CITY OF SOLVANG
PLANNING COMMISSION

MEETING AGENDA

Monday, April 4, 2016 – 6:00 P.M.
Council Chambers – Solvang Municipal Center – 1644 Oak Street

Members: Robert Clarke, Chair; Jack Williams, Vice-Chair;
Aaron Petersen; Gay Infanti; Brian Chaney

Staff: Arleen T. Pelster, Planning & Economic Development Director
Dave Fleishman, Assistant City Attorney
Brynda Messer, Assistant Planner

PLEDGE TO THE FLAG

1. PRELIMINARY MATTERS:

A. **PUBLIC COMMENT**: Requests from the public to speak to the Commission on matters not on the agenda.

B. Requests for Continuance, Withdrawals, or Addition of Ex-Agenda items

C. Conflicts and/or Ex-Parte Communications

D. Approval of Minutes:
November 2, 2015

2. PUBLIC HEARINGS ON NEW DEVELOPMENT AND CITY PROJECTS
Hearing on the request of Joshua Richman, Owner/Agent, to consider the approval of a Development Plan [application filed March 18, 2015], to reconfigure and reconstruct the existing Valley Plaza shopping center comprising 39,282 square feet (sq. ft.) and two apartment units, and rebuild a new shopping center comprising 41,429 sq. ft. commercial retail space and eight one-bedroom residential units, pursuant to Zoning Ordinance Sections 11-16-4 (Permit Procedures), on a 3.9 acre property zoned C-2, and to adopt the Mitigated Negative Declaration (MND) pursuant to Section 15070 of the State Guidelines for the Implementation of the California Environmental Quality Act (CEQA). Approval of an alternative to allow a new access driveway from Mission Drive (State Route 246) is also requested.

3. PLANNING COMMISSIONER'S COMMENTS

4. PLANNING/COMMUNITY DEVELOPMENT DIRECTOR'S COMMENTS
(Oral reports only/no written materials provided in packet)

5. ADJOURNMENT

In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in a meeting, you should contact the Office of Administrative Services at 688-5575 or the California Relay Service. Notification 48 hours prior to the meeting would enable the City to make reasonable arrangements to ensure accessibility to this meeting.

CITY OF SOLVANG

PLANNING COMMISSION

DRAFT MEETING MINUTES

Monday, November 2, 2015 6:00 P.M.
Regular Hearing of the Planning Commission
Council Chambers – Solvang Municipal Center – 1644 Oak Street

Commissioners Present: Robert Clarke, Chair; Jack Williams, Vice Chair; Gay Infanti, Brian Chaney, Aaron Petersen

Staff Present: Arleen T. Pelster, Planning & Economic Development Director
Brynda Messer, Assistant Planner
Dave Fleishman, Assistant City Attorney

CALL TO ORDER: Chair Clarke called the meeting to order at 6:00 p.m.

PLEDGE TO THE FLAG

1. PRELIMINARY MATTERS:

A. PUBLIC COMMENT: Requests from the public to speak to the Commission on matters not on the agenda.

None.

B. Requests for Continuance, Withdrawals, or Addition of ex-agenda items

None.

C. Conflicts and/or Ex-Parte Communications

None.

D. Approval of Minutes:
August 3, 2015 –Regular Planning Commission Meeting

Motion to approve made by Commissioner Infanti and seconded by Commissioner Williams. Vote is 5-0.

2. PUBLIC HEARINGS ON NEW DEVELOPMENT AND CITY PROJECTS

A. Review of Proposed Ordinance Amendments to Title 11 of the Municipal Code sections 11-7B-2, 11-7C-2, and11-7D-2 to Regulate the Location of Massage Establishments.
Location: Citywide
Planner: Arleen T. Pelster, Planning & Economic Development Director

Review of proposed ordinance amendments to Title 11, Zoning Regulations, of the Solvang Municipal Code to regulate the location of Massage Establishments, and to find the amendments exempt from review pursuant to Section 15061 of the State Guidelines for the Implementation of the California Environmental Quality Act (CEQA).

Presentation of the staff report by Arleen Pelster.

Chair Clarke questioned what brought about the need for the amendment. Dave Fleishman stated that state law that was changed and absent regulations regarding the location of massage establishments, these businesses could be located anywhere in the city.

Chair Clarke opened and closed the public hearing at 6:06 p.m.; there were no comments.

Commissioner Petersen made a motion to adopt Resolution No. 15-7 to accept the Exemption to the California Environmental Quality Act, and refer the item to the City Council. Commissioner Infanti seconded. The motion passed on a vote 5-0.

B. Review of a Proposed Ordinance Adding Title 11 Chapter 16 Section 7a to the Municipal Code of Solvang to Provide an Expedited, Streamlined Permitting Process for Small Residential Rooftop Solar Systems.
Location: Citywide
Planner: Arleen T. Pelster, Planning & Economic Development Director

Review of proposed ordinance amendments to Title 11, Zoning Regulations, of the Solvang Municipal Code to provide streamlined regulations for rooftop solar systems, and to find the amendments exempt from environmental review pursuant to Section 15061 of the State Guidelines for the Implementation of the California Environmental Quality Act (CEQA).

Presentation of the staff report by Arleen Pelster.

Staff explained the proposed ordinance is necessary to provide a streamlined and expedited permitting process for small residential rooftop solar systems. Chair Clarke asked if this streamlining process would allow homeowners to get their panels up quicker. Staff responded affirmatively and noted that the City does not enforce upon private CC&R's and that even if the HOA did not want the solar panels, the City is required to permit them.

Chair Clarke opened and closed the public hearing at 6:11 p.m.; there were no comments.

Commissioner Infanti made a motion to adopt Resolution No. 15-8 to accept the Exemption to the California Environmental Quality Act, and refer the item to the City Council. Commissioner Williams seconded. The motion passed on a vote 5-0.

3. PLANNING COMMISSIONERS' COMMENTS

None

4. PLANNING & ECONOMIC DEVELOPMENT DIRECTOR'S COMMENTS

Arleen Pelster asked if the Commission would be available for a special meeting of the Planning Commission on December 17, 2015 for Valley Plaza Project. She explained that the draft Mitigated Negative Declaration is circulating and if it returns with minimal comments, it could be ready for consideration on December 17. If substantial comments are received, the project would be scheduled for Planning Commission review in 2016.

5. ADJOURNMENT

Commissioner Clarke adjourned at 6:30 p.m.

Agenda Item 2

PLANNING COMMISSION STAFF REPORT

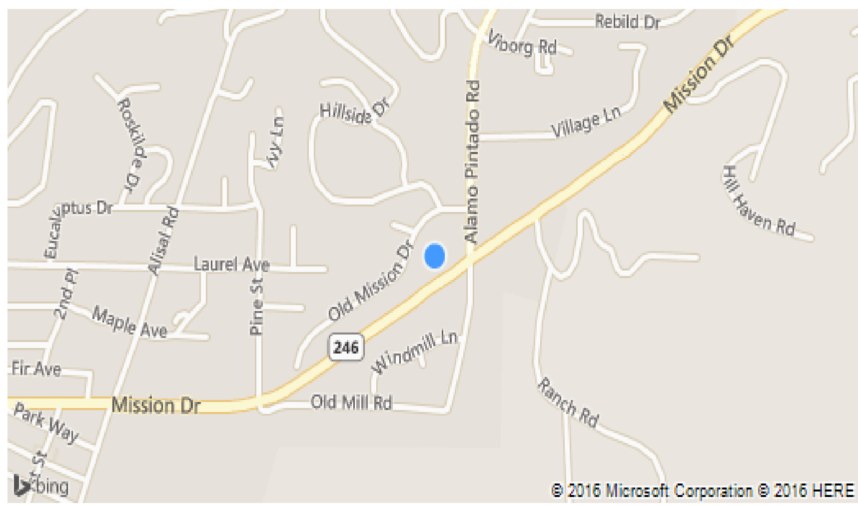
Case Name: Valley Plaza Shopping Center/The Merkantile Development Plan

Meeting Date: April 4, 2016

TO: CITY PLANNING COMMISSION

FROM: Arleen T. Pelster, AICP,
Planning & Economic Development Director

LOCATION:
1980-1992 Old Mission Drive, Solvang (Northwest of the intersection between Mission Drive [State Route 246] and Alamo Pintado Road)



PARCEL NUMBERS:
139-240-074
139-240-075

APPLICANT:
Joshua J. Richman
1980s Old Mission Drive LLC
425 Market Street, Suite 2200
San Francisco, CA 94105
(805) 350-1791

OWNER: Joshua Richman of 1980s Old Mission Drive LLC

ARCHITECT: Steve Rigor of Arris Studio Architects

REQUEST: Hearing on the request of Joshua Richman, Owner/Agent, to consider the approval of a Development Plan [application filed March 18, 2015], to reconfigure and reconstruct the existing Valley Plaza shopping center comprising 39,282 square feet (sq. ft.) and two apartment units, and rebuild a new shopping center comprising 41,429 sq. ft. commercial retail space and eight one-bedroom residential units, pursuant to Zoning Ordinance Sections 11-16-4 (Permit Procedures), on a 3.9 acre property zoned C-2, and to adopt the Mitigated Negative Declaration (MND) pursuant to Section 15070 of the State Guidelines for the Implementation of the California Environmental Quality Act (CEQA). Approval of an alternative to allow a new access driveway from Mission Drive (State Route 246) is also requested.

As a result of this project, significant but mitigable effects on the environment are anticipated in the following categories: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geologic Resources, Hydrology and Water Quality, Noise, and Transportation/Traffic. The MND and all documents may be reviewed at the Planning Department, 411 Second Street, Solvang. The MND is also available for review at the Solvang Branch of the Santa Barbara Public Library, 1745 Mission Drive, Solvang.

Date Application deemed Complete: August 28, 2015

I. RECOMMENDATION:

A. Adopt Resolution 16-01, approving the Development Plan subject to the findings and the Conditions of Approval (Attachment 2) and;

B. Adopt the Mitigated Negative Declaration (Attachment 3), pursuant to Section 15070 of the Guidelines for Implementation of the California Environmental Quality Act (CEQA); or

C. Refer back to staff if the Planning Commission takes other than the recommended action for appropriate findings and conditions.

II. PROJECT INFORMATION

Site Information

SITE INFORMATION	
General Plan Designation	Urban, Retail Commercial
Zone District	C-2, Commercial Retail
Site Size	3.9 acres
Present Use & Development	39,282 sq. ft. shopping center with 2 apartment units
Setbacks	Front: 42' from centerline of State Route (SR) 246; 30' from Alamo Pintado Road; and 10' from right-of-way of public streets (SR 246 and Alamo Pintado Road) Side: 3' (existing Building A is currently within the western side yard setback) Rear: 12' (10' required)
SITE INFORMATION (cont.)	

Access	Proposed from Alamo Pintado Road, Old Mission Road, and State Route (SR) 246 (A project condition of approval requires access only via Alamo Pintado Road and Old Mission Road pending Caltrans approval of a proposed driveway from SR 246)
Public Services	City of Solvang Water & Sewer, PG&E
Surrounding Zoning/Uses:	North: 20-R-1 & 8-R-1/ Medium Density Residential & Low/Medium Density Residential (Vacant) East: C-2/ Commercial Retail South: C-2 & P-O/ Commercial Retail & Professional Offices (Vacant) West: C-2/ Commercial Retail (Verizon Wireless)

Setting

The property is located at the intersection of Mission Drive (SR 246) and Alamo Pintado Road, which is one of the primary entrances to the City. This site provides visitors who enter the City from the east with their first impressions.

The project site is located in a commercially developed urban area, with Mission Drive (SR 246) to the south, a Verizon facility to the west, residences and a vacant parcel to the north, and commercial uses to the east.

The property consists of two separate legal parcels under common ownership, 139-240-074 (3.35 acres) and 139-240-075 (0.55 acre), both recorded on Parcel Map (PM) 26/79. The property is currently developed with four commercial retail structures including two residential units, paved parking areas, and associated landscaping. Several mature trees, including coast live oak trees and sycamore trees, exist along the frontages of SR 246, Old Mission Drive, and Alamo Pintado Road as well as interior to the property. No other sensitive biological resources exist on the site. Drainage generally travels from northwest to southeast across the property. The property is not located within a floodway or special flood hazard area (i.e., floodway fringe), as defined by FEMA, however, the southeast portion of the property is located adjacent to a special flood hazard area of Alamo Pintado Creek, and in an area designated as Zone X by FEMA, having a 0.2% annual chance of flooding.

Statistics

	STATISTICS		
Item	**Existing**	**Proposed**	**Ordinance Standard**
Floor Area of Structures	39,282 sq. ft. commercial & 2,034 sq. ft. residential	41,429 sq. ft. commercial & 8,317 sq. ft. residential	--
Height of Structures	Up to 35’	24’-4” to 35’	35’
Retaining Wall Heights	Up to 11’	Up to 11’	6’
Impervious Surface Area	137,403 sq. ft. (81%)	114,717 sq. ft. (67%)	--
Open Space/Landscaping	--	49,236 sq. ft. (29%)	--
Distance of Residences from Other Detached Buildings	>10’	>10’	>10’
Number of Dwelling Units / Bedrooms	2	8 one-bedroom apartments and studios	Residential units must be a “secondary use”, meaning a maximum of two residential bedrooms per 1,000 gross sq. ft. of commercial development; maximum residential density of 20 units per acre
Grading	--	Cut: 8,500 cubic yards (cy) Fill: 7,000 cy Net Export: 1,500 cy	--

Vehicular Parking:

The parking requirements and parking statistics for the project are as follows:

Use	Requirement	Size**	Ordinance Standard***
Restaurant (Caltrans Alternative)*	One space per 300 sq. ft.	Building A: Indoor space: 3,980 sq. ft. Outdoor space: 1,365 sq. ft. Total: 5,345 sq. ft.	18 spaces
	One space for every two employees	12 employees	6 spaces
Business and Professional Offices	One space for every 300 sq. ft.	Building C: offices: 3,000 sq. ft.	10 spaces

<table>
<tr><th>Use</th><th>Requirement</th><th>Size**</th><th>Ordinance Standard***</th></tr>
<tr><td>Remaining Retail Commercial</td><td>One space per 500 sq. ft.</td><td>Retail Portion of Building B: 9,215 sq. ft.
Retail Portion of Building C: 15,000 sq. ft.
Building D: 7,750 sq. ft.
Total: 31,965 sq. ft.</td><td>64 spaces</td></tr>
<tr><td>Residential</td><td>One space per one-bedroom dwelling unit (for multiple dwelling units) and one guest space for every 5 dwelling units</td><td>Building B:
5 one-bedroom apartments
3 one-bedroom studios</td><td>8 + 2 guest spaces = 10 spaces</td></tr>
<tr><td colspan="3">Spaces Required to Meet Section 11-11-9A</td><td>31</td></tr>
<tr><td colspan="3">TOTAL REQUIRED PARKING SPACES:</td><td>138
Standard Spaces
6 Accessible</td></tr>
<tr><td colspan="3">TOTAL PROVIDED PARKING SPACES:</td><td>159
Standard Spaces
6 Accessible</td></tr>
<tr><td colspan="3">NET ABOVE ORDINANCE REQUIREMENTS:</td><td>+27 Standard Spaces Above Ordinance Requirements</td></tr>
<tr><td colspan="4">*The parking analysis was prepared for the Caltrans Alternative, as it requires a higher number of parking spaces. Should Building A remain as it exists, the project would require six (6) fewer parking spaces.

**The Zoning Ordinance, Parking Section 11-11-7-A.4. defines gross floor area as "For the purposes of this chapter [Parking] gross floor area shall be the measure of total square footage for a project; however, stairways, open, unenclosed corridors, permanent storage areas, bearing walls and common restrooms shall be excluded."

***Zoning Ordinance 11-11-7-A.5. Where the standards require any fractional space, the next larger whole number shall be the number of spaces required.</td></tr>
</table>

Section 11-11-7A.2 of the Zoning Ordinance reads as follows:

" For all development (other than single-family residential) which is subject to the requirements of a development plan, the planning commission shall determine if there is a need to provide for bicycle parking. If such a need exists, the planning commission shall then determine the required number of parking spaces, bike racks and locking devices that shall be provided."

The applicant has indicated that bicycle parking will be provided; location and number of spaces will be described at the Planning Commission meeting.

Project Description

The applicant requests approval of a Development Plan to reconfigure and reconstruct the existing 39,282 sq. ft. Valley Plaza shopping center and two apartment units and construct a new 41,429 sq. ft. shopping center comprising a restaurant (Building A), the New Frontiers Natural Marketplace (Building C), additional retail commercial units (Buildings B and D), and 8 one-bedroom apartment units and studios (second floor of Building B) (Attachment 7, Caltrans Highway 246 Exhibits and Sheets L-1 & L-2). A total of 159 standard parking spaces and six accessible parking spaces would be provided.

Construction would take place in two phases to enable continued operation of the New Frontiers Natural Marketplace (Building C) through construction. The project would require 8,500 cubic yards (cy) of cut, 7,000 cy of fill, with an export of 1,500 cy.

Existing water, sewer, storm drain, and natural gas lines in the interior and southern portions of the property would remain and continue in use, while new water and natural gas lines would be installed along the northern driveway to tie in to existing lines in the interior of the property. A new bioretention facility with permeable concrete pavers is proposed in the southern portion of the parking area to meet post-construction stormwater requirements.

A total of 36 trees are proposed to be removed to accommodate site improvements; ten (10) existing trees will be preserved on the site. Approximately 30 large specimen trees and 50 small/medium specimen trees are proposed to replace those trees to be removed. A landscape plan including tree replacement and additional screening vegetation is required to be reviewed and approved by the Board of Architectural Review (BAR).

Existing access to the project site includes two driveways from Old Mission Drive (an east and west driveway), and a driveway from Alamo Pintado Road (with a right turn only exit). As originally proposed, the project would involve construction of a new driveway from SR 246, including a new westbound deceleration lane on SR 246, to allow traffic to enter the commercial development directly from SR 246 (traffic would not be allowed to exit onto SR 246); the west driveway from Old Mission Drive would be eliminated. The applicant has requested an encroachment permit from Caltrans to approve the new driveway entrance to the property from SR 246, and is still undergoing that approval process. Therefore, an access configuration without a driveway on SR 246 is proposed pending approval from Caltrans for the driveway entrance along SR 246 (see Condition No. A-1 in Attachment 2, Conditions of Approval). Should Caltrans approval not be granted, or the applicant abandon the request, the project would be constructed in accordance with site plans shown in Sheets A0.0 through C2.1 of the full set of project plans contained in Attachment 7.

Under this potentially interim condition (without driveway along SR 246), the existing site access configuration would remain the same with slight modifications proposed to the one driveway from Alamo Pintado Road and two driveways from Old Mission Drive. Under this configuration, Building A would remain in place and would be renovated to remain as a retail commercial building rather than a restaurant. Building A is currently within the 3’ west side yard setback. This configuration would result in slightly less commercial square footage (41,429 sq. ft.) and more parking spaces (186 standard spaces versus a required 132 standard spaces). Both access configurations have been evaluated by Traffic Engineers and it has been determined that the traffic impacts are less than significant under either access configuration.

Aerial View of Site

III. PROJECT ANALYSIS

Compliance with Zoning Ordinance

The project adheres to permitted uses within the C-2 zone district as outlined in Chapter 7 of the Zoning Regulations, Title 11 of the City of Solvang Municipal Code. Specifically, the project continues to provide an area for local retail businesses as well as a restaurant. The proposed residences meet the definition of "secondary use" to the primary commercial use of the property while promoting a live/work balance, a goal of the City's General Plan.

The project complies with Development Standard 11-4-3 of the Zoning Regulations which states:

11-4-3: Visual Resources:

B. In areas designated for urban uses on the land use element map, new structures shall be in conformance with the scale and character of the existing neighborhood. Clustered development in exchange for open space, varied circulation patterns and diverse housing types shall be encouraged.

Specifically, the proposed new configuration for the shopping center is similar to the scale and nature of the existing shopping center, and provides an open and inviting, pedestrian-friendly layout for the community. The proposed project adds more housing than the current shopping center. Circulation would be further enhanced or improved subject to Caltrans approval of the entry driveway along SR 246. The project has received conceptual approval from the BAR.

The project complies with Section 11-7B-4 of the Zoning Regulations regarding setbacks and the required 10' distance between buildings. The applicant is providing a 12-foot rear setback when the required setback is 10 feet.

The project would retain a minimum of a 10' vision clearance at the intersection of Alamo Pintado Road and SR 246 pursuant to Section 11-12-15 of the Zoning Regulations, under both access configurations.

The project offers more standard parking spaces than the required minimum. Parking areas are proposed to be adequately screened with existing trees and new landscaping.

The project complies with the Fire Code and the Santa Barbara County Fire Department's Development Standards providing sprinkler systems within the buildings, an adequate number and location of fire hydrants for the property, adequate water supply, and adequate access to the property and structures under both access configurations (i.e. driveways greater than 24-feet in width, and an adequate number and location of entry and exit locations).

Areas for trash storage would be enclosed and screened pursuant to Section 11-7B-5 of the Zoning Regulations.

The BAR must grant final approval of the landscape plan and exterior lighting prior to construction pursuant to Sections 11-12-18 (Exterior Area Lighting) and 11-4-7 (Landscaped Areas). Proposed signage would be shown in a Sign Plan that would conform to Chapter 13 (Sign Regulations) of the Zoning Regulations, and would be reviewed and approved by the Planning Director and the BAR.

Stormwater Post Construction requirements and implementation of standard Best Management Practices during construction are required in the conditions of approval to ensure protection of water quality during construction and compliance with Title 14 (Stormwater Management) of the City Code. In addition, the applicant has included pervious pavers and a bioretention facility in the project design to control the volume, rate, and quality of stormwater runoff associated with long-term operation of the project in compliance with Title 14 of the City Code. The pervious pavers, bioretention facility, and storm drain system would also reduce the risk of flooding in the southeast corner of the property that lies within FEMA's Zone X. The applicant has submitted detailed drainage calculations and a long-term maintenance plan for the storm drain system and bioretention facility to the City for review and approval prior to construction of the project. Preliminary design calculations and the maintenance plan have been deemed adequate and in compliance with Title 14. Finally, a condition of approval for the project requires the applicant to ensure that the downstream storm drain system has adequate capacity to serve any runoff from the storm drain system on the subject property, thus ensuring no impact on existing infrastructure.

In response to Governor Brown's Drought Executive Order of April 1, 2015, the California Water Commission passed a Model Water Efficient Landscape Ordinance (MWELO), requiring local agencies to enforce a 25% reduction in water use for landscaping. The landscape plan and the water use calculations provided by the applicant conform to the requirements of the MWELO.

The proposed plan includes an outdoor display of merchandise in baskets on the south side of Building C. The Zoning Ordinance requires a Minor Conditional Use Permit for sale of fruit, vegetables, and/or flowers from a stand not affixed to the ground; since the proposed outdoor display would be fixed in the location shown, the Planning Commission can approve this use with the Development Plan. Condition C-3 limits outdoor display to the areas shown on the Development Plan.

Construction Management Plan

As noted in the project description, the project is proposed to be constructed in two phases in order to allow New Frontiers to remain open during construction. A construction management plan and pre-construction meeting are required with Conditions D-6 and D-7 to allow staff to work with the builder to minimize construction impacts upon surrounding properties, and to assure a safe business environment for those shopping and working at the shopping center during construction.

General Plan Consistency

Planning Staff finds the proposed General Plan policies to be applicable to the project:

Land Use Element Policy 1.1, Action Item A: *Pursuant to the Housing Element of this General Plan, the City shall provide adequate appropriately zoned land to accommodate new housing units to meet the City's fair share of regional housing needs.*	**Consistent.** The project site is zoned to allow dwelling units. The proposed project would generate 6 additional dwelling units than what currently exist on the property, contributing to the City's fair share of regional housing needs.
Land Use Element Policy 1.1, Action Item B: *Mixed-use developments with a residential component shall be encouraged to further enhance the range of housing opportunities provided to residents.*	**Consistent.** The project aligns with mixed-use development. The addition of 6 more one-bedroom apartments and studios to the community would provide residents with an increase in housing within an urban commercial setting.
Land Use Element Policy 1.2, Action Item B: *Commercial projects shall be encouraged to include components serving both visitors and residents.*	**Consistent.** The new restaurant, market, and retail stores would attract residents and tourists alike, while the additional retail units and residences would serve residents who live and work in the area.
Land Use Element Policy 1.6, Action Item B: *The City shall make a finding prior to the land use approval for any new development that adequate public services and resources are available to serve the new development. In making such findings, the City shall require that Applicants assume full responsibility for the costs of public service extensions or improvements that are required as a result of the new development. Lack of available public services or resources shall be grounds for a reduction in development otherwise allowed, or denial of the proposed development.*	**Consistent.** As shown in the Mitigated Negative Declaration, the City has adequate public services and resources available to serve this re-development. The intensity and mix of uses is consistent with the existing Valley Plaza shopping center.
Land Use Element Policy 2.1, Action Item B: *The City shall encourage the development of multiple-family residential land uses in relatively close proximity to services (e.g. commercial centers, public parks, etc.)*	**Consistent.** The proposed project would place dwelling units within the commercial center, providing residents with convenient pedestrian access to the market, restaurant, and retail stores.

Land Use Element Policy 2.2, Action Item C: *Solvang's land use plan shall provide for resident-serving commercial development along arterial roadways and areas that allow for the provision of adequate access and parking.*	**Consistent.** The proposed project would provide residents with access to commercial retail stores, a restaurant, and market along two main arterials of Solvang, SR 246 and Alamo Pintado Road. More parking spaces would be added to the property than what are required by ordinance, and access to the property will either remain the same under the existing configuration or could be improved subject to approval of a Caltrans encroachment permit.
Land Use Element Policy 3.2: *Maintain and update street trees to beautify the streetscape and promote pedestrian traffic.*	**Consistent.** Several of the key prominent street trees on the property will be retained (please see Attachment 7, Project Plans). Any trees planned for removal from the property, would be replaced in compliance with an approved landscape plan.
Land Use Element Policy 4.3: *Encourage mixed-use developments that integrate housing and commercial uses.*	**Consistent.** The proposed project adds 6 additional dwelling units than what currently exist, in conjunction with the addition of a new restaurant, market, and retail stores. Therefore, the project adds a diversity of uses on the subject property.
Land Use Element Policy 5.1, Action Item A: *The pattern of development embodied in the Land Use Element shall maintain a compact urban form that minimizes auto dependency.*	**Consistent.** The project is pedestrian friendly and allows access to the commercial area for nearby residences. Furthermore, bike lanes and sidewalks provide connection to the Village area.
Land Use Element Policy 5.2, Action Item A: *Through the development review process, ensure development projects include ample tree plantings.*	**Consistent.** A total of 36 trees are proposed to be removed to accommodate site improvements; ten (10) existing trees will be preserved on the site. Approximately 30 large specimen trees and 50 small/medium specimen trees are proposed to replace those trees to be removed. Additional landscaping would be planted throughout the site in accordance with an approved landscape plan. The number of trees proposed for the site would be more than what currently exist. Therefore, the project would be consistent with this policy.
Safety Element Policy 3.a: *The city shall require the implementation of adequate erosion control measures for development projects to minimize sedimentation damage to drainage facilities.*	**Consistent.** Standard Best Management Practices during construction are required in the conditions of approval to minimize sedimentation of drainage facilities during construction. In addition, the proposed new bioretention facility would also store stormwater runoff and trap sediment during the long-term operation of the project.
Community Design Element Policy 1.d: *The city shall encourage the preservation or establishment of a sense of origin and features such as significant landmarks and focal points.*	**Consistent.** The proposed project serves as an attractive focal point in the community for tourists and residents, at the intersection of two main thoroughfares (SR 246 and Alamo Pintado Road).
Community Design Element Policy 2.a: *The city shall encourage entry areas of the city to reflect the character of the community.*	**Consistent.** The proposed project site is located at a prominent entry area to the city for visitors and residents entering from the east along SR 246. The project would update the 1980 era commercial development into the modern era with a contemporary agrarian theme consistent with the rural character of the surrounding community.
Community Design Element Policy 3.f: *The city shall enhance roadway appearance with*	**Consistent.** The proposed landscape plan has been conceptually approved by the BAR, and must receive final

the use of landscaping where appropriate.	approval prior to construction. Several prominent street trees would be retained, and additional street trees are proposed.
Community Design Element Policy 6.a: *The city shall require the use of building masses, architecture, and landscaping to create a sense of identity, visual relief, and activity spaces of adequate proportions.*	**Consistent.** The proposed project creates an open and inviting space for visitors and residents in a prominent location within the city while remaining consistent with the rural character of the community.
Community Design Element Policy 6.g: *Buildings taller than 35 feet shall be considered only when appropriate and necessary to the type of development and when they do not result in a significant adverse visual effect when compared to a similar project within the 35-foot height limit.*	**Consistent.** Proposed new building would meet 35' height limit.
Community Design Element Objective 7.0: *Ensure that new development is compatible with and incorporated into the fabric of the existing community.*	**Consistent.** The proposed project has been reviewed conceptually by the Board of Architectural Review. The BAR determined that the project would not have a significant visual impact on the neighborhood with adequate screening and tree protection or replacement.
Noise Element Policy 1.3, Action Item A: *Require that new commercial projects, proposed for development near existing residential land use, demonstrate compliance with the City's Noise Ordinance prior to approval of the project.*	**Consistent.** Construction of the project shall be restricted to between 7:30 a.m. and 5:30 p.m. on weekdays only, consistent with the City's Development Standards and Community Noise Ordinance. In addition, a detailed Noise Study was conducted for the proposed project to ensure consistency with the Noise Element. Conditions of approval also restrict delivery hours to between the hours of 7:00 a.m. and 7:00 p.m. to reduce potential noise impacts related to commercial deliveries and to ensure consistency with this policy as well.
Circulation Element Policy 1.1: *Maintain a minimum level of service D at all intersections during normal peak hours, and level of service E during "average tourist-season peak hours" to ensure that traffic delays are kept to a minimum.*	**Consistent.** A Traffic Study has been performed and shows that the level of service (LOS) at all nearby intersections will not exceed LOS D, under either access configuration.
Circulation Element Policy 1.1, Action Item C: *The City shall require an evaluation of potential traffic impacts associated with proposed new developments prior to project approval and require the payment of an off-site roadway improvement fee appropriate to the level of impact.*	**Consistent.** The Mitigated Negative Declaration concludes that project-level traffic impacts would be less than significant under the proposed project. In addition, an addendum to the Traffic Study was also prepared to analyze impacts associated with the existing access configuration in the event that the new driveway from SR 246 is not constructed (see Attachment 3). The Traffic Study concludes that impacts would remain less than significant. Therefore, both access configurations would be consistent with this policy. To offset cumulative traffic impacts under future full buildout of the community, payment of traffic impact mitigation fees for future road improvements in the community is required and would reduce potential

	cumulative impacts to less than significant levels, and ensure consistency with this policy. Condition of Approval D-16 requires a traffic mitigation fee payment in the amount of $3,067 per new AM and PM peak hour trip for a total of $64,407.
Circulation Element Policy 4.1, Action Item B: *The city shall require developers to provide adequate parking. Contributions to an in lieu fee parking program to help pay for off-site facilities in exchange for a reduction in parking spaces provided on-site may be considered if the City chooses to administer such a program.*	**Consistent.** More standard parking spaces are proposed than the required minimum. Therefore, the project is consistent with this policy.

Environmental Review

A Mitigated Negative Declaration (MND) was prepared for the project, and is included in the staff report as Attachment 3. The MND concluded that although some aspects of the project have the potential to have a significant effect on the environment, Mitigation Measures would reduce all impact areas to less than significant levels. Mitigation Measures were identified to address potential impacts to areas of: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geologic Resources, Hydrology and Water Quality, Noise, and Transportation/Traffic.

The MND analyzed the access configuration that includes a driveway from SR 246. If the driveway from SR 246 is not constructed, the access configuration utilizing the existing driveways on the property is proposed to involve the addition of slightly less square footage, thus resulting in a lower number of new peak hour trips, and would involve installation of more parking spaces. Therefore, traffic, noise, and parking impacts would be slightly less than with the SR 246 driveway; a Traffic Study was prepared to confirm this and is contained in Attachment 6 of the staff report. The landscaping and aesthetics of the site would be similar to the proposed layout, however, Building A would remain in its existing location and would be renovated, rather than construction of a new building. Overall, aesthetic and biological impacts would remain less than significant under this configuration. The access driveways would also remain in compliance with Santa Barbara County Fire Department Standards. Therefore, the MND adequately analyzes the worst-case project scenario. All Mitigation Measures identified in the Negative Declaration are proposed to be included in the project conditions of approval.

The Traffic Study contained in Attachment 6 (dated January 13, 2016), utilizes a new trip generation rate than what was previously used in the Traffic Studies for the proposed project and contained in the MND (dated September 9, 2015 and earlier). The trip generation rate was corrected in the January 13, 2016 Traffic Study using a corrected square footage for the existing commercial development (now correctly reported as 39,282 sq. ft. versus 41,218 sq. ft.), which results in new trip generation rates of 2.29, 6.39, and 4.10 AM, noon, and PM peak hour trips per 1,000 sq. ft. of commercial space versus 2.21, 6.11, and 3.93 previously reported. As a result, the corrected net peak hour trips associated with the proposed project (with the SR 246 driveway) are +10 AM, +21 noon, and +17 PM peak hour trips from existing conditions. Similar to the conclusions in the January 13, 2016, this addition of peak hour trips would not result in exceedance of LOS thresholds at nearby intersections and project-specific impacts on traffic would remain less than significant.

Public Comment:

The draft MND was submitted to the State Clearinghouse on October 22, 2015 and was circulated from October 25, 2015 to November 25, 2015. Public comments received on the draft MND are included as Attachment 5 to the staff report.

IV. DEVELOPMENT REVIEW COMMITTEE

A meeting of the Development Review Committee (DRC) was held on April 14, 2015 to discuss the project. Attendees included the applicant, City Manager, Public Works Director, Planning Director, Water and Wastewater Department Supervisors, Fire Captain, Environmental Consultant, and Building Official. All conditions imposed by the departments are incorporated into the Conditions of Approval contained in Attachment 2.

V. BOARD OF ARCHITECTURAL REVIEW

A Board of Architectural Review meeting was held on April 9, 2015, and the project scale and architecture was conceptually approved. The project is required to return for Final Approval of colors and materials, signage, landscaping, and exterior lighting.

VI. APPEALS PROCEDURE

The action of the Planning Commission may be appealed to the City Council within 10 calendar days of said action. The appeal fee to the City Council is $594.

VII. ATTACHMENTS

1. Findings for Approval
2. Conditions of Approval
3. Mitigated Negative Declaration
4. Resolution 16-01
5. Public Comment Letters
6. Traffic Study without SR 246 Driveway
7. Full Size Set of Plans

ATTACHMENT NO. 1: FINDINGS

VALLEY PLAZA SHOPPING CENTER/THE MERKANTILE DEVELOPMENT PLAN

APN 139-240-074, -075, 1980-1992 Old Mission Drive

In accordance with Section 11-16-4-F of the Zoning Ordinance, a development plan shall be approved only if all of the following findings can be made:

1. *That the site for the project is adequate in size, shape, location and physical characteristics to accommodate the density and intensity of development proposed.*

   The proposed new buildings are of similar number, size, and shape as the existing commercial development, and the new proposed layout creates an open and inviting space in the center of the property attracting tourists and residents. The project brings the commercial area into the modern era with a contemporary agrarian theme that is consistent with the rural character of the surrounding community. The project meets all setback requirements and offers a greater rear setback than the required minimum. The project has been conceptually approved by the Board of Architectural Review. Therefore, this finding can be made.

2. *That adverse impacts are mitigated to the maximum extent feasible.*

   The Mitigated Negative Declaration that was prepared for the project identified potentially significant impacts on Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geologic Resources, Hydrology and Water Quality, Noise, and Transportation/Traffic. However, all significant impacts can and will be mitigated through implementation of mitigation measures that are incorporated into conditions of approval for the project. Therefore, this finding can be made.

3. *That streets and highways are adequate and properly designed.*

   There are two access configurations possible for the project: one that would involve the status quo and only minor renovations to existing driveways on Old Mission Drive and Alamo Pintado Road, and another that would involve elimination of the west driveway from Old Mission Drive and creation of a deceleration lane and new driveway for traffic to enter the property from State Route (SR) 246 (exit onto SR 246 would not be allowed). Caltrans approval is required for the latter access configuration. However, both access configurations would be adequate and properly designed. In addition, a Traffic Study was prepared for the project and determined that the project would not cause the Level of Service (LOS) of nearby intersections to exceed LOS D, under either access configuration. Therefore, this finding can be made.

4. *That there are adequate public services, including but not limited to fire protection, water supply, sewage disposal and police protection to serve the project.*

   New potable water and natural gas lines would be tied into the existing lines in the northern portion of the property, while existing lines in the remainder of the property would remain in use. The proposed project was reviewed and conceptually approved by the Development Review Committee and Department conditions are incorporated into conditions of approval for the project. The proposed site layout under both access configurations would be in compliance with the Fire Code and Santa Barbara County Fire Department Development Standards. The project can and will be served by the City Police Department and with the City's municipal water supply and sewage disposal services. Therefore, this finding can be made.

5. *That the project will not be detrimental to the health, safety, comfort, convenience and general welfare of the neighborhood and will not be incompatible with the surrounding areas.*

   With implementation of conditions of approval, the project would not be detrimental to the health, safety, comfort, convenience and general welfare of the neighborhood. The project would result in a net benefit to the community with the addition of 6 more dwelling units than under existing conditions, and the addition of an open and inviting commercial development at a prominent location within the city that would attract visitors to the area, and provide a new restaurant and a diverse array of commercial retail establishments for enjoyment by the community. The style and massing of the development remains consistent with the rural character of the community, and the project has been conceptually approved by the BAR. Therefore, this finding can be made.

6. *That the project is in conformance with the applicable provisions of law, including Title 14 of the Zoning Regulations and is consistent with the general plan.*

   The proposed project meets the Development Standards of the City's Zoning Regulations and is consistent with all applicable policies of the general plan, including the Land Use Element, Community Design Element, Noise Element, and Circulation Element. Therefore, this finding can be made.

7. *That the development will not materially or adversely aggravate the parking and traffic conditions in the area.*

   The project would provide more standard parking spaces than the required minimum, and would have less than significant traffic impacts at the project level, under both access configurations. Payment of the traffic mitigation fee would also ensure that the project's contribution to cumulative traffic impacts in the area would be less than significant. Therefore, this finding can be made.

8. *That the project will not conflict with any easements required for public access through, or public use of, a portion of the property.*

   The conditions of approval for the project would ensure that the city retain access to all utility lines, including storm drain and bioretention facilities on the subject property, and the property would remain open and accessible to the public. Therefore, this finding can be made.

Draft for Planning Commission Review on 4-4-16

ATTACHMENT NO. 2: CONDITIONS OF APPROVAL

VALLEY PLAZA SHOPPING CENTER/THE MERKANTILE DEVELOPMENT PLAN

APN 139-240-074, -075, 1980-1992 Old Mission Drive

The following conditions and the attached Public Works Department conditions dated 9-28-15 shall be imposed on the use, possession and enjoyment of the Real Property and shall be recorded with the Development Plan on an "Agreement Relating to Conditions Imposed on Real Property" which shall be reviewed as to form and content by the City Attorney.

A. PROJECT DESCRIPTION

The project description is as follows:

Applicant seeks approval of a Development Plan which utilizes the three existing access points, and an alternative ("Caltrans Alternative") that seeks reconfigured access to the site. Details concerning the existing center, the proposed Development Plan, and the Caltrans Alternative are set forth below:

Existing Shopping Center
Existing Buildings: 4 Existing Commercial Area: 39,282 s.f. Existing Residential: 2 apartments Existing Parking: 170 spaces Existing Building Height: 20'-28' Existing Highest Point (Altitude): 498.91'

Proposed Development Plan **Existing Access Points Remain Intact**	**Caltrans Alternative[1]** **New Access Point on Mission Drive**
Proposed Buildings: 4	Proposed Buildings: 4
Proposed Commercial Area: 41,429 s.f.	Proposed Commercial Area: 42,365 s.f.
Proposed Residential: 8 apartments	Proposed Residential: 8 apartments
Proposed Parking: 186 spaces	Proposed Parking 165 spaces
Proposed Building Height: 22'-35'	Proposed Building Height: 22'-35'
Building Height Permitted by Code: 35'	Building Height Permitted by Code: 35'
Proposed Highest Point (Altitude): 502.50'	Proposed Highest Point (Altitude): 502.50'

Existing water, sewer, storm drain and natural gas lines will remain and continue in use for the interior and southern portions of the site. New water and natural gas lines will be constructed along the northerly driveway and will extend south to connect to existing lines. A bioretention facility is proposed with permeable concrete pavers in portions of the parking area to reduce runoff.

A new retaining wall will be constructed along Old Mission Drive which will connect to the existing retaining wall, and will continue westerly along the site perimeter around to Mission Drive where the new wall will connect with the existing wall. A new retaining wall will be constructed at the easterly side of the existing wall which will extend around the corner of Mission Drive and Alamo Pintado. The wall will have a maximum height of 11'. A total of 36 trees are proposed to be removed to accommodate site improvements; ten (10) existing trees will be preserved on the site. Approximately 30 large specimen trees and 50 small/medium specimen trees are proposed to replace those trees to be removed. The project would require grading of approximately 8,500 cubic yards of cut and 7,000 cubic yards of fill. Under the Caltrans alternative all existing buildings on the site would be demolished.

[1] The Caltrans Alternative contemplates the closing of the westernmost entrance to the shopping center off Old Mission Drive, and construction of a new one-way driveway into the center off westbound Mission Drive. This proposed reconfigured access is intended to improve access to the site, and reduce traffic impacts on Old Mission Drive. In particular, delivery and trash trucks would enter the site off the state highway rather than through the otherwise quiet residential street. Since Mission Drive is a state highway, the Caltrans Alternative will require a separate encroachment permit from Caltrans, which applicant is concurrently pursuing.

New Frontiers grocery store is the shopping center's anchor tenant. New Frontiers wishes to remain in business for the duration of the proposed project, and as a result, applicant intends to construct the new shopping center in two phases, as follows:

Phase 1:

- Demolish 1988 and 1992 Old Mission Drive (Buildings C and D as depicted on existing site plan)
- Partial demolition of 1984 Old Mission Drive (Building B as depicted on existing site plan), up to New Frontiers' offices. New Frontiers' existing store and offices to remain intact during Phase 1
- Construction of new Building C (New Frontiers) and Building D (Tenants TBD)
- Construction of a portion of the parking lot adjacent to new Buildings C and D
- Square footage summary for Phase 1:
    - Demolition: Approx. 25,014 s.f.
        - 1988 Old Mission Drive: Approx. 11,000 s.f.
        - 1992 Old Mission Drive: Approx. 5,218 s.f.
        - 1984 Old Mission Drive: Approx. 7,600 s.f. (partial demolition)
    - Construction: Approx. 25,400 s.f.
        - Building C: (New Frontiers): Approx. 18,000 s.f.
        - Building D: Approx. 7,750 s.f.

Phase 2:

- New Frontiers to move into new grocery store (new Building C)
- Old New Frontiers store and offices to be demolished
- Construction of new Building B (Tenants TBD)
- If Caltrans approves encroachment permit on Mission Drive, then Applicant intends to raze and reconstruct Building A and construct new access point and driveway off of Mission Drive
- If Caltrans does not approve encroachment permit on Mission Drive, then Applicant intends to remodel existing Building A so that its façade matches the new shopping center
- Finish parking lot
- Square footage summary for Phase 2:

- Demolition: Approx. 16,400 s.f.
  - 1980 Old Mission Drive: 6,400 s.f.
  - 1984 Old Mission Drive: 10,000 s.f.
- Construction: Approx. 16,965 s.f.
  - Building A: 7,750 s.f. (assuming Caltrans approval)
  - Building B: 9,215 s.f.

The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto.

All plans must be submitted for review and approval and shall be implemented as approved by the City of Solvang.

A-1. This Development Plan is based upon and limited to compliance with the project description, the hearing exhibits marked "Planning Commission Exhibit 1" (consisting of Sheets A0.0 through C2.1), stamped received on March 4, 2016, and Conditions of Approval set forth below. Access to the project site shall only be via Old Mission Road and Alamo Pintado Road in accordance with Exhibit 1.

Should the applicant receive approval from Caltrans to create a driveway to the project site from State Route (SR) 246, the Development Plan would then be required to comply with "Planning Commission Exhibit 2" (comprising the Caltrans Highway 246 Exhibits [Sheets CT1.0 through CT3.3] and Sheets L-1 & L-2)," which includes such a driveway. Under this scenario, existing Building A would be demolished rather than renovated, and moved slightly to allow construction of the driveway from SR 246.

Any deviations from the project description, exhibits or conditions must be reviewed and approved by the City for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above-described approval will constitute a violation of permit approval.

A-2. **Compliance with the Law:** The applicant shall ascertain and comply with all Federal, State, County and City requirements as are applicable to this project.

B. MITIGATION MEASURES

B-1. (**MM-AES-1):** To mitigate potential impacts resulting from the removal of mature trees, the City shall determine during BAR review, if tree removal would be inconsistent with General Plan Community Design Element policy and shall provide mitigation through architectural review. Landscape Plans with adequate tree replacement, as determined by the City, shall be required.

B-2. **(MM-AES-2):** To mitigate potential impacts of glare from new light fixtures spilling light to adjoining properties, all exterior lighting shall meet the requirements of Section 11-12-18 of the City's Zoning Ordinance, and shall be dark sky compliant. The final plans shall incorporate only down-directed cut off type pole light luminaries. All building mounted lights shall be hooded and shielded to minimize glare off-site.

B-3. **(MM-AQ-1):** These measures are required for all projects involving earth-moving activities regardless of the project size or duration. The measures are based on policies adopted in the 1979 AQAP for Santa Barbara County. Proper implementation of these measures is assumed to fully mitigate fugitive dust and construction equipment emissions.

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.

- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.

- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District (APCD) prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

- Prior to land use clearance, the applicant shall provide an informational sheet with these dust control requirements. All requirements shall be shown on grading and building plans.

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.

- Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, § 2449), the purpose of which is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

- All commercial diesel vehicles are subject to Title 13, § 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

- All portable diesel fired construction engines with 50 brake-horsepower (bhp) or greater must have either statewide Portable Equipment Registration (PERP) certificated or APCD permits. Construction engines with PERP certificates are exempt from APCD permits provided they will be on-site for less than 12 months.

- Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.

- Diesel powered equipment should be replaced by electric equipment whenever feasible.

- If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.

- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.

- All construction equipment shall be maintained in tune per the manufacturer's specifications.

- The engine size of construction equipment shall be the minimum practical size.

B-4. **(MM-BIO-1):** Pre-construction nesting bird and bat surveys. Pre-construction bat and nesting bird surveys shall be conducted prior to demolition of existing structures. Should Project activities be initiated during the nesting bird season (approximately February 15 to August 15), pre-construction nesting bird surveys shall be conducted within approximately 200 feet of any area where impacts are expected to occur, and a determination of sensitivity be made by a qualified biologist should any nesting birds or bats be present in this zone. The biologist shall identify avoidance strategies.

B-5. (**MM-CUL-1**): The Santa Ynez Chumash Indian Reservation Elders Council will be provided advance notice of proposed construction timing, in order to allow Reservation representatives the opportunity to visit and observe ground disturbances. Should any cultural materials be discovered during excavation, work shall be temporarily suspended and the tribe notified. In that event, a Chumash consultant from the SYBCI Elders Council shall be retained by the City to observe all subsequent excavations. The documentation and ultimate disposition of any cultural resources unearthed shall be pursuant to State Law.

B-6. (**MM-GEO-1):** To mitigate impacts resulting from potential soils/geologic hazards, implement the program-level standard requirement that requires all parcels have a Soils Engineering Report prepared prior to obtaining building permits. In addition, development shall design structures and other improvements in accordance with the seismic criteria contained in the latest City-adopted California Building Code. Implementation of these standard measures would reduce impacts to a less than significant level.

B-7. **(MM-HYD-1):** The developer shall conduct a hydraulic analysis of the existing downstream storm drain system to verify adequate capacity in the cumulative condition. The analysis shall verify there are no existing deficiencies that must be corrected to properly serve the proposed project. If deficiencies are identified for the 25 year storm or less, the project will correct those deficiencies.

B-8. **(MM-NOI-1):** Potential noise generated from the loading dock may be mitigated by limiting delivery hours to a period from 7:00 am to 7:00 pm. Based upon the final tenant mix, if deliveries are planned outside 7:00 am to 7:00 pm, acoustical evaluation and mitigation shall be required.

B-9. (**MM-TR-1):** To mitigate effects to the area street network, the Project is required under City Ordinance to contribute traffic impact fees. The Applicant shall pay the calculated fee ($3,067 per peak hour trip) based on the contribution of peak hour trips to the intersection of SR 246 and Alamo Pintado Road.

C. PROJECT SPECIFIC CONDITIONS:

C-1. **Water Efficient Landscaping**. To improve water conservation, the Owner/Applicant shall include the following in Landscape and Irrigation Plans to be approved by the Planning Department and BAR:

A. Landscaping that reduces water use:

1. Landscape with native and low water demand plant species;
2. Group plant material by water needs;
3. No turf shall be allowed;
4. Extensive mulching (2" minimum) shall be used in all landscaped areas to reduce evaporation.

B. Install drip irrigation or other water-conserving irrigation.

C. Use permeable surfaces for hardscape to the maximum extent feasible.

C-2. **Signage**. No signs of any type are approved with this action unless otherwise specified. All signs require a separate Land Use Clearance and Board of Architectural Review approval and shall comply with the City's Sign Regulations.

C-3. **Outdoor Display of Merchandise.** Fruit, vegetables, and flowers may be displayed under the awnings located on either side of the primary entrance to Building C, as shown on Sheet A3.3 of the approved plans (labeled "south elevation"). Any additional display of outdoor merchandise will require review by the Planning Commission.

C-4. **Additional Permits Required**: Before using any land or structure, or commencing any work pertaining to the erection, moving, alteration, enlarging, or rebuilding of any building, structure, or improvement, the applicant shall obtain a Land Use and Building and/or Grading Permit from the Solvang City Planning and Building Department. These Permits are required by ordinance and are necessary to ensure implementation of the conditions required by the Planning Commission. Before the City will issue any permit, the applicant must obtain written clearance from all departments having conditions; such clearance shall indicate that the applicant has satisfied all pre-construction conditions.

C-5. **Exterior Lighting.** The Owner/Applicant shall ensure any exterior night lighting installed on the project site is dark sky compliant, of low intensity, low glare design, minimum height, and shall be hooded to direct light downward onto the subject lot and prevent spill-over onto adjacent lots. Exterior light fixtures shall be approved by the Board of Architectural Review.

C-6. **Board of Architectural Review.** For the trees to be removed, the BAR shall require appropriate mitigation and approve a landscape plan including tree replacement and screening vegetation. The Owner/Applicant shall obtain BAR Final Approval of the project which must include the Landscape Plan, all Exterior Lighting, and Colors and Materials. The project shall be in conformance with all aspects of the BAR approval, including landscaping.

C-7. **Utility Services.** All new and existing utility services shall be placed underground and completed prior to any paving required for the project. No new utility poles shall be installed.

C-8. **Contaminated Soils**. If contaminated soils are found at the project site, the APCD must be contacted to determine if Authority to Construct and/or Permit to Operate permits are required.

C-9. **Agreement to Comply.** The owner and the carrier operating the facility shall sign and record an agreement to comply with the project description and all conditions of approval on a form acceptable to the Planning Department. Such form may be obtained from the Planning Department office prior to issuance of the Land Use Clearance. The owner/carrier shall provide evidence that he/she has recorded the Agreement to Comply with Conditions.

C-10. **Hours of Construction**. Hours of construction shall be limited to 7:30 am to 5:30 pm weekdays. No construction shall be allowed on Saturday, Sunday or State holidays except as approved in writing by the Public Works Director, or his designee, or in the case of an emergency for the immediate preservation of life, health, or property.

C-11. **Property Maintenance.** The Project and Property, including the landscaping, shall be maintained in a continuous state of good condition and repair, in full compliance with all approved plans, specifications and conditions of approval. Corrective improvements shall be undertaken as necessary to continuously conform with and implement conditions of Project approval including, as applicable, repair, repainting and/or replacement of Project components as needed. Where a Project is found to be non-compliant, the Applicant shall adhere to City recommendations to bring the Project into compliance.

C-12. **Interpretations and Exceptions.** The Planning Director is authorized to render decisions as to the applicability or interpretation of the conditions set forth herein, including minor changes, when the strict application of the conditions conflicts with the underlying purpose of the conditions or creates undue hardship or administrative burden. Any administrative change granted shall be subject to such conditions as will: (i) assure that the adjustment thereby authorized shall appropriately implement purposes and objectives of the original conditions; and (ii) not change or compromise the effectiveness of the original conditions. As an example, and for illustrative purposes only, the Planning Director may modify the implementation timing of specific conditions at the mutual convenience of the City and Applicant. Minor changes authorized pursuant to this condition shall not require separate processing of a formal amendment.

C-13. **Indemnity.** Applicant agrees, at its sole cost and expense, to defend, indemnify, and hold harmless the City, its officers, employees, agents, and consultants, from any claim, action, or proceeding brought by a third-party against the City, its officers, agents, and employees, which seeks to attack, set aside, challenge, void, or annul all, or any part, of the approval, decision or action of the City Council, Planning Commission, or other decision-making body, or staff action concerning the Project.

C-14. **Legal Challenge.** In the event that any condition imposing a fee, exaction, dedication or other mitigation measure is challenged by the Applicant in an action filed in a court of law or threatened to be filed therein which action is brought within the time period provided for by law, this approval shall be suspended pending dismissal of such action, the expiration of the limitation period applicable to such action, or final resolution of such action.

C-15. **Compliance Costs.** This condition shall serve as implementation of the Mitigation Monitoring and Reporting Program for the Mitigation Measures as well as the general conditions of approval set forth herein.

The Applicant agrees to participate in this permit compliance program and to fund all reasonable expenses incurred by the City and/or City contractors for permit condition implementation, reasonable studies, and emergency response directly and necessarily related to monitoring and enforcement of these permit conditions and applicable City ordinances. Any staff time spent in excess of the Applicant's current deposit will be billed to the Applicant and the Applicant shall reimburse City within 30 days of invoicing by City.

C-16. **Expiration.** This Development Plan shall expire three (3) years after the date of final approval unless substantial physical construction has been completed on the development or unless a time extension has been applied for by the applicant in compliance with City rules and regulations.

D. PRIOR TO ISSUANCE OF ANY LAND USE PERMIT, GRADING OR BUILDING PERMIT, whichever is applicable, the applicant shall complete the following:

D-1. **Departmental Conditions.** Project must comply with the following departmental conditions:
1. County of Santa Barbara Fire Department letter dated April 16, 2015, which requires applicant to complete an access plan and fire hydrant plans.

D-2. **Fire Protection Certificate.** The Owner/Applicant shall obtain a Fire Protection Certificate.

D-3. **Asbestos Demolition Notification**. The applicant is required to complete and submit an Asbestos Demolition/Renovation Notification (APCD Form ENF-28) for each regulated structure to be demolished or renovated. Demolition notifications are required regardless of whether asbestos is present or not. The completed notification should be presented or mailed to the Santa Barbara County Air Pollution Control District with a minimum of 10 working days advance notice prior to disturbing asbestos in a renovation or starting work on a demolition.

D-4. **APCD Permitting**. APCD permits must be obtained for all equipment that requires an APCD permit.

- APCD Authority to Construct permits are required for diesel engines rated at 50 bhp and greater (e.g. firewater pumps and emergency standby generators) and boilers/large water heaters whose combined heat input rating exceeds 2.0 million BTUs per hour.

- Small boilers and water heating units (rated between 75,000 and 2.0 million Btu/hr) must comply with the emission limits and certification requirements of APCD Rule 360. Combinations of units totaling 2.0 million Btu/hr or greater are required to obtain a District permit prior to installation.

D-5. **Asphalt Paving**. Asphalt paving activities shall comply with APCD Rule 329, *Cutback and Emulsified Asphalt Paving Materials*. This condition shall be noted on public improvement plans.

D-6. **Pre-Construction Conference.** The applicant shall hold a pre-construction conference with representatives of the Public Works Department, Building Department, Planning Department, and contractor(s) to discuss the contents of a Construction Management Plan to be prepared for the project (per Condition D-7). The Construction Management Plan shall be prepared and submitted two (2) weeks prior to the Pre-Construction Conference.

D-7. **Construction Management Plan.** A Construction Management Plan shall be prepared, and reviewed and approved by the Public Works Department, Building Department, and Planning Department prior to issuance of land use clearances and grading permits. The Construction Management Plan shall include the following:

a) Reiteration of Condition C-9 which states "Hours of construction shall be limited to 7:30 am to 5:30 pm weekdays. No construction shall be allowed on Saturday, Sunday, or State holidays except as approved in writing by the Public Works Director, or his designee, or in the case of an emergency for the immediate preservation of life, health, or property."
b) Construction-related truck trips are to be scheduled during non-peak hours to help reduce truck traffic on adjacent streets and roadways.
c) The route of construction-related traffic is to be established to minimize trips through surrounding residential neighborhoods.
d) The street, whether public or private, shall not be used for storage of equipment or materials.
e) A parking plan for construction workers shall be shown and discussed in the plan. Adequate parking for construction workers shall be provided and demonstrated within the property boundaries. Construction workers shall not be allowed to park on the surrounding neighborhood streets.
f) A construction plan showing the separations, such as fencing, screening, etc., between the areas of the site that are open to the public, and areas that are closed for construction. Show the details of the fencing, methods of supports,

heights, colors, material types, etc. Indicate the portability, if any, graffiti abatement plan and methods, and signs to indicate the construction entrances and the public customer and employee entrances.

g) At the dividing line through Building B where the first and second phase of construction meet, show the methods and materials for maintaining safe entrance and egress from the businesses, overhead protection and alternate night hours lighting under such scaffolding or platforms for seating and stairways.

h) Show the location of parking sites on property assigned to the open business employees, and the location of parking sites on property assigned for use by the public. Provide signs for each space. Show on the plan how the public vehicles which upon entering the parking area cannot find parking, can safely turn around and exit the parking area. Provide signs for delivery vehicles for the open businesses.

i) City review the parking area open to the public after the construction has started and separations have been placed. City may deem it necessary to provide on-site, continuous control and direction by property owner's staff for the parking area used by the public and open business employees.

j) The location of the construction trailer shall be shown as well as all designated staging and laydown areas for materials and equipment.

k) The use of portable stereos (i.e., boom boxes) shall be prohibited prior to 9:00 am.

l) The site shall be regularly watered during site grading and transportation of fill, trucks shall be tarped, and streets and sidewalks shall be kept clean during construction pursuant to the dust control measures required in Condition B-3.

m) Trash shall be placed in proper receptacles onsite at all times.

The Construction Management Plan shall be adhered to throughout construction. In the event that complaints are received, the City may amend the Construction Management Plan.

D-8. **Construction Staging.** Construction equipment staging and storage areas shall not be located beyond the boundaries of the property unless approved by the City. The staging and storage areas for construction vehicles shall be depicted on project plans submitted for land use clearances and grading permits.

D-9. **Construction Wash-Out Area.** The Owner/Applicant shall designate a washout area(s) for the washing of concrete, stucco, paint, equipment, tools, etc., to prevent wash water from discharging to the storm drains, streets, drainages, or creeks. Polluted water and materials from the washout area(s) shall be contained within this area and removed from the site at least once a week or more often as needed to prevent spillage. The area shall be located at least 100 feet from any storm drain to the extent feasible. The construction wash-out area shall be depicted on project plans submitted for land use clearances and grading permits.

D-10. **Storm Water Pollution Prevention.** A Storm Water Pollution Prevention Plan (SWPPP) for the entire site shall be developed before the initiation of grading and implemented for all construction activity on the project site. The SWPPP shall include specific Best Management Practices (BMPs) to control the discharge of material from the site and into the creeks and local storm drains. At a minimum, the following BMPs designed to reduce or eliminate construction site pollutants shall be incorporated into all project plans as a condition of approval and be implemented during construction:

Construction Site Planning BMPs, including but not limited to:

n) Concrete, asphalt, and seal coat shall be applied during dry weather only; storm drains and manholes within the construction area shall be covered when paving or applying seal coat, slurry, fog seal, etc.

BMPs to Minimize Soil Movement, including but not limited to:

a) Exposed stockpiles of soil and other erosive materials shall be covered during the rainy season.
b) Soil stabilizers shall be employed, as appropriate.
c) Disturbed soils shall be restored and revegetated as soon as practicable.
d) Sediment and construction materials shall be dry-sweeped from finished streets the same day they are deposited.
e) Tire wash stations, gravel beds, and/or rumble plates will be installed at site entrance and exit points to prevent sediment from being tracked onto adjacent roadways.
f) Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.
g) Site runoff control structures, such as earth berms, gravel bags, silt fences, drainage swales, and ditches that reduce erosion and convey surface runoff during construction into temporary or permanent sediment detention basins shall be installed and made operational in the initial phase of construction, as necessary.

Good Housekeeping BMPs, including but not limited to:

a) All drainage patterns located near the construction site prior to construction shall be identified to ensure that all subcontractors know their location to prevent pollutants from entering them.
b) Storm drain inlets shall be protected from sediment-laden waters for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures, or landscaping.
c) All leaks, spills, drips shall be immediately cleaned up and properly disposed of.
d) One or more emergency spill containment kits shall be placed on-site in easily visible locations and personnel will be trained in proper use and disposal methods.
e) Vehicles and heavy equipment shall be refueled and serviced in one designated location; vehicles and heavy equipment that are leaking fuel, oil, hydraulic fluid or other pollutants shall be immediately contained and either repaired immediately or removed from the site.
f) Trash cans and recycling bins shall be placed liberally around the site and

properly maintained.

g) Dry clean-up methods shall be used whenever possible.

h) Construction material and waste management practices shall be identified, including temporary borrow and waste disposal areas, temporary debris and garbage disposal, and chemical/fuel storage areas.

i) All subcontractors and laborers shall be educated about proper site maintenance and storm water pollution control measures through periodic site "tailgate" meetings.

D-11. **Grading and Public Infrastructure Plans**. The Owner/Applicant shall obtain Public Works Department approval of all grading and drainage, civil, storm water, and public improvement plans prior to issuance of Grading and Public Works permits.

D-12. **Agreement for Land Development Improvements**. An Agreement for Land Development Improvements, prepared by the City Engineer, shall be submitted to the City Council for execution prior to issuance of grading and/or public works permits. Said agreement shall guarantee the implementation of the required improvements.

D-13. **Erosion Control.** Excavation and grading shall be avoided during the rainy season (November through April) unless grading plans approved by the Public Works Department include an acceptable erosion control plan.

D-14. **Tree Replacement and Protection.** A tree protection and replacement program prepared by a City approved, certified arborist, and hired at the applicant's expense, shall be implemented. The program shall include but not be limited to the following components:

1. <u>Project elements to be graphically depicted on final grading and building plans:</u>

a. The location of all trees to be removed or relocated, the location and extent of dripline for all trees to be preserved that are in close proximity to construction, and the type and location of tree fencing for trees to be preserved.

b. All proposed utility corridors and irrigation lines shall be shown on the tree protection exhibit. New utilities shall be located within roadways, driveways or a designated utility corridor such that impacts to trees are minimized.

c. Construction equipment storage and staging areas shall be designated on approved grading and building plans outside of dripline areas.

d. Drainage plans shall be designed so that the area within the dripline of oak trees to be preserved is properly drained to avoid ponding.

e. The location of the construction wash-out area shall be shown on the tree protection exhibit and shall be located outside of the dripline of any tree to be preserved.

2. <u>Project elements to be printed as conditions on final grading and building plans:</u>

a. No grading or development shall occur within the dripline of oak trees to be preserved.

b. All trees located within 25 feet of buildings shall be protected from stucco and/or paint during construction.

c. All oak trees to be preserved within 25 feet of proposed ground disturbances shall be temporarily fenced with chain link throughout grading and construction activities. The fencing shall be installed 6 feet outside of the dripline of each native tree to be preserved, to the extent feasible, and shall be staked every 6 feet. Such fencing is to remain in place throughout grading and shall not be moved after initial installation. Such tree fencing shall be shown on all grading and building plans.

d. No construction equipment shall be parked, stored or operated within 6 feet of the dripline of any oak tree to be preserved.

e. No fill soil, rocks, or construction materials shall be stored or placed within 15 feet of any oak tree to be preserved.

f. Any roots encountered that are 1 inch in diameter or greater shall be cleanly cut under the supervision of the approved arborist. Excavation for trenching within the dripline of native oak trees to be preserved shall be performed with hand tools.

g. No permanent irrigation shall occur within the critical root zone of any native oak tree.

h. Only trees designated for removal on the approved tree protection plan shall be removed.

i. All oak trees to be preserved or relocated on site that are damaged by construction activities or within 2 years of construction shall be replaced in kind of a 5:1 basis. Oak trees shall be replaced with 15-gallon size saplings grown from locally obtained seed.

j. Oak trees to be preserved within 25 feet of construction activities shall receive deep feeding after grading activities are completed if directed by the approved arborist.

k. Maintenance of relocated or replacement oak trees shall be accomplished through water-conserving irrigation techniques, but only during the initial establishment period, after which such irrigation improvements shall be removed to allow trees to become acclimatized to natural conditions.

l. The City approved arborist shall be on site throughout all grading and construction activities that may affect oak trees to be preserved, salvaged, or relocated.

D-15. **Landscape Performance Securities**. Two performance securities in the form of irrevocable letter of credits are required prior to approval of the Land Use Clearance. One performance security in an amount equal to the cost of installation of irrigation and plantings including labor and materials, and one performance security equal to the cost of two (2) years maintenance of landscaping.

The installation performance security shall be released by the City at Occupancy Clearance. The maintenance performance security shall be released by the City after the landscaping has been established and maintained for two (2) years.

D-16. **Development Impact Fees**. Payment of necessary fees as follows:

a. Traffic mitigation fee of $3,067 for each noon peak hour trip for 21 new peak hour trips, in the amount of $64,407.
b. Drainage Element impact fee in the amount of $500.00.
c. Water connection fee as set forth in the Municipal Code.
d. Sewer connection fee as set forth in the Municipal Code.
e. All applicable processing review fees.

E. <u>PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY</u> for the proposed Development Plan, the following shall be completed by the owner of the Real Property:

E-1. **Final Repairs**. Repair any damaged public or private improvement (curbs, gutters, sidewalks, water valves, fire hydrants, manholes, etc.) subject to the review and approval of the City Engineer.

E-2. **Construction Debris.** The developer shall clear the project site of all excess construction debris. This requirement shall be noted on final building plans. Debris clearance shall occur prior to occupancy clearance.

E-3. **Street Signs**. All required street identification signs shall be installed.

E-4. **Landscape Installation**. Landscaping shall be installed by the applicant and inspected by the City prior to final Occupancy Clearance.

E-5. **Construction Material Recycling**. All excess construction materials (concrete, wood, etc.) shall be transported to a licensed facility which collects recyclable commodities from the public for separation, reuse/recycling or proper disposal. The nearest facility is Foxen Canyon Landfill. The Building Inspector will require copies of all dump receipts prior to Final Inspection.

E-6. **Greenhouse Gas Reduction**. At a minimum, prior to occupancy, any feasible greenhouse gas reduction measures from the following sector-based list should be applied to the project:

- Energy use (energy efficiency, low carbon fuels, renewable energy)
- Transportation (reduce vehicle miles traveled, compact and transit-oriented development, pedestrian- and bicycle-friendly communities)
- Water conservation (improved practices and equipment, landscaping)
- Waste reduction (material re-use/recycling, composting, waste diversion, waste minimization)
- Architectural features (green building practices, cool roofs)

E-7. **Offer of Dedication of Utility Easements**. Prior to Occupancy Clearance, the Owner/Applicant shall offer to dedicate to the City the following:

a. Water line easement (for the new segment on the property);
b. Natural gas line easement (for the new segment on the property); and
c. Bioretention facility easement.

Owner/Applicant shall maintain bioretention facilities.

Attachment: Public Works Department Conditions date 9-28-15

• INTER-OFFICE MEMORANDUM •

TO: Arleen Pelster, Planning Director

FROM: Bridget Elliott, Associate Engineer

DATE: Monday September 28, 2015

SUBJECT: The Merkantile
1980-1992 Old Mission Dr. (APN: 139-240-074, 075)
Public Works Department, Conditions of Approval

The Public Works Department has the following conditions of approval for the subject project:

Traffic

1) The Traffic Study Supplemental Analysis prepared by ATE (dated, September 9, 2015) is acceptable. One correction is required. The last paragraph on page 2 indicates the Project has "four" driveways. This is incorrect. There are three driveways. The driveway level of service analysis should be re-evaluated based on three driveways (not four).

Drainage

1) A Private Drainage Facilities Maintenance Agreement must be recorded against the effected properties. The agreement will need to be approved by the City Engineer prior to being recorded with the County of Santa Barbara. The agreement will need to be recorded before a Certificate of Occupancy will be granted. As part of the Post Construction Requirements of our NPDES Permit the City must ensure, and provide documentation to the RWQCB, that all private stormwater facilities are operated and maintained in perpetuity.
2) Side slopes for the bio-retention and other landscape areas shall be no steeper than a 3:1 slope.
3) Remove the waterproof barrier between the soil and gravel in the Pervious Pavement System.
4) A cross drainage agreement will be required for the stormwater runoff from Parcel B on to Parcel A.
5) Provide the pre and post development stormwater discharge rate and volumes from the site where the private system connects to the City's MS4. The connection to the existing storm drain should be made on-site and connected perpendicular to the 30 RCP.
6) There is an existing 30" RCP storm drain running through the site **show the utility to scale** on the utility plan. The storm drain must maintain a minimum of 10 feet of clearance from any Building foundation. A 20-foot exclusive storm drainage utility easement will be required to be recorded against Parcel A. The easement must be shown on the drainage and utility plans and approved by the City Engineer. Adequate construction information will need to be shown on the final grading and drainage plan for the existing storm drain "reconstruct where necessary."Relocation should allow for repair and maintenance access. Any redesign or realignment of the system shall not negatively impact the historic flow dynamic and/or capacity of the system.

Water

1) The utility site plan should show the locations of all new water service connections and meter vaults to scale. Also, show and call out any water services that will be relocated or abandoned. All water meters should be installed in the public Right of Way along Old Mission Drive.
2) The City of Solvang allows one domestic and one irrigation meter per parcel. Water pipes cannot be conducted across lots or buildings to adjoining premises. If a building is condominimized or a lot is split creating multiple owners, water and sewer connections must be separated so that each owner has an exclusive connection.
3) Parcel A (Pad A, Building B & C) will be allowed one domestic master meter and one irrigation meter. Sub-meters maybe installed after the master meter to provide separate metering to each building. Parcel B (Pad D) will be allowed one domestic service and irrigation meter.
4) Provide meter sizing calculations. The proposed water service lines and meters shall be sized based upon maximum daily demands. Water meter sizing shall follow the guidelines and principles found in AWWA "Sizing Water Service Lines and Meters, M22." If a different sizing method is being used please provide additional narrative to explain. Please include number of meters to be installed and the maximum demand for each meter. The water and sewer sizing information provided on 09/14/15 are inadequate.
5) Provide the Fire Department approved fire flow requirement of the development.
6) **Portions of the 6-inch water main in Old Mission may need to be upsized**. Provide proposed hydraulic calculations for the maximum daily demand plus fire flow required for the new development. Under these conditions, if the velocity within any existing pipe exceeds 10 feet per second the developer will be required to pay all costs associated with the upgrades/improvements to the public water main necessary to provide proper water service to the new development. (Water system hydraulic calculations may be provided with submittal of final engineered plans.)
7) On-site water system and easements will be vacated by the City with this project. Provide all necessary easement abandonment documents for city review and action. The vacated water line may be used as a private fire service line to all on-site fire hydrants and fire service laterals. Any part of the private fire line crossing adjacent property lines will be required to have an easement recorded against the property. A maintenance agreement will be required for the share a fire service line and any other share utility.
8) All service connections to the City water main require backflow prevention. The on-site fire line must have appropriately sized double check detector assemblies at each connection point to the City's water main. The preliminary plans show two connections to the main along Old Mission Drive (near Hillside Drive) and Alamo Pintado Road. Call out and show locations of all existing and proposed back flow prevention devices on the utility plans the backflow device should be located within the landscaped area and as close to the right-of-way as possible.

Wastewater

1) Show all in ground grease interceptors to scale on the Site Utility Plan. (All food service establishments are required to install, operate, and maintain an approved type and adequately sized grease interceptor. One or more food service establishment may use a shared grease interceptor).
2) The sewer connection to Pad D must be separated so that each owner has an exclusive connection. If the existing sewer line from Parcel B to Parcel A is reused. A sewer easement for the utility connection will need to be shown on the plans and recorded against Parcel A for the appurtenant use of Parcel B.

Please Contact the Public Works Department for plan layout standards and requirements prior to construction document preparation.

Copy: Matt van der Linden, Public Works Director / City Engineer

City of Solvang
Community Development Department
411 Second Street
Solvang CA, 93464 (805) 688-4414 Fax (805) 693-1070

DATE: **October 22, 2015**

TO: **INTERESTED PARTIES**

SUBJECT: **NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION**

PROJECT: Valley Plaza Shopping Center / Merkantile Development Plans

The Proposed Project is the reconfiguration and reconstruction of the existing Valley Plaza mixed-use shopping center in the City of Solvang. The proposed project will rebuild the existing shopping center to include 42,365 SF commercial space and 8 apartment units. The mix of tenants and uses proposed at this time will include: New Frontiers Natural Marketplace, Restaurant, Retail stores, eight second-floor residential apartments.

The City has prepared a draft Mitigated Negative Declaration (MND) pursuant to the requirements of CEQA. The City requests that you review the enclosed materials and provide any appropriate comments related to your Agency's area of responsibility. The proposed MND, the Initial Study and supporting materials are available for review and inspection at the City Community Development Department located at 411 Second Street, Solvang, California.

The space below may be used to indicate that your agency has no comment or to state brief comments. If you comment of the MND you will be notified of any public meeting where the adoption of the MND will be considered. If you have any questions, please contact the City's consultant, David Foote at (805)781-9800, fax (805) 781-9803. Please respond by 5:00 P.M. November 24, 2015.

Distribution: (page 3)

_____ No Comments provided
_____ Comments noted below
_____ Comments provided in separate letter

COMMENTS:____

Return to: David Foote ASLA c/o *firma*
187 Tank Farm Road Suite 230
San Luis Obispo CA 93401
805.781.9800 FAX.805.781.9803

From: Agency Name: ______________________________
Contact Person: ______________________________
Phone Number: ____________

PROPOSED MITIGATED NEGATIVE DECLARATION
FOR THE CITY OF SOLVANG COMMUNITY SERVICES DISTRICT
VALEY PLAZA / MERKANTILE DEVELOPMENT

LEAD AGENCY AND PROJECT SPONSOR: Solvang Community Development Department
ADDRESS: 411 Second Street
Solvang CA 93463

TELEPHONE NO: (805) 688-4414

PROJECT LOCATION:
The project is located at 1980-1992 Old Mission Drive, at the northwest of the intersection of Mission Drive (State Route 246) and Alamo Pintado Road (APN 139-240-074 and 139-240-075).

PROJECT DESCRIPTION:

The Proposed Project is the reconfiguration and reconstruction of the existing Valley Plaza mixed-use shopping center in the City of Solvang. The proposed project will rebuild the existing shopping center to include 42,365 SF commercial space and 8 apartment units. The mix of tenants and uses proposed at this time will include: New Frontiers Natural Marketplace, Restaurant, Retail stores, eight second-floor residential apartments.

PROPOSED FINDINGS:

The City's Planning and Economic Director has reviewed the above project in accordance with the City's Rules and Procedures for Implementation of the California Environmental Quality Act, and has determined that:

[X] Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures described on the attached subsequent Initial Study are hereby made part of this subsequent Mitigated Negative Declaration and have been approved by the TCSD Board of Directors and added to the Project.

[X] On the basis of the whole record before it (including the Initial Study and any comments received), there is no substantial evidence that the Project may have a significant effect on the environment.

[X] The subsequent Mitigated Negative Declaration and Initial Study and for the Project reflect the independent judgment and analysis of the Board of Directors of the District.

The approved mitigation measures are listed in the subsequent Initial Study; and the approved Mitigation Monitoring and Reporting Plan is found at the end of the Initial Study. The subsequent Initial Study that provides the basis for this determination is attached. The subsequent Initial Study, along with supporting documents referenced in the Initial Study, the Mitigation Monitoring Program, and other documents and materials that constitute the record of proceedings upon which the adoption of this Mitigated Negative Declaration is based will be kept on file at the Community Development Department office located at 411 Second Street, Solvang CA 93463, telephone 688-4414. The custodian of such records is the Planning Director.

PREPARED BY: FIRMA

DATE: October 22, 2015

REVIEW PERIOD: 10-25-15 to 11-25-15

Initial Study of Environmental Impact

I. ENVIRONMENTAL DETERMINATION FORM

1. Project Title:

Valley Plaza/ Merkantile Development Plans

2. Lead Agency Name and Address:

City of Solvang
Planning & Economic Development Department
411 Second Street
Solvang CA, 93463

3. Contact Person and Phone Number:

David Foote, c/o ***firma***, (805) 781-9800

4. Project Location:

The project is located at 1980-1992 Old Mission Drive, at the northwest of the intersection of Mission Drive (State Route 246) and Alamo Pintado Road (APN 139-240-074 and 139-240-075)**.**

See map 1 attached.

5. Project Sponsor's Name and Address:

1980s Old Mission Drive, LLC
Attn: Joshua J. Richman
425 Market Street, Suite 2200
San Francisco, CA 94105

6. General Plan Designation:

Retail Commercial

7. Zoning:

C-2 Commercial Retail

8. Description of the Project:

The Proposed Project is the reconfiguration and reconstruction of the existing Valley Plaza mixed-use shopping center in the City of Solvang. The proposed project will rebuild the existing shopping center to include 42,365 SF commercial space and 8 apartment units. The mix of tenants and uses proposed at this time will include: New Frontiers Natural Marketplace, A Restaurant, Retail stores, eight second-floor residential apartments. The site will be re graded and new parking constructed for 165 spaces.
Low impact development concepts are being meaningfully incorporated into the project to manage stormwater consistent with current standards. The building architecture is a contemporary agrarian style that draws from the themes of the Santa Ynez Valley.

Map 2 shows the proposed site plan.

9. Surrounding Land Uses and Setting:

North: Medium Density Residential & (vacant) Low/Medium Density Residential
South: Commercial & (vacant) Professional Offices
East: Commercial
West: Commercial (Verizon Wireless)

10. Other Public Agencies Whose Approval is required:

Caltrans – Encroachment Permit

11. Previous Environmental Review

The subject property has been a shopping center since the 1980's. No previous CEQA documents are available.

12. Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a Potentially Significant Impact as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Hazards and Hazardous Materials	☐	Public Services
☐	Agriculture Resources	☐	Hydrology and Water Quality	☐	Recreation
☐	Air Quality Greenhouse Gas Emissions	☐	Land Use and Planning	☐	Transportation and Traffic
☐	Biological Resources	☐	Mineral Resources	☐	Utilities and Service Systems
☐	Cultural Resources	☐	Noise	☐	Greenhouse Gas Emissions
☐	Geology and Soils	☐	Population and Housing	☐	Mandatory Findings of Significance

☐ There is no evidence before the Department that the project will have any potential adverse effects on fish and wildlife resources or the habitat upon which the wildlife depends.

☒ The project has potential to impact fish and wildlife resources and shall be subject to the payment of Fish and Game fees pursuant to Section 711.4 of the California Fish and Game Code.

12. Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project applicant in the form of a MITIGATED NEGATIVE DECLARATION.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a potentially significant impact or potentially significant unless mitigated impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

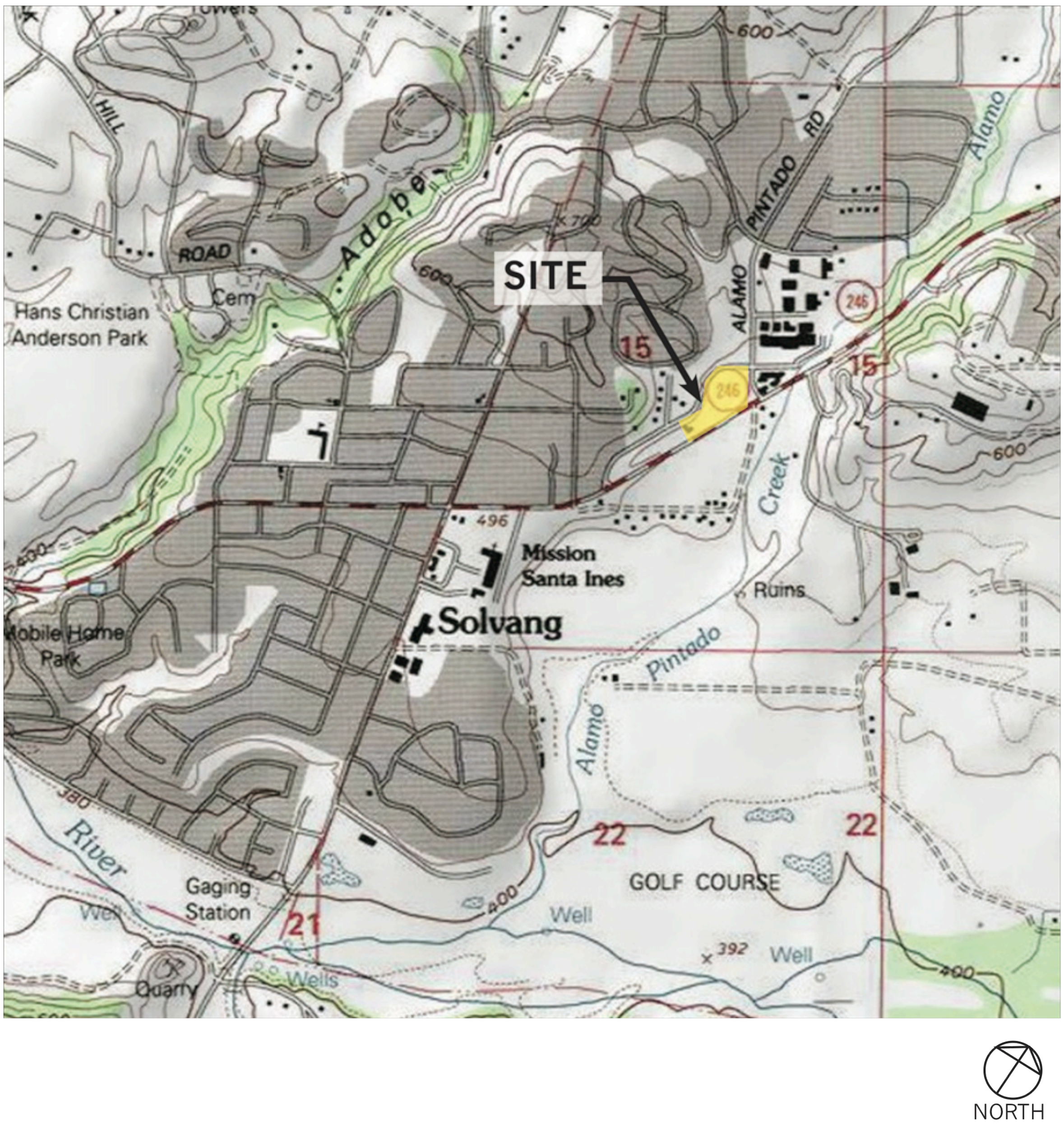
David Foote ASLA Firma Consultants

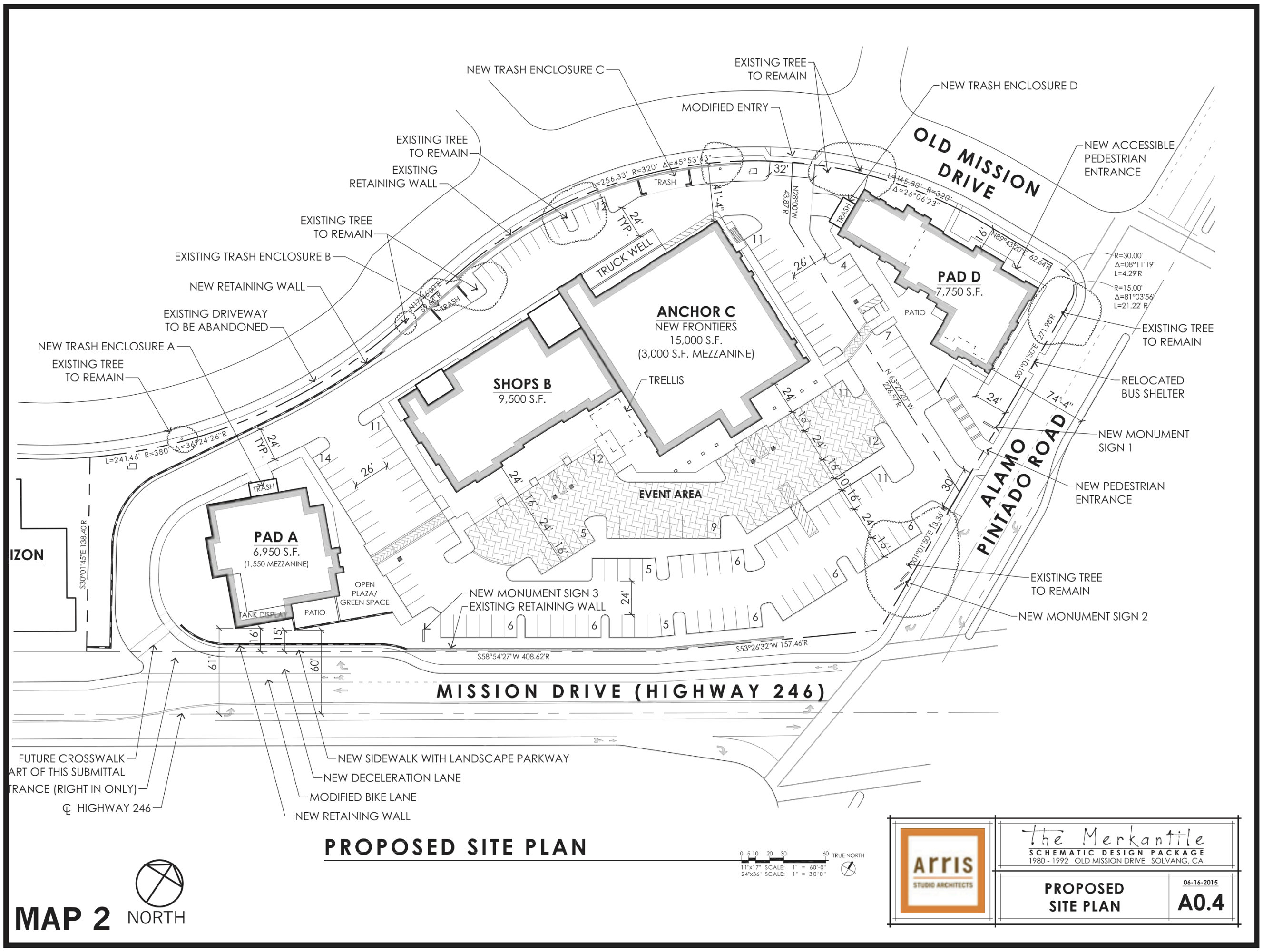
October 22, 2015
Date

For: The City of Solvang
Arleen T. Pelster, Planning & Economic Development Director

City of Solvang
Community Development Department
411 Second Street
Solvang CA, 93464 (805) 688-4414 Fax (805) 693-1070

LOCATION MAP 1




PROPOSED SITE PLAN
MISSION DRIVE (HIGHWAY 246)
OLD MISSION DRIVE
ALAMO PINTADO ROAD
ANCHOR C
NEW FRONTIERS
15,000 S.F.
(3,000 S.F. MEZZANINE)
SHOPS B
9,500 S.F.
PAD A
6,950 S.F.
PAD D
7,750 S.F.
EVENT AREA
TRUCK WELL
NEW TRASH ENCLOSURE C
EXISTING TREE TO REMAIN
MODIFIED ENTRY
NEW TRASH ENCLOSURE D
NEW ACCESSIBLE PEDESTRIAN ENTRANCE
EXISTING RETAINING WALL
EXISTING TRASH ENCLOSURE B
NEW RETAINING WALL
EXISTING DRIVEWAY TO BE ABANDONED
NEW TRASH ENCLOSURE A
RELOCATED BUS SHELTER
NEW MONUMENT SIGN 1
NEW PEDESTRIAN ENTRANCE
NEW MONUMENT SIGN 2
NEW MONUMENT SIGN 3
EXISTING RETAINING WALL
NEW SIDEWALK WITH LANDSCAPE PARKWAY
NEW DECELERATION LANE
MODIFIED BIKE LANE
FUTURE CROSSWALK
HIGHWAY 246
TRELLIS
OPEN PLAZA/ GREEN SPACE
PATIO
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA
Arris
STUDIO ARCHITECTS
PROPOSED SITE PLAN
06-16-2015
A0.4

MAP 2 NORTH

II. ENVIRONMENTAL CHECKLIST

1. **AESTHETICS.** Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	**1,8**			**X**	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**1,8**				**X**
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	**1,8**			**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**1**				**X**

Impact Discussion:

1a-c. Environmental Setting: The Project site is currently a shopping center with one and two story structures (53,706 SF). Regulatory Setting: The Design Element of the General Plan (Policies 3e, 7a, 7c, and 7e) ensures development is designed to minimize adverse visual impacts. The project is located outside the Village Area, therefore and Policies 4.3.2 and 4.4.2 apply to project siting and landscape. Impact Threshold: Activities that are inconsistent with community standards expressed in the Community Design Element and which substantially alter the scenic character would result in a significant impact on visual resources.

Potential Impacts: The project would reconfigure the existing mixed-use shopping center. The proposed structures are consistent with the City zoning ordinance height limits and setbacks. The site is visible from Mission Drive (policy 7e), Alamo Pintado Road and Old Mission Drive. The siting of the structures are landscape setback is consistent with policy 7a. The project is substantially consistent with section 4.4.2 of the Community Design. Approximately 17 mature trees along Mission Drive (SR 246) and Old Mission Drive are proposed to be removed along with existing trees in the project interior. Approximately 10 mature trees on Alamo Pintado Road and Old Mission Drive are planned to be retained. The removal of existing street trees could be a significant visual impact. The City typically makes the determination of the significance of tree removal during BAR review. These trees would be replaced with new trees as part of the proposed project, in conjunction with retaining some existing street trees on Alamo Pintado Road and Old Mission Drive. The retention of the of existing Sycamore Trees around the perimeter on Old Mission and Alamo Pintado, combined with the addition of 50 (or more) new trees in the landscape would result in a visual character substantially like the existing center (refer to attached Photo Simulations comparing proposed and existing site.)

1d. The Proposed Project will reconfigure and reconstruct existing parking and building lights. While the nature and level of lighting is proposed to be consistent with the existing shopping center and lighting in the neighborhood, cross lot glare spill into neighboring land use is possible.

Mitigation Measures:

MM-AES 1: To mitigate potential impacts resulting from the removal of mature trees, the City shall determine during BAR review, if tree removal would be inconsistent with General Plan Community Design Element policy and shall provide mitigation through architectural review. Landscape Plans with adequate tree-replacement as determined by the City shall be required.

MM-AES 2: To mitigate potential impacts of glare from new light fixtures spilling light to adjoining properties, all exterior lighting shall meet the requirements of Section 11-12-18 of the City's Zoning Ordinance, and shall be dark sky compliant. The final plans shall incorporate only down-directed cut off type pole light luminaires. All building mounted lights shall be hooded and shielded to minimize glare off-site.

2. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	**1**				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	**1**				**X**
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	**1**				**X**

Impact Discussion:

2a-c. Environmental Setting: The site is not in an agricultural area and no impacts are identified.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

a) Conflict with or obstruct implementation of the applicable air quality plan?	**2, 6**				**X**
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	**2, 6**		**X**		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	**2**			**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?	**2**				**X**
e) Create objectionable odors affecting a substantial number of people?	**2**				**X**

Impact Discussion:

3a. Environmental Setting: The site is in the developed portion of Solvang and is a reconfiguration/reconstruction project. Regulatory Setting: The Santa Barbara County APCD Clean Air Plan 2013 (CAP) establishes impact significance thresholds and recommended mitigation strategies. Threshold: Land Use activities inconsistent with the CAP could be potentially significant. Impact Analysis: Project activities are consistent with City General Plan (2007) land use and would not result in land use patterns or development that are different from the existing shopping center in terms of new population added to the city. No inconsistency with the CAP is identified.

Air pollution related to transportation patterns or traffic is considered less than significant because the existing traffic volumes measured and the future volumes predicted result in the same level of traffic that is currently generated at the site (refer to Traffic Report- Net Trip Generation, attached.) This project may have lower trip generation due to mixed use development and availability of public transportation. The project does not exceed any growth assumptions from local General Plan, the project is a reconfiguration / reconstruction project therefore no impact to any applicable air quality plan is identified.

3b-c. Environmental and Regulatory Setting: Santa Barbara County exceeds the state standard for PM10 and the state 8-hour ozone standard. Thresholds: Construction emission and PM10 thresholds apply. Standard dust control measures must be implemented for any discretionary project involving earth-moving activities. Since Santa Barbara County violates the state standard for PM10, dust mitigation measures are required for all discretionary construction activities regardless of the significance of the fugitive dust impacts based on the policies in the 1979 Air Quality Attainment Plan. Impacts related to PM10 are considered potentially significant. No significant operational emission impacts are identified because the proposed use is the same as existing.

3d-e. There are no activities that would result in odors or impacts on sensitive receptors.

Mitigation Measures:

MM AQ-1: These measures are required for all projects involving earthmoving activities regardless of the project size or duration. The measures are based on policies adopted in the 1979 AQAP for Santa Barbara County. Proper implementation of these measures is assumed to fully mitigate fugitive dust and construction equipment emissions.

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph.

Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading of the structure.
- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans.
- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, § 2449), the purpose of which is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, § 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.
- All portable diesel fired construction engines with 50 brake-horsepower or greater must have either statewide Portable Equipment Registration (PERP) certificated or APCD permits. Construction engines with PERP certificates are exempt form APCD permits provided they will be on-site for less than 12 months
- Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	**1**			**X**	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	**1**				**X**
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	**1**				**X**
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**1**		**X**		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**1**				**X**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**1**				**X**

Impact Discussion:

4a-d. Environmental Setting: The site contains environments such as landscape trees and building attics and eaves which are planned for removal. Trees, attics and eaves provide potential habitat for bats and nesting birds. Regulatory Setting: Bats and nesting birds are protected under federal law. Oak and Sycamore Species proposed for removal are not listed on Federal or State list of endangered, threatened and rare plants of California. Furthermore, there is no local tree protection ordinance, which requires protection of existing native trees. Impact threshold: Removal of bat roosts or active bird nests would be a significant impact. Impact analysis: The impact of removal of existing trees and structures is a potentially significant impact on bats and nesting birds.

4e-f. The project does not conflict with any adopted plans or policies for the area.

Mitigation Discussion:

MM BIO-1 Pre-construction nesting bird and bat surveys. Pre-construction bat and nesting bird surveys shall be conducted prior to demolition of existing structures. Should Project activities be initiated during the nesting bird season (approximately February 15 to August 15), pre-construction nesting bird surveys shall be conducted within approximately 200 feet of any area where impacts are expected to occur, and a determination of sensitivity be made by a qualified biologist should any nesting birds or bats be present in this zone. The biologist shall identify avoidance strategies.

5. TRIBAL CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	**1**				**X**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	**1**				**X**
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**1**				**X**
d) Disturb any human remains, including those interred outside of formal cemeteries?	**1**				**X**

Impact Discussion:
5a-d. Environmental Setting: The site is in a previously developed area of the city. Generally, all areas within the City are considered potentially sensitive archaeologically due to Native American occupation centers nearby. The Conservation and Open Space Element does not identify the area as high potential for paleontological resources. Impact Threshold: Any of (a) through (d) above. As required by AB-52/PrC 21080 notification of project application completeness was provided to the Santa Ynez Band of Chumash Indians (SYBCI) to include Tribal Cultural Resources early in the process. The SYBCI Elders Council reviewed the proposed project description and had no further comments (personal communication with Cultural Resources Coordinator, SYBCI on August 21, 2015).

Potential Impacts: Due to the previously developed nature of the site the potential for undiscovered cultural resources is considered as low. The City is in contact with the Tribe to consult on potential issues. The mitigation below has been implemented on other projects in situations where the potential for cultural resources is low.

Mitigation Measures:

MM CUL-1: The Santa Ynez Chumash Indian Reservation Elders Council will be provided advance notice of proposed construction timing, in order to allow Reservation representatives the opportunity to visit and observe ground disturbances. Should any cultural materials be discovered during excavation, work shall be temporarily suspended and the tribe notified. In that event, a Chumash consultant from the SYBCI Elders Council shall be retained by the City to observe all subsequent excavations. The documentation and ultimate disposition of any cultural resources unearthed shall be pursuant to State Law.

6. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	**1**				**X**
ii) Strong seismic ground shaking?	**1**		**X**		
iii) Seismic-related ground failure, including liquefaction?	**1**				**X**
iv) Landslides?	**1**				**X**
b) Result in substantial soil erosion or the loss of topsoil?	**1**			**X**	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	**1**			**X**	
d) Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**1**				**X**

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	**1**				**X**

Impact Discussion:

6a-e. Environmental Setting: The site is in a region with a risk of seismic events, however tsunami and seiche are not factors. The site is not likely to be prone to liquefaction, being considerable distance from alluvial plains. Slopes are gentle with no risk of landslide. Regulatory Setting: The City has adopted the latest California building code and requires Soils Engineering Reports for all projects. Impact thresholds: Any of (a) through (e) above. Impact Analysis: Due to the previous developed nature of the site, the only identified risk is seismic hazard.

Mitigation Measure:

MM GEO-1: To mitigate impacts resulting from potential soils/geologic hazards, implement the program-level standard requirement that requires all parcels have a Soils Engineering Report prepared prior to obtaining building permits. In addition, development shall design structures and other improvements in accordance with the seismic criteria contained in the latest City-adopted California Building Code. Implementation of these standard measures would reduce impacts to a less than significant level.

1. **GREENHOUSE GAS EMISSIONS.** Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**2**			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	**2**			**X**	

Impact Discussion:

7a-b. Environmental Setting: Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases. Regulatory setting and Impact thresholds: Environmental Review Guidelines for the Santa Barbara County APCD (revised April 30, 2015) indicate a proposed stationary source project will not have significant GHG impact, if operation of the project will emit less than the screening significance level of 10,000 metric tons per year (MT/yr) CO_2e. In addition, the APCD recommends that climate change impacts be mitigated to the extent reasonably possible, whether or not they are determined to be significant.

The City of Solvang has not adopted impact significance thresholds for GHG, however as a matter of policy projects are required to reduce emissions and energy use to the degree feasible.

Impact and Mitigation analysis: As noted in Traffic Analysis, level of traffic at the site will remain the same, and therefore GHG generated from to transportation patterns is considered less than significant because the existing traffic volumes measured and the future volumes predicted are the same. The commercial land uses (Tenants) at shopping center would not be expected to generate substantial new CO2e when compared to existing conditions that rise to the screening threshold level to produce emissions over the APCD significance threshold.

The current California Green Building Code (CalGreen) mandates substantially more energy-efficient buildings than the existing shopping center construction. Therefore, the proposed project will use less energy and generate less CO2e than the existing baseline. No adverse impact is identified.

8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**1**				**X**
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**1**				**X**
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**1**				**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**1**				**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	**1**				**X**
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	**1**				**X**

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**1**				**X**
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	**1**				**X**

Impact Discussion:

8a-d The proposed project does not involve the use or transport of hazardous materials except during construction. Normal construction materials are not considered serious risk to the public or environment, although these must be handled and stored in a manner prescribed by law for the material. The structures were constructed in the 1980s, after asbestos containing materials fell out of use. Therefore the presence of asbestos, or lead paint, in construction materials to be demolished that could pose a health risk is not likely.

8e-f The proposed project is not located within the vicinity of an airport, airport land use plan or private airstrip.

8g The proposed project does not involve activities capable of impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. The proposed site design meets local Fire Department standards for ingress and egress.

8h The project site is outside the area identified in the Safety Element as high fire hazard.

9. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	**1**		**X**		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	**1,4,9**			**X**	

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	**1,3,5**			**X**	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	**1,3,5**		**X**		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	**1,3**		**X**		
f) Otherwise substantially degrade water quality?	**1**			**X**	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	**1**				**X**
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	**1**			**X**	
I) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	**1**				**X**
j) Inundation by seiche, tsunami, or mudflow?	**1**				**X**

Impact Discussion:

9a. Environmental Setting: The site is in a developed area of the City with established urban runoff patterns. Regulatory Setting: The project must meet the City's General Permit requirements for storm water quality leaving the site. Impact Threshold: Inconsistency with adopted stormwater management requirements would result in a significant impact. The project has developed a Long Term Maintenance Plan for Stormwater Control Facilities (Sept.1, 2015). The project includes measure to comply with stormwater requirements including use of shallow basins designed to provide treatment through bioinfiltration, bio retention and bio filtration. The use of these basins will provide means to meet water quality standards. The impervious area on site shall be decreased through use of combination of landscape and permeable hardscape (concrete or pavers). When comparing the pre-and post-project runoff volumes for the site, calculations indicate that runoff volumes are decreased for all storm events. Although a known deficiency has not been identified by the City Public Works

Department, the proposed project could contribute to a cumulatively significant impact on stormwater conveyance infrastructure.

In the City, all projects are required to meet the Best Management Practices (BMP) standards for construction phase storm water runoff and to maintain the on-site BMPs. The Proposed Project shall implement BMPs to manage water quality by providing on-site runoff treatment in conformance with the Regional Quality Control Board General Permit and the City's Storm Water Management Plan. With compliance with this standard requirement, the Proposed Project's storm water pollutant load would be minimal, and would result in a less-than-significant impact.

9b. Environmental Setting: The City Water Master Plan (2011) identifies adequate municipal water supply, including groundwater sources to meet current demands, and proposed future projects required to meet General Plan Build Out water demand. The City is approaching build out of the General Plan, hence full water demand projected in the 2011 Water Master Plan is expected within the next 10 to 15 years. Projects to deliver additional water supply are currently under development, and additional future water supply projects are planned with no certain completion date. The State of California is currently experiencing extended drought conditions.

Potential Impacts:
Current and anticipated indoor water use throughout the proposed project was analyzed to quantify the total anticipated water use. Existing center water bills demonstrate the current shopping center consumes an average of 6.21AFY domestic water. Proposed project domestic water consumption was calculated based upon methodology standardized by LEED certification program and largely adopted by California Green Building Standards (CAL Green). Based on the water analysis, the proposed project will consume 5.7 AFY domestic water. Per state requirements, the proposed project will be required to reduce landscape water demand to meet the Water Efficient Landscape Ordinance (WELO). Estimated landscape water usage for the proposed project is 619,353 gallons/year (or 1.9 AFY) and demonstrates compliance with WELO.

The proposed project as designed and fully occupied is anticipated to consume 7.6 AFY (domestic + landscape); demonstrating reduced demand over existing center, thus resulting in a less than significant impact.

9c-d. Environmental Setting: The site is currently in a developed area and receives stormwater runoff from existing configuration of Shopping Center including buildings and parking lot. Regulatory Setting: The Project must comply with the adopted building code regulating cross-site stormwater runoff. Potential Impacts: The project design could impede this runoff resulting in potentially significant impacts to the adjoining properties. Since the Project grading plans must comply with the building code, no impact is identified for stormwater runoff increases or flooding.

9e-f. Environmental Setting: The site is currently a shopping center generating runoff into the City storm drains. Regulatory Setting: The Public Works Department has not identified any downstream storm drain system capacity problems. Potential Impacts: The project could potentially contribute to increased stormwater downstream from the site which may have a temporary cumulative impact of water quality. Impact Analysis: Potential temporary impact can be reduced to less than significant level through the implementation of the included mitigation measures.

9g-j. The project would not place structures in a manner that would result in hazards to people or structures.

Mitigation Measures:

MM HYD-1 The developer shall conduct a hydraulic analysis of existing downstream storm drain system to verify adequate capacity in the cumulative condition. The analysis shall verify there are no existing deficiencies that must be corrected to properly serve the proposed project. If deficiencies are identified for the 25 year storm or less, the project will correct those deficiencies.

10. LAND USE AND PLANNING. Would the	Sources	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact

project:			Incorporation		
a) Physically divide an established community?	**1**				**X**
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	**1**				**X**
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	**1**				**X**

Impact Discussion:

10a-c. The Proposed Project would not physically divide the community or conflict with a regulation or policy.

11. MINERAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	**1**				**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	**1**				**X**

Impact Discussion:

11a-b. The Project site does not contain mineral resources.

12. NOISE. Would the project result in:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**1,7**			**X**	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	**1,7**			**X**	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	**1,7**			**X**	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	**1,7**			**X**	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	**1**				**X**
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	**1**				**X**

Impact Discussion:

12a-d. Environmental Setting: Noise within the project area is characterized and dominated by highway and roadway traffic from the direction of Alamo Pintado road. The distance to nearest proposed sensitive residential receptor is over 140 feet to the north across Old Mission Drive.

Regulatory Setting: The Noise Element and Noise Ordinance regulate noise. Impact Threshold: The maximum exterior noise exposure compatible with noise sensitive uses is 60 dBA Day-Night Average Sound Level. Impact Analysis: A sound level assessment was prepared (see attached Sound Level Assessment for Valley Plaza, August 2015 by D.Lord).

Potential sources of noise at the site will include noise generated from mechanical equipment and loading docks in addition to traffic flow from the shopping center. The change in future noise related to transportation pattern or traffic is considered less than significant because the existing traffic volumes measured and the future volumes predicted result in the same level of traffic that is currently generated at the site (refer to Traffic Report- Net Trip Generation, attached). Noise impacts from simultaneous operation of three air conditioning units are anticipated to be below permitted sound level at residential boundaries and determined less than significant. Noise generated during the hours outside 7am/7pm from the loading dock could result in a significant impact due to the fact that “nighttime” noise is weighted greater in reference to the threshold for residential receptors.

Potential short term noise and vibration impacts could potentially occur during project construction. Noise may be generated from the transport of workers, movement of construction materials and on-site demolition and similar ground-disturbing activities. Vibration from the project would be a localized event and only impact a receptor that is in close proximity (25ft) to the vibration source; impact from vibration would not be considered significant. The City Noise Ordinance requires construction activities to be limited to weekdays between 7 a.m. and 7 p.m to avoid temporary stationary noise impacts. There is no local provision regarding vibration that would be applicable to the project site. No mitigation is required for short term construction noise or vibration.

12e-f. The project site is not located within the vicinity of any airport or airstrip.

Mitigation Measures:

MM NOI-1 Potential noise generated from loading dock may be mitigated by limiting delivery hours to a period from 7:00am to 7:00pm. Based upon final tenant mix, if deliveries are planned outside 7:00am to 7:00pm acoustical evaluation and mitigation shall be required.

13. POPULATION AND HOUSING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	**1**				**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	**1**				**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	**1**				**X**

Impact Discussion:

13a-c. The Project is a reconstruction and reconfiguration of existing shopping center. The existing center includes a mix of uses and two residential units. The proposed project will also include a mix of uses (see project description) and the addition of 8 residential units. The Project would improve the existing shopping center including sidewalk and roadway connections. The proposed use of the site does not differ from the existing use, therefore the project does not involve the displacement of existing housing or substantial population growth.

14. PUBLIC SERVICES.	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**1**				
Fire protection?	**1**				**X**
Police protection?	**1**				**X**
Schools?	**1**				**X**
Parks?	**1**				**X**
Other public facilities?	**1**				**X**

Impact Discussion:

14a. The project is not anticipated to physically impact service ratios, response times or other performance objectives of any governmental facility in the vicinity of the area.

15. RECREATION:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	**1**				**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**1**				**X**

Impact Discussion:

15a-b The project would not result in the deterioration of recreation facilities or require new facilities that could impact the environment.

16. TRANSPORTATION / TRAFFIC: Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	**6**		**X**		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	**6**		**X**		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	**6**				**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**6**			**X**	
e) Result in inadequate emergency access?	**1, 6**				**X**
f) Result in inadequate parking capacity?	**1, 6**				**X**
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	**1, 6**			**X**	

Impact Discussion:

16a-b. A traffic study has been prepared for the project by the applicant that was peer reviewed by City retained consultant (see attached Traffic Report, Traffic Update Report and Traffic Peer Review). The following summarizes the findings of that study.

Environmental Setting: The street network surrounding the sites includes: State Route 246 (Mission Road), Alamo Pintado Road and Old Mission Drive. Traffic counts were obtained from the existing Valley Plaza Shopping Center driveways and at the intersection of SR 246/Alamo Pintado Road. Traffic counts were collected in March 2015. All of the study area driveways operate at LOS A with the exception of Alamo Pintado Rd driveway outbound right turn LOS B at P.M. peak only. The SR246/Alamo Pintado Rd. Intersection operated at a LOS C. To form a baseline to evaluate the potential impacts of the project, the existing uses trip generation was modeled.

Regulatory Setting and Impact threshold: The level of service (LOS) is based on levels A-F, where LOS is free-flow traffic conditions and LOS F is severely congested conditions. The City of Solvang and Caltrans have a target goal of LOS C or better for their facilities.

Impact discussion: An estimate of the project related trip generation for the reconfiguration of the shopping center was calculated based on trip rates developed from existing Valley Plaza center, as these rates represent local shopping center conditions and were found to be higher than Institute of Transportation Engineers (ITE), trip generation rates for shopping centers. Therefore the figures utilized for the trip generation produce values higher than the ITE manual guidance.

The net trip generation analysis found that the Proposed Project would generate about the same level of traffic that is currently generated at the site by existing Valley Plaza center. The potential for impacts to be generated by the project as a result of the access and circulation changes that are proposed by the Project were evaluated. The project is proposing to construct a new ingress only driveway on SR 246 and abandon the westerly existing driveway along Old Mission Drive. The new driveway shall be designed to meet Caltrans standards including acceleration and deceleration lanes of SR246, lane widths, radii or turn lanes, sight distances, etc.

Future levels of service were calculated assuming the Existing + Project volumes and also comparing Existing and Existing + Project delays. The new ingress only driveway at SR 246 will operate at LOS A for inbound right turn. Alamo Pintado Driveway will operate at LOS A for inbound right turns and LOS B for outbound right turn. Old Mission Dr. driveway will operate LOS A for all traffic. SR 246/Alamo Pintado Rd intersection will remain at LOS C. Based on the amount of peak hour traffic associated with the project site, no significant impacts would be created with the addition of the project traffic on existing traffic conditions.

The City's Circulation Element notes that the SR 246/Alamo Pintado Road intersection is expected to operate at LOS-D-F under future conditions. The proposed project would generate traffic contributing to cumulative/future impact at SR246/Alamo Pintado Road intersection which could generate a potentially significant impact at this location. The traffic study found that proposed project is consistent with Congestion Management Program (CMP) analysis because it generates less than 500 daily trips, therefore the proposed project is consistent with CMP criteria and no further CMP analysis is required.

In summary, the proposed project is expected to generate 98 trips per day (ADT). During the peak hours, the project would be expected to generate 98 AM peak hour trips, 261 NOON Peak hour trips and 171 PM peak hour trips. The net increase would be 7 AM peak hour trips, 9 noon peak hour trips and 9 PM peak hour trips. The addition of these project related trips on the existing and General Plan traffic conditions does not result in any project specific impacts. The project would contribute to a future cumulative impact at the SR246/Alamo Pintado Road intersection and the SR 246 corridor. .

16.c. No impact to air traffic is anticipated because the proposed use of the site does not differ from the existing use.

16.d. New features are considered to be less than significant impact because new driveway shall be designed to meet Caltrans standards as discussed in item 16a.

16.e. No impact is anticipated related to emergency access. The project has been designed to provide adequate emergency access as required by Building Codes adopted by the City.

16.f. The existing shopping center provides 170 spaces. City Ordinance requires Parking based on various occupancy uses. Parking information and calculations have been provided by the applicant. Based on City Code requirements, total parking required is 139 spaces: 129 spaces for commercial uses/ 10 spaces for residential uses. The proposed project provides 165 spaces total; parking will be shared between residential and commercial uses and will be on a first come first serve basis. The proposed parking configuration exceeds the amount required by City Code therefore no parking impact is anticipated.

16.g. No impact is anticipated related to Alternative Travel Modes. Traffic study states that good inter-visibilty would be provided between vehicles and bicyclists. The proposed driveway along SR 246 would not significantly impact bicycle flows along the corridor. In addition, new sidewalk extensions and improved bus stop adjacent to the project site would improve the walking environment.

Mitigation Measure:

MM TR-1: To mitigate cumulative impacts to SR 246 and related intersections, the Project is required under City Ordinance to contribute traffic impact fees. The Applicant shall pay the calculated fee ($3,067 per peak hour trip) based on the contribution to peak hour trips to the intersection of SR 246 and Alamo Pintado Rd.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
17. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	**1**			**X**	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	**1**			**X**	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	**1**			**X**	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	**1**			**X**	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	**1**			**X**	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	**1**			**X**	
g) Comply with federal, state, and local statutes and regulations related to solid waste?	**1**				**X**

Impact Discussion:

17a-g. The project does not deviate substantially from existing use, therefore the project would have a less than significant impact on sewer infrastructure. Mitigation measure HYD-1 will ensure storm water drainage facilities are adequate to serve the proposed project.

Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

18. MANDATORY FINDINGS OF SIGNIFICANCE.					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	**1**			**X**	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	**1**			**X**	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	**1**			**X**	

Impact Discussion:

18a. The impacts of the proposed project on biotic resources are mitigable to less than significant.

18b. The proposed project may have a temporary cumulative impacts on air quality and noise levels due to construction activities, however, these impacts can be reduced to a less than significant level through the implementation of the included mitigation measures and applicable ordinance.

18c. There is no evidence that the project would result in potential adverse effects to people.

19. EARLIER ANALYSES.

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, one of more effects have been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063 (c) (3) (D). In this case a discussion should identify the following items:

a) Earlier analysis used.

none

20.	SOURCE REFERENCES.
1.	City of Solvang. *General Plan*. Amendments through 2015.
2.	Santa Barbara Air Pollution Control District. *www.sbcapcd.org*. 2015.
3.	Ashley&Vance Engineering, Inc., *Hydrology Calculations*, July 21, 2015
4.	Arris Studio Architects, *Water and Sewer Usage Calculations*, September 3, 2015
5.	Ashley&Vance Engineering, Inc., *Long Term Maintenance Plan for Storm Water Control Facilities*, September 1, 2015
6. *	Traffic Reports: Associated Transportation Engineers, *Traffic Study for Valley Station Shopping Center Project*, April 9, 2015 Associated Transportation Engineers, *Revised Traffic Study for Valley Station Shopping Center*, May 26, 2015 Associated Transportation Engineers, *Supplemental Analysis for Valley Station Shopping Center*, July 22, 2015 Associated Transportation Engineers, *Supplemental Analysis for Valley Station Shopping Center*, September 9, 2015 Stantec Consulting Services Inc., *Traffic Study Peer Review for the Merkantile Shopping Center*, September 15, 2015
7. *	David Lord Acoustics Consulting, *Sound Level Assessment for Valley Plaza*, August 26, 2015
8. *	Arris Studio Architects, *Site Composition Photo Simulation*, June 16, 2015
9 *	In Balance Green Consulting, The Merkantile Water Use Analysis, October 15, 2015

* attached for reference

III. MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURES / MONITORING AND REPORTING.

Mitigation Measure AES-1:

To mitigate potential impacts resulting from the removal of mature trees, the City shall determine during BAR review if tree removal would be inconsistent with General Plan Community Design Element policy and shall provide mitigation through architectural review. Landscape Plans with adequate tree-replacement as determined by the BAR shall be required.

Mitigation Implementation / Monitoring and Reporting
Administrative Action: Development Plan / BAR review process.
Timing: Prior to DP approval.
Monitoring Responsibility: City Planning & Community Development Dept.
Monitoring and Reporting Schedule: Prior to Building Permit issuance.
Monitoring and Reporting Method: City Community Development shall verify.

Mitigation Measure AES-2:

To mitigate potential impacts of glare form new light fixtures spilling light to adjoining properties, all exterior lighting shall meet the requirements of Section 11-12-18 of the City's Zoning Ordinance, and shall be dark sky compliant. The final plans shall incorporate only down-directed cut off type pole light luminaries. All building mounted lights shall be hooded and shielded to minimize glare off-site.

Mitigation Implementation / Monitoring and Reporting
Administrative Action: Development Plan / BAR review process.
Timing: Prior to DP approval.
Monitoring Responsibility: City Planning & Community Development Dept.
Monitoring and Reporting Schedule: Prior to Building Permit issuance.
Monitoring and Reporting Method: City Community Development shall verify.

Mitigation Measure AQ-1:

These measures are required for all projects involving earthmoving activities regardless of the project size or duration. The measures are based on policies adopted in the 1979 AQAP for Santa Barbara County. Proper implementation of these measures is assumed to fully mitigate fugitive dust and construction equipment emissions.

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans.
- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, § 2449), the purpose of which is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, § 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.
- All portable diesel fired construction engines with 50 brake-horsepower or greater must have either statewide Portable Equipment Registration (PERP) certificated or APCD permits. Construction engines with PERP certificates are exempt form APCD permits provided they will be on-site for less than 12 months
- Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.

Mitigation Implementation / Monitoring and Reporting

Administrative Action: Construction permits review process.

Timing: Prior to Notice to Proceed.

Monitoring Responsibility: City Public Works Dept.

Monitoring and Reporting Schedule: During construction.

Monitoring and Reporting Method: City Engineer shall field verify.

Mitigation Measure BIO-1:

Pre-construction nesting bird and bat surveys. Pre-construction bat and nesting bird surveys shall be conducted prior to demolition of existing structures. Should Project activities be initiated during the nesting bird season (approximately February 15 to August 15), pre-construction nesting bird surveys shall be conducted within approximately 200 feet of any area where impacts are expected to occur, and a determination of sensitivity be made by a qualified biologist should any nesting birds or bats be present in this zone. The biologist shall identify avoidance strategies.

Mitigation Implementation / Monitoring and Reporting

Administrative Action: Review and approve Plan.

Timing: Immediately (within 2 weeks) prior to issuance of grading permit.

Monitoring Responsibility: City Planning & Community Development Dept. staff or designated representative.

Monitoring and Reporting Schedule: At permit issuance and during construction.

Monitoring and Reporting Method: City Public Works Dept. or designated representative shall field verify.

Mitigation Measure CUL-1:

The Santa Ynez Chumash Indian Reservation Elders Council will be provided advance notice of proposed construction timing, in order to allow Reservation representatives the opportunity to visit and observe ground disturbances. Should any cultural materials be discovered during excavation, work shall be temporarily suspended and the tribe notified. In that event, a Chumash consultant from the SYBCI Elders Council shall be retained by the City to observe all subsequent excavations. The documentation and ultimate disposition of any cultural resources unearthed shall be pursuant to State Law.

Administrative Action: Notify Tribal Elders.
Timing: Prior to commencement of construction.
Monitoring Responsibility: City Planning & Community Development Dept. staff
Monitoring and Reporting Schedule: Prior to Notice to Proceed and during construction.
Monitoring and Reporting Method: Planning Dept shall verify compliance.

Mitigation Measure GEO-1:

To mitigate impacts resulting from potential soils/geologic hazards, implement the program-level standard requirement that requires all parcels have a Soils Engineering Report prepared prior to obtaining building permits. In addition, development shall design structures and other improvements in accordance with the seismic criteria contained in the latest City-adopted California Building Code. Implementation of these standard measures would reduce impacts to a less than significant level.

Mitigation Implementation / Monitoring and Reporting
Administrative Action: Review and approve Plans.
Timing: Prior to issuance of building permit.
Monitoring Responsibility: City Planning & Community Development Dept. staff
Monitoring and Reporting Schedule: At permit issuance and during construction.
Monitoring and Reporting Method: City Building Official shall field verify.

Mitigation Measure HYD-1:

The developer shall conduct a hydraulic analysis of existing downstream storm drain system to verify adequate capacity in the cumulative condition. The analysis shall verify there are no existing deficiencies that must be corrected to properly serve the proposed project. If deficiencies are identified for the 25 year storm or less, the project will correct those deficiencies.

Mitigation Implementation / Monitoring and Reporting
Administrative Action: Review and approve hydraulic analysis.
Timing: Prior to issuance of building permit.
Monitoring Responsibility: City Planning & Community Development Dept. staff
Monitoring and Reporting Schedule: Prior to issuance of building permit.
Monitoring and Reporting Method: City Public Works shall review and verify.

Mitigation Measure NOI-1:

Potential noise generated from loading dock may be mitigated by limiting delivery hours to a period from 7:00am to 7:00pm. Based upon final tenant mix, if deliveries are planned outside 7:00am to 7:00pm acoustical evaluation and mitigation shall be required.

Mitigation Implementation / Monitoring and Reporting
Administrative Action: Review and approve final tenant delivery schedule and determine if acoustical evaluation is required.
Timing: At permit issuance and during construction.
Monitoring Responsibility: City Planning & Community Development Dept. staff
Monitoring and Reporting Schedule: At permit issuance and during construction.
Monitoring and Reporting Method: City Building Official shall field verify.

Mitigation Measure TR-1:

To mitigate effects to the area street network, the Project is required under City Ordinance to contribute traffic impact fees. The Applicant shall pay the calculated fee ($3,067 per peak hour trip) based on the contribution of peak hour trips to the intersection of

SR 246 and Alamo Pintado Rd.

Mitigation Implementation / Monitoring and Reporting

Administrative Action: Condition project with final fee calculation based on peak hour trips identified in the Traffic Report.

Timing: Prior to issuance of building permit.

Monitoring Responsibility: City Public Works Department staff.

Monitoring and Reporting Schedule: At permit issuance.
Monitoring and Reporting Method: City Public Works Department staff.

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TRAFFIC STUDY FOR THE
VALLEY STATION SHOPPING CENTER PROJECT, CITY OF SOLVANG, CALIFORNIA

Associated Transportation Engineers (ATE) is submitting this traffic study for the Valley Station Shopping Center Project. It is understood that the study will be submitted to the City of Solvang for environmental review and to Caltrans for the encroachment permit application for the new driveway proposed on State Route (SR) 246.

PROJECT DESCRIPTION

The owners of the Valley Plaza Shopping Center are proposing to rebuild the center. The existing Valley Plaza is a 46,453 SF commercial center located on the northwest corner of the SR 246/Alamo Pintado Road intersection in the City of Solvang. Figure 1 shows the location and configuration of the shopping center site. As shown on Figure 1, access for the center is currently provided by two full-access driveways on Old Mission Drive on the north side of the center and one right-turn only driveway on Alamo Pintado Road on the east side of the center.

Figure 2 shows the conceptual site plan for the proposed Valley Station Project (the "Project). The proposed Project would include 39,500 SF of commercial space plus 9 apartment units. The existing center's access connections would be changed by removing the western driveway on Old Mission Drive and adding a new right-turn only driveway on SR 246. The eastern driveway on Old Mission Drive and the right-turn only driveway on Alamo Pintado Road would remain in their current locations.

The new connection on SR 246 would provide right-turn only access for the center and include acceleration and deceleration lanes pursuant to the Caltrans Highway Design Manual[1]. The existing westbound bike lane on SR 246 would be retained and new sidewalk would be provided along the north side of SR 246 between Alamo Pintado Road and the new driveway (and along the new driveway within the Project site).

LEVEL OF SERVICE DEFINITIONS

The ability of a roadway system to carry traffic is expressed in terms of "Levels of Service" (LOS). LOS A through F are used to rate traffic operations, with LOS A indicating very good operations and LOS F indicating poor operations. More complete level of service definitions are provided in Table 1.

Table 1
Level of Service Definitions

LOS	Definition
A	Conditions of free unobstructed flow, no delays.
B	Conditions of stable flow, very little delay.
C	Conditions of stable flow, delays are low to moderate.
D	Conditions approaching unstable flow, delays are moderate to heavy.
E	Conditions of unstable flow, delays are significant.
F	Conditions of forced flow, travel speeds are low and volumes are well above capacity.

Source: Highway Capacity Manual, 2010.

TRAFFIC IMPACT CRITERIA

The following section outlines the impact criteria used for the traffic impact analysis. Although the Project is located within the City of Solvang, the SR 246/Alamo Pintado Road intersection is located on SR 246 and the Project's new driveway is proposed to connect to SR 246, which is a California state highway under the jurisdiction of Caltrans. As outlined below, the City's criteria states that LOS D is acceptable for intersection operations and the Caltrans criteria states that LOS C is acceptable. The more stringent LOS C criteria established by Caltrans was therefore used to assess potential traffic impacts at the SR 246Alamo Pintado Road intersection and the new driveway that is proposed on SR 246.

[1] Highway Design Manual, California Department of Transportation, Sixth Edition, Updated May 2012.

City of Solvang Criteria

The City of Solvang states, "Maintain a minimum level of service D at all intersections during normal peak hours and level of service E during "average tourist season peak hours" to ensure that traffic delays are kept to a minimum."

Caltrans Criteria

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. While Caltrans has not established traffic thresholds of significance, this traffic analysis utilizes the following traffic threshold of significance:

> A significant project impact occurs at a State highway intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F).

EXISTING CONDITIONS

Street Network

SR 246, located along the southern frontage of the Valley Plaza shopping center, is a two-lane State highway that serves as a major east-west route in the Santa Ynez Valley area. SR 246 provides access to U.S. Highway 1 to the west and SR 154 to the east. Turn lanes are provided at the SR 246/Alamo Pintado Road intersection and the intersection is controlled by traffic signals.

Alamo Pintado Road, located along the eastern frontage of the Valley Plaza shopping center, extends south from Santa Barbara Avenue in Los Olivos to SR 246 in Solvang. The segment of Alamo Pintado Road adjacent to the Valley Plaza center is a four-lane arterial road with a raised median between SR 246 and Old Mission Drive. The Valley Plaza center includes a right-turn only driveway that connects to Alamo Pintado Road (see Figure 1).

Old Mission Drive, located along the northern frontage of the Valley Plaza shopping center, extends west of Alamo Pintado Road and terminates just west of the shopping center. There are two driveways on Old Mission Drive that serve the Valley Plaza center (see Figure 1).

Traffic Counts

Figure 3 illustrates the existing traffic volumes used for this study (traffic count data is attached for reference). Average Daily Traffic (ADT) volumes for SR 246 were obtained from Caltrans. Traffic counts were collected by ATE at the SR 246/Alamo Pintado Road intersection and at the Valley Plaza driveways for this study. The A.M. peak hour counts were collected at the SR 246/Alamo Pintado Road intersection in March 2015 and the P.M. peak hour counts were collected intersection in August 2014. Those traffic counts were compared to historical counts collected at the intersection in March 2012 and it was found that the March 2015 A.M. peak hour counts are higher than the March 2012 counts. The new counts collected in March 2015 were therefore selected for the impact analyses. For the P.M. peak hour, the August 2014 counts are somewhat lower than the March 2012 counts. Thus, the P.M. peak hour counts collected in March 2012 were used for the analysis. Pedestrian and bicycle counts were also collected for the impact analysis in March 2015 at the SR 246/Alamo Pintado Road intersection and along SR 246 in the vicinity of the new driveway that is proposed on SR 246.

Existing Levels of Service

Existing delays and levels of service were calculated for the SR 246/Alamo Pintado Road intersection and the Valley Plaza center driveways using the operations methodology provided in the Highway Capacity Manual.[2] Table 2 shows the Existing delays and levels of service. Level of service calculation worksheets are attached for reference.

Table 2
Existing Levels of Service

Intersection	Control	Delay/LOS A.M. Peak	Delay/LOS P.M. Peak
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	23.9 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.0 Sec/LOS A	6.7 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.4 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	3.1 Sec/LOS A	1.9 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	10.4 Sec/LOS B
Delays and levels of service based on Highway Capacity Manual procedures.			

[2] Highway Capacity Manual, Transportation Research Board, 2010.

As shown in Table 2, the SR 246/Alamo Pintado Road intersection currently operates at LOS C during the A.M. and P.M. peak hour periods, which meets the Caltrans LOS C standard and the City's LOS D standard. Delays for turning into and out of the Valley Plaza access driveways are relatively low and equate to LOS A-B operations, which meet City standards.

TRIP GENERATION ANALYSIS

Existing Trip Generation

The traffic counts collected at the Valley Plaza driveways show that the center generates traffic volumes that are in the range of similar shopping centers, as reported in the Institute of Transportation Engineers (ITE) Trip Generation manual.[3] Table 3 compares the traffic generation for the existing Valley Plaza center based on the driveway counts with the traffic generation estimates based on shopping center rates contained in the ITE Trip Generation manual. It is noted that 5,235 SF of the 46,453 SF of building area at the Valley Plaza center was vacant at the time that the traffic counts were collected. The trip generation estimates are therefore based on 41,218 SF of occupied space (46,453 SF building area – 5,235 SF vacant = 41,218 SF occupied). A worksheet showing the detailed calculations is attached for reference.

Table 3
Valley Plaza Center – Existing Uses Trip Generation

Trip Generation Source	Size	A.M. Peak Hour		P.M. Peak Hour	
		Trip Rate(a)	Trips	Trip Rate(a)	Trips
Valley Plaza Counts	41,218 SF	2.21	91	3.93	162
ITE Shopping Center Rates	41,218 SF	0.96	40	3.71	153
(a) Trip rate per 1,000 SF of building area.					

As shown, the Valley Plaza center currently generates 91 A.M. peak hour trips and 162 P.M. peak hour trips based on the traffic counts collected at the center's driveways. Application of ITE rates results in a predicted trip generation of 40 A.M. peak hour trips and 153 P.M. peak hour trips, somewhat lower than the counts collected at the existing center.

Proposed Project Trip Generation

Trip generation estimates were calculated for the proposed 39,250 SF of commercial uses based on the trip rates developed from the existing Valley Plaza center since those rates represent local shopping center conditions and are higher than ITE shopping center rates.

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[3] Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

Trip generation estimates were calculated for the 9 apartment units that are proposed as part of the Project using ITE rates for Apartments (ITE Code 220). Table 4 lists the trip generation estimates for the proposed Valley Station Project. A worksheet showing the detailed calculations is attached for reference.

Table 4
Valley Station Project – Proposed Uses Trip Generation

Use	Size	A.M. Peak Hour		P.M. Peak Hour	
		Trip Rate	Trips	Trip Rate	Trips
Shopping Center(a)	39,250 SF	2.21	87	3.93	154
Apartments(b)	9 DU	0.51	5	0.62	6
Totals			92		160
(a) Shopping center trip rates per 1,000 SF of building area based on local study.					
(b) Apartment trips rates per dwelling unit based on ITE apartment rates (ITE Code 220).					

As shown in Table 4, the Project would generate 92 A.M. peak hour trips and 160 P.M. peak hour trips.

Net Trip Generation

Impacts generated by the Project are assessed based on the net change in traffic generated at the site. Table 5 lists the net change in traffic as a result of the Project (proposed Valley Station center minus existing Valley Plaza center). For reference, the table includes average daily trips as well as trips during the A.M. and P.M. peak hour periods.

Table 5
Valley Station Project – Net Trip Generation

Scenario	Trip Generation		
	ADT(a)	A.M. Trips	P.M. Trips
Proposed Project	1,736	92	160
Existing Center	1760	91	162
Net Trip Generation	-24	+1	-2
(a) Average Daily Trips based on ITE rates for shopping centers.			

As shown in Table 5, the proposed Project would generate about the same level of traffic that is currently generated at the site.

PROJECT IMPACTS

The trip generation analysis found that the proposed Valley Station Project would generate about the same level of traffic that is currently generated by the existing Valley Plaza center. Potential impacts generated by the project would occur as a result of the access and circulation changes that are proposed by the Project. Figure 4 shows the traffic pattern for the existing Valley Center at the SR 246/Alamo Pintado Road intersection and at the existing shopping center driveways. Figure 5 shows the traffic pattern for the proposed Project at the SR 246/Alamo Pintado Road intersection and at the proposed shopping center driveways.

Levels of service were calculated assuming the Existing + Project volumes shown on Figure 6. These forecasts represent the net change in traffic that would result from the Project (proposed Valley Station traffic minus existing Valley Plaza traffic). Tables 6 and 7 compare the Existing and Existing + Project delays and levels of service for the A.M. and P.M. peak hour periods.

Table 6
Existing & Existing + Project Levels of Service – A.M. Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	24.8 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			NA(a)
Inbound Left Turns	Yield	6.0 Sec/LOS A	
Inbound Right Turns	Yield	0.0 Sec/LOS A	
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	3.1 Sec/LOS A	6.3 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	9.4 Sec/LOS A
SR 246/Shopping Center Dwy:		NA(b)	
Inbound Right Turns	Yield		0.0 Sec/LOS A
Outbound Right Turns	Stop Sign		15.4 Sec/LOS C

(a) Not Applicable. Driveway eliminated as part of proposed Project.
(b) Not Applicable. Driveway not present for Existing conditions.

Table 7
Existing & Existing + Project Levels of Service – P.M. Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	23.9 Sec/LOS C	24.0 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			NA(a)
Inbound Left Turns	Yield	6.7 Sec/LOS A	
Inbound Right Turns	Yield	0.0 Sec/LOS A	
Outbound Left+Right Turns	Stop Sign	8.4 Sec/LOS A	
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	1.9 Sec/LOS A	6.6 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.6 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	10.4 Sec/LOS B	10.2 Sec/LOS B
SR 246/Shopping Center Dwy:		NA(b)	
Inbound Right Turns	Yield		0.0 Sec/LOS A
Outbound Right Turns	Stop Sign		18.2 Sec/LOS C

(a) Not Applicable. Driveway eliminated as part of proposed Project.
(b) Not Applicable. Driveway not present for Existing conditions.

The delays and levels of service listed in Table 6 and 7 show that the study-area intersections are forecast to operate at LOS C or better during the A.M. and P.M. peak hour periods, which meet Caltrans and City standards. Constructing the new driveway on SR 246 and eliminating the west driveway on Old Mission Drive would change the pattern of traffic at the shopping center. Most of the trips that are inbound to the center from SR 246 east of Alamo Pintado Road would proceed through the SR 246/Alamo Pintado Road intersection and turn right into the new driveway - instead of turning right onto Alamo Pintado Road and then left onto Old Mission Drive to enter the site. Also, most of the trips that are outbound from the center that travel west on SR 246 toward Solvang would turn right from the new driveway – instead of exiting the existing driveways on Old Mission Drive and on Alamo Pintado Road and then traveling through the SR 246/Alamo Pintado Road intersection.

The following text Project's impact to SR 246/Alamo Pintado Road intersection and at the shopping center driveways.

<u>SR 246/Alamo Pintado Road</u>. The proposed Project would have a negligible effect on delays at the SR 246/Alamo Pintado Road intersection during the A.M. and P.M. peak hour period. The intersection would continue to operate at LOS C during the A.M. and P.M. peak hour

periods, which meets the Caltrans LOS C standard. The Project would result in a net reduction of 8 A.M. peak hour trips and 29 P.M. peak hour trips at the intersection, a beneficial impact.

Old Mission Drive/Shopping Center West Driveway. The western driveway that currently serves the existing center would be eliminated. Traffic would be reduced in this vicinity, a beneficial impact.

Old Mission Drive/Shopping Center East Driveway. This driveway would be retained in its current location. Traffic volumes would be slightly higher at this location, but relatively low (total of 46 shopping center trips during the A.M. peak hour and 73 trips during the P.M. peak hour). Delays at this location equate to LOS A operations, which meet the City's LOS D standard.

Alamo Pintado Road/Shopping Center Driveway. This driveway would be retained in its current location. Traffic volumes would continue to be relatively low at this driveway (21 A.M. peak hour trips and 43 P.M. peak hour trips). Delays at this location equate to LOS A-B operations, which meet the City's LOS D standard.

SR 246/Shopping Center Driveway. As shown in Tables 6 and 7, delays for turning right from the proposed new driveway equate to LOS C, which meets the Caltrans LOS C standard. The analysis shows that there are adequate gaps for exiting the driveway during the A.M. and P.M. peak hour periods (delays would be lower during non-peak periods). The operational analysis assumes that the new driveway would be constructed to Caltrans standards, including acceleration and deceleration lanes on SR 246, lane widths, radii of turn lanes, sight distances, etc. The posted speed limit is currently 45 MPH in the vicinity of the new driveway. Field review during the A.M. and P.M. peak commuter periods found westbound vehicles speeds in the 30-45 MPH range, with most of the traffic flow near the lower end of speed range (30-35 MPH). It is noted that Caltrans is in the process of reducing speed limits along SR 246. The current 45 MPH speed limit in the vicinity of the new driveway will be reduced to 40 MPH in the coming months.

Alamo Pintado Road/Old Mission Drive. Operational analysis was not undertaken for the Alamo Pintado Road/Old Mission Drive intersection since the proposed project would reduce traffic at the intersection. Eliminating the western driveway on Old Mission Road and adding the new driveway on SR 246 would result in a net reduction of 24 A.M. peak hour trips and 41 P.M. peak hour trips at the Alamo Pintado Road/Old Mission Drive intersection, a beneficial impact.

SR 246/High Meadow Drive. Operational analysis was not undertaken for SR 246/High Meadow intersection since the proposed Project would result in a slight reduction in traffic generated at the site and at the intersection.

ALTERNATIVE TRAVEL MODES

Pedestrian and bicycle counts were collected at the SR 246/Alamo Pintado Road intersection and along SR 246 in the vicinity of the new driveway that is proposed on SR 246 (count data attached). The pedestrian and bicycle volumes were included in the preceding delay/LOS analyses.

A total of 12 pedestrians and 2 bicyclists crossed the SR 246/Alamo Pintado Road intersection during the 2-hour A.M. peak commuter period (7-9 A.M.); and 10 pedestrians and 3 bicyclists crossed the intersection during the 2-hour P.M. peak commuter period (4-6 P.M.). The counts show 1 pedestrian and 1 bicyclist traveling westbound along SR 246 in the vicinity of the new driveway during the 2-hour peak commuter period; and 0 pedestrians and 2 bicyclists during the 2-hour P.M. peak commuter period.

The proposed Project includes a new sidewalk on the north side of SR 246 that would connect between the existing sidewalk near the SR 246/Alamo Pintado Road intersection and the new driveway proposed on SR 246 (see Figure 2 – Conceptual Site Plan). The new sidewalk also extends within the Project site along the east side of the new driveway.

The new sidewalk facilities would be a benefit to pedestrians in the vicinity of the Project site. During the field studies, there were two groups of pedestrians (a group of 4 and a group of 2) observed crossing the SR 246/Alamo Pintado Road intersection that then considered walking westbound along SR 246 towards downtown Solvang (a relatively short distance of about ½ mile between the Valley Plaza center and the SR 246/Alisal Road intersection near downtown). Instead of walking along SR 246, those two groups decided to walk through the Valley Plaza center and then walk westbound along Old Mission Drive toward Solvang.

The new sidewalk proposed along the north side of SR 246 between the SR 246/Alamo Pintado Road intersection and the new driveway (and into the Project site) would provide a more direction connection for these pedestrian flows. Furthermore, the proposed Project includes a new shelter at the existing bus stop located on the west side of Alamo Pintado Road adjacent to the site. The improved bus stop would enhance the attractiveness for pedestrian trips in the Project vicinity and the new sidewalk facilities would improve the walking environment for pedestrians.

As noted, there was 1 bicycle traveling westbound along SR 246 in the vicinity of the new driveway during the 2-hour A.M. peak commuter period and 2 bicycles during the 2-hour P.M. peak commuter period. The shoulders along SR 246 are marked as bike lanes in the Project vicinity (bike lanes on both sides of SR 246). The proposed new driveway includes a westbound bike lane across the driveway intersection. SR 246 is relatively straight adjacent to the new driveway and there would be good inter-visibility between vehicles using the driveway and bicyclists traveling along SR 246 assuming that the new driveway intersection is constructed to Caltrans standard. Thus, the new driveway would not significantly impact bicycle flows along SR 246.

CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Program (CMP) roadway system. SR 246 is part of the CMP system. Pursuant to the CMP impact criteria, potential impacts to SR 246 are based on operations at intersections since SR 246 is a signalized route.

CMP impact criteria state that projects that generate less than 500 daily trips and less than 50 peak hour trips are considered to be consistent with the CMP. As shown in Table 5, the Project would result in a net decrease in daily traffic (-24 daily trips) and less than 50 peak hour trips (+1 A.M. peak hour trip and -2 P.M. peak hour trips). Thus, the Project would not impact SR 246 based on adopted CMP criteria.

This concludes our traffic study for the Valley Station Shopping Center Project. We appreciate the opportunity to assist you the project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

Attachments

Source: Google Earth

ASSOCIATED
TRANSPORTATION
ENGINEERS

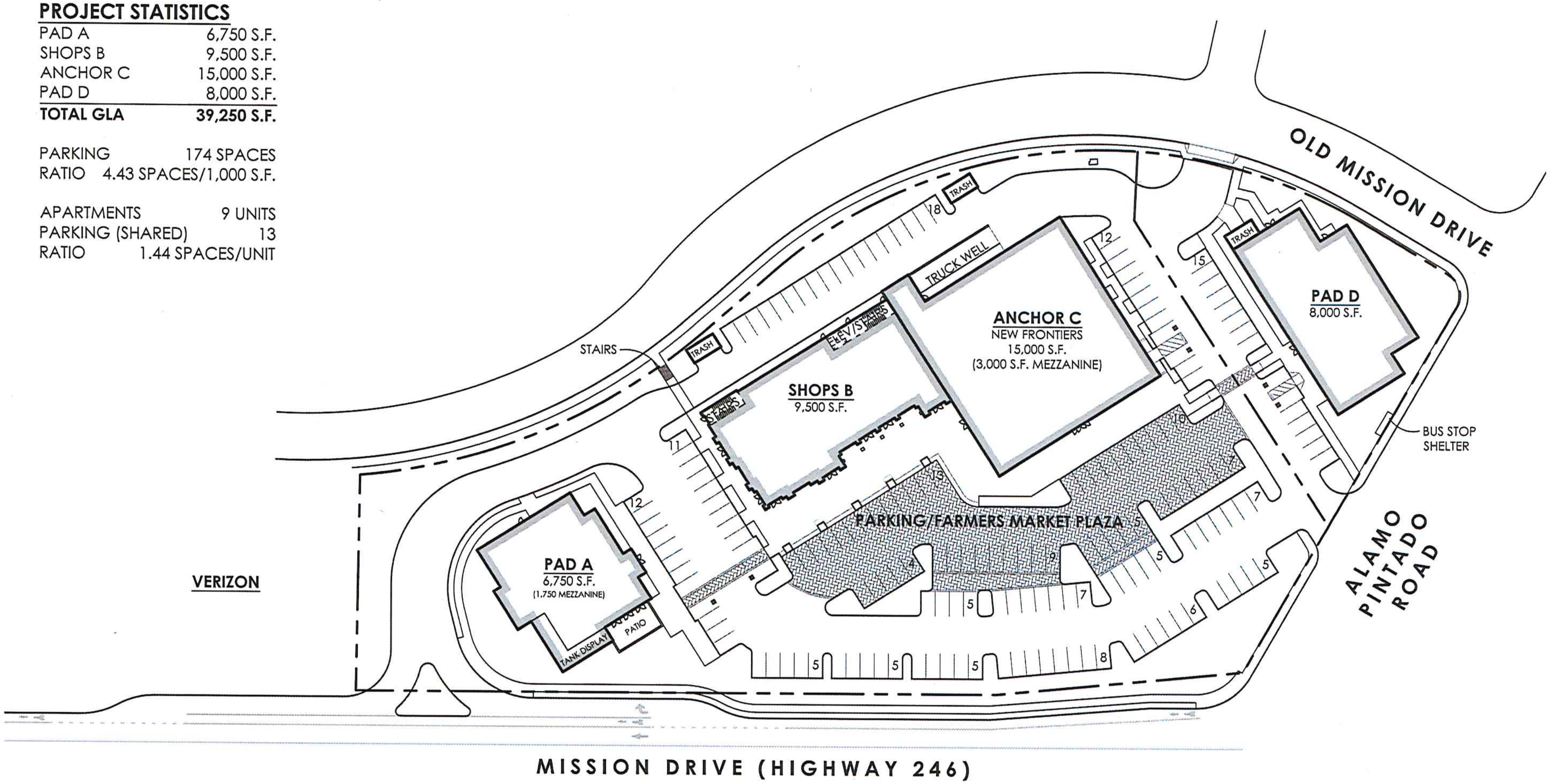
EXISTING PROJECT SITE

FIGURE 1

MMF - #14056

PROJECT STATISTICS

PAD A	6,750 S.F.
SHOPS B	9,500 S.F.
ANCHOR C	15,000 S.F.
PAD D	8,000 S.F.
TOTAL GLA	**39,250 S.F.**
PARKING	174 SPACES
RATIO	4.43 SPACES/1,000 S.F.
APARTMENTS	9 UNITS
PARKING (SHARED)	13
RATIO	1.44 SPACES/UNIT



CONCEPTUAL SITE PLAN

11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"

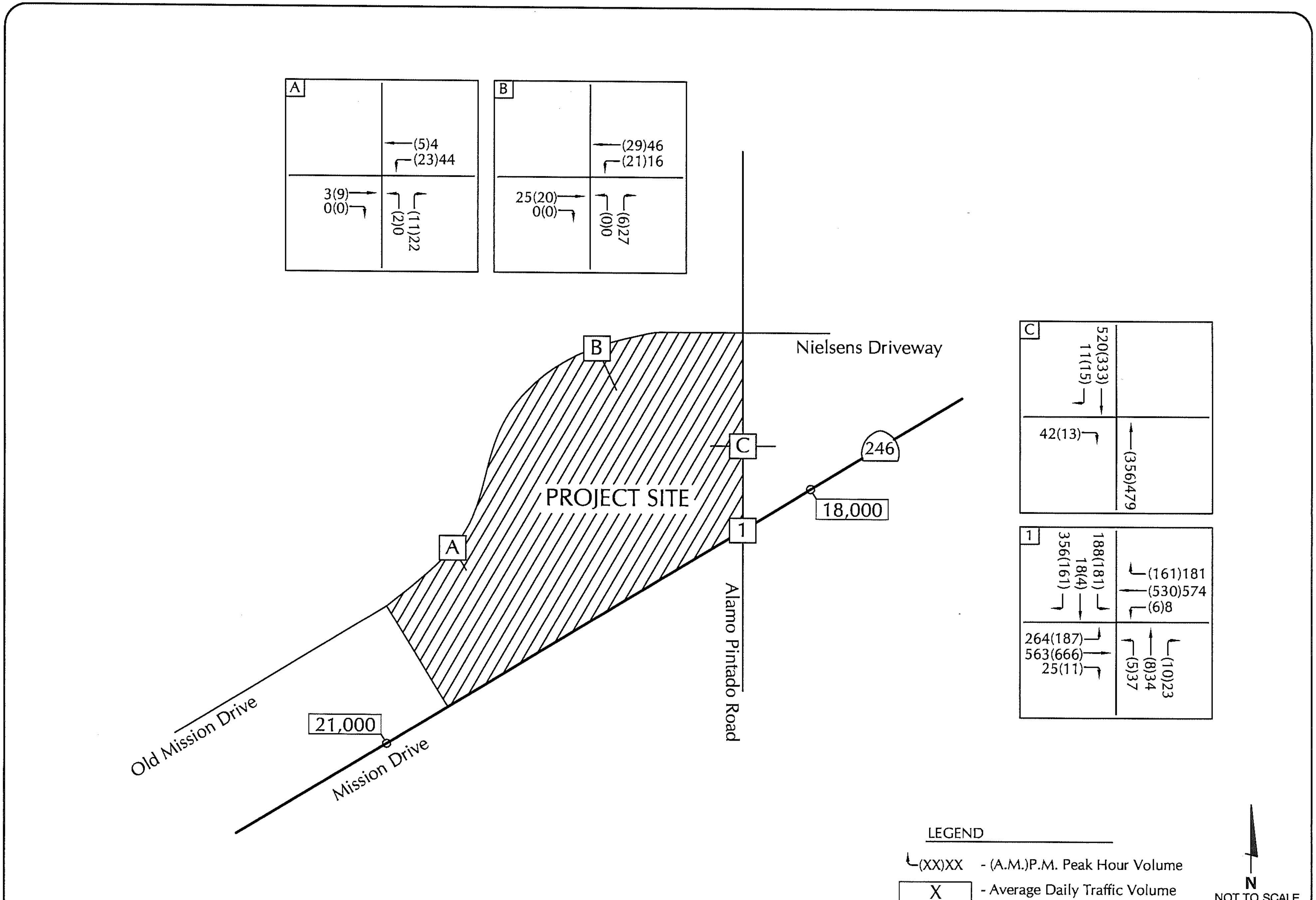
Arris STUDIO ARCHITECTS | New Frontiers natural marketplace | VALLEY STATION SCHEMATIC DESIGN Solvang, CA | CONCEPTUAL SITE PLAN | TRUE NORTH | 03-06-2015 | 1

ASSOCIATED TRANSPORTATION ENGINEERS

VALLEY STATION CONCEPTUAL SITE PLAN

FIGURE 2

MMF - #14056

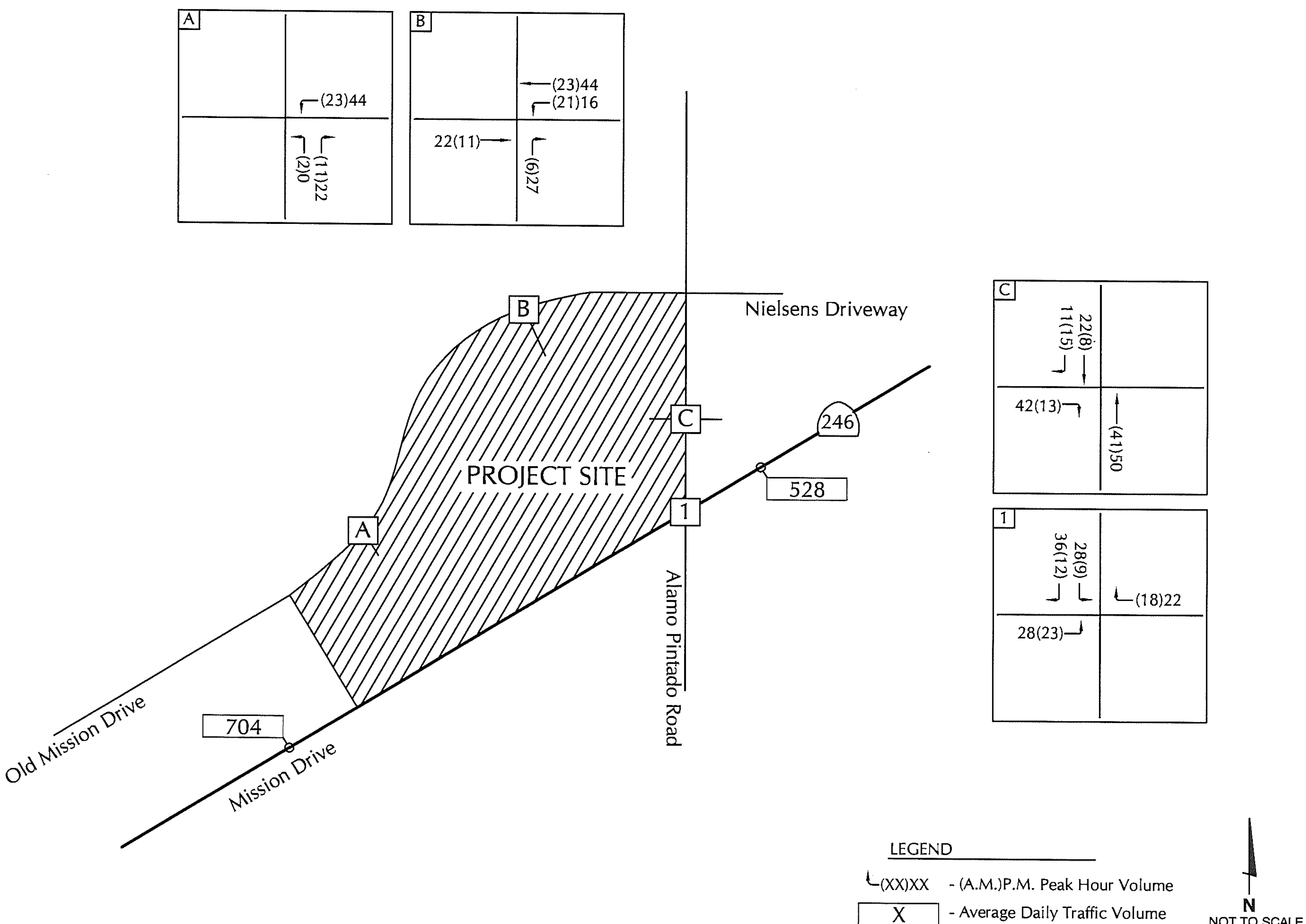


ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING TRAFFIC VOLUMES

FIGURE 3

MMF - #14056

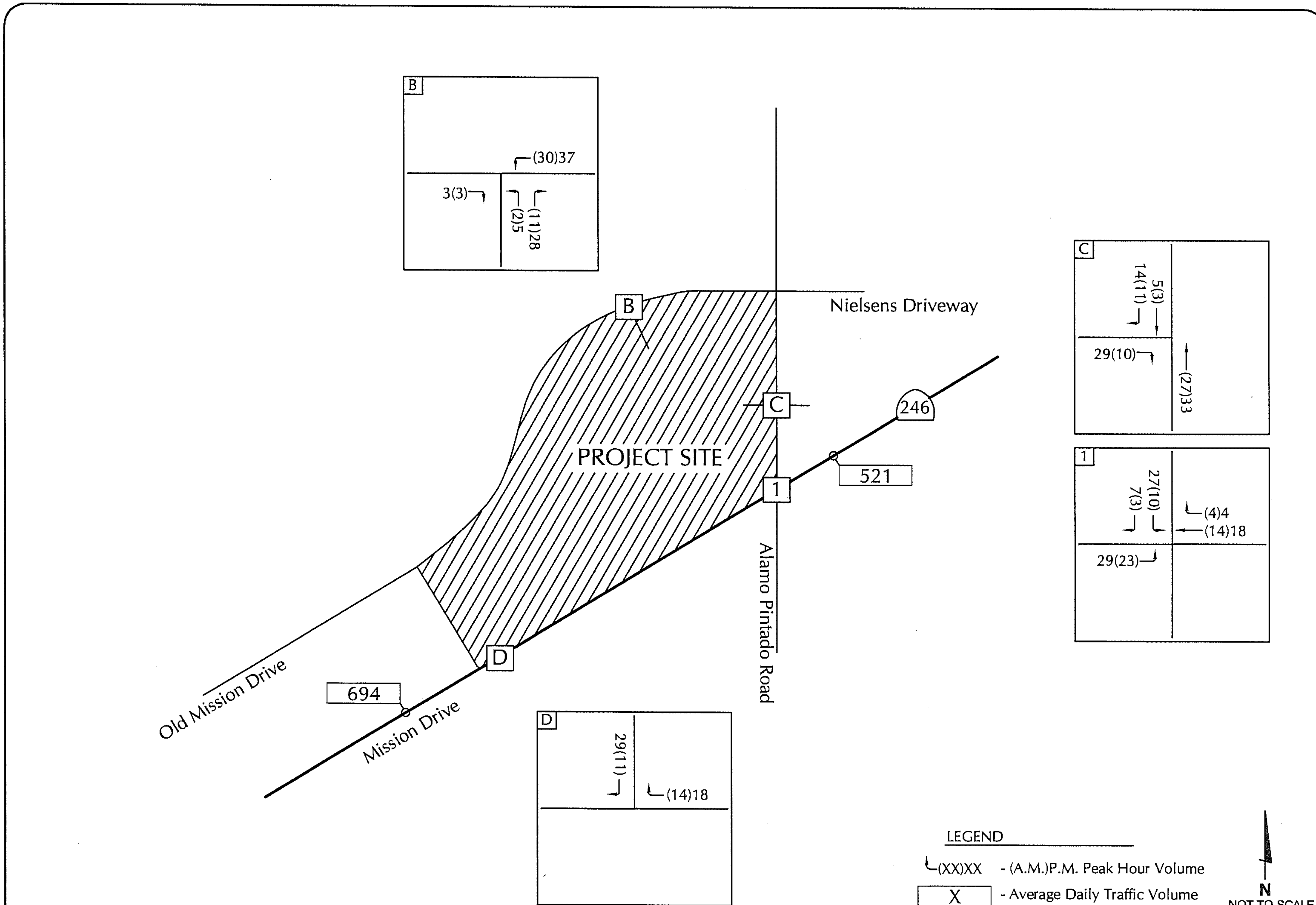


ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING VALLEY PLAZA CENTER TRAFFIC VOLUMES

FIGURE 4

MMF - #14056

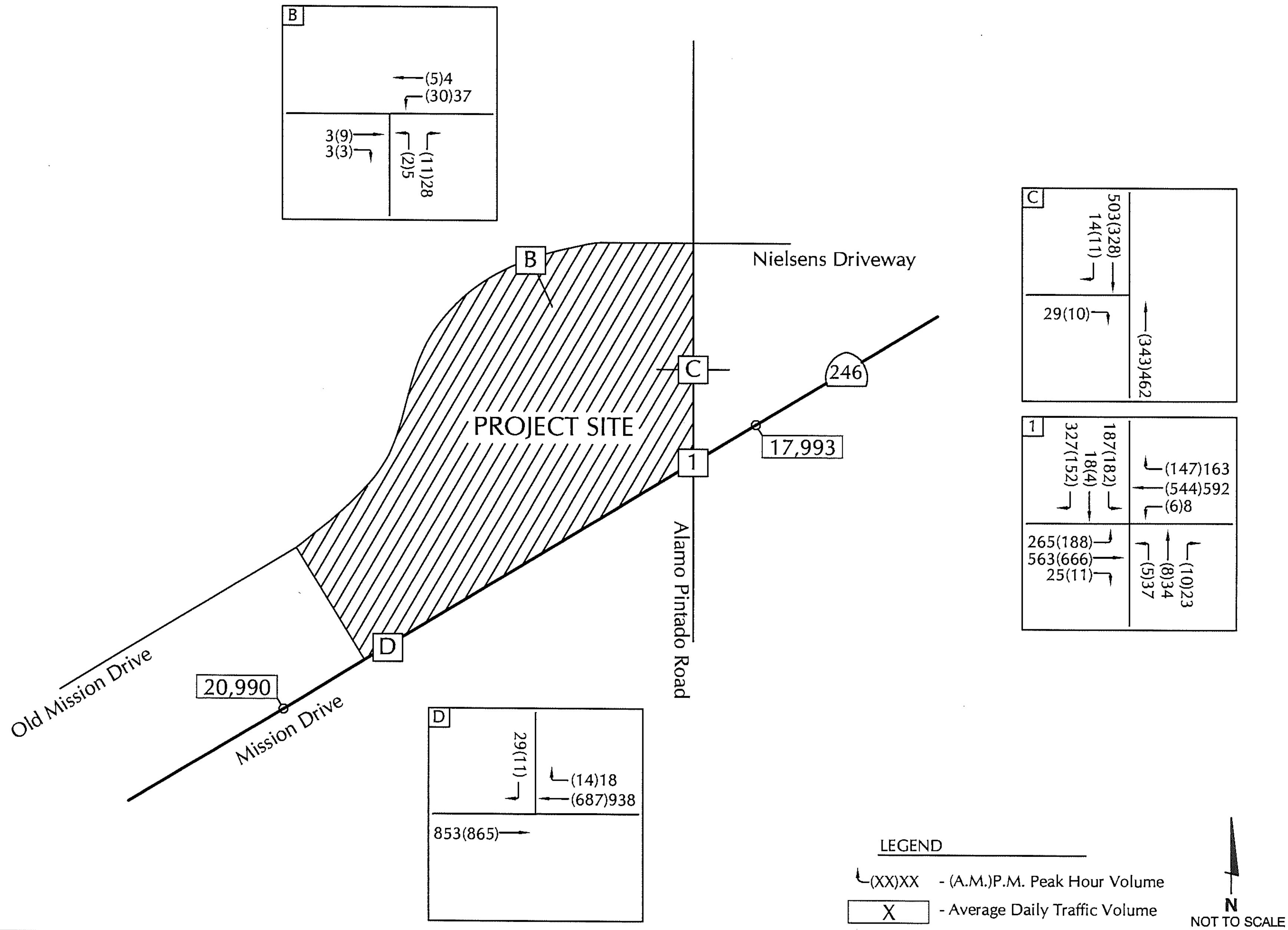


ASSOCIATED TRANSPORTATION ENGINEERS

PROPOSED VALLEY STATION CENTER TRAFFIC VOLUMES

FIGURE 5

MMF - #14056



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING + PROJECT TRAFFIC VOLUMES

FIGURE 6

MMF - #14056

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-001

City: Solvang

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	

Peak Hour Summary

N

Alamo Pintado Rd

SR-246

CONTROL

Southbound Approach

Lanes

	Right	Thru	Left	Out
AM	161	4	181	356
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Out	696	0	0
Left	187	0	0
Thru	666	0	0
Right	11	0	0

Lanes

Westbound Approach

	AM	NOON	PM
Right	161	0	0
Thru	530	0	0
Left	6	0	0
Out	857	0	0

Lanes

Northbound Approach

	Out	Left	Thru	Right
AM	21	5	8	10
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

Leg	AM		NOON		PM	
North Leg	346	356	0	0	0	0
West Leg	696	864	0	0	0	0
East Leg	697	857	0	0	0	0
South Leg	21	23	0	0	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	702	0	0
West Leg	1560	0	0
East Leg	1554	0	0
South Leg	44	0	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

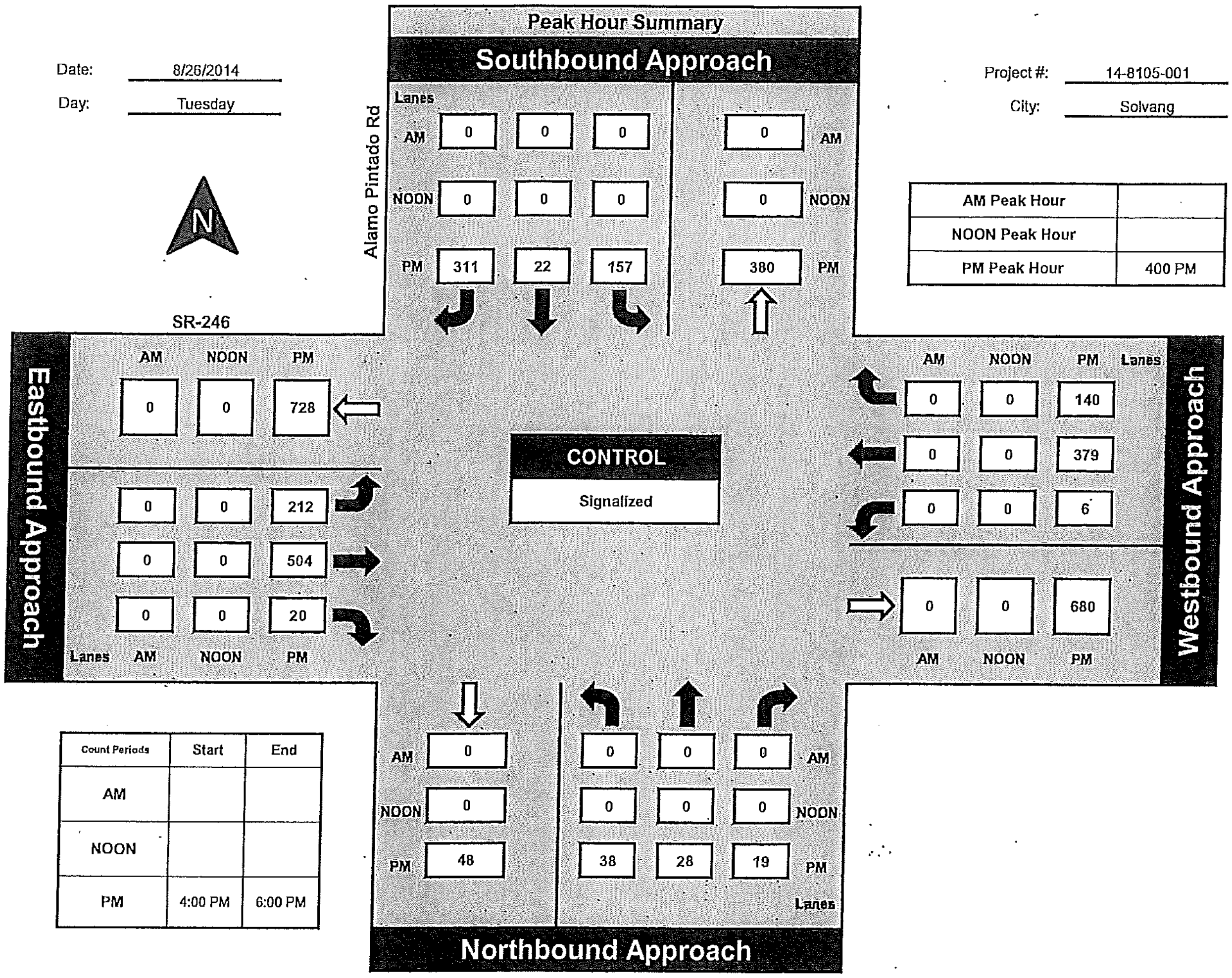
Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-001

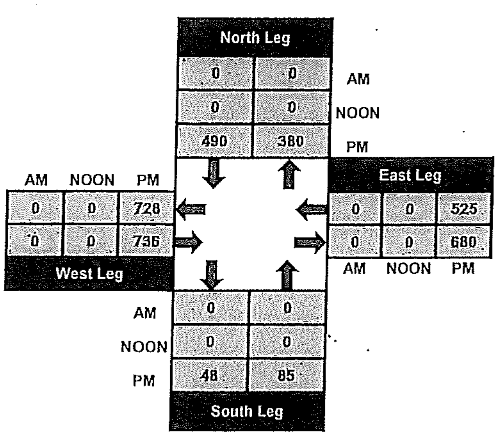
City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

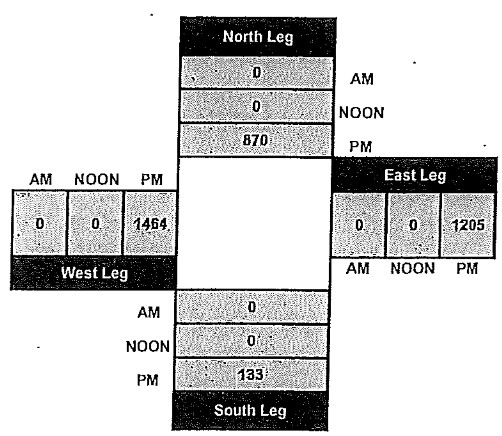


Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

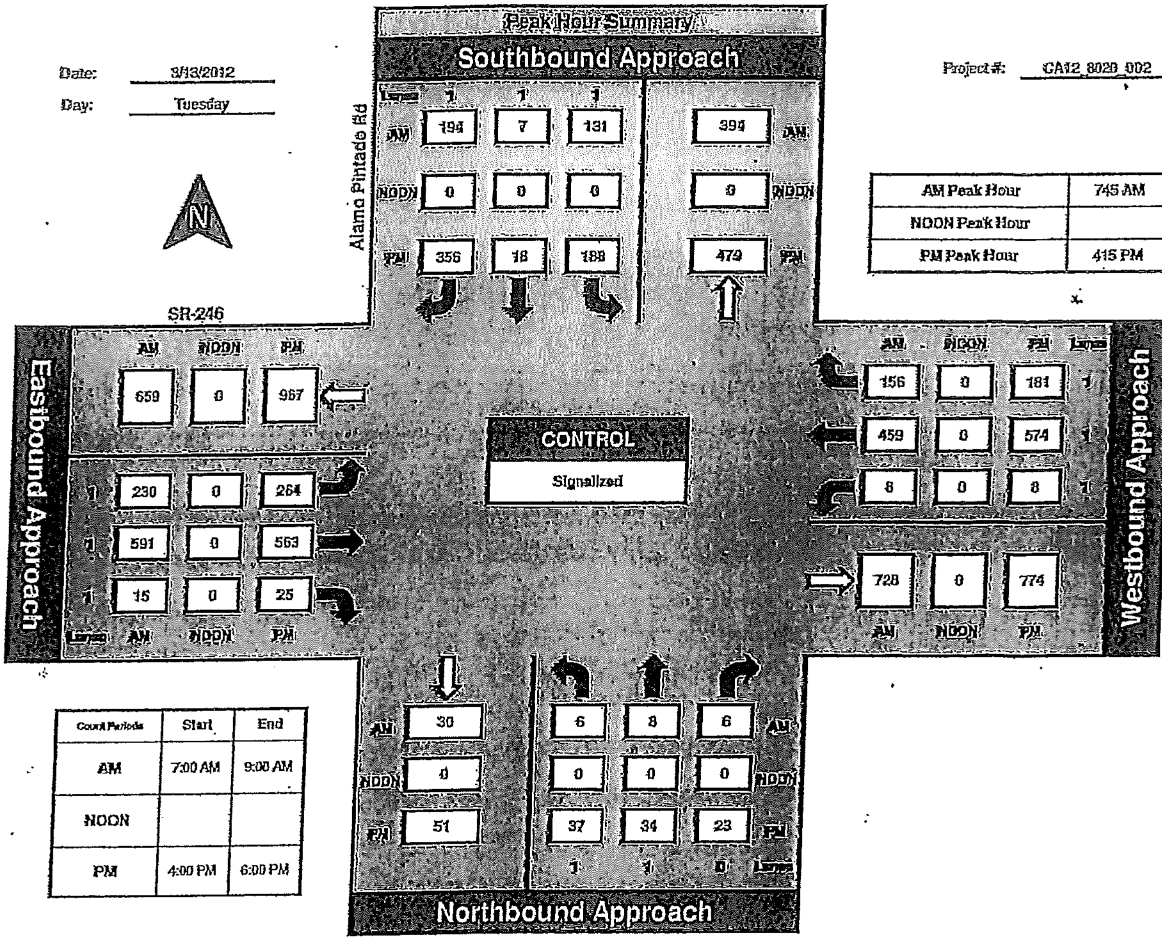
Alamo Pintado Rd and SR-246 , City of Solvang

Date: 3/13/2012

Day: Tuesday

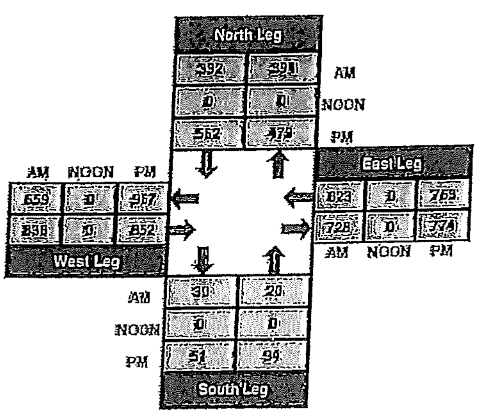
Project #: CA12_8020_002

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	415 PM

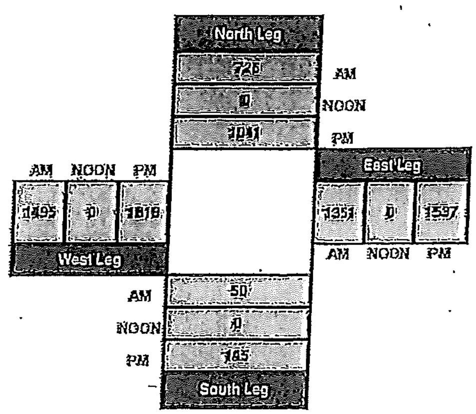


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



149

Dwy A

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and 1st Dwy , Solvang

Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-004

City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	500 PM

N

Peak Hour Summary

Southbound Approach

Old Mission Dr

Lanes					
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Eastbound Approach

1st Dwy

	AM	NOON	PM
	0	0	4
	0	0	0
	0	0	3
	0	0	0
Lanes	AM	NOON	PM

CONTROL

No Control

Westbound Approach

AM	NOON	PM	Lanes
0	0	0	
0	0	4	
0	0	44	
0	0	25	
AM	NOON	PM	

Northbound Approach

AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	44	0	0	22	PM
					Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

0	0	AM
0	0	NOON
0	0	PM

West Leg

AM	NOON	PM
0	0	4
0	0	3

East Leg

AM	NOON	PM
0	0	48
0	0	25

South Leg

AM	0	0
NOON	0	0
PM	44	22

Total Volume Per Leg

North Leg

0	AM
0	NOON
0	PM

West Leg

AM	NOON	PM
0	0	7

East Leg

AM	NOON	PM
0	0	73

South Leg

AM	0
NOON	0
PM	66

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Commercial Dwy and Old Mission Dr , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-004

City: Solvang

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

N

Commercial Dwy

Old Mission Dr

Peak Hour Summary

Southbound Approach

Lanes

	Left	Through	Right	Out
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Out	7	0	0
Left	0	0	0
Through	9	0	0
Right	0	0	0

Lanes

Westbound Approach

	AM	NOON	PM
Right	0	0	0
Through	5	0	0
Left	23	0	0
Out	20	0	0

Lanes

CONTROL

Northbound Approach

	Out	Left	Through	Right
AM	23	2	0	11
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

	In	Out
AM	0	0
NOON	0	0
PM	0	0

West Leg

	AM	NOON	PM
Out	7	0	0
In	9	0	0

East Leg

	AM	NOON	PM
In	28	0	0
Out	20	0	0

South Leg

	Out	In
AM	23	13
NOON	0	0
PM	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	0
West Leg	16	0	0
East Leg	48	0	0
South Leg	36	0	0

Dwy B

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and Commercial Dwy , Solvang

Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-003

City: Solvang

N

Old Mission Dr

Commercial Dwy

Peak Hour Summary

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	415 PM

Southbound Approach

Lanes	Right	Through	Left	Out (northbound departure)
AM	0	0	0	0
NOON	0	0	0	0
PM	2	0	7	7

Eastbound Approach

	AM	NOON	PM
Out (westbound departure)	0	0	46
Left	0	0	1
Through	0	0	24
Right	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	5
Through	0	0	44
Left	0	0	16
Out (eastbound departure)	0	0	57

CONTROL

1-Way Stop (SB)

Northbound Approach

Lanes	Out (southbound departure)	Left	Through	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	16	0	1	26

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg	Out	In
AM	0	0
NOON	0	0
PM	9	7

West Leg	AM	NOON	PM
Out	0	0	46
In	0	0	25

East Leg	AM	NOON	PM
In	0	0	65
Out	0	0	57

South Leg	Out	In
AM	0	0
NOON	0	0
PM	16	27

Total Volume Per Leg

	North Leg	South Leg
AM	0	0
NOON	0	0
PM	16	43

	AM	NOON	PM
West Leg	0	0	71
East Leg	0	0	122

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Hillside Dr/Commercial Dwy and Old Mission Dr , Solvang

Peak Hour Summary

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-003

City: Solvang

N

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

Southbound Approach

Hillside Dr/Commercial Dwy

Lanes	Left	Through	Right	Exit
AM	0	0	9	9
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

Old Mission Dr

Lanes	AM	NOON	PM
Exit	29	0	0
Left	0	0	0
Through	20	0	0
Right	0	0	0

CONTROL

Westbound Approach

Lanes	AM	NOON	PM
Right	9	0	0
Through	29	0	0
Left	21	0	0
Exit	35	0	0

Northbound Approach

Lanes	Exit	Left	Through	Right
AM	21	0	0	6
NOON	0	0	0	0
PM	0	0	0	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

Leg	Period	Out	In
North Leg	AM	9	9
North Leg	NOON	0	0
North Leg	PM	0	0
South Leg	AM	21	6
South Leg	NOON	0	0
South Leg	PM	0	0

Leg		AM	NOON	PM
West Leg	Out	29	0	0
West Leg	In	20	0	0
East Leg	In	59	0	0
East Leg	Out	35	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	18	0	0
West Leg	49	0	0
East Leg	94	0	0
South Leg	27	0	0

Dwy C

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-002

City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

N

Alamo Pintado Rd

Commercial Dwy

Peak Hour Summary

Southbound Approach

Lanes				Out
AM	0	0	0	0
NOON	0	0	0	0
PM	11	454	0	398

Eastbound Approach

	AM	NOON	PM
Out	0	0	11
Left	0	0	0
Through	0	0	5
Right	0	0	37

Lanes

Westbound Approach

Lanes	AM	NOON	PM
Left	0	0	23
Through	0	0	0
Right	0	0	0
Out	0	0	13

CONTROL

No Control

Northbound Approach

	Out			
AM	0	0	0	0
NOON	0	0	0	0
PM	491	0	375	8

Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

AM	0	0
NOON	0	0
PM	465	398

West Leg

AM	NOON	PM
0	0	11
0	0	42

East Leg

AM	NOON	PM
0	0	23
0	0	13

South Leg

AM	0	0
NOON	0	0
PM	491	383

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	863
West Leg	0	0	53
East Leg	0	0	36
South Leg	0	0	874

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-002

City: Solvang

N

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Peak Hour Summary

CONTROL

Southbound Approach (Alamo Pintado Rd)

	Left	Through	Right	Out
AM	15	325	0	403
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach (Commercial Dwy)

	Out	Left	Through	Right
AM	15	0	0	13
NOON	0	0	0	0
PM	0	0	0	0

Westbound Approach

	Right	Through	Left	Out
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Northbound Approach

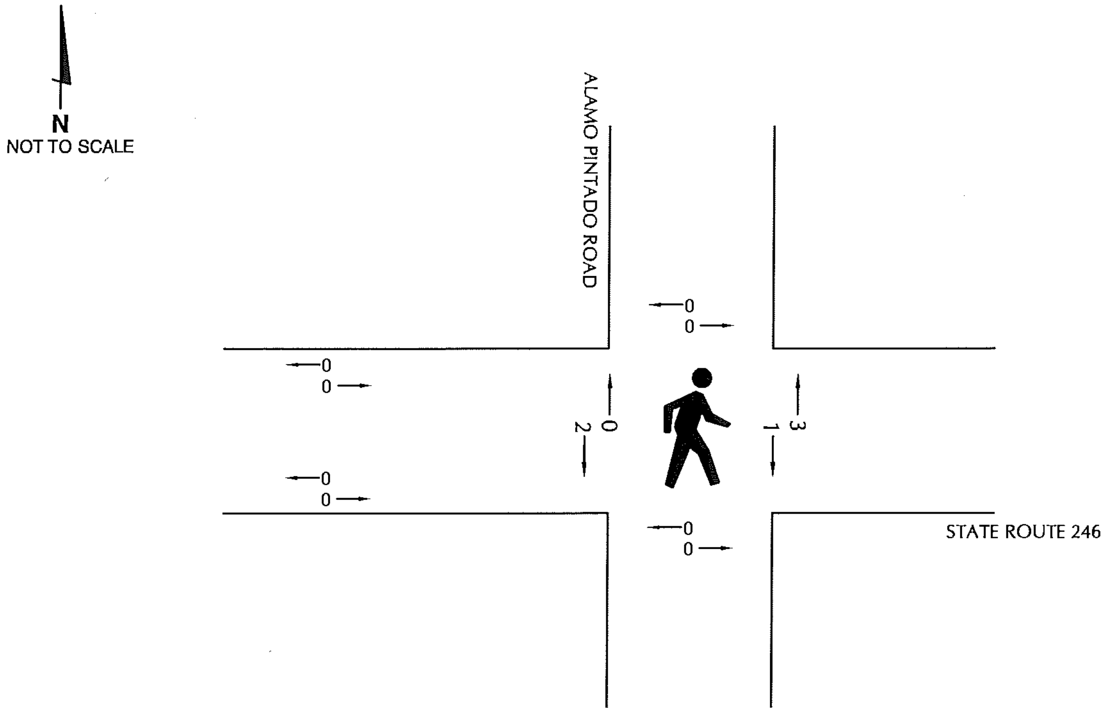
	Out	Left	Through	Right
AM	338	0	403	0
NOON	0	0	0	0
PM	0	0	0	0

Total Ins & Outs

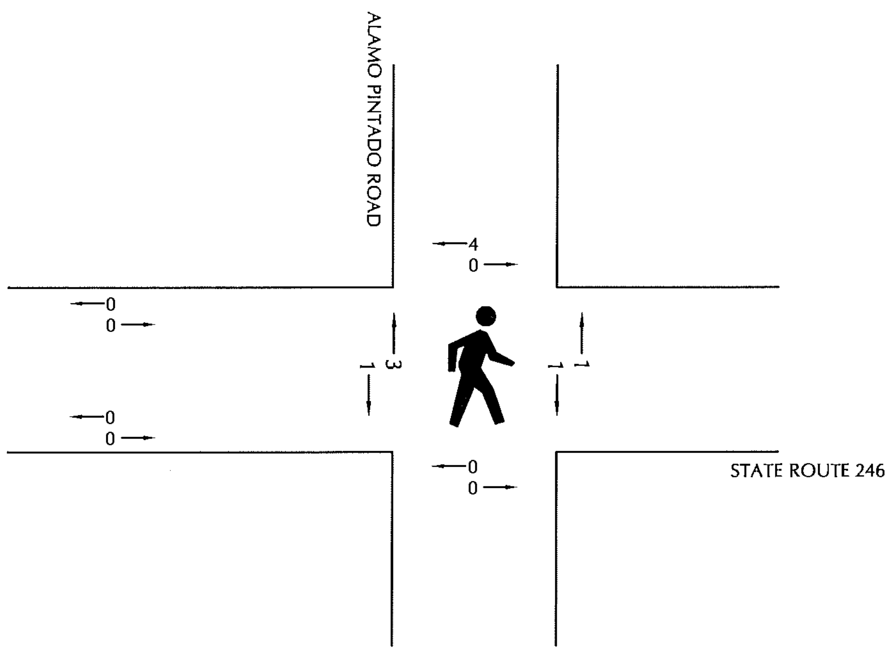
Leg		AM	NOON	PM
North Leg	In	340	0	0
North Leg	Out	403	0	0
West Leg	Out	15	0	0
West Leg	In	13	0	0
East Leg	Out	0	0	0
East Leg	In	0	0	0
South Leg	Out	338	0	0
South Leg	In	403	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	743	0	0
West Leg	28	0	0
East Leg	0	0	0
South Leg	741	0	0



A.M. PEAK PERIOD PEDESTRIAN VOLUMES (7:00 A.M. TO 9:00 A.M.)



P.M. PEAK PERIOD PEDESTRIAN VOLUMES (4:00 P.M. TO 6:00 P.M.)

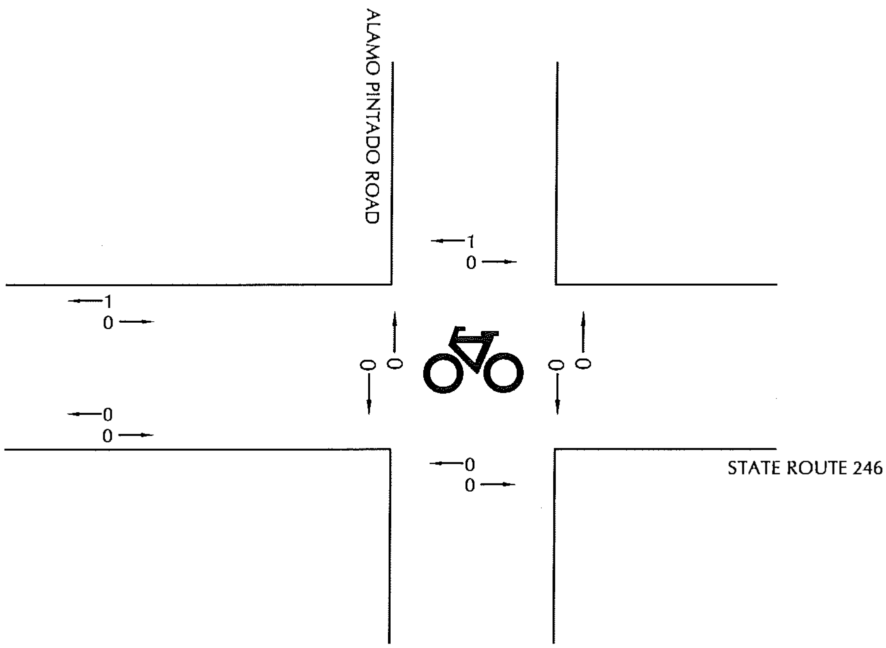
Associated
Transportation
Engineers

PEDESTRIAN VOLUMES

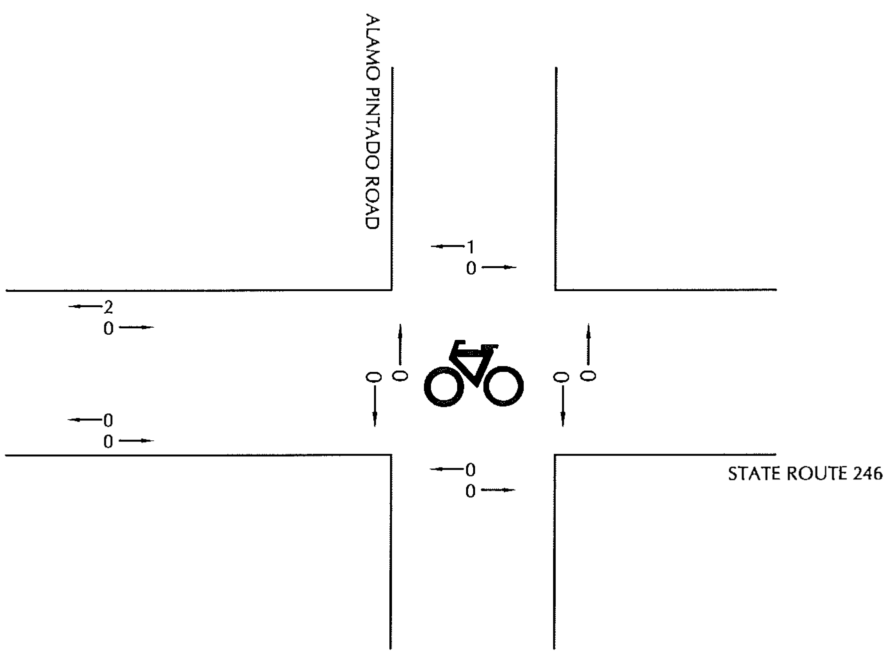
FIGURE A

MMF - #14056

N
NOT TO SCALE



A.M. PEAK PERIOD BICYCLE VOLUMES (7:00 A.M. TO 9:00 A.M.)



P.M. PEAK PERIOD BICYCLE VOLUMES (4:00 P.M. TO 6:00 P.M.)

ASSOCIATED
TRANSPORTATION
ENGINEERS

BICYCLE VOLUMES

FIGURE B

MMF - #14056

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - EXISTING TRIP GENERTION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	41,218	42.70	1,760	2.21	91	65%	59	35%	32	3.93	162	44%	71	56%	91

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	39,250	42.70	1,676	2.21	87	65%	57	35%	30	3.93	154	44%	68	56%	86
2. Apartments(b)	9	6.65	60	0.51	5	20%	1	80%	4	0.62	6	65%	4	35%	2
Project Totals:			1,736		92		58		34		160		72		88

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1726	1652		1722	1827	1529
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1371	1652		1347	1827	1529
Volume (vph)	187	666	11	6	530	161	5	8	10	181	4	161
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	231	822	14	7	654	199	6	10	12	223	5	199
RTOR Reduction (vph)	0	0	6	0	0	115	0	9	0	0	0	83
Lane Group Flow (vph)	231	822	8	7	654	84	6	13	0	223	5	116
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Effective Green, g (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Actuated g/C Ratio	0.17	0.59	0.59	0.01	0.42	0.42	0.27	0.27		0.27	0.27	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	294	1070	886	14	775	647	363	438		357	484	737
v/s Ratio Prot	c0.13	0.45		0.00	c0.36			0.01			0.00	0.03
v/s Ratio Perm			0.01			0.06	0.00			c0.17		0.05
v/c Ratio	0.79	0.77	0.01	0.50	0.84	0.13	0.02	0.03		0.62	0.01	0.16
Uniform Delay, d1	33.8	13.3	7.3	41.9	21.9	14.9	23.0	23.1		27.5	23.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.4	0.0	25.4	8.3	0.1	0.1	0.1		8.0	0.0	0.1
Delay (s)	46.7	16.6	7.3	67.3	30.3	15.0	23.1	23.2		35.5	23.0	14.7
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		23.0			27.0			23.2			25.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	0	23	5	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	25	5	2	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			10		65	10
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			10		65	10
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1597		921	1066

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	10	30	14
Volume Left	0	25	2
Volume Right	0	0	12
cSH	1700	1597	1041
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	6.0	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	20	0	21	29	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	23	32	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			22		99	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			22		99	22
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1581		882	1050

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	22	54	7
Volume Left	0	23	0
Volume Right	0	0	7
cSH	1700	1581	1050
Volume to Capacity	0.01	0.01	0.01
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	3.1	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	3.1	8.5
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	13	0	356	333	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	0	387	362	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	555	181	378			
vC1, stage 1 conf vol	362					
vC2, stage 2 conf vol	193					
vCu, unblocked vol	555	181	378			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	401	824	1163			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	14	193	193	181	181	16
Volume Left	0	0	0	0	0	0
Volume Right	14	0	0	0	0	16
cSH	824	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.11	0.11	0.11	0.11	0.01
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.4	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

EXISTING P.M. PEAK HOUR
1: SR 246 & Alamo Pintado 4/6/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1718	1698		1727	1827	1526
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1347	1698		1306	1827	1526
Volume (vph)	264	563	25	8	574	181	37	34	23	188	18	356
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	275	586	26	8	598	189	39	35	24	196	19	371
RTOR Reduction (vph)	0	0	11	0	0	114	0	18	0	0	0	86
Lane Group Flow (vph)	275	586	15	8	598	75	39	41	0	196	19	285
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Effective Green, g (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Actuated g/C Ratio	0.19	0.58	0.58	0.01	0.40	0.40	0.27	0.27		0.27	0.27	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	334	1062	876	14	726	607	360	454		349	489	775
v/s Ratio Prot	c0.16	0.32		0.00	c0.33			0.02			0.01	0.07
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.12
v/c Ratio	0.82	0.55	0.02	0.57	0.82	0.12	0.11	0.09		0.56	0.04	0.37
Uniform Delay, d1	32.6	10.8	7.4	41.6	22.7	16.1	23.2	23.1		26.5	22.8	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.6	0.0	46.0	7.5	0.1	0.6	0.4		6.4	0.1	0.3
Delay (s)	47.6	11.5	7.4	87.5	30.2	16.2	23.8	23.5		32.9	22.9	15.0
Level of Service	D	B	A	F	C	B	C	C		C	C	B
Approach Delay (s)		22.6			27.5			23.6			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	0	44	4	0	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	48	4	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			3		103	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3		103	3
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	98
cM capacity (veh/h)			1606		864	1075

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	3	52	24
Volume Left	0	48	0
Volume Right	0	0	24
cSH	1700	1606	1075
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	6.7	8.4
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	8.4
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	25	0	16	46	0	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	17	50	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			27		112	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			27		112	27
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1574		870	1043

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	27	67	29
Volume Left	0	17	0
Volume Right	0	0	29
cSH	1700	1574	1043
Volume to Capacity	0.02	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	1.9	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.9	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	42	0	479	520	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	46	0	521	565	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	826	283	577			
vC1, stage 1 conf vol	565					
vC2, stage 2 conf vol	260					
vCu, unblocked vol	826	283	577			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	309	708	979			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	260	260	283	283	12
Volume Left	0	0	0	0	0	0
Volume Right	46	0	0	0	0	12
cSH	708	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.15	0.15	0.17	0.17	0.01
Queue Length 95th (ft)	5	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1726	1652		1722	1827	1529
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1371	1652		1347	1827	1529
Volume (vph)	188	666	11	6	544	147	5	8	10	182	4	152
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	232	822	14	7	672	181	6	10	12	225	5	188
RTOR Reduction (vph)	0	0	6	0	0	102	0	9	0	0	0	84
Lane Group Flow (vph)	232	822	8	7	672	79	6	13	0	225	5	104
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.4	50.4	50.4	0.7	36.7	36.7	21.5	21.5		21.5	21.5	35.9
Effective Green, g (s)	14.4	50.4	50.4	0.7	36.7	36.7	21.5	21.5		21.5	21.5	35.9
Actuated g/C Ratio	0.17	0.60	0.60	0.01	0.43	0.43	0.25	0.25		0.25	0.25	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	295	1088	902	14	793	662	348	420		342	464	721
v/s Ratio Prot	c0.13	0.45		0.00	c0.37			0.01			0.00	0.02
v/s Ratio Perm			0.01			0.05	0.00			c0.17		0.04
v/c Ratio	0.79	0.76	0.01	0.50	0.85	0.12	0.02	0.03		0.66	0.01	0.14
Uniform Delay, d1	33.6	12.6	7.0	41.8	21.4	14.3	23.6	23.7		28.3	23.6	14.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.0	0.0	25.4	8.4	0.1	0.1	0.1		9.5	0.0	0.1
Delay (s)	46.5	15.6	7.0	67.2	29.8	14.4	23.7	23.9		37.8	23.6	15.0
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		22.2			26.9			23.8			27.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	3	30	5	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	3	33	5	2	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			13		82	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			13		82	11
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1592		896	1064

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	38	14
Volume Left	0	33	2
Volume Right	3	0	12
cSH	1700	1592	1034
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	2	1
Control Delay (s)	0.0	6.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	10	0	343	328	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	11	0	373	357	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	543	178	368			
vC1, stage 1 conf vol	357					
vC2, stage 2 conf vol	186					
vCu, unblocked vol	543	178	368			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	406	828	1172			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	11	186	186	178	178	12
Volume Left	0	0	0	0	0	0
Volume Right	11	0	0	0	0	12
cSH	828	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.11	0.11	0.10	0.10	0.01
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.4	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*SR 246/NEW DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*CALTRANS*
Date Performed	*4/6/2015*	Analysis Year	*EXISTING + PROJECT*
Analysis Time Period	*A.M. PEAK HOUR*		

Project Description	
East/West Street: *SR 246*	North/South Street: *NEW DRIVEWAY (DWY D)*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		853			687	14
Peak-Hour Factor, PHF	1.00	0.81	1.00	1.00	0.81	0.81
Hourly Flow Rate, HFR (veh/h)	0	1053	0	0	848	17
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			1
Lanes	0	1	0	0	1	1
Configuration		T			T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						11
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	0.81
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	13
Percent Heavy Vehicles	0	0	0	0	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			1
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								13
C (m) (veh/h)								358
v/c								0.04
95% queue length								0.11
Control Delay (s/veh)								15.4
LOS								C
Approach Delay (s/veh)	--	--				15.4		
Approach LOS	--	--				C		

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EXISTING + PROJECT P.M. PEAK HOUR
1: SR 246 & Alamo Pintado 4/6/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1725	1698		1727	1827	1537
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1353	1698		1306	1827	1537
Volume (vph)	265	563	25	8	592	163	37	34	23	187	18	327
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	276	586	26	8	617	170	39	35	24	195	19	341
RTOR Reduction (vph)	0	0	11	0	0	101	0	18	0	0	0	87
Lane Group Flow (vph)	276	586	15	8	617	69	39	41	0	195	19	254
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.2	49.7	49.7	0.7	34.2	34.2	21.5	21.5		21.5	21.5	37.7
Effective Green, g (s)	16.2	49.7	49.7	0.7	34.2	34.2	21.5	21.5		21.5	21.5	37.7
Actuated g/C Ratio	0.19	0.59	0.59	0.01	0.41	0.41	0.26	0.26		0.26	0.26	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	335	1082	892	14	745	623	347	435		335	468	764
v/s Ratio Prot	c0.16	0.32		0.00	c0.34			0.02			0.01	0.06
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.10
v/c Ratio	0.82	0.54	0.02	0.57	0.83	0.11	0.11	0.09		0.58	0.04	0.33
Uniform Delay, d1	32.5	10.3	7.0	41.5	22.2	15.4	23.9	23.8		27.3	23.4	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.6	0.0	46.0	7.6	0.1	0.7	0.4		7.2	0.2	0.3
Delay (s)	47.5	10.8	7.1	87.4	29.8	15.5	24.5	24.2		34.5	23.6	15.2
Level of Service	D	B	A	F	C	B	C	C		C	C	B
Approach Delay (s)		22.1			27.3			24.3			22.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	3	37	4	5	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	40	4	5	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			7		90	5
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			7		90	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		99	97
cM capacity (veh/h)			1601		883	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	7	45	36
Volume Left	0	40	5
Volume Right	3	0	30
cSH	1700	1601	1039
Volume to Capacity	0.00	0.03	0.03
Queue Length 95th (ft)	0	2	3
Control Delay (s)	0.0	6.6	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	6.6	8.6
Approach LOS			A

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	29	0	462	503	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	0	502	547	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	798	273	562			
vC1, stage 1 conf vol	547					
vC2, stage 2 conf vol	251					
vCu, unblocked vol	798	273	562			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	317	718	992			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	251	251	273	273	15
Volume Left	0	0	0	0	0	0
Volume Right	32	0	0	0	0	15
cSH	718	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.15	0.15	0.16	0.16	0.01
Queue Length 95th (ft)	3	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DLD*	Intersection	*SR 246/NEW DRIVEWAY*
Agency/Co.	*ATE*	Jurisdiction	*CALTRANS*
Date Performed	*4/6/2015*	Analysis Year	*EXISTING + PROJECT*
Analysis Time Period	*P.M. PEAK HOUR*		

Project Description	
East/West Street: *SR 246*	North/South Street: *NEW DRIVEWAY (DWY D)*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*853*			*938*	*18*
Peak-Hour Factor, PHF	*1.00*	*0.96*	*1.00*	*1.00*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*888*	*0*	*0*	*977*	*18*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*1*
Lanes	*0*	*1*	*0*	*0*	*1*	*1*
Configuration		*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*29*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*30*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*1*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (veh/h)								*30*
C (m) (veh/h)								*302*
v/c								*0.10*
95% queue length								*0.33*
Control Delay (s/veh)								*18.2*
LOS								*C*
Approach Delay (s/veh)	--	--				*18.2*		
Approach LOS	--	--				*C*		

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ALIGNMENT	1500' R — TANGENT — HC: RADIUS = 1,200 FEET — TANGENT — HORIZONTAL CURVE: R = 1,000 FEET — TANGENT
GRADIENT →	LESS THAN 1% — 500' VC — 6.00% — 800' VC — 1.45% — 600' VC — LESS THAN 1%

NORTH

ROADWAY WIDTH	52 FEET — 32 FEET — 50 FEET — 42 FEET
NO. OF STRIPED LANES	TWO LANE CONVENTIONAL HIGHWAY
TYPE OF DIVISION STRIP	TWO WAY LEFT TURN LANE — NO DIVISION STRIP — TWO WAY LEFT TURN LANE — NO DIVISION STRIP — TWLTL
TRAFFIC SIGNAL DATA	FIFTH STREET, ATTERDAG ROAD, AND FIRST STREET ARE UNDER SIGNAL CONTROL - BUELL FLAT ROAD, SKYTT MESA ROAD, VALLEY INDUSTRIAL CENTER, AND NYKOBING ARE UNDER STOP CONTROL
AVERAGE DAILY TRAFFIC	19,900 ADT - 5.0% TRUCKS — 19,300 ADT - 5.0% TRUCKS
CRITICAL SPEED	50 MPH → ← 51 MPH
PACE SPEED	40-49 MPH → ← 44-53 MPH
EXISTING SPEED LIMIT	55 — 45 MILES PER HOUR — 25 MILES PER HOUR
PROPOSED SPEED LIMIT	55 — 45 MILES PER HOUR — 25 MILES PER HOUR
SCALE: 1" = 200'	

REMARKS

1. 2010 AERIAL PHOTO IS FOR REFERENCE ONLY.
2. COLLISION RATES ARE PER M.V.M. ACTUAL (AVERAGE)

COLLISION RATES	0.25 (1.29) — 2.07 (2.03)
DISTANCE IN POST MILES	28.60 — 28.70 — 28.80 — 28.90 — 29.00 — 29.10 — 29.20 — 29.30 — 29.40 — 29.50 — 29.60

STATE OF CALIFORNIA

Caltrans

DEPARTMENT OF TRANSPORTATION
DISTRICT 5 - SAN LUIS OBISPO
MAINTENANCE AND OPERATIONS
OFFICE OF TRAFFIC MANAGEMENT

SPEED ZONE SURVEY

DIST: 05 CO: SB RTE: 246
CITY OR TOWN: SOLVANG
STREET OR ROAD: HIGHWAY 246
PM FROM: 28.53 PM TO: 29.61
SCALE: 1" = 200'
DATE: JANUARY 31, 2015

ORIGINAL RECORD

DEPARTMENT OF TRANSPORTATION
DISTRICT 5 - 50 HIGUERA ST.
SAN LUIS OBISPO, CALIFORNIA
93401 - (805) 549-3111

ORIGINAL SIGNATURE ON FILE

ROGER D. BARNES, R.C.E., T.E.

LEGEND

ROAD SIGNS
TRAFFIC SIGNALS
CRITICAL SPEEDS
LOWER LIMIT OF PACE

INDICATE:
HOSPITALS, PUBLIC BUILDINGS, AUDITORIUMS, PUBLIC PARKS
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GREEN ----- EXISTING ZONES
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San Luis Obispo, CA 93401

REVISED TRAFFIC STUDY FOR THE VALLEY STATION SHOPPING CENTER PROJECT, CITY OF SOLVANG, CALIFORNIA

Associated Transportation Engineers (ATE) is submitting this revised traffic study for the Valley Station Shopping Center Project. ATE previously submitted a study for the project in April 2015. The revised study addresses the change to the new driveway proposed on SR 246 (inbound only instead of inbound and outbound) and evaluates operations during the noon peak hour period (as requested by the City of Solvang). It is understood that the study will be submitted to the City for environmental review and to Caltrans for the encroachment permit application for the new driveway proposed on SR 246.

PROJECT DESCRIPTION

The owners of the Valley Plaza Shopping Center are proposing to rebuild the center. The existing Valley Plaza is a 46,453 SF commercial center located on the northwest corner of the SR 246/Alamo Pintado Road intersection in the City of Solvang. Figure 1 shows the location and configuration of the shopping center site. As shown on Figure 1, access for the center is currently provided by two full-access driveways on Old Mission Drive on the north side of the center and one right-turn only driveway on Alamo Pintado Road on the east side of the center.

Figure 2 shows the conceptual site plan for the proposed Valley Station Project (the "Project). The proposed Project includes 39,500 SF of commercial space plus 9 apartment units. The existing center's access connections would be changed by removing the western driveway on Old Mission Drive and adding a new right-turn inbound driveway on SR 246. The eastern driveway on Old Mission Drive and the right-turn only driveway on Alamo Pintado Road would remain in their current locations.

The new connection on SR 246 would provide inbound right-turn access for the center (no outbound access) and include a deceleration lane pursuant to the Caltrans Highway Design Manual[1]. The existing westbound bike lane on SR 246 would be retained and new sidewalk would be provided along the north side of SR 246 between Alamo Pintado Road and the new driveway (and along the new driveway within the Project site).

LEVEL OF SERVICE DEFINITIONS

The ability of a roadway system to carry traffic is expressed in terms of "Levels of Service" (LOS). LOS A through F are used to rate traffic operations, with LOS A indicating very good operations and LOS F indicating poor operations. More complete level of service definitions are provided in Table 1.

Table 1
Level of Service Definitions

LOS	Definition
A	Conditions of free unobstructed flow, no delays.
B	Conditions of stable flow, very little delay.
C	Conditions of stable flow, delays are low to moderate.
D	Conditions approaching unstable flow, delays are moderate to heavy.
E	Conditions of unstable flow, delays are significant.
F	Conditions of forced flow, travel speeds are low and volumes are well above capacity.

Source: Highway Capacity Manual, 2010.

TRAFFIC IMPACT CRITERIA

The following section outlines the impact criteria used for the traffic impact analysis. Although the Project is located within the City of Solvang, the SR 246/Alamo Pintado Road intersection is located on SR 246 and the Project's new driveway is proposed to connect to SR 246, which is a California state highway under the jurisdiction of Caltrans. As outlined below, the City's criteria states that LOS D is acceptable for intersection operations and the Caltrans criteria states that LOS C is acceptable. The more stringent LOS C criteria established by Caltrans was therefore used to assess potential traffic impacts at the SR 246Alamo Pintado Road intersection and the new driveway that is proposed on SR 246.

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[1] Highway Design Manual, California Department of Transportation, Sixth Edition, Updated May 2012.

City of Solvang Criteria

The City of Solvang traffic criteria states, "Maintain a minimum level of service D at all intersections during normal peak hours and level of service E during "average tourist season peak hours" to ensure that traffic delays are kept to a minimum."

Caltrans Criteria

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. While Caltrans has not established traffic thresholds of significance, this traffic analysis utilizes the following traffic threshold of significance:

> A significant project impact occurs at a State highway intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F).

EXISTING CONDITIONS

Street Network

SR 246, located along the southern frontage of the Valley Plaza shopping center, is a two-lane State highway that serves as a major east-west route in the Santa Ynez Valley area. SR 246 provides access to U.S. Highway 101 to the west and SR 154 to the east. Turn lanes are provided at the SR 246/Alamo Pintado Road intersection and the intersection is controlled by traffic signals.

Alamo Pintado Road, located along the eastern frontage of the Valley Plaza shopping center, extends south from Santa Barbara Avenue in Los Olivos to SR 246 in Solvang. The segment of Alamo Pintado Road adjacent to the Valley Plaza center is a four-lane arterial road with a raised median between SR 246 and Old Mission Drive. The Valley Plaza center has a right-turn only driveway that connects to Alamo Pintado Road (see Figure 1).

Old Mission Drive, located along the northern frontage of the Valley Plaza shopping center, extends west of Alamo Pintado Road and terminates just west of the shopping center. There are two driveways on Old Mission Drive that serve the Valley Plaza center (see Figure 1).

Traffic Volumes

Figure 3 illustrates the existing traffic volumes used for this study (traffic count data is attached for reference). Average Daily Traffic (ADT) volumes for SR 246 were obtained from Caltrans. Peak hour traffic counts were collected by ATE at the SR 246/Alamo Pintado Road intersection and at the Valley Plaza driveways for this study. The A.M. peak hour counts were collected at the SR 246/Alamo Pintado Road intersection in March 2015; the Noon peak hour counts were collected in May 2015; and the P.M. peak hour counts were collected in August 2014. The A.M. and P.M. peak hour traffic counts collected at the SR 246/Alamo Pintado Road intersection were compared to historical counts collected in March 2012 and it was found that the P.M. peak hour counts collected in August 2014 counts were somewhat lower than the March 2012 counts. The P.M. peak hour counts collected in March 2012 were used for the analysis to represent as reasonable worst case scenario. Pedestrian and bicycle counts were also collected for the impact analysis at the SR 246/Alamo Pintado Road intersection and along SR 246 in the vicinity of the new driveway that is proposed on SR 246. The pedestrian and bicycle counts were collected in March 2015 and May 2015.

Existing Levels of Service

Existing delays and levels of service were calculated for the SR 246/Alamo Pintado Road intersection and the Valley Plaza center driveways using the operations methodology provided in the Highway Capacity Manual.[2] Table 2 shows the Existing delays and levels of service. Level of service calculation worksheets are attached for reference.

Table 2
Existing Levels of Service

Intersection	Control	Delay/LOS		
		A.M. Peak	Noon Peak	P.M. Peak
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	22.0 Sec/LOS C	23.9 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:				
Inbound Left Turns	Yield	6.0 Sec/LOS A	6.5 Sec/LOS A	6.7 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left + Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A	8.4 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:				
Inbound Left Turns	Yield	3.1 Sec/LOS A	2.8 Sec/LOS A	1.9 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left + Right Turns	Stop Sign	8.5 Sec/LOS A	8.6 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:				
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	10.2 Sec/LOS B	10.4 Sec/LOS B
Delays and levels of service based on Highway Capacity Manual procedures.				

As shown in Table 2, the SR 246/Alamo Pintado Road intersection currently operates at LOS C during the A.M., Noon, and P.M. peak hour periods - which meets the Caltrans LOS C

[2] Highway Capacity Manual, Transportation Research Board, 2010.

standard and the City's LOS D standard. Delays for turning into and out of the Valley Plaza access driveways are relatively low and equate to LOS A-B operations, which meet City standards.

TRIP GENERATION ANALYSIS

Existing Trip Generation

The traffic counts collected at the Valley Plaza driveways show that the center generates traffic volumes that are higher than the average of similar shopping centers, as reported in the Institute of Transportation Engineers (ITE) Trip Generation manual.[3] Table 3 compares the traffic generation for the existing Valley Plaza center based on the driveway counts with the traffic generation estimates based on shopping center rates contained in the ITE Trip Generation manual. It is noted that 5,235 SF of the 46,453 SF of building area at the Valley Plaza center was vacant at the time that the traffic counts were collected. The trip generation estimates are therefore based on 41,218 SF of occupied space (46,453 SF building area – 5,235 SF vacant = 41,218 SF occupied). Worksheet showing the detailed trip generation calculations are attached for reference.

Table 3
Valley Plaza Center – Existing Uses Trip Generation

Trip Generation Source	Size	A.M. Peak Hour		Noon Peak Hour		P.M. Peak Hour	
		Trip Rate(a)	Trips	Trip Rate(a)	Trips	Trip Rate(a)	Trips
Valley Plaza Counts	41,218 SF	2.21	91	6.11	252	3.93	162
ITE Rates	41,218 SF	0.96	40	3.78	156	3.71	153
(a) Trip rate per 1,000 SF of building area.							

As shown, the Valley Plaza center currently generates 91 A.M. peak hour trips, 252 Noon peak hour trips, and 162 P.M. peak hour trips based on the traffic counts collected at the center's driveways. Application of ITE rates results in a predicted trip generation of 40 A.M. peak hour trips, 156 Noon peak hour trips, and 153 P.M. peak hour trips – which are somewhat lower than the counts collected at the existing center.

Proposed Project Trip Generation

Trip generation estimates were calculated for the proposed 39,250 SF of commercial uses based on the trip rates developed from the existing Valley Plaza center since those rates represent local shopping center conditions and are higher than ITE shopping center rates.

[3] Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

Trip generation estimates were calculated for the 9 apartment units that are proposed as part of the Project using ITE rates for Apartments (ITE Code 220). Table 4 lists the trip generation estimates for the proposed Valley Station Project. Worksheets showing the detailed calculations are attached for reference.

Table 4
Valley Station Project – Proposed Uses Trip Generation

Use	Size	A.M. Peak Hour		Noon Peak Hour		P.M. Peak Hour	
		Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Shopping Center(a)	39,250 SF	2.21	87	6.11	240	3.93	154
Apartments(b)	9 DU	0.51	5	0.29	3	0.62	6
Totals			92		243		160
(a) Shopping center trip rates per 1,000 SF of building area based on local study.							
(b) Apartment trips rates per dwelling unit based on ITE apartment rates (ITE Code 220).							

As shown in Table 4, the Project would generate 92 A.M. peak hour trips, 243 Noon peak hour trips, and 160 P.M. peak hour trips.

Net Trip Generation

Impacts generated by the Project are assessed based on the net change in traffic generated at the site. Table 5 lists the net change in traffic as a result of the Project (proposed Valley Station center minus existing Valley Plaza center). For reference, the table includes average daily trips as well as trips during the peak hour periods.

Table 5
Valley Station Project – Net Trip Generation

Scenario	Trip Generation			
	ADT(a)	A.M. Trips	Noon Trips	P.M. Trips
Proposed Project	1,736	92	243	160
Existing Center	1,760	91	252	162
Net Trip Generation	-24	+1	-9	-2
(a) Average Daily Trips based on ITE rates for shopping centers.				

As shown in Table 5, the proposed Project would generate about the same level of traffic that is currently generated at the site.

PROJECT IMPACTS

The trip generation analysis found that the proposed Valley Station Project would generate about the same level of traffic that is currently generated by the existing Valley Plaza center. Potential impacts generated by the project would occur as a result of the access and circulation changes that are proposed by the Project. Figure 4 shows the traffic pattern for the existing Valley Center at the SR 246/Alamo Pintado Road intersection and at the existing shopping center driveways. Figure 5 shows the traffic pattern for the proposed Project at the SR 246/Alamo Pintado Road intersection and at the proposed shopping center driveways.

Levels of service were calculated assuming the Existing + Project volumes shown on Figure 6. These forecasts represent the net change in traffic that would result from the Project (proposed Valley Station traffic minus existing Valley Plaza traffic plus changes to the access system). Tables 6, 7 and 8 compare the Existing and Existing + Project delays and levels of service for the A.M., Noon, and P.M. peak hour periods.

Table 6
Existing & Existing + Project Levels of Service – A.M. Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	24.8 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.0 Sec/LOS A	NA(a)
Inbound Right Turns	Yield	0.0 Sec/LOS A	
Outbound Left + Right Turns	Stop Sign	8.5 Sec/LOS A	
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	3.1 Sec/LOS A	6.3 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left + Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	9.5 Sec/LOS A
SR 246/Shopping Center Dwy:			
Inbound Right Turns	Yield	NA(b)	0.0 Sec/LOS A

(a) Not Applicable. Driveway eliminated as part of proposed Project.
(b) Not Applicable. Driveway not present for Existing conditions.

Table 7
Existing & Existing + Project Levels of Service – Noon Peak Hour

Intersection	Control	Delay/LOS	
		Existing	Existing + Project
SR 246/Alamo Pintado Rd	Signal	22.0 Sec/LOS C	22.7 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.5 Sec/LOS A	NA(a)
Inbound Right Turns	Yield	0.0 Sec/LOS A	
Outbound Left + Right Turns	Stop Sign	8.5 Sec/LOS A	
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	2.8 Sec/LOS A	6.6 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left + Right Turns	Stop Sign	8.6 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	10.2 Sec/LOS B	10.2 Sec/LOS B
SR 246/Shopping Center Dwy:			
Inbound Right Turns	Yield	NA(b)	0.0 Sec/LOS A

(a) Not Applicable. Driveway eliminated as part of proposed Project.
(b) Not Applicable. Driveway not present for Existing conditions.

Table 8
Existing & Existing + Project Levels of Service – P.M. Peak Hour

Intersection	Control	Delay/LOS: Existing	Delay/LOS: Existing + Project
SR 246/Alamo Pintado Rd	Signal	23.9 Sec/LOS C	24.0 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.7 Sec/LOS A	NA(a)
Inbound Right Turns	Yield	0.0 Sec/LOS A	
Outbound Left+Right Turns	Stop Sign	8.4 Sec/LOS A	
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	1.9 Sec/LOS A	6.6 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.6 Sec/LOS A	8.5 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	10.4 Sec/LOS B	10.4 Sec/LOS B
SR 246/Shopping Center Dwy:			
Inbound Right Turns	Yield	NA(b)	0.0 Sec/LOS A

(a) Not Applicable. Driveway eliminated as part of proposed Project.
(b) Not Applicable. Driveway not present for Existing conditions.

The delays and levels of service listed in Tables 6, 7 and 8 show that the study-area intersections are forecast to operate at LOS C or better during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet Caltrans and City standards. Constructing the new driveway on SR 246 and eliminating the west driveway on Old Mission Drive would change the pattern of traffic at the shopping center. Most of the trips that are inbound to the center from SR 246 east of Alamo Pintado Road would proceed through the SR 246/Alamo Pintado Road intersection and turn right into the new driveway - instead of turning right onto Alamo Pintado Road and then left onto Old Mission Drive to enter the site.

The following text describes the Project's impacts at SR 246/Alamo Pintado Road intersection and at the shopping center driveways.

SR 246/Alamo Pintado Road. The proposed Project would have a negligible effect on delays at the SR 246/Alamo Pintado Road intersection during the A.M., Noon, and P.M. peak hour periods. The intersection would continue to operate at LOS C during the peak hour periods, which meets the Caltrans LOS C standard.

Old Mission Drive/Shopping Center West Driveway. The western driveway that currently serves the existing center would be eliminated. Traffic would be reduced in this vicinity, a beneficial impact.

Old Mission Drive/Shopping Center East Driveway. Traffic volumes would be slightly higher at this location due to closing the western driveway on Old Mission Drive, but relatively low during the peak hour periods (total of 51 shopping center trips during the A.M. peak hour, 128 trips during the Noon peak hour, and 82 trips during the P.M. peak hour). Delays at this location equate to LOS A operations, which meet the City's LOS D standard.

Alamo Pintado Road/Shopping Center Driveway. Traffic volumes would continue to be relatively low at this driveway (27 A.M. peak hour trips, 85 Noon peak hour trips, and 60 P.M. peak hour trips). Delays at this location equate to LOS A-B operations, which meet the City's LOS D standard.

SR 246/Shopping Center Driveway. Delays for turning right into the proposed new driveway equate to LOS A, which meets the Caltrans LOS C standard. The operational analysis assumes that the new driveway would be constructed to Caltrans standards, including the new deceleration lane on SR 246, lane widths, radii of turn lane, sight distances, etc. The posted speed limit is currently 45 MPH in the vicinity of the new driveway. Field review during the A.M. and P.M. peak commuter periods found westbound vehicles speeds in the 30-45 MPH range, with most of the traffic flow near the lower end of speed range (30-35 MPH). It is noted that Caltrans is in the process of reducing speed limits along SR 246. The current 45 MPH speed limit in the vicinity of the new driveway will be reduced to 40 MPH in the coming months.

Alamo Pintado Road/Old Mission Drive. Operational analysis was not undertaken for the Alamo Pintado Road/Old Mission Drive intersection since the proposed project would reduce traffic at the intersection. Adding the new driveway on SR 246 would result in a net reduction in traffic at the Alamo Pintado Road/Old Mission Drive intersection, a beneficial impact.

SR 246/High Meadow Drive. Operational analysis was not undertaken for SR 246/High Meadow intersection since the proposed Project would result in a slight reduction in traffic generated at the site and at the intersection.

ALTERNATIVE TRAVEL MODES

Pedestrian and bicycle counts were collected at the SR 246/Alamo Pintado Road intersection and along SR 246 in the vicinity of the new driveway that is proposed on SR 246 (count data attached).

The pedestrian and bicycle volumes were included in the preceding operational analyses. A total of 6 pedestrians and 1 bicyclist crossed the SR 246/Alamo Pintado Road intersection during the 2-hour A.M. peak commuter period (7-9 A.M.); 6 pedestrians and 5 bicyclists crossed the intersection during the 2-hour Noon period (11 A.M.-1:00 P.M.); and 10 pedestrians and 1 bicyclist crossed the intersection during the 2-hour P.M. peak commuter period (4-6 P.M.).

The counts also show 1 pedestrian and 1 bicyclist traveling westbound along SR 246 in the vicinity of the new shopping center driveway during the 2-hour A.M. peak commuter period; 0 pedestrians and 0 bicyclists during the 2-hour Noon peak period; and 0 pedestrians and 2 bicyclists during the 2-hour P.M. peak commuter period. The shoulders along SR 246 are marked as bike lanes in the Project vicinity (bike lanes on both sides of SR 246). The proposed new driveway includes a westbound bike lane across the driveway intersection. SR 246 is relatively straight adjacent to the new driveway and there would be good inter-visibility between vehicles using the driveway and bicyclists traveling along SR 246 assuming that the new driveway intersection is constructed to Caltrans standards. Thus, the new driveway would not significantly impact bicycle flows along SR 246.

The proposed Project includes a new sidewalk on the north side of SR 246 that would connect between the existing sidewalk near the SR 246/Alamo Pintado Road intersection and the new driveway proposed on SR 246 (see Figure 2 – Conceptual Site Plan). The new sidewalk also extends within the Project site along the east side of the new driveway.

The new sidewalk facilities would be a benefit to pedestrians in the vicinity of the Project site. During the field studies, there were two groups of pedestrians (a group of 4 and a group of 2) observed crossing the SR 246/Alamo Pintado Road intersection that then considered walking westbound along SR 246 towards downtown Solvang (a relatively short distance of about ½ mile between the Valley Plaza center and the SR 246/Alisal Road intersection near downtown). Instead of walking along SR 246, those two groups decided to walk through the Valley Plaza center and then walk westbound along Old Mission Drive toward Solvang.

The new sidewalk proposed along the north side of SR 246 between the SR 246/Alamo Pintado Road intersection and the new driveway (and into the Project site) would provide a more direction connection for these pedestrian flows. Furthermore, the proposed Project includes a new shelter at the existing bus stop located on the west side of Alamo Pintado Road adjacent to the site. The improved bus stop would enhance the attractiveness for pedestrian trips in the Project vicinity and the new sidewalk facilities would improve the walking environment for pedestrians.

CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Program (CMP) roadway system. SR 246 is part of the CMP system. Pursuant to the CMP impact criteria, potential impacts to SR 246 are based on operations at intersections since SR 246 is a signalized route.

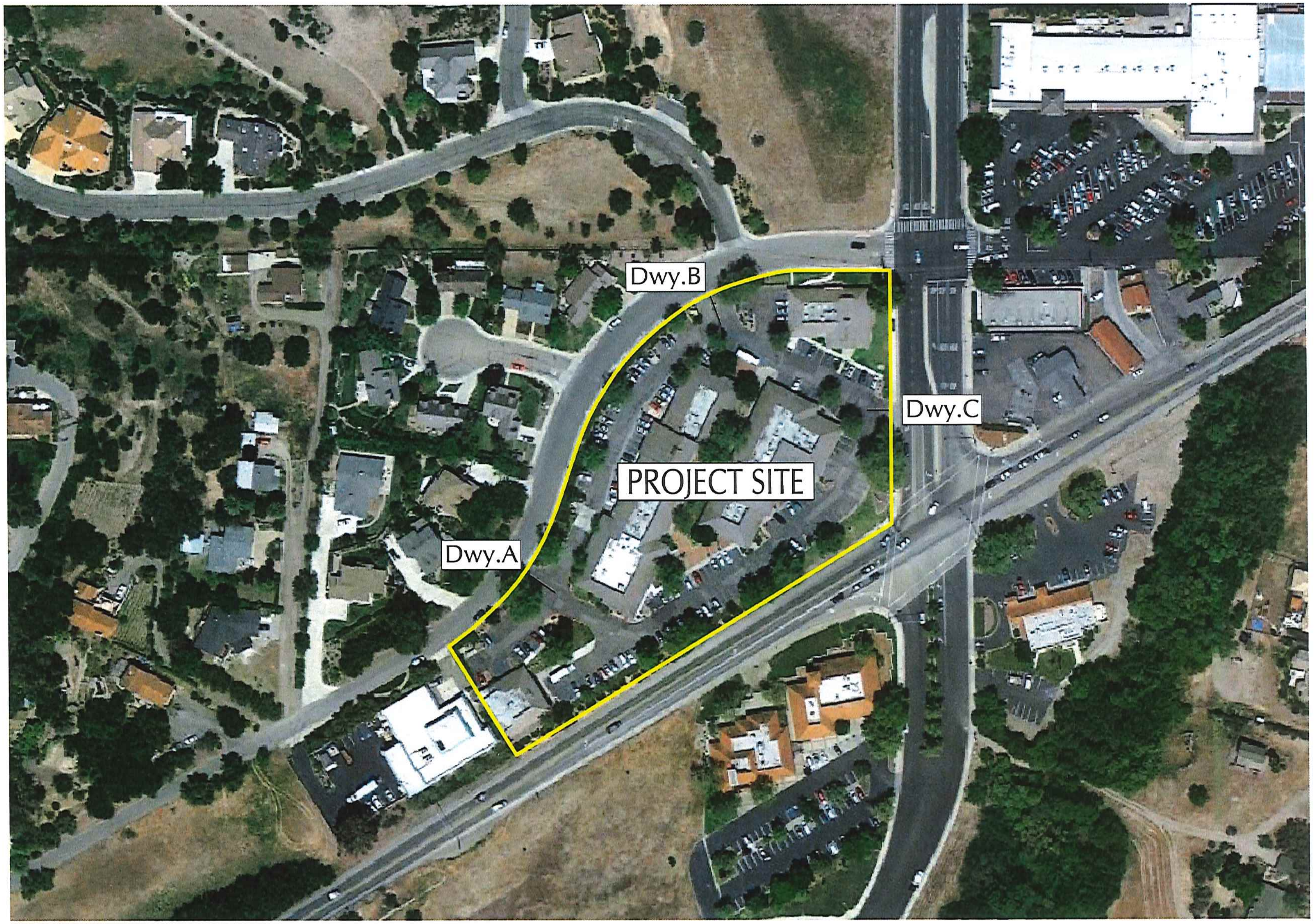
CMP impact criteria state that projects that generate less than 500 daily trips and less than 50 peak hour trips are considered to be consistent with the CMP. As shown in Table 5, the Project would result in a net decrease in daily traffic (-24 daily trips) and less than 50 peak hour trips (+1 A.M. peak hour trip, -9 Noon peak hour trips, and -2 P.M. peak hour trips). Thus, the Project would not impact SR 246 based on adopted CMP criteria.

This concludes our revised traffic study for the Valley Station Shopping Center Project. We appreciate the opportunity to assist you the project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

Attachments



Source: Google Earth

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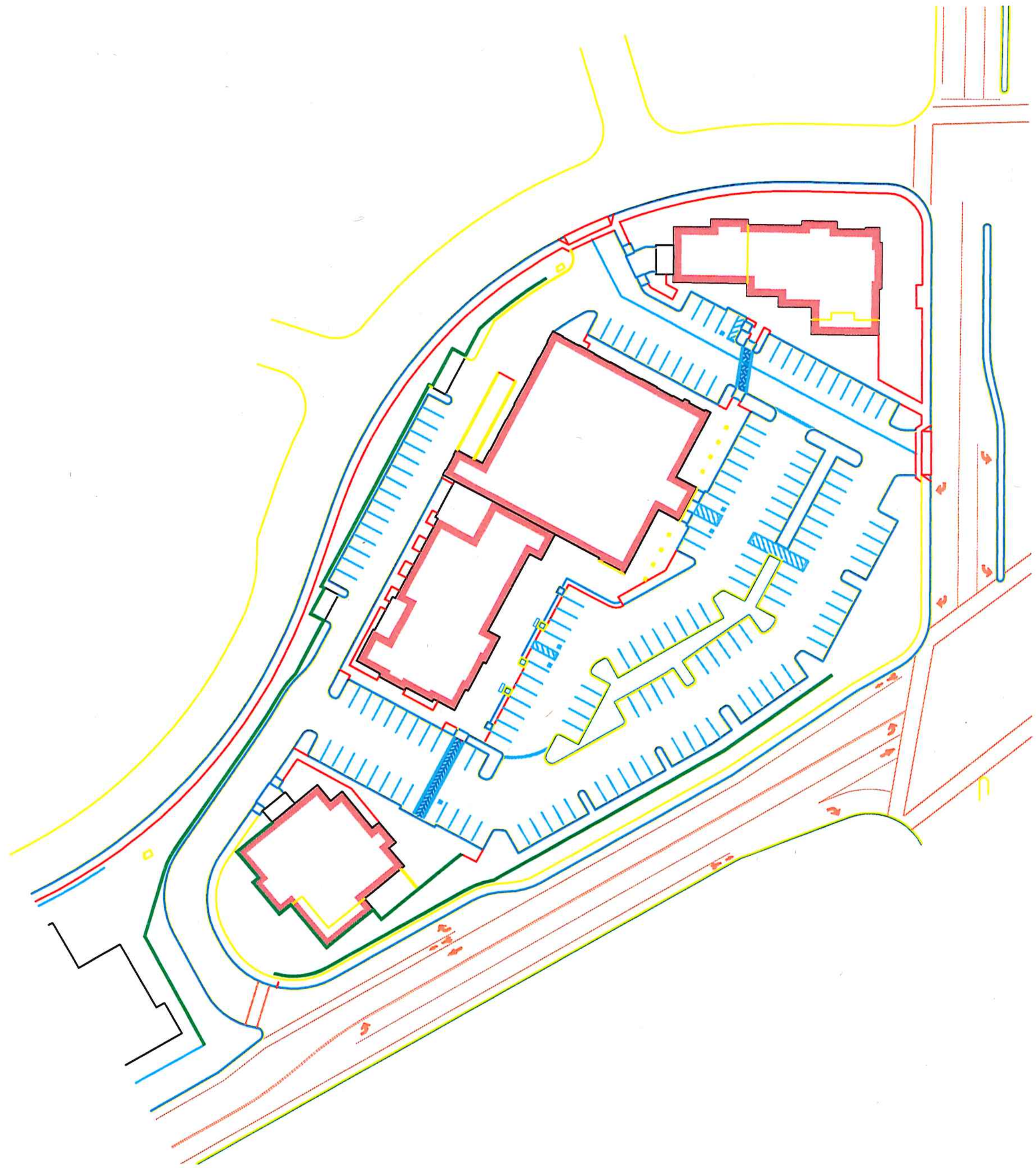
EXISTING PROJECT SITE

FIGURE 1

MMF - #14056

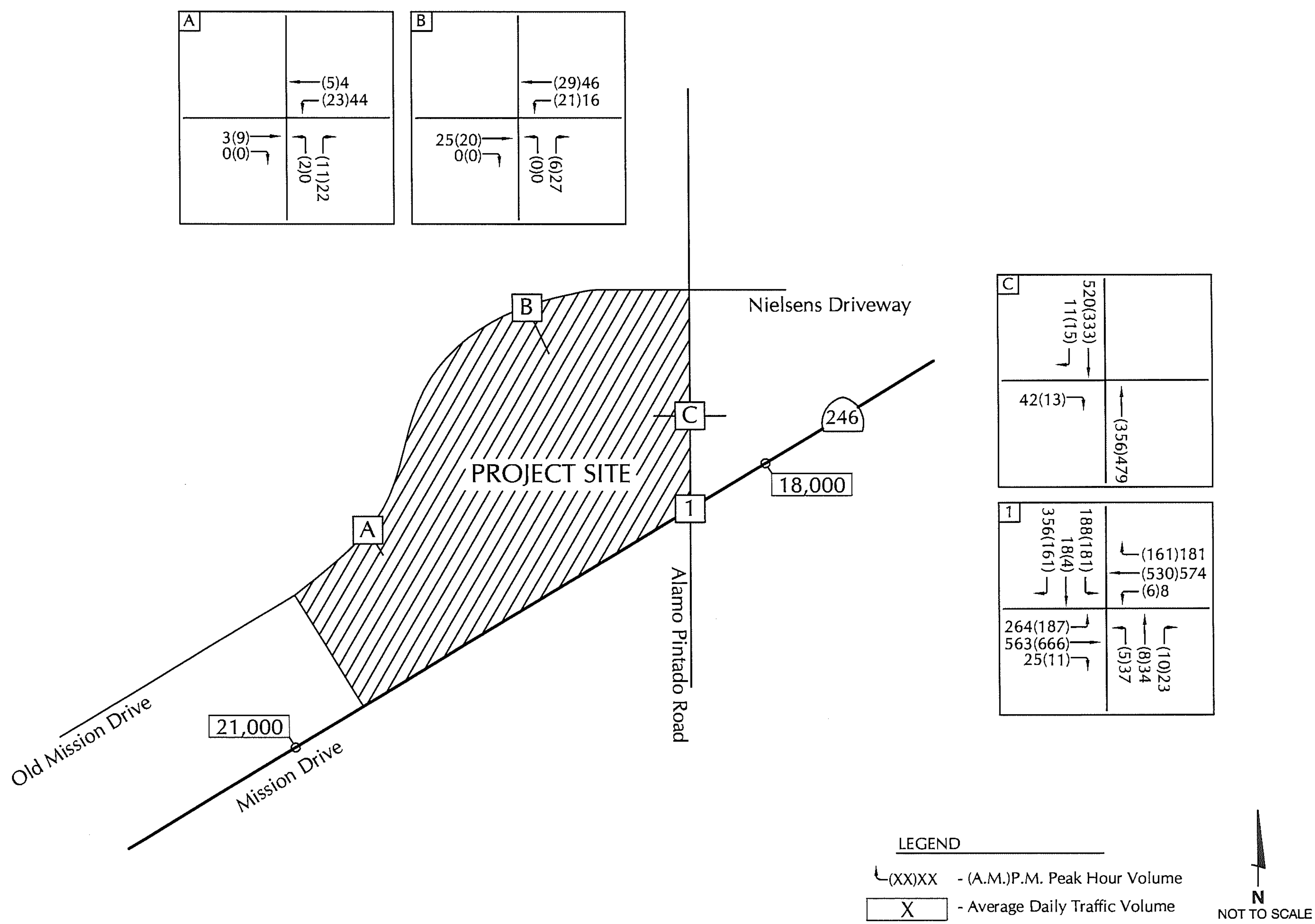


Associated Transportation Engineers

VALLEY STATION CONCEPTUAL SITE PLAN

FIGURE 2

MMF - #14056



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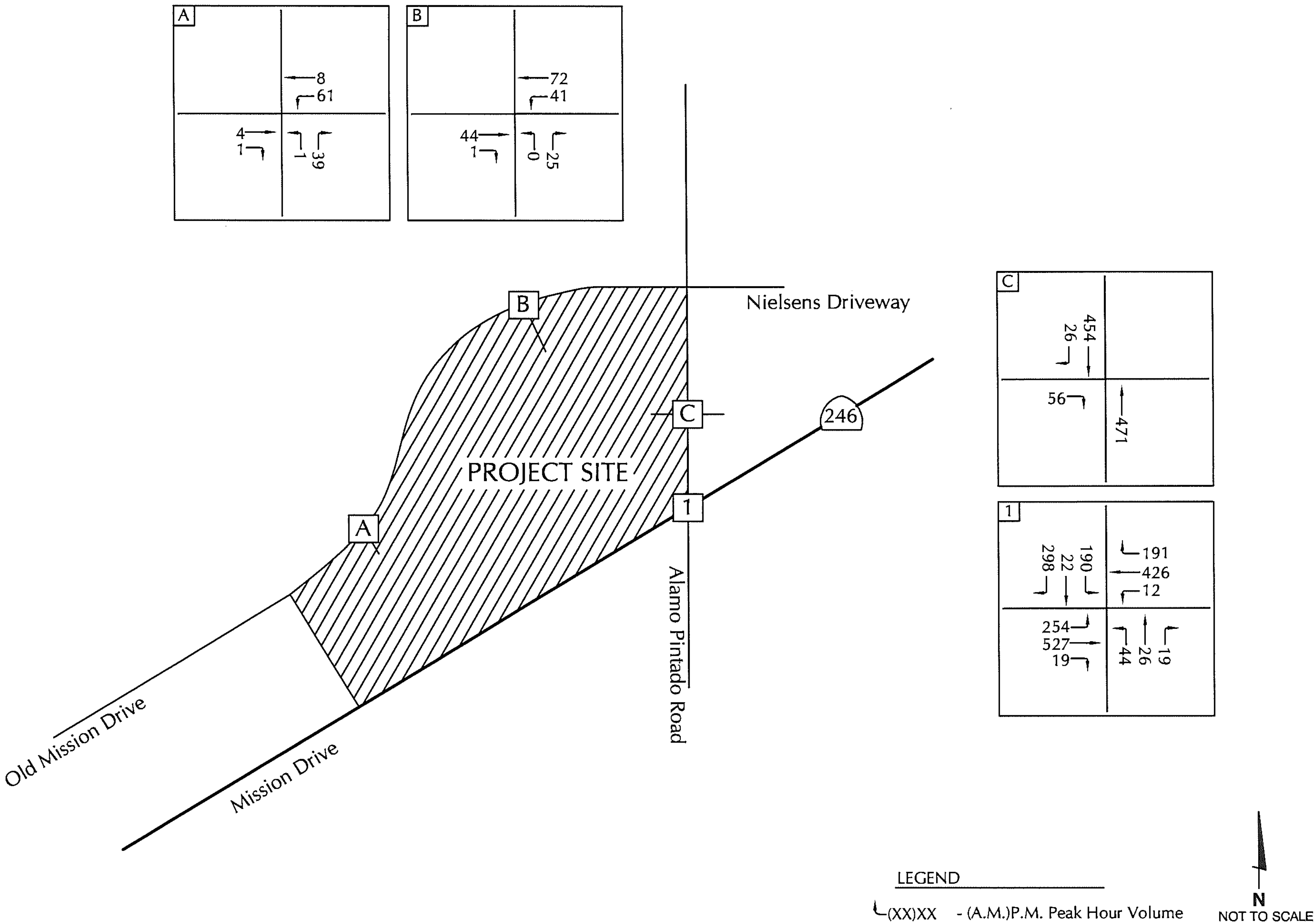
EXISTING TRAFFIC VOLUMES

FIGURE 3

MMF - #14056



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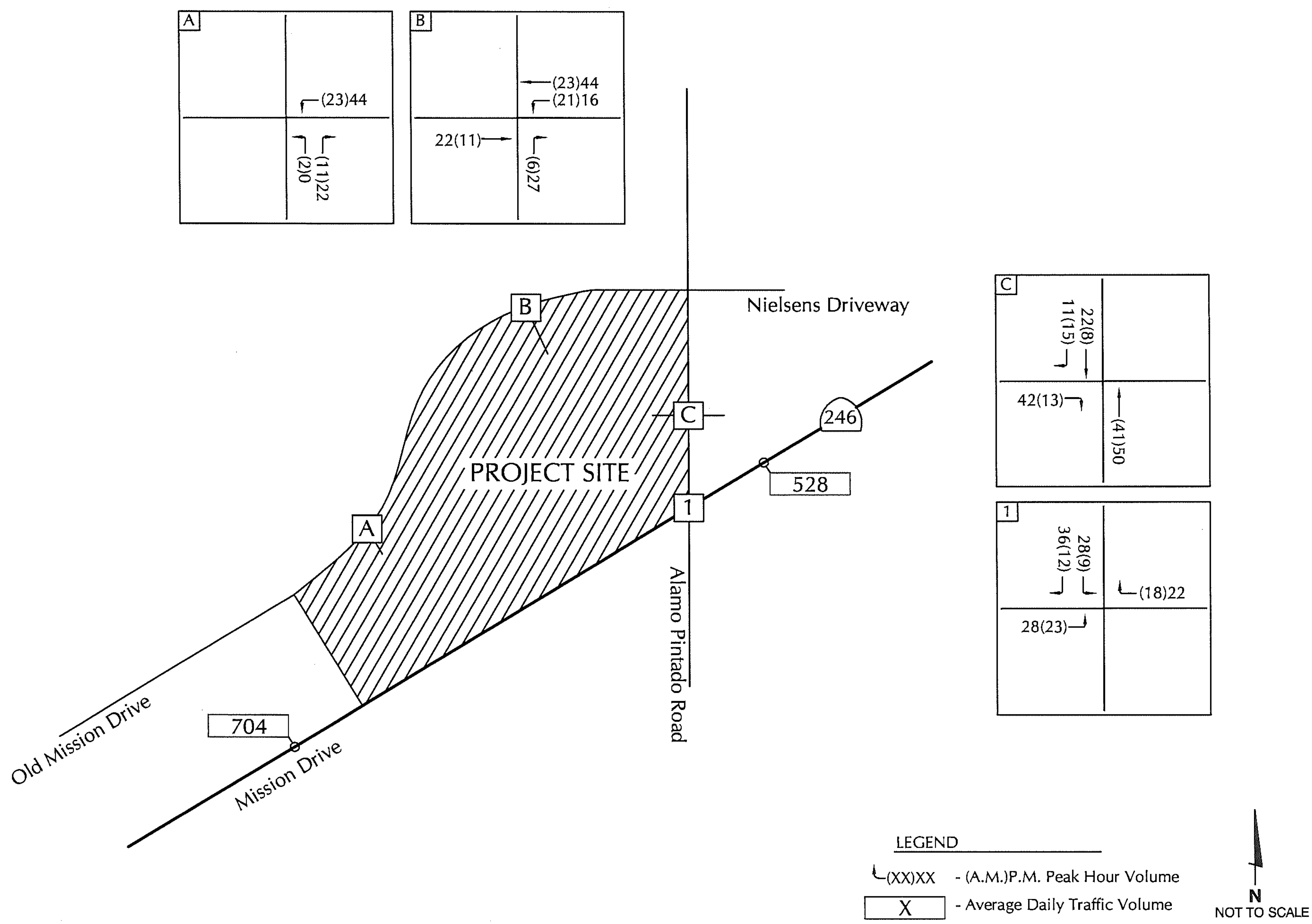
EXISTING TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 3a

MMF - #14056



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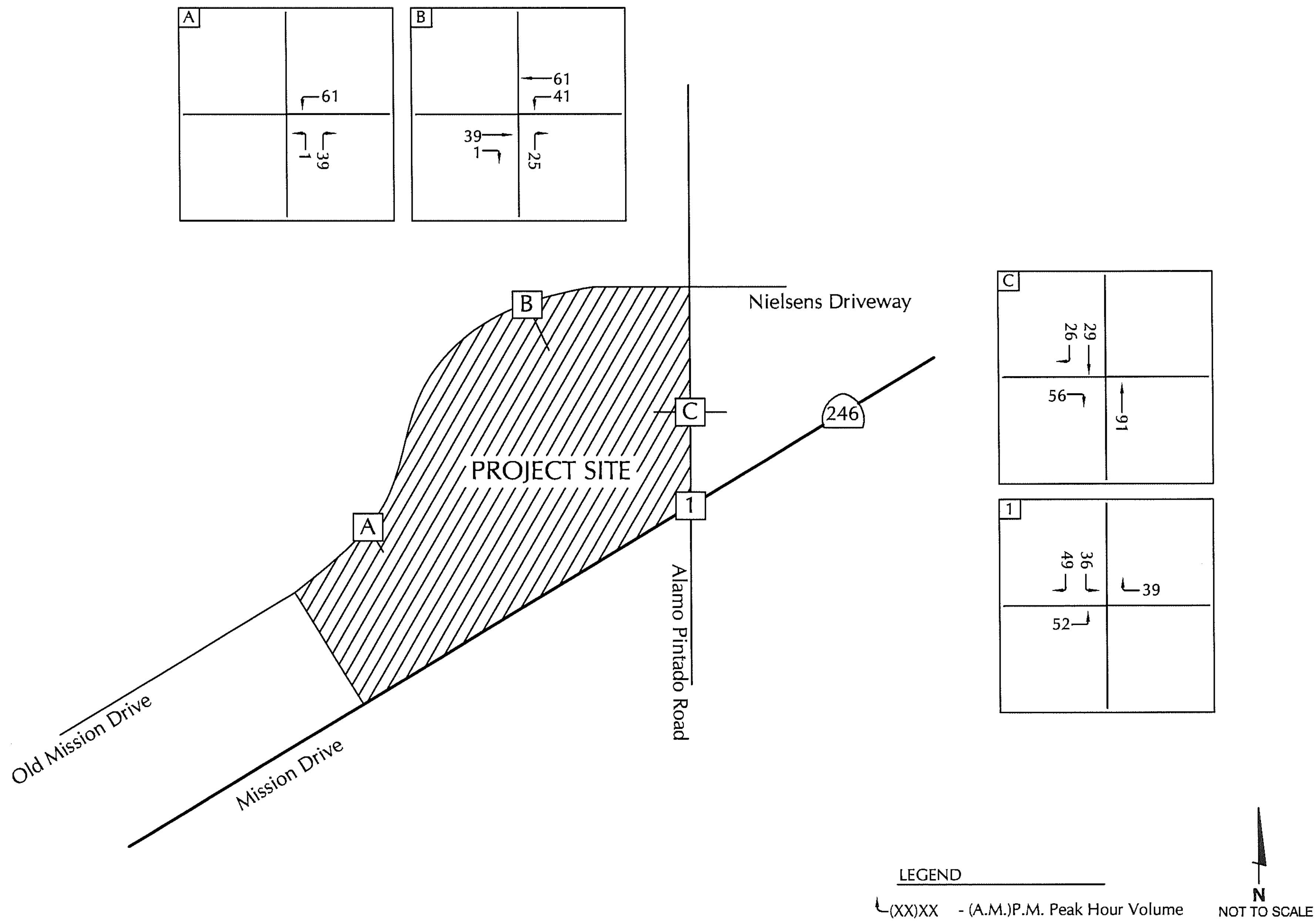
EXISTING VALLEY PLAZA CENTER TRAFFIC VOLUMES

FIGURE 4

MMF - #14056



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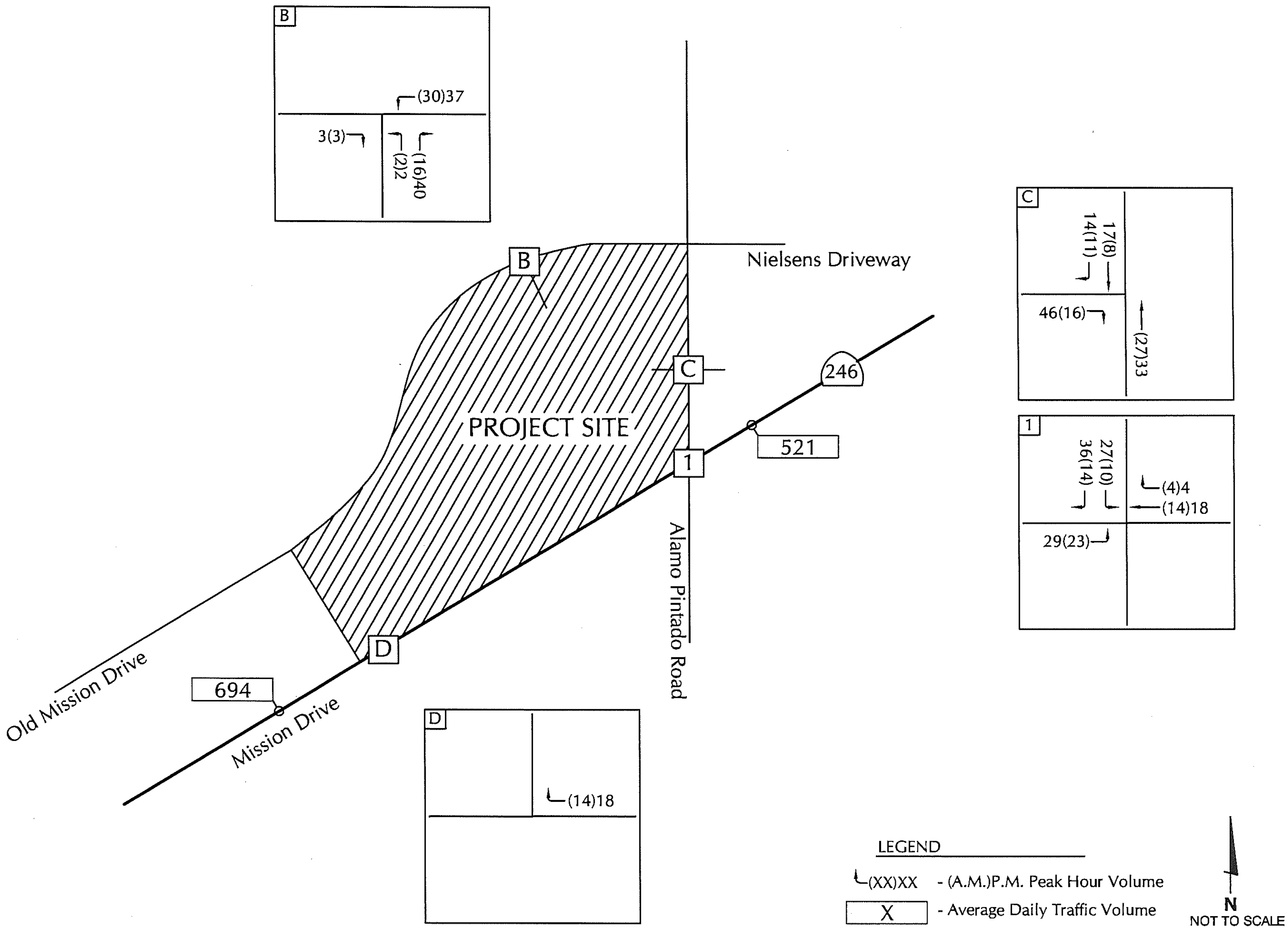
EXISTING VALLEY PLAZA CENTER TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 4a

MMF - #14056



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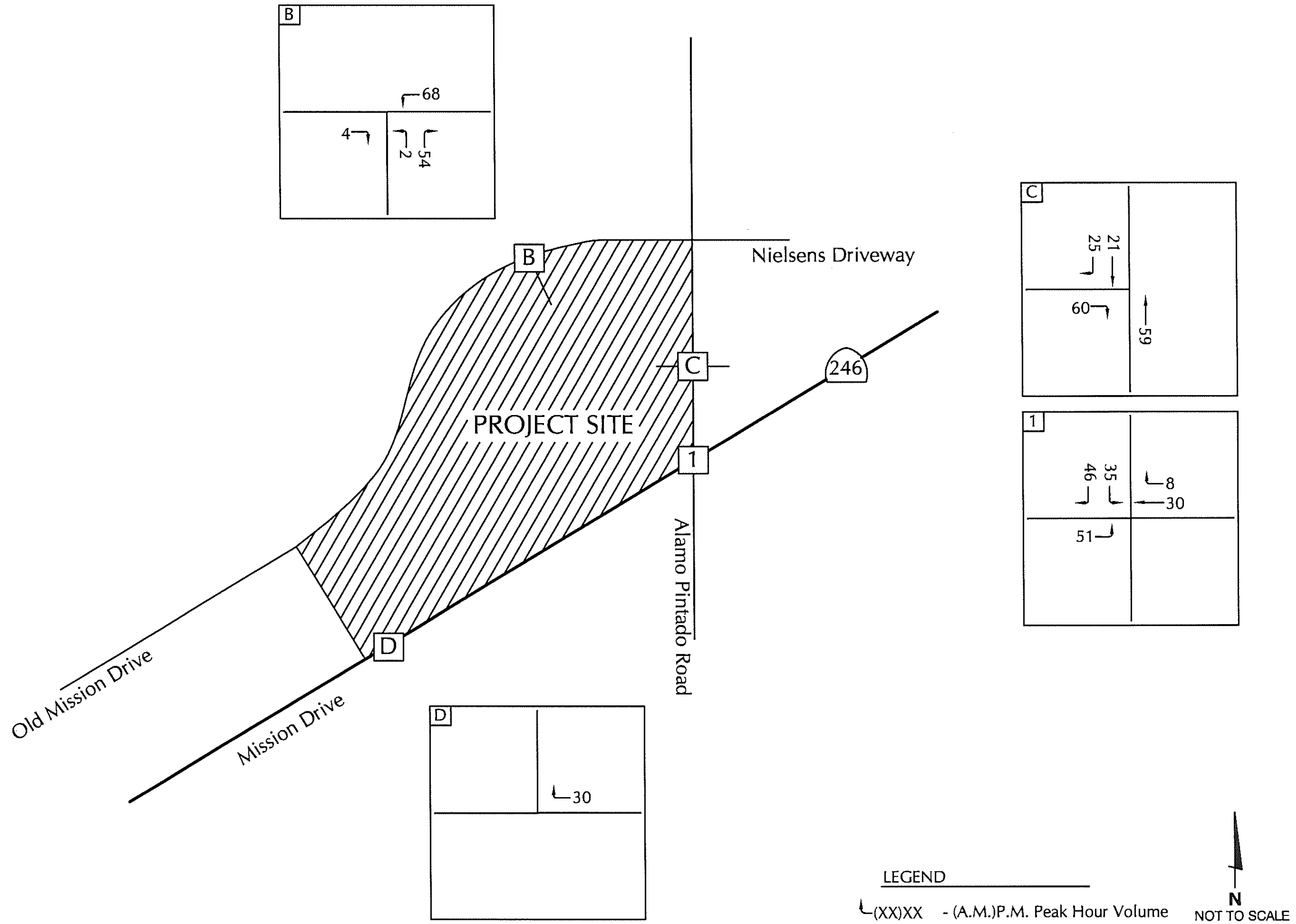
PROPOSED VALLEY STATION CENTER TRAFFIC VOLUMES

FIGURE 5

MMF - #14056



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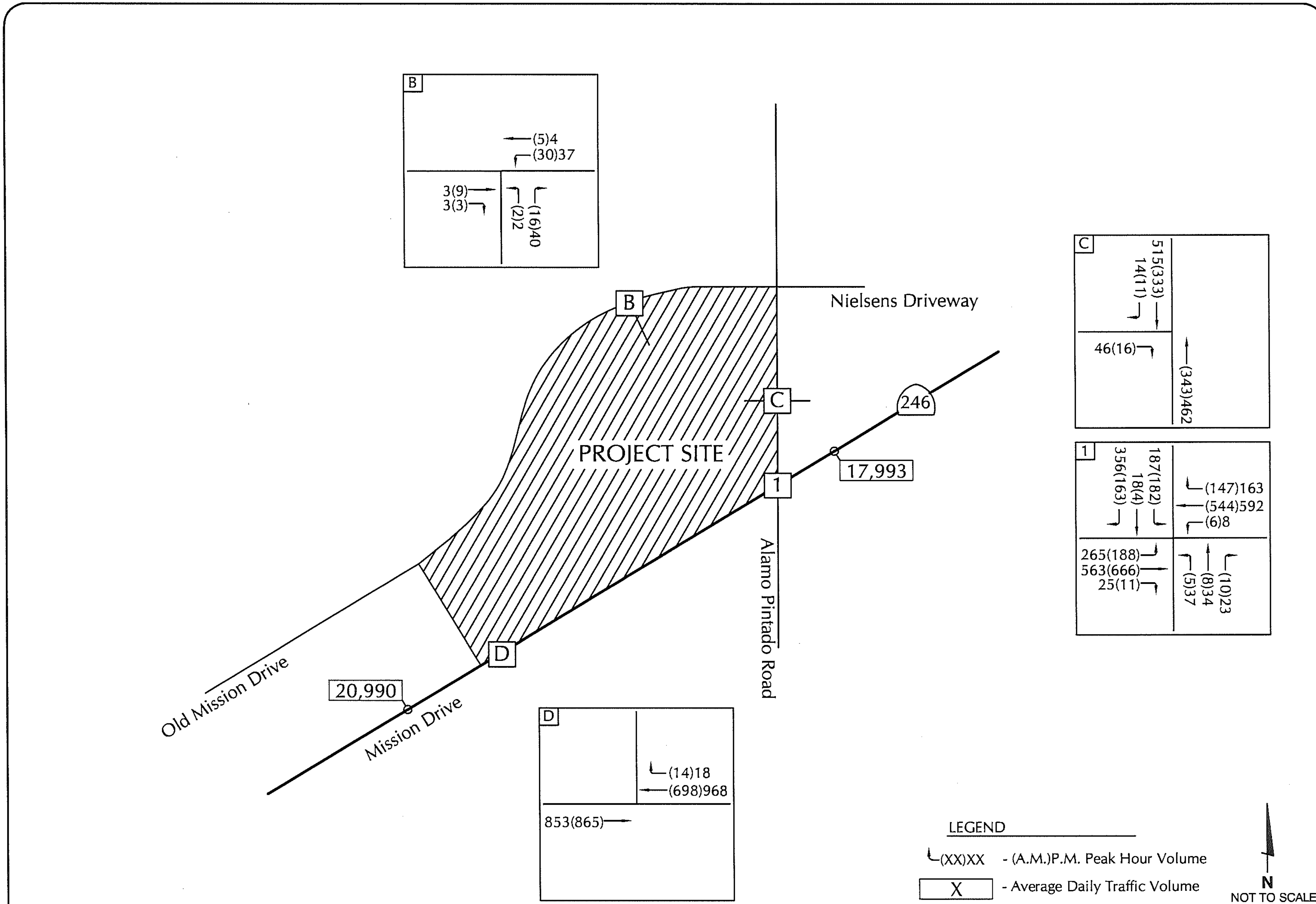
PROPOSED VALLEY STATION CENTER TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 5a

MMF - #14056



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EXISTING + PROJECT TRAFFIC VOLUMES

FIGURE 6

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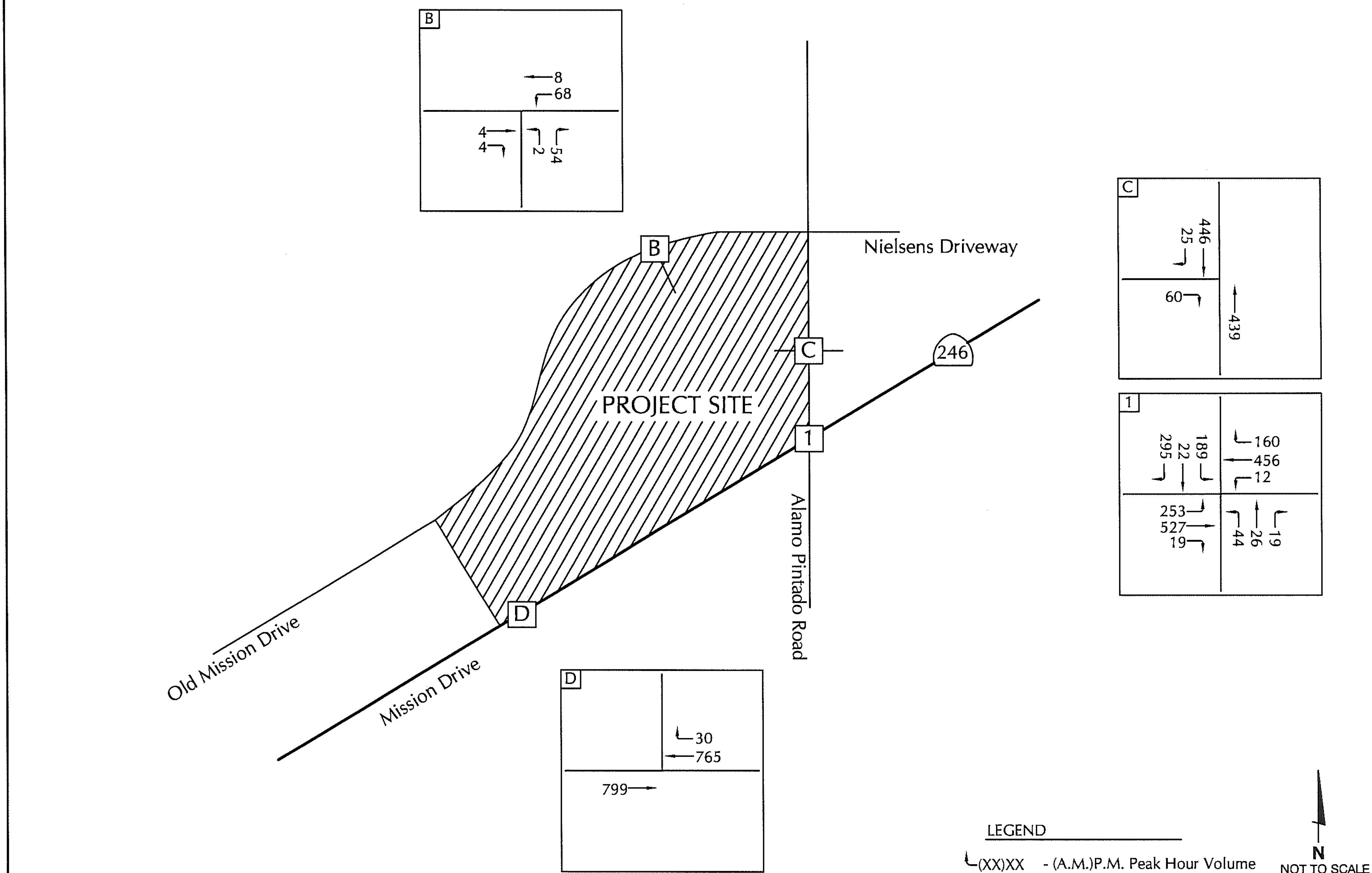

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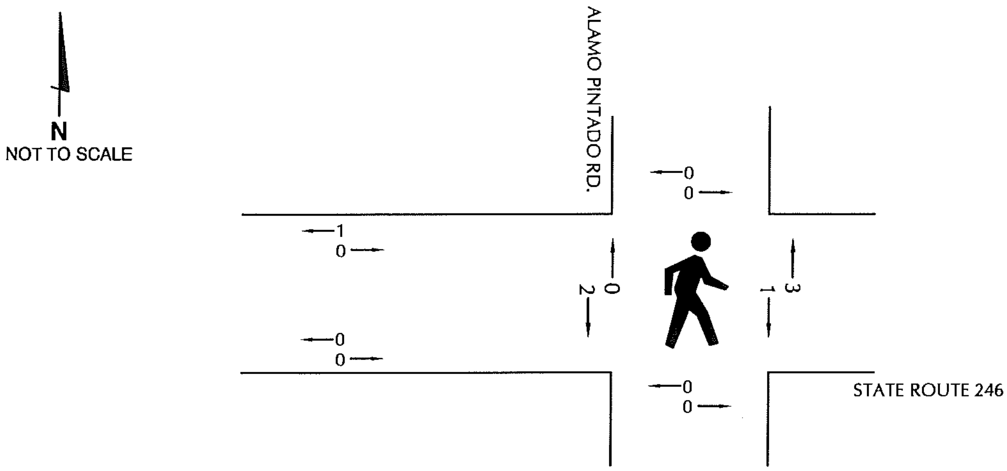
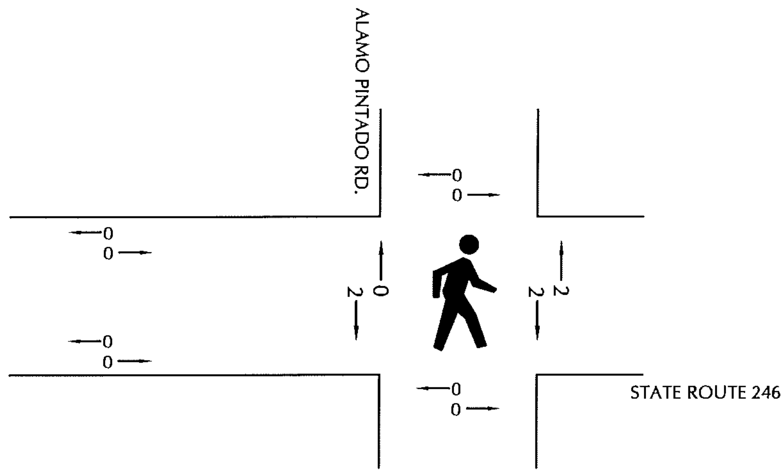
EXISTING + PROJECT TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 6a

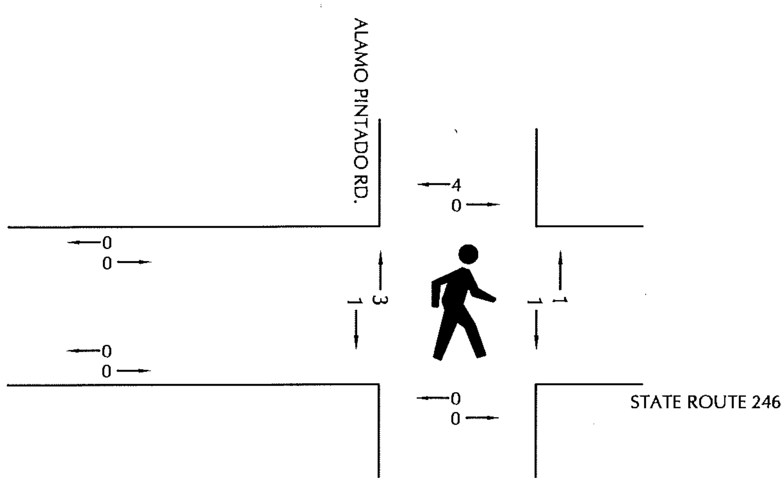
MMF - #14056



A.M. PEAK PERIOD PEDESTRIAN VOLUMES (7:00 A.M. TO 9:00 A.M.)



NOON PEAK PERIOD PEDESTRIAN VOLUMES (11:00 A.M. TO 1:00 P.M.)



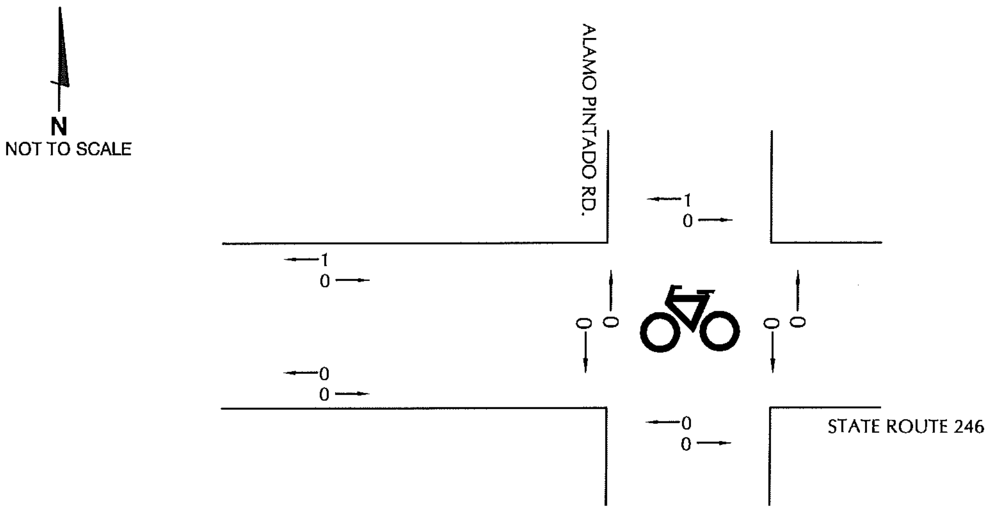
P.M. PEAK PERIOD PEDESTRIAN VOLUMES (4:00 P.M. TO 6:00 P.M.)

ASSOCIATED
TRANSPORTATION
ENGINEERS

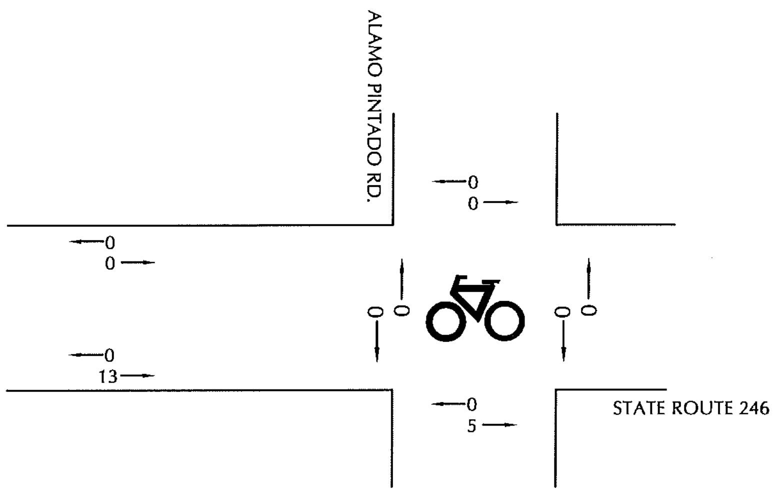
PEDESTRIAN VOLUMES

FIGURE A

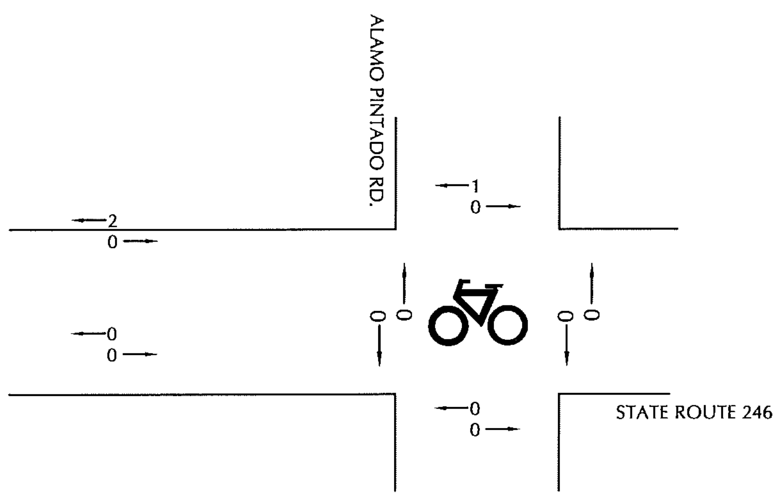
MMF - #14056



A.M. PEAK PERIOD BICYCLE VOLUMES (7:00 A.M. TO 9:00 A.M.)



NOON PEAK PERIOD BICYCLE VOLUMES (11:00 A.M. TO 1:00 P.M.)



P.M. PEAK PERIOD BICYCLE VOLUMES (4:00 P.M. TO 6:00 P.M.)

ASSOCIATED TRANSPORTATION ENGINEERS

BICYCLE VOLUMES

FIGURE B

MMF - #14056

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date: 3/24/2015
Day: Tuesday

Project #: 15-8027-001
City: Solvang

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	

Peak Hour Summary

N

Alamo Pintado Rd

SR-246

Southbound Approach

Lanes	Left	Through	Right	Out
AM	161	4	181	356
NOON	0	0	0	0
PM	0	0	0	0

Westbound Approach

	AM	NOON	PM
Right	161	0	0
Through	530	0	0
Left	6	0	0
In	857	0	0

Lanes

CONTROL

Eastbound Approach

	AM	NOON	PM
Out	696	0	0
Left	187	0	0
Through	666	0	0
Right	11	0	0

Lanes

Northbound Approach

	Out	Left	Through	Right
AM	21	5	8	10
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

346	356	AM
0	0	NOON
0	0	PM

West Leg

AM	NOON	PM
696	0	0
864	0	0

East Leg

AM	NOON	PM
697	0	0
857	0	0

South Leg

AM	21	23
NOON	0	0
PM	0	0

Total Volume Per Leg

North Leg

702	AM
0	NOON
0	PM

West Leg

AM	NOON	PM
1560	0	0

East Leg

AM	NOON	PM
1554	0	0

South Leg

AM	44
NOON	0
PM	0

ITM Peak Hour Summary

Prepared by:

NDS

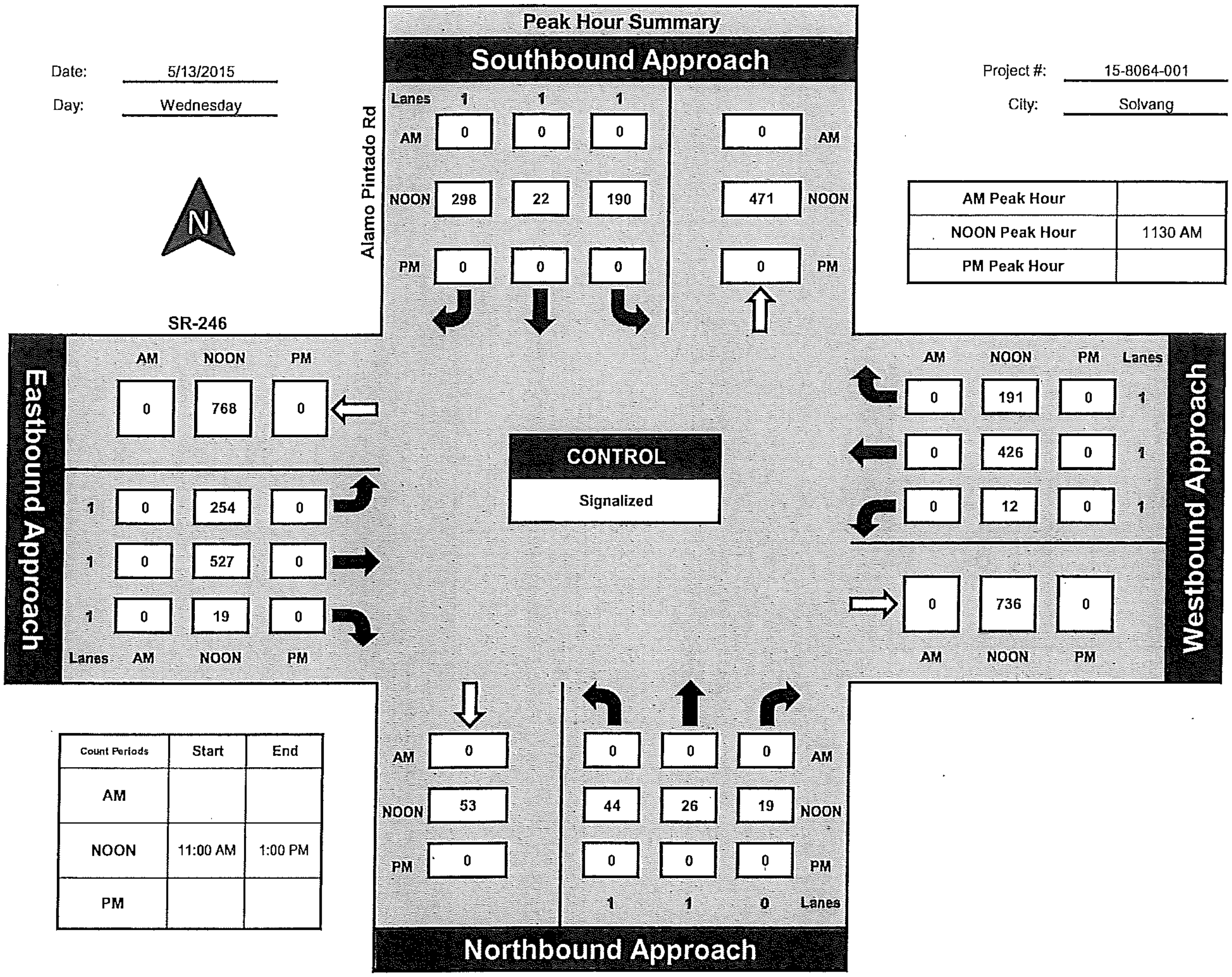
National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date:	5/13/2015
Day:	Wednesday

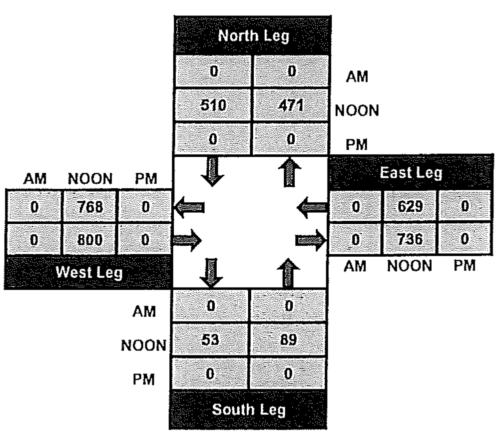
Project #:	15-8064-001
City:	Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

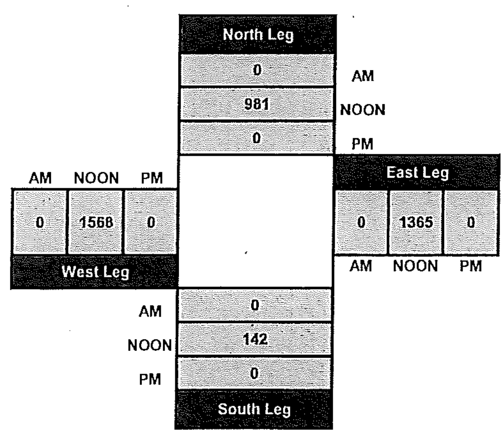


Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Commercial Dwy and Old Mission Dr , Solvang

Date:	3/24/2015
Day:	Tuesday
Project #:	15-8027-004
City:	Solvang

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

N

Commercial Dwy

Old Mission Dr

Peak Hour Summary

CONTROL

Southbound Approach

Lanes	Left	Thru	Right	Out
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	0
Thru	5	0	0
Left	23	0	0
Out	20	0	0

Eastbound Approach

Lanes	AM	NOON	PM
Out	7	0	0
Left	0	0	0
Thru	9	0	0
Right	0	0	0

Northbound Approach

Lanes	Out	Left	Thru	Right
AM	23	2	0	11
NOON	0	0	0	0
PM	0	0	0	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg	Out	In
AM	0	0
NOON	0	0
PM	0	0

West Leg	AM	NOON	PM
Out	7	0	0
In	9	0	0

East Leg	AM	NOON	PM
In	28	0	0
Out	20	0	0

South Leg	Out	In
AM	23	13
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg	West Leg	East Leg	South Leg
AM	0	16	48	36
NOON	0	0	0	0
PM	0	0	0	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Commercial Dwy and Old Mission Dr , Solvang

Date: 5/13/2015

Day: Wednesday

Project #: 15-8064-004

City: Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

Peak Hour Summary

CONTROL: No Control

N

Commercial Dwy

Old Mission Dr

Southbound Approach

	Lanes	AM	NOON	PM
Left	0	0	0	0
Through	0	0	0	0
Right	0	0	0	0
Exiting (northbound)		0	0	0

Westbound Approach

	Lanes	AM	NOON	PM
Right	0	0	0	0
Through	1	0	8	0
Left	0	0	61	0
Exiting (eastbound)		0	43	0

Eastbound Approach

	Lanes	AM	NOON	PM
Exiting (westbound)		0	9	0
Left	0	0	0	0
Through	1	0	4	0
Right	0	0	1	0

Northbound Approach

	Lanes	AM	NOON	PM
Exiting (southbound)		0	62	0
Left	0	0	1	0
Through	1	0	0	0
Right	0	0	39	0

Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs

Leg		AM	NOON	PM
North Leg	Out	0	0	0
North Leg	In	0	0	0
East Leg	In	0	69	0
East Leg	Out	0	43	0
West Leg	Out	0	9	0
West Leg	In	0	5	0
South Leg	Out	0	62	0
South Leg	In	0	40	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	0
East Leg	0	112	0
West Leg	0	14	0
South Leg	0	102	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Hillside Dr/Commercial Dwy and Old Mission Dr , Solvang

Date:	3/24/2015
Day:	Tuesday

Project #:	15-8027-003
City:	Solvang

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

N

Hillside Dr/Commercial Dwy

Old Mission Dr

Peak Hour Summary

Southbound Approach

Lanes

AM	0	0	9	9
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
	29	0	0
	0	0	0
	20	0	0
	0	0	0

Lanes AM NOON PM

CONTROL

Westbound Approach

	AM	NOON	PM
	9	0	0
	29	0	0
	21	0	0
	35	0	0

Lanes

Northbound Approach

AM	21	0	0	6
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

AM	9	9
NOON	0	0
PM	0	0

West Leg

AM	NOON	PM
29	0	0
20	0	0

East Leg

AM	NOON	PM
59	0	0
35	0	0

South Leg

AM	21	6
NOON	0	0
PM	0	0

Total Volume Per Leg

North Leg

AM	18
NOON	0
PM	0

West Leg

AM	NOON	PM
49	0	0

East Leg

AM	NOON	PM
94	0	0

South Leg

AM	27
NOON	0
PM	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Hillside Dr/Commercial Dwy and Old Mission Dr , Solvang

Date:	5/13/2015
Day:	Wednesday
Project #:	15-8064-003
City:	Solvang

N

Peak Hour Summary

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

CONTROL

1-Way Stop (SB)

Southbound Approach (Hillside Dr/Commercial Dwy)

	Left	Through	Right	Departing
Lanes	0	1	0	
AM	0	0	0	0
NOON	0	2	10	11
PM	0	0	0	0

Eastbound Approach (Old Mission Dr)

	Departing AM	Departing NOON	Departing PM
	0	72	0

Lanes	Movement	AM	NOON	PM
0	Left	0	0	0
1	Through	0	44	0
0	Right	0	1	0

Westbound Approach

Movement	AM	NOON	PM	Lanes
Right	0	10	0	0
Through	0	72	0	1
Left	0	39	0	0
Departing	0	78	0	

Northbound Approach

	Departing	Left	Through	Right
AM	0	0	0	0
NOON	42	0	1	24
PM	0	0	0	0
Lanes		0	1	0

Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs

North Leg	In	Out
AM	0	0
NOON	12	11
PM	0	0

West Leg	AM	NOON	PM
Out	0	72	0
In	0	45	0

East Leg	AM	NOON	PM
In	0	121	0
Out	0	78	0

South Leg	Out	In
AM	0	0
NOON	42	25
PM	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	23	0
West Leg	0	117	0
East Leg	0	199	0
South Leg	0	67	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-002

City: Solvang

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	

Peak Hour Summary

Alamo Pintado Rd

Commercial Dwy

CONTROL

Southbound Approach

Lanes	Left	Thru	Right	Out
AM	15	325	0	403
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Out	15	0	0
Left	0	0	0
Thru	0	0	0
Right	13	0	0

Lanes

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	0
Thru	0	0	0
Left	0	0	0
Out	0	0	0

Northbound Approach

	Out	Left	Thru	Right
AM	338	0	403	0
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

AM	340	403
NOON	0	0
PM	0	0

East Leg

	AM	NOON	PM
In	0	0	0
Out	0	0	0

West Leg

	AM	NOON	PM
Out	15	0	0
In	13	0	0

South Leg

AM	338	403
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg	South Leg
AM	743	741
NOON	0	0
PM	0	0

	AM	NOON	PM
West Leg	28	0	0
East Leg	0	0	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

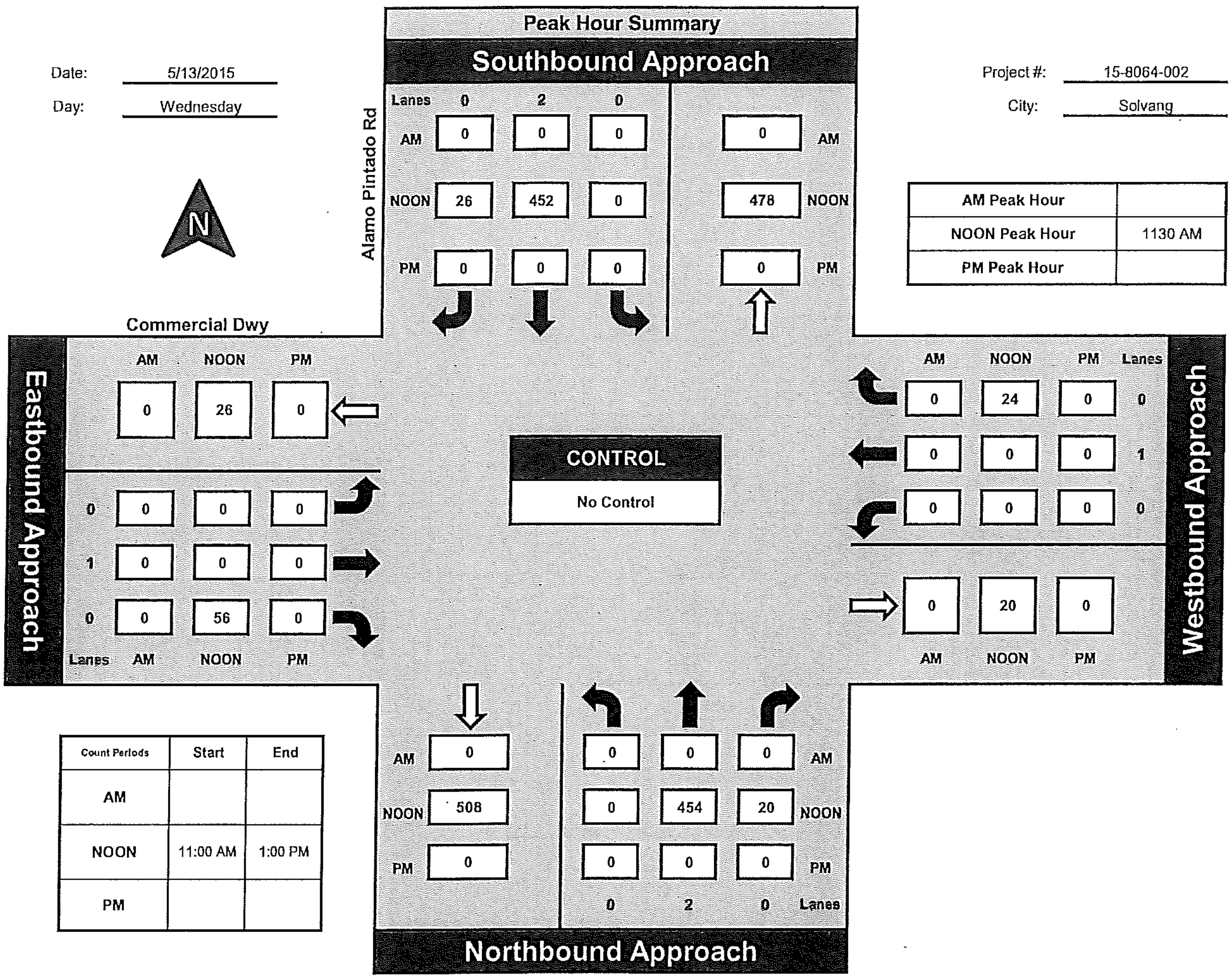
Date: 5/13/2015

Day: Wednesday

Project #: 15-8064-002

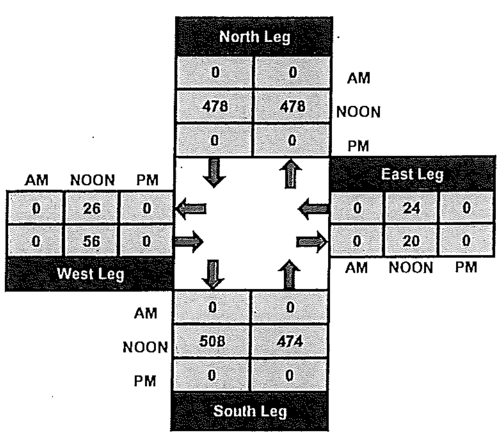
City: Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

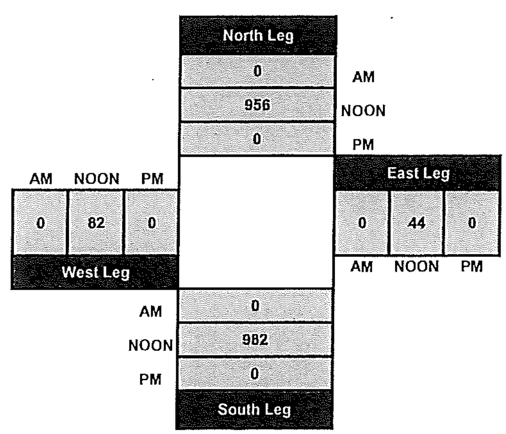


Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



#14056 - VALLEY STATION SHOPPING CENTER PROJECT
PEDESTRIAN/BICYCLE COUNT DATA WORKSHEET

COUNT DATE: 3/24/2015
DAY: TUESDAY
N/S STREET: ALAMO PINTADO ROAD
E/W STREET: SR 246

A.M. PEAK PERIOD

PEDESTRIAN VOLUMES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	1	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0
8:45 AM	0	0	0	0	1	1	0	2
TOTALS	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**2**

BICYCLE VOLUMES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

P.M. PEAK PERIOD

PEDESTRIAN VOLUMES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	4	0	0	0	0	2	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	1	0	0
TOTALS	**0**	**4**	**0**	**0**	**1**	**1**	**3**	**1**

BICYCLE VOLUMES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

PEAK HOURS

PEDESTRIAN VOLUMES

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
8:00 A.M.	0	0	0	0	3	1	0	2
4:00 P.M.	0	4	0	0	1	1	3	1

PEAK HOURS

BICYCLE VOLUMES

	TIME	NB			SB			EB			WB		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
AM	8:00 A.M.	0	0	0	0	0	0	0	0	0	0	1	0
PM	4:00 P.M.	0	0	0	0	0	0	0	0	0	0	1	0

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-8064-001
N/S Street: Alamo Pintado Rd
E/W Street: SR-246
DATE: 5/13/2015
DAY: Wednesday
CITY: Solvang

N O O N

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
11:00 AM	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	0
11:30 AM	0	0	0	0	1	0	0	0
11:45 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	1	1	0	0
12:30 PM	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**2**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
11:00 AM	0	0	0	0	0	0	1	0	0	0	0	4
11:15 AM	0	0	0	0	0	0	0	1	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	3	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	1	0	0	0
12:00 PM	0	0	2	0	0	0	0	1	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	6	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**0**	**0**	**0**	**7**	**5**	**1**	**0**	**0**	**5**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
11:30 AM	0	0	0	0	2	1	0	2

NOON

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
11:45 AM	0	0	2	0	0	0	6	1	1	0	0	1

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - EXISTING TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	41,218	42.70	1,760	2.21	91	65%	59	35%	32	3.93	162	44%	71	56%	91

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - EXISTING TRIP GENERTION - NOON PEAK HOUR

Land Use	Size	NOON PEAK HOUR					
		Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	41,218	6.11	252	52%	131	48%	121

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	39,250	42.70	1,676	2.21	87	65%	57	35%	30	3.93	154	44%	68	56%	86
2. Apartments(b)	9	6.65	60	0.51	5	20%	1	80%	4	0.62	6	65%	4	35%	2
Project Totals:			1,736		92		58		34		160		72		88

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT - NOON PEAK HOUR

Land Use	Size	NOON PEAK HOUR					
		Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	39,250	6.11	240	52%	125	48%	115
2. Apartments(b)	9	0.29	3	50%	2	50%	1
Project Totals:			243		127		116

(a) Midday rates from existing shopping center driveway counts.

(b) Midday rates from count data published by SANDAG and Caltrans trip generation studies.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1726	1652		1722	1827	1529
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1371	1652		1347	1827	1529
Volume (vph)	187	666	11	6	530	161	5	8	10	181	4	161
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	231	822	14	7	654	199	6	10	12	223	5	199
RTOR Reduction (vph)	0	0	6	0	0	115	0	9	0	0	0	83
Lane Group Flow (vph)	231	822	8	7	654	84	6	13	0	223	5	116
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Effective Green, g (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Actuated g/C Ratio	0.17	0.59	0.59	0.01	0.42	0.42	0.27	0.27		0.27	0.27	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	294	1070	886	14	775	647	363	438		357	484	737
v/s Ratio Prot	c0.13	0.45		0.00	c0.36			0.01			0.00	0.03
v/s Ratio Perm			0.01			0.06	0.00			c0.17		0.05
v/c Ratio	0.79	0.77	0.01	0.50	0.84	0.13	0.02	0.03		0.62	0.01	0.16
Uniform Delay, d1	33.8	13.3	7.3	41.9	21.9	14.9	23.0	23.1		27.5	23.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.4	0.0	25.4	8.3	0.1	0.1	0.1		8.0	0.0	0.1
Delay (s)	46.7	16.6	7.3	67.3	30.3	15.0	23.1	23.2		35.5	23.0	14.7
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		23.0			27.0			23.2			25.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	0	23	5	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	25	5	2	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			10		65	10
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			10		65	10
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1597		921	1066

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	10	30	14
Volume Left	0	25	2
Volume Right	0	0	12
cSH	1700	1597	1041
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	6.0	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	20	0	21	29	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	23	32	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			22		99	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			22		99	22
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1581		882	1050

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	22	54	7
Volume Left	0	23	0
Volume Right	0	0	7
cSH	1700	1581	1050
Volume to Capacity	0.01	0.01	0.01
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	3.1	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	3.1	8.5
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	13	0	356	333	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	0	387	362	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	555	181	378			
vC1, stage 1 conf vol	362					
vC2, stage 2 conf vol	193					
vCu, unblocked vol	555	181	378			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	401	824	1163			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	14	193	193	181	181	16
Volume Left	0	0	0	0	0	0
Volume Right	14	0	0	0	0	16
cSH	824	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.11	0.11	0.11	0.11	0.01
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.4	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1730	1652		1722	1827	1539
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1374	1652		1347	1827	1539
Volume (vph)	188	666	11	6	544	147	5	8	10	182	4	163
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	232	822	14	7	672	181	6	10	12	225	5	201
RTOR Reduction (vph)	0	0	6	0	0	102	0	9	0	0	0	84
Lane Group Flow (vph)	232	822	8	7	672	79	6	13	0	225	5	117
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.4	50.4	50.4	0.7	36.7	36.7	21.5	21.5		21.5	21.5	35.9
Effective Green, g (s)	14.4	50.4	50.4	0.7	36.7	36.7	21.5	21.5		21.5	21.5	35.9
Actuated g/C Ratio	0.17	0.60	0.60	0.01	0.43	0.43	0.25	0.25		0.25	0.25	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	295	1088	902	14	793	662	349	420		342	464	726
v/s Ratio Prot	c0.13	0.45		0.00	c0.37			0.01			0.00	0.03
v/s Ratio Perm			0.01			0.05	0.00			c0.17		0.05
v/c Ratio	0.79	0.76	0.01	0.50	0.85	0.12	0.02	0.03		0.66	0.01	0.16
Uniform Delay, d1	33.6	12.6	7.0	41.8	21.4	14.3	23.6	23.7		28.3	23.6	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.0	0.0	25.4	8.4	0.1	0.1	0.1		9.5	0.0	0.1
Delay (s)	46.5	15.6	7.0	67.2	29.8	14.4	23.7	23.9		37.8	23.6	15.2
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		22.2			26.9			23.8			27.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	3	30	5	2	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	3	33	5	2	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			13		82	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			13		82	11
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	98
cM capacity (veh/h)			1592		896	1064

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	38	20
Volume Left	0	33	2
Volume Right	3	0	17
cSH	1700	1592	1042
Volume to Capacity	0.01	0.02	0.02
Queue Length 95th (ft)	0	2	1
Control Delay (s)	0.0	6.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	16	0	343	333	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	17	0	373	362	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	548	181	374			
vC1, stage 1 conf vol	362					
vC2, stage 2 conf vol	186					
vCu, unblocked vol	548	181	374			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	403	824	1167			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	17	186	186	181	181	12
Volume Left	0	0	0	0	0	0
Volume Right	17	0	0	0	0	12
cSH	824	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.11	0.11	0.11	0.11	0.01
Queue Length 95th (ft)	2	0	0	0	0	0
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.5	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	865	698	14	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	1068	862	17	0	0
Pedestrians		1				
Lane Width (ft)		12.0				
Walking Speed (ft/s)		4.0				
Percent Blockage		0				
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)			400			
pX, platoon unblocked	0.66				0.66	0.66
vC, conflicting volume	879				1930	863
vC1, stage 1 conf vol					862	
vC2, stage 2 conf vol					1068	
vCu, unblocked vol	816				2411	792
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	529				113	254

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	1068	862	17
Volume Left	0	0	0
Volume Right	0	0	17
cSH	1700	1700	1700
Volume to Capacity	0.63	0.51	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

EXISTING NOON PEAK HOUR
1: SR 246 & Alamo Pintado 5/21/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1507	1736	1827	1529	1719	1692		1728	1827	1525
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1736	1827	1507	1736	1827	1529	1343	1692		1321	1827	1525
Volume (vph)	254	527	19	12	426	191	44	26	19	190	22	298
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	265	549	20	12	444	199	46	27	20	198	23	310
RTOR Reduction (vph)	0	0	9	0	0	133	0	14	0	0	0	102
Lane Group Flow (vph)	265	549	11	12	444	66	46	33	0	198	23	208
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.0	41.6	41.6	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.7
Effective Green, g (s)	16.0	41.6	41.6	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.7
Actuated g/C Ratio	0.20	0.53	0.53	0.01	0.33	0.33	0.31	0.31		0.31	0.31	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	352	962	794	15	608	509	420	529		413	571	863
v/s Ratio Prot	c0.15	0.30		0.01	c0.24			0.02			0.01	0.05
v/s Ratio Perm			0.01			0.04	0.03			c0.15		0.09
v/c Ratio	0.75	0.57	0.01	0.80	0.73	0.13	0.11	0.06		0.48	0.04	0.24
Uniform Delay, d1	29.6	12.7	8.9	39.1	23.2	18.4	19.3	19.0		22.0	18.9	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.8	0.8	0.0	132.2	4.5	0.1	0.5	0.2		3.9	0.1	0.1
Delay (s)	38.4	13.5	8.9	171.3	27.7	18.5	19.8	19.3		25.9	19.0	10.7
Level of Service	D	B	A	F	C	B	B	B		C	B	B
Approach Delay (s)		21.3			27.5			19.6			16.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	1	61	8	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	66	9	1	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			5		146	5
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			5		146	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	96
cM capacity (veh/h)			1603		807	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	5	75	43
Volume Left	0	66	1
Volume Right	1	0	42
cSH	1700	1603	1064
Volume to Capacity	0.00	0.04	0.04
Queue Length 95th (ft)	0	3	3
Control Delay (s)	0.0	6.5	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.5	8.5
Approach LOS			A

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	44	1	41	72	0	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	1	45	78	0	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			49		216	48
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			49		216	48
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	97
cM capacity (veh/h)			1545		746	1015

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	49	123	27
Volume Left	0	45	0
Volume Right	1	0	27
cSH	1700	1545	1015
Volume to Capacity	0.03	0.03	0.03
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	2.8	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.6
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	56	0	471	454	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	61	0	512	493	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	749	247	522			
vC1, stage 1 conf vol	493					
vC2, stage 2 conf vol	256					
vCu, unblocked vol	749	247	522			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	334	747	1027			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	61	256	256	247	247	28
Volume Left	0	0	0	0	0	0
Volume Right	61	0	0	0	0	28
cSH	747	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.15	0.15	0.15	0.15	0.02
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1507	1736	1827	1529	1725	1692		1727	1827	1536
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1736	1827	1507	1736	1827	1529	1348	1692		1321	1827	1536
Volume (vph)	253	527	19	12	456	160	44	26	19	189	22	295
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	264	549	20	12	475	167	46	27	20	197	23	307
RTOR Reduction (vph)	0	0	9	0	0	109	0	14	0	0	0	98
Lane Group Flow (vph)	264	549	11	12	475	58	46	33	0	197	23	209
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	15.8	42.7	42.7	0.7	27.6	27.6	24.7	24.7		24.7	24.7	40.5
Effective Green, g (s)	15.8	42.7	42.7	0.7	27.6	27.6	24.7	24.7		24.7	24.7	40.5
Actuated g/C Ratio	0.20	0.53	0.53	0.01	0.34	0.34	0.31	0.31		0.31	0.31	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	342	974	803	15	630	527	416	522		407	563	853
v/s Ratio Prot	c0.15	0.30		0.01	c0.26			0.02			0.01	0.05
v/s Ratio Perm			0.01			0.04	0.03			c0.15		0.09
v/c Ratio	0.77	0.56	0.01	0.80	0.75	0.11	0.11	0.06		0.48	0.04	0.25
Uniform Delay, d1	30.4	12.5	8.8	39.6	23.2	17.9	19.8	19.5		22.5	19.4	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.3	0.8	0.0	132.2	5.1	0.1	0.5	0.2		4.1	0.1	0.2
Delay (s)	40.8	13.2	8.8	171.8	28.3	18.0	20.4	19.8		26.6	19.5	11.3
Level of Service	D	B	A	F	C	B	C	B		C	B	B
Approach Delay (s)		21.9			28.3			20.1			17.4	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	4	68	8	2	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	4	74	9	2	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			9		163	7
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			9		163	7
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	95
cM capacity (veh/h)			1598		785	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	9	83	61
Volume Left	0	74	2
Volume Right	4	0	59
cSH	1700	1598	1057
Volume to Capacity	0.01	0.05	0.06
Queue Length 95th (ft)	0	4	5
Control Delay (s)	0.0	6.6	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	6.6	8.6
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	60	0	439	446	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	65	0	477	485	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	723	242	512			
vC1, stage 1 conf vol	485					
vC2, stage 2 conf vol	239					
vCu, unblocked vol	723	242	512			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	341	752	1036			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	65	239	239	242	242	27
Volume Left	0	0	0	0	0	0
Volume Right	65	0	0	0	0	27
cSH	752	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.14	0.14	0.14	0.14	0.02
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	799	765	30	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	868	832	33	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)			400			
pX, platoon unblocked	0.77				0.77	0.77
vC, conflicting volume	864				1700	832
vC1, stage 1 conf vol					832	
vC2, stage 2 conf vol					868	
vCu, unblocked vol	823				1911	781
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	613				146	301

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	868	832	33
Volume Left	0	0	0
Volume Right	0	0	33
cSH	1700	1700	1700
Volume to Capacity	0.51	0.49	0.02
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1718	1698		1727	1827	1526
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1347	1698		1306	1827	1526
Volume (vph)	264	563	25	8	574	181	37	34	23	188	18	356
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	275	586	26	8	598	189	39	35	24	196	19	371
RTOR Reduction (vph)	0	0	11	0	0	114	0	18	0	0	0	86
Lane Group Flow (vph)	275	586	15	8	598	75	39	41	0	196	19	285
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Effective Green, g (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Actuated g/C Ratio	0.19	0.58	0.58	0.01	0.40	0.40	0.27	0.27		0.27	0.27	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	334	1062	876	14	726	607	360	454		349	489	775
v/s Ratio Prot	c0.16	0.32		0.00	c0.33			0.02			0.01	0.07
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.12
v/c Ratio	0.82	0.55	0.02	0.57	0.82	0.12	0.11	0.09		0.56	0.04	0.37
Uniform Delay, d1	32.6	10.8	7.4	41.6	22.7	16.1	23.2	23.1		26.5	22.8	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.6	0.0	46.0	7.5	0.1	0.6	0.4		6.4	0.1	0.3
Delay (s)	47.6	11.5	7.4	87.5	30.2	16.2	23.8	23.5		32.9	22.9	15.0
Level of Service	D	B	A	F	C	B	C	C		C	C	B
Approach Delay (s)		22.6			27.5			23.6			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	0	44	4	0	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	48	4	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			3		103	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3		103	3
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	98
cM capacity (veh/h)			1606		864	1075

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	3	52	24
Volume Left	0	48	0
Volume Right	0	0	24
cSH	1700	1606	1075
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	6.7	8.4
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	8.4
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	25	0	16	46	0	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	17	50	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			27		112	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			27		112	27
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1574		870	1043

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	27	67	29
Volume Left	0	17	0
Volume Right	0	0	29
cSH	1700	1574	1043
Volume to Capacity	0.02	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	1.9	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.9	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	42	0	479	520	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	46	0	521	565	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	826	283	577			
vC1, stage 1 conf vol	565					
vC2, stage 2 conf vol	260					
vCu, unblocked vol	826	283	577			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	309	708	979			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	260	260	283	283	12
Volume Left	0	0	0	0	0	0
Volume Right	46	0	0	0	0	12
cSH	708	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.15	0.15	0.17	0.17	0.01
Queue Length 95th (ft)	5	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1725	1698		1727	1827	1537
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1353	1698		1306	1827	1537
Volume (vph)	265	563	25	8	592	163	37	34	23	187	18	356
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	276	586	26	8	617	170	39	35	24	195	19	371
RTOR Reduction (vph)	0	0	11	0	0	101	0	18	0	0	0	87
Lane Group Flow (vph)	276	586	15	8	617	69	39	41	0	195	19	284
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.2	49.7	49.7	0.7	34.2	34.2	21.5	21.5		21.5	21.5	37.7
Effective Green, g (s)	16.2	49.7	49.7	0.7	34.2	34.2	21.5	21.5		21.5	21.5	37.7
Actuated g/C Ratio	0.19	0.59	0.59	0.01	0.41	0.41	0.26	0.26		0.26	0.26	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	335	1082	892	14	745	623	347	435		335	468	764
v/s Ratio Prot	c0.16	0.32		0.00	c0.34			0.02			0.01	0.07
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.11
v/c Ratio	0.82	0.54	0.02	0.57	0.83	0.11	0.11	0.09		0.58	0.04	0.37
Uniform Delay, d1	32.5	10.3	7.0	41.5	22.2	15.4	23.9	23.8		27.3	23.4	15.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.6	0.0	46.0	7.6	0.1	0.7	0.4		7.2	0.2	0.3
Delay (s)	47.5	10.8	7.1	87.4	29.8	15.5	24.5	24.2		34.5	23.6	15.6
Level of Service	D	B	A	F	C	B	C	C		C	C	B
Approach Delay (s)		22.1			27.3			24.3			22.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	3	37	4	2	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	40	4	2	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			7		90	5
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			7		90	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	96
cM capacity (veh/h)			1601		883	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	7	45	46
Volume Left	0	40	2
Volume Right	3	0	43
cSH	1700	1601	1062
Volume to Capacity	0.00	0.03	0.04
Queue Length 95th (ft)	0	2	3
Control Delay (s)	0.0	6.6	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.6	8.5
Approach LOS			A

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	46	0	462	515	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	50	0	502	560	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	811	280	575			
vC1, stage 1 conf vol	560					
vC2, stage 2 conf vol	251					
vCu, unblocked vol	811	280	575			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	312	711	981			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	50	251	251	280	280	15
Volume Left	0	0	0	0	0	0
Volume Right	50	0	0	0	0	15
cSH	711	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.15	0.15	0.16	0.16	0.01
Queue Length 95th (ft)	6	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	853	968	18	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	927	1052	20	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					0	
Upstream signal (ft)			400			
pX, platoon unblocked	0.69				0.69	0.69
vC, conflicting volume	1072				1979	1052
vC1, stage 1 conf vol					1052	
vC2, stage 2 conf vol					927	
vCu, unblocked vol	1104				2421	1076
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	431				104	182

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	927	1052	20
Volume Left	0	0	0
Volume Right	0	0	20
cSH	1700	1700	1700
Volume to Capacity	0.55	0.62	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

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Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

July 22, 2015 | 14056L06

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SUPPLEMENTAL ANALYSIS FOR THE
VALLEY STATION SHOPPING CENTER PROJECT, CITY OF SOLVANG, CALIFORNIA

Associated Transportation Engineers (ATE) prepared a traffic study for the Valley Station Shopping Center Project in May 2015.[1] That study assessed the traffic effects of the shopping center being rebuilt to include 39,500 SF of commercial space and 9 apartment units. The project has since been modified to include 42,365 of commercial space and 8 apartment units (+2,865 SF commercial and -1 apartment).

The purpose of the following analysis is to provide trip generation estimates for the currently proposed project and evaluate the potential for significant traffic impacts.

TRIP GENERATION ANALYSIS

Trip generation estimates were calculated for the proposed project using the trip rates developed from the existing Valley Plaza center since those rates represent local shopping center conditions and are higher than ITE shopping center rates (same rates used in the traffic study). Table 1 lists the trip generation estimates for the modified project and compares them to trip generation estimates used in the traffic study. Worksheets showing the detailed trip generation calculations are attached for reference.

---

[1] Revised Traffic Study for the Valley Station Shopping Center Project, Associated Transportation Engineers May 26, 2015.

Table 1
Trip Generation Estimates

Scenario	Size	A.M. Peak Hour Trip Rate	A.M. Peak Hour Trips	Noon Peak Hour Trip Rate	Noon Peak Hour Trips	P.M. Peak Hour Trip Rate	P.M. Peak Hour Trips
CURRENTLY PROPOSED PROJECT							
Shopping Center	42,365 SF	2.21	94	6.11	259	3.93	166
Apartments	8 DU	0.51	4	0.29	2	0.62	5
Totals			98		261		171
PROJECT ANALYZED IN TRAFFIC STUDY							
Shopping Center	39,250 SF	2.21	87	6.11	240	3.93	154
Apartments	9 DU	0.51	5	0.29	3	0.62	6
Totals			92		243		160
NET TRAFFIC DIFFERENCES			**+6**		**+18**		**+11**

As shown, the currently proposed project would result in a net increase in traffic when compared to the project that was analyzed in the traffic study (+6 A.M. peak hour trips, +18 Noon peak hour trips, and +11 P.M. peak hour trips).

POTENTIAL IMPACTS

The traffic study prepared for the previous project found that the SR 246/Alamo Pintado Road intersection would operate at LOS C during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet Caltrans's LOS C standard. The modified project would result in a net increase at the intersection of about 4 trips during the A.M. peak hour; 13 trips during the Noon peak hour; and 7 trips during the P.M. peak hour. The intersection would operate at LOS C during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic assuming the minor amount of additional peak hour traffic that would be generated by the modified project. Thus, the currently proposed project would not impact the intersection.

Similarly, the traffic study prepared for the previous project found that the driveways that serve the shopping center would operate at LOS A-B during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet City's LOS C standard. There are four driveways that would serve the center and the modified project would result in a net increase of less than 5 trips at each of the driveways during the peak hour periods. The driveways would operate at LOS A-B during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic assuming the minor amount of additional peak hour traffic that would be generated by the modified project. Thus, the currently proposed project would not impact the project driveways.

This concludes our supplemental analysis for the Valley Station Shopping Center Project. We appreciate the opportunity to assist you the project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

Attachments

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	42,365	42.70	1,809	2.21	94	65%	61	35%	33	3.93	166	44%	73	56%	93
2. Apartments(b)	8	6.65	53	0.51	4	20%	1	80%	3	0.62	5	65%	3	35%	2
Project Totals:			1,862		98		62		36		171		76		95

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT - NOON PEAK HOUR

Land Use	Size	NOON PEAK HOUR					
		Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	42,365	6.11	259	52%	135	48%	124
2. Apartments(b)	8	0.29	2	50%	1	50%	1
Project Totals:			261		136		125

(a) Midday rates from existing shopping center driveway counts.
(b) Midday rates from count data published by SANDAG and Caltrans trip generation studies.

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September 9, 2015 14056L07

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SUPPLEMENTAL ANALYSIS FOR THE
VALLEY STATION SHOPPING CENTER PROJECT, CITY OF SOLVANG, CALIFORNIA

Associated Transportation Engineers (ATE) prepared a traffic study for the Valley Station Shopping Center Project in May 2015.[1] That study assessed the traffic effects of the shopping center being rebuilt to include 39,500 SF of commercial space and 9 apartment units. The project has since been modified to include 42,365 of commercial space and 8 apartment units (+2,865 SF commercial and -1 apartment).

The purpose of the following analysis is to provide trip generation estimates for the currently proposed project and evaluate the potential for significant traffic impacts. The supplemental analysis also addresses the comments that were provided by Stantec in the peer review letter dated August 18, 2015.

TRIP GENERATION ANALYSIS

Trip generation estimates were calculated for the proposed project using the trip rates developed from the existing Valley Plaza center since those rates represent local shopping center conditions and are higher than ITE shopping center rates (same rates used in the traffic study). Table 1 lists the trip generation estimates for the modified project and compares them to trip generation estimates used in the traffic study. Worksheets showing the detailed trip generation calculations are attached for reference.

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[1] Revised Traffic Study for the Valley Station Shopping Center Project, Associated Transportation Engineers May 26, 2015.

Table 1
Trip Generation Estimates

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CURRENTLY PROPOