapor barrier and compacted with a vibratory plate.

The base layer that overlies the moisture barrier membrane shall remain compacted and a uniform thickness maintained during the concrete pour, as its intended purpose is to facilitate even curing of the concrete and minimize curling of the slab. Extra attention shall be given during construction to ensure that rebar reinforcement and equipment do not damage the integrity of the vapor barrier. Care must be taken so that concrete discharge does not scour the base material from the vapor barrier. This can be accomplished by maintaining the discharge hose in the concrete and allowing the concrete to flow out over the base layer.

Site Drainage

The collection and diversion of surface and subsurface water away from buildings, paved areas, and retaining walls is vital to satisfactory performance of this project. The subsurface and surface drainage systems should be carefully designed to facilitate removal of water from structures and paved areas. Allowing surface water to pond on or adjacent to pavements will cause premature pavement deterioration. Permitting increases in moisture to the building supporting soils may result in a decrease in bearing capacity and an increase in settlement and/or differential movement. Surface drainage should be intercepted by drainage ditches and curbs and gutters and directed toward a suitable outlet. As previously discussed, seasonal snowmelt runoff will produce perched water conditions through the sloping topography along the soil and bedrock interface and may be compounded in cut slopes. Additionally, the construction process itself may compound seepage in areas of cut and could necessitate implementation of adequate drainage controls to prevent the saturation of subgrade and foundation bearing soils. Additional drainage measures will be necessary for retaining structures, as discussed in the **Retaining Wall Drainage Design** section of this report.

Asphalt Concrete

Asphalt Concrete Pavement Design

Specific traffic loadings for the project were not available for our analysis; however, we assume the project pavements constructed as part of the building phase will experience relatively light traffic. Paved areas subject to truck traffic shall consist of 4 inches of asphalt concrete underlain by 6 inches of Type 2, Class B aggregate base (*SSPWC*, 2012). Paved areas restricted to automobile parking can consist of 3 inches of asphalt concrete underlain by 6 inches of aggregate base. All aggregate base beneath asphalt pavements shall be densified to at least 95 percent relative compaction.

Pavement Maintenance

Asphalt concrete pavements have been designed for a standard 20-year life expectancy as detailed above. Due to the local climate and available construction aggregates, a 20-year performance life requires diligent maintenance.

Between 15 and 20 years after initial construction (average 17 years), major rehabilitation (structural overlay or reconstruction) is often necessary if maintenance has been lax. To achieve maximum performance life, maintenance must include regular crack sealing, seal coats, and patching as needed. Crack filling is commonly necessary every year or at least every other year. Seal coats, typically with a Type II slurry seal, are generally needed every 3 to 6 years depending on surface wear. Failure to provide thorough maintenance will significantly reduce pavement design life and performance.

Corrosion Potential

Metal Pipe Design Parameters

Laboratory testing was performed to evaluate the corrosion potential of the soils with respect to metal pipe in contact with the ground. The results of the laboratory testing indicate that the site soils are not corrosive to buried metal (American Water Works Association, 1999). As a result, metal pipe in contact with the ground will not require corrosion protection.

Portland Cement Concrete Mix Design Parameters

Soluble sulfate content has been determined for representative samples of the site foundation soils. The sulfate was extracted from the soil at a 10:1 water to soil ratio in order to assure that all soluble sodium sulfate was dissolved. The results are reported in milligrams of sulfate per kilogram of soil and can be directly converted to percent by dividing by 10,000. The percent sulfate in the soil is used to determine the sulfate exposure Class (S) from the information presented in Table 8 (Sulfate Exposure Class).

TABLE 8 - SULFATE EXPOSURE CLASS*

			Water-Soluble Sulfate (SO_4) in Soil, Percent by Weight
S **Sulfate**	Not Applicable	S0	$SO_4 < 0.10$
	Moderate	S1	$0.10 \leq SO_4 < 0.20$
	Severe	S2	$0.20 \leq SO_4 \leq 2.00$
	Very Severe	S3	$SO_4 > 2.00$

*From Table 4.2.1 Exposure Categories and Classes. ACI 318, *Buildings Code and Comments.*

The results of the testing (Appendix B) indicate that concrete in contact with the site foundation soils should be designed for Class S0 Sulfate exposure. Therefore, Type II cement can be used for all concrete work.

Anticipated Construction Problems

Excavations into slopes during the spring snowmelt season may encounter significant perched groundwater resulting in seepage that may affect construction of the project and require dewatering. Difficult excavation is likely within granitic bedrock, particularly within excavations deeper than 20 feet; these conditions may necessitate the utilization of aggressive excavation and trenching techniques.

Quality Control

All plans and specifications should be reviewed for conformance with this geotechnical report and approved by the engineer prior to submitting them to the building department for review.

The recommendations presented in this report are based on the assumption that sufficient field testing and construction review will be provided during all phases of construction. We should review the final plans and specifications to check for conformance with the intent of our recommendations. Prior to construction, a pre-job conference should be scheduled to include, but not be limited to, the owner, architect, civil engineer, general contractor, earthwork and materials subcontractors, building official, and engineer. The conference will allow parties to review the project plans, specifications, and recommendations presented in this report and discuss applicable material quality and mix design requirements. All quality control reports should be submitted to and reviewed by the engineer.

During construction, we should have the opportunity to provide sufficient on-site observation of preparation and grading, over-excavation, fill placement, foundation installation, and paving. These observations would allow us to verify that the geotechnical conditions are as anticipated and that the contractor's work is in conformance with the approved plans and specifications.

Standard Limitations Clause

This report has been prepared in accordance with generally accepted geotechnical practices. The analyses and recommendations submitted are based on field exploration performed at the locations shown on Plate 1. This report does not reflect soils variations that may become evident during the construction period, at which time re-evaluation of the recommendations may be necessary. We recommend our firm be retained to perform construction observation in all phases of the project related to geotechnical factors to ensure compliance with our recommendations.

Static groundwater was not encountered in our exploration. However, seasonal snowmelt runoff will produce perched water conditions, as discussed within this report. Construction planning should be based on the assumption of the possibility of encountering perched water.

This report has been produced to provide information allowing the architect or engineer to design the project. The owner is responsible for distributing this report to all designers and contractors whose work is affected by geotechnical aspects. In the event there are changes in the design, location, or ownership of the project from the time this report is issued, recommendations should be reviewed and possibly modified by the engineer. If the engineer is not granted the opportunity to make this recommended review, he or she can assume no responsibility for misinterpretation or misapplication of his or her recommendations or their validity in the event changes have been made in the original design concept without his or her prior review. The engineer makes no other warranties, either express or implied, as to the professional advice provided under the terms of this agreement and included in this report.

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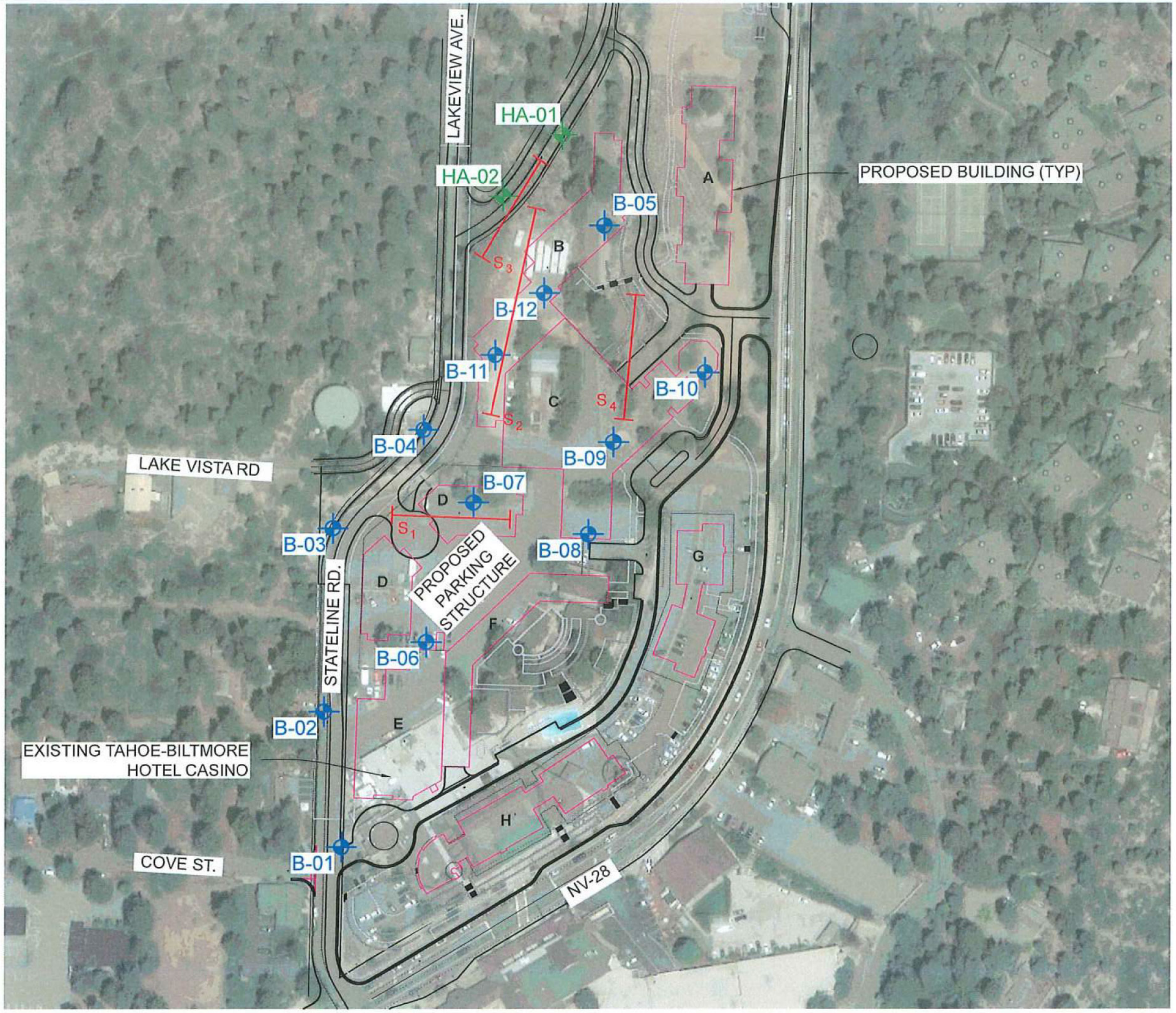
PLATES



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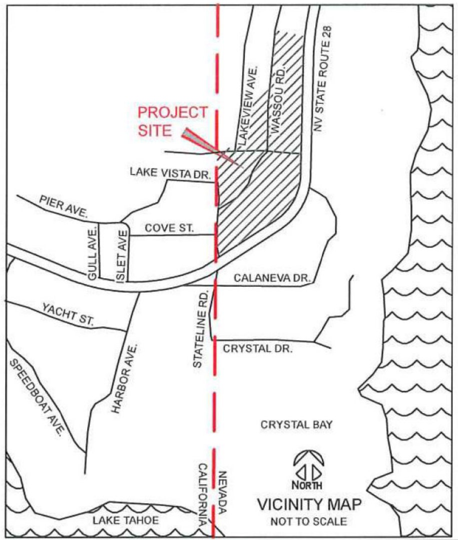
OVERALL SCALE: 1"=150'

LEGEND

B-01	APPROXIMATE BORING LOCATION
HA-01	APPROXIMATE HAND AUGER LOCATION
S_1	APROXIMATE SEAR WAVE VELOCITY SURVEY LINE

NOTES

1. BASE MAP PROVIDED BY LUMOS & ASSOCIATES.



VICINITY MAP
NOT TO SCALE

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CFA, INC.

PLOT PLAN

BOULDER BAY - BUILDINGS B,C,D AND PARKING STRUCTURE
WASHOE COUNTY, NEVADA

Project No.
0091-52-1

Plate 1

BORING LOG

BORING NO.: B-01

DATE: 4/11/2018

TYPE OF RIG: CME 55 Track

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Concrete An approximate 3.75-inch-thick layer of asphalt concrete pavement. No aggregate base.
A	SPT	12						**Silty Sand** Brown, moist, medium dense, with 18% non-plastic fines and 82% fine to medium sand.
					2			
B	SPT	17	11.9	NP		SM		Includes friable granitic clasts.
					4			
C	SPT	76			6	SM		**Weathered Granite** Granitic bedrock weathered to decomposed granite. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand.
					8			
					10			
					12			
					14			
					16			
					18			
					20			

6-inch diameter solid stem auger (SSA).
N 4346335 E 758474 UTM NAD83

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Washoe County, Nevada

PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 1

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/2018

BORING LOG

BORING NO.: B-02

TYPE OF RIG: CME 55 Track

LOGGED BY: JP

DATE: 4/11/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Concrete An approximate 3.75-inch-thick layer of asphalt concrete pavement.
						GW		**Aggregate Base** An approximate 4-inch-thick layer of aggregate base.
A	SPT	20			2			
B	SPT	55/6"			4	SM		**Silty Sand with Gravel** Brown, moist, medium dense to very dense, with an estimated 15% non-plastic fines, 55-65% fine to coarse sand, and 20-30% subrounded gravel up to 1.25 inches in diameter. Includes friable granitic clasts.
C	SPT	76			6			
					8	SM		**Weathered Granite** Granitic bedrock weathered to decomposed granite. Rock fabric intact and recognizable. Breaks down to **Silty Sand with Gravel** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 15% non-plastic fines, 55% fine to coarse sand, and 30% angular gravel up to 1.25 inches in diameter. Increasing strength with depth.
D	SPT	30/1"			10			
								Auger refusal in hard rock materials.
					12			
					14			
					16			
					18			
					20			

6-inch diameter SSA to 5 feet, 4-inch diameter SSA to 10 feet.
N 4346410 E 758485 UTM NAD83

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PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-03
TYPE OF RIG: CME 55 Track
LOGGED BY: JP

DATE: 4/11/2018
DEPTH TO GROUND WATER (ft): NE
GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Concrete An approximate 3.75-inch-thick layer of asphalt concrete pavement. No aggregate base.
	GRAB		11.1	NP	2	SM		**Silty Sand** Brown, moist, medium dense, with 26% non-plastic fines, 67% fine to coarse sand, and 7% subrounded gravel up to 1.25 inches in diameter.
A	SPT	34						Includes friable granitic clasts.
					4			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, dense to very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
B	SPT	37			6	SM		
C	SPT	52			8			
D	MC	50/3.5"			10			**Granite** Granitic bedrock, slight to moderate weathering, friable to weak. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					12			
					14			
E	SPT	50/3"						
					16			
					18			
F	MC	65/1"			20	SM		

6-inch diameter SSA to 5 feet, 4-inch diameter SSA to 30 feet.
N 4346469 E 758473 UTM NAD83

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PROJECT NO.: 0091-52-1
PLATE: 2
SHEET 1 OF 2

BORING LOG

BORING NO.: B-03

TYPE OF RIG: CME 55 Track

LOGGED BY: JP

DATE: 4/11/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
					24			
G	☒ SPT	30/0"						
					26			
						SM		Very hard drilling at 27 feet beneath the ground surface (bgs).
					28			
					30			
H	☒ SPT	50/1"						
					32			
					34			
					36			
					38			
					40			
					42			

6-inch diameter SSA to 5 feet, 4-inch diameter SSA to 30 feet.
N 4346469 E 758473 UTM NAD83

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PLATE: 2

SHEET 2 OF 2

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/2018

BORING LOG

BORING NO.: B-04

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Pavement An approximate 2.25-inch-thick layer of asphalt concrete pavement.
					2	SM		**Silty Sand (Fill)** Brown, very moist, loose, with an estimated 20% non-plastic fines, 75% fine to coarse sand, and 5% subrounded gravel up to 3/4 inch in diameter.
A	SPT	6						Includes friable granitic clasts.
					4			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Brown to light gray, moist, medium dense, with 26% non-plastic fines and 74% fine to coarse sand.
B	MC	35	10.4	NP	6	SM		
								Includes friable granitic clasts.
C	SPT	64			8			**Granite** Granitic bedrock, slight to moderate weathering, friable to moderately strong. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand.
D	MC	65/4"			10			
					12			
					14	SM		
E	SPT	50/3.5"			16			
					18			
					20			
F	SPT	50/5.5"						

6-inch diameter SSA to 5 feet, 4-inch diameter SSA to 20 feet.
N 4346511 E 758527 UTM NAD83

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PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 1

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/18

BORING LOG

BORING NO.: B-05

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		**Silty Sand (Fill)** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 70% fine to coarse sand, and 10% subrounded gravel up to 1 inch in diameter.
					2			
A	MC	25				SM		**Silty Sand** Brown, moist, medium dense, with an estimated 30% non-plastic to low plasticity fines, 65% fine to medium sand, and 5% subangular to subrounded gravel up to 1 inch in diameter.
					4			
B	SPT	11			6			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT/MC samples. Light gray, moist, medium dense to dense, with 22% non-plastic fines and 78% fine to coarse sand.
C	MC	30	4.3	NP	8			
					10			
D	SPT	15				SM		
					12			
					14			
E	MC	53			16			Contact indicated by drilling response.
					18			**Granite** Granitic bedrock, slight to moderate weathering, friable to moderately strong. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					20	SM		
F	SPT	50/5.5"						

N 4346596 E 758576 UTM NAD83

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PLATE: 2

BORING LOG

BORING NO.: B-05

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
					24	SM		
G	☒ SPT	50/3.5"						
					26			
					28			
					30			
H	☒ SPT	30/0"						
					32			
					34			
					36			
					38			
					40			
					42			

N 4346596 E 758576 UTM NAD83

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PLATE: 2

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/2018

BORING LOG

BORING NO.: B-06

DATE: 4/17/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						GW		**Asphalt Concrete** An approximate 2.75-inch-thick layer of asphalt concrete pavement. **Aggregate Base** An approximate 2.5-inch-thick layer of aggregate base.
					2			**Silty Sand with Gravel** Brown, moist, medium dense to very dense, with an 22% low plasticity fines, 53% fine to coarse sand, and 25% subrounded gravel up to 1.25 inches in diameter.
A	SPT	19	7.3	4		SM		
					4			
B	SPT	50/5"						
					6			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Brown to light gray, moist, dense to very dense, with an estimated 30% non-plastic to low plasticity fines and 70% fine to coarse sand. Very hard drilling 6-7 feet bgs.
C	SPT	43			8	SM		
					10			
D	SPT	48						
					12			**Granite** Granitic bedrock, slight to moderate weathering, friable to weak. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					14			
E	MC	50/4"						
					16			
					18			
					20			
F	SPT	50/4"				SM		

Refusal at 5 and 9.7 feet 4/11/18. Drilled to 30 feet on 4/17/18.
N 4346439 E 758509 UTM NAD83

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PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 2

BORING LOG

BORING NO.: B-06

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/17/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
					24			
G	☒ SPT	50/5.5"						
					26			
						SM		
					28			
					30			
H	☒ SPT	30/0"						
								Auger refusal at 5 and 9.7 feet bgs, third attempt advanced to target depth with augers.
					32			
					34			
					36			
					38			
					40			
					42			

Refusal at 5 and 9.7 feet 4/11/18. Drilled to 30 feet on 4/17/18.
N 4346439 E 758509 UTM NAD83

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PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 2 OF 2

BORING LOG

BORING NO.: B-07

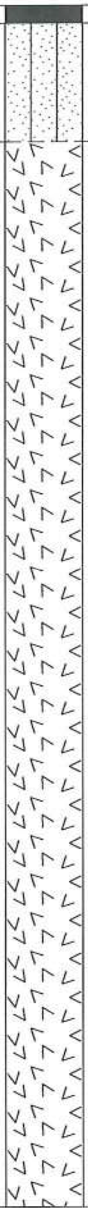
DATE: 4/12/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA



SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Concrete An approximate 3.75-inch-thick layer of asphalt concrete pavement. No aggregate base.
						SM		**Silty Sand** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 70% fine to coarse sand, and 10% subrounded gravel up to 1.25 inches in diameter.
					2			
A	SPT	99/11.5"						Includes friable granitic clasts.
					4			**Granite** Granitic bedrock, slight to moderate weathering, friable to weak. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
B	MC	65/5.5"						
					6			Very difficult drilling 6-13 feet bgs. Possible intact rock/corestone.
C	SPT	30/0"						No recovery at 7.5, 10, 30, and 35 feet bgs.
					8			
					10			
D	SPT	30/0"						
					12			
					14			
E	SPT	50/3"						
					16			
					18			
						SM		
					20			Slight orange weathering stain.
F	SPT	50/5"						

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Washoe County, Nevada

PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 2

BORING LOG

BORING NO.: B-07

DATE: 4/12/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
					24			
G	☒ SPT	50/2"						
					26			
					28			
					30	SM		
H	☒ SPT	30/0"						
					32			
					34			
I	☒ SPT	30/0"						
					36			
					38			
					40			
					42			

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PLATE: 2

BORING LOG

BORING NO.: B-08

DATE: 4/12/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Asphalt Concrete An approximate 3-inch-thick layer of asphalt concrete pavement. No aggregate base.
					2	SM		**Silty Sand** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 70% fine to coarse sand, and 10% subrounded gravel up to 1.25 inches in diameter. Includes friable granitic clasts.
A	SPT	17			4			
B	MC	57	7.0	2	6			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Brown to light gray, moist, medium dense to dense, with 32% low plasticity fines and 68% fine to coarse sand.
C	SPT	30			8	SM		
D	MC	45			10			
					12			
					14			
E	SPT	91			16			**Granite** Granitic bedrock, slight to moderate weathering, friable to weak. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					18	SM		
F	SPT	50/5"			20			

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PLATE: 2

SHEET 1 OF 2

BORING LOG

BORING NO.: B-08

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		
					24			
G	☒ SPT	50/4"						
					26			
					28			
					30			
H	☒ SPT	50/4.5"						
					32			
					34			
					36			
					38			
					40			
					42			

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SHEET 2 OF 2

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/2018

BORING LOG

BORING NO.: B-09

DATE: 4/16/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Gravel Surfacing
					2	SM		**Silty Sand** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 70% fine to coarse sand, and 10% subrounded gravel up to 1.25 inches in diameter.
A	SPT	16						Includes friable granitic clasts.
					4			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT/MC samples. Brown to light gray, moist, medium dense to dense, with an estimated 20% low plasticity fines and 80% fine to coarse sand.
B	SPT	36			6	SM		
C	MC	38			8			
D	SPT	50/5"			10			**Granite** Granitic bedrock, slight to moderate weathering, friable to weak. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					12			
					14			
E	MC	76			16	SM		
					18			Auger refusal at 20 feet bgs. HQ coring from 20-40.8 feet bgs.
F	SPT	30/0"			20			**Granite** Light gray, fresh to moderate weathering, very strong to extremely strong, moderate to wide fracture spacing. Minimum fracture spacing 12 inches.

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PLATE: 2

SHEET 1 OF 2

BORING LOG

BORING NO.: B-09

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/16/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
G	CORE				24			Sample G: Rock Quality Designation (RQD) = 77, Good Quality. Coring rate = 1.6 minutes per foot (min/ft).
H	CORE				26			Sample H: RQD = 67, Fair Quality. Coring rate = 1.8 min/ft.
					28			**Granite** Light gray, fresh to moderate weathering, weak to extremely strong, moderate to wide fracture spacing. Minimum fracture spacing 12 inches.
I	CORE				30 32			Sample I: No Recovery, RQD = 0, Very Poor Quality. Coring rate 1.2 min/ft.
					34			
J	CORE				36 38			**Granite** Light gray, fresh to moderate weathering, moderately strong to extremely strong, moderate to wide fracture spacing. Minimum fracture spacing 12 inches. Sample J: RQD = 32, Poor Rock Quality. Coring rate 2.4 min/ft.
K	CORE				40			Sample K: RQD = 67, Fair Rock Quality. Coring rate = 3.5 min/ft.
					42			

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PLATE: 2

BORING LOG

BORING NO.: B-10

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/17/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Silty Sand Brown, moist, medium dense, with an estimated 30% non-plastic fines, 65% fine to coarse sand, and 5% subrounded gravel up to 1 inch in diameter.
					2	SM		
					4			
A	SPT	14						**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT/MC samples. Light gray, moist, medium dense to dense, with 21% non-plastic fines and 79% fine to coarse sand.
					6			
B	SPT	12						
					8			
					10			
C	MC	32	7.6	NP				
					12	SM		
					14			
D	SPT	37						
					16			
					18			
					20			
E	SPT	50/5"				SM		**Granite** Granitic bedrock, slight to moderate weathering, friable to moderately strong. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an

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PROJECT NO.: 0091-52-1

PLATE: 2

SHEET 1 OF 2

BORING LOG

BORING NO.: B-10

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/17/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		estimated 15% non-plastic fines and 85% fine to coarse sand.
					24			
F	☒ SPT	50/3"						
					26			
					28			
					30			
					32			
					34			
					36			
					38			
					40			
					42			

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PLATE: 2

SHEET 2 OF 2

BORING LOG

BORING NO.: B-11

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		**Silty Sand** Brown, moist, medium dense, with an estimated 30% non-plastic fines, 65% fine to coarse sand, and 5% subrounded gravel up to 1 inch in diameter.
					2			**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPT/MC samples. Light gray, moist, dense to dense, with 21% non-plastic fines and 79% fine to coarse sand.
A	SPT	44	6.0	NP				
					4	SM		
B	SPT	68			6			
C	MC	50/5"			8	CL		**Weathered Granite** Granitic bedrock completely weathered to soil. Breaks down to **Sandy Lean Clay** during auger drilling and in MC samples. Light gray, moist, very hard, with an estimated 60% low to medium plasticity fines and 40% fine sand.
D	SPT	50/3.5"			10			**Granite** Granitic bedrock, slight to moderate weathering, friable to moderately strong. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
					12			
					14			
E	SPT	50/2.5"			16			
					18	SM		
F	SPT	50/5"			20			

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PLATE: 2

SHEET 1 OF 2

BORING_LOG 0091521.GPJ BLKEAGLE.GDT 6/20/2018

BORING LOG

BORING NO.: B-11

TYPE OF RIG: Diedrich D-120

LOGGED BY: JP

DATE: 4/12/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
					24	SM		
G	☒ SPT	50/3.5"						
					26			
					28			
					30			
					32			
					34			
					36			
					38			
					40			
					42			

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PLATE: 2

SHEET 2 OF 2

BORING LOG

BORING NO.: B-12
DATE: 4/16/2018
TYPE OF RIG: Diedrich D-120
DEPTH TO GROUND WATER (ft): NE
LOGGED BY: JP
GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
A	SPT	50/5.5"			2 4	SM	▩	**Silty Sand with Gravel (Fill)** Brown, moist, medium dense to very dense, with an estimated 25% low plasticity fines, 50% fine to coarse sand, and 25% subrounded gravel up to 1.25 inches in diameter. Gravel stuck in SPT sampler.
B C	SPT SPT	27 15			6 8	SM	▧	**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in SPTsamples. Light gray, moist, medium dense, with an estimated 25% low plasticity fines, 70% fine to coarse sand, and 5% angular gravel up to 0.5 inch in diameter.
D	MC	36			10 12 14	SM	▧	**Weathered Granite** Granitic bedrock weathered to decomposed granite, friable. Rock fabric intact and recognizable. Breaks down to **Silty Sand** during auger drilling and in MC samples. Light gray, moist, medium dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
E F	SPT SPT	69 64			16 18 20	SM	▧	**Granite** Granitic bedrock, slight to moderate weathering, friable to moderately strong. Breaks down to **Silty Sand** during auger drilling and in SPT samples. Light gray, moist, very dense, with an estimated 20% non-plastic fines and 80% fine to coarse sand.

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PROJECT NO.: 0091-52-1
PLATE: 2
SHEET 1 OF 2

BORING LOG

BORING NO.: B-12

DATE: 4/16/2018

TYPE OF RIG: Diedrich D-120

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		
					24			
G	☒ SPT	50/5.5"						
					26			
					28			
					30			
H	☒ SPT	50/4"						
					32			
					34			
					36			
					38			
					40			
					42			

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PLATE: 2

SHEET 2 OF 2

TEST HOLE LOG

BORING NO.: HA-01

DATE: 4/24/2018

TYPE OF RIG: Hand Auger

DEPTH TO GROUND WATER (ft): NE

LOGGED BY: JP

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
A	✋ GRAB				2 4	SM		**Silty Sand with Gravel** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 65% fine to coarse sand, and 15% subangular gravel up to 3 inches in diameter.
					6 8			Hand auger refusal at 5 feet bgs.

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PLATE: 2

SHEET 1 OF 1

TEST HOLE LOG

BORING NO.: HA-02

TYPE OF RIG: Hand Auger

LOGGED BY: JP

DATE: 4/24/2018

DEPTH TO GROUND WATER (ft): NE

GROUND ELEVATION (ft): NA

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM	▨	**Silty Sand with Gravel (Fill)** Brown, moist, medium dense, with an estimated 20% non-plastic fines, 65% fine to coarse sand, and 15% subangular gravel up to 3 inches in diameter. Includes some cobbles and construction debris including PCC and AC chunks.
					2		▨	
								Hand auger refusal at 3 feet bgs, due to obstructions. Attempted in multiple locations.
					4			
					6			
					8			

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PLATE: 2

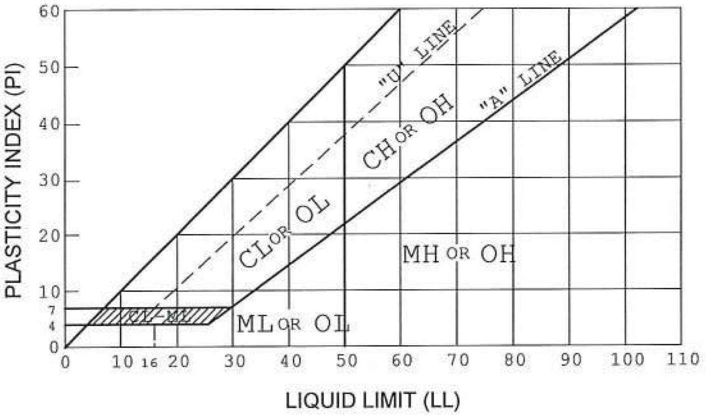
SHEET 1 OF 1

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)	●	GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			○	GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	○	GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
			▨	GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)	░	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			░	SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	▥	SM	SILTY SANDS, SAND - SILT MIXTURES
			▨	SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	▥	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			▨	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			▤	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	▥	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			▨	CH	INORGANIC CLAYS OF HIGH PLASTICITY
			▦	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			⁂	PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS
FILL MATERIAL			▩	--	FILL MATERIAL, NON-NATIVE

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

PLASTICITY CHART



FOR CLASSIFICATION OF FINE-GRAINED SOILS AND FINE-GRAINED FRACTION OF COARSE-GRAINED SOILS

EXPLORATION SAMPLE TERMINOLOGY

Sample Type	Sample Symbol	Sample Code
Auger Cuttings	▮	Auger
Bulk (Grab) Sample	✋	Grab
Modified California Sampler	⧓	MC
Shelby Tube	■	SH or ST
Standard Penetration Test	☒	SPT
Split Spoon	☒	SS
No Sample	☐	

GRAIN SIZE TERMINOLOGY

Component of Sample	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	# 4 to #200 sieve (4.75mm to 0.074mm)
Silt or Clay	Passing #200 sieve (0.074mm)

RELATIVE DENSITY OF GRANULAR SOILS

N - Blows/ft	Relative Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
greater than 50	Very Dense

CONSISTENCY OF COHESIVE SOILS

Unconfined Compressive Strength, psf	N - Blows/ft	Consistency
less than 500	0 - 1	Very Soft
500 - 1,000	2 - 4	Soft
1,000 - 2,000	5 - 8	Firm
2,000 - 4,000	9 - 15	Stiff
4,000 - 8,000	16 - 30	Very Stiff
8,000 - 16,000	31 - 60	Hard
greater than 16,000	greater than 60	Very Hard

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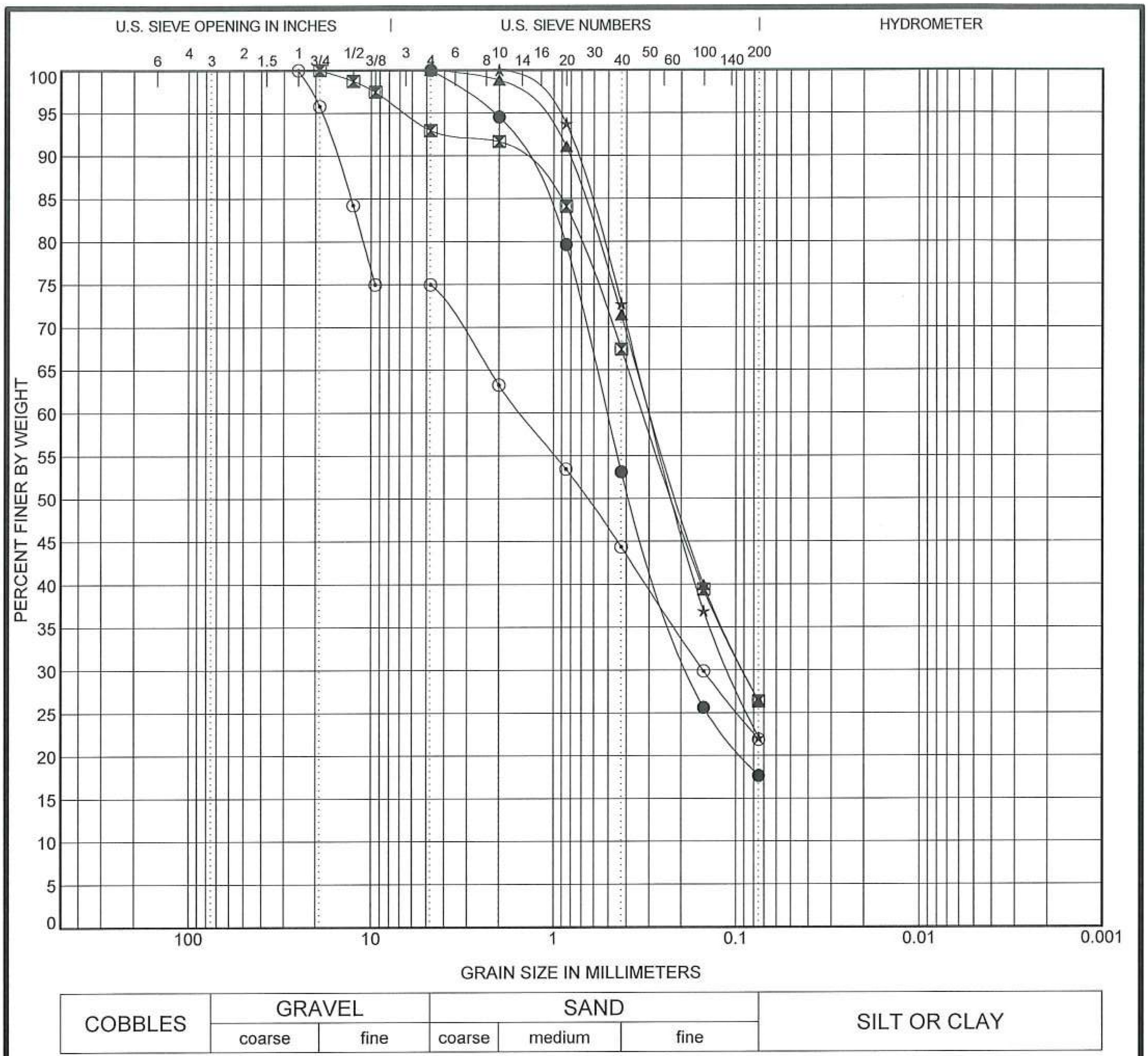
USCS Soil Classification Chart

Project: Boulder Bay
Location: Washoe County, Nevada
Project Number: 0091-52-1 Plate: 3



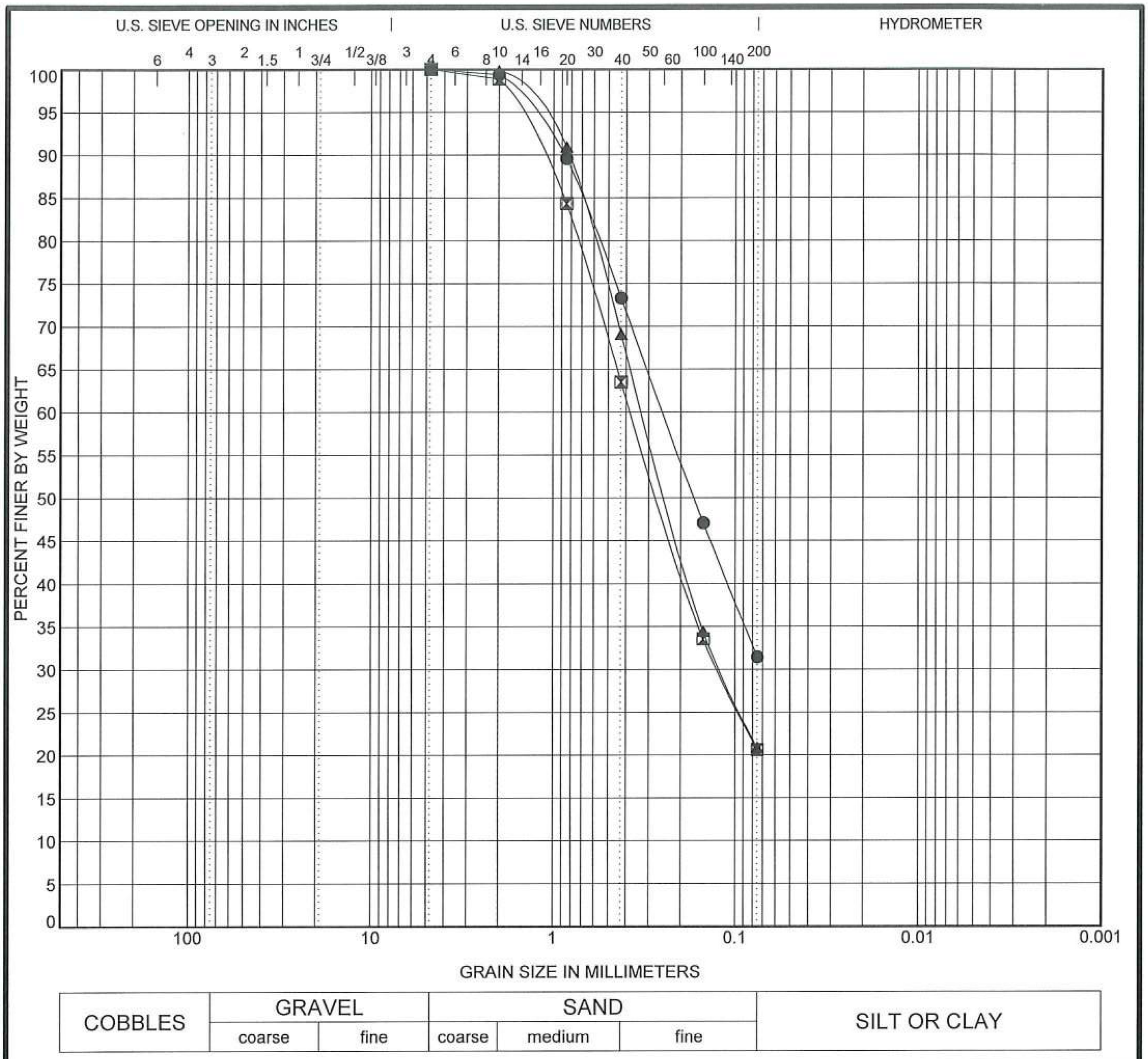
Specimen Identification		USCS Classification	LL	PL	PI	Cc	Cu
● B-01	2.5'	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		
☒ B-03	1.0'	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		
▲ B-04	5.0'	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		
★ B-05	7.5'	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		
⊙ B-06	2.5'	**SILTY, CLAYEY SAND with GRAVEL (SC-SM)**	**23**	**19**	**4**		

Specimen Identification		D100	D60	D30	D10	MC %	%Gravel	%Sand	%Silt	%Clay
● B-01	2.5'	**4.75**	**0.509**	**0.177**		**11.9**	**0.0**	**82.3**	**17.7**	
☒ B-03	1.0'	**19**	**0.322**	**0.091**		**11.1**	**7.0**	**66.6**	**26.3**	
▲ B-04	5.0'	**4.75**	**0.291**	**0.09**		**10.4**	**0.0**	**73.6**	**26.4**	
★ B-05	7.5'	**2**	**0.294**	**0.109**		**4.3**	**0.0**	**77.9**	**22.1**	
⊙ B-06	2.5'	**25**	**1.506**	**0.151**		**7.3**	**25.0**	**53.1**	**21.9**	

Black Eagle Consulting, Inc.
1345 Capital Blvd., Suite A
Reno, Nevada 89502-7140
Telephone: (775) 359-6600
Fax: (775) 359-7766

GRAIN SIZE DISTRIBUTION

Project: Boulder Bay
Location: Washoe County, Nevada
Project Number: 0091-52-1 Plate: 4a



	Specimen Identification		USCS Classification	LL	PL	PI	Cc	Cu
●	**B-08**	**5.0'**	**SILTY SAND (SM)**	**27**	**25**	**2**		
☒	**B-10**	**10.0'**	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		
▲	**B-11**	**2.5'**	**SILTY SAND (SM)**	**NP**	**NP**	**NP**		

	Specimen Identification		D100	D60	D30	D10	MC %	%Gravel	%Sand	%Silt	%Clay
●	**B-08**	**5.0'**	**4.75**	**0.251**			**7.0**	**0.0**	**68.5**	**31.5**	
☒	**B-10**	**10.0'**	**4.75**	**0.376**	**0.124**		**7.6**	**0.0**	**79.4**	**20.6**	
▲	**B-11**	**2.5'**	**4.75**	**0.323**	**0.12**		**6.0**	**0.0**	**79.1**	**20.9**	

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Telephone: (775) 359-6600
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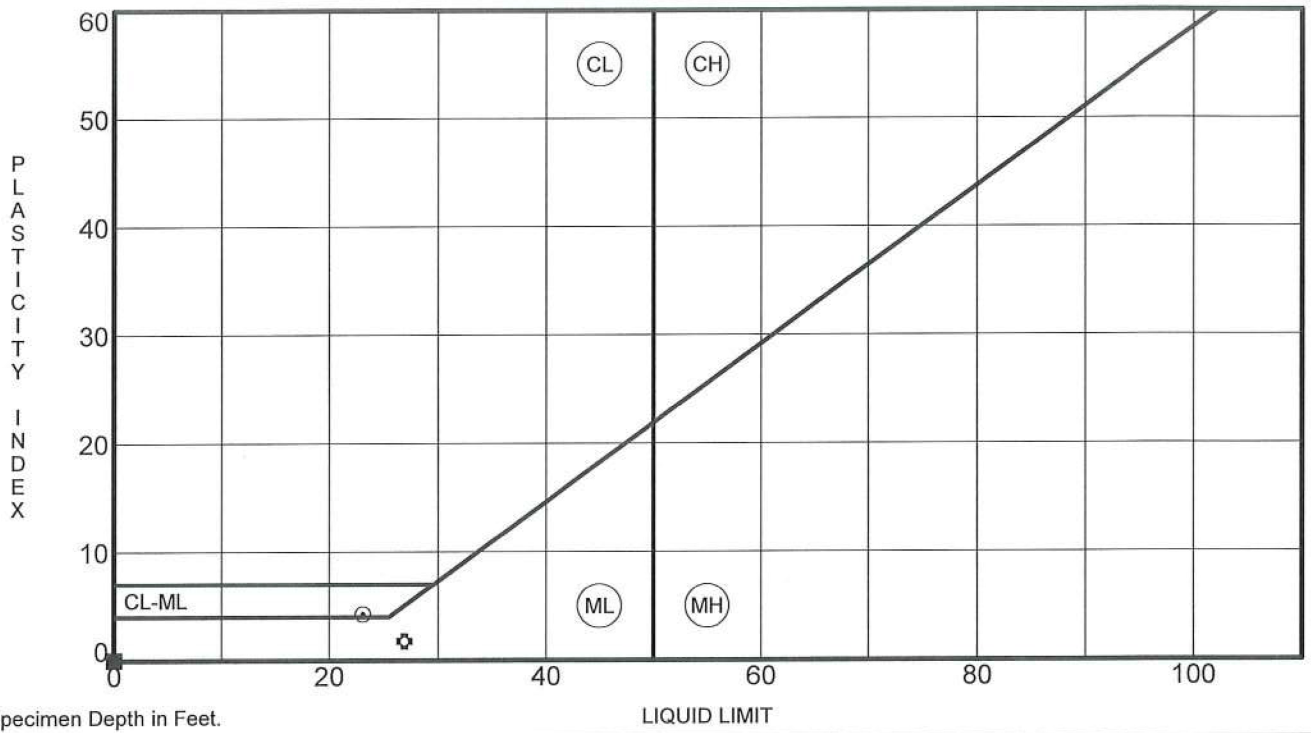
GRAIN SIZE DISTRIBUTION

Project: Boulder Bay
Location: Washoe County, Nevada
Project Number: 0091-52-1 Plate: 4b



Specimen Depth in Feet.

Specimen Identification				LL	PL	PI	Fines	USCS Classification
●	**B-01**	**B**	**2.5'**	**NP**	**NP**	**NP**	**18**	**SILTY SAND (SM)**
☒	**B-03**		**1.0'**	**NP**	**NP**	**NP**	**26**	**SILTY SAND (SM)**
▲	**B-04**	**B**	**5.0'**	**NP**	**NP**	**NP**	**26**	**SILTY SAND (SM)**
★	**B-05**	**C**	**7.5'**	**NP**	**NP**	**NP**	**22**	**SILTY SAND (SM)**
⊙	**B-06**	**A**	**2.5'**	**23**	**19**	**4**	**22**	**SILTY, CLAYEY SAND with GRAVEL (SC-SM)**
✿	**B-08**	**B**	**5.0'**	**27**	**25**	**2**	**31**	**SILTY SAND (SM)**
○	**B-10**	**C**	**10.0'**	**NP**	**NP**	**NP**	**21**	**SILTY SAND (SM)**
△	**B-11**	**A**	**2.5'**	**NP**	**NP**	**NP**	**21**	**SILTY SAND (SM)**

US ATTERBERG LIMITS 0091521.GPJ US LAB.GDT 6/21/2018

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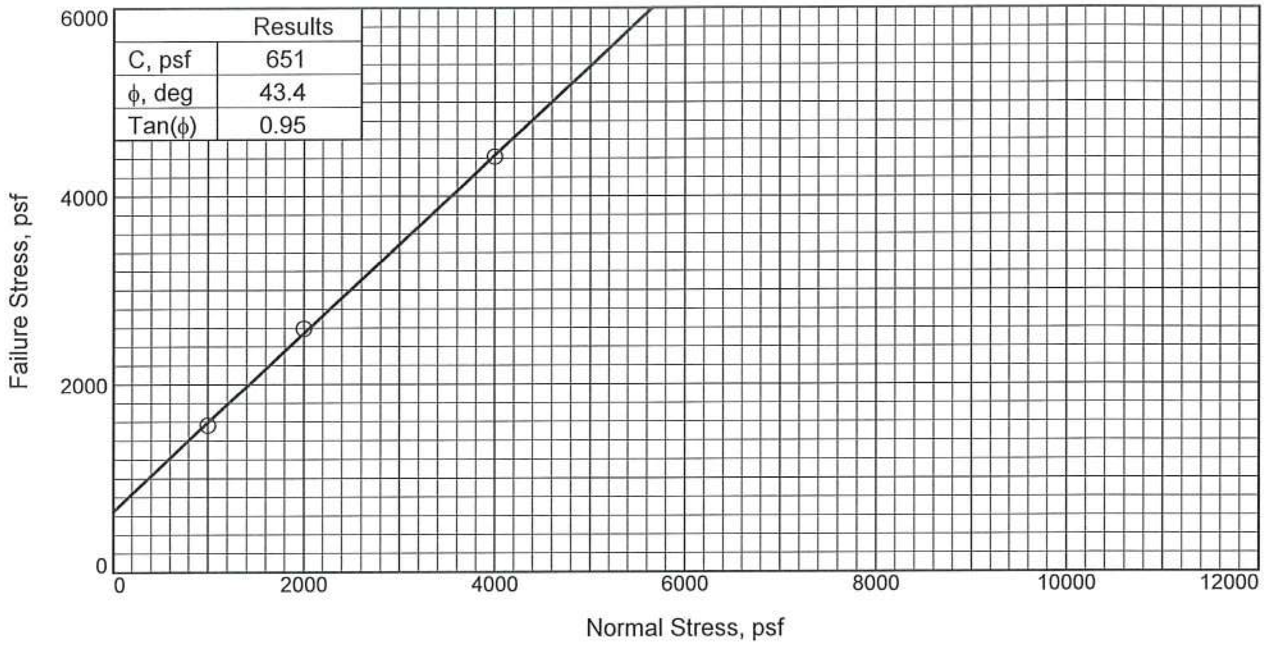
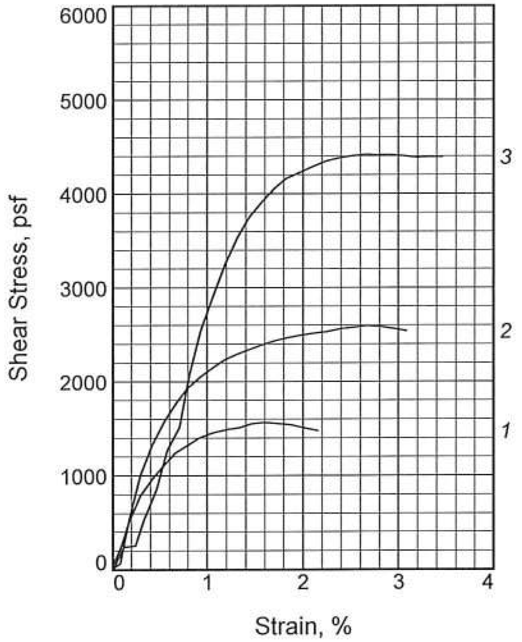
Reno, Nevada 89502-7140
Telephone: (775) 359-6600
Fax: (775) 359-7766

ATTERBERG LIMITS RESULTS

Project: Boulder Bay
Location: Washoe County, Nevada
Project Number: 0091-52-1 Plate: 4c



	Results
C, psf	651
ϕ, deg	43.4
Tan(ϕ)	0.95



	Sample No.	1	2	3
Initial	Water Content, %	13.4	13.4	13.4
	Dry Density, pcf	113.9	113.9	113.9
	Saturation, %	78.4	78.4	78.4
	Void Ratio	0.4528	0.4528	0.4528
	Diameter, in.	2.420	2.420	2.420
	Height, in.	1.000	1.000	1.000
At Test	Water Content, %	16.0	20.5	20.3
	Dry Density, pcf	115.3	114.9	116.3
	Saturation, %	97.8	123.3	127.3
	Void Ratio	0.4346	0.4397	0.4229
	Diameter, in.	2.420	2.420	2.420
	Height, in.	0.988	0.991	0.979
	Normal Stress, psf	1000	2000	4000
	Failure Stress, psf	1563	2593	4416
	Strain, %	1.6	2.7	2.6
	Ult. Stress, psf			
	Strain, %			
	Strain rate, in./min.	0.002	0.002	0.002

Sample Type: Remold

Description:

LL= NV **PI=** NP

Assumed Specific Gravity= 2.65

Remarks: Laboratory Log 6430

Figure 5a

Client: CFA, Inc.

Project: Boulder Bay

Source of Sample: B-04 **Depth:** 5'

Sample Number: B

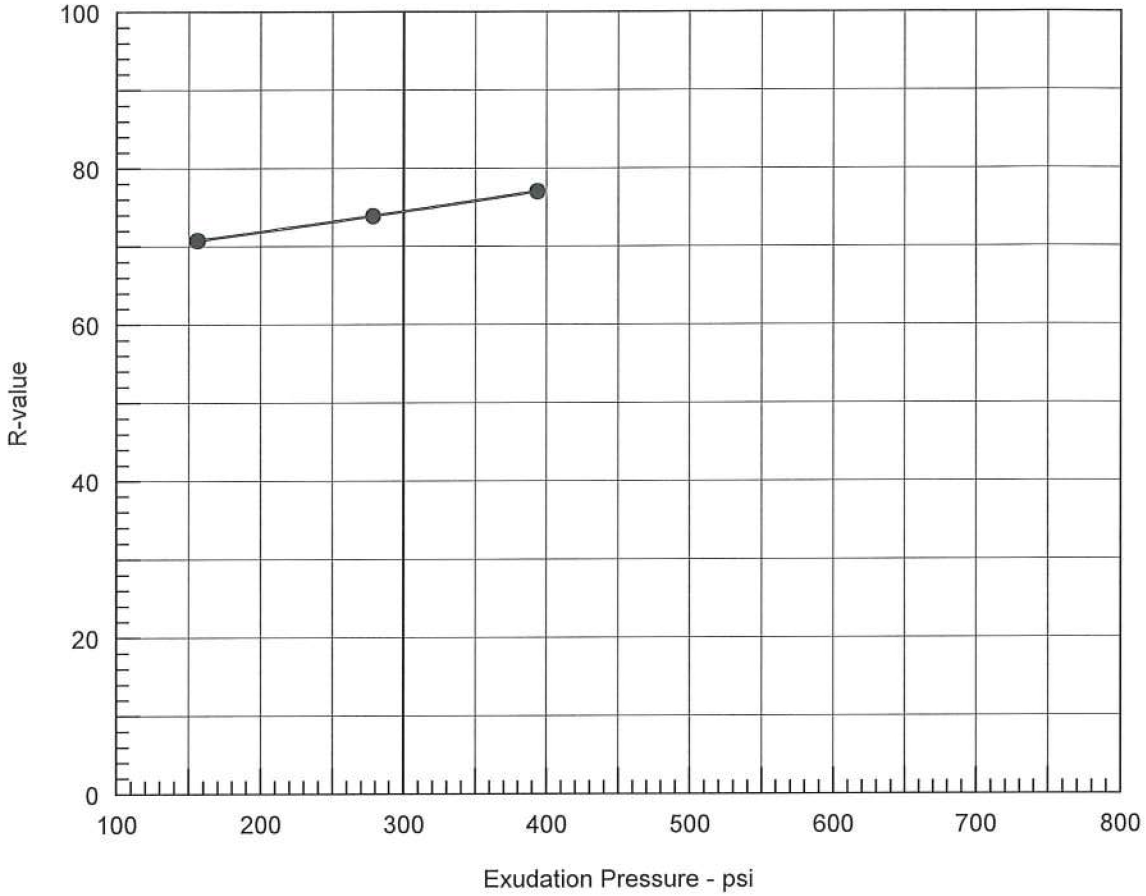
Proj. No.: 0091-52-1 **Date Sampled:** 04/11/18

DIRECT SHEAR TEST REPORT

BLACK EAGLE CONSULTING, INC.

Tested By: GLO **Checked By:** SRS

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D 2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	350	122.7	11.1	0.18	30	2.47	278	74	74
2	350	122.4	10.6	0.18	26	2.52	394	77	77
3	350	122.9	11.7	0.12	35	2.46	156	71	71

Test Results	Material Description
R-value at 300 psi exudation pressure = 74	

Project No.: 0091-52-1

Project: Boulder Bay

Source of Sample: B-03 **Depth:** 1'-5'

Sample Number: Bulk

Date: 5/18/2018

Tested by: GLO

Checked by: SRS

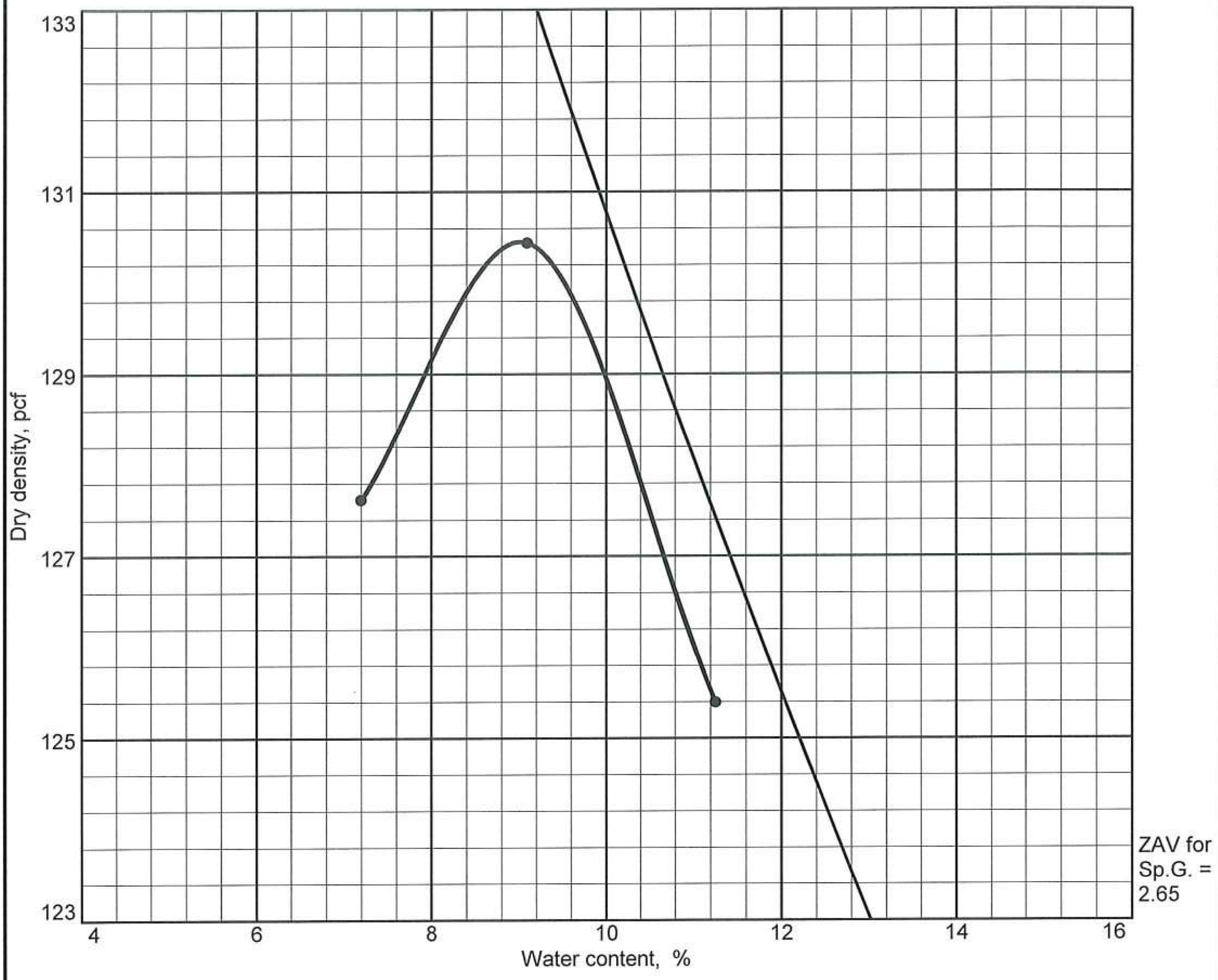
Remarks:
Laboratory Log 6430

R-VALUE TEST REPORT

BLACK EAGLE CONSULTING, INC.

Figure 6a

COMPACTION TEST REPORT



Test specification: ASTM D 1557-78 Method B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SM						75.0	22

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 130.5 pcf Optimum moisture = 9.0 %	Silty Sand

Project No. 0091-52-1 **Client:** CFA, Inc.

Project: Boulder Bay

● **Source:** B-3, 1'-5' & B-12, 5'-10'

Remarks:

Laboratory Log 6488

BLACK EAGLE CONSULTING, INC.

Reno, Nevada

Figure 7

ROCK CORE ANALYSES

PROJECT: Boulder Bay

PROJECT NO.: 0091-52-1

CLIENT: CFA, Inc.

CORE NO.	B-09						
LOCATION	22.0' – 22.5'						
DATE CORED	04/13/18						
DATE TESTED	05/29/18						
UNCAPPED LENGTH - INCHES	5.40						
CAPPED LENGTH - INCHES	5.62						
DIAMETER - INCHES	2.38						
AREA – IN^2	4.45						
L/D RATIO	2.36						
L/D CORRECTION	0.0						
TOTAL LOAD - LBS	86,580						
UNIT LOAD - PSI	19,460						
CORRECTED UNIT LOAD - PSI	**19,460**						
AVERAGE UNIT LOAD - PSI	**19,460**						

REMARKS:

Black Eagle Consulting, Inc.
1345 Capital Boulevard, Suite A
Reno, NV 89502-7140
Phone: (775) 359-6600
Fax: (775) 359-776

Respectfully Submitted By:

Scott R. Shipley
Laboratory Manager
Date: May 30, 2018

Plate 8

APPENDIX A

SHEAR WAVE VELOCITY MODELING RESULTS

MICROTREMOR SHEAR-WAVE ANALYSIS

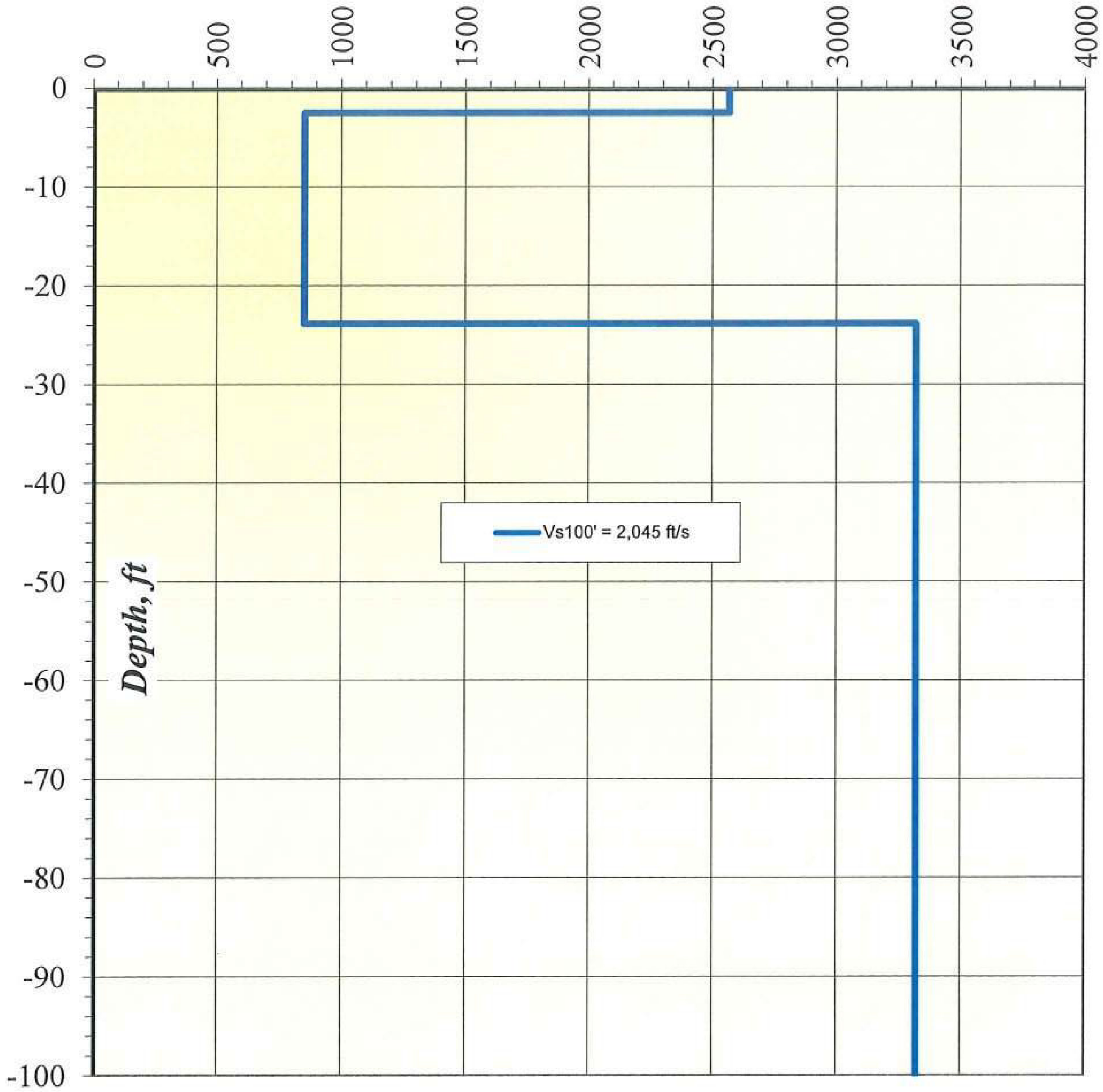
Shear-wave velocities for subsurface strata were collected using a multiple channel digital acquisition data logger and geophone system. A DAQLink II™ 24-bit, 2-channel analog to digital data logger, coupled with 12, 4.5-Hz geophones on 3-meter spacings, was used to record background micro tremor refraction data. SeisOpt ReMi® software was then used to model the digital refraction data using a wave field transformation data processing technique and an interactive Rayleigh-wave dispersion model. Model output after data processing is presented as a spectral solution of wave frequency vs. slowness, the modeled Rayleigh-wave phase-velocity dispersion curve, and a graphical representation of shear-wave velocity vs. depth at the modeled location.

The Raleigh-wave dispersion curve and slowness-frequency wave dispersion are contained in Appendix A. For standard 8-meter (25-foot) geophone spacing, estimation of Rayleigh-wave phase-velocity dispersion curves by slowness-frequency wave field transformation has been shown to be an effective method for estimation of 30-meter (100-foot) average shear-wave velocities and one-dimensional shear-wave profile within 20 percent accuracy to 100 meters depth[1]. The shear-wave velocity versus depth model is also contained in this Appendix A.

---

[1] Louie, John N., April 2001, "Faster, Better: Shear-Wave Velocity to 100 Meters Depth for Refraction Microtremor Arrays." *Bulletin of the Seismological Society of America,* v. 91, n. 2, p. 347-396.

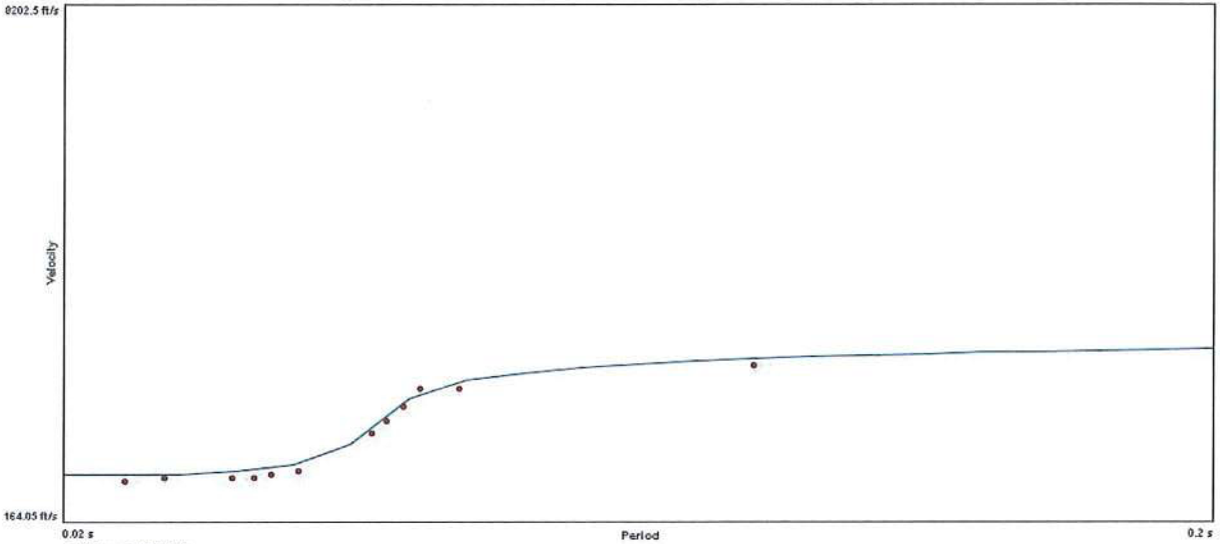
Shear Wave Velocity Modeling Results
Boulder Bay - Line S_1



Shear-Wave Velocity, ft/s

Boulder Bay - Line S_1

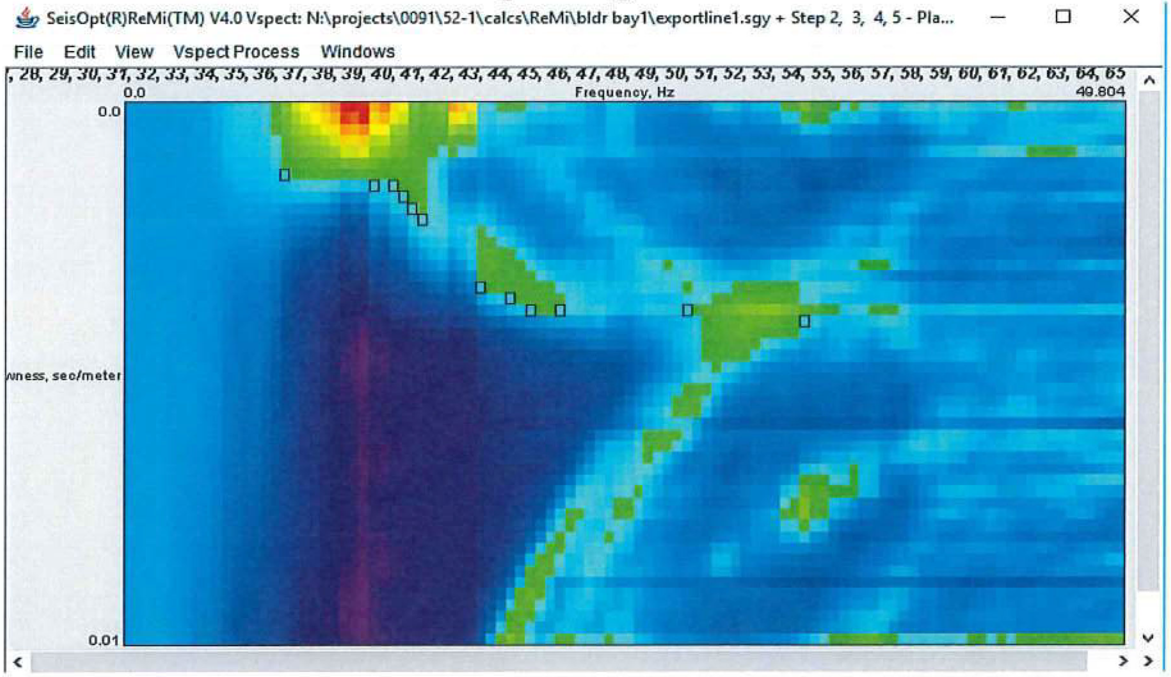
Dispersion Curve Showing Picks and Fit



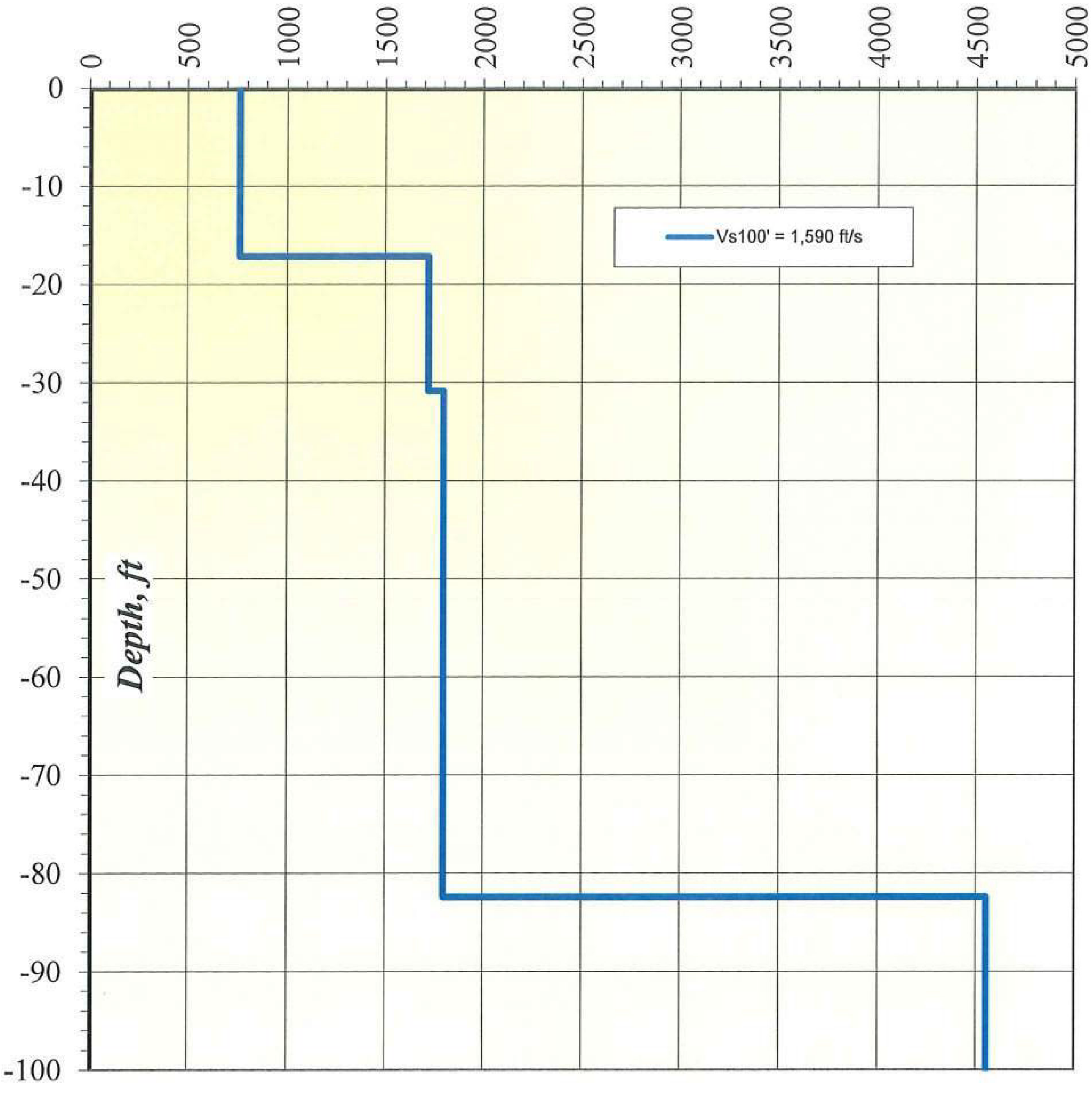
RMS Error: 95.916 ft/s

Vs = 2045.325 IBC Site Class C (IBC 2000 1615.1.1)

p-f Image


SeisOpt(R)ReMi(TM) V4.0 Vspect: N:\projects\0091\52-1\calcs\ReMi\bldr bay1\exportline1.sgy + Step 2, 3, 4, 5 - Pla...

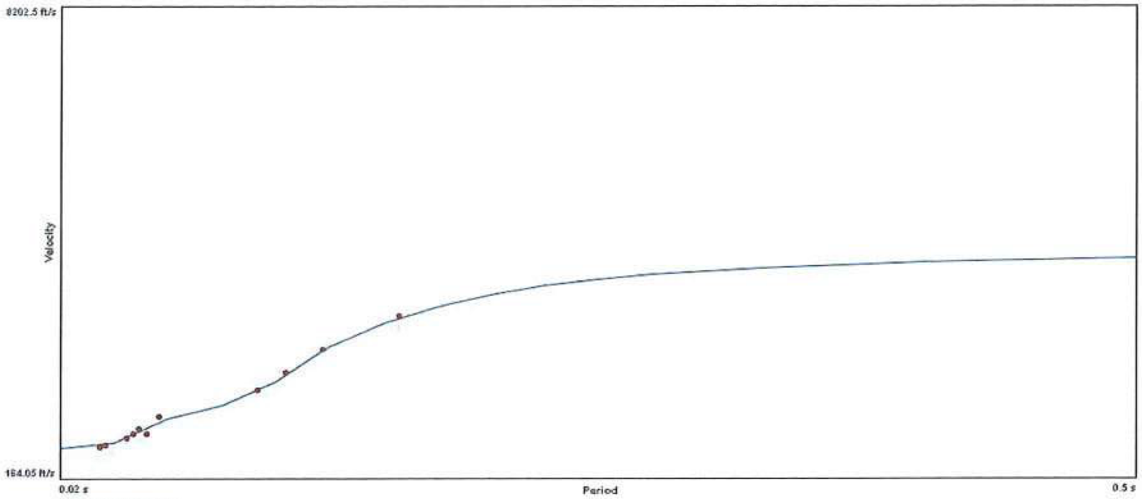
Shear Wave Velocity Modeling Results
Boulder Bay - Line S_2



Shear-Wave Velocity, ft/s

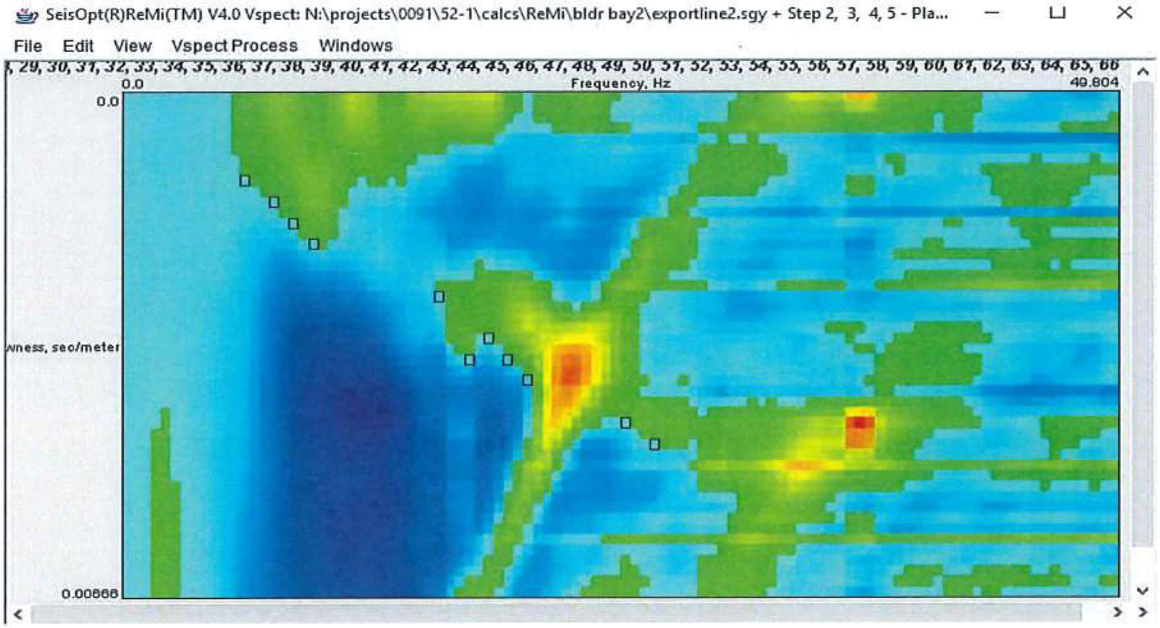
Boulder Bay - Line S_2

Dispersion Curve Showing Picks and Fit

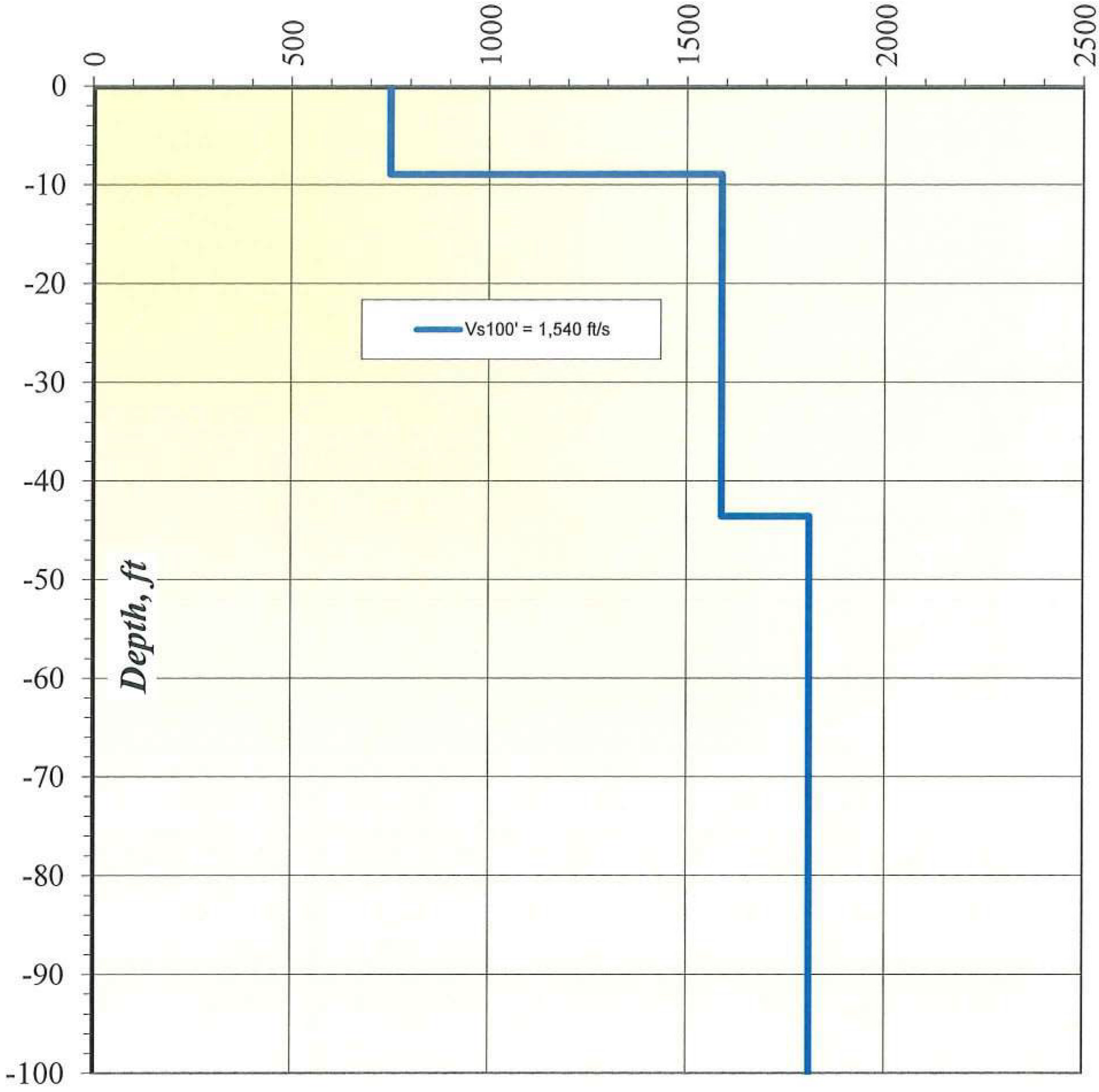


RMS Error: 51.671 ft/s
Vs = 1687.545 IBC Site Class C (IBC 2000 1615.1.1)

p-f Image


SeisOpt(R)ReMi(TM) V4.0 Vspect: N:\projects\0091\52-1\calcs\ReMi\bldr bay2\exportline2.sgy + Step 2, 3, 4, 5 - Pla...

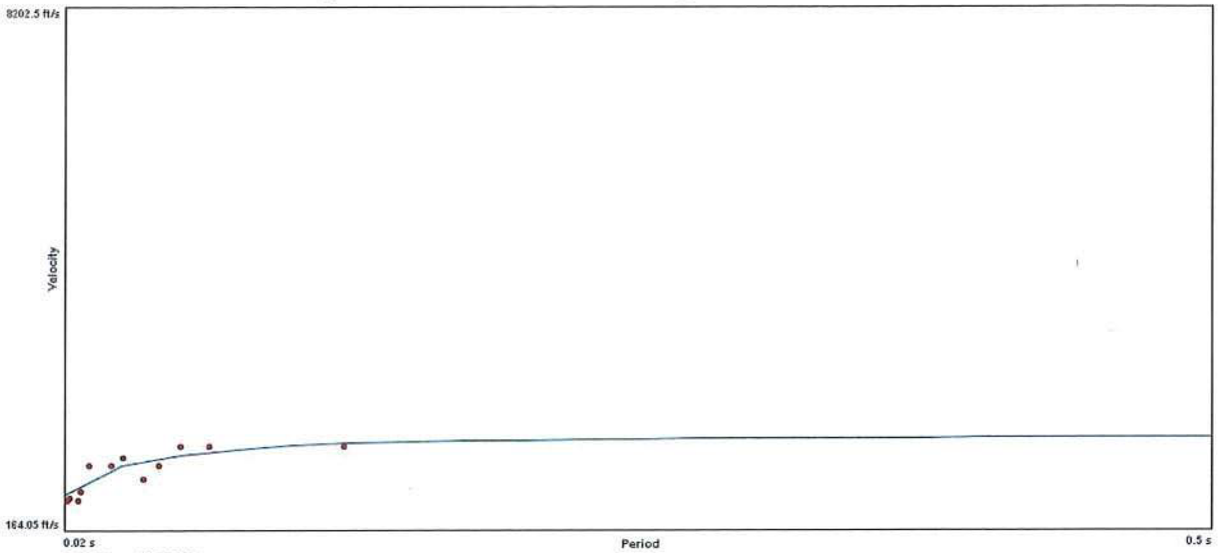
Shear Wave Velocity Modeling Results
Boulder Bay - Line S_3



Shear-Wave Velocity, ft/s

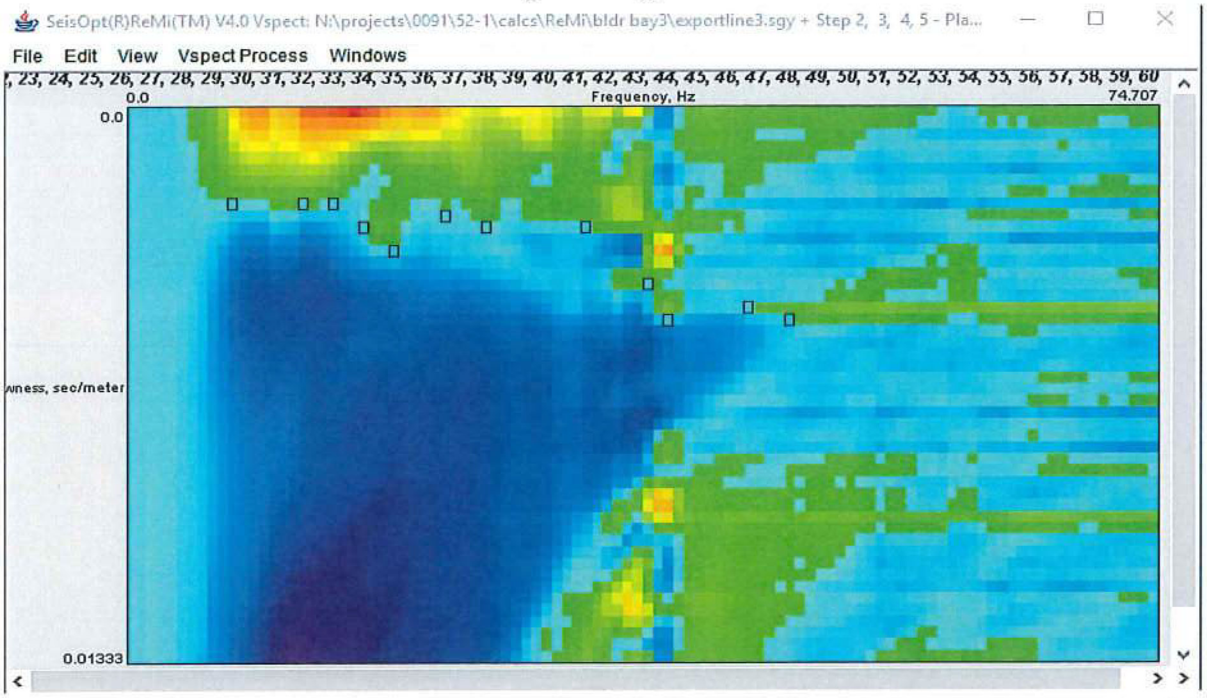
Boulder Bay - Line S_3

Dispersion Curve Showing Picks and Fit

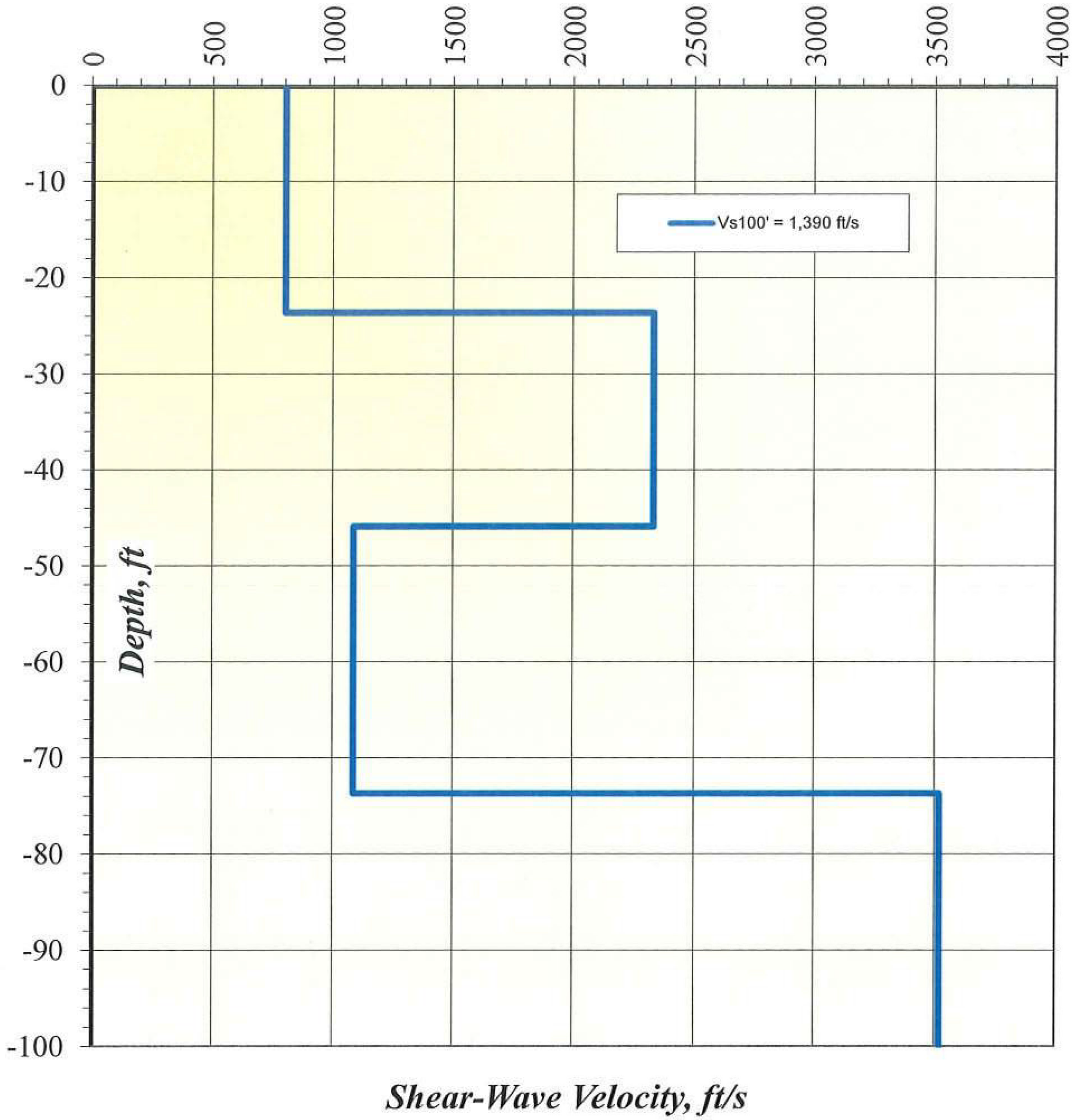


RMS Error: 137.562 ft/s
Vs = 1541.729 IBC Site Class C (IBC 2000 1615.1.1)

p-f Image

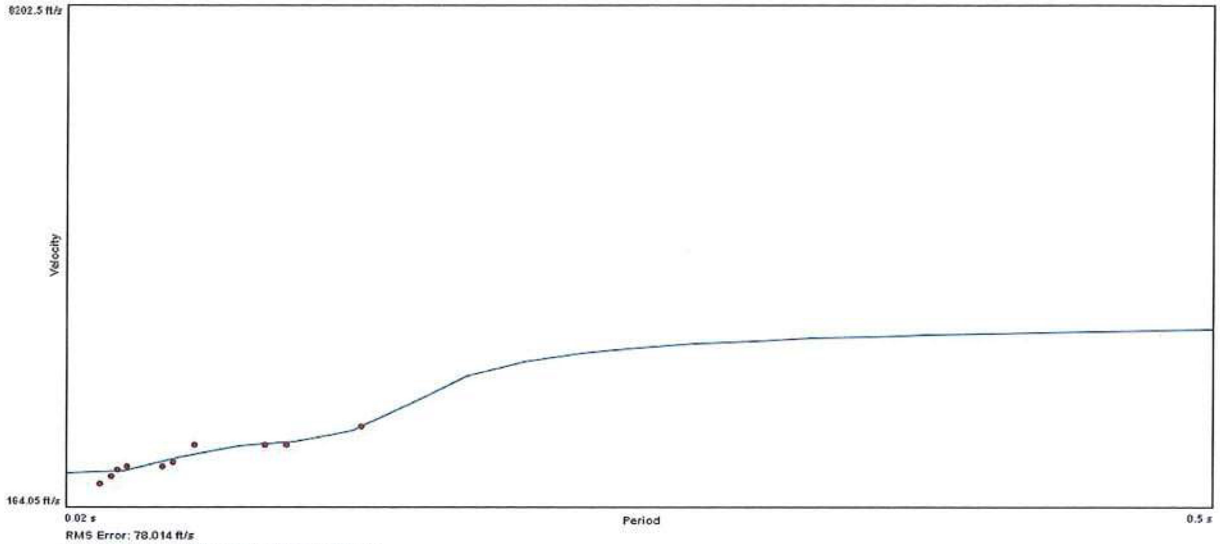

SeisOpt(R)ReMi(TM) V4.0 Vspect: N:\projects\0091\52-1\calcs\ReMi\bldr bay3\exportline3.sgy + Step 2, 3, 4, 5 - Pla...

Shear Wave Velocity Modeling Results
Boulder Bay - Line S_4



Boulder Bay - Line S_4

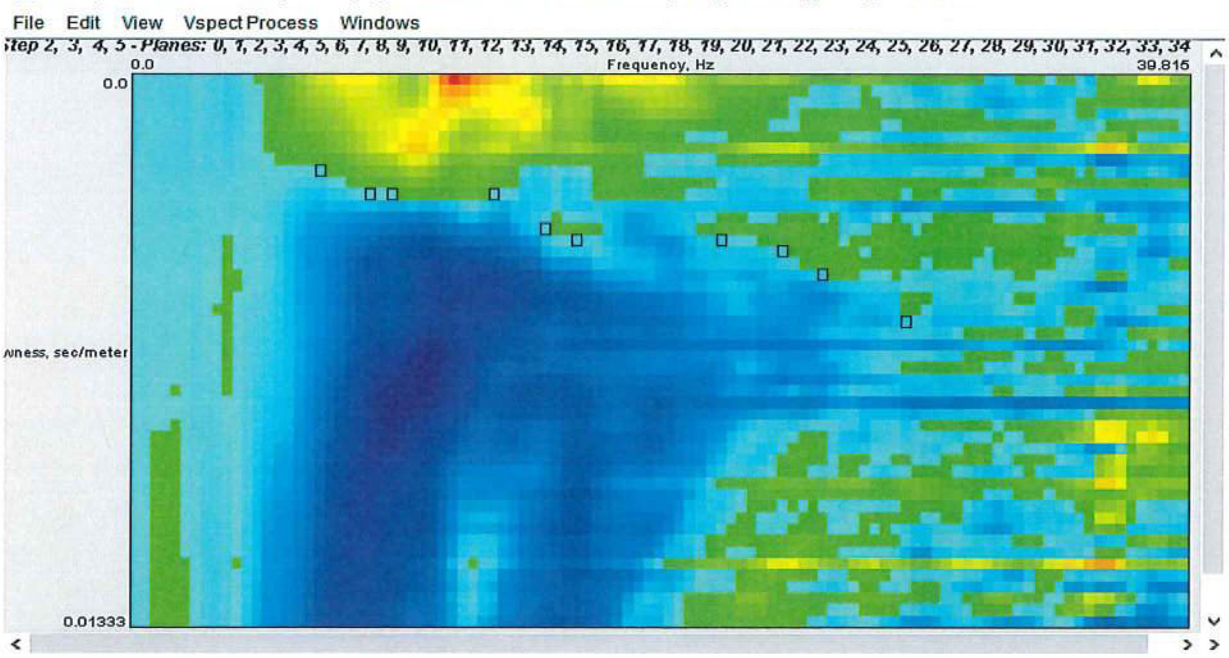
Dispersion Curve Showing Picks and Fit



RMS Error: 78.014 ft/s

Vs = 1389.532   IBC Site Class C (IBC 2000 1615.1.1)

p-f Image



APPENDIX B

CHEMICAL TEST RESULTS

SilverState Analytical Laboratories
Sierra Environmental Monitoring

Silver State Labs-Reno
1135 Financial Blvd
Reno, NV 89502
(775) 857-2400 FAX: (888) 398-7002
www.ssalabs.com

Analytical Report

Workorder#: **18050305**
Date Reported: **5/16/2018**

Client: Black Eagle Consulting, Inc
Project Name: 0091-52-1
PO #: 0091-52-1

Sampled By: J. Payne

Laboratory Accreditation Number: NV015/CA2990

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
18050305-01	0091-52-1 B-03 1-5'	04/11/2018 15:30	5/7/2018

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Oxidation-Reduction Potential	SM 2580B	135	mV		LRB	05/09/2018 9:06	
pH	SW-846 9045D	6.24	pH Units		LRB	05/11/2018 9:55	
pH Temperature	SW-846 9045D	23.0	°C		LRB	05/11/2018 9:55	
Resistivity	EPA 120.1	30000	Ohms-cm		LRB	05/09/2018 9:49	
Sulfate	EPA 300.0	8	mg/Kg	2	JF	05/08/2018 15:29	
Sulfide	AWWA C105	Negative	POS/NEG		LRB	05/14/2018 15:30	

Laboratory Accreditation Number: NV015/CA2990

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
18050305-02	0091-52-1 B-11A 2-5'	04/12/2018 9:00	5/7/2018

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Oxidation-Reduction Potential	SM 2580B	119	mV		LRB	05/09/2018 9:06	
pH	SW-846 9045D	6.55	pH Units		LRB	05/11/2018 9:55	
pH Temperature	SW-846 9045D	23.0	°C		LRB	05/11/2018 9:55	
Resistivity	EPA 120.1	24000	Ohms-cm		LRB	05/09/2018 9:49	
Sulfate	EPA 300.0	<2	mg/Kg	2	JF	05/08/2018 15:55	
Sulfide	AWWA C105	Negative	POS/NEG		LRB	05/14/2018 15:30	

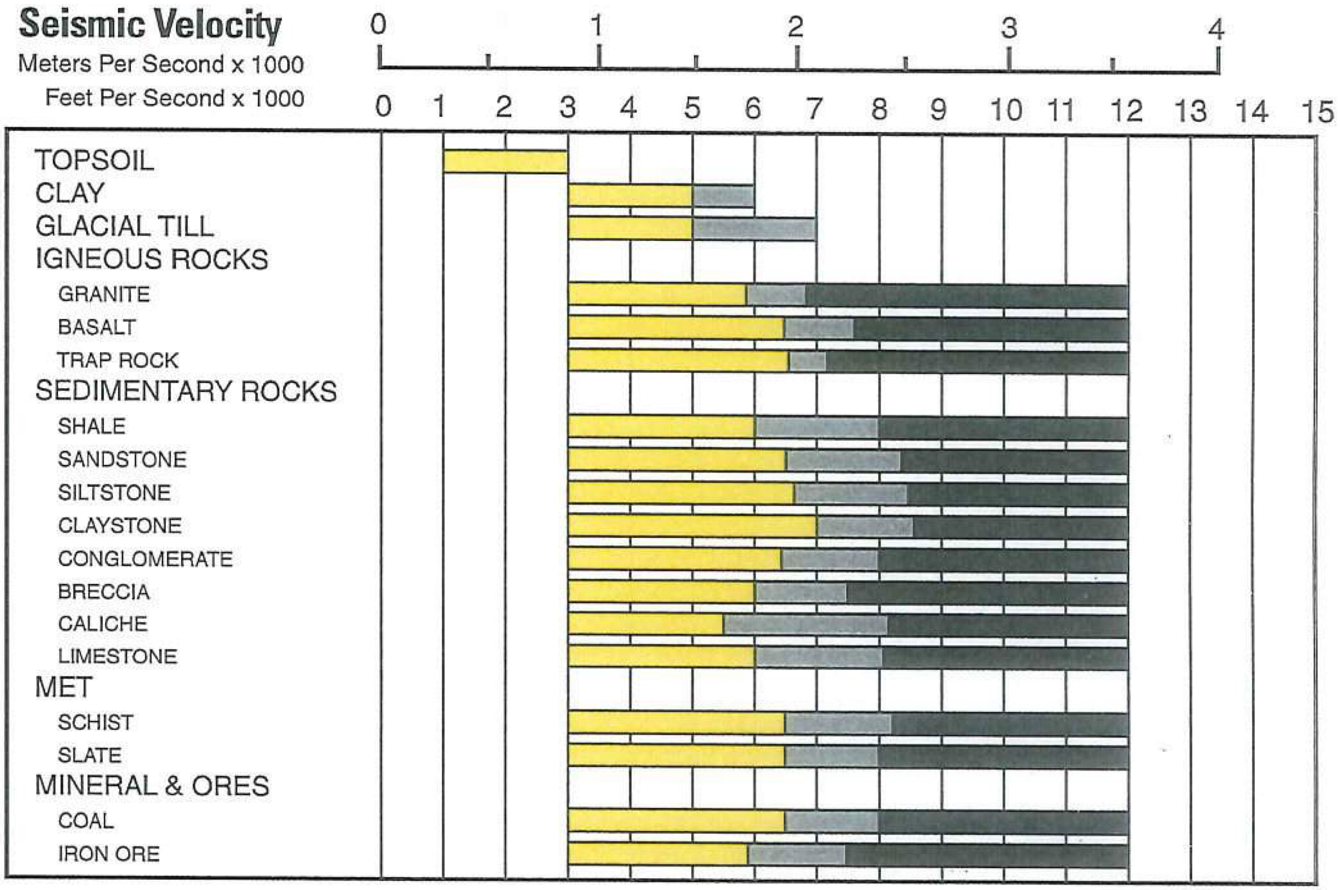
APPENDIX C

RIPPABILITY CHARTS

Rippers

D8R Ripper Performance

- Multi or Single Shank No. 8 Series D Ripper
- Estimated by Seismic Wave Velocities

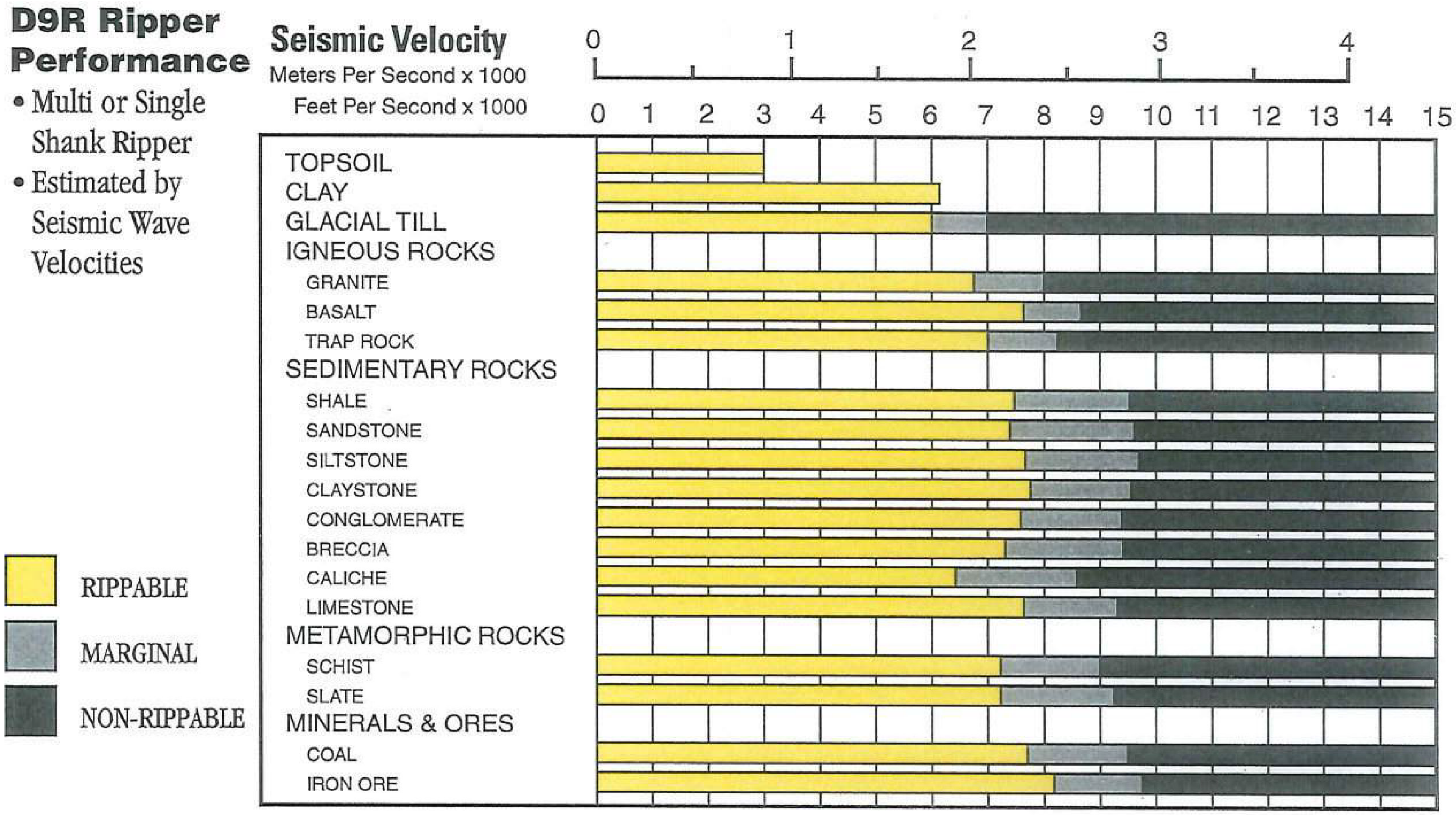


🟨 RIPPABLE

▨ MARGINAL

⬛ NON-RIPPABLE

Rippers



D9R Ripper Performance
- Multi or Single Shank Ripper
- Estimated by Seismic Wave Velocities

APPENDIX L
Washoe County Engineering Department Memorandums

APPENDIX M
Landscape Plan

PROJECT DESCRIPTION

There is a total of 12.37 acres of proposed disturbance area within the project limits. A minimum of 20% of the disturbance area (2.47 acres) is required to be landscaped. The proposed landscape area is estimated to be 3.6 acres or 29% of the disturbance area, which exceeds this requirement. Common open space requirements were calculated based on the requirement of two hundred (200) square feet of common open space per dwelling unit resulting in an open space of 7,800 square feet required. The current proposed plan includes 15,884 square feet of common open space which exceeds this requirement. Common open space amenities include a courtyard with seating, spas, pavilions, tables and chairs, fire pits, and a water feature.

MASTER PLANT LEGEND

PLANT LIST

● Existing Trees to Remain
● Manzanita Trees
● Evergreen Trees
● Aspen Trees

INTENSIVE LANDSCAPE TREATMENT TYPE 1 - 23,374 SF

🟩
- Located on streetscape for SR 28 and internal street
- semi-formal street deciduous tree clusters with groundcover/perennial plantings and limited turf
- Frequent irrigation

INTENSIVE LANDSCAPE TREATMENT TYPE 2 - 75,626 SF

🟩
- Located at main entrances to buildings
- Tall pines to provide scale with informal grouping and perennials under
- Moderate Irrigation (less than type 1)

EXISTING TREE LANDSCAPE TREATMENT - 6,611 SF

🟩
- Surrounds largest area
- Located in the center of the site above the internal street. Other areas are located throughout the site where existing trees have been retained
- Shrubs and groundcovers under existing trees
- Low irrigation - match natural water conditions

NATURAL LANDSCAPE TREATMENT - 16,000 SF

🟩
- Located on graded slopes adjacent to buildings
- Native/adapted trees, shrubs, and groundcovers
- Temporary irrigation to establish

REVEGETATION AND RESTORATION LANDSCAPE TREATMENT - 24,896 SF

🟨
- Located on graded slopes towards the north of the site on road frontages
- Native trees, shrubs and groundcovers
- Temporary irrigation to establish

LAWN - 10,347 SF

🟩
- Located on near gathering spaces
- Low irrigation - match natural water conditions

EVERGREEN TREES

Calocedrus decurrens	Incense Cedar
Pinus jeffrey	Jeffrey Pine
Pinus ponderosa	Ponderosa Pine

DECIDUOUS TREES

Acer circinatum	Vine Maple
Acer palmatum ' Sango Kaku'	Coral Bark Maple
Populus tremuloides	Quaking Aspen
Sorbus aucuparia	European Mountain Ash
Quercus rubra	Red Oak

SHRUBS

Acer glabrum	Maple, Rocky Mountain
Alnus tunuifolia	Mountain Alder
Amelanchier alnifolia	Western Serviceberry
Berberis thunbergi 'Rose Glow'	Rose Glow Japanese Barberry
Cotoneaster microphyllus	Rockspray Cotoneaster
Cornus stolonifera 'Baileyi'	Bailey Red-osier Dogwood
Euonymus alatus 'Compacta'	Dwarf Burning Bush
Euonymus fortunei 'Canadale Gold'	Canadale Gold Euonymus
Kallmia latifolia 'Nipmuck'	Nipmuck Mountain Laurel
Mahonia aquifolium	Oregon Grape Holly
Potentilla fruticosa 'Goldfinger'	Goldfinger Shrubby Cinquefoil
Physocarpus monogynus	Mountain Ninebark
Rhododendron 'Purple Gem'	Purple Gem Rhododendron
Ribes alpinum	Alpine Currant
Rosa woodsi var. ultramontana	Woods Rose
Sambucus racemosa	Elderberry
Sorbus californica	Mountain Ash, California
Spirea japonica 'Bumalda'	Bumalda Spirea
Spirea prunifolia	Bridalwreath Spirea
Viburnum opulus 'Compactum'	Compact European Cranberry Bush

GROUNDCOVERS/ PERENNIALS

Astilbe x arendsii 'Peach Blossom'	Peach Blossom Astilbe
Aquilegia spp.	Columbine
Arctostaphylos uva-ursi	Bearberry
Ceanothus prostratus	Squaw Carpet
Fragaria virginiana	Mountain Strawberry
Galium odorata	Sweet Woodruff
Hemerocallis hybrid 'Stella de Oro'	Stella de Oro Daylili
Iris siberica	Siberian Iris
Lupine spp.	Lupine
Pachysandra terminalis	Japanese Spurge
Parthenosis quinquefolia	Virginia Creeper
Penstemon newberryi	Newberry Penstemon
Rudbeckia hirta	Black-eyed Susan
Rudbeckia parvifolia	Thimbleberry
Sedum spp.	Stonecrop
Symphoricarpus x chenaulti 'Hancock'	Hancock Creeping Snowberry

PERENNIAL MIXES

Perennial/Bulb Mix	
1. Eschscholzia california	California Poppy
2. Penstemon strictus	Rocky Mountain Penstemon
3. Sedum 'Autumn Joy'	Autumn Joy Stonecrop Sedum
4. Aster x frikarii 'Monch'	Monch Aster
5. Rudbeckia hirta	Black-eyed Susan
6. Coreopsis lanceolata	Coreopsis
7. Phlox subulata	Creeping Phlox
8. Nepeta x faassenii	Catmint
9. Tupipa spp.	Tulip

GRASSES/ TURF

Turf	
1. Poa pratensis/Lolium perenne	Kentucky Bluegrass/Perennial Rye mix
Native Grass/Perennial Mix 1	
1. Elymus elymoides ssp. californicus	Squirreltail
2. Festuca glauca	Blue Fescue
3. Penstemon strictus	Rocky Mountain Penstemon
4. Gaillardia aristata	Blanket Flower
5. Linum lewisii	Blue Flax
6. Achillea millefolium	Yarrow
Native Grass/Perennial Mix 2	
1. Elymus elymoides ssp. californicus	Squirreltail
2. Festuca glauca	Blue Fescue
3. Aquilegia Spp.	Columbine
4. Arnica chamissonis ssp. foliosa	Arnica
5. Lupinus brewerii	Brewer's Lupine

LANDSCAPE DATA

SITE AREA - 562,539 SF (12.91 ACRES)
AREA TO BE DEVELOPED/IMPACTED - 538,939 SF (12.37 ACRES)
JURISDICTION: WASHOE CO.
ZONING: TC, TA_CBT

REQUIRED LANDSCAPE AREA (20% OF TOTAL DEVELOPED LAND AREA) = 107,788 SF
PROVIDED LANDSCAPE AREA = 156,854 SF

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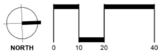
INCLUDED TREES = 421
REQUIRED SHRUBS (6 SHRUBS PER REQUIRED TREE) = 2,156 MIN.
TURF PROVIDED = 10,347 SF
POOL, SPA, & WATER FEATURES = 3,485 SF



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EKN DEVELOPMENT

WALDORF ASTORIA PRELIMINARY LANDSCAPE PLAN

EKN Development Group
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No.	Description	Date

Sheet Title — Project No. **22139**

LANDSCAPE PLAN

Sheet No.

L1-01

MASTER PLANT LEGEND

PLANT LIST

- ● Existing Trees to Remain
- ● Manzanita Trees
- ● Evergreen Trees
- ● Aspen Trees

INTENSIVE LANDSCAPE TREATMENT TYPE 1 - 23,374 SF

🟩
- Located on streetscape for SR 28 and internal street
- semi-formal street deciduous tree clusters with groundcover/perennial plantings and limited turf
- Frequent irrigation

INTENSIVE LANDSCAPE TREATMENT TYPE 2 - 75,626 SF

🟩
- Located at main entrances to buildings
- Tall pines to provide scale with informal grouping and perennials under
- Moderate Irrigation (less than type 1)

EXISTING TREE LANDSCAPE TREATMENT - 6,611 SF

▨
- Surrounds largest area
- Located in the center of the site above the internal street. Other areas are located throughout the site where existing trees have been retained
- Shrubs and groundcovers under existing trees
- Low irrigation - match natural water conditions

NATURAL LANDSCAPE TREATMENT - 16,000 SF

🟩
- Located on graded slopes adjacent to buildings
- Native/adapted trees, shrubs, and groundcovers
- Temporary irrigation to establish

REVEGETATION AND RESTORATION LANDSCAPE TREATMENT - 24,896 SF

🟨
- Located on graded slopes towards the north of the site on road frontages
- Native trees, shrubs and groundcovers
- Temporary irrigation to establish

LAWN - 10,347 SF

🟩
- Located on near gathering spaces
- Low irrigation - match natural water conditions

EVERGREEN TREES

Calocedrus decurrens	Incense Cedar
Pinus jeffrey	Jeffrey Pine
Pinus ponderosa	Ponderosa Pine

DECIDUOUS TREES

Acer circinatum	Vine Maple
Acer palmatum ' Sango Kaku'	Coral Bark Maple
Populus tremuloides	Quaking Aspen
Sorbus aucuparia	European Mountain Ash
Quercus rubra	Red Oak

SHRUBS

Acer glabrum	Maple, Rocky Mountain
Alnus tunuifolia	Mountain Alder
Amelanchier alnifolia	Western Serviceberry
Berberis thunbergi 'Rose Glow'	Rose Glow Japanese Barberry
Cotoneaster microphyllus	Rockspray Cotoneaster
Cornus stolonifera 'Baileyi'	Bailey Red-osier Dogwood
Euonymus alatus 'Compacta'	Dwarf Burning Bush
Euonymus fortunei 'Canadale Gold'	Canadale Gold Euonymus
Kallmia latifolia 'Nipmuck'	Nipmuck Mountain Laurel
Mahonia aquifolium	Oregon Grape Holly
Potentilla fruticosa 'Goldfinger'	Goldfinger Shrubby Cinquefoil
Physocarpus monogynus	Mountain Ninebark
Rhododendron 'Purple Gem'	Purple Gem Rhododendron
Ribes alpinum	Alpine Currant
Rosa woodsi var. ultramontana	Woods Rose
Sambucus racemosa	Elderberry
Sorbus californica	Mountain Ash, California
Spirea japonica 'Bumalda'	Bumalda Spirea
Spirea prunifolia	Bridalwreath Spirea
Viburnum opulus 'Compactum'	Compact European Cranberry Bush

GROUNDCOVERS/ PERENNIALS

Astilbe x arendsii 'Peach Blossom'	Peach Blossom Astilbe
Aquilegia spp.	Columbine
Arctostaphylos uva-ursi	Bearberry
Ceanothus prostratus	Squaw Carpet
Fragaria virginiana	Mountain Strawberry
Galium odorata	Sweet Woodruff
Hemerocallis hybrid 'Stella de Oro'	Stella de Oro Daylili
Iris siberica	Siberian Iris
Lupine spp.	Lupine
Pachysandra terminalis	Japanese Spurge
Parthenosis quinquefolia	Virginia Creeper
Penstemon newberryi	Newberry Penstemon
Rudbeckia hirta	Black-eyed Susan
Rudbeckia parvifolia	Thimbleberry
Sedum spp.	Stonecrop
Symphoricarpus x chenaulti 'Hancock'	Hancock Creeping Snowberry

PERENNIAL MIXES

Perennial/Bulb Mix	
1. Eschscholzia california	California Poppy
2. Penstemon strictus	Rocky Mountain Penstemon
3. Sedum 'Autumn Joy'	Autumn Joy Stonecrop Sedum
4. Aster x frikarii 'Monch'	Monch Aster
5. Rudbeckia hirta	Black-eyed Susan
6. Coreopsis lanceolata	Coreopsis
7. Phlox subulata	Creeping Phlox
8. Nepeta x faassenii	Catmint
9. Tupipa spp.	Tulip

GRASSES/ TURF

Turf	
1. Poa pratensis/Lolium perenne	Kentucky Bluegrass/Perennial Rye mix
Native Grass/Perennial Mix 1	
1. Elymus elymoides ssp. californicus	Squirreltail
2. Festuca glauca	Blue Fescue
3. Penstemon strictus	Rocky Mountain Penstemon
4. Gaillardia aristata	Blanket Flower
5. Linum lewisii	Blue Flax
6. Achillea millefolium	Yarrow
Native Grass/Perennial Mix 2	
1. Elymus elymoides ssp. californicus	Squirreltail
2. Festuca glauca	Blue Fescue
3. Aquilegia Spp.	Columbine
4. Arnica chamissonis ssp. foliosa	Arnica
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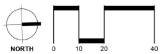

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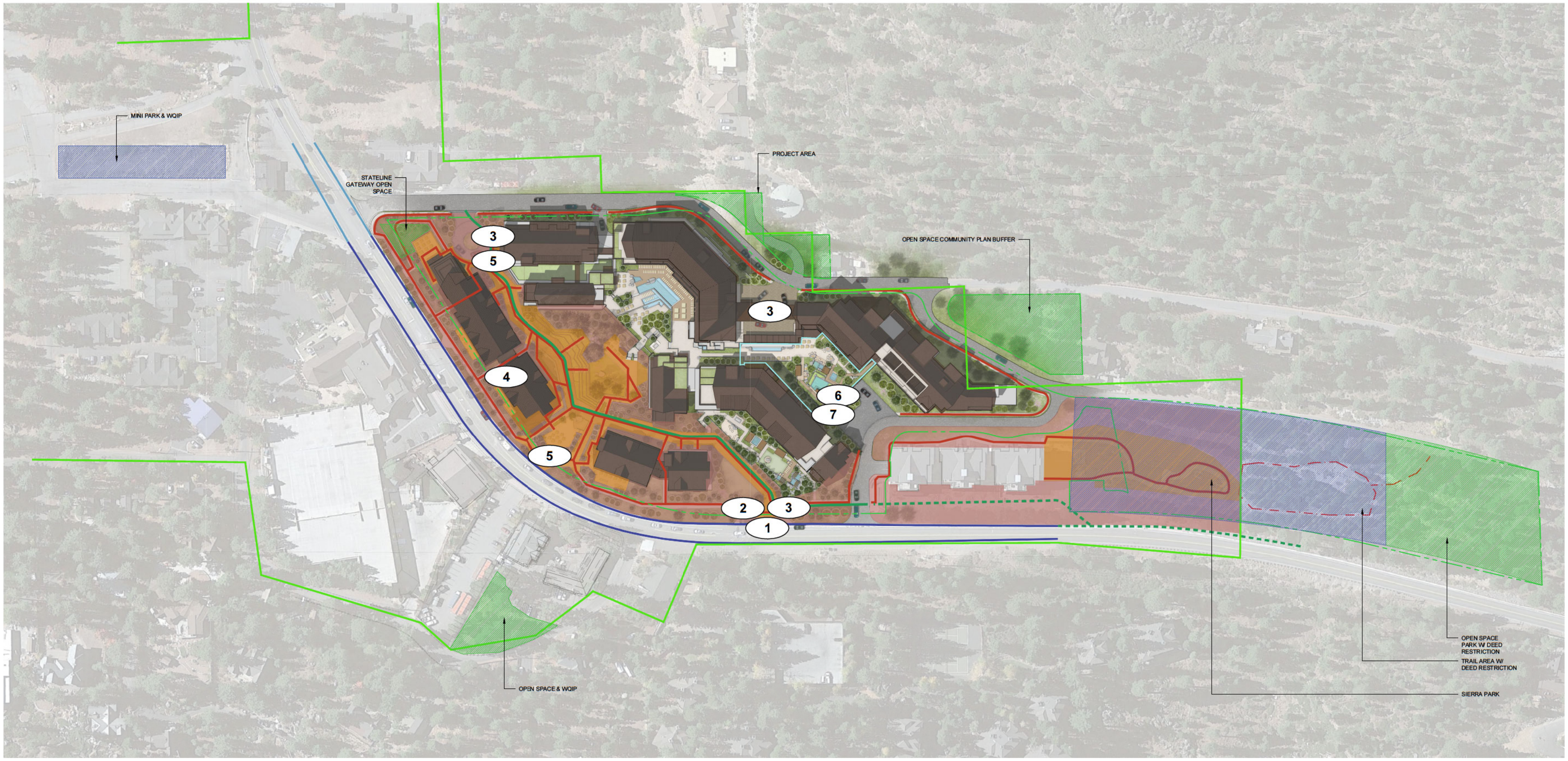
Sheet Title
Project No. **22139**

LANDSCAPE PLAN

Sheet No.
L1-02



OPEN SPACE AND TRAILS CONFORMANCE WITH EIS

LEGEND

━	PROPOSED PEDESTRIAN PATH (6,335 LF)
╌	PROPOSED HIKING PATH (902 LF)
━	BOULDER BAY AASHTO BIKE LANE (2,905 LF)
━	EXISTING PLACER COUNTY AASHTO BIKE LANE
━	FUTURE NEVADA STATELINE TO STATELINE BIKEWAY ACCESS EASEMENT
╌	FUTURE AASHTO MULTI-USE PATH - NEVADA STATELINE TO STATELINE TRAIL EASEMENT
🟧	GATHERING SPACE
━	COMMUNITY PLAN BOUNDARY
🟥	OUTDOOR PUBLIC SPACE - DOES NOT INCLUDE INDOOR PUBLIC SPACE
▨	OPEN SPACE
▨	PARK SPACE
━	COMMON OPEN SPACE FOR RESIDENTIAL UNITS

PUBLIC / ALTERNATIVE TRANSPORTATION

1.TART BUS BAY x2

2. TRANSIT CENTER
   - INFO KIOSK
   - WAITING AREA

3. SHUTTLE STOPS /SKI / NLTE
   - INFO KIOSK
   - WAITING AREA

4. CYCLIST SHOP
   - COMPRESSOR
   - BASIC TOOLS
   - HYDRATION

5. BICYCLE STORAGE

6. ALTERNATE FUEL CAR SHARE CENTER

7. ELECTRIC BICYCLE RENTAL CENTER

OPEN SPACE DATA

AT LEAST TWO HUNDRED (200) SQUARE FEET OF COMMON OPEN SPACE SHALL BE REQUIRED PER DWELLING UNIT FOR DEVELOPMENT OF TWELVE (12) OR MORE UNITS

COMMON OPEN SPACE MAY BE COMPRISED OF ONE (1) OR MORE OF THE FOLLOWING:
1. COURTYARD
2. LARGE LAWN AREA
3. PLAYGROUND
4. TENNIS COURT
5. BASKETBALL COURT
6. SWIMMING POOL; AND
7. SIMILAR OUTDOOR RECREATION FACILITIES AS APPROVED BY THE DIRECTOR OF COMMUNITY DEVELOPMENT

TOTAL UNITS PROVIDED = 39
TOTAL COMMON OPEN SPACE REQUIRED (39 X 200) = 7,800 SF MIN.
TOTAL COMMON OPEN SPACE PROVIDED = 15,884 SF

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Sheet Title Project No. 22139

OPEN SPACE
AND TRAILS

Sheet No.
L1-03

APPENDIX N
Traffic Impact Study

Waldorf Astoria Lake Tahoe

Transportation Impact Study

Prepared for

EKN Tahoe, LLC

Prepared by LSC Transportation Consultants

Waldorf Astoria Lake Tahoe Transportation Impact Study

Prepared for

EKN Tahoe, LLC
220 Newport Center Drive, Suite 11-262
Newport Beach, CA 92660

Prepared by

LSC Transportation Consultants, Inc.
2690 Lake Forest Road, Ste. C
Tahoe City, CA 96145
530-583-4053

April 12, 2023

LSC Job #T217540

TRANSPORTATION
CONSULTANTS, INC.

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EXECUTIVE SUMMARY

PURPOSE

This report presents the traffic impacts associated with the proposed redevelopment of the Tahoe Biltmore Lodge and Casino area located in Crystal Bay, Nevada, within current conditions. This project (Waldorf Astoria Lake Tahoe, or "WALT") would construct a resort with 191 lodging and residential units, a 10,000 square-foot casino, restaurants, retail uses, and associated amenities. Analysis is conducted for both existing, opening year, and future horizon year conditions. WALT is a Plan Revision of the actively permitted TRPA project called Boulder Bay (TRPA permit #CEPP2008-0123). The plan revision is a modification of the currently approved project that reduces the number of units by 183 (or 51%), enhances the guest arrival experience and creates a community gathering area known as The Grove. The Plan Revision does not make any changes to the state and county roadways associated with the approved project. In this report, the WALT project is compared to existing conditions assuming the Biltmore is in full operation today (the Baseline Biltmore). Comparing the WALT project to the approved Boulder Bay project is excluded from this report.

CONCLUSIONS

The conclusions of the traffic analysis are as follows:

1. At the site access points, the WALT project would result in a net reduction of 537 daily one-way vehicle-trips (or a 13-percent reduction) over the Baseline Biltmore use. (The "Baseline Biltmore" use reflects peak-season Year 2006 operations at the previous Tahoe Biltmore, consistent with the baseline assumptions at the time of the original project approval.) During the key PM peak hour, the project would reduce vehicle-trips at the driveways by 74 (or 22 percent), compared to the Baseline Biltmore use.

2. The proposed project would result in a net reduction in vehicle trips on regional roadways (such as SR 28) away from the site access points (Stateline Road and Big Water Road) of 26 percent over the course of a day, and 35 percent over the key PM peak hour, compared to the Baseline Biltmore use. On average, the proposed project would reduce peak-hour traffic volumes on a busy summer day on SR 28 by about 3.5 percent in the eastbound/northbound direction and 1 percent in the westbound/southbound direction.

3. The SR 28/Lakeshore Boulevard intersection located at the west end of Incline Village, Nevada exceeds LOS standards under all study scenarios, with or without the proposed WALT project. The proposed project would reduce the traffic volumes through this intersection, thereby reducing driver delays. This is considered to be a beneficial impact.

4. The project-generated traffic volume impact on the adjacent local streets to the north of the site is expected to be minimal. The WALT site plan provides all access to the parking areas at locations close to SR 28, which tends to encourage use of the state highway rather than local roads. While there is an additional access point defined as the "Guest Arrival" area that is further from SR 28, use of this will be limited to the initial lodging guest arrival trip as opposed to the subsequent trips made by guests. The site plan also increases the travel distance (and thus travel time) on the local roads to circulate behind the site. In addition, the proposed project would slightly reduce the potential for

diversion of traffic to avoid queues generated by the pedestrian signal. A total of 33 daily inbound trips are expected to take Big Water Road to the Guest Arrival located on upper Stateline Road over the course of the day, with 13 of the trips occurring in the PM Peak Hour.

5. "Cut-through" traffic through the site is expected to be minimal. Previously, traffic wanting to cut through the site (to avoid the stretch of highway through Crystal Bay) would travel west on Reservoir Road to Wassou Road and then south on Stateline Road for a total travel distance of 1,090 feet. With the project, the cut-through route will be from Big Water Road, south on Wassou Road, and then south on Stateline Road for a total travel distance of 1,880 feet. With the increase of travel distance, cut-through traffic is expected to be reduced.

6. The eastbound traffic queues forming along SR 28 at the pedestrian crossing signal extend into and beyond the Stateline Road intersection during peak periods, with or without the project. However, given the presence of the central Two-Way Left-Turn Lane (TWLTL) on SR 28 to the east of Stateline Road, this queue does not hinder the ability for turns to be made from Stateline Road. Implementation of the proposed project is not expected to materially affect the traffic queue lengths at the pedestrian signal under any study scenario.

   In addition, in Incline Village, the northbound traffic queues on the Lakeshore Boulevard approach to SR 28 interfere with left turns to/from some of the driveways along the lake-side of Lakeshore Boulevard, with or without the proposed project. However, as the proposed WALT would reduce this queue length, it would have a beneficial impact.

7. The analysis of the need for new turn lanes along SR 28 indicates the following:

   - *SR 28/Stateline Road* - The peak-hour traffic volumes with the Baseline Biltmore use meet the warrant criteria for a new eastbound left-turn lane on SR 28. With implementation of the proposed WALT project, not only would this warrant be met, but a westbound right-turn lane would also be warranted. Widening SR 28 to provide a left-turn lane immediately west of Stateline Road would alleviate the eastbound traffic queues caused by vehicles waiting to turn left into Stateline Road, under both Baseline Biltmore conditions and proposed WALT conditions. Note that this new turn lane would be located in California, on a Caltrans-maintained roadway segment. However, as the LOS for the eastbound approach is forecast to remain at LOS A in the AM Peak Hour and remain at LOS B in the PM Peak Hour and as TRPA staff indicates roadway widening is not consistent with other regional goals, the eastbound left-turn lane is not necessary.

     Considering the relatively slow speeds of southbound traffic at this location (25 miles per hour speed limit), the potential for rear-end crashes is relatively low. There are no LOS deficiencies. A westbound right-turn lane is therefore not necessary.

   - *SR 28/Big Water Road* -

     - The peak-hour traffic volumes with the proposed WALT meet the warrant criteria for a new northbound left-turn lane on SR 28, although the left turns (up to 8 left turns per hour) only make up 1 percent of the directional volume. This improvement is not necessary, considering the low turning volume and the relatively slow speeds of northbound traffic at this location.

    - The peak-hour volumes with the proposed WALT on SR 28 meet the warrant criteria for a new southbound right-turn lane (for turns into Big Water Road). However, considering the relatively low right-turn volume, the relatively slow speeds of southbound traffic, and that the LOS for the southbound approach is forecast to remain at LOS A, a southbound right-turn lane is not necessary.

- *SR 28/Lakeshore Boulevard -*

    - The peak-hour traffic volumes with the existing Baseline Biltmore use meet the warrant criteria for a new westbound left-turn lane on SR 28, although the left turns represent less than 2 percent of the directional volume.

    - A new eastbound left-turn lane (for left turns onto Pinion Drive) is marginally warranted with the existing Baseline Biltmore use. The left turns represent less than 1 percent of the directional volume.

    - A new eastbound right-turn lane (for right turns onto Lakeshore Boulevard) is warranted with the existing Baseline Biltmore.

  Though the new turn lanes above would be warranted under conditions with the proposed WALT project, the proposed project would reduce the traffic volumes through this intersection, which is a beneficial impact compared to Baseline Biltmore conditions.

8. The existing Biltmore driveway spacing along SR 28 does not meet NDOT's minimum spacing requirement for access points along a Minor Arterial roadway. As the proposed project would eliminate two existing access points along SR 28, this would improve the driveway spacing conditions. The existing driveways also do not meet the minimum spacing requirement set forth in the Washoe County Development Code for Commercial Driveways on minor arterials. With implementation of the proposed project, the two driveways that do not meet the County's spacing requirement would be eliminated, thereby improving transportation conditions along SR 28.

9. Adequate driver sight distance is expected to be provided at the proposed site access locations, so long as the final landscaping plans do not hinder the intersection sight distance. It must be ensured that the final landscaping plans provide adequate driver sight distance. Given this, and considering that the project would reduce the number of (closely-spaced) driveways along SR 28, this is considered a beneficial impact on transportation safety conditions.

   The project would have a beneficial impact on bicyclist conditions, considering that it would construct a Class 1 bicycle lane within the public right of way and/or a dedicated easement adjacent to SR 28 along the project frontage, and that the project would reduce the number of driveways along the corridor (thereby improving bicyclist safety conditions).

   The proposed project is estimated to <u>reduce</u> pedestrian crossing activity along SR 28 by roughly 30 percent from previous (Baseline Biltmore) levels, primarily due to the significant reduction in gaming floor area. The existing crosswalk location best serves overall pedestrian demand patterns, though minor reconfiguration may be appropriate once final plans for the north side of the highway are determined. Straightening the crosswalk would provide for a shorter, more logical, and therefore safer crossing for pedestrians. It is recommended that the final project plans consider a site plan that straightens out the existing crosswalk on SR 28, allowing a direct perpendicular pedestrian crossing. The location of bus stops should be coordinated with the transit agencies.

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CHAPTER 1
Introduction

The Waldorf Astoria Lake Tahoe (WALT) development project proposes to redevelop the existing site of the Tahoe Biltmore Lodge and Casino area located along the north/west side of State Route 28 (SR 28) in Crystal Bay, Nevada. In addition, this proposal would result in the removal of the existing uses on the Crystal Bay Motel site. While the project applicant also owns the SR 28 Commercial Center next to The Nugget on the south side of SR 28, no changes are planned to this facility as part of the current proposal. Note that the proposed WALT project is different than the approved "Boulder Bay Community Enhancement Program Project" (Boulder Bay) for which an EIS was prepared in 2009. The Boulder Bay development project is not addressed in this transportation impact study.

This document presents a focused analysis of transportation issues associated with the proposed project, including the following:

- Project impacts on site access intersections, and associated need for intersection or roadway modifications
- Impacts of the proposed project on public safety regarding access
- Impact on bicyclist conditions
- Impact on adjacent local streets
- Pedestrian crossing of SR 28

The following scenarios are included in this study:

1. Existing Year (2022) Conditions With Baseline Biltmore Uses
2. Opening Year (2028) With Baseline Biltmore
3. Opening Year (2028) With Proposed WALT
4. Future Horizon Year With Baseline Biltmore
5. Future Horizon Year With Proposed WALT

Initially, existing and future background conditions are discussed. The proposed development is then assessed to determine the number of vehicle-trips that will be generated. These vehicle-trips are then assigned to the nearby roadway system to identify the impact on traffic operations under opening year and future horizon year conditions. Finally, a site access evaluation, transportation safety-related analysis, impacts on bicyclist conditions, and a pedestrian crossing analysis are presented.

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CHAPTER 2
Existing and Future Background Conditions

The following discussion presents information regarding the transportation characteristics of the project site and existing and future background traffic conditions in the study area.

EXISTING ROADWAY CHARACTERISTICS

The private automobile is the primary mode of transportation in the Lake Tahoe Basin. In Crystal Bay, the major internal road system near the project site includes the following:

- *SR 28 (Tahoe Boulevard)* through Crystal Bay is a two-lane facility along the north shore of Lake Tahoe from Tahoe City to the west to US 50/Spooner Summit to the east. Near the project site, SR 28 has a posted speed limit of 25 miles per hour. The speed limit increases to 35 miles per hour at the California-Nevada state line to the west and 0.1 miles to the east (north) of the SR 28/Reservoir Road intersection. There is an existing radar speed-feedback sign on eastbound SR 28 immediately south of the recreational park driveway. The roadway segment between Stateline Road and The Nugget Casino contains a central Two-Way Left-Turn Lane (TWLTL). SR 28 in Crystal Bay is an NDOT-owned road that is functionally classified as an urban minor arterial.
- *Stateline Road* is a short two-lane road running north/south through Crystal Bay. It services mainly residential areas along with some commercial areas, stretching from the Crystal Bay Club on the south to Lake Vista Drive on the north.
- *Reservoir Road* is a small two-lane road connecting SR 28 to Wassou Road, providing an access to the residential areas to the north.
- *Lakeview Avenue and Wassou Road* are residential streets north of the project site. Access to these streets from SR 28 is provided by Reservoir Road and Stateline Road on the south, and Beowawie and Amagosa Roads to the north.
- *Calaneva Drive* is a local roadway looping around the south side of the Crystal Bay Club, Nugget Casino and other properties on the south side of SR 28.

All traffic control in the site vicinity is provided by Stop signs on the side street approaches to SR 28. In addition, there is a pedestrian activated traffic signal on SR 28 approximately 300 feet east of Stateline Road (between the Crystal Bay Club and Tahoe Biltmore gaming areas).

The following existing intersections are analyzed in this study:

- SR 28 (Tahoe Boulevard)/Stateline Road
- SR 28 (Tahoe Boulevard)/Pedestrian Crossing (signalized)
- SR 28 (Tahoe Boulevard)/Calaneva Drive
- SR 28 (Tahoe Boulevard)/Recreational Park Access
- SR 28 (Tahoe Boulevard)/Lakeshore Road
- Stateline Road/Cove Street

The existing intersection lane configurations and control are shown in Figure 1.

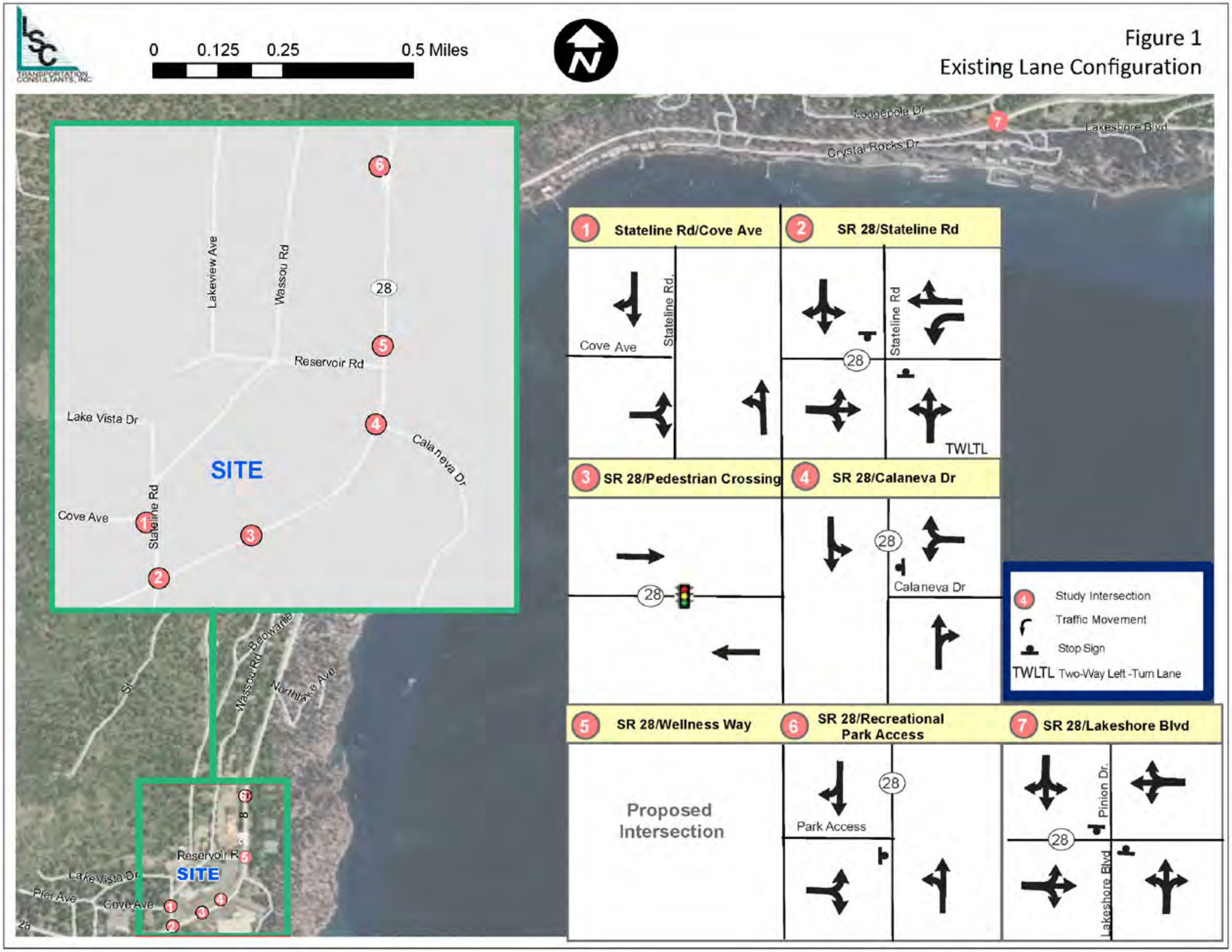


Figure 1
Existing Lane Configuration

EXISTING TRAFFIC VOLUMES

AM and PM peak-hour intersection turning-movement counts (vehicles, bicyclists and pedestrians) were conducted by LSC at the study intersections along SR 28 in Crystal Bay on Friday and Saturday, July 8-9, 2022. PM counts were also conducted at the SR 28/Lakeshore Boulevard and Stateline Road/Cove Avenue intersections. The counts were conducted on Friday from 8-10 AM and from 2:30 to 5:30 PM, and on Saturday from 1:30 to 4:30 PM. The AM peak hour occurred from 9:00 AM to 10:00 AM, and the PM peak hour varied and occurred between 3:15 PM and 5:30 PM. As illustrated in Figure 2, a comparison of the Friday and Saturday PM counts indicates Friday has the highest PM traffic volumes in Crystal Bay, while Saturday has the highest PM traffic at the SR 28/Lakeshore Boulevard intersection in Incline Village. The highest PM volumes at each intersection location are used, for purposes of this study. The figure also shows that PM peak hour volumes are substantially higher than AM peak hour volumes. The raw count data is provided in Appendix A.

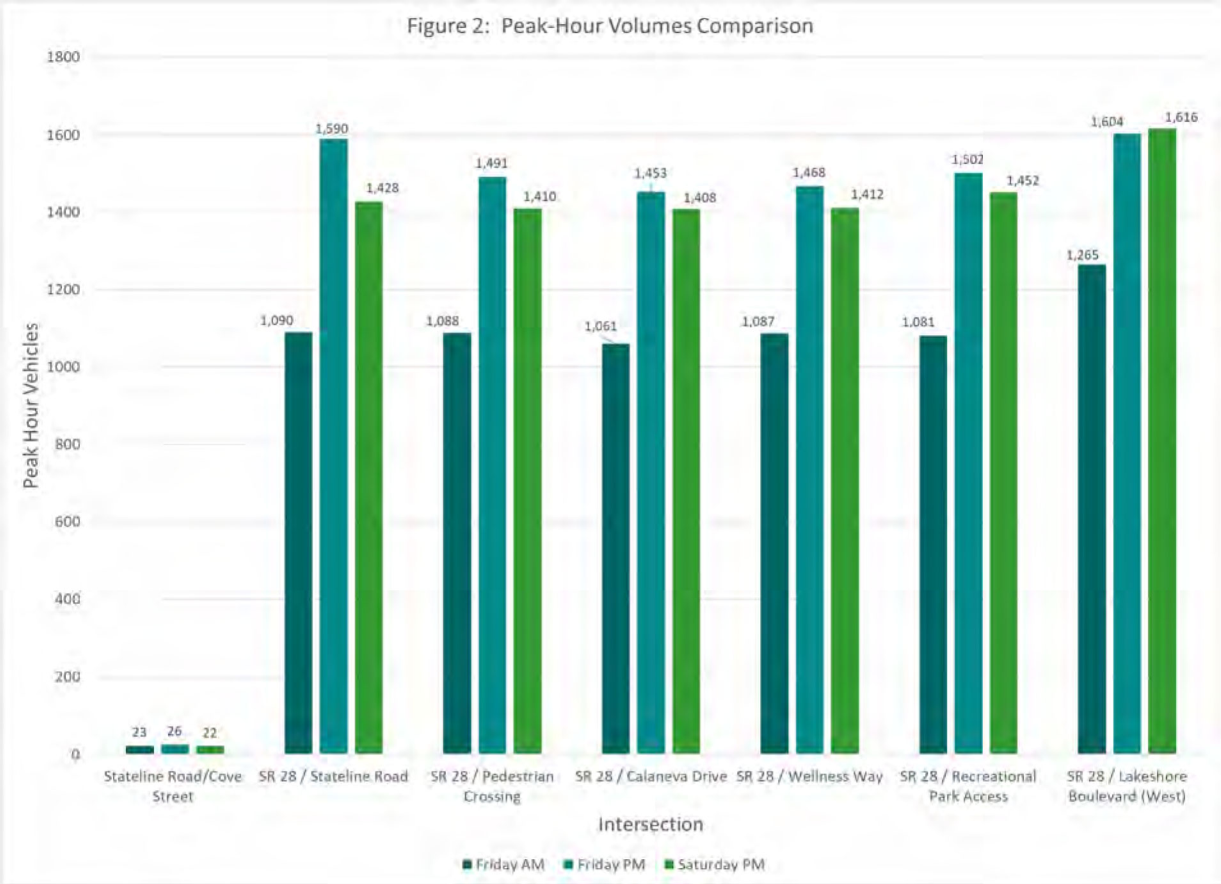


Figure 2: Peak-Hour Volumes Comparison

The Nevada Department of Transportation (NDOT) has a permanent count station on SR 28 at a point west of the western end of Lakeshore Boulevard (the closest available location). As shown in Table 1, annual average daily traffic volumes (AADT) generally increased from 2011 to 2018, and then dropped from 2018 to 2020 (the low point in 2020 coincides with the COVID-19 pandemic). The 2021 AADT at this location is 12,700, which is lower than the volume reported in 2018.

Table 1 – NDOT Annual Average Daily Traffic Volumes on SR 28

Station 312240: 915ft N of Lakeshore Dr/Pinion Dr from Lakeshore Blvd to CA/NV Line

Year	Average Annual Daily Traffic
2021	12,700
2020	12,100
2019	12,900
2018	13,400
2017	12,900
2016	12,700
2015	12,400
2014	12,000
2013	12,000
2012	11,300
2011	12,000

Source: NDOT Traffic Information Systems

NDOT also provides monthly average daily traffic data on SR 28 at this location. A review of this data indicates that the highest traffic volumes occur in the month of July. Thus, the traffic volumes used for this study (based on July counts) represent conditions during the busiest month. Furthermore, NDOT weekly traffic data indicates the highest daily volumes typically occur on Fridays in summer.

Finally, a review of Caltrans traffic volumes indicates that the peak-hour total two-way volume on SR 28 immediately west of the California-Nevada State Line was 1,600 in 2018 and in 2019. (This volume dropped to 1,500 in 2020). The Year 2022 traffic counts conducted by LSC at the SR 28/Stateline Road intersection as a part of this study indicate a peak-hour total two-way volume on SR 28 immediately west of Stateline Road of 1,563 vehicles. As this figure is within 3 percent of the 2018 and 2019 volume, the volumes used in this study are considered to represent busy year conditions.

Traffic Volumes of Baseline Biltmore Use

The Tahoe Biltmore operations were closed at the time the new (2022) traffic counts were conducted. However, for purposes of this study, the baseline scenario assumes full operation of the Baseline Biltmore uses. These land uses are described in Chapter 3, along with a trip generation analysis. Adding the Baseline Biltmore site-generated traffic to the Year 2022 traffic counts results in the 'Existing With Baseline Biltmore' peak-hour traffic volumes shown in Figure 3.

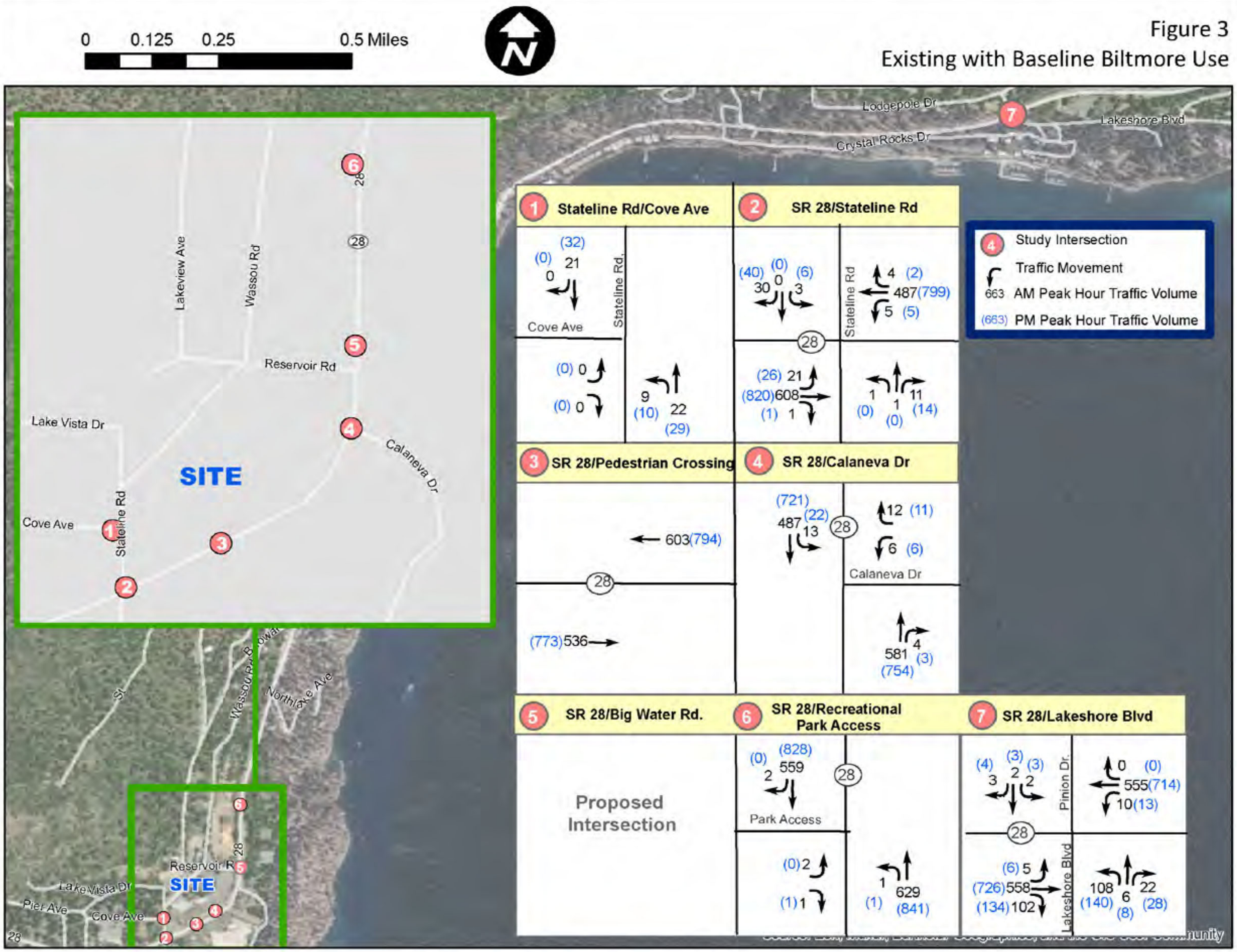


Figure 3
Existing with Baseline Biltmore Use

FUTURE BACKGROUND TRAFFIC VOLUMES

Opening Year (2028) and future horizon year traffic volumes are developed based upon growth forecasts from the TRPA's TransCAD Travel Demand Model. Roadway segment volumes from the base year (2018) land use model are subtracted from those of the future (2045) land use model to estimate the growth in traffic between the base and future model years. Next, the traffic generated from the modeled land uses assumed for the Biltmore site are subtracted from the model growth. An average annual growth rate is estimated for each roadway segment. The resulting average annual growth rates are relatively small, with 0.004 percent growth per year along SR 28 west of Stateline Road, 0.1 percent growth on SR 28 south of Calaneva Drive, 0.1 percent at the SR 28/Lakeshore Boulevard intersection, 0.2 percent on Calaneva Drive, and 0.9 percent on Stateline Road. The respective average annual growth rates are applied to the existing year traffic volumes to estimate opening year (2028) and future horizon year background traffic volumes (with the Baseline Biltmore use). The resulting volumes are shown in Figures 4 and 5.

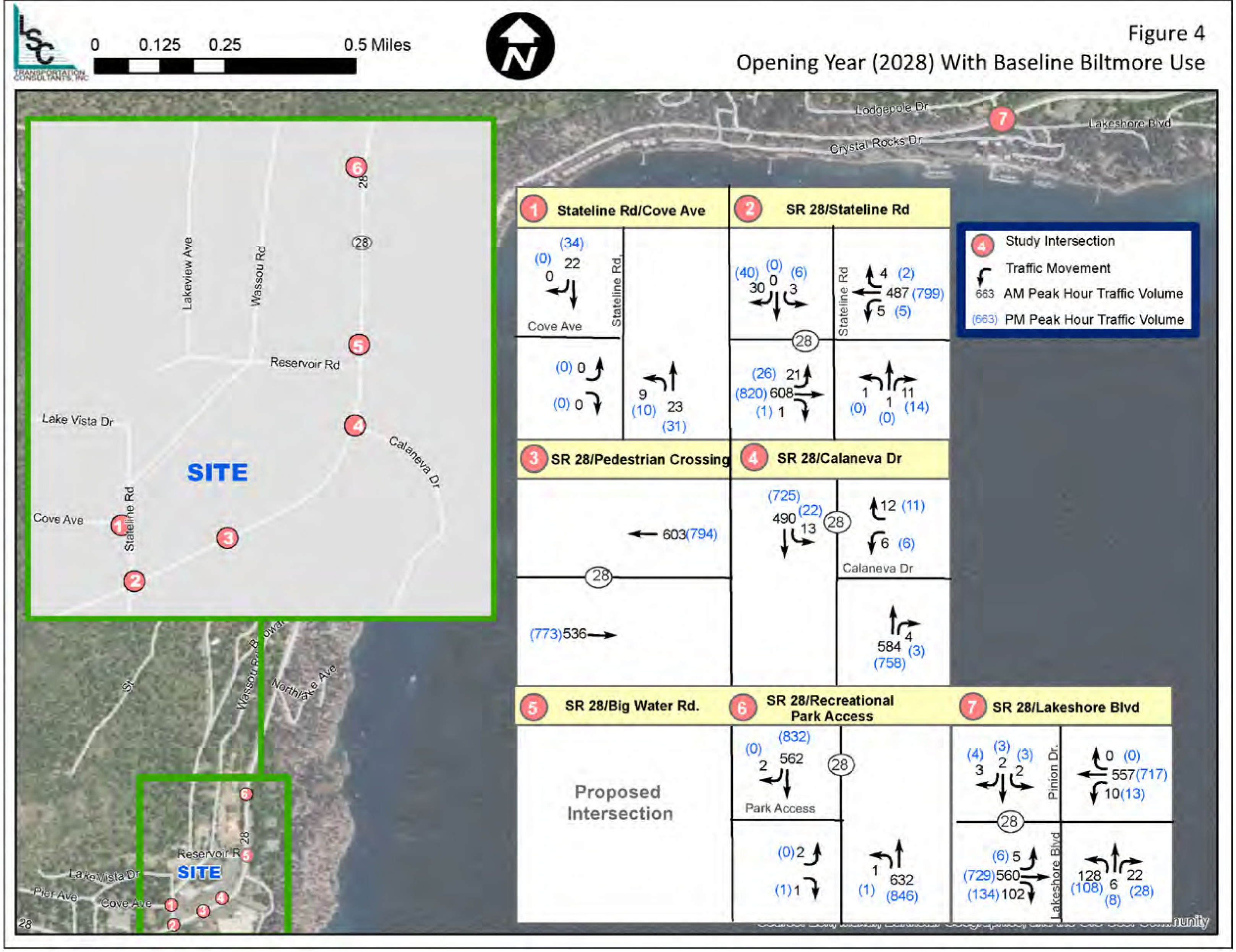
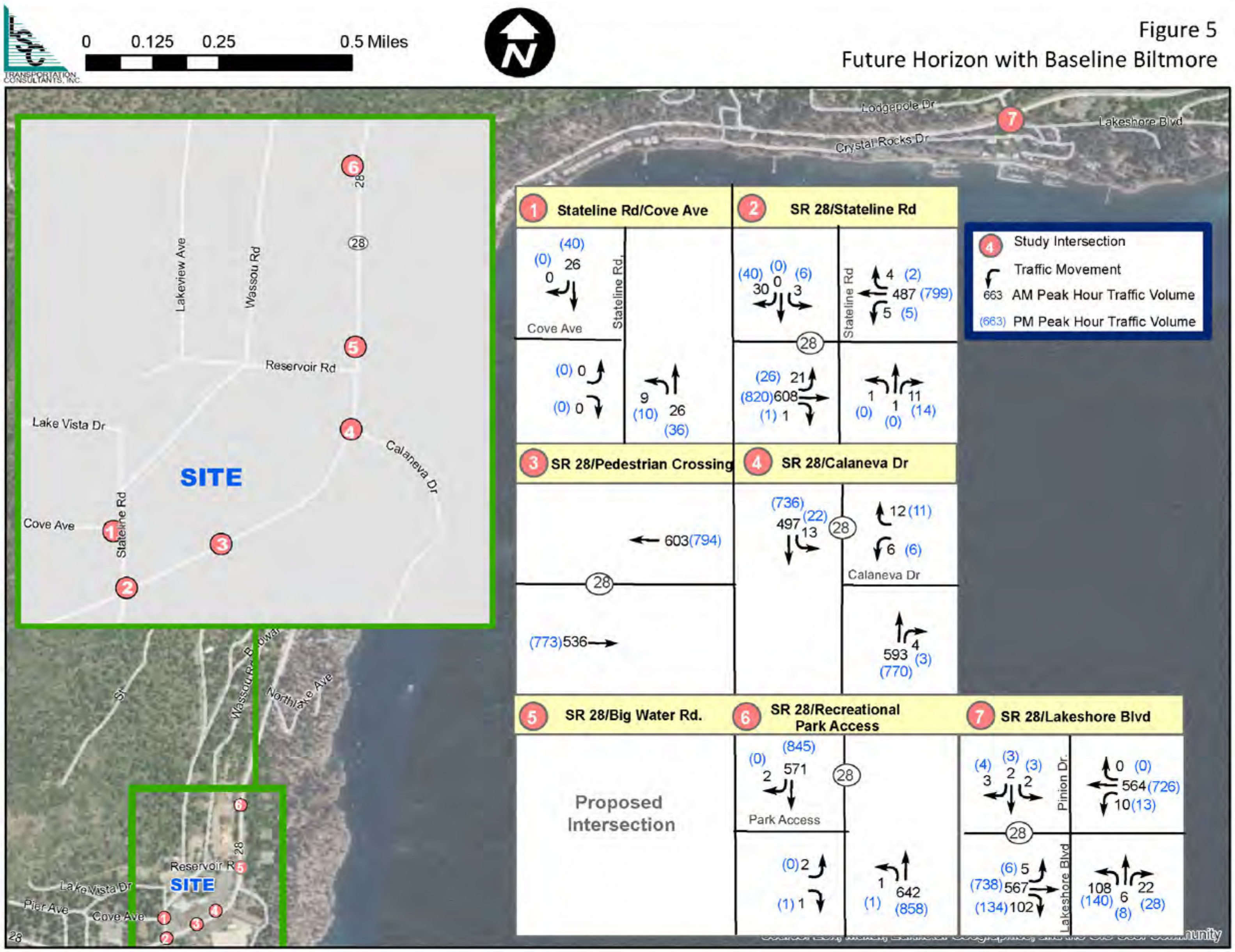


Figure 4
Opening Year (2028) With Baseline Biltmore Use

Figure 5
Future Horizon with Baseline Biltmore



CHAPTER 3

Traffic Generation, Distribution, and Assignment

The assessment of transportation-related impacts begins with the development of trip generation estimates for the project. The trip generation of the proposed WALT use is compared to that of the Baseline Biltmore use, in order to determine the project's net impact on trip generation. Once trip data are available, then impacts to levels of service can be assessed.

LAND USE COMPARISON

The land use quantities for the Baseline Biltmore scenario and the proposed WALT scenario are summarized in Table 2. As shown, the total number of lodging/residential units under each scenario is as follows:

- 111 units for the Baseline Biltmore use
- 191 units for WALT

Also worth noting is that the Baseline Biltmore casino was 22,400 square feet, while the WALT casino floor area is reduced to 10,000 square feet. The proposed WALT has about twice as much restaurant area. Additionally, the WALT project proponent will provide a shuttle service as an amenity available to the site's residents and guests upon request, with service to/from public beaches (excluding Speedboat Beach) in summer and to/from Northstar California Resort in winter. Some level of shuttle service will be provided year-round, with adjustments made for summer and winter peak seasons.

TRIP GENERATION

Trip generation is the process by which engineers estimate the amount of traffic that would be associated with a development proposal. This trip generation analysis is conducted for summer daily, AM and PM peak-hour conditions.

Trip Generation of Baseline Biltmore

At the time of this study, the Biltmore operations are completely closed. For purposes of this analysis, the daily trip generation of the Baseline Biltmore use is assumed to be 3,895 daily one-way external trips on the surrounding roadway network. This figure represents actual vehicle trips counted on the Biltmore site driveways in the Year 2008, adjusted to reflect Year 2006 (busier) conditions. The estimated daily trip generation of 3,895 was provided by Fehr & Peers as the lead traffic consultant for the Boulder Bay EIS (reference "Project Alternatives Trip Generation Summary", Fehr & Peers, March 11, 2011, attached herein as Appendix B, and referenced in the TRPA staff summary for the Governing Board hearing for Boulder Bay). Of the 3,895 daily external trips, 320 occur during the PM peak hour.

TABLE 2: Waldorf Astoria at Lake Tahoe (WALT) - Land Use Comparison

	Baseline Biltmore		WALT	
LODGING/RESIDENTIAL				
Hotel Units	92	Units	76	Units
Motel Units	19	Units	-	-
Hotel Residential [1]	-	-	58	Keys
Granite Place (≤3 floors)	-	-	18	DU
Whole Ownership (>3 floors)	-	-	25	DU
Employee Housing	-	-	14	DU
Shuttle Vehicle	-	-	1	vehicle
Meeting Space	Accessory Use		Accessory Use	
Convenience Dining	Accessory Use		Accessory Use	
Bar/Lounge	Accessory Use		Accessory Use	
Service Retail	Accessory Use		Accessory Use	
Daycare Center	Accessory Use		Accessory Use	
Spa	Accessory Use		Accessory Use	
Fitness Center	Accessory Use		Accessory Use	
Subtotal Lodging/Residential	*111*	*DU*	*191*	*Units*
CASINO	*22.383*	*KSF*	*10.000*	*KSF*
RESTAURANT				
Café/Fast Food	-	-	2.235	KSF
Casual Dining	4.5	KSF	12.280	KSF
Fine Dining	3.3	KSF	-	-
Subtotal Restaurant	*7.8*	*KSF*	*14.515*	*KSF*
RETAIL/COMMERCIAL				
Retail	-	-	*4.2*	*KSF*
RECREATION				
County Park	-	-	*3.07*	*acres*

DU = Dwelling Units; KSF = 1,000 Square Feet

Note 1: WALT Hotel residential units include 36 main units and 22 lock-offs for a total of 58 keys.

Source: LSC Transportation Consultants, Inc.

The 3,895 daily trips do not include "pass-by" trips, which are trips generated on the site driveways by vehicles already present on SR 28 "passing-by" the Biltmore site as part of a longer trip. For example, a driver traveling around Lake Tahoe who stops by a restaurant at the Biltmore site would be making a pass-by trip. In this case, the restaurant land use would have generated one inbound plus one outbound trip on the site driveway but would not have generated new traffic on SR 28. Based on the analysis for the approved Baseline Biltmore use, the number of pass-by trips generated by the previous use is 184 daily pass-by trips, with 15 occurring during the PM peak hour. To estimate the total trips crossing the site driveways, the pass-by trips are added to the external trips. This results in a total of 4,079 daily trips and 335 PM peak-hour trips crossing the site driveways. Detailed calculations are provided in Appendix B.

Trip Generation of Proposed Use (WALT)

The site plan is contained in Appendix C, and the proposed land uses and land use quantities are shown in the left-hand columns of Table 3. Standard daily and peak-hour trip generation rates are drawn from the Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition* manual (ITE, 2021). These standard rates are shown in Table 3. Note that at the time of this study, 18 residential units (Granite Place condominiums) were already constructed and occupied in the area known as "Building A" on the site plan. These units are accessed via existing Big Water Road. For purposes of this study, the 18 units are assumed to be part of the proposed project. With implementation of the project, Big Water Road would be extended to Wassou Road, providing a public roadway connection between SR 28 and the neighborhood above the site.

The proposed WALT land use types are based on the categories identified in the ITE Trip Generation manual. Standard daily and peak-hour trip generation rates are drawn from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition manual (ITE, 2021), with the exception of the casino, as discussed below. The trip generation rates are based on the following methodology and assumptions:

- **Lodging/Residential Trip Generation** – The number of available units is increased from 111 previously existing hotel/motel units to 191 proposed lodging and residential units, including 14 employee housing units.
- **Hotel Residential Units** – These units will be available for participation in a rental pool operated by the hotel, and they will be served by hotel employees. As such, these units are treated as commercial lodging units, rather than residential condos. In addition, 100 percent of lock-off units are assumed to be locked-off, to remain conservatively high in the analysis of trip generation impacts. For purposes of this analysis, 36 "base" units plus 22 lock-off units are assumed, for a total of 58 keys.
- **Trip Generation of WALT Shuttle Service** – The project proponent will provide a shuttle service as an amenity available to WALT residents and guests upon request, with service to/from public beaches (excluding Speedboat Beach) in summer and to/from Northstar California Resort in winter. Some level of shuttle service will be provided year-round, with adjustments made for summer and winter peak seasons. During busy summer days, one proposed shuttle vehicle is assumed to make round trips between the WALT and nearby beaches for 12 hours a day, departing the WALT Resort once an hour. The shuttle vehicle trips crossing the WALT site driveways are shown as a separate line item under the lodging/ residential category in Table 3.

- **Casino Trip Generation** – With implementation of the proposed project, casino floor area would be reduced by roughly half (from 22,400 to 10,000 square feet). As typical hotels do not contain a casino, the casino gaming area is analyzed individually. The trip generation of the casino is estimated based upon the TRPA-approved trip rates of 265.88 daily one-way trips per thousand square feet of gaming floor area and 16.67 PM peak-hour trips per thousand square feet.
- **Restaurant/Bar Trip Generation** – The proposed WALT provides about twice as much restaurant floor area as the Baseline Biltmore program. The trips generated by restaurant uses compared to that of other site uses indicate that a substantial proportion of trips must come from outside of the project. Convenience dining and bar/lounge uses within the hotel have been integrated into the "Hotel" rate, according to the Institute of Transportation Engineers (ITE) definition of a "Hotel" use. (The ITE definition for a hotel is as follows: "A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as a full-service restaurant, cocktail lounge, meeting rooms, banquet room, and convention facilities. A hotel typically provides a swimming pool or another recreational facility such as a fitness room.")
- **Retail Trip Generation** – Retail uses are proposed to increase to 4,200 square feet, excluding the accessory uses within the hotel. The service retail uses are included in the ITE "Hotel" rate, by definition of use.
- **Meeting Space Trip Generation** – The trip generation of the WALT meeting space is included in the ITE "Hotel" rate, by definition.

Reductions for Internal Trips

As is typical of a mixed-land use development, some persons generating a trip at the site would visit more than one of the land uses at the site during the same "trip." Common traffic engineering practice dictates that a reduction in total trip generation can be applied to the project, as some of the persons generating trips at one of the land uses can generate a trip at another of the included land uses without generating an additional vehicle trip at the common site access point(s). As an example, a portion of the trips generated by a property with both retail and restaurant uses would be internal to the property, as some restaurant customers also visit the retail shops, or retail employees frequent the restaurant. Some of the restaurant customers would also be patrons of the hotel or other on-site amenities. The portion of the persons generating a trip at a mixed-use development that would visit two or more uses within the development is based on the types of uses within the development, the size of the individual uses, and the distances between them.

The proportion of trips that remain internal to the site (such as lodging guests visiting the casino) are based upon surveys conducted of the previous Biltmore site lodging guests, casino guests, and employees in 2007, a review of the trip internalization assumptions in the approved Boulder Bay Community Enhancement Program EIS, and the guidance provided in the ITE *Trip Generation Handbook* regarding internal capture within a mixed-use development. As shown in the middle column of Table 3, about one-third of the trips generated by the lodging uses are expected to be made to/from another on-site use.

TABLE 3: Waldorf Astoria Lake Tahoe (WALT) - Trip Generation Analysis

					Trip Generation Rates[1]							Percent Reduction for Trips Internal to Project Site	Percent Reduction for External Non-Auto Trips	Site-Generated External One-Way Vehicle Trips Crossing Site Driveways							Percent Reduction for Pass-by Trips[2]	Site-Generated External Vehicle Trips on Roadway Network						
						AM Peak Hour			PM Peak Hour						AM Peak Hour			PM Peak Hour					AM Peak Hour			PM Peak Hour		
Description	Land Use	ITE Land Use Code	Quantity	Unit	Daily	In	Out	Total	In	Out	Total			Daily	In	Out	Total	In	Out	Total		Daily	In	Out	Total	In	Out	Total
PROPOSED WALT																												
LODGING/RESIDENTIAL																												
Hotel Units	Hotel	310	76	Units	8.07	0.26	0.20	0.46	0.30	0.29	0.59	34%	34%	267	9	6	15	10	10	20	0%	267	9	6	15	10	10	20
Hotel Residential[3]	Hotel	310	58	Keys	8.07	0.26	0.20	0.46	0.30	0.29	0.59	34%	34%	204	7	5	12	7	8	15	0%	204	7	5	12	7	8	15
Granite Place (≤3 floors) [4]	Multifamily Housing (Low-Rise)	220	18	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51	34%	34%	53	1	2	3	3	1	4	0%	53	1	2	3	3	1	4
Exclusive Residential (>3 floors)	Multifamily Housing (Mid-Rise)	221	25	DU	4.54	0.09	0.28	0.37	0.24	0.15	0.39	34%	34%	50	1	3	4	3	1	4	0%	50	1	3	4	3	1	4
Employee Housing	Multifamily Housing (Low-Rise)	220	14	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51	25%	30%	49	1	2	3	2	2	4	0%	49	1	2	3	2	2	4
Shuttle Vehicle	N/A (vehicle-trip analysis)	N/A	1	vehicle	24	1	1	2	1	1	2	0%	0%	24	1	1	2	1	1	2	0%	24	1	1	2	1	1	2
Subtotal Lodging/Residential			*191*	*Units*										*647*	*20*	*19*	*39*	*26*	*23*	*49*		*647*	*20*	*19*	*39*	*26*	*23*	*49*
CASINO	Gaming (Non-Restricted)	N/A	10	KSF	265.88	8.39	6.59	14.97	11.82	4.85	16.67	45%	12%	1,287	41	32	73	57	24	81	0%	1,287	41	32	73	57	24	81
MEETINGS/EVENTS																												
RESTAURANT																												
Café/Fast Food	Fast Food, No Drive Through	933	2.235	KSF	450.49	25.04	18.14	43.18	16.61	16.61	33.21	26%	12%	656	36	27	63	24	24	48	43%	374	21	15	36	14	13	27
Casual Dining	High Turnover - Sit Down Restaurant	932	12.280	KSF	107.2	5.26	4.31	9.57	5.52	3.53	9.05	26%	12%	857	42	35	77	44	28	72	43%	488	24	20	44	25	16	41
Subtotal Restaurant			*14.52*	*KSF*										*1,513*	*78*	*62*	*140*	*68*	*52*	*120*		*862*	*45*	*35*	*80*	*39*	*29*	*68*
RETAIL/COMMERCIAL																												
Retail	Strip Retail Plaza (<40k)	822	4.2	KSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59	55%	9%	94	2	2	4	6	5	11	5%	89	2	2	4	6	4	10
RECREATION																												
County Park[5]	Public Park	411	3.07	acres	0.78	0.01	0.01	0.02	0.06	0.05	0.11	20%	10%	1	0	0	0	0	0	0	0%	1	0	0	0	0	0	0
TOTAL PROPOSED USE												**36%**		**3,542**	**141**	**115**	**256**	**157**	**104**	**261**		**2,886**	**108**	**88**	**196**	**128**	**80**	**208**
Trip Generation of Baseline Biltmore														4,079	118	94	212	172	163	335		3,895	118	94	212	166	154	320
PROJECT NET IMPACT (WALT minus Baseline Biltmore)														***-537***	***23***	***21***	***44***	***-15***	***-59***	***-74***		***-1,009***	***-10***	***-6***	***-16***	***-38***	***-74***	***-112***
% Change Compared to Baseline Biltmore														***-13%***			***21%***			***-22%***		***-26%***			***-8%***			***-35%***

DU= Dwelling Unit. KSF = 1,000 Square Feet

Note 1: Standard trip rates are provided in the ITE Trip Generation, 11th Edition manual (2021), except casino trip rates are based on TRPA-approved rates.

Note 2: Passby percentages taken from the ITE Trip Generation Handbook 3rd Edition (2017)

Note 3: The 58 keys for "hotel residential" includes 36 "base" units plus 22 lock-off units. 100% of lock-offs are assumed to be locked-off.

Note 4: Although these 18 low-rise units were recently constructed (Granite Place condominiums), they are included in the WALT uses.

Note 5: Although this park was recently constructed, it is included in the WALT uses.

Source: LSC Transportation Consultants, Inc. and Institute of Transportation Engineers Trip Generation (11th Edition)

This assumption is reasonable, based on the standard daily trip generation rate of about 8 one-way trips per day, per hotel room, the expected portion of lodging trips that would be regional access trips, and the propensity for lodging guests to patron the on-site dining options. About 45 percent of trips made to/from the casino are estimated to be made internally to the site. Overall, 35 percent of WALT trips would be made internally.

Reductions for Non-Auto Modes

Nearly all data presented in the ITE *Trip Generation* manual volumes have been collected at low-density, single-use, homogeneous, general urban or suburban developments with little or no public transit service and little or no convenient pedestrian access (ITE *Trip Generation Handbook, 3rd Edition*, pg. 6, 2017). Additional reductions for non-auto modes are based on the characteristics of the community, and on the quality and quantity of bicycle, pedestrian, and transit facilities. The project site is currently served by Tahoe Truckee Area Regional Transportation (TART) transit service (including TART Connect microtransit), the North Lake Tahoe Express, and employee shuttles.

The proportion of external trips made via non-auto modes (walking, bicycling, transit) is based upon surveys conducted of the previous Biltmore site lodging guests, casino guests, and employees in 2007. In particular, guests walking between the site uses and other nearby properties (such as the Crystal Bay Club) results in a relatively high proportion of non-auto trips in the North Stateline area. Additionally, data from the TRPA 2018 Summer Travel Surveys conducted at recreational and commercial sites in Crystal Bay (before the TART Connect microtransit service was implemented) suggest that approximately 27 percent of trips made in the area are by non-auto modes.

The estimated portion of external trips made to/from the WALT lodging uses via non-auto modes including the TART Connect microtransit service is 28 percent. Based on the extent of service assumed for the WALT beach shuttle service, it is estimated to reduce vehicular trips to/from the WALT lodging and condominium uses by an additional 6 percent. (This equates to a reduction of 56 one-way vehicle trips made by lodging/residential groups over the course of the day. Considering the beach shuttle is assumed to make 24 one-way trips over the course of the day, it's assumed to carry approximately 2.3 groups per one-way trip, on average (56 divided by 24). The resulting total percent reduction for external trips made to/from the lodging and residential units via non-auto modes is 34 percent, as shown in the middle column of Table 3. Smaller reductions for non-auto travel (ranging from 9 percent to 12 percent) are applied to the remaining land use types. These reductions are well below the non-auto mode split indicated by the TRPA surveys, to remain conservative in this analysis.

Trip Generation at Site Driveways

Applying the trip generation rates to the WALT land use quantities and applying reductions for non-auto travel and internal trips yields a total vehicular trip generation crossing the site driveways of approximately 3,542 daily one-way vehicle-trips, of which 256 (141 entering and 115 exiting) trips occur during the AM peak hour and 261 (157 entering and 104 exiting) occur during the PM peak hour. The peak-hour trips are relatively low compared to total daily trips, as casino-related traffic typically peaks later in the day, after the peak hour of traffic along SR 28.

Comparing the daily trip generation of the WALT and that of the Baseline Biltmore indicates that the WALT would result in a net reduction of 537 daily vehicle-trips (or a 13-percent reduction) at the site access driveways over the course of a peak summer day. During the AM peak hour, the trips crossing the site driveways would increase by 44 (or a 21-percent increase), primarily due to the increased restaurant/dining attractions. A substantial portion of these trips are drawn from existing traffic already passing the site along SR 28. During the key PM peak hour, the WALT would reduce vehicle-trips at the driveways by 74 trips, or 22 percent.

Trip Generation on Roadway Network

Not all trips on the site driveways are new trips on area roadways. A reduction for pass-by activity is appropriate for some commercial land uses, but not for lodging or employment land uses that are the primary purpose of a trip. In addition, as a recreational destination, no pass-by reduction is assumed for the casino land use. The ITE *Trip Generation Handbook, 3rd Edition* (ITE, 2017) presents data collected from many sites regarding the proportion of pass-by trips by land use category, which were applied to the total driveway trip volumes. As shown in the far-right columns of Table 3, this factor reduces the WALT program's overall vehicle-trip generation on adjacent roadways to 2,886 daily one-way vehicle-trips, including 196 during the AM peak hour and 208 during the PM peak hour. Considering the impact on regional roadways such as SR 28 away from the site access driveways (reflecting reductions for pass-by trips), the WALT would result in an overall net reduction in trip generation of 26 percent over the course of a day, 8 percent during the AM peak hour, and 35 percent over the key PM peak hour, compared to the Baseline Biltmore use.

PROJECT TRIP DISTRIBUTION

The distribution of traffic arriving and departing the project site is dependent upon the site location relative to the surrounding residential areas, land use within the project influence area, and regional access patterns. Based upon this data, together with the driveway access locations, project traffic is assigned to the area street system. The estimated project-related traffic distribution pattern is shown in Table 4. As shown, the majority (54 percent) of trips made to/from the site are assumed to have origins/destinations along SR 28 to the north and east of the Crystal Bay area. Forty-three (43) percent of trips to/from the site are distributed to points to the west on SR 28, in California.

TABLE 4: Trip Distribution of WALT

Origin/Destination	Percent of Trips
East on SR 28 East of Lakeshore Blvd	42%
East on SR 28 South on Lakeshore Blvd	10%
East on SR 28 between Big Water Road and Lakeshore Blvd	2%
East on Calaneva Drive	1%
North on Stateline Road	2%
West on SR 28	43%
Total	*100%*

Source: LSC Transportation Consultants, Inc.

PROJECT ACCESS AND TRAFFIC ASSIGNMENT

Baseline Biltmore Traffic Assignment

The Baseline Biltmore site-generated traffic volumes are assigned through the study intersections by applying the distribution percentages to the peak-hour vehicle trips. The reductions for pass-by trips are allocated to the various roadways based on existing traffic patterns. The resulting AM and PM peak-hour traffic volumes estimated to be generated by the Baseline Biltmore use are contained in Appendix B. As discussed in Chapter 2, these volumes are added to the Year 2022 traffic counts to estimate the 'Existing With Baseline Biltmore' volumes shown in Figure 3 (in Chapter 2).

Proposed WALT Access and Traffic Assignment

The proposed WALT site plan includes the following changes to the site access and circulation:

- Reservoir Road would be eliminated, as well as the southernmost portion of Wassou Road. Wassou Road would be reconfigured to "T" into Lakeview Avenue, and Lakeview Avenue and Stateline Road would be realigned using a reverse curve to form a single through roadway.
- A proposed new driveway (Big Water Road) on SR 28 just north of existing Reservoir Road would connect SR 28 on the southeast to Wassou Road on the northwest. This driveway would provide access primarily for the proposed residential units, service vehicles, and some neighborhood traffic.
- The existing Biltmore parking lot driveway located between Reservoir Road and Calaneva Drive would be eliminated.
- The lodging arrival and parking areas would be relocated to the northwest portion of the site, with access via Stateline Road. Parking for the proposed project is assumed to be provided in a subterranean parking structure, accessed via two points: one on Stateline Road at a point north of Cove Drive and one on Big Water Road.
- Lastly, a casino pick-up/drop-off circle would be located on Stateline Road, at a point opposite Cove Drive.

The proposed intersection configuration is presented in Figure 6.

The proposed WALT would increase the traffic volumes on Stateline Road compared to the previous use. (The majority of parking for the previous casino/hotel buildings was accessed via Reservoir Road and the existing driveway on SR 28.) To estimate the impact of the project on peak-hour traffic volumes, the proposed project traffic shown in Table 3 is assigned to the roadway network, again following the distribution presented above. Traffic to and from the specific parking access points within the project site is assigned to the roadway system based upon the path of expected minimum travel time, as well as the proportion of drivers that will be familiar with the roadway network. For instance, it is expected that the proposed casino will be "signed" at Stateline Road; thus, first-time drivers arriving in the area will tend to use this access point. The resulting peak-hour traffic volumes estimated to be generated by the full buildout of the project are contained in Appendix D. Adding the WALT volumes and the shift in existing Reservoir Road volumes to the opening year and future horizon year volumes and removing the Baseline Biltmore volumes yields the 'Opening Year with WALT' and 'Horizon Year with WALT' volumes illustrated in Figures 7 and 8, respectively.

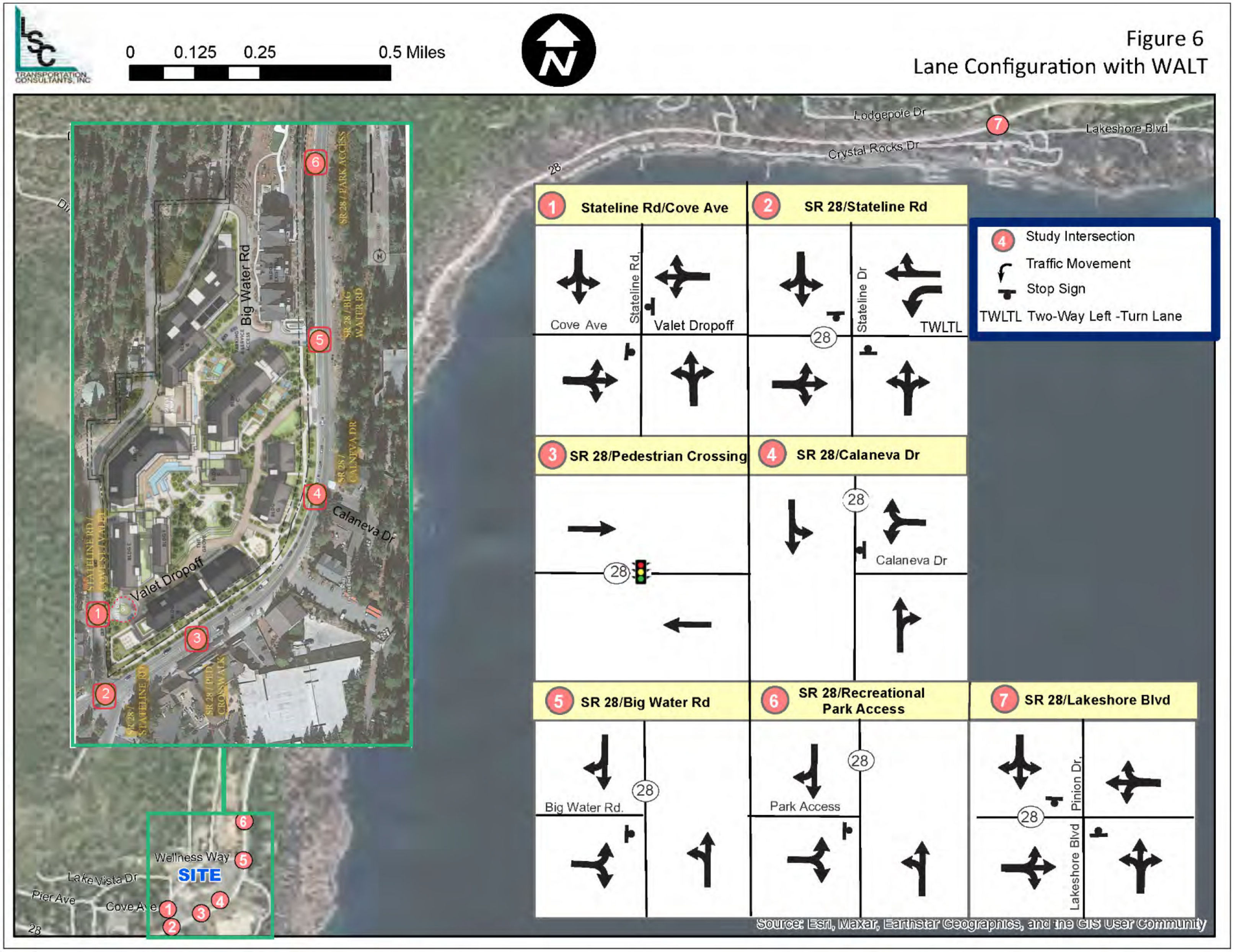
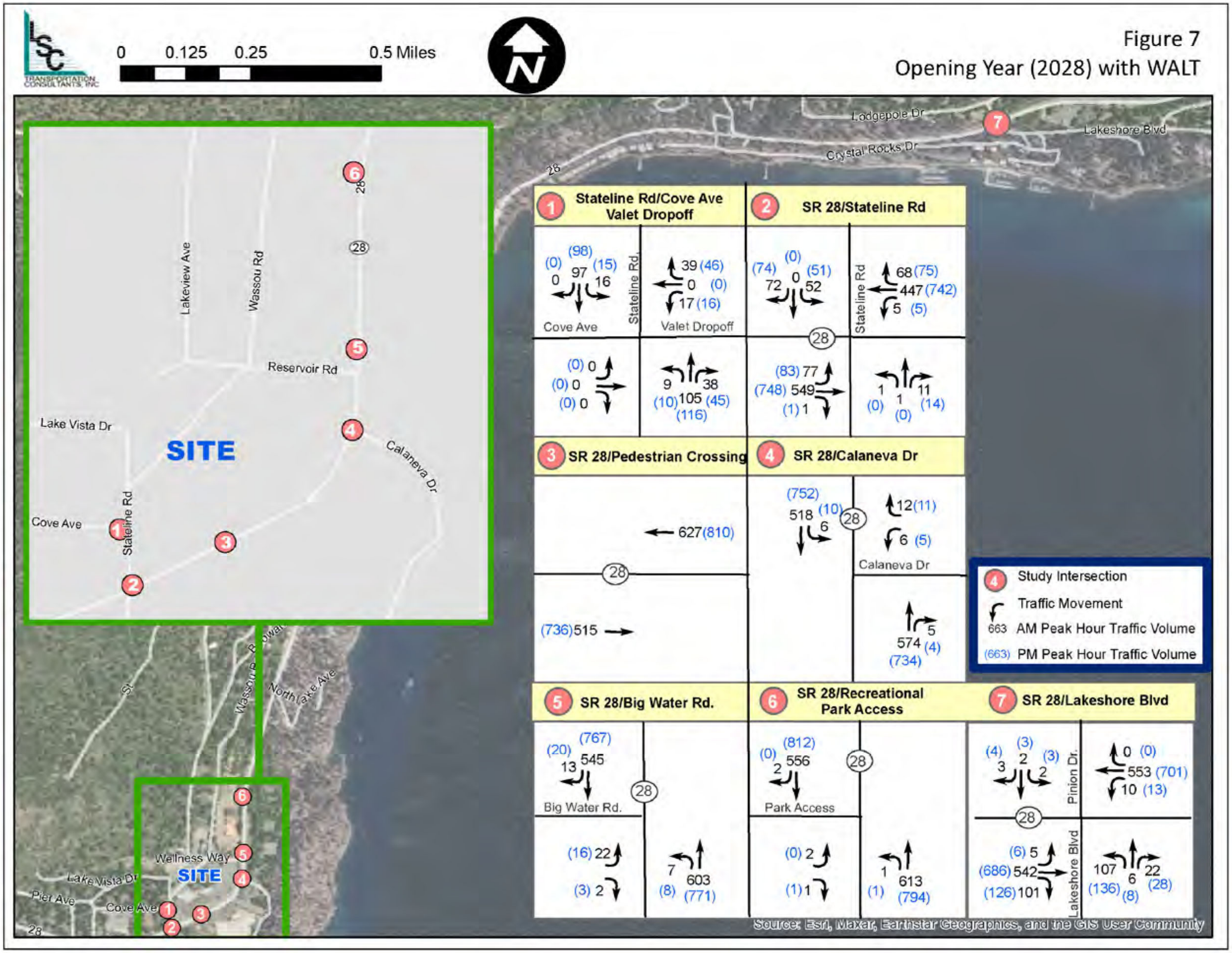


Figure 6
Lane Configuration with WALT

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 7
Opening Year (2028) with WALT



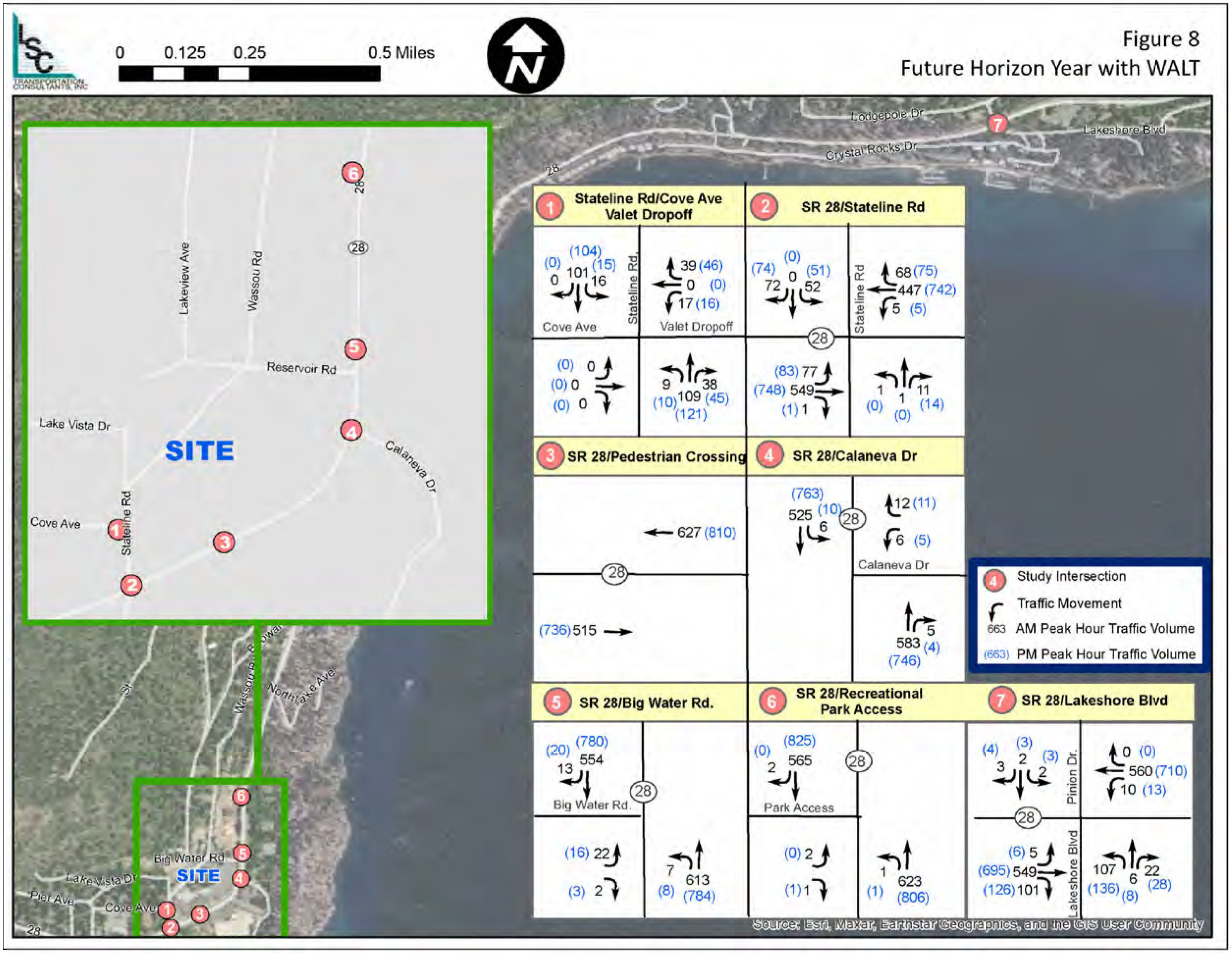


Figure 8
Future Horizon Year with WALT

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CHAPTER 4
Intersection Level of Service

Traffic operations at the study intersections are assessed in terms of Level of Service (LOS) and delay. LOS is a concept that was developed by transportation engineers to quantify the level of operation of intersections and roadways (Highway Capacity Manual, Transportation Research Board, 2022). LOS measures are classified in grades "A" through "F," indicating the range of operation. LOS "A" signifies the best level of operation, while "F" represents the worst. A detailed description of LOS criteria is provided in Appendix E.

For signalized intersections, LOS is primarily measured in terms of average delay per vehicle entering the intersection. LOS at unsignalized intersections is reported in terms of delay on the worst movement. Unsignalized intersection LOS is based upon the theory of gap acceptance for side-street stop sign-controlled approaches, while signalized intersection LOS is based upon the assessment of volume-to-capacity ratios and control delay.

LOS ANALYSIS METHODOLOGY

As is the standard for traffic engineering analyses, intersection LOS is analyzed based upon the procedures presented in the *Highway Capacity Manual* (HCM, Federal Highways Administration, 2016) using the *Synchro* software application (Version 11.1, Trafficware). Additionally, in order to reflect the effects of the queuing between the closely-spaced intersections in Crystal Bay, a microscopic traffic simulation was created using the SimTraffic software package (Version 11.1, TrafficWare). The at-grade pedestrian crossing signal tends to make "gaps" in the SR 28 traffic downstream from the signal during busy traffic and pedestrian periods. The simulation indicated the westbound queues forming along SR 28 upstream of the pedestrian signal do not interfere with turns to/from the study intersections. Although the eastbound queues are shown to extend beyond the Stateline Road intersection, this does not appear to hinder the ability for left turns to be made from Stateline Road (given that there is a central Two-Way Left-Turn Lane (TWLTL) on SR 28 to accommodate left turns from Stateline Road). Considering this, the LOS for all study intersections is reported based on the standard HCM methodology, and the simulation results are only used for the pedestrian crossing signal (as this type of signal cannot be analyzed using the standard HCM methodology). Computer output of the LOS calculations and simulation runs is provided in Appendix F.

LOS STANDARDS

TRPA

The LOS standards for the Lake Tahoe Basin, established by the Tahoe Regional Planning Agency (TRPA), are set forth in the 2020 Regional Transportation Plan (finalized in April 2021) with the intent that the Region's highway system and signalized intersections during peak periods shall not exceed the following:

- LOS C on rural scenic/recreational roads,
- LOS D in rural developed areas,
- LOS D on urban roads, or
- LOS D for signalized intersections
- LOS E may be acceptable during peak periods in urban areas, but not to exceed four hours per day.
- These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project generated traffic in relation to overall traffic conditions on affected roadways.

While the TRPA does not have a specific adopted standard for unsignalized intersections, individual traffic movements with LOS "F" are typically considered a concern.

While the Tahoe Regional Planning Compact looks to "reduce the dependency on the private automobile", there are currently no adopted requirements or standards regarding the quality of service of other travel modes (i.e., transit, biking, or walking) that could potentially reduce the demand on the roadway system.

> For the proposed use, there are no adopted level of service standards for transit, biking and walking like that for the automobile; however, the 2018 Active Transportation Plan includes design standards to ensure safe access for all that the final project will need to adhere to and the 2020 Regional Transportation Plan/Sustainable Communities Strategy includes numerous policies related to quality of services. The project will be required to comply with the following policies related to transit, pedestrian and bicycle infrastructure proposed within and adjacent to the project.

1. Policy 1.1 Support mixed-use, transit-oriented development, and community revitalization projects that encourage walking, bicycling, and easy access to existing and planned transit stops.

2. Policy 2.18 Accommodate the needs of all categories of travelers by designing and operating roads for safe, comfortable, and efficient travel for roadway users of all ages and abilities, such as pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles.

3. Policy 2.23 In roadway improvements, construct, upgrade, and maintain active transportation and transit facilities along major travel routes. In constrained locations, all design options should be considered, including but not limited to restriping, roadway realignment, signalization, and purchase of right of way.

4. Policy 3.6 Design projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points. Consider increased safety signage, sight distance, and other design features, as appropriate.

5. Policy 4.18 Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible.

Nevada Department of Transportation

The NDOT Traffic Impact Analysis guidelines state that LOS "C" will be the design objective for capacity and under no circumstances will less than LOS "D" be accepted for site and non-site traffic.

Washoe County

The LOS standards for Washoe County were set forth in *the Washoe County Development Code* in July 2010. The code states "Streets shall be designed to meet a Level of Service (LOS) standard C, or as otherwise provided for by Regional Transportation Commission policy." In addition, the 2005 Washoe County *Traffic Impact Report Guidelines* state that mitigation of project impacts should be recommended when 2012 and/or 2020 (or latest RTC projection) LOS is "D" or worse in roadway segments and LOS "E" or worse at intersections.

The Washoe County Master Plan (2020) defers to the Washoe County Regional Transportation Plan (RTP) regarding LOS standards. According to the Washoe County 2050 RTP, the LOS standards used for assessing the need for street and highway improvements at a planning level are as follows:

- LOS D for all regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon (such as SR 28); and
- LOS E for all regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon.
- Additionally, all regional road intersections in this study area shall be designed to provide a LOS consistent with maintaining the policy LOS of the intersecting corridors.

Washoe County Tahoe Area Plan

The Washoe County Tahoe Area Plan (the "Area Plan") is a supplement to the TRPA Regional Plan and Washoe County Master Plan. The Area Plan (Policy T4-1) says that LOS at key intersections is to be attained and maintained consistent with the RTP and the Washoe County Land Use and Transportation Element.

As the above standards do not indicate a specific adopted standard for minor movements on unsignalized intersections, individual traffic movements with LOS "F" are considered a concern.

LOS ANALYSIS

Existing Year LOS

Existing Year intersection LOS with the Baseline Biltmore uses was evaluated and the results are presented in Table 5. As shown, all study intersections operate at an acceptable LOS C or better except the SR 28/Lakeshore Boulevard intersection. The worst movement (northbound Lakeshore Boulevard approach) operates at LOS F in the AM and PM peak hours, with a calculated average delay well-exceeding 200 seconds per vehicle.

Opening Year LOS

In the opening year (2028), the average delays would be similar to existing year conditions, and no additional intersections would exceed the LOS standards. With implementation of the proposed WALT, the average delays would not materially change, except at the SR 28/Stateline Road intersection. During the PM peak hour, the average delay per vehicle on the worst movement (the southbound Stateline Road approach) is calculated to increase by about 12 seconds, and the LOS degrades from LOS C to LOS D (still acceptable). The SR 28/Lakeshore Boulevard intersection would continue to operate at unacceptable LOS F. All remaining intersections would operate at an acceptable level.

Future Horizon Year LOS

Under future horizon year conditions with the Baseline Biltmore uses, all intersections would operate at an acceptable LOS C or better, except the SR 28/Lakeshore Boulevard intersection, which would continue to operate at unacceptable LOS F. Implementation of the proposed WALT would cause the SR 28/ Stateline Road intersection to degrade from LOS C to LOS D (still acceptable), and the SR 28/Lakeshore Boulevard intersection would continue to operate at LOS F. All remaining intersections would operate at an acceptable level.

LOS in Kings Beach

Intersection LOS conditions at intersections along SR 28 in Kings Beach are reviewed. According to the Placer County Tahoe Basin Area Plan (PCTBAP), the existing (2016) summer LOS at the SR 28/SR 267 signalized intersection is LOS C (total intersection) and the SR 28/Coon Street roundabout is LOS B (worst approach). A new roundabout will be constructed at the signalized SR 28/SR 267 intersection as a part of the Kings Beach Western Approach Project, which is a Placer County project being done in cooperation with Caltrans. (This project will also provide 1,900 feet of Class II bike lanes, 2,325 feet of new or reconstructed sidewalks, six curb ramps, and two rectangular rapid flashing beacons.)

As the PCTBAP (Policy T-P-6) states that LOS F is acceptable at intersections and roadway segments within the Town Center boundaries during peak periods, a quantitative LOS analysis in Kings Beach is not considered necessary for this study. Furthermore, the proposed WALT project would reduce traffic volumes along SR 28 in Kings Beach by about 2 or 3 percent, compared to conditions with the Baseline Biltmore uses.

Table 5: WALT - Intersection LOS Summary

Intersection	Control Type	LOS Threshold^{1,2}	AM Peak Hour With Baseline Biltmore		AM Peak Hour With WALT		PM Peak Hour With Baseline Biltmore		PM Peak Hour With WALT	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Existing Year										
1 Stateline Road / Cove Street	TWSC	E	7.3	A	-	-	7.3	A	-	-
2 SR 28 / Stateline Road	TWSC	E	20.0	C	-	-	17.2	C	-	-
3 SR 28 / Pedestrian Crossing	Signalized	D	9.8	A	-	-	9.7	A	-	-
4 SR 28 / Calaneva Drive	TWSC	E	17.0	C	-	-	23.8	C	-	-
6 SR 28 / Recreational Park Access	TWSC	E	23.5	C	-	-	14.9	B	-	-
7 SR 28 / Lakeshore Boulevard (West)	TWSC	E	**OVF**	**F**	-	-	**OVF**	**F**	-	-
Opening Year (2028)										
1 Stateline Road / Cove Street	TWSC	E	7.3	A	9.8	A	7.3	A	10.2	B
2 SR 28 / Stateline Road	TWSC	E	20.0	C	21.8	C	17.2	C	29.0	D
3 SR 28 / Pedestrian Crossing	Signalized	D	10.3	B	10.0	A	10.1	B	10.6	B
4 SR 28 / Calaneva Drive	TWSC	E	17.0	C	17.0	C	23.9	C	21.8	C
5 SR 28 / Big Water Road	TWSC	E	-	-	30.1	D	-	-	40.6	E
6 SR 28 / Recreational Park Access	TWSC	E	23.6	C	22.9	C	15.0	B	14.8	B
7 SR 28 / Lakeshore Boulevard (West)	TWSC	E	**OVF**	**F**	**OVF**	**F**	**OVF**	**F**	**OVF**	**F**
Future Horizon Year										
1 Stateline Road / Cove Street	TWSC	E	7.3	A	9.8	A	7.3	A	10.3	B
2 SR 28 / Stateline Road	TWSC	E	20.0	C	21.8	C	17.2	C	29.0	D
3 SR 28 / Pedestrian Crossing	Signalized	D	9.6	A	10.5	B	9.6	A	10.2	B
4 SR 28 / Calaneva Drive	TWSC	E	17.3	C	17.2	C	24.5	C	22.2	C
5 SR 28 / Big Water Road	TWSC	E	-	-	31.0	D	-	-	42.4	E
6 SR 28 / Recreational Park Access	TWSC	E	24.2	C	23.5	C	15.2	C	14.9	B
7 SR 28 / Lakeshore Boulevard (West)	TWSC	E	**OVF**	**F**	**OVF**	**F**	**OVF**	**F**	**OVF**	**F**

BOLD text indicates that LOS standard is exceeded.
OVF = Overflow. Overflow indicates a delay greater than 200 seconds per vehicle, which cannot be accurately calculated using HCM methodology.
TWSC = Two-Way Stop-Control
NOTE 1: Level of service for signalized intersections is reported for the total intersection.
NOTE 2: Level of service for roundabouts and other unsignalized intersections is reported for the worst movement.
Source: LSC Transportation Consultants, Inc.

CHAPTER 5
Impacts Analysis

The following areas of transportation impacts are evaluated in this section:

- Project Impact on Traffic Volumes
- Intersection Level of Service
- Intersection Queuing
- Analysis of the Need for New Turn Lanes on SR 28
- Site Access Plans
- Analysis of Historical Crash Data
- Bicyclist Impacts
- Impact on Adjacent Local Streets

In addition, a pedestrian crossing analysis is provided in Chapter 6.

PROJECT IMPACT ON TRAFFIC VOLUMES

Comparing the proposed WALT impacts with the Baseline Biltmore peak-hour traffic volumes in the opening year, the net impact of the proposed project would be as follows:

- At the site access points, the project would result in a net reduction of 537 daily one-way vehicle-trips (or a 13 percent reduction). During the key PM peak hour, the project would reduce vehicle-trips at the driveways by 74 trips, or 22 percent. Although the vehicle trips crossing the site driveways during the AM peak hour would increase, a substantial portion of these trips are drawn from existing traffic already passing the site along SR 28.
- Considering the impact on regional roadways such as SR 28 away from the site access driveways (reflecting reductions for pass-by trips), the proposed project would result in a net reduction in trip generation of 26 percent over the course of a day, 35 percent over the key PM peak hour, and an 8-percent reduction in the AM peak hour.
- The impacts of the proposed project on peak-hour traffic volumes along SR 28 are summarized in Table 6. The proposed project is calculated to reduce PM peak-hour traffic volumes along SR 28 on a busy summer day by 1.8 to 2.9 percent to the west of the site (in Kings Beach) and by 2.4 to 6.1 percent to the north of Crystal Bay (near Incline Village). Within Crystal Bay, the project would reduce the eastbound/northbound PM peak-hour volumes by 3.0 to 4.8 percent, while it would increase westbound/southbound volumes by 2.0 percent (primarily due to the proposed relocation of the hotel and casino uses to the Stateline Road access point).

Table 6: WALT - Impact on Traffic Volumes on SR 28

	Opening Year With Baseline Biltmore		Opening Year With WALT		Percent Change	
SR 28 Roadway Segment	EB/NB Volume	WB/SB Volume	EB/NB Volume	WB/SB Volume	EB/NB	WB/SB
North of the Site	846	832	794	812	-6.1%	-2.4%
Between Pedestrian Crossing and Calaneva Drive	761	794	738	810	-3.0%	2.0%
Between Stateline Road and Pedestrian Crossing	773	806	736	822	-4.8%	2.0%
Between Raccoon Street and Stateline Road	847	839	832	816	-1.8%	-2.7%
Between SR 267 and Raccoon Street	821	785	806	762	-1.8%	-2.9%
Average	*810*	*811*	*781*	*804*	*-3.5%*	*-0.8%*

Note: EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound

Note: All volumes are taken in the PM Peak Hour

Source: LSC Transportation Consultants, Inc.

INTERSECTION LEVEL OF SERVICE IMPACTS

As summarized in Table 5, the SR 28/Lakeshore Boulevard intersection exceeds LOS standards under 'Existing with Baseline Biltmore' conditions. Implementation of the proposed WALT would reduce traffic volumes through this intersection, thereby reducing driver delays (although it would remain at LOS F). No other LOS deficiencies are identified. Potential LOS mitigation measures are evaluated, and the resulting mitigated LOS is shown in Table 7.

Table 7: WALT - Mitigated Intersection LOS Summary

				AM Peak Hour		PM Peak Hour	
Intersection	Control Type	Mitigation	LOS Threshold^{1,2}	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
SR 28 / Lakeshore Boulevard (West)							
Future Horizon Year With WALT	TWSC	Add TWLTL for NBL	E	41.6	E	**152.1**	**F**
Future Horizon Year With WALT	Signalized	Add Traffic Signal	D	-	-	8.3	A

BOLD text indicates that LOS standard is exceeded.

OVF = Overflow. Overflow indicates a delay greater than 200 seconds per vehicle, which cannot be accurately calculated using HCM methodology.

TWSC = Two-Way Stop-Control, TWLTL = central Two-Way Left-Turn Lane, NBL = Northbound Left Turn

NOTE 1: Level of service for signalized intersections is reported for the total intersection.

NOTE 2: Level of service for roundabouts and other unsignalized intersections is reported for the worst movement.

Source: LSC Transportation Consultants, Inc.

SR 28/Lakeshore Boulevard

With the addition of a central Two-Way Left-Turn Lane (TWLTL) on SR 28 west of Lakeshore Boulevard (which would allow for two-stage left-turn movements from Lakeshore Boulevard onto SR 28), the AM peak-hour LOS would improve to an acceptable LOS E, although the PM peak-hour LOS would remain at LOS F. With the provision of additional lane improvements, the northbound approach would remain at an unacceptable LOS F during the PM peak hour, with or without the WALT project. Consequently, a traffic signal warrant analysis is conducted for this intersection.

Traffic Signal Warrant at SR 28/Lakeshore Boulevard

Traffic signals are typically only considered to be a feasible alternative if conditions meet a sufficient number of individual "warrants," as identified in the *Manual on Uniform Traffic Control Devices* (American Association of State Highway and Transportation Officials, 2022). The "easiest" warrant to meet is typically the "peak hour warrant" that focuses on the level of through traffic on the major highway and the entering traffic on the minor street. Specifically, the warrant consists of a graph depicting a curved line: if the plot of major and minor volumes falls above the line, a signal is considered to be warranted. The graph is included in Appendix G. A peak-hour signal warrant analysis is performed for the intersection of SR 28 and Lakeshore Boulevard. The results show that the warrant is met under all peak-hour scenarios. However, as the proposed WALT would reduce traffic volumes through this intersection, it would have a beneficial impact.

INTERSECTION QUEUEING ANALYSIS

Traffic queues at specific intersections that exceed the storage capacity of turn lanes or ramps, or that block turn movements at important nearby intersections or driveways can cause operational problems beyond those identified in the LOS analysis. The 95th-percentile traffic queue lengths (the length that is only exceeded 5 percent of the time during the analysis period) are reviewed at intersection locations where queuing could potentially interfere with adjacent roads or driveways. The results indicate that the eastbound traffic queues forming at the pedestrian crossing signal extend into and beyond the Stateline Road intersection during peak periods, with or without the proposed WALT. This queue affects drivers wishing to turn left from SR 28 onto Stateline Road; however, given the presence of the central Two-Way Left-Turn Lane (TWLTL) on SR 28 to the east of Stateline Road, this queue does not hinder the ability for turns to be made from Stateline Road onto the highway. Implementation of the proposed project is not expected to materially affect the traffic queue lengths at the pedestrian signal under any study scenario.

In addition, northbound traffic queues on the Lakeshore Boulevard approach to SR 28 interfere with left turns to/from some of the driveways along the lake-side of Lakeshore Boulevard, with or without the proposed project. However, as the proposed WALT would reduce this queue length, it would have a beneficial impact.

No other traffic queuing issues are identified.

ANALYSIS OF THE NEED FOR NEW TURN LANES ON SR 28

Left-Turn Lane Warrant

Traffic volumes at the study intersections on SR 28 are reviewed regarding the need for new turn lanes along SR 28. The need for new left-turn lanes is evaluated using the procedure discussed in the *NDOT Access Management System and Standards* (2017). The warrant criteria are contained in Appendix G. Based on the criteria, new left-turn lanes are warranted on SR 28 at the following locations:

- **At Stateline Road** – Eastbound left-turn lane is warranted under all peak-hour scenarios, with or without the proposed project. Note that this new turn lane would be located in California, on a Caltrans-maintained highway segment. However, as the LOS for the eastbound approach is forecast to remain at LOS A in the AM Peak Hour and remain at LOS B in the PM Peak Hour and as TRPA staff indicates roadway widening is not consistent with other regional goals, the eastbound left-turn lane is not necessary.

- **At Big Water Road** - Northbound left-turn lane warrant is met under all scenarios with the proposed WALT, although the left turns only make up 1 percent of the total northbound volume. Only 8 left turns are expected to be made into Big Water Road during the busiest hours, or one left turn every 7.5 minutes, on average. The addition of a left-turn lane would be consistent with Area Plan Policy T-2, which states to create left-turn pockets at public road intersections along SR 28 throughout the Crystal Bay Tourist regulatory zone neighborhood in cooperation with NDOT. However, considering the low turning volume and the relatively slow speeds of northbound traffic at this location (25 miles per hour speed limit), the potential for rear-end crashes is relatively low. The costs associated with a new left-turn lane would be expected to outweigh the benefits. Furthermore, the design of this turn lane may interfere with turns made to/from the Stillwater Cove driveway and with the post office perpendicular parking spaces along the highway. As such, a new northbound left-turn lane is not considered to be necessary.

- At Lakeshore Boulevard -
  - Westbound left-turn lane is warranted under all scenarios, with or without the WALT (although the left turns represent less than 2 percent of the westbound directional volume)
  - Eastbound left-turn lane warrant is marginally met under all scenarios, with or without the WALT (although the left turns represent less than 1 percent of the eastbound directional volume)

  As the proposed WALT project would reduce traffic volumes through this intersection, this would be a beneficial impact.

Right-Turn Lane Warrant

Using the procedures presented in the *NDOT Access Management System and Standards,* right-turn lane warrants are based on a comparison of right-turning vehicles compared to the total volume of advancing vehicles (traveling in the same direction). The right-turn lane warrant criteria are included in Appendix G. Based on the criteria, new right-turn lanes may be warranted on SR 28 at the following locations:

- **At Stateline Road** – Westbound right-turn lane warrant is met with the WALT project. Considering the relatively slow speeds of southbound traffic at this location (25 miles per hour speed limit), the potential for rear-end crashes is relatively low. There are no LOS deficiencies. A westbound right-turn lane is therefore not necessary.
- **At Big Water Road** - Southbound right-turn lane warrant is met with the WALT project. Up to 20 right turns would be made during the busiest hours, which equates to one right turn every 3 minutes, on average. Considering the relatively low number of right turns and the relatively slow speeds of southbound traffic at this location, the potential for rear-end crashes is relatively low. There are no LOS deficiencies. A westbound right-turn lane is therefore not necessary.
- **At Lakeshore Boulevard** - Eastbound right-turn lane warrant is met under all scenarios, with or without the WALT project.

SITE ACCESS PLANS

The site access plans are reviewed with regards to transportation-related safety issues, such as proposed access locations, driveway spacing, interaction of project traffic with turn movements to/from adjacent intersections, and driver sight distance. Lastly, historical crash data for the study area is reviewed.

Driveway Spacing

The proposed project would reduce the total number of driveways along SR 28. This is a beneficial impact, as it improves traffic flow along the highway and reduces the potential for vehicular conflicts and conflicts between vehicles and pedestrians/bicyclists. It is also consistent with existing policies to reduce curb cuts on main thoroughfares, such as the following:

- TRPA RTP Policy 4.18: "Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible."
- Washoe County Tahoe Area Plan Policy T3-1: "…The number of driveways along State Route 28 should be consolidated and minimized… Entrances to casinos and their parking areas in the Crystal Bay Tourist regulatory zone are encouraged to be relocated to back streets for those parking areas that have rear access."
- Washoe County Tahoe Area Plan Policy T3-2: "Prioritize local street access before allowing new curb cuts on State Route 28."

The *NDOT Access Management System and Standards* indicates the minimum spacing required for access points along a Minor Arterial roadway with a speed limit less than or equal to 35 mph (such as SR 28 in Crystal Bay) is 1,320 feet. None of the existing or proposed access points along SR 28 meet this standard. However, as the proposed project would eliminate existing access points along SR 28, this would improve (increase) the driveway spacing conditions. It is worth noting that Minor Arterials in Nevada are generally designed to allow speed limits of 35 to 45 miles per hour in urban areas, whereas the stretch of SR 28 in Crystal Bay has slower speeds, with a speed limit of 25 miles per hour.

The *Washoe County Development Code* states in Section 110.436.115 that Commercial Driveways shall be spaced from "center to center shall be a minimum of two hundred thirty-five (235) feet on major arterials, one hundred fifty (150) feet on minor arterials, and fifty (50) feet on commercial collectors." All of the proposed access points meet this minimum requirement.

Lastly, the proposed site plans would accomplish Area Plan Policy T-4, which states "Clearly define and delineate Wassou Road as separate from the Biltmore parking lot.

Driver Sight Distance

Driver sight distance was evaluated at the proposed access intersections. There are two types of sight distance standards that should be met at driveways or intersections: stopping sight distance and intersection sight distance. Intersection sight distance requirements are meant to ensure that adequate time is provided for the waiting driver at an unsignalized intersection or driveway to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. Intersection sight distance requirements are based upon the need for a driver to discern a gap of up to 7.5 seconds in oncoming traffic to safely choose an adequate gap. The *NDOT Access Management System and Standards* refers to the design intersection sight distance requirements set forth in *A Policy on Geometric Design of Highways and Streets* (AASHTO "Green Book", 2018). Stopping sight distance is the distance an oncoming driver on the major roadway needs to perceive an object in the travel lane (such as a turning vehicle), react to the object, and come to a safe stop. Stopping sight distance requirements are set forth in the AASHTO Green Book. A review of the driver sight distance conditions indicates that adequate sight distance is expected to be provided at the proposed site access locations, so long as the final landscaping plans do not hinder the intersection sight distance.

HISTORICAL CRASH DATA

Crash data in the vicinity of the project was provided by NDOT and was reviewed for the most recent 5 years available at the time of this study (January 1, 2016 – January 1, 2021). Appendix H contains tables summarizing the crash severity, crash types, lighting, and weather conditions. The following findings are made:

- A total of 13 crashes occurred at the study intersections on SR 28 in Crystal Bay, and 12 crashes occurred within 250 feet of the SR 28/Lakeshore Boulevard intersection in Incline Village.
- No fatalities were reported.
- Most of the crashes were reported as property damage only, except at the SR 28/Stateline Road intersection. Two (2) of the 3 crashes at this intersection resulted in injuries. One of these injury crashes occurred just west of the pedestrian crossing signal (although no pedestrians were reported to be involved).
- The most prevalent types of crashes were "non-collision" (32 percent), "angle" (28 percent) and "rear-end" (28 percent).
- Almost all (24 of 25) crashes occurred during dry weather conditions.
- The majority of crashes (64 percent) occurred during the daylight.
- None of the crashes involved pedestrians or bicyclists.

As the project would provide adequate driveway spacing and driver sight distance conditions and considering that the project would reduce the number of (closely spaced) driveways along SR 28, this is considered a beneficial impact on transportation safety conditions.

IMPACT ON BICYCLIST CONDITIONS

At present, Class 2 bicycle lanes are provided along SR 28 to the west of the California-Nevada State Line. The project proposes to construct a Class 1 bicycle lane within the public right of way or dedicated easement adjacent to SR 28 along the project frontage. Considering this, and the fact that the project would reduce the number of driveways along the corridor, the proposed project would have a beneficial impact on bicyclist conditions. The ATP for the Lake Tahoe Region identifies the bus stops in Crystal Bay as locations where bike parking is needed. Additionally, Area Plan Policy T-14 calls for a multi-use path to be constructed along the north side of SR 28 from the Crystal Bay Tourist regulatory zone to Northwood Boulevard (western intersection) in Incline Village.

IMPACT ON ADJACENT LOCAL STREETS

The site plan includes modifications to the existing streets on the northern side of the site (Stateline Road, Lakeview Avenue, and Wassou Road) and the proposed Big Water Road connection). It is therefore appropriate to consider the impacts of the proposed project on these nearby streets. There are two potential sources of traffic activity on these streets that could potentially be affected by the proposed project:

- Site-Generated Traffic – The site plan concentrates site-generated traffic at two key access points: on Stateline Road approximately 200 feet north of SR 28 and on Big Water Road approximately 200 feet west of SR 28. Guests arriving to the site for the first time will have a choice between going up Stateline Road and Big Water Road, however after guests arrive to the site, the remaining trips will be directed to hotel valet on Stateline Road. The proposed revisions to the existing local roads also make the travel path around the north and west sides of the site longer than today's travel path and more circuitous. However, despite the longer path, drivers coming from the east will still see a path 900 feet less than if they were to take SR 28 to Stateline. As a result, drivers coming from the east will be more inclined to take Big Water Road up to the guest arrival whereas guests coming from the west will take Stateline Road.

  The project applicant indicates that the use of the Guest Arrival area will be limited to inbound customer valet trips only. No employees would access this location, nor would outbound valet trips. Therefore, there would be two sources of trips to the Guest Arrival area: the initial inbound guest arrival trip at the beginning of their stay, and inbound hotel restaurant and bar external non-guest customers.

  The average length of stay for overnight visitors during the summer months is assumed to be approximately 2.9 days, based on the average of 2015 data from the Ritz-Carlton Hotel (2.46 days) and North Lake Tahoe Resort Association (now North Tahoe Community Alliance) 2003-2016 hotel/motel/B&B visitor data (3.4 days). Taking the hotel daily trip rate of 8.07 and multiplying by the 2.9 days results in an average of 23 daily trips over the course of 2.9 days. As 13% of the hotel trips are employee trips, that leaves a total of 20 trips made by hotel guests over the course of an average stay. As only one trip out of the 20 trips is the initial trip, that results in 5% of daily guest hotel trips that are initial arrival trips. A total of 471 external daily vehicle trips are associated with the hotel units and hotel residential units, 61 of which are employee trips and 410 which are guest trips. Taking 5% of the 410 guest daily trips leaves 21 daily trips that would be initial guest arrival trips.

  Though the hotel restaurant and bar are considered accessory uses, there is a potential for some of the customers of these uses to be non-hotel guests. While there is no specific data available on this percentage, it is estimated to be between 10% and 20% at most. To be conservative, the 20% factor is applied to ITE trip generation rates, resulting in an additional 91 daily external vehicle trips associated with the hotel restaurant and bar. Discounting the employee trips, a total of 79 daily trips are associated with the hotel restaurant and bar. In addition, half (40) of the total daily restaurant and bar trips would be inbound trips, resulting in a total of 61 inbound trips to the Guest Arrival area.

  Consistent with the distribution discussion in Chapter 3, 54% of the initial guest arrival trips will be originating from the east and would be expected to travel up Big Water Road. Applying 54% to the 61 inbound trips results in a total of 33 daily trips traveling up Big Water Road. No guest arrival trips are assumed to occur in the AM Peak Hour. In the PM Peak Hour, approximately 40% of hotel guests are assumed to arrive resulting in a total of 13 vehicles westbound on Big Water Road in the PM Peak Hour (the equivalent of an average of 1 vehicle traveling up Big Water Road every 4.5 minutes).

The remaining site-generated trips associated with the hotel, restaurant and bar (excluding the employee trips which would be going up Big Water Road to the parking and service access) are assumed to use Stateline Road. A daily average of 456 vehicles associated with the WALT hotel and its accessory restaurant and bar uses will travel on Stateline Road (or an average of 1 vehicle every 3.1 minutes) on a busy summer day, with 55 vehicles occurring in the PM Peak Hour (or an average of 1 vehicle every 1.1 minute).

- Diverted “Cut Through” Traffic – At peak times of pedestrian activity at the pedestrian crossing, there is an existing potential for southbound drivers using the local streets to divert off of SR 28 to save travel time. (There is less of a potential for diverted traffic in the northbound direction, as eastbound SR 28 drivers are close to the pedestrian signal when they reach the route option at Stateline Road, and as these drivers must then face the delays of turning left onto SR 28 from Reservoir Road.) The proposed project would reduce the potential for diverted traffic, in two ways. First, travel queues generated by the signalized pedestrian crossing are expected to be reduced slightly, due to the site-generated traffic to/from the west (the majority of the site traffic) will no longer travel through the pedestrian crossing (as it largely does under existing conditions). The 95th-percentile PM peak-hour westbound/southbound queue generated by the pedestrian signal is forecast to be reduced from an existing condition of 271 feet to a future plus project condition of 255 feet (a 6 percent reduction). Secondly, the length of the local road option via Reservoir Road (or Big Water Road in the future) will be greater in the ‘with project’ condition (1,880 feet) than it is today (1,090 feet), reducing the attractiveness of the diversion via Big Water Road. The travel distance of a diversion route via Beowawie Road and Wassou Road will be effectively unchanged from current conditions (within 20 feet). In sum, the proposed project would not increase the potential for diversion onto local streets, but instead would result in a slight reduction in this potential.

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CHAPTER 6

SR 28 Pedestrian Crossing Analysis

An analysis of the pedestrian crossing on SR 28 is conducted. First, the project's impact on pedestrian crossing activity is estimated. Next, the change in the geography of pedestrian crossing activity resulting from the proposed project land use plan is assessed. Finally, the need for pedestrian crossing enhancements is evaluated.

The Baseline Biltmore land uses in the Crystal Bay area generated substantial pedestrian crossing activity on SR 28. In particular, the presence of the Crystal Bay Casino and The Nugget Casino on the south side of the highway and the Tahoe Biltmore Casino on the north side generated pedestrian activity between the gaming areas. The fact that the two gaming areas are almost immediately across the highway from each other tends to increase and concentrate pedestrian activity in a single location. Pedestrian activity was recorded along SR 28 between Stateline Road and Reservoir Road on Saturday, July 19, 2008 from 4:00 PM to 8:00 PM. The counts showed that the greatest number of pedestrian crossings occurred during the 7:00 PM hour (129 pedestrian crossings). While individual trip patterns were not tracked, the large majority of the pedestrians were observed to be walking to or from the Biltmore. (New pedestrian crossing counts were not conducted as a part of this study, given that the Biltmore operations are closed.)

EXISTING PEDESTRIAN CROSSING

A pedestrian-actuated signalized at-grade crossing is currently provided roughly 250-feet east of the Stateline Road intersection. This signal aids pedestrians in crossing the highway, while also "grouping" pedestrians to reduce the overall delay to through traffic on the highway below that would occur with random pedestrian crossings. When consistently activated in periods of high pedestrian activity, this signal operates on an 89-second total cycle. The crosswalk traverses the intersection on a diagonal of approximately 26 degrees. The length of the crosswalk along this path is 56 feet measured from edge of curb to edge of curb.

IMPACT OF PROPOSED WALT

The proposed WALT project plans would change this previous condition in two ways: (1) change the demand for pedestrian crossing, and (2) change the configuration of land uses, particularly with respect to the casino floor area. It would also provide a new pedestrian plaza that will be open to the public, providing a buffered walking experience from the highway.

Impact on Peak Population

The first step in evaluating the change in the demand for pedestrian crossing is to estimate the change in the potential peak population of the project site. Table 8 presents an analysis of the potential population, both for the Baseline Biltmore site land uses and the proposed WALT site land uses. This is calculated by multiplying the individual land use quantities by the estimated number of persons per unit of development. It is necessary to also include a factor reflecting the internal use of more than a single land use by a specific individual (such as a lodging guest that is also a casino customer). As shown in the table, the proposed WALT project would reduce the peak number of persons on the site by 15 percent over that generated by the Baseline Biltmore land uses. Note that this population analysis is only used for purposes of estimating the change in pedestrian crossing activity. It is not meant to be used for evaluating other areas of impacts.

Table 8: WALT - Peak Population Estimates

For purposes of estimating pedestrian activity.

Description	Baseline Biltmore Land Use #	Proposed WALT Land Use #	Units	Persons per Unit	Reduction to Reflect Population Also Lodged/Living On Site		Peak Population		in Population	Percent Change in Peak Population
					Baseline Biltmore Uses	Proposed WALT Uses	Biltmore Uses	Proposed WALT Uses		
RESIDENTIAL / LODGING										
Hotel Units - 1 bedroom	62	42	Units	2	0%	0%	124	84	-40	-32%
Hotel Units - 2 bedroom	49	34	Units	3	0%	0%	147	102	-45	-31%
Whole Ownership Units - 1 bedroom	0	26	Units	2	0%	0%	0	52	52	100%
Whole Ownership Units - 2 bedroom	0	19	Units	3	0%	0%	0	57	57	100%
Whole Ownership Units - 3 bedroom	0	8	Units	4	0%	0%	0	32	32	100%
Whole Ownership Units - 4+ bedroom	0	5	Units	5	0%	0%	0	25	25	100%
Exclusive Residential - 3 bedroom	0	15	Units	4	0%	0%	0	60	60	100%
Exclusive Residential - 4+ bedroom	0	28	Units	5	0%	0%	0	140	140	100%
Employee Housing - 2 bedroom	0	14	Units	3	0%	0%	0	42	42	100%
Hotel Units - Employees	55	20	Employees	1	0%	15%	55	17	-38	-69%
Condo-Hotel Units - Employees	0	15	Employees	1	0%	15%	0	13	13	100%
Workforce Housing - Employees	0	4	Employees	1	0%	0%	0	4	4	100%
Total Residential/Lodging	**111**	**191**	**Units**				**326**	**628**	**302**	**93%**
RETAIL/RESTAURANT										
<u>Retail</u>										
Retail (CFA)	0	4.20	KSF	11	0%	25%	0	34	34	100%
Service Retail	Accessory Use	Accessory Use	KSF	11	-	-	-	-	-	-
Daycare Center	Accessory Use	Accessory Use	KSF	11	-	-	-	-	-	-
Retail Employees	0	5	Employees	1	0%	15%	0	4	4	100%
									0	100%
<u>Restaurant</u>									0	100%
Fine Dining ²	3.3	0.00	KSF	31	80%	25%	21	0	-21	-100%
Casual Dining ²	4.5	12.280	KSF	26	80%	25%	24	244	220	929%
Café/Fast Food	0	2.235	KSF	17	80%	25%	0	29	29	100%
Convenience Dining	0	Accessory Use	KSF	17	-	-	-	-	-	-
Bar/Lounge ²	Accessory Use	Accessory Use	KSF	50	-	-	-	-	-	-
Restaurant Employees	41	77	Employees	1	0%	15%	41	66	25	60%
Total Retail/Restaurant	**7.80**	**18.715**	**KSF**				**85**	**377**	**291**	**341%**
RECREATIONAL										
Casino Gaming	22.383	10.00	KSF	100	25%	19%	1679	813	-866	-52%
Casino Employees	76	20	Employees	1	0%	15%	76	17	-59	-78%
Spa and Fitness Center	0	Accessory Use	KSF	10	-	-	-	-	-	-
Park	0	3.07	Acres	6	0%	20%	0	15	15	100%
Total Recreational							**1755**	**844**	**-910**	**-52%**
MEETING SPACE										
Convention Center/Conference Facilities	Accessory Use	Accessory Use	Seats	1	75%	75%	-	-	-	-
Convention Center Employees	Accessory Use	Accessory Use	Employees	1	0%	0%	-	-	-	-
Total Meetings and Entertainment							**0**	**0**	**0**	**0%**
							2,166	**1,849**	**-317**	**-15%**

Source: LSC Transportation Consultants, Inc, For the lodging and residential units, it is assumed that the first bedroom is full (two persons on average), while each additional bedroom is used by one additional person on average. Although the lodging facilities and retail/restaurant population increase with the proposed project, the primary source of the reduction in persons is from the reduced casino area, which is estimated to reduce the number of persons onsite by 910.

Impact on Pedestrian Crossing Activity

As discussed above, the overall number of persons on the project parcels would be reduced. The size of the casino on the north side of the highway would be reduced by 55 percent, substantially reducing the greatest generator of pedestrian crossing activity. The elimination of the Crystal Bay Motel lodging on the south side would also tend to slightly reduce crossing activity, as these lodging guests would no longer cross to the north side of the highway. On the other hand, the increase in lodging guests and residents on the north side of the highway would generate an increase in travel between the hotel and residences on the north side of the highway and gaming commercial uses on the south side. The additional restaurant/ retail uses in the proposed project would also tend to generate increased pedestrian travel from lodging and residential areas on the south side of the highway. On balance, however, it is estimated that the proposed project will result in a net reduction in pedestrian crossing activity of roughly 30 percent from Baseline Biltmore levels, primarily due to the significant reduction in gaming floor area.

The geography of pedestrian crossing activity will also be changed by the land use plan. Although the casino area would be moved to a location roughly 200 feet off of SR 28 along the east side of Stateline Road, the direct pedestrian path between the proposed project and Crystal Bay Club gaming floors will remain roughly in the same location as the existing crossing location. However, the proposed hotel/spa and other residential/lodging uses on the project site will tend to generate pedestrian trips further to the north than at present.

The upper portion of Table 9 presents an evaluation of the relative proportions of overall pedestrian crossing demand that will occur between various land uses both south of SR 28 and north of the highway, with the proposed project plan. These proportions of total crossing activity by trip origin and destination are based upon observations of previous pedestrian activity as well as the population estimates for the various elements of the project land uses presented in Table 8. In comparison with the Baseline Biltmore pedestrian pattern (which was heavily concentrated between the Crystal Bay and Biltmore gaming areas), pedestrian activity will be more dispersed (though the highest proportion will still be to and from the Crystal Bay Club).

Table 9: Evaluation of Pedestrian Crossing Demand

		North Side of SR 28		
		Casino	Commercial	Residential/ Hotel
Proportion of Total Crossing Activity by Origin and Destination				
South Side of SR 28	% of Demand on Side	53%	19%	27%
Crystal Bay Club	60%	32%	12%	16%
Tahoe Nugget	25%	13%	5%	7%
Post Office Area	15%	8%	3%	4%
Existing At-Grade Crossing				
Proportion of Pedestrians Using Facility by Origin-Destination				
Crystal Bay Club		100%	100%	100%
Tahoe Nugget		100%	25%	0%
Post Office Area		20%	5%	0%
Overall Proportion of Crossing Pedestrians Served				**76%**
Overpass to Tahoe Nugget				
Proportion of Pedestrians Using Facility by Origin-Destination				
Crystal Bay Club		25%	75%	90%
Tahoe Nugget		100%	100%	100%
Post Office Area		80%	50%	20%
Overall Proportion of Crossing Pedestrians Served				**65%**
Overpass to SR 28 Commercial Center Site				
Proportion of Pedestrians Using Facility by Origin-Destination				
Crystal Bay Club		0%	50%	75%
Tahoe Nugget		20%	75%	85%
Post Office Area		95%	70%	50%
Overall Proportion of Crossing Pedestrians Served				**42%**
At Grade Crossing at Stateline Road				
Proportion of Pedestrians Using Facility by Origin-Destination				
Crystal Bay Club		25%	5%	5%
Tahoe Nugget		0%	0%	0%
Post Office Area		0%	0%	0%
Overall Proportion of Crossing Pedestrians Served				**9%**

POTENTIAL CROSSING OPTIONS

Four potential pedestrian crossing options are evaluated, as follows:

1. Existing signalized at-grade pedestrian crossing
2. Pedestrian overpass
3. Pedestrian crossing at the SR 28 commercial center
4. At-grade crossing at Stateline Road

Existing At-Grade Pedestrian Crossing

Simply keeping the existing signal-protected crossing in place would result in a pedestrian walk distance between the front doors of the Crystal Bay Club gaming area and the proposed project gaming area of approximately 350 feet, as shown in Table 10. This is the shortest distance provided by any of the alternatives. This location is also convenient for pedestrians traveling between the Tahoe Nugget and the proposed casino and traveling between the northern portion of the project site (such as the hotel and spa) and the Crystal Bay Club. While traffic delays would still result for through traffic on SR 28, the reduction in crossing activity discussed above would result in a slight reduction in the number of times per hour that the signal is activated.

Table 10: Walk Distance between WALT and Crystal Bay Club Gaming Areas

	Walk Distance (Feet)	Ratio to Minimum Distance
At Grade Crossing at Stateline Road	500	1.43
Existing At Grade Crossing	350	1.00
Pedestrian Overpass at Tahoe Nugget	500	1.43
Pedestrian Overpass at SR 28 Commercial Center Site	700	2.00

Table 9 presents an evaluation of the total highway pedestrian crossing activity that would use this crossing point, given the proposed project plan. The proportion of pedestrians between each trip origin/destination pair that would use the facility is estimated based upon the relative walk distance using the facility versus a more direct route, and pedestrian's propensity to prefer a protected crossing where convenient. Multiplied by the proportion of total pedestrian activity for each origin/destination pair and summed over all trips, it is estimated that 76 percent of all pedestrians crossing SR 28 in the vicinity would use the protected at-grade crossing.

It should also be noted that the existing at-grade crossing currently aids side-street movements out of Stateline Road, particularly for the left-turn movements onto the highway, by providing breaks in the through traffic on the state highway.

As stated above, the crosswalk traverses the intersection along a skewed path of approximately 26 degrees off of the perpendicular. The length of this path is 56 feet. A straight path across the roadway would be 50 feet in length. Straightening the crosswalk would provide for a more direct route across the roadway and could reduce the number of pedestrians crossing outside of the crosswalk. More importantly, the reduction of 6 feet of crossing without reducing the pedestrian clearance interval could provide for a slower pedestrian walking speed. The reconfiguration of the crosswalk would provide for a shorter, more logical, and therefore safer crossing for pedestrians and should be considered with the construction of the project. It is recommended that final plans for the redevelopment of the Biltmore site consider a site plan that allows a direct perpendicular pedestrian crossing.

PEDESTRIAN OVERPASS AT THE SOUTHWEST SIDE OF THE TAHOE NUGGET

Under this option, a pedestrian overpass would be constructed between Building H of the proposed project and an elevator/stair tower immediately adjacent to the southwest side of the Tahoe Nugget. Full ADA access would be provided on both sides of the roadway. This option would require the participation of The Tahoe Nugget owner, and would provide a walk distance between the two casinos of approximately 500 feet.

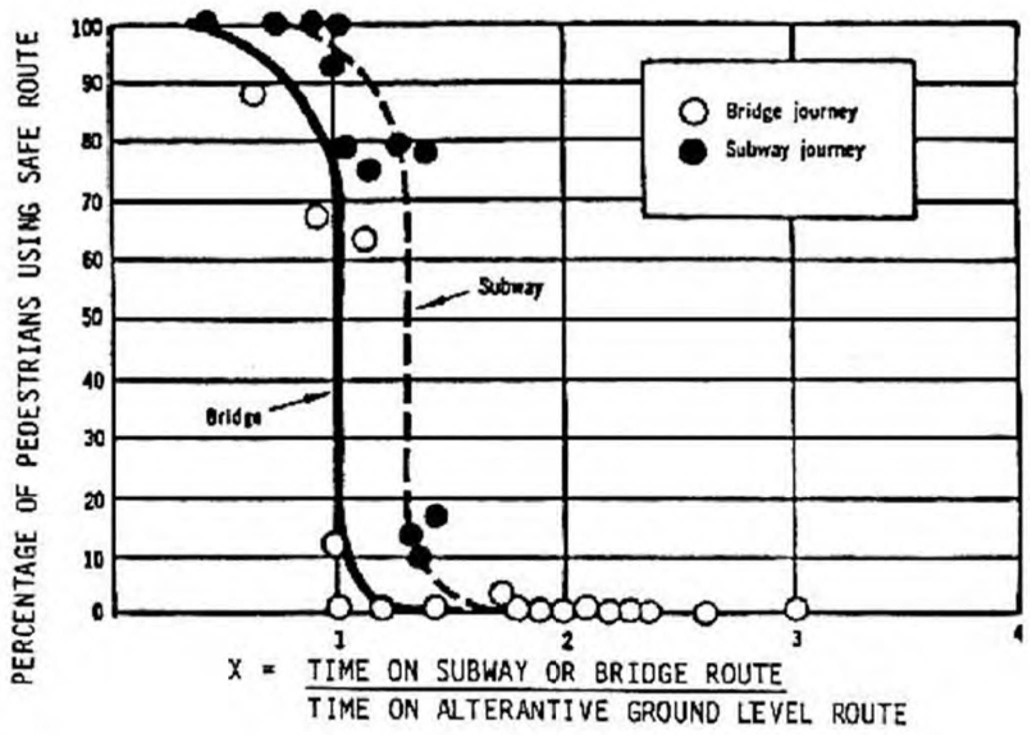
A key question regarding this alternative is how many of the pedestrians crossing SR 28 would use an overpass if available. To assess this issue, the methodology presented in *Design and Safety of Pedestrian Facilities* (Institute of Transportation Engineers, 1999) was applied. This methodology considers the ratio of travel time using the underpass to the travel time crossing at-grade. To generalize, it reflects the fact that previous studies have indicated that the large majority of pedestrians would use an overpass or underpass so long as the time required does not exceed the time for the at-grade crossing by more than roughly 20 percent. Above this ratio, the use of the underpass drops sharply towards zero. Figure 9 summarizes the results of this study. Table 10 presents the analysis of relative travel distance. As shown, the ratio of walk distance via the overpass versus crossing at-grade would be 1.43, indicating that virtually all pedestrians would choose to cross SR 28 at-grade rather than using the overpass when traveling between the two casinos.

As evidenced in the Stateline area of South Shore, one means of ensuring use of a pedestrian overpass or underpass is by installing fencing between the sidewalk and travel lanes. In the north Stateline area, however, this is infeasible due to the presence of the Crystal Bay Club driveway – roughly 70 feet to the east of the existing crosswalk – and the on-street bus stops on both sides of the highway – roughly an equivalent distance to the west. With fencing, pedestrians who find the overpass to be too far out of their way could simply walk around either end of the fencing.

Factoring the proportion of pedestrians making each origin-destination trip by the proportion using this facility, it is estimated that 65 percent of all persons crossing the highway would use this facility, or slightly less than the at-grade crossing. This proportion could be increased to 71 percent if fencing is provided along the north side of the highway between the hotel driveway and the bus stop. The remainder would still cross the highway at-grade. With a fence on the north side, the reduction in pedestrian activity would probably allow the removal of the at-grade pedestrian-actuated signal, with little resulting delay to traffic flow.

Beyond the pedestrian use considerations discussed above, the decision to provide a pedestrian overpass must consider other factors, such as the visual impact of the overpass structure and the elevator banks, stairs and/or ramps on either side, the detrimental impact on street-front retail activity, the cost, and the impact on traffic flow. According to the WALT project proponent, a pedestrian overpass is not considered to be a viable option.

Figure 9: Propensity of Pedestrians to Use Grade Separated Structures versus Ratio of Travel Time



PEDESTRIAN CROSSING AT THE SR 28 COMMERCIAL CENTER SITE

Another potential overpass site is at the location of the SR 28 Commercial Center that is part of the overall project site just to the east of the Tahoe Nugget parking area. This location would result in a walk distance between the Crystal Bay Club and proposed project casino gaming areas of roughly 700 feet, which is twice the distance via the existing at-grade crossing location. As also shown in Table 9, an overpass at this location would serve 42 percent of the crossing pedestrians. With a fence along the north side from the hotel driveway to the transit stop, this proportion would increase slightly to 46 percent. Pedestrian crossing on SR 28, particularly at the ends of the fence, would remain at a high enough levels in busy tourist periods to cause substantial conflict between pedestrians and motorists.

AT-GRADE CROSSING AT STATELINE ROAD

Relocating the existing pedestrian crossing to Stateline Road would put it in an inconvenient location for the majority of pedestrians in the area, resulting in only 9 percent of all crossing activity at this location. This would not be a volume-increase of pedestrians sufficient enough to warrant a traffic signal, and other measures (such as a mid-block pedestrian-actuated signal) would still be needed to the east.

CONCLUSIONS

Providing an at-grade signal-protected crosswalk at or near the existing location is recommended as the appropriate strategy for the foreseeable future. While this signal does create substantial traffic delays in peak traffic periods, given that the proposed project would generally reduce both traffic volumes in the area as well as pedestrian crossing activity, the provision of a pedestrian overpass as part of this phase of the project does not appear to be warranted. The existing crosswalk location best serves overall pedestrian demand patterns, though minor reconfiguration may be appropriate once final plans for the north side of the highway are determined. The location of bus stops should be coordinated with the transit agencies.

Appendix A

RAW COUNT DATA

Stateline/ Cove St.

Total		Date:	**7/8/2022**			Day: **Friday**													
Street Name		Stateline				Stateline								Cove St				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
14:30	14:45	0	0	0	0	0	0	0	0					0	0	0	0	0	8
14:45	15:00	0	0	0	0	0	0	0	0					0	0	0	0	0	9
15:00	15:15	1	1	0	0	0	4	0	0					0	0	1	0	7	16
15:15	15:30	0	0	0	0	0	1	0	0					0	0	0	0	1	15
15:30	15:45	0	1	0	0	0	0	0	0					0	0	0	0	1	18
15:45	16:00	1	2	0	0	0	2	0	0					0	0	2	0	7	23
16:00	16:15	0	1	0	0	0	4	1	0					0	0	0	1	6	25
16:15	16:30	0	3	0	0	0	0	0	0					0	0	1	0	4	25
16:30	16:45	0	3	0	1	0	2	0	0					0	0	1	0	6	26
16:45	17:00	3	2	0	1	0	3	0	0					1	0	0	0	9	
17:00	17:15	4	1	0	1	0	1	0	0					0	0	0	0	6	
17:15	17:30	3	2	0	0	0	0	0	0					0	0	0	1	5	
																			PHF
PM Peak-Hour		**10**	**8**	**0**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**26**	**0.72**

Total		Date:	**7/16/2022**			Day: **Saturday**													
Street Name		Stateline				Stateline								Cove St				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0					0	0	0	0	0	10
13:45	14:00	1	1	0	0	0	1	0	0					0	0	2	0	5	15
14:00	14:15	0	1	0	0	0	2	0	0					1	0	0	4	4	14
14:15	14:30	0	1	0	0	0	0	0	0					0	0	0	0	1	20
14:30	14:45	1	4	0	0	0	0	0	0					0	0	0	2	5	22
14:45	15:00	1	1	0	0	0	1	1	0					0	0	0	0	4	21
15:00	15:15	0	3	0	0	0	2	0	0					1	0	4	1	10	19
15:15	15:30	0	1	0	0	0	1	1	0					0	0	0	1	3	15
15:30	15:45	1	1	0	0	0	1	0	0					0	0	1	0	4	19
15:45	16:00	1	0	0	0	0	0	0	0					0	0	1	1	2	
16:00	16:15	0	0	0	0	0	2	0	0					0	0	4	0	6	
16:15	16:30	2	2	0	3	0	1	0	0					0	0	2	0	7	
																			PHF
PM Peak-Hour		**2**	**9**	**0**	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**4**	**22**	**0.55**

SR28 / State Line

Total		Date:	**7/8/2022**		Day: **Friday**														
Street Name		Stateline Rd				Stateline Rd				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	1	1	2	0	0	0	3	0	2	106	1	0	3	84	1	0	204	924
8:15	8:30	0	0	2	2	0	0	2	0	1	104	0	0	2	103	2	0	216	973
8:30	8:45	0	0	2	0	0	0	3	0	2	126	0	0	2	130	0	0	265	1,063
8:45	9:00	1	0	0	0	0	0	3	0	2	138	0	0	1	93	1	0	239	1,029
9:00	9:15	0	1	4	0	1	0	4	1	1	134	0	0	2	105	1	0	253	1,090
9:15	9:30	0	0	2	0	0	0	6	0	4	154	0	0	2	136	2	0	306	
9:30	9:45	0	0	1	0	1	0	2	0	0	113	0	0	0	114	0	0	231	
9:45	10:00	1	0	4	0	1	0	2	0	1	172	1	0	1	116	1	0	300	
14:45	15:00	0	0	1	0	3	0	2	0	0	82	0	0	2	82	0	1	172	1,198
15:00	15:15	0	0	0	0	0	0	1	0	3	167	0	0	3	173	1	0	348	1,380
15:15	15:30	1	0	4	0	3	0	1	0	3	168	0	0	3	144	0	0	327	1,434
15:30	15:45	0	0	2	5	1	0	1	0	0	181	0	0	2	163	1	0	351	1,486
15:45	16:00	1	0	4	0	1	0	3	0	4	169	0	1	2	169	1	0	354	1,528
16:00	16:15	0	0	2	1	1	0	3	2	0	204	1	1	2	188	1	0	402	1,590
16:15	16:30	0	0	7	0	1	0	2	9	1	184	0	1	1	182	1	0	379	1,559
16:30	16:45	0	0	2	2	2	0	1	1	3	183	0	0	0	202	0	1	393	1,545
16:45	17:00	0	0	3	2	2	0	8	0	1	200	0	0	2	200	0	0	416	
17:00	17:15	2	0	0	2	1	0	0	0	3	198	0	0	2	165	0	0	371	
17:15	17:30	1	0	0	0	2	0	3	0	3	177	0	0	1	178	0	1	365	
		0	0	1	1	1	0	0	0	1	83	0	0	0	108	2	0		
																			PHF
AM Peak-Hour		**1**	**1**	**11**	**0**	**3**	**0**	**14**	**1**	**6**	**573**	**1**	**0**	**5**	**471**	**4**	**0**	**1,090**	**0.89**
PM Peak-Hour		**0**	**0**	**14**	**5**	**6**	**0**	**14**	**12**	**5**	**771**	**1**	**2**	**5**	**772**	**2**	**1**	**1,590**	**0.96**

HV																			
Street Name		Stateline Rd				Stateline Rd				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	0	1	0	0	0	2	0	0	1	0	0	0	3	0	0	7	30
8:15	8:30	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0	0	7	29
8:30	8:45	0	0	0	0	0	0	0	0	1	7	0	0	0	2	0	0	10	29
8:45	9:00	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	25
9:00	9:15	0	0	0	0	0	0	2	0	0	2	0	0	0	2	0	0	6	23
9:15	9:30	0	0	0	0	0	0	1	0	1	3	0	0	0	2	0	0	7	17
9:30	9:45	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6	
9:45	10:00	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
14:30	14:45	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	15
14:45	15:00	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	18
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	19
15:15	15:30	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	18
15:30	15:45	0	0	0	0	0	0	1	0	0	3	0	0	0	1	1	0	6	18
15:45	16:00	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	4	25
16:00	16:15	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	24
16:15	16:30	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	4	22
16:30	16:45	0	0	0	0	0	0	3	0	0	5	0	0	0	5	0	0	13	21
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	
17:00	17:15	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
17:15	17:30	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**10**	**0**	**0**	**0**	**9**	**0**	**0**	**23**	**0.0211**
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**8**	**0**	**0**	**0**	**12**	**0**	**0**	**24**	**0.02**

Bicycle																
Street Name		Stateline			Stateline			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15	8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:30	8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45	9:00	0	0	0	0	0	0	0	3	0	0	0	0	3	8
9:00	9:15	0	0	0	0	0	0	0	4	0	0	0	0	4	6
9:15	9:30	0	0	0	0	0	0	0	1	0	0	0	0	1	
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45	10:00	0	0	0	0	0	0	0	1	0	0	0	0	1	
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	6
14:45	15:00	0	0	0	0	0	0	0	0	0	0	1	0	1	6
15:00	15:15	0	0	0	0	0	0	2	0	0	0	0	0	2	6
15:15	15:30	0	0	0	0	0	0	0	1	0	0	2	0	3	8
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	7
15:45	16:00	0	0	0	0	0	0	0	0	0	0	1	0	1	11
16:00	16:15	0	0	0	0	0	0	0	0	0	0	4	0	4	10
16:15	16:30	0	0	0	0	0	0	0	2	0	0	0	0	2	9
16:30	16:45	0	0	0	0	0	0	0	3	0	0	1	0	4	7
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00	17:15	0	0	0	0	0	3	0	0	0	0	0	0	3	
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**5**	**0**	**10**	

Total		Date: **7/9/2022**				Day: **Saturday**													
Street Name		Stateline Rd				Stateline Rd				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0	0	21	0	0	1	13	0	0	35	1029
13:45	14:00	1	0	2	0	0	0	3	1	1	158	1	0	0	160	2	0	328	1338
14:00	14:15	0	0	1	0	1	1	5	0	2	152	0	4	1	167	1	0	331	1393
14:15	14:30	0	0	2	1	0	0	0	0	1	171	0	0	3	158	0	0	335	1407
14:30	14:45	0	0	5	0	0	0	1	0	2	157	0	0	2	176	1	0	344	1426
14:45	15:00	1	0	0	0	0	0	1	0	4	196	0	0	1	180	0	0	383	1428
15:00	15:15	1	0	1	0	3	0	3	0	1	158	0	0	0	177	1	0	345	1405
15:15	15:30	0	0	1	0	0	0	3	0	2	179	0	0	5	164	0	0	354	1437
15:30	15:45	1	1	2	2	1	0	4	0	1	169	0	0	1	163	3	0	346	1378
15:45	16:00	0	0	1	0	2	0	1	0	2	194	1	0	1	158	0	0	360	
16:00	16:15	1	0	2	1	0	0	5	0	0	181	1	0	1	186	0	1	377	
16:15	16:30	0	0	0	1	1	0	5	0	1	148	0	0	1	137	2	0	295	
																			PHF
PM Peak-Hour		**3**	**1**	**4**	**2**	**4**	**0**	**11**	**0**	**8**	**702**	**0**	**0**	**7**	**684**	**4**	**0**	**1,428**	**0.93**

HV																			
Street Name		Stateline Rd				Stateline Rd				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
13:45	14:00	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	9
14:00	14:15	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3	7
14:15	14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	11
14:45	15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	10
15:00	15:15	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	12
15:15	15:30	0	0	0	0	0	0	1	0	0	2	0	0	0	2	0	0	5	12
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
15:45	16:00	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
16:00	16:15	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**4**	**0**	**0**	**10**	**0.0070**

Bicycle															
Street Name		Stateline			Stateline			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	7
13:45	14:00	0	0	0	0	0	0	0	0	0	0	3	0	3	10
14:00	14:15	0	0	0	0	0	0	0	0	0	0	3	0	3	9
14:15	14:30	0	0	0	0	0	0	0	0	0	0	1	0	1	6
14:30	14:45	0	0	0	0	0	0	0	3	0	0	0	0	3	8
14:45	15:00	0	0	0	0	0	0	0	0	0	0	2	0	2	5
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	5
15:15	15:30	0	0	0	0	0	0	0	1	0	0	2	0	3	6
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0	0	2	0	2	0
16:00	16:15	0	0	0	0	0	0	0	0	0	0	1	0	1	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**5**	

SR28 / Crosswalk - Biltmore site closed/under construction during counts.

Total		Date:	7/8/2022			Day:	**Friday**												
Street Name		Crosswalk				Crosswalk				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	0	0	1	0	0	0	0	0	92	0	0	0	123	0	0	215	923
8:15	8:30	0	0	0	1	0	0	0	0	0	109	0	0	0	104	0	0	213	955
8:30	8:45	0	0	0	0	0	0	0	0	0	132	0	0	0	126	0	0	258	1,038
8:45	9:00	0	0	0	0	0	0	0	0	0	98	0	0	0	139	0	0	237	1,007
9:00	9:15	0	0	0	0	0	0	0	0	0	107	0	0	0	140	0	0	247	1,088
9:15	9:30	0	0	0	0	0	0	0	0	0	140	0	0	0	156	0	0	296	
9:30	9:45	0	0	0	0	0	0	0	0	0	114	0	0	0	113	0	0	227	
9:45	10:00	0	0	0	0	0	0	0	0	0	140	0	0	0	178	0	0	318	
14:30	14:45	0	0	0	0	0	0	0	2	0	133	0	0	0	132	0	0	265	1,285
14:45	15:00	0	0	0	0	0	0	0	0	0	169	0	0	0	172	0	0	341	1,386
15:00	15:15	0	0	0	0	0	0	0	0	0	147	0	0	0	178	0	0	325	1,441
15:15	15:30	0	0	0	0	0	0	0	0	0	170	0	0	0	184	0	0	354	1,472
15:30	15:45	0	0	0	0	0	0	0	0	0	181	0	0	0	185	0	0	366	1,491
15:45	16:00	0	0	0	8	0	0	0	1	0	188	0	0	0	208	0	0	396	1,481
16:00	16:15	0	0	0	0	0	0	0	1	0	176	0	0	0	180	0	0	356	1,457
16:15	16:30	0	0	0	0	0	0	0	0	0	179	0	0	0	194	0	0	373	1,439
16:30	16:45	0	0	0	0	0	0	0	1	0	155	0	0	0	201	0	0	356	
16:45	17:00	0	0	0	2	0	0	0	0	0	171	0	0	0	201	0	0	372	
17:00	17:15	0	0	0	2	0	0	0	0	0	177	0	0	0	161	0	0	338	
17:15	17:30	0	0	0	1	0	0	0	1	0	174	0	0	0	172	0	0		
																			PHF
AM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**501**	**0**	**0**	**0**	**587**	**0**	**0**	**1,088**	**0.86**
PM Peak-Hour		**0**	**0**	**0**	**8**	**0**	**0**	**0**	**2**	**0**	**724**	**0**	**0**	**0**	**767**	**0**	**0**	**1,491**	**0.94**

HV																			
Street Name		Crosswalk				Crosswalk				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7	28
8:15	8:30	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	7	26
8:30	8:45	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	0	9	25
8:45	9:00	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	22
9:00	9:15	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	22
9:15	9:30	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	17
9:30	9:45	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6	
9:45	10:00	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	15
14:45	15:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	15
15:00	15:15	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5	15
15:15	15:30	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5	16
15:30	15:45	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	17
15:45	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	21
16:00	16:15	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6	21
16:15	16:30	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6	19
16:30	16:45	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7	19
16:45	17:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
17:00	17:15	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
17:15	17:30	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**12**	**0**	**0**	**22**	**0.0202**
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**8**	**0**	**0**	**17**	**0.01**

Bicycle															
Street Name		Crosswalk			Crosswalk			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15	8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:30	8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:45	9:00	0	0	0	0	0	0	0	0	0	0	2	0	2	7
9:00	9:15	0	0	0	0	0	0	0	0	0	0	4	0	4	6
9:15	9:30	0	0	0	0	0	0	0	0	0	0	1	0	1	
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45	10:00	0	0	0	0	0	0	0	0	0	0	1	0	1	
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3
14:45	15:00	0	0	0	0	0	0	0	1	0	0	0	0	1	5
15:00	15:15	0	0	0	0	0	0	0	1	0	0	0	0	1	5
15:15	15:30	0	0	0	0	0	0	0	0	0	0	1	0	1	9
15:30	15:45	0	0	0	0	0	0	0	2	0	0	0	0	2	10
15:45	16:00	0	0	0	0	0	0	0	0	0	0	1	0	1	12
16:00	16:15	0	0	0	0	0	0	0	4	0	0	1	0	5	11
16:15	16:30	0	0	0	0	0	0	0	0	0	0	2	0	2	6
16:30	16:45	0	0	0	0	0	0	0	1	0	0	3	0	4	4
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**6**	
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**4**	**0**	**10**	

Total		Date:	**7/9/2022**			Day: **Saturday**													
Street Name		Crosswalk				Crosswalk				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	0	0	0	3	0	0	0	0	0	157	0	0	0	168	0	0	325	1303
13:45	14:00	0	0	0	0	0	0	0	0	0	161	0	0	0	163	0	0	324	1320
14:00	14:15	0	0	0	3	0	0	0	0	0	168	0	0	0	151	0	0	319	1370
14:15	14:30	0	0	0	2	0	0	0	0	0	160	0	0	0	175	0	0	335	1392
14:30	14:45	0	0	0	0	0	0	0	0	0	180	0	0	0	162	0	0	342	1410
14:45	15:00	0	0	0	3	0	0	0	1	0	183	0	0	0	191	0	0	374	1399
15:00	15:15	0	0	0	0	0	0	0	0	0	178	0	0	0	163	0	0	341	1375
15:15	15:30	0	0	0	1	0	0	0	3	0	171	0	0	0	182	0	0	353	1411
15:30	15:45	0	0	0	0	0	0	0	2	0	164	0	0	0	167	0	0	331	1360
15:45	16:00	0	0	0	2	0	0	0	0	0	157	0	0	0	193	0	0	350	
16:00	16:15	0	0	0	4	0	0	0	0	0	186	0	0	0	191	0	0	377	
16:15	16:30	0	0	0	0	0	0	0	0	0	146	0	0	0	156	0	0	302	
																			PHF
PM Peak-Hour		**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**712**	**0**	**0**	**0**	**698**	**0**	**0**	**1,410**	**0.94**

HV																			
Street Name		Crosswalk				Crosswalk				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	9
13:45	14:00	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	8
14:00	14:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6
14:15	14:30	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	7
14:30	14:45	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	10
14:45	15:00	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	2	9
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	10
15:15	15:30	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	10
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
15:45	16:00	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**10**	**0.0071**

Bicycle															
Street Name		Crosswalk			Crosswalk			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	0	0	0	0	0	0	0	0	0	9	0	9	16
13:45	14:00	0	0	0	0	0	0	0	3	0	0	0	0	3	11
14:00	14:15	0	0	0	0	0	0	0	3	0	0	0	0	3	8
14:15	14:30	0	0	0	0	0	0	0	1	0	0	0	0	1	5
14:30	14:45	0	0	0	0	0	0	0	1	0	0	3	0	4	6
14:45	15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	4
15:15	15:30	0	0	0	0	0	0	0	1	0	0	1	0	2	5
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	2	0	0	0	0	2	0
16:00	16:15	0	0	0	0	0	0	0	1	0	0	0	0	1	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**4**	**0**	**6**	

SR28 / Cal Neva Dr

Total		Date:	7/8/2022		Day: Friday														
Street Name		SR28				SR28								Cal Neva Dr				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	118	1	0	3	92	0	0					0	0	3	2	217	926
8:15	8:30	0	104	0	0	0	110	0	0					1	0	2	1	217	956
8:30	8:45	0	126	0	0	3	127	0	0					0	0	1	1	257	1,034
8:45	9:00	0	131	2	0	0	100	0	0					1	0	1	2	235	1,008
9:00	9:15	0	138	0	0	2	101	0	0					0	0	6	0	247	1,061
9:15	9:30	0	152	3	0	1	136	0	0					3	0	0	0	295	
9:30	9:45	0	107	0	0	1	119	0	0					2	0	2	1	231	
9:45	10:00	0	161	1	0	2	120	0	0					0	0	4	0	288	
14:45	15:00	0	102	0	0	2	80	0	0					0	0	2	0	186	1,239
15:00	15:15	0	171	0	0	2	145	0	0					1	0	4	1	323	1,411
15:15	15:30	0	176	1	0	3	169	0	0					0	0	4	1	353	1,447
15:30	15:45	0	183	0	0	3	189	0	0					0	0	2	0	377	1,453
15:45	16:00	0	178	2	0	0	176	0	0					1	0	1	0	358	1,434
16:00	16:15	0	180	1	0	2	168	0	0					2	0	6	1	359	1,451
16:15	16:30	0	178	0	0	5	173	0	0					1	0	2	1	359	1,417
16:30	16:45	0	196	2	0	1	154	0	0					2	0	3	1	358	1,425
16:45	17:00	0	195	2	0	2	175	0	0					0	0	1	2	375	
17:00	17:15	0	142	0	0	2	179	0	0					2	0	0	5	325	
17:15	17:30	0	187	2	0	1	172	0	0					1	0	4	5	367	
																			PHF
AM Peak-Hour		**0**	**558**	**4**	**0**	**6**	**476**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**12**	**1**	**1,061**	**0.90**
PM Peak-Hour		**0**	**719**	**3**	**0**	**10**	**706**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**11**	**2**	**1,453**	**0.96**

HV																			
Street Name		SR28				SR28								Cal Neva Dr				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	4	0	0	0	3	0	0					0	0	0	0	7	29
8:15	8:30	0	5	0	0	0	2	0	0					0	0	0	0	7	28
8:30	8:45	0	7	0	0	0	2	0	0					0	0	0	0	9	26
8:45	9:00	0	2	0	0	0	4	0	0					0	0	0	0	6	23
9:00	9:15	0	3	0	0	0	3	0	0					0	0	0	0	6	20
9:15	9:30	0	3	0	0	0	2	0	0					0	0	0	0	5	14
9:30	9:45	0	4	0	0	0	2	0	0					0	0	0	0	6	
9:45	10:00	0	1	0	0	0	2	0	0					0	0	0	0	3	
14:30	14:45	0	0	0	0	0	0	0	0					0	0	0	0	0	12
14:45	15:00	0	0	0	0	0	2	0	0					0	0	0	0	2	17
15:00	15:15	0	1	0	0	0	4	0	0					0	0	0	0	5	17
15:15	15:30	0	1	0	0	0	4	0	0					0	0	0	0	5	14
15:30	15:45	0	4	0	0	0	1	0	0					0	0	0	0	5	16
15:45	16:00	0	2	0	0	0	0	0	0					0	0	0	0	2	19
16:00	16:15	0	1	0	0	0	1	0	0					0	0	0	0	2	18
16:15	16:30	0	3	0	0	0	4	0	0					0	0	0	0	7	23
16:30	16:45	0	3	0	0	0	5	0	0					0	0	0	0	8	19
16:45	17:00	0	0	0	0	0	1	0	0					0	0	0	0	1	
17:00	17:15	0	3	0	0	0	4	0	0					0	0	0	0	7	
17:15	17:30	0	2	0	0	0	1	0	0					0	0	0	0	3	
																			% HV
Peak-Hour Volume		**0**	**11**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0.0189**
PM Peak-Hour		**0**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0.01**

Bicycle															
Street Name		SR28			SR28						Cal Neva Dr			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	2	0	0	0	0				0	0	0	2	7
8:15	8:30	0	0	0	0	1	0				0	0	0	1	9
8:30	8:45	0	0	0	0	0	0				0	0	0	0	9
8:45	9:00	0	3	0	0	0	0				0	0	1	4	9
9:00	9:15	0	4	0	0	0	0				0	0	0	4	5
9:15	9:30	0	1	0	0	0	0				0	0	0	1	
9:30	9:45	0	0	0	0	0	0				0	0	0	0	
9:45	10:00	0	0	0	0	0	0				0	0	0	0	
14:30	14:45	0	0	0	0	0	0				0	0	0	0	3
14:45	15:00	0	0	0	0	0	0				0	0	0	0	4
15:00	15:15	0	0	0	0	2	0				0	0	0	2	4
15:15	15:30	0	1	0	0	0	0				0	0	0	1	4
15:30	15:45	0	0	0	0	1	0				0	0	0	1	4
15:45	16:00	0	0	0	0	0	0				0	0	0	0	6
16:00	16:15	0	2	0	0	0	0				0	0	0	2	7
16:15	16:30	0	1	0	0	0	0				0	0	0	1	5
16:30	16:45	0	2	0	0	1	0				0	0	0	3	5
16:45	17:00	0	0	0	0	1	0				0	0	0	1	
17:00	17:15	0	0	0	0	0	0				0	0	0	0	
17:15	17:30	0	0	0	0	1	0				0	0	0	1	
Peak-Hour Volume		**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	
PM Peak-Hour		**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	

Total		Date:	**7/9/2022**				Day:	**Saturday**											
Street Name		SR28				SR28								Cal Neva Dr				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	0	167	1	0	2	153	0	0					1	0	2	0	326	1326
13:45	14:00	0	165	0	0	1	159	0	0					1	0	2	0	328	1331
14:00	14:15	0	148	1	0	2	167	0	0					1	0	1	0	320	1378
14:15	14:30	0	179	0	0	0	168	0	0					0	0	5	0	352	1408
14:30	14:45	0	155	0	0	0	173	0	0					1	0	2	0	331	1406
14:45	15:00	0	192	0	0	3	180	0	0					0	0	0	0	375	1400
15:00	15:15	0	165	0	0	2	181	0	0					0	0	2	0	350	1378
15:15	15:30	0	180	1	0	1	165	0	0					1	0	2	0	350	1395
15:30	15:45	0	159	0	0	1	162	0	0					2	0	1	2	325	1348
15:45	16:00	0	187	1	0	1	162	0	0					1	0	1	0	353	
16:00	16:15	0	187	1	0	2	173	0	0					1	0	3	2	367	
16:15	16:30	0	153	0	0	0	149	0	0					0	0	1	0	303	
																			PHF
PM Peak-Hour		**0**	**691**	**0**	**0**	**5**	**702**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**9**	**0**	**1,408**	**0.94**

HV																			
Street Name		SR28				SR28								Cal Neva Dr				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	1	0	0	0	1	0	0					0	0	0	0	2	9
13:45	14:00	0	2	0	0	0	2	0	0					0	0	0	0	4	8
14:00	14:15	0	0	0	0	0	1	0	0					0	0	0	0	1	6
14:15	14:30	0	1	0	0	0	1	0	0					0	0	0	0	2	7
14:30	14:45	0	0	0	0	0	1	0	0					0	0	0	0	1	9
14:45	15:00	0	0	0	0	0	2	0	0					0	0	0	0	2	8
15:00	15:15	0	2	0	0	0	0	0	0					0	0	0	0	2	10
15:15	15:30	0	2	0	0	0	2	0	0					0	0	0	0	4	10
15:30	15:45	0	0	0	0	0	0	0	0					0	0	0	0	0	6
15:45	16:00	0	0	1	0	0	3	0	0					0	0	0	0	4	
16:00	16:15	0	2	0	0	0	0	0	0					0	0	0	0	2	
16:15	16:30	0	0	0	0	0	0	0	0					0	0	0	0	0	
																			% HV
Peak-Hour Volume		**0**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0.0050**

Bicycle															
Street Name		SR28			SR28						Cal Neva Dr			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	9	0	0	0	0				0	0	0	9	16
13:45	14:00	0	0	0	0	3	0				0	0	0	3	10
14:00	14:15	0	0	0	0	3	0				0	0	0	3	9
14:15	14:30	0	0	0	0	1	0				0	0	0	1	6
14:30	14:45	0	3	0	0	0	0				0	0	0	3	7
14:45	15:00	0	0	0	0	2	0				0	0	0	2	5
15:00	15:15	0	0	0	0	0	0				0	0	0	0	5
15:15	15:30	0	1	0	0	1	0				0	0	0	2	7
15:30	15:45	0	0	0	0	1	0				0	0	0	1	0
15:45	16:00	0	0	0	0	2	0				0	0	0	2	0
16:00	16:15	0	0	0	0	2	0				0	0	0	2	0
16:15	16:30	0	0	0	0	0	0				0	0	0	0	0
Peak-Hour Volume		**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	

SR28 / Reservoir Dr.

Total		**Date:**	**7/8/2022**			**Day: Friday**													
Street Name		SR28				SR28				Reservoir Rd				Neighborhood				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	112	0	0	1	91	0	0	0	0	2	0	0	0	0	0	206	921
8:15	8:30	1	104	0	0	0	111	0	0	2	0	1	0	0	0	1	0	220	967
8:30	8:45	1	126	0	0	0	126	1	0	0	0	3	0	1	0	0	0	258	1,041
8:45	9:00	2	130	0	0	3	98	0	0	1	0	2	0	0	0	1	0	237	1,017
9:00	9:15	3	141	0	0	1	101	0	0	2	0	1	0	2	0	1	0	252	1,101
9:15	9:30	3	150	0	0	1	136	0	0	0	0	2	1	0	0	2	1	294	
9:30	9:45	5	103	0	0	1	121	1	0	2	0	1	0	0	0	0	0	234	
9:45	10:00	2	178	0	0	2	133	0	0	0	0	5	0	0	0	1	0	321	
14:30	14:45	3	85	0	0	0	75	0	0	0	0	1	0	0	0	0	0	164	1,212
14:45	15:00	2	186	0	0	1	166	1	0	1	0	2	0	0	0	4	0	363	1,423
15:00	15:15	4	167	0	0	2	157	1	0	2	0	2	0	0	0	1	0	336	1,450
15:15	15:30	3	167	0	0	1	173	1	0	1	0	1	0	0	0	2	0	349	1,484
15:30	15:45	3	190	0	0	2	168	2	0	2	0	7	0	0	0	1	0	375	1,494
15:45	16:00	4	190	0	0	0	192	0	0	1	0	3	0	0	0	0	0	390	1,467
16:00	16:15	4	173	0	0	0	186	1	0	1	0	3	0	0	0	2	0	370	1,453
16:15	16:30	4	186	0	0	0	160	3	0	1	0	4	0	0	0	1	0	359	1,414
16:30	16:45	1	195	0	0	2	145	0	0	0	0	0	0	0	0	5	0	348	1,422
16:45	17:00	3	183	0	0	2	181	0	0	2	0	2	0	0	0	3	0	376	
17:00	17:15	2	142	0	0	0	183	0	0	2	0	1	0	0	0	1	0	331	
17:15	17:30	3	176	0	0	1	183	0	0	0	0	0	0	1	0	3	0	367	
																			PHF
AM Peak-Hour		**13**	**572**	**0**	**0**	**5**	**491**	**1**	**0**	**4**	**0**	**9**	**1**	**2**	**0**	**4**	**1**	**1,101**	**0.86**
PM Peak-Hour		**15**	**739**	**0**	**0**	**2**	**706**	**6**	**0**	**5**	**0**	**17**	**0**	**0**	**0**	**4**	**0**	**1,494**	**0.96**

HV																			
Street Name		SR28				SR28				Reservoir Rd				Neighborhood				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7	29
8:15	8:30	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7	27
8:30	8:45	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9	26
8:45	9:00	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	23
9:00	9:15	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	22
9:15	9:30	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	
9:30	9:45	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6	
9:45	10:00	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
14:30	14:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
14:45	15:00	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	17
15:00	15:15	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	14
15:15	15:30	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	15
15:30	15:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16
15:45	16:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	19
16:00	16:15	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	18
16:15	16:30	2	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	19
16:30	16:45	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	15
16:45	17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
17:00	17:15	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	
17:15	17:30	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
																			% HV
Peak-Hour Volume		**1**	**11**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**0.0200**
PM Peak-Hour		**2**	**8**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0.01**

Bicycle															
Street Name		SR28			SR28			Reservoir Rd			Neighborhood			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15	8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:30	8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45	9:00	0	3	0	0	0	0	0	0	0	0	0	0	3	8
9:00	9:15	0	4	0	0	0	0	0	0	0	0	0	0	4	6
9:15	9:30	0	1	0	0	0	0	0	0	0	0	0	0	1	
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45	10:00	0	1	0	0	0	0	0	0	0	0	0	0	1	
14:30	14:45	0	0	0	0	1	0	0	0	0	0	0	0	1	4
14:45	15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4
15:00	15:15	0	1	0	0	2	0	0	0	0	0	0	0	3	4
15:15	15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	7
15:30	15:45	0	0	0	0	1	0	0	0	0	0	0	0	1	10
15:45	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	10
16:00	16:15	0	2	0	0	4	0	0	0	0	0	0	0	6	12
16:15	16:30	0	3	0	0	0	0	0	0	0	0	0	0	3	6
16:30	16:45	0	0	0	0	1	0	0	0	0	0	0	0	1	4
16:45	17:00	0	1	0	0	1	0	0	0	0	0	0	0	2	
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	17:30	0	0	0	0	1	0	0	0	0	0	0	0	1	
Peak-Hour Volume		**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	
PM Peak-Hour		**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	

Total		Date: **7/9/2022**				Day: **Saturday**													
Street Name		SR28				SR28				Reservoir Rd				Neighborhood				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	4	164	0	1	0	154	3	0	0	0	2	0	0	0	1	0	328	1336
13:45	14:00	1	167	0	0	0	157	0	0	3	0	2	0	0	0	0	0	330	1337
14:00	14:15	1	146	0	0	1	168	0	0	0	0	1	0	0	0	1	0	318	1384
14:15	14:30	4	180	1	0	3	172	0	0	0	0	0	0	0	0	0	1	360	1421
14:30	14:45	1	155	0	0	0	171	0	0	0	0	2	1	0	0	0	0	329	1414
14:45	15:00	1	188	1	0	1	179	1	0	1	0	1	0	1	0	3	0	377	1412
15:00	15:15	3	164	0	0	0	184	1	0	0	0	1	0	0	0	2	0	355	1391
15:15	15:30	4	180	0	0	0	165	1	0	0	0	1	0	0	0	2	0	353	1400
15:30	15:45	4	154	2	0	1	162	2	0	1	0	0	0	1	0	0	1	327	1360
15:45	16:00	1	188	0	0	0	164	0	0	2	0	1	0	0	0	0	0	356	
16:00	16:15	5	183	1	0	1	172	0	0	0	0	1	0	0	0	1	0	364	
16:15	16:30	0	154	1	0	2	151	1	0	1	0	1	0	1	0	1	0	313	
																			PHF
PM Peak-Hour		**9**	**687**	**2**	**0**	**4**	**706**	**2**	**0**	**1**	**0**	**4**	**1**	**1**	**0**	**5**	**1**	**1,421**	**0.94**

HV																			
Street Name		SR28				SR28				Reservoir Rd				Neighborhood				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	8
13:45	14:00	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	7
14:00	14:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	6
14:15	14:30	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	7
14:30	14:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10
14:45	15:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	9
15:00	15:15	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10
15:15	15:30	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	10
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
15:45	16:00	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
16:00	16:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
																			% HV
Peak-Hour Volume		**1**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0.0049**

Bicycle															
Street Name		SR28			SR28			Reservoir Rd			Neighborhood			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	9	0	0	0	0	0	0	0	0	0	0	9	16
13:45	14:00	0	0	0	0	3	0	0	0	0	0	0	0	3	10
14:00	14:15	0	0	0	0	3	0	0	0	0	0	0	0	3	9
14:15	14:30	0	0	0	0	1	0	0	0	0	0	0	0	1	6
14:30	14:45	0	3	0	0	0	0	0	0	0	0	0	0	3	7
14:45	15:00	0	0	0	0	2	0	0	0	0	0	0	0	2	4
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	4
15:15	15:30	0	1	0	0	1	0	0	0	0	0	0	0	2	4
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15:45	16:00	0	0	0	0	2	0	0	0	0	0	0	0	2	
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-Hour Volume		**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	

SR28 / Big Water Rd.

Total		Date:	7/8/2022		Day: Friday														
Street Name		SR28				SR28				Big Water Rd								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	112	0	0	0	92	0	0	1	0	0	0					205	911
8:15	8:30	0	105	0	0	0	111	1	0	0	0	0	0					217	955
8:30	8:45	0	127	0	0	0	127	0	0	1	0	1	0					256	1,029
8:45	9:00	0	132	0	0	0	101	0	0	0	0	0	1					233	1,004
9:00	9:15	1	143	0	0	0	102	0	0	3	0	0	2					249	1,087
9:15	9:30	0	153	0	0	0	137	0	0	1	0	0	0					291	
9:30	9:45	0	108	0	0	0	123	0	0	0	0	0	0					231	
9:45	10:00	0	180	0	0	0	135	0	0	1	0	0	0					316	
14:30	14:45	0	88	0	0	0	75	0	0	0	0	0	0					163	1,198
14:45	15:00	0	188	0	0	0	168	0	0	0	0	0	0					356	1,400
15:00	15:15	2	169	0	0	0	159	1	0	0	0	1	0					332	1,430
15:15	15:30	0	170	0	0	0	175	0	0	1	0	1	0					347	1,462
15:30	15:45	1	192	0	0	0	172	0	0	0	0	0	0					365	1,468
15:45	16:00	0	194	0	0	0	192	0	0	0	0	0	0					386	1,446
16:00	16:15	0	177	0	0	0	186	1	0	0	0	0	0					364	1,430
16:15	16:30	0	190	0	1	0	163	0	0	0	0	0	0					353	1,393
16:30	16:45	0	196	0	0	0	147	0	0	0	0	0	0					343	1,403
16:45	17:00	0	186	0	0	0	182	1	0	0	0	1	0					370	
17:00	17:15	0	144	0	0	0	183	0	0	0	0	0	0					327	
17:15	17:30	0	179	0	0	0	184	0	0	0	0	0	0					363	
																			PHF
AM Peak-Hour		**1**	**584**	**0**	**0**	**0**	**497**	**0**	**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1,087**	**0.86**
PM Peak-Hour		**1**	**753**	**0**	**1**	**0**	**713**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,468**	**0.95**

HV																			
Street Name		SR28				SR28				Big Water Rd								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	4	0	0	0	3	0	0	0	0	0	0					7	29
8:15	8:30	0	5	0	0	0	2	0	0	0	0	0	0					7	27
8:30	8:45	0	7	0	0	0	2	0	0	0	0	0	0					9	26
8:45	9:00	0	3	0	0	0	3	0	0	0	0	0	0					6	23
9:00	9:15	0	3	0	0	0	2	0	0	0	0	0	0					5	22
9:15	9:30	0	3	0	0	0	3	0	0	0	0	0	0					6	
9:30	9:45	0	4	0	0	0	2	0	0	0	0	0	0					6	
9:45	10:00	0	2	0	0	0	3	0	0	0	0	0	0					5	
14:30	14:45	0	1	0	0	0	0	0	0	0	0	0	0					1	15
14:45	15:00	0	0	0	0	0	5	0	0	0	0	0	0					5	17
15:00	15:15	0	1	0	0	0	3	0	0	0	0	0	0					4	14
15:15	15:30	0	2	0	0	0	3	0	0	0	0	0	0					5	15
15:30	15:45	0	3	0	0	0	0	0	0	0	0	0	0					3	16
15:45	16:00	0	2	0	0	0	0	0	0	0	0	0	0					2	19
16:00	16:15	0	2	0	0	0	3	0	0	0	0	0	0					5	18
16:15	16:30	0	3	0	0	0	3	0	0	0	0	0	0					6	19
16:30	16:45	0	2	0	0	0	4	0	0	0	0	0	0					6	15
16:45	17:00	0	1	0	0	0	0	0	0	0	0	0	0					1	
17:00	17:15	0	2	0	0	0	4	0	0	0	0	0	0					6	
17:15	17:30	0	2	0	0	0	0	0	0	0	0	0	0					2	
		0		0	0	0		0	0	0	0	0	0						
																			% HV
Peak-Hour Volume		**0**	**12**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**0.0202**
PM Peak-Hour		**0**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0.01**

Bicycle															
Street Name		SR28			SR28			Big Water Rd						Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	0	0	0	0	0	0	0	0				0	2
8:15	8:30	0	0	0	0	0	0	0	0	0				0	4
8:30	8:45	0	0	0	0	0	0	0	0	0				0	5
8:45	9:00	0	1	0	0	1	0	0	0	0				2	5
9:00	9:15	0	0	0	0	2	0	0	0	0				2	3
9:15	9:30	0	1	0	0	0	0	0	0	0				1	
9:30	9:45	0	0	0	0	0	0	0	0	0				0	
9:45	10:00	0	0	0	0	0	0	0	0	0				0	
14:30	14:45	0	0	0	0	0	0	0	0	0				0	3
14:45	15:00	0	0	0	0	0	0	0	0	0				0	4
15:00	15:15	0	1	0	0	2	0	0	0	0				3	4
15:15	15:30	0	0	0	0	0	0	0	0	0				0	6
15:30	15:45	0	0	0	0	1	0	0	0	0				1	8
15:45	16:00	0	0	0	0	0	0	0	0	0				0	7
16:00	16:15	0	2	0	0	3	0	0	0	0				5	7
16:15	16:30	0	0	0	0	2	0	0	0	0				2	2
16:30	16:45	0	0	0	0	0	0	0	0	0				0	1
16:45	17:00	0	0	0	0	0	0	0	0	0				0	
17:00	17:15	0	0	0	0	0	0	0	0	0				0	
17:15	17:30	0	0	0	0	1	0	0	0	0				1	
Peak-Hour Volume		**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	
PM Peak-Hour		**0**	**2**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	

Total		Date: 7/9/2022				Day: Saturday													
Street Name		SR28				SR28				Big Water Rd								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	1	167	0	0	0	157	0	0	0	0	1	0					326	1328
13:45	14:00	0	168	0	0	0	156	1	0	0	0	0	3					325	1330
14:00	14:15	0	147	0	0	0	169	0	0	1	0	0	2					317	1377
14:15	14:30	0	185	0	1	0	175	0	0	0	0	0	1					360	1412
14:30	14:45	0	156	0	0	0	171	0	0	1	0	0	1					328	1404
14:45	15:00	0	190	0	0	0	180	1	0	1	0	0	0					372	1401
15:00	15:15	0	167	0	0	0	185	0	0	0	0	0	0					352	1382
15:15	15:30	0	184	0	0	0	165	1	0	0	0	2	1					352	1392
15:30	15:45	0	160	0	0	0	165	0	0	0	0	0	0					325	1349
15:45	16:00	0	189	0	0	0	164	0	0	0	0	0	2					353	
16:00	16:15	0	189	0	0	0	173	0	0	0	0	0	0					362	
16:15	16:30	0	155	0	0	0	154	0	0	0	0	0	0					309	
																			PHF
PM Peak-Hour		**0**	**698**	**0**	**1**	**0**	**711**	**1**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1,412**	**0.95**

HV																			
Street Name		SR28				SR28				Big Water Rd								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	1	0	0	0	1	0	0	0	0	0	0					2	8
13:45	14:00	0	2	0	0	0	1	0	0	0	0	0	0					3	7
14:00	14:15	0	0	0	0	0	1	0	0	0	0	0	0					1	6
14:15	14:30	0	1	0	0	0	1	0	0	0	0	0	0					2	7
14:30	14:45	0	0	0	0	0	1	0	0	0	0	0	0					1	10
14:45	15:00	0	0	0	0	0	2	0	0	0	0	0	0					2	9
15:00	15:15	0	2	0	0	0	0	0	0	0	0	0	0					2	10
15:15	15:30	0	2	0	0	0	3	0	0	0	0	0	0					5	10
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0					0	5
15:45	16:00	0	0	0	0	0	3	0	0	0	0	0	0					3	
16:00	16:15	0	2	0	0	0	0	0	0	0	0	0	0					2	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0					0	
																			% HV
Peak-Hour Volume		**0**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0.0050**

Bicycle															
Street Name		SR28			SR28			Big Water Rd						Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	0	0	0	9	0	0	0	0				9	9
13:45	14:00	0	0	0	0	0	0	0	0	0				0	3
14:00	14:15	0	0	0	0	0	0	0	0	0				0	3
14:15	14:30	0	0	0	0	0	0	0	0	0				0	3
14:30	14:45	0	0	0	0	3	0	0	0	0				3	4
14:45	15:00	0	0	0	0	0	0	0	0	0				0	1
15:00	15:15	0	0	0	0	0	0	0	0	0				0	1
15:15	15:30	0	0	0	0	1	0	0	0	0				1	1
15:30	15:45	0	0	0	0	0	0	0	0	0				0	0
15:45	16:00	0	0	0	0	0	0	0	0	0				0	
16:00	16:15	0	0	0	0	0	0	0	0	0				0	
16:15	16:30	0	0	0	0	0	0	0	0	0				0	
Peak-Hour Volume		**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	

SR28 / Park Access

Total		Date:	7/8/2022		Day: Friday														
Street Name		SR28				SR28				Park Access								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	124	0	0	0	93	0	0	0	0	0	0					217	927
8:15	8:30	0	108	0	0	0	112	0	0	0	0	0	0					220	961
8:30	8:45	0	126	0	0	0	127	0	0	0	0	0	0					253	1,027
8:45	9:00	0	133	0	0	0	104	0	0	0	0	0	0					237	1,001
9:00	9:15	1	143	0	0	0	106	1	0	0	0	0	0					251	1,081
9:15	9:30	0	152	0	0	0	134	0	0	0	0	0	1					286	
9:30	9:45	0	102	0	0	0	123	1	0	1	0	0	0					227	
9:45	10:00	0	183	0	0	0	132	0	0	1	0	1	0					317	
14:30	14:45	1	201	0	0	0	181	0	0	0	0	1	0					384	1,502
14:45	15:00	0	180	0	0	0	191	0	0	0	0	0	0					371	
15:00	15:15	0	181	0	0	0	192	0	0	0	0	0	0					373	
15:15	15:30	0	199	0	0	0	175	0	0	0	0	0	0					374	
																			PHF
AM Peak-Hour		**1**	**580**	**0**	**0**	**0**	**495**	**2**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1,081**	**0.85**
PM Peak-Hour		**1**	**761**	**0**	**0**	**0**	**739**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1,502**	**0.98**

HV																			
Street Name		SR28				SR28				Park Access								Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
8:00	8:15	0	5	0	0	0	3	0	0	0	0	0	0					8	30
8:15	8:30	0	6	0	0	0	2	0	0	0	0	0	0					8	26
8:30	8:45	0	7	0	0	0	2	0	0	0	0	0	0					9	23
8:45	9:00	0	1	0	0	0	4	0	0	0	0	0	0					5	20
9:00	9:15	0	3	0	0	0	1	0	0	0	0	0	0					4	19
9:15	9:30	0	3	0	0	0	2	0	0	0	0	0	0					5	
9:30	9:45	0	4	0	0	0	2	0	0	0	0	0	0					6	
9:45	10:00	0	1	0	0	0	3	0	0	0	0	0	0					4	
14:30	14:45	0	1	0	0	0	3	0	0	0	0	0	0					4	16
14:45	15:00	0	2	0	0	0	2	0	0	0	0	0	0					4	
15:00	15:15	0	2	0	0	0	2	0	0	0	0	0	0					4	
15:15	15:30	0	4	0	0	0	0	0	0	0	0	0	0					4	
																			% HV
Peak-Hour Volume		**0**	**11**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0.0176**
PM Peak-Hour		**0**	**9**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0.01**

Bicycle															
Street Name		SR28			SR28			Park Access						Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
8:00	8:15	0	2	0	0	0	0	0	0	0				2	5
8:15	8:30	0	0	0	0	0	0	0	0	0				0	6
8:30	8:45	0	0	0	0	0	0	0	0	0				0	7
8:45	9:00	0	3	0	0	0	0	0	0	0				3	7
9:00	9:15	0	3	0	0	0	0	0	0	0				3	5
9:15	9:30	0	1	0	0	0	0	0	0	0				1	
9:30	9:45	0	0	0	0	0	0	0	0	0				0	
9:45	10:00	0	1	0	0	0	0	0	0	0				1	
14:30	14:45	0	1	0	0	2	0	0	0	0				3	6
14:45	15:00	0	0	0	0	1	0	0	0	0				1	3
15:00	15:15	0	0	0	0	1	0	0	0	0				1	2
15:15	15:30	0	0	0	0	1	0	0	0	0				1	1
Peak-Hour Volume		**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	
PM Peak-Hour		**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	

Total		Date: 7/9/2022				Day: Saturday													
Street Name																		Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45																	0	0
13:45	14:00																	0	0
14:00	14:15																	0	0
14:15	14:30																	0	0
14:30	14:45																	0	0
14:45	15:00																	0	0
15:00	15:15																	0	0
15:15	15:30																	0	0
15:30	15:45																	0	0
15:45	16:00																	0	
16:00	16:15																	0	
16:15	16:30																	0	
																			PHF
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**#DIV/0!**

HV																			
Street Name																		Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45																	0	0
13:45	14:00																	0	0
14:00	14:15																	0	0
14:15	14:30																	0	0
14:30	14:45																	0	0
14:45	15:00																	0	0
15:00	15:15																	0	0
15:15	15:30																	0	0
15:30	15:45																	0	0
15:45	16:00																	0	
16:00	16:15																	0	
16:15	16:30																	0	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0000**

Bicycle															
Street Name														Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45														0
13:45	14:00														0
14:00	14:15														0
14:15	14:30														0
14:30	14:45														0
14:45	15:00														0
15:00	15:15														0
15:15	15:30														0
15:30	15:45														0
15:45	16:00														
16:00	16:15														
16:15	16:30														
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

SR28 / Lakeshore Blvd.

Total		Date:	**7/15/2022**		Day:	**Friday**													
Street Name		Lakeshore Blvd.				Pinion Dr				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
14:30	14:45	27	1	6	0	1	0	4	0	1	121	25	0	3	140	3	0	332	1,429
14:45	15:00	24	1	11	0	1	2	1	0	1	139	29	0	10	121	2	0	342	1,488
15:00	15:15	20	2	7	0	3	1	0	0	1	134	33	0	4	163	0	0	368	1,561
15:15	15:30	28	1	6	0	0	0	0	0	1	172	22	0	8	149	0	0	387	1,604
15:30	15:45	26	0	11	0	0	2	3	0	2	172	29	0	2	143	1	0	391	1,594
15:45	16:00	16	0	5	0	3	0	1	0	0	206	28	0	3	151	2	0	415	1,601
16:00	16:15	27	1	7	0	3	0	1	0	0	167	28	0	4	172	1	0	411	1,589
16:15	16:30	13	2	9	0	0	1	1	0	0	154	31	0	9	156	1	0	377	1,572
16:30	16:45	24	1	9	0	0	4	1	0	0	191	32	0	6	129	1	0	398	1,573
16:45	17:00	24	2	1	0	0	1	1	0	0	169	32	0	0	173	0	0	403	
17:00	17:15	16	1	7	0	3	3	1	0	2	172	39	0	9	140	1	0	394	
17:15	17:30	23	1	7	0	0	1	0	0	0	172	25	0	5	143	1	0	378	
																			PHF
PM Peak-Hour		**97**	**2**	**29**	**0**	**6**	**2**	**5**	**0**	**3**	**717**	**107**	**0**	**17**	**615**	**4**	**0**	**1,604**	**0.97**

HV																			
Street Name		Lakeshore Blvd.				Pinion Dr				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
14:30	14:45	1	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	7	24
14:45	15:00	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	20
15:00	15:15	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	7	19
15:15	15:30	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	14
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	12
15:45	16:00	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	17
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	19
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	21
16:30	16:45	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	8	20
16:45	17:00	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	
17:00	17:15	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4	
17:15	17:30	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	
																			% HV
PM Peak-Hour		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**9**	**0**	**0**	**14**	**0.01**

Bicycle															
Street Name		Lakeshore Blvd.			Pinion Dr			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
14:30	14:45	0	0	0	0	0	0	0	0	1	0	0	0	1	3
14:45	15:00	0	0	0	0	0	0	0	0	1	0	0	0	1	2
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	8
15:15	15:30	0	0	0	0	0	0	0	1	0	0	0	0	1	8
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	12
15:45	16:00	0	0	2	0	0	0	0	1	4	0	0	0	7	12
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16:15	16:30	0	0	0	0	1	0	0	0	4	0	0	0	5	5
16:30	16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak-Hour		**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**8**	

Total		Date: **7/16/2022**				Day: **Saturday**													
Street Name		Lakeshore Blvd.				Pinion Dr				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Total	1hr total
13:30	13:45	29	1	7	2	0	0	0	0	0	128	25	1	6	174	0	0	370	868
13:45	14:00	33	0	10	0	0	1	0	0	1	144	30	0	1	149	1	0	370	878
14:00	14:15	8	0	1	0	0	0	0	0	0	24	5	0	2	24	0	0	64	871
14:15	14:30	8	0	2	0	0	0	0	0	1	32	3	0	0	18	0	0	64	1184
14:30	14:45	27	2	15	0	1	1	0	0	0	145	34	0	2	153	0	0	380	1548
14:45	15:00	24	3	5	0	1	0	1	0	1	160	25	0	8	135	0	0	363	1555
15:00	15:15	20	1	10	0	0	3	2	0	0	181	14	0	4	142	0	0	377	1557
15:15	15:30	31	1	11	0	1	1	1	0	1	181	29	0	5	166	0	0	428	1616
15:30	15:45	32	1	7	0	2	1	1	0	2	160	28	0	3	150	0	0	387	1550
15:45	16:00	24	3	4	0	0	1	2	0	2	161	27	0	2	139	0	0	365	
16:00	16:15	36	3	6	0	0	0	0	0	1	163	34	0	3	190	0	0	436	
16:15	16:30	27	2	10	0	0	0	0	0	0	156	28	0	2	136	1	0	362	
																			PHF
PM Peak-Hour		**123**	**8**	**28**	**0**	**3**	**3**	**4**	**0**	**6**	**665**	**118**	**0**	**13**	**645**	**0**	**0**	**1,616**	**0.93**

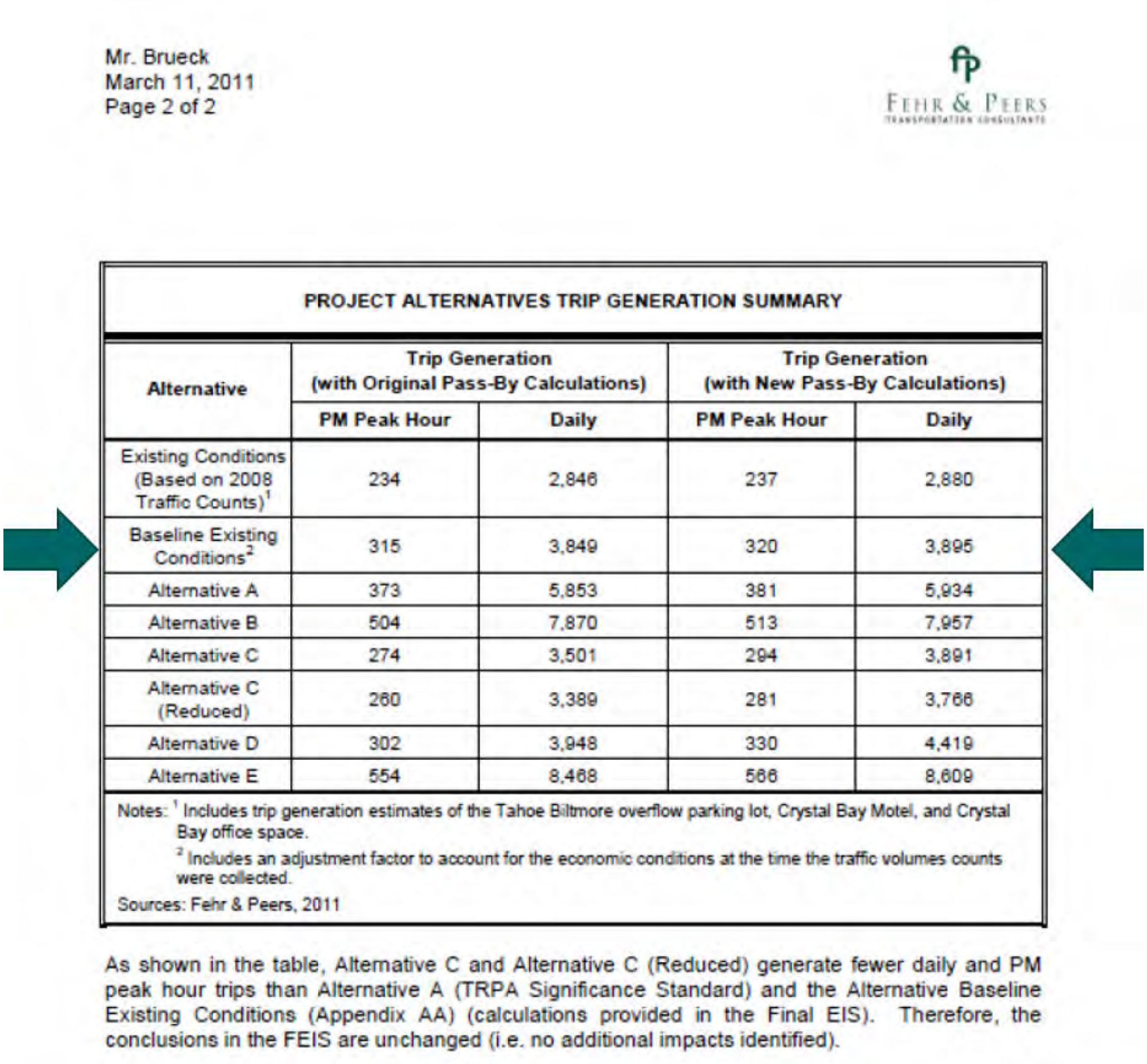
HV																			
Street Name		Lakeshore Blvd.				Pinion Dr				SR28				SR28				Totals	
Direction		Northbound				Southbound				Eastbound				Westbound					
Start time	End time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Peds	Total	1hr total
13:30	13:45	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	2	3
13:45	14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
14:00	14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
14:15	14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
14:30	14:45	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	14
14:45	15:00	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	5	14
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9
15:15	15:30	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	8
15:30	15:45	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	6
15:45	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
16:15	16:30	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	
																			% HV
Peak-Hour Volume		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**5**	**0**	**0**	**8**	**0.0050**

Bicycle															
Street Name		Lakeshore Blvd.			Pinions Dr.			SR28			SR28			Totals	
Direction		Northbound			Southbound			Eastbound			Westbound				
Start time	End time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	1hr total
13:30	13:45	0	0	0	0	1	0	0	0	0	0	0	0	1	2
13:45	14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14:00	14:15	0	0	0	0	0	0	0	0	0	1	0	0	1	8
14:15	14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	8
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	10
14:45	15:00	4	1	0	0	0	0	0	2	0	0	0	0	7	10
15:00	15:15	0	0	0	0	0	0	0	0	1	0	0	0	1	6
15:15	15:30	0	1	0	0	0	0	0	0	1	0	0	0	2	5
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3
15:45	16:00	0	0	0	0	0	0	0	0	2	0	1	0	3	
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-Hour Volume		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**5**	

Appendix B

BASELINE BILTMORE TRIP GENERATION

Appendix B: Reference for Baseline Biltmore DVTE



PROJECT ALTERNATIVES TRIP GENERATION SUMMARY

Alternative	Trip Generation (with Original Pass-By Calculations)		Trip Generation (with New Pass-By Calculations)	
	PM Peak Hour	Daily	PM Peak Hour	Daily
Existing Conditions (Based on 2008 Traffic Counts)[1]	234	2,846	237	2,880
Baseline Existing Conditions[2]	315	3,849	320	3,895
Alternative A	373	5,853	381	5,934
Alternative B	504	7,870	513	7,957
Alternative C	274	3,501	294	3,891
Alternative C (Reduced)	260	3,389	281	3,766
Alternative D	302	3,948	330	4,419
Alternative E	554	8,468	566	8,609

Notes: [1] Includes trip generation estimates of the Tahoe Biltmore overflow parking lot, Crystal Bay Motel, and Crystal Bay office space.

[2] Includes an adjustment factor to account for the economic conditions at the time the traffic volumes counts were collected.

Sources: Fehr & Peers, 2011

As shown in the table, Alternative C and Alternative C (Reduced) generate fewer daily and PM peak hour trips than Alternative A (TRPA Significance Standard) and the Alternative Baseline Existing Conditions (Appendix AA) (calculations provided in the Final EIS). Therefore, the conclusions in the FEIS are unchanged (i.e. no additional impacts identified).

Appendix B: Baseline Tahoe Biltmore Trip Generation

	Daily	PM Peak Hour	PM In	PM Out
Trip Generation from Counts		168	72	96
PM Peak Hour/Daily Trip Generation Ratio (6.4%)	2,625			
Tahoe Biltmore Overflow Parking Lot Trip Generation	114	57	46	11
Operating Conditions Adjustment (28% decline)	1,068	87	46	41
Pass-By Trips[1]	-184	-15	-6	-9
Crystal Bay Motel Trip Generation	186	11	6	5
Crystal Bay Office Trip Generation	86	12	2	10
Total Trip Generation at Site Driveways (without Pass-by Reduction)	**4,079**	**335**	**172**	**163**
Total Trip Generation on External Roadways (after Pass-by Reduction)	**3,895**	**320**	**166**	**154**

Note 1: Pass-by Trips Updated per Alternative Pass-by Calculation memo by Fehr & Peers (March 11, 2011)

Source: Boulder Bay Alternative Baseline Existing Conditions Traffic Volumes (May 17, 2010)

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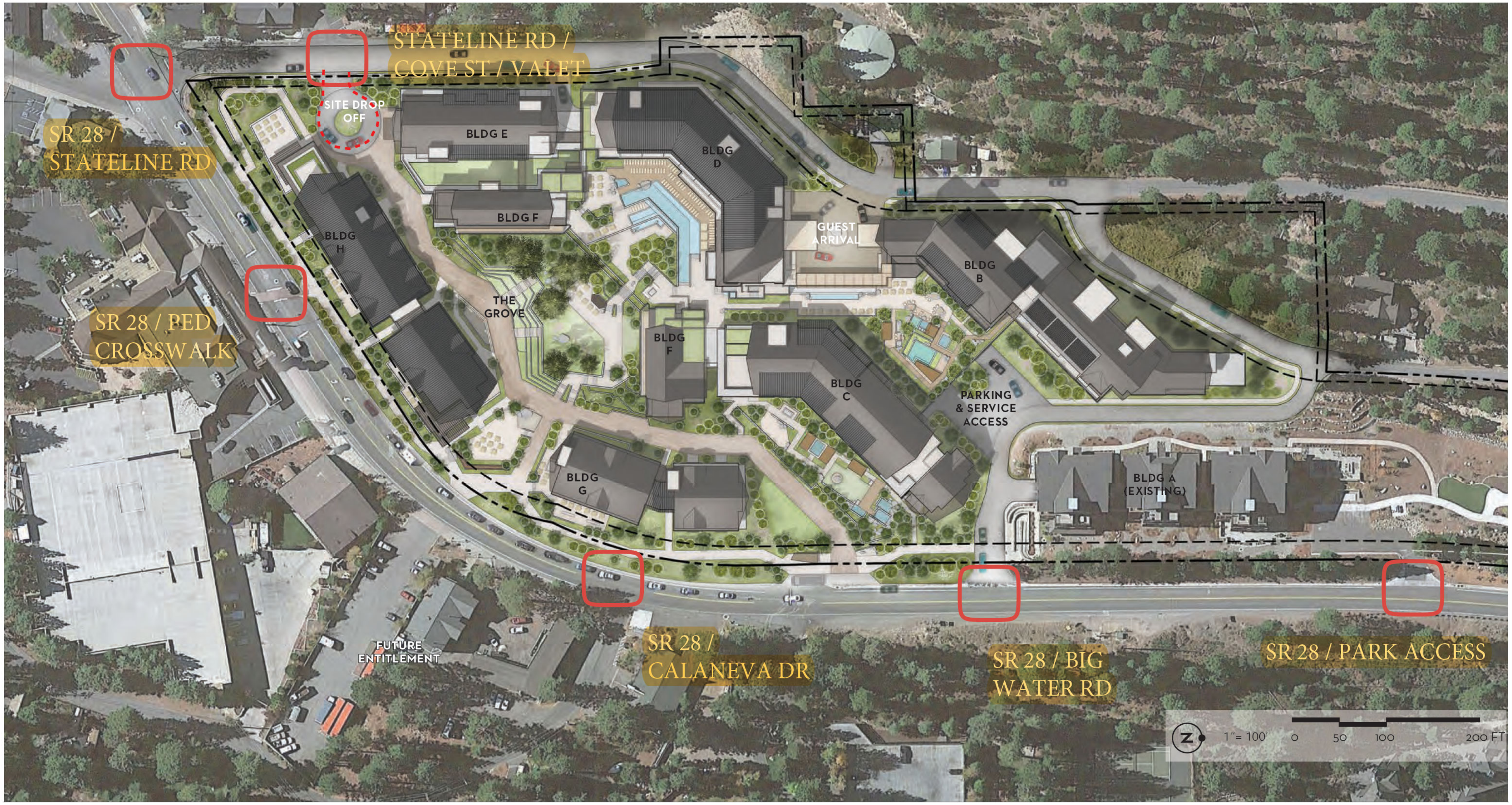
Appendix C

SITE PLAN

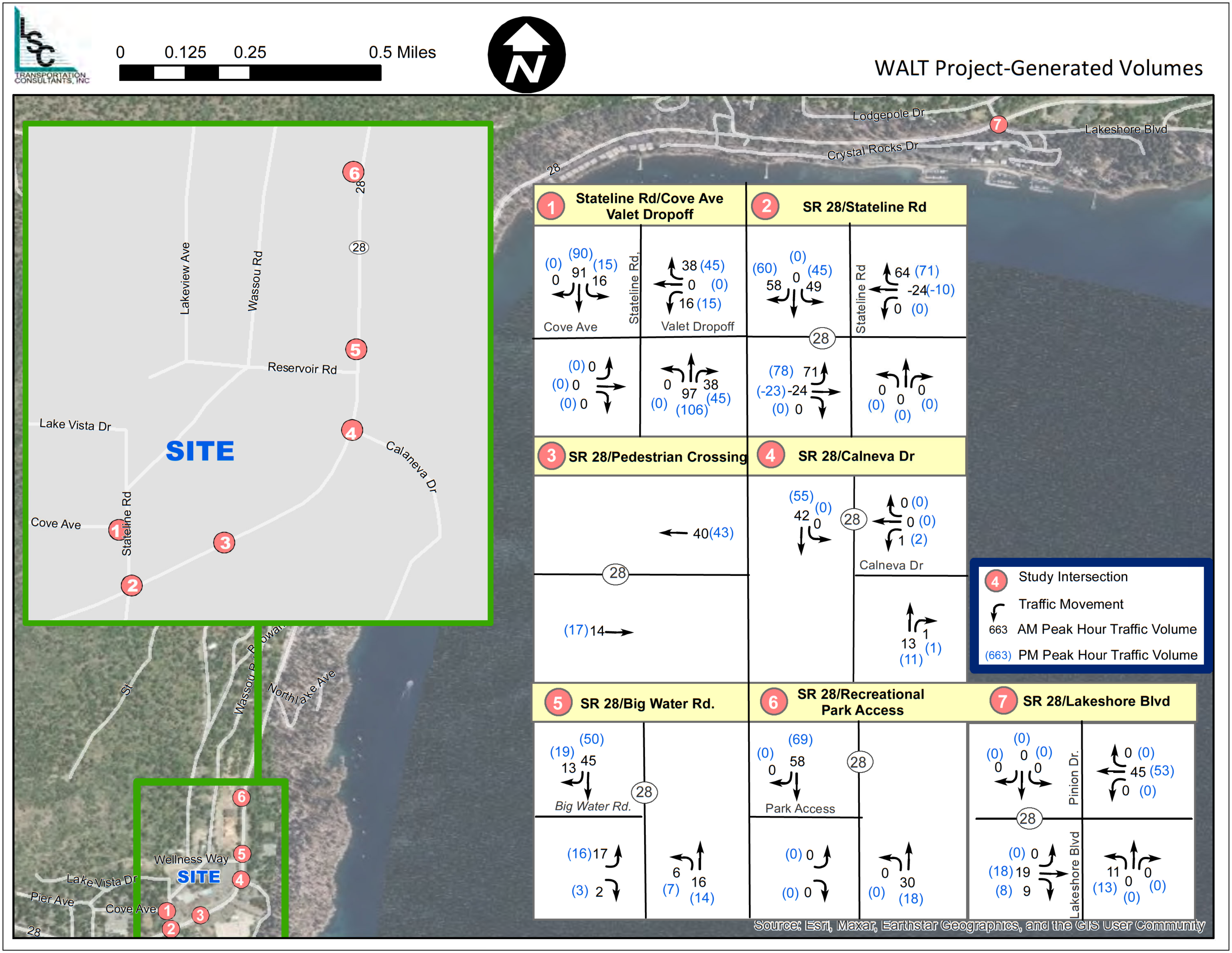
Site PLAN - 09/27/2022



Appendix D

WALT PROJECT-GENERATED VOLUMES

WALT Project-Generated Volumes



Appendix E

LOS DESCRIPTIONS

DESCRIPTIONS OF LEVELS OF SERVICE

The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level of service A representing the best operating conditions and level of service F the worst.

Level of Service Definitions

In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- **Level of service A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- **Level of service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- **Level of service C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **Level of Service D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **Level of service E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- **Level of service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level of service F is an appropriate designation for such points.

Appendix F

LOS OUTPUT

AM LEVEL OF SERVICE OUTPUT

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	0	0	9	23	22	0
Future Vol, veh/h	0	0	9	23	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	10	25	24	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	69	24	24	0	-	0
Stage 1	24	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	936	1052	1591	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	930	1052	1591	-	-	-
Mov Cap-2 Maneuver	930	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	0.006	-	-	-	-
HCM Control Delay (s)	7.3	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	21	608	1	5	487	4	1	1	11	3	0	30
Future Vol, veh/h	21	608	1	5	487	4	1	1	11	3	0	30
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	683	1	6	547	4	1	1	12	3	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	590	0	0	684	0	0	1310	1334	684	1338	1332	588
Stage 1	-	-	-	-	-	-	732	732	-	600	600	-
Stage 2	-	-	-	-	-	-	578	602	-	738	732	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	985	-	-	909	-	-	88	99	400	203	240	561
Stage 1	-	-	-	-	-	-	323	334	-	596	598	-
Stage 2	-	-	-	-	-	-	414	400	-	524	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	948	-	-	909	-	-	79	90	400	180	219	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	90	-	315	347	-
Stage 1	-	-	-	-	-	-	310	320	-	550	570	-
Stage 2	-	-	-	-	-	-	384	381	-	485	523	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	20	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	948	-	-	909	-	-	507
HCM Lane V/C Ratio	0.058	0.025	-	-	0.006	-	-	0.073
HCM Control Delay (s)	20	8.9	0	-	9	0	-	12.7
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	12	584	4	13	490
Future Vol, veh/h	6	12	584	4	13	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	13	649	4	14	544

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1223	651	0	0	653	0
Stage 1	651	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	198	469	-	-	934	-
Stage 1	519	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	469	-	-	934	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	319	934	-
HCM Lane V/C Ratio	-	-	0.063	0.015	-
HCM Control Delay (s)	-	-	17	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	2	1	1	632	562	2
Future Vol, veh/h	2	1	1	632	562	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	1	744	661	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1408	662	663	0	-	0
Stage 1	662	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	153	462	926	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	462	926	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	23.6		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	926	-	197	-	-
HCM Lane V/C Ratio	0.001	-	0.018	-	-
HCM Control Delay (s)	8.9	0	23.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	29.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	560	102	10	557	0	108	6	22	2	2	3
Future Vol, veh/h	5	560	102	10	557	0	108	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	609	111	11	605	0	117	7	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	605	0	0	720	0	0	1305	1302	665	1317	1357	605
Stage 1	-	-	-	-	-	-	675	675	-	627	627	-
Stage 2	-	-	-	-	-	-	630	627	-	690	730	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	973	-	-	882	-	-	~ 95	112	419	301	341	599
Stage 1	-	-	-	-	-	-	368	376	-	691	699	-
Stage 2	-	-	-	-	-	-	394	400	-	664	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	973	-	-	882	-	-	~ 92	109	419	265	331	599
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 92	109	-	265	331	-
Stage 1	-	-	-	-	-	-	365	373	-	685	686	-
Stage 2	-	-	-	-	-	-	383	392	-	610	662	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	298.6	14.8
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	973	-	-	882	-	-	376
HCM Lane V/C Ratio	1.395	0.006	-	-	0.012	-	-	0.02
HCM Control Delay (s)	298.6	8.7	0	-	9.1	0	-	14.8
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	10.5	0	-	-	0	-	-	0.1

Notes

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.7	0.3
Total Delay (hr)	1.4	1.7	3.1
Total Del/Veh (s)	8.2	10.3	9.2
Avg Speed (mph)	13	10	11
Vehicles Entered	602	606	1208
Vehicles Exited	604	606	1210
Hourly Exit Rate	604	606	1210
Input Volume	622	603	1225
% of Volume	97	100	99

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	4.0
Total Delay (hr)	3.1
Total Del/Veh (s)	117.8
Avg Speed (mph)	11
Vehicles Entered	104
Vehicles Exited	91
Hourly Exit Rate	91
Input Volume	1225
% of Volume	7

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	237	251	21
Average Queue (ft)	126	141	1
95th Queue (ft)	205	222	11
Link Distance (ft)	208	183	242
Upstream Blk Time (%)	1	2	
Queuing Penalty (veh)	3	10	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 14

HCM 6th TWSC
1: Stateline Rd & Cove St/Valet

03/09/2023

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	0	0	17	0	39	9	105	38	16	97	0
Future Vol, veh/h	0	0	0	17	0	39	9	105	38	16	97	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	0	42	10	114	41	17	105	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	315	314	105	294	294	135	105	0	0	155	0	0
Stage 1	139	139	-	155	155	-	-	-	-	-	-	-
Stage 2	176	175	-	139	139	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	638	601	949	658	617	914	1486	-	-	1425	-	-
Stage 1	864	782	-	847	769	-	-	-	-	-	-	-
Stage 2	826	754	-	864	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	599	589	949	648	605	914	1486	-	-	1425	-	-
Mov Cap-2 Maneuver	599	589	-	648	605	-	-	-	-	-	-	-
Stage 1	858	772	-	841	764	-	-	-	-	-	-	-
Stage 2	782	749	-	853	772	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.8	0.4	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1486	-	-	-	813	1425	-	-
HCM Lane V/C Ratio	0.007	-	-	-	0.075	0.012	-	-
HCM Control Delay (s)	7.4	0	-	0	9.8	7.6	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	77	549	1	5	447	68	1	1	11	52	0	72
Future Vol, veh/h	77	549	1	5	447	68	1	1	11	52	0	72
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	617	1	6	502	76	1	1	12	58	0	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	617	0	0	618	0	0	1385	1421	618	1389	1383	579
Stage 1	-	-	-	-	-	-	792	792	-	591	591	-
Stage 2	-	-	-	-	-	-	593	629	-	798	792	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	963	-	-	962	-	-	76	85	441	191	228	567
Stage 1	-	-	-	-	-	-	294	308	-	601	602	-
Stage 2	-	-	-	-	-	-	404	385	-	495	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	927	-	-	962	-	-	57	70	441	156	187	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	70	-	274	311	-
Stage 1	-	-	-	-	-	-	252	264	-	496	574	-
Stage 2	-	-	-	-	-	-	341	367	-	411	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	21.8	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	229	927	-	-	962	-	-	386
HCM Lane V/C Ratio	0.064	0.093	-	-	0.006	-	-	0.361
HCM Control Delay (s)	21.8	9.3	0	-	8.8	0	-	19.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	1.6

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	12	574	5	6	518
Future Vol, veh/h	6	12	574	5	6	518
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	13	638	6	7	576

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1231	641	0	0	644	0
Stage 1	641	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	196	475	-	-	941	-
Stage 1	525	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	475	-	-	941	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	320	941	-
HCM Lane V/C Ratio	-	-	0.063	0.007	-
HCM Control Delay (s)	-	-	17	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	22	2	7	603	545	13
Future Vol, veh/h	22	2	7	603	545	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	2	8	701	634	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1359	642	649	0	-	0
Stage 1	642	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	164	474	937	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	162	474	937	-	-	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.1	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	937	-	171	-	-
HCM Lane V/C Ratio	0.009	-	0.163	-	-
HCM Control Delay (s)	8.9	0	30.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	2	1	1	613	556	2
Future Vol, veh/h	2	1	1	613	556	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	1	721	654	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1378	655	656	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	160	466	931	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	160	466	931	-	-	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	481	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	22.9		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	931	-	205	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	8.9	0	22.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
7: Lakeshore Blvd/Pinion Dr & SR 28

Intersection	
Int Delay, s/veh	26.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	542	101	10	553	0	107	6	22	2	2	3
Future Vol, veh/h	5	542	101	10	553	0	107	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	589	110	11	601	0	116	7	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	601	0	0	699	0	0	1280	1277	644	1293	1332	601
Stage 1	-	-	-	-	-	-	654	654	-	623	623	-
Stage 2	-	-	-	-	-	-	626	623	-	670	709	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	976	-	-	898	-	-	~ 100	117	432	308	348	601
Stage 1	-	-	-	-	-	-	380	386	-	693	700	-
Stage 2	-	-	-	-	-	-	397	402	-	672	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	976	-	-	898	-	-	~ 97	114	432	273	339	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 97	114	-	273	339	-
Stage 1	-	-	-	-	-	-	377	383	-	687	687	-
Stage 2	-	-	-	-	-	-	387	395	-	618	668	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	261.3	14.6
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	976	-	-	898	-	-	384
HCM Lane V/C Ratio	1.31	0.006	-	-	0.012	-	-	0.02
HCM Control Delay (s)	261.3	8.7	0	-	9.1	0	-	14.6
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	9.9	0	-	-	0	-	-	0.1

Notes

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	1.3	1.7	3.0
Total Del/Veh (s)	7.9	10.0	9.0
Avg Speed (mph)	13	10	12
Vehicles Entered	602	616	1218
Vehicles Exited	601	617	1218
Hourly Exit Rate	601	617	1218
Input Volume	612	627	1239
% of Volume	98	98	98

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	4.0
Total Delay (hr)	3.0
Total Del/Veh (s)	116.6
Avg Speed (mph)	12
Vehicles Entered	96
Vehicles Exited	90
Hourly Exit Rate	90
Input Volume	1239
% of Volume	7

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	214	236	7
Average Queue (ft)	120	139	0
95th Queue (ft)	199	212	5
Link Distance (ft)	208	183	242
Upstream Blk Time (%)	0	2	
Queuing Penalty (veh)	2	10	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 12

1: Stateline Rd & Cove St

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	0	9	27	26	0
Future Vol, veh/h	0	0	9	27	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	10	29	28	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	77	28	28	0	-	0
Stage 1	28	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	926	1047	1585	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	920	1047	1585	-	-	-
Mov Cap-2 Maneuver	920	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	973	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	0		1.8		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1585	-	-	-	-
HCM Lane V/C Ratio	0.006	-	-	-	-
HCM Control Delay (s)	7.3	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	21	608	1	5	487	4	1	1	11	3	0	30
Future Vol, veh/h	21	608	1	5	487	4	1	1	11	3	0	30
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	683	1	6	547	4	1	1	12	3	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	590	0	0	684	0	0	1310	1334	684	1338	1332	588
Stage 1	-	-	-	-	-	-	732	732	-	600	600	-
Stage 2	-	-	-	-	-	-	578	602	-	738	732	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	985	-	-	909	-	-	88	99	400	203	240	561
Stage 1	-	-	-	-	-	-	323	334	-	596	598	-
Stage 2	-	-	-	-	-	-	414	400	-	524	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	948	-	-	909	-	-	79	90	400	180	219	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	90	-	315	347	-
Stage 1	-	-	-	-	-	-	310	320	-	550	570	-
Stage 2	-	-	-	-	-	-	384	381	-	485	523	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	20	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	948	-	-	909	-	-	507
HCM Lane V/C Ratio	0.058	0.025	-	-	0.006	-	-	0.073
HCM Control Delay (s)	20	8.9	0	-	9	0	-	12.7
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

HCM 6th TWSC
4: SR 28 & Calaneva Dr

03/09/2023

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	12	593	4	13	497
Future Vol, veh/h	6	12	593	4	13	497
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	13	659	4	14	552

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1241	661	0	0	663	0
Stage 1	661	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	193	462	-	-	926	-
Stage 1	514	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	189	462	-	-	926	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	312	926	-
HCM Lane V/C Ratio	-	-	0.064	0.016	-
HCM Control Delay (s)	-	-	17.3	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	2	1	1	642	571	2
Future Vol, veh/h	2	1	1	642	571	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	1	755	672	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1430	673	674	0	-	0
Stage 1	673	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	148	455	917	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	148	455	917	-	-	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	917	-	191	-	-
HCM Lane V/C Ratio	0.001	-	0.018	-	-
HCM Control Delay (s)	8.9	0	24.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	30.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	567	102	10	564	0	108	6	22	2	2	3
Future Vol, veh/h	5	567	102	10	564	0	108	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	616	111	11	613	0	117	7	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	613	0	0	727	0	0	1320	1317	672	1332	1372	613
Stage 1	-	-	-	-	-	-	682	682	-	635	635	-
Stage 2	-	-	-	-	-	-	638	635	-	697	737	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	966	-	-	876	-	-	~ 93	109	415	296	337	594
Stage 1	-	-	-	-	-	-	364	372	-	688	696	-
Stage 2	-	-	-	-	-	-	389	396	-	661	666	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	966	-	-	876	-	-	~ 90	106	415	260	328	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 90	106	-	260	328	-
Stage 1	-	-	-	-	-	-	361	369	-	682	683	-
Stage 2	-	-	-	-	-	-	378	388	-	606	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 310.9	14.9
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	104	966	-	-	876	-	-	372
HCM Lane V/C Ratio	1.421	0.006	-	-	0.012	-	-	0.02
HCM Control Delay (s)	$ 310.9	8.7	0	-	9.2	0	-	14.9
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	10.7	0	-	-	0	-	-	0.1

Notes

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	1.4	1.6	3.0
Total Del/Veh (s)	8.1	9.6	8.9
Avg Speed (mph)	13	10	12
Vehicles Entered	606	595	1201
Vehicles Exited	607	595	1202
Hourly Exit Rate	607	595	1202
Input Volume	622	603	1225
% of Volume	98	99	98

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	3.7
Total Delay (hr)	3.0
Total Del/Veh (s)	117.3
Avg Speed (mph)	12
Vehicles Entered	97
Vehicles Exited	88
Hourly Exit Rate	88
Input Volume	1225
% of Volume	7

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	230	237	6
Average Queue (ft)	126	134	0
95th Queue (ft)	205	205	4
Link Distance (ft)	208	183	242
Upstream Blk Time (%)	1	1	
Queuing Penalty (veh)	4	7	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 11

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	0	0	17	0	39	9	109	38	16	101	0
Future Vol, veh/h	0	0	0	17	0	39	9	109	38	16	101	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	0	42	10	118	41	17	110	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	324	323	110	303	303	139	110	0	0	159	0	0
Stage 1	144	144	-	159	159	-	-	-	-	-	-	-
Stage 2	180	179	-	144	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	629	595	943	649	610	909	1480	-	-	1420	-	-
Stage 1	859	778	-	843	766	-	-	-	-	-	-	-
Stage 2	822	751	-	859	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	591	583	943	639	598	909	1480	-	-	1420	-	-
Mov Cap-2 Maneuver	591	583	-	639	598	-	-	-	-	-	-	-
Stage 1	853	768	-	837	761	-	-	-	-	-	-	-
Stage 2	778	746	-	848	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.8	0.4	1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1480	-	-	-	806	1420	-	-
HCM Lane V/C Ratio	0.007	-	-	-	0.076	0.012	-	-
HCM Control Delay (s)	7.4	0	-	0	9.8	7.6	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	77	549	1	5	447	68	1	1	11	52	0	72
Future Vol, veh/h	77	549	1	5	447	68	1	1	11	52	0	72
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	617	1	6	502	76	1	1	12	58	0	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	617	0	0	618	0	0	1385	1421	618	1389	1383	579
Stage 1	-	-	-	-	-	-	792	792	-	591	591	-
Stage 2	-	-	-	-	-	-	593	629	-	798	792	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	963	-	-	962	-	-	76	85	441	191	228	567
Stage 1	-	-	-	-	-	-	294	308	-	601	602	-
Stage 2	-	-	-	-	-	-	404	385	-	495	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	927	-	-	962	-	-	57	70	441	156	187	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	70	-	274	311	-
Stage 1	-	-	-	-	-	-	252	264	-	496	574	-
Stage 2	-	-	-	-	-	-	341	367	-	411	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	21.8	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	229	927	-	-	962	-	-	386
HCM Lane V/C Ratio	0.064	0.093	-	-	0.006	-	-	0.361
HCM Control Delay (s)	21.8	9.3	0	-	8.8	0	-	19.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	1.6

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	12	583	5	6	525
Future Vol, veh/h	6	12	583	5	6	525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	13	648	6	7	583

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1248	651	0	0	654	0
Stage 1	651	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	191	469	-	-	933	-
Stage 1	519	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	189	469	-	-	933	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	544	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	314	933	-
HCM Lane V/C Ratio	-	-	0.064	0.007	-
HCM Control Delay (s)	-	-	17.2	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	22	2	7	613	554	13
Future Vol, veh/h	22	2	7	613	554	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	2	8	713	644	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1381	652	659	0	-	0
Stage 1	652	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	159	468	929	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	468	929	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	31		0.1		0
HCM LOS	D				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	929	-	166	-	-
HCM Lane V/C Ratio	0.009	-	0.168	-	-
HCM Control Delay (s)	8.9	0	31	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection						
Int Delay, s/veh	0.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	2	1	1	623	565	2
Future Vol, veh/h	2	1	1	623	565	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	1	733	665	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1401	666	667	0	-	0
Stage 1	666	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	154	459	923	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	154	459	923	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	474	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	23.5		0		0	
HCM LOS	C					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	923	-	198	-	-
HCM Lane V/C Ratio	0.001	-	0.018	-	-
HCM Control Delay (s)	8.9	0	23.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	27.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Future Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	597	110	11	609	0	116	7	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	609	0	0	707	0	0	1296	1293	652	1309	1348	609
Stage 1	-	-	-	-	-	-	662	662	-	631	631	-
Stage 2	-	-	-	-	-	-	634	631	-	678	717	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	970	-	-	891	-	-	~ 97	114	427	303	344	596
Stage 1	-	-	-	-	-	-	375	382	-	690	698	-
Stage 2	-	-	-	-	-	-	392	398	-	669	672	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	970	-	-	891	-	-	~ 94	111	427	268	334	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 94	111	-	268	334	-
Stage 1	-	-	-	-	-	-	372	379	-	684	685	-
Stage 2	-	-	-	-	-	-	381	390	-	615	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	277.4	14.7
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	109	970	-	-	891	-	-	379
HCM Lane V/C Ratio	1.346	0.006	-	-	0.012	-	-	0.02
HCM Control Delay (s)	277.4	8.7	0	-	9.1	0	-	14.7
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	10.1	0	-	-	0	-	-	0.1

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	1.4	1.7	3.1
Total Del/Veh (s)	8.2	10.5	9.3
Avg Speed (mph)	13	9	11
Vehicles Entered	609	596	1205
Vehicles Exited	608	595	1203
Hourly Exit Rate	608	595	1203
Input Volume	612	627	1239
% of Volume	99	95	97

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	3.9
Total Delay (hr)	3.1
Total Del/Veh (s)	108.2
Avg Speed (mph)	11
Vehicles Entered	89
Vehicles Exited	99
Hourly Exit Rate	99
Input Volume	1239
% of Volume	8

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	229	248	38
Average Queue (ft)	121	148	2
95th Queue (ft)	202	231	20
Link Distance (ft)	208	183	242
Upstream Blk Time (%)	1	3	
Queuing Penalty (veh)	3	14	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 17

PM LEVEL OF SERVICE OUTPUT

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	0	10	29	32	0
Future Vol, veh/h	0	0	10	29	32	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	14	40	44	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	112	44	44	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	885	1026	1564	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	877	1026	1564	-	-	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	7.3	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Future Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	854	1	5	832	2	0	0	15	6	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	873	0	0	855	0	0	1773	1792	855	1798	1791	872
Stage 1	-	-	-	-	-	-	909	909	-	882	882	-
Stage 2	-	-	-	-	-	-	864	883	-	916	909	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	773	-	-	785	-	-	36	44	310	113	147	405
Stage 1	-	-	-	-	-	-	243	261	-	457	489	-
Stage 2	-	-	-	-	-	-	262	271	-	443	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	744	-	-	785	-	-	30	39	310	97	130	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	39	-	226	266	-
Stage 1	-	-	-	-	-	-	226	243	-	409	465	-
Stage 2	-	-	-	-	-	-	231	258	-	393	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	17.2	16.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	744	-	-	785	-	-	356
HCM Lane V/C Ratio	0.047	0.036	-	-	0.007	-	-	0.135
HCM Control Delay (s)	17.2	10	0	-	9.6	0	-	16.7
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	11	754	3	22	721
Future Vol, veh/h	6	11	754	3	22	721
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	11	785	3	23	751

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1584	787	0	0	788	0
Stage 1	787	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	119	392	-	-	831	-
Stage 1	449	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	113	392	-	-	831	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	23.8		0		0.3	
HCM LOS	C					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	209	831	-
HCM Lane V/C Ratio	-	-	0.085	0.028	-
HCM Control Delay (s)	-	-	23.8	9.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	0	1	1	841	828	0
Future Vol, veh/h	0	1	1	841	828	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	858	845	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1705	845	845	0	-	0
Stage 1	845	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	101	363	792	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	101	363	792	-	-	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	414	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	792	-	363	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	9.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	130.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	726	134	13	714	0	140	8	28	3	3	4
Future Vol, veh/h	6	726	134	13	714	0	140	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	781	144	14	768	0	151	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	768	0	0	925	0	0	1665	1661	853	1681	1733	768
Stage 1	-	-	-	-	-	-	865	865	-	796	796	-
Stage 2	-	-	-	-	-	-	800	796	-	885	937	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	846	-	-	739	-	-	~ 48	61	319	210	253	508
Stage 1	-	-	-	-	-	-	274	292	-	619	649	-
Stage 2	-	-	-	-	-	-	303	320	-	583	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	846	-	-	739	-	-	~ 45	58	319	163	241	508
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 45	58	-	163	241	-
Stage 1	-	-	-	-	-	-	270	288	-	610	628	-
Stage 2	-	-	-	-	-	-	289	309	-	505	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 1317.4	19.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	53	846	-	-	739	-	-	258
HCM Lane V/C Ratio	3.571	0.008	-	-	0.019	-	-	0.042
HCM Control Delay (s)	$ 1317.4	9.3	0	-	10	0	-	19.6
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	20.5	0	-	-	0.1	-	-	0.1

Notes

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	2.1	2.1	4.3
Total Del/Veh (s)	8.7	9.7	9.2
Avg Speed (mph)	13	10	12
Vehicles Entered	867	786	1653
Vehicles Exited	871	787	1658
Hourly Exit Rate	871	787	1658
Input Volume	840	794	1634
% of Volume	104	99	101

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	7.6
Total Delay (hr)	4.3
Total Del/Veh (s)	209.7
Avg Speed (mph)	12
Vehicles Entered	65
Vehicles Exited	68
Hourly Exit Rate	68
Input Volume	1634
% of Volume	4

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	247	268	148
Average Queue (ft)	175	173	13
95th Queue (ft)	271	268	77
Link Distance (ft)	206	184	242
Upstream Blk Time (%)	4	6	0
Queuing Penalty (veh)	30	41	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 72

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	0	10	31	34	0
Future Vol, veh/h	0	0	10	31	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	14	43	47	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	118	47	47	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	878	1022	1560	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	870	1022	1560	-	-	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1560	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	7.3	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
2: Stateline Rd & SR 28

03/09/2023

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Future Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	854	1	5	832	2	0	0	15	6	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	873	0	0	855	0	0	1773	1792	855	1798	1791	872
Stage 1	-	-	-	-	-	-	909	909	-	882	882	-
Stage 2	-	-	-	-	-	-	864	883	-	916	909	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	773	-	-	785	-	-	36	44	310	113	147	405
Stage 1	-	-	-	-	-	-	243	261	-	457	489	-
Stage 2	-	-	-	-	-	-	262	271	-	443	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	744	-	-	785	-	-	30	39	310	97	130	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	39	-	226	266	-
Stage 1	-	-	-	-	-	-	226	243	-	409	465	-
Stage 2	-	-	-	-	-	-	231	258	-	393	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	17.2	16.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	744	-	-	785	-	-	356
HCM Lane V/C Ratio	0.047	0.036	-	-	0.007	-	-	0.135
HCM Control Delay (s)	17.2	10	0	-	9.6	0	-	16.7
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

HCM 6th TWSC
4: SR 28 & Calaneva Dr

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↱			↰
Traffic Vol, veh/h	6	11	758	3	22	725
Future Vol, veh/h	6	11	758	3	22	725
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	11	790	3	23	755

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1593	792	0	0	793	0
Stage 1	792	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	118	389	-	-	828	-
Stage 1	446	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	389	-	-	828	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	828	-
HCM Lane V/C Ratio	-	-	0.085	0.028	-
HCM Control Delay (s)	-	-	23.9	9.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	1	1	846	832	0
Future Vol, veh/h	0	1	1	846	832	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	863	849	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1714	849	849	0	-	0
Stage 1	849	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	99	361	789	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	361	789	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	412	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	789	-	361	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	9.6	0	15	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	130.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	729	134	13	717	0	140	8	28	3	3	4
Future Vol, veh/h	6	729	134	13	717	0	140	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	784	144	14	771	0	151	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	771	0	0	928	0	0	1671	1667	856	1687	1739	771
Stage 1	-	-	-	-	-	-	868	868	-	799	799	-
Stage 2	-	-	-	-	-	-	803	799	-	888	940	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	844	-	-	737	-	-	~ 48	61	317	208	252	506
Stage 1	-	-	-	-	-	-	273	290	-	618	648	-
Stage 2	-	-	-	-	-	-	302	319	-	582	608	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	844	-	-	737	-	-	~ 45	58	317	161	240	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 45	58	-	161	240	-
Stage 1	-	-	-	-	-	-	269	286	-	609	627	-
Stage 2	-	-	-	-	-	-	288	308	-	503	599	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 1317.4	19.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	53	844	-	-	737	-	-	256
HCM Lane V/C Ratio	3.571	0.008	-	-	0.019	-	-	0.042
HCM Control Delay (s)	$ 1317.4	9.3	0	-	10	0	-	19.7
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	20.5	0	-	-	0.1	-	-	0.1

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.2	0.2
Denied Del/Veh (s)	0.0	0.8	0.4
Total Delay (hr)	2.1	2.2	4.3
Total Del/Veh (s)	8.8	10.1	9.4
Avg Speed (mph)	13	10	12
Vehicles Entered	856	783	1639
Vehicles Exited	857	782	1639
Hourly Exit Rate	857	782	1639
Input Volume	840	794	1634
% of Volume	102	98	100

Total Zone Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	9.8
Total Delay (hr)	4.3
Total Del/Veh (s)	212.0
Avg Speed (mph)	12
Vehicles Entered	63
Vehicles Exited	66
Hourly Exit Rate	66
Input Volume	1634
% of Volume	4

Queuing and Blocking Report

03/09/2023

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	248	258	132
Average Queue (ft)	172	174	14
95th Queue (ft)	262	269	90
Link Distance (ft)	206	184	242
Upstream Blk Time (%)	3	6	0
Queuing Penalty (veh)	29	45	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 76

HCM 6th TWSC
1: Stateline Rd & Cove St/Valet

03/09/2023

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	0	0	16	0	46	10	116	45	15	98	0
Future Vol, veh/h	0	0	0	16	0	46	10	116	45	15	98	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	92	72	92	92	92	72	72	92	92	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	17	0	50	14	161	49	16	136	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	407	406	136	382	382	186	136	0	0	210	0	0
Stage 1	168	168	-	214	214	-	-	-	-	-	-	-
Stage 2	239	238	-	168	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	555	534	913	576	551	856	1448	-	-	1361	-	-
Stage 1	834	759	-	788	725	-	-	-	-	-	-	-
Stage 2	764	708	-	834	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	513	521	913	566	538	856	1448	-	-	1361	-	-
Mov Cap-2 Maneuver	513	521	-	566	538	-	-	-	-	-	-	-
Stage 1	825	749	-	779	717	-	-	-	-	-	-	-
Stage 2	711	700	-	823	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.2	0.5	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	-	756	1361	-	-
HCM Lane V/C Ratio	0.01	-	-	-	0.089	0.012	-	-
HCM Control Delay (s)	7.5	0	-	0	10.2	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

HCM 6th TWSC
2: Stateline Rd & SR 28

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	83	748	1	5	742	75	0	0	14	51	0	74
Future Vol, veh/h	83	748	1	5	742	75	0	0	14	51	0	74
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	779	1	5	773	78	0	0	15	53	0	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	890	0	0	780	0	0	1813	1852	780	1820	1813	851
Stage 1	-	-	-	-	-	-	952	952	-	861	861	-
Stage 2	-	-	-	-	-	-	861	900	-	959	952	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	761	-	-	837	-	-	33	40	347	110	143	415
Stage 1	-	-	-	-	-	-	227	246	-	467	496	-
Stage 2	-	-	-	-	-	-	263	265	-	425	464	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	733	-	-	837	-	-	22	30	347	85	108	400
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	30	-	192	235	-
Stage 1	-	-	-	-	-	-	180	195	-	357	472	-
Stage 2	-	-	-	-	-	-	210	252	-	323	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	15.8	29
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	733	-	-	837	-	-	277
HCM Lane V/C Ratio	0.042	0.118	-	-	0.006	-	-	0.47
HCM Control Delay (s)	15.8	10.6	0	-	9.3	0	-	29
HCM Lane LOS	C	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	2.4

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	⅄		↱			↰
Traffic Vol, veh/h	5	11	734	4	10	752
Future Vol, veh/h	5	11	734	4	10	752
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	765	4	10	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1570	767	0	0	769	0
Stage 1	767	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	122	402	-	-	845	-
Stage 1	458	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	119	402	-	-	845	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	845	-
HCM Lane V/C Ratio	-	-	0.072	0.012	-
HCM Control Delay (s)	-	-	21.8	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

HCM 6th TWSC
5: SR 28 & Big Water Rd

03/09/2023

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	16	3	8	771	767	20
Future Vol, veh/h	16	3	8	771	767	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	8	812	807	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1646	818	828	0	-	0
Stage 1	818	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	109	376	803	-	-	-
Stage 1	434	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	107	376	803	-	-	-
Mov Cap-2 Maneuver	107	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	40.6	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	803	-	121	-	-
HCM Lane V/C Ratio	0.01	-	0.165	-	-
HCM Control Delay (s)	9.5	0	40.6	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	0	1	1	794	812	0
Future Vol, veh/h	0	1	1	794	812	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	810	829	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1641	829	829	0	-	0
Stage 1	829	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	110	370	803	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	110	370	803	-	-	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	803	-	370	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	9.5	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	109

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	6	686	126	13	701	0	136	8	28	3	3	4
Future Vol, veh/h	6	686	126	13	701	0	136	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	738	135	14	754	0	146	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	754	0	0	873	0	0	1604	1600	806	1619	1667	754
Stage 1	-	-	-	-	-	-	818	818	-	782	782	-
Stage 2	-	-	-	-	-	-	786	782	-	837	885	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	856	-	-	773	-	-	~ 54	68	341	223	267	515
Stage 1	-	-	-	-	-	-	295	311	-	625	653	-
Stage 2	-	-	-	-	-	-	310	326	-	602	623	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	773	-	-	~ 51	65	341	177	255	515
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 51	65	-	177	255	-
Stage 1	-	-	-	-	-	-	291	307	-	616	633	-
Stage 2	-	-	-	-	-	-	296	316	-	526	614	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 1083.8	18.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	60	856	-	-	773	-	-	274
HCM Lane V/C Ratio	3.082	0.008	-	-	0.018	-	-	0.039
HCM Control Delay (s)	$ 1083.8	9.2	0	-	9.7	0	-	18.7
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	19.2	0	-	-	0.1	-	-	0.1

Notes

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

SimTraffic Performance Report

03/09/2023

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	1.7	2.4	4.1
Total Del/Veh (s)	8.0	10.6	9.4
Avg Speed (mph)	14	10	12
Vehicles Entered	770	807	1577
Vehicles Exited	772	806	1578
Hourly Exit Rate	772	806	1578
Input Volume	813	810	1623
% of Volume	95	100	97

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	8.6
Total Delay (hr)	4.1
Total Del/Veh (s)	178.6
Avg Speed (mph)	12
Vehicles Entered	56
Vehicles Exited	79
Hourly Exit Rate	79
Input Volume	1623
% of Volume	5

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	246	261	209
Average Queue (ft)	143	185	17
95th Queue (ft)	250	275	102
Link Distance (ft)	206	184	242
Upstream Blk Time (%)	2	7	0
Queuing Penalty (veh)	17	56	3
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 77

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	0	10	36	40	0
Future Vol, veh/h	0	0	10	36	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	14	50	56	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	134	56	56	0	-	0
Stage 1	56	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	860	1011	1549	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	852	1011	1549	-	-	-
Mov Cap-2 Maneuver	852	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1549	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	7.3	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
2: Stateline Rd & SR 28

03/09/2023

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Future Vol, veh/h	26	820	1	5	799	2	0	0	14	6	0	40
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	854	1	5	832	2	0	0	15	6	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	873	0	0	855	0	0	1773	1792	855	1798	1791	872
Stage 1	-	-	-	-	-	-	909	909	-	882	882	-
Stage 2	-	-	-	-	-	-	864	883	-	916	909	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	773	-	-	785	-	-	36	44	310	113	147	405
Stage 1	-	-	-	-	-	-	243	261	-	457	489	-
Stage 2	-	-	-	-	-	-	262	271	-	443	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	744	-	-	785	-	-	30	39	310	97	130	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	39	-	226	266	-
Stage 1	-	-	-	-	-	-	226	243	-	409	465	-
Stage 2	-	-	-	-	-	-	231	258	-	393	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	17.2	16.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	744	-	-	785	-	-	356
HCM Lane V/C Ratio	0.047	0.036	-	-	0.007	-	-	0.135
HCM Control Delay (s)	17.2	10	0	-	9.6	0	-	16.7
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	6	11	770	3	22	736
Future Vol, veh/h	6	11	770	3	22	736
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	11	802	3	23	767

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1617	804	0	0	805	0
Stage 1	804	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	114	383	-	-	819	-
Stage 1	440	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	383	-	-	819	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.5	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	202	819	-
HCM Lane V/C Ratio	-	-	0.088	0.028	-
HCM Control Delay (s)	-	-	24.5	9.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	0	1	1	858	845	0
Future Vol, veh/h	0	1	1	858	845	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	876	862	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1740	862	862	0	-	0
Stage 1	862	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	96	355	780	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	96	355	780	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	406	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	15.2		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	780	-	355	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	9.6	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	139

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	738	134	13	726	0	140	8	28	3	3	4
Future Vol, veh/h	6	738	134	13	726	0	140	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	794	144	14	781	0	151	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	781	0	0	938	0	0	1691	1687	866	1707	1759	781
Stage 1	-	-	-	-	-	-	878	878	-	809	809	-
Stage 2	-	-	-	-	-	-	813	809	-	898	950	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	837	-	-	730	-	-	~ 46	59	313	204	248	501
Stage 1	-	-	-	-	-	-	268	287	-	614	645	-
Stage 2	-	-	-	-	-	-	297	314	-	578	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	730	-	-	~ 43	56	313	157	236	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 43	56	-	157	236	-
Stage 1	-	-	-	-	-	-	264	283	-	605	623	-
Stage 2	-	-	-	-	-	-	283	303	-	499	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 1421.4	20
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	50	837	-	-	730	-	-	251
HCM Lane V/C Ratio	3.785	0.008	-	-	0.019	-	-	0.043
HCM Control Delay (s)	$ 1421.4	9.3	0	-	10	0	-	20
HCM Lane LOS	F	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	20.8	0	-	-	0.1	-	-	0.1

Notes

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.4	0.2
Total Delay (hr)	2.0	2.1	4.1
Total Del/Veh (s)	8.8	9.6	9.2
Avg Speed (mph)	13	11	12
Vehicles Entered	824	784	1608
Vehicles Exited	824	781	1605
Hourly Exit Rate	824	781	1605
Input Volume	840	794	1634
% of Volume	98	98	98

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	6.2
Total Delay (hr)	4.1
Total Del/Veh (s)	192.2
Avg Speed (mph)	12
Vehicles Entered	47
Vehicles Exited	68
Hourly Exit Rate	68
Input Volume	1634
% of Volume	4

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	245	259	133
Average Queue (ft)	168	171	12
95th Queue (ft)	262	269	77
Link Distance (ft)	206	184	242
Upstream Blk Time (%)	3	6	0
Queuing Penalty (veh)	27	42	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 70

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	0	0	16	0	46	10	121	45	15	104	0
Future Vol, veh/h	0	0	0	16	0	46	10	121	45	15	104	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	92	72	92	92	92	72	72	92	92	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	17	0	50	14	168	49	16	144	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	422	421	144	397	397	193	144	0	0	217	0	0
Stage 1	176	176	-	221	221	-	-	-	-	-	-	-
Stage 2	246	245	-	176	176	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	542	524	903	563	540	849	1438	-	-	1353	-	-
Stage 1	826	753	-	781	720	-	-	-	-	-	-	-
Stage 2	758	703	-	826	753	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	501	511	903	553	527	849	1438	-	-	1353	-	-
Mov Cap-2 Maneuver	501	511	-	553	527	-	-	-	-	-	-	-
Stage 1	817	743	-	772	712	-	-	-	-	-	-	-
Stage 2	706	695	-	815	743	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.3	0.5	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	-	746	1353	-	-
HCM Lane V/C Ratio	0.01	-	-	-	0.09	0.012	-	-
HCM Control Delay (s)	7.5	0	-	0	10.3	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	83	748	1	5	742	75	0	0	14	51	0	74
Future Vol, veh/h	83	748	1	5	742	75	0	0	14	51	0	74
Conflicting Peds, #/hr	39	0	0	0	0	39	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	6	-	-	-6	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	779	1	5	773	78	0	0	15	53	0	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	890	0	0	780	0	0	1813	1852	780	1820	1813	851
Stage 1	-	-	-	-	-	-	952	952	-	861	861	-
Stage 2	-	-	-	-	-	-	861	900	-	959	952	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.32	7.72	6.82	5.92	5.32	5.62
Critical Hdwy Stg 1	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.32	6.72	-	4.92	4.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	761	-	-	837	-	-	33	40	347	110	143	415
Stage 1	-	-	-	-	-	-	227	246	-	467	496	-
Stage 2	-	-	-	-	-	-	263	265	-	425	464	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	733	-	-	837	-	-	22	30	347	85	108	400
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	30	-	192	235	-
Stage 1	-	-	-	-	-	-	180	195	-	357	472	-
Stage 2	-	-	-	-	-	-	210	252	-	323	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	15.8	29
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	733	-	-	837	-	-	277
HCM Lane V/C Ratio	0.042	0.118	-	-	0.006	-	-	0.47
HCM Control Delay (s)	15.8	10.6	0	-	9.3	0	-	29
HCM Lane LOS	C	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	2.4

4: SR 28 & Calaneva Dr

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↱			↰
Traffic Vol, veh/h	5	11	746	4	10	763
Future Vol, veh/h	5	11	746	4	10	763
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	777	4	10	795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1594	779	0	0	781	0
Stage 1	779	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	118	396	-	-	837	-
Stage 1	452	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	396	-	-	837	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	426	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	226	837	-
HCM Lane V/C Ratio	-	-	0.074	0.012	-
HCM Control Delay (s)	-	-	22.2	9.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	16	3	8	784	780	20
Future Vol, veh/h	16	3	8	784	780	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	8	825	821	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1673	832	842	0	-	0
Stage 1	832	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	105	369	794	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	369	794	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.4	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	794	-	116	-	-
HCM Lane V/C Ratio	0.011	-	0.172	-	-
HCM Control Delay (s)	9.6	0	42.4	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	⋎			↰	↱	
Traffic Vol, veh/h	0	1	1	806	825	0
Future Vol, veh/h	0	1	1	806	825	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	822	842	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1666	842	842	0	-	0
Stage 1	842	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	106	364	794	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	106	364	794	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	14.9		0		0	
HCM LOS	B					

Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		794	-	364	-	-
HCM Lane V/C Ratio		0.001	-	0.003	-	-
HCM Control Delay (s)		9.5	0	14.9	-	-
HCM Lane LOS		A	A	B	-	-
HCM 95th %tile Q(veh)		0	-	0	-	-

Intersection	
Int Delay, s/veh	110.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Future Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	747	135	14	763	0	146	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	763	0	0	882	0	0	1622	1618	815	1637	1685	763
Stage 1	-	-	-	-	-	-	827	827	-	791	791	-
Stage 2	-	-	-	-	-	-	795	791	-	846	894	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	850	-	-	767	-	-	~ 53	66	337	219	263	510
Stage 1	-	-	-	-	-	-	291	307	-	621	650	-
Stage 2	-	-	-	-	-	-	305	322	-	599	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	767	-	-	~ 50	63	337	173	251	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 50	63	-	173	251	-
Stage 1	-	-	-	-	-	-	287	303	-	612	629	-
Stage 2	-	-	-	-	-	-	291	312	-	523	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 1109.1	18.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	59	850	-	-	767	-	-	269
HCM Lane V/C Ratio	3.135	0.008	-	-	0.018	-	-	0.04
HCM Control Delay (s)	$ 1109.1	9.3	0	-	9.8	0	-	18.9
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	19.3	0	-	-	0.1	-	-	0.1

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

3: Ped Xing & SR 28 Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.6	0.3
Total Delay (hr)	1.8	2.4	4.2
Total Del/Veh (s)	8.3	10.2	9.3
Avg Speed (mph)	13	10	12
Vehicles Entered	780	831	1611
Vehicles Exited	781	830	1611
Hourly Exit Rate	781	830	1611
Input Volume	813	810	1623
% of Volume	96	102	99

Total Zone Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	10.0
Total Delay (hr)	4.2
Total Del/Veh (s)	185.6
Avg Speed (mph)	12
Vehicles Entered	46
Vehicles Exited	75
Hourly Exit Rate	75
Input Volume	1623
% of Volume	5

Intersection: 3: Ped Xing & SR 28

Movement	EB	WB	B21
Directions Served	T	T	T
Maximum Queue (ft)	249	257	198
Average Queue (ft)	139	179	18
95th Queue (ft)	255	270	96
Link Distance (ft)	206	184	242
Upstream Blk Time (%)	2	6	0
Queuing Penalty (veh)	20	48	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 69

MITIGATED LEVEL OF SERVICE OUTPUT

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Future Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	590	109	11	602	0	115	6	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	602	0	0	699	0	0	1282	1279	645	1294	1333	602
Stage 1	-	-	-	-	-	-	655	655	-	624	624	-
Stage 2	-	-	-	-	-	-	627	624	-	670	709	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	975	-	-	898	-	-	~ 100	116	432	308	348	601
Stage 1	-	-	-	-	-	-	379	386	-	693	700	-
Stage 2	-	-	-	-	-	-	396	402	-	672	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	898	-	-	~ 97	113	432	279	339	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	228	-	279	339	-
Stage 1	-	-	-	-	-	-	376	383	-	687	687	-
Stage 2	-	-	-	-	-	-	386	395	-	619	668	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	41.6	14.5
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	975	-	-	898	-	-	388
HCM Lane V/C Ratio	0.612	0.006	-	-	0.012	-	-	0.019
HCM Control Delay (s)	41.6	8.7	0	-	9.1	0	-	14.5
HCM Lane LOS	E	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.6	0	-	-	0	-	-	0.1

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

HCM 6th TWSC
7: Lakeshore Blvd/Pinion Dr & SR 28

03/09/2023

Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Future Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	747	135	14	763	0	146	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	763	0	0	882	0	0	1622	1618	815	1637	1685	763
Stage 1	-	-	-	-	-	-	827	827	-	791	791	-
Stage 2	-	-	-	-	-	-	795	791	-	846	894	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	850	-	-	767	-	-	~ 53	66	337	219	263	510
Stage 1	-	-	-	-	-	-	291	307	-	621	650	-
Stage 2	-	-	-	-	-	-	305	322	-	599	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	767	-	-	~ 50	63	337	185	251	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	168	-	185	251	-
Stage 1	-	-	-	-	-	-	287	303	-	612	629	-
Stage 2	-	-	-	-	-	-	291	312	-	523	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	152.1	18.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	169	850	-	-	767	-	-	278
HCM Lane V/C Ratio	1.094	0.008	-	-	0.018	-	-	0.039
HCM Control Delay (s)	152.1	9.3	0	-	9.8	0	-	18.5
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	9.4	0	-	-	0.1	-	-	0.1

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

HCM 6th TWSC
7: Lakeshore Blvd/Pinion Dr & SR 28

03/10/2023

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱			✥	
Traffic Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Future Vol, veh/h	5	549	101	10	560	0	107	6	22	2	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	590	109	11	602	0	115	6	24	2	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	602	0	0	699	0	0	1282	1279	645	1294	1333	602
Stage 1	-	-	-	-	-	-	655	655	-	624	624	-
Stage 2	-	-	-	-	-	-	627	624	-	670	709	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	975	-	-	898	-	-	~ 100	116	432	308	348	601
Stage 1	-	-	-	-	-	-	379	386	-	693	700	-
Stage 2	-	-	-	-	-	-	396	402	-	672	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	898	-	-	~ 97	113	432	279	339	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	228	-	279	339	-
Stage 1	-	-	-	-	-	-	376	383	-	687	687	-
Stage 2	-	-	-	-	-	-	386	395	-	619	668	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	34.1	14.5
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	362	975	-	-	898	-	-	388
HCM Lane V/C Ratio	0.53	0.083	0.006	-	-	0.012	-	-	0.019
HCM Control Delay (s)	38.9	15.8	8.7	0	-	9.1	0	-	14.5
HCM Lane LOS	E	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	2.8	0.3	0	-	-	0	-	-	0.1

Notes

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

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱			✥	
Traffic Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Future Vol, veh/h	6	695	126	13	710	0	136	8	28	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-11	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	747	135	14	763	0	146	9	30	3	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	763	0	0	882	0	0	1622	1618	815	1637	1685	763
Stage 1	-	-	-	-	-	-	827	827	-	791	791	-
Stage 2	-	-	-	-	-	-	795	791	-	846	894	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.12	7.52	6.72	4.92	4.32	5.12
Critical Hdwy Stg 1	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.12	6.52	-	3.92	3.32	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	850	-	-	767	-	-	~ 53	66	337	219	263	510
Stage 1	-	-	-	-	-	-	291	307	-	621	650	-
Stage 2	-	-	-	-	-	-	305	322	-	599	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	767	-	-	~ 50	63	337	185	251	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	168	-	185	251	-
Stage 1	-	-	-	-	-	-	287	303	-	612	629	-
Stage 2	-	-	-	-	-	-	291	312	-	523	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	98.9	18.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	275	850	-	-	767	-	-	278
HCM Lane V/C Ratio	0.956	0.141	0.008	-	-	0.018	-	-	0.039
HCM Control Delay (s)	119.7	20.2	9.3	0	-	9.8	0	-	18.5
HCM Lane LOS	F	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	7	0.5	0	-	-	0.1	-	-	0.1

Notes

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

HCM 6th Signalized Intersection Summary
7: Lakeshore Blvd/Pinion Dr & SR 28

03/09/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	6	695	126	13	710	0	136	8	28	3	3	4
Future Volume (veh/h)	6	695	126	13	710	0	136	8	28	3	3	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1723	1723	1723	2303	2303	2303
Adj Flow Rate, veh/h	6	747	135	14	763	0	146	9	30	3	3	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	917	165	93	1098	0	343	25	42	177	175	161
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.00	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	3	1537	276	10	1839	0	1002	133	220	348	917	843
Grp Volume(v), veh/h	888	0	0	777	0	0	185	0	0	10	0	0
Grp Sat Flow(s),veh/h/ln	1816	0	0	1850	0	0	1355	0	0	2108	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.3	0.0	0.0	12.1	0.0	0.0	5.4	0.0	0.0	0.2	0.0	0.0
Prop In Lane	0.01		0.15	0.02		0.00	0.79		0.16	0.30		0.40
Lane Grp Cap(c), veh/h	1169	0	0	1191	0	0	410	0	0	513	0	0
V/C Ratio(X)	0.76	0.00	0.00	0.65	0.00	0.00	0.45	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	1688	0	0	1711	0	0	739	0	0	992	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	0.0	0.0	5.9	0.0	0.0	16.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.6	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	2.7	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	0.0	6.5	0.0	0.0	16.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		888			777			185			10	
Approach Delay, s/veh		8.0			6.5			16.8			14.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.6		29.8		12.6		29.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		37.5		18.5		37.5				
Max Q Clear Time (g_c+I1), s		7.4		18.3		2.2		14.1				
Green Ext Time (p_c), s		0.7		7.0		0.0		6.2				

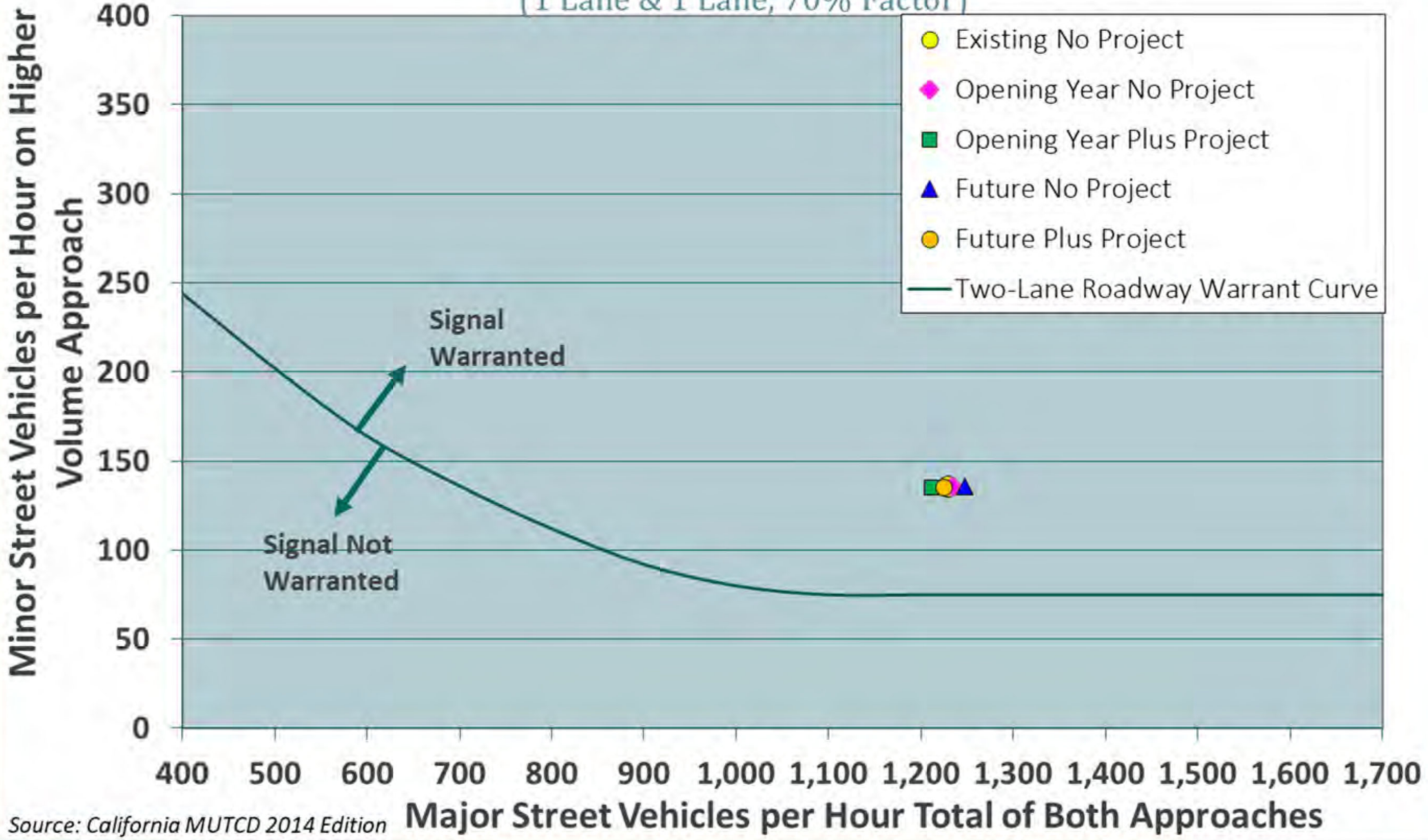
Intersection Summary			
HCM 6th Ctrl Delay			8.3
HCM 6th LOS			A

Appendix G

SIGNAL AND TURN-LANE WARRANTS

Figure G3: SR 28/Lakeshore Blvd AM Peak-Hour Signal Warrant

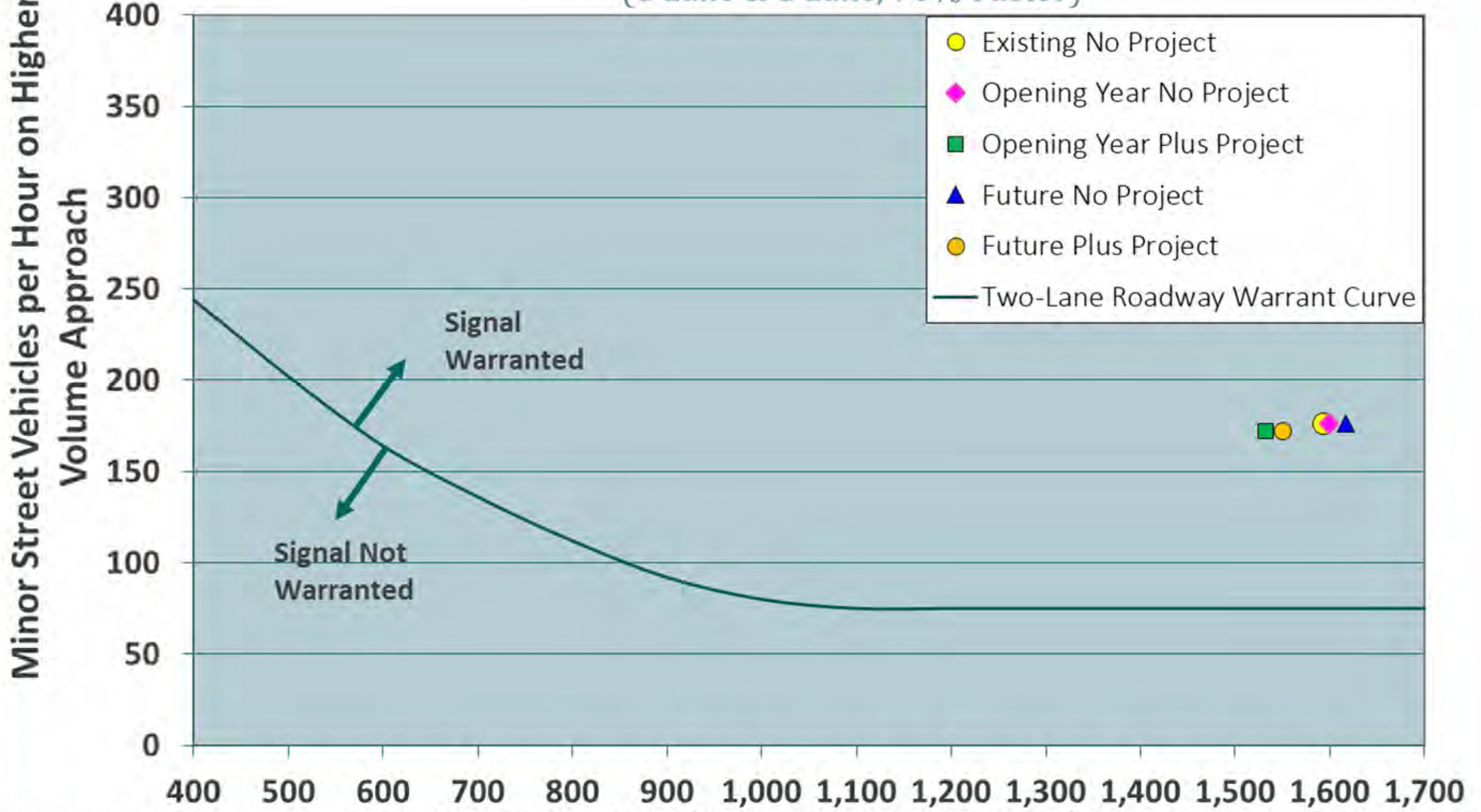
(1 Lane & 1 Lane, 70% Factor)



Source: California MUTCD 2014 Edition

Figure G4: SR 28/Lakeshore Blvd PM Peak-Hour Signal Warrant

(1 Lane & 1 Lane, 70% Factor)



Source: California MUTCD 2014 Edition

Left-Turn Lane Warrant

Table 4-13: Left-Turn Lane Warrants at Unsignalized Intersections, Two-Lane Roadways in Rural Areas

Turning Volume[1] (VPH)	**Minimum Directional Volume in the Through Lane[2] (vphpl)**			
	≤ 30 mph	**35-40 mph**	**45-55 mph**	**≥60 mph**
<5	Not Required	May be Required	ay be Requir	May be Required
5	400	220	120	60
10	240	140	80	40
15	160	100	60	Required
20	120	80	Required	Required
25	100	Required	Required	Required
≥26	Required	Required	Required	Required

Turn lane is warranted if the design year volumes are equal to or greater than the volumes provided above. Posted speed (mph) of the roadway should be used in the warrant analysis

Note 1: Use linear interpoloation for turning volumes between 5 and 25 vph

Note 2: The directional volume is the volume in the same direction as served by the auxiliary lane. The directional volume in the through lane includes through vehicles and turning vehicles

Right-Turn Lane Warrant

Table 4-17: Right-Turn Lane Warrants at Unsignalized Intersections, Two-Lane Roadways in Rural Areas

Turning Volume[1] (VPH)	Minimum Directional Volume in the Through Lane[2] (vphpl)			
	≤ 30 mph	**35-40 mph**	**45-55 mph**	**≥60 mph**
<5	Not Required	May be Required	May be Required	May be Required
5	800	460	270	160
10	430	280	170	110
15	290	180	110	80
20	200	140	90	70
25	170	120	80	Required
30	160	110	Required	Required
≥31	Required	Required	Required	Required

Turn lane is warranted if the design year volumes are equal to or greater than the volumes provided above. Posted speed (mph) of the roadway should be used in the warrant analysis

Note 1: Use linear interpoloation for turning volumes between 5 and 30 vph

Note 2: The directional volume is the volume in the same direction as served by the auxiliary lane. The directional volume in the through lane includes through vehicles and turning vehicles

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Appendix H

CRASH DATA SUMMARY

Table F1: WALT - Summary of Crashes by Severity

January 1, 2016 - January 1, 2021

	Intersections				
Crash Severity	State Line Road	CalNeva Drive	Reservoir Road	Lakeshore Blvd/Pinion Dr/Mile Marker 9	**Total**
Fatal	0	0	0	0	0
Severe Injury	1	0	0	0	1
Other Visible Injury	1	2	0	1	4
Complaint of Pain	0	0	1	1	2
Property Damage Only	1	3	4	10	18
5-Year Total	3	5	5	12	25
5-Year Total Injury	2	2	1	2	7
Percent of All Crashes					
Fatal	0.0%	0.0%	0.0%	0.0%	0.0%
Severe Injury	33.3%	0.0%	0.0%	0.0%	4.0%
Other Visible Injury	33.3%	40.0%	0.0%	8.3%	16.0%
Complaint of Pain	0.0%	0.0%	20.0%	8.3%	8.0%
Property Damage Only	33.3%	60.0%	80.0%	83.3%	72.0%

Source: LSC Transportation Inc. and NDOT TSE Crash Data Request

Table F2: WALT - Summary of Crashes by Lighting

January 1, 2016 - January 1, 2021

	Intersections				
Lighting	State Line Road	CalNeva Drive	Reservoir Road	Lakeshore Blvd/Pinion Dr/Mile Marker 9	**Total**
Daylight	3	3	5	5	16
Dawn				1	1
Dark-Spot Lighting		1		2	3
Dark-No Lighting				3	3
Dark-Unknown Lighting					0
Unknown		1		1	2
5-Year Total	3	5	5	12	25
Percent of All Crashes					
Daylight	100.0%	60.0%	100.0%	41.7%	64.0%
Dawn	0.0%	0.0%	0.0%	8.3%	4.0%
Dark-Spot Lighting	0.0%	20.0%	0.0%	16.7%	12.0%
Dark-No Lighting	0.0%	0.0%	0.0%	25.0%	12.0%
Dark-Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	20.0%	0.0%	8.3%	8.0%

Source: LSC Transportation Inc. and NDOT TSE Crash Data Request

Table F3: WALT - Summary of Crashes by Weather

January 1, 2016 - January 1, 2021

	Intersections				
Weather	State Line Road	CalNeva Drive	Reservoir Road	Lakeshore Blvd/Pinion Dr/Mile Marker 9	**Total**
Clear	3	2	4	10	19
Cloudy		2		1	3
Fog				1	1
Raining					0
Snowing			1		1
Wind		1			1
Other					0
5-Year Total	3	5	5	12	25
Percent of All Crashes					
Clear	100.0%	40.0%	80.0%	83.3%	76.0%
Cloudy	0.0%	40.0%	0.0%	8.3%	12.0%
Fog	0.0%	0.0%	0.0%	8.3%	4.0%
Raining	0.0%	0.0%	0.0%	0.0%	0.0%
Snowing	0.0%	0.0%	20.0%	0.0%	4.0%
Wind	0.0%	20.0%	0.0%	0.0%	4.0%
Other	0.0%	0.0%	0.0%	0.0%	0.0%

Source: LSC Transportation Inc. and NDOT TSE Crash Data Request

Table F4: WALT - Summary of Crashes by Crash Type

January 1, 2016 - January 1, 2021

	Intersections				
Crash Type	State Line Road	CalNeva Drive	Reservoir Road	Lakeshore Blvd/Pinion Dr/Mile Marker 9	**Total**
Angle		1	1	5	7
Sideswipe,Overtaking			1		1
Sideswipe,Meeting			1		1
Rear-End	2	1	2	2	7
Head-On		1			1
Non-Collision	1	2		5	8
5-Year Total	3	5	5	12	25
Percent of All Crashes					
Angle	0.0%	20.0%	20.0%	41.7%	28.0%
Sideswipe,Overtaking	0.0%	0.0%	20.0%	0.0%	4.0%
Sideswipe,Meeting	0.0%	0.0%	20.0%	0.0%	4.0%
Rear-End	66.7%	20.0%	40.0%	16.7%	28.0%
Head-On	0.0%	20.0%	0.0%	0.0%	4.0%
Non-Collision	33.3%	40.0%	0.0%	41.7%	32.0%

Source: LSC Transportation Inc. and NDOT TSE Crash Data Request

APPENDIX O
Parking Study

HALES ENGINEERING
innovative transportation solutions

MEMORANDUM

Date: September 28, 2022

To: Washoe County

From: Hales Engineering

Subject: Washoe County Tahoe Resort and Residences Parking Study DRAFT

UT22-2290

Introduction

This memorandum discusses the parking study completed for the proposed Tahoe Resort and Residences development located in Washoe County, Nevada. The study identifies the County parking supply rates and applies time-of-day demand by land use. The proposed development is located on the northeast corner of the Stateline Road / SR 28 intersection in Washoe County, Nevada. A vicinity map of the project site is shown in Figure 1.

Figure 1: Vicinity map of Tahoe Resort and Residences

Project Description

The development consists of a resort with condos, a hotel, a casino, and commercial/retail space. The proposed project will replace the existing Tahoe Biltmore Lodge. A supply of 414 stalls is currently planned for the project, although it is likely that additional vehicles could be accommodated with valet parking. This total includes 18 stalls that are planned to accommodate a portion of vehicles for the adjacent Granite Place development. A site plan is provided in Appendix A.

County Parking Code

The Washoe County code specifies parking rates for various land use types. The required parking rates found in the County code for the study land uses are shown in Table 1.

A single bed per bedroom is anticipated for the condos and employee housing per direction from the architects. A total of 174 employees is anticipated for the hotel, with all employees assumed as full-time equivalents except for three administrative employees which have separate requirements. All casino employees are reported as full-time equivalents.

The hotel restaurants were included with the retail space as County code has a general hotel retail/commercial category. The on-site spa and fitness center is for guests only and was not separately calculated.

Because 28 employees will have housing provided for on-site, the number of non-administrative full-time employees for the hotel was reduced to 143. This is because these employees will not need an additional parking space for commuting to work as they will be able to walk.

The calculations for the parking required by the County are shown in Appendix B. As shown, it is anticipated that the County would require 537 stalls for the proposed development.

Table 1: County Parking Rates

Land Use	Unit Type	Rate
Condos	Beds, Bedrooms	0.5/bed + 0.5/bdrm
Hotel	Rooms, Admin Employees, Other Full-time Employees, Part-time Employees	1/room + 1/Admin + 0.5/FTE + 0.33/PTE
Hotel Meeting Space	Floor Area	4/1,000 sq. ft.
Hotel Retail/Commercial	Floor Area	2.5/1,000 sq. ft.
Casino	Floor Area, Full-time Employees, Part-time Employees	4/1000 sq. ft. + 0.67/FTE + 0.33/PTE
Employee Housing	Beds, Bedrooms	0.5/bed + 0.5/bdrm

Source: Washoe County code, 2022

Many hotel guests and residents will visit other uses on site while parked for the hotel, which means that true parking demand may be lower. The meeting and retail space are already accounted for as they are under a hotel subcategory, but the casino is not. ITE provides a tool to estimate internal capture, or travel between uses on-site, for mixed-use developments. This tool is intended for trip generation, not parking, but was used to estimate the overlap between casino patrons and hotel guests/residents.

The ITE internal capture methodology produced an evening peak hour reduction of 1%, or approximately three stalls. The true internal capture is likely higher, but the 1% reduction was applied to be conservative. With this reduction, the required parking would be reduced from 537 stalls to 534 stalls.

Shared Parking Analysis

Time-of-day reductions were made based on percentages outlined in ITE's *Parking Generation*. The mixed-use nature of the site means that peak parking demand for the different uses will occur at different times of the day. Saturday rates were used as opposed to weekday rates due to the recreational nature of the resort.

ITE time-of-day rates were unavailable for the hotel meeting space and casino land uses. Time-of-day rates for the hotel meeting space use were instead taken from Urban Land Institute's (ULI) *Shared Parking*. Rates for the casino were based on an ITE Journal publication titled *Gaming Casino Traffic*, in which hourly variation in trip generation rates from a casino was shown. From this, the cumulative difference in vehicles entering and exiting was used to estimate the percentage of peak parking demand at each hour, and a small portion of parking was assumed to be occupied during morning hours.

Granite Place was assumed to have 18 reserved stalls all day and no time-of-day reductions were taken for it.

A graph showing the time-of-day reduction is shown in Figure 2. Without the reductions due to shared parking, but with the internal capture reductions, 537 stalls would be required, while 439 stalls would be required based on time-of-day reductions. The time-of-day calculations are shown in Appendix C.

Comparison

A comparison of the proposed supply, the local parking demand, the county's parking requirement, and the recommended supply based on the ITE Parking Generation rates is shown in Table 2. To account for variability in real-world conditions, a 5% buffer should be provided to the reduced stall count. With this buffer, a total of 461 stalls would be required.

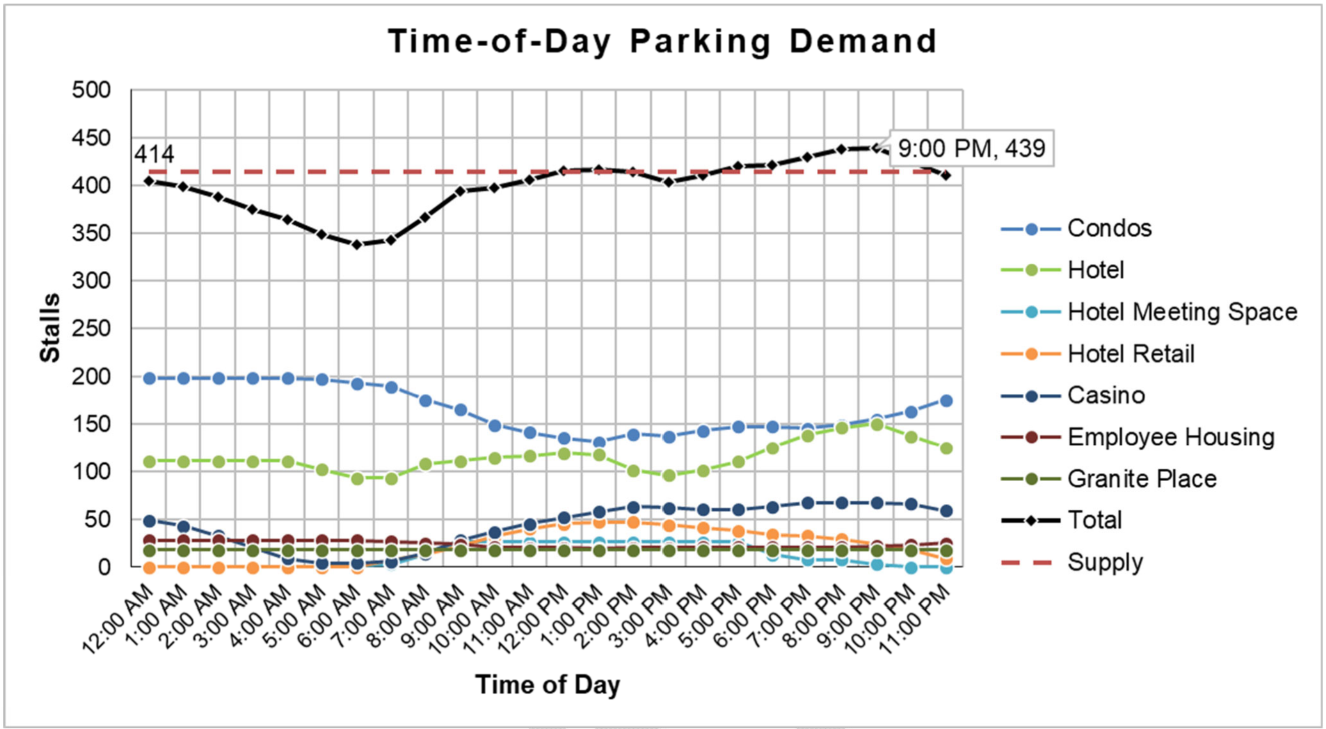


Figure 2: Time-of-day reductions

Table 2: Parking Comparison

Source	# of Stalls
Proposed Site Plan	414
County Requirement	534
County Requirement w/Time-of-Day Demand + 5%	461

Travel Demand Management and Recommendations

Travel demand management (TDM) strategies are measures that may be taken to reduce the number of employees and patrons that travel in their own personal vehicle. A number of options are available to reduce parking demand in the Lake Tahoe region. The following alternatives may be considered:

- Carpool incentives
  - Parking stalls closer to the entrance reserved for vehicles with multiple people
  - An employee transportation coordinator could be designated to assist in this
- Vanpool
- Shuttle buses
- Transit
  - Transit is free in the Lake Tahoe region and will reduce parking demand
- Car share

With proper TDM implementation, and because valet parking can often accommodate additional vehicles beyond the marked stall count, it is anticipated that the proposed 414 stalls will be adequate for the proposed land uses.

Conclusions

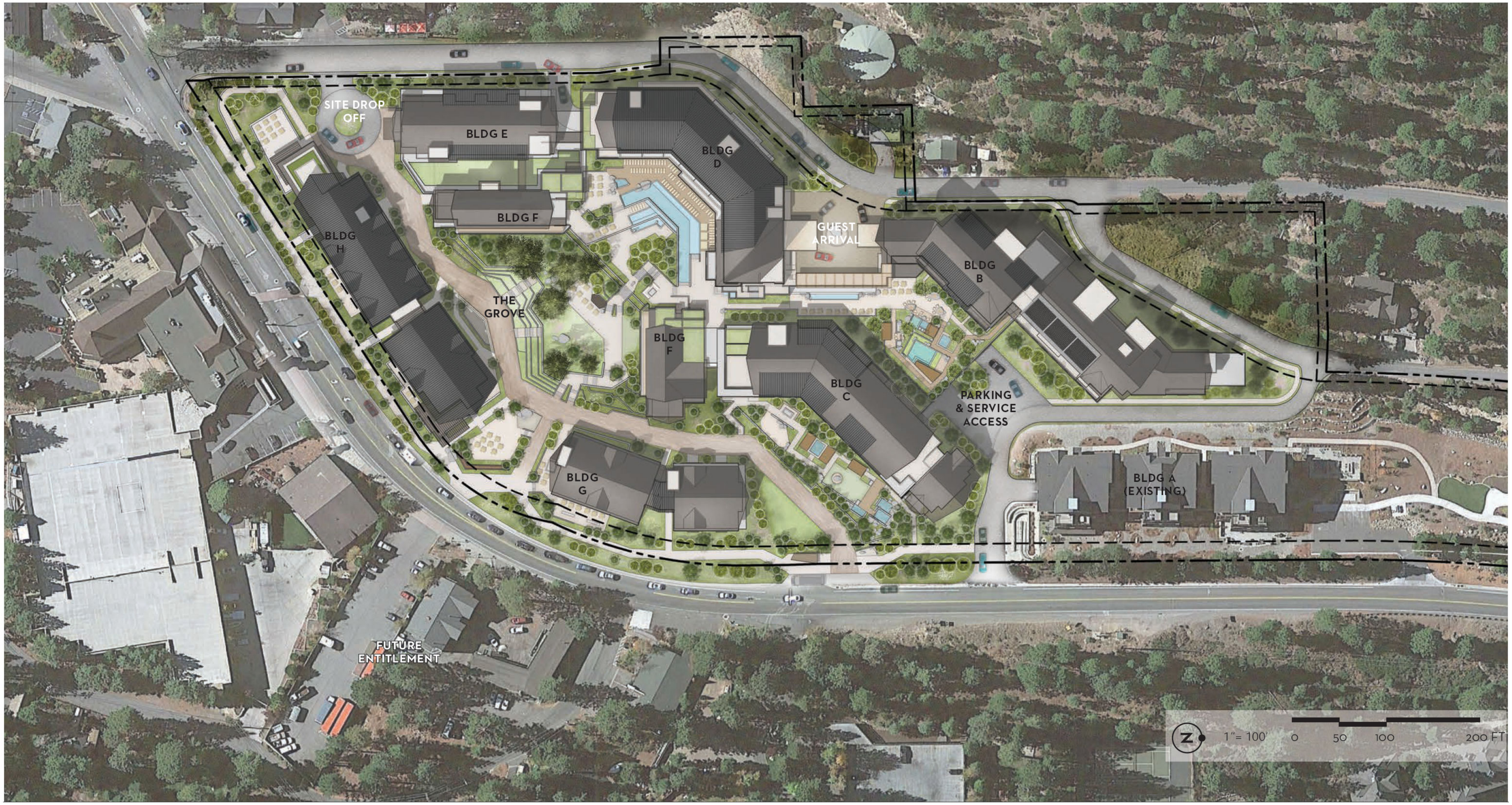
The key findings of this study are as follows:

- The proposed site plan contains 414 stalls, although it is likely that additional vehicles could be accommodated with valet parking.
- Based on County standards, the proposed development would be required to contain 534 stalls.
- If reductions are made to account for internal capture and the fact that demand for different uses will peak at different times of the day, and factoring in a 5% buffer, 461 stalls would be required.
- With proper implementation of TDM strategies, with the aid of valet parking, it is anticipated that the proposed 414 stalls will be adequate.

If you have any questions regarding this memorandum, please contact us at 801.766.4343.

APPENDIX A

Site Plan


SITE DROP OFF
BLDG E
BLDG D
BLDG F
BLDG H
GUEST ARRIVAL
BLDG B
THE GROVE
BLDG F
BLDG C
PARKING & SERVICE ACCESS
BLDG G
BLDG A (EXISTING)
FUTURE ENTITLEMENT
Z
1"= 100'
0
50
100
200 FT

APPENDIX B

County Parking Calculations

Parking Calculations
NV Washoe County - Lake Tahoe Alpine Resort PS

Land Use	# of Units	KSF	# of Beds	Bedrooms	Admin. Employees	Full-time Employees	Rate (stalls per unit)	Rate (stalls per KSF)	Rate (stalls per bed)	Rate (stalls per bedroom)	Rate (stalls per admin emp.)	Rate (stalls per FT emp.)	Stalls	% Red.	Total Stalls
Condos			200	200					0.5	0.5			200	1%	198
Hotel	76				3	143	1				1	0.5	151	1%	150
Hotel Meeting Space		6.5						4					26	0%	26
Hotel Retail		18.7						2.5					47	0%	47
Casino		10.0				40		4				0.67	67	1%	67
Employee Housing			28	28					0.5	0.5			28	0%	28
Granite Place			N/A	N/A									18	0%	18
TOTAL													**537**		**534**

Source: Washoe County code, 2022.

APPENDIX C

Time-of-Day Calculations

#	1		2		3		4		5		6		7		Total		Reduced	Supply	Delta
Land Use	**Condos**		**Hotel**		**Hotel Meeting Space**		**Hotel Retail**		**Casino**		**Employee Housing**		**Granite Place**						
Peak Demand	**198**		**150**		**26**		**47**		**67**		**28**		**18**						
Time	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**			
12:00 AM	100%	198	74%	111	0%	0	0%	0	73%	49	100%	28	100%	18	98%	404	130	414	10
1:00 AM	100%	198	74%	111	0%	0	0%	0	64%	43	100%	28	100%	18	96%	398	136	414	16
2:00 AM	100%	198	74%	111	0%	0	0%	0	49%	33	100%	28	100%	18	94%	388	146	414	26
3:00 AM	100%	198	74%	111	0%	0	0%	0	29%	20	100%	28	100%	18	91%	375	159	414	39
4:00 AM	100%	198	74%	111	0%	0	0%	0	13%	9	100%	28	100%	18	88%	364	170	414	50
5:00 AM	99%	197	68%	102	0%	0	0%	0	5%	4	99%	28	100%	18	84%	349	185	414	65
6:00 AM	97%	193	62%	93	5%	2	0%	0	5%	4	97%	28	100%	18	82%	338	196	414	76
7:00 AM	95%	189	62%	93	10%	3	14%	7	8%	6	95%	27	100%	18	83%	343	191	414	71
8:00 AM	88%	175	72%	108	50%	13	27%	13	21%	14	88%	25	100%	18	88%	366	168	414	48
9:00 AM	83%	165	74%	111	100%	26	46%	22	41%	28	83%	24	100%	18	95%	394	140	414	20
10:00 AM	75%	149	76%	114	100%	26	67%	32	54%	37	75%	21	100%	18	96%	397	137	414	17
11:00 AM	71%	141	77%	116	100%	26	85%	40	66%	45	71%	20	100%	18	98%	406	128	414	8
12:00 PM	68%	135	79%	119	100%	26	95%	45	77%	52	68%	20	100%	18	100%	415	119	414	-1
1:00 PM	66%	131	78%	117	100%	26	100%	47	85%	58	66%	19	100%	18	100%	416	118	414	-2
2:00 PM	70%	139	67%	101	100%	26	98%	47	93%	63	70%	20	100%	18	100%	414	120	414	0
3:00 PM	69%	137	64%	96	100%	26	92%	44	92%	62	69%	20	100%	18	97%	403	131	414	11
4:00 PM	72%	143	67%	101	100%	26	86%	41	89%	60	72%	21	100%	18	99%	410	124	414	4
5:00 PM	74%	147	73%	110	100%	26	79%	38	89%	60	74%	21	100%	18	101%	420	114	414	-6
6:00 PM	74%	147	83%	125	50%	13	71%	34	93%	63	74%	21	100%	18	102%	421	113	414	-7
7:00 PM	73%	145	92%	138	30%	8	69%	33	100%	67	73%	21	100%	18	104%	430	104	414	-16
8:00 PM	75%	149	97%	146	30%	8	60%	29	99%	67	75%	21	100%	18	106%	438	96	414	-24
9:00 PM	78%	155	100%	150	10%	3	51%	24	99%	67	78%	22	100%	18	106%	439	95	414	-25
10:00 PM	82%	163	91%	137	0%	0	38%	18	97%	66	82%	23	100%	18	103%	425	109	414	-11
11:00 PM	88%	175	83%	125	0%	0	19%	9	88%	59	88%	25	100%	18	99%	411	123	414	3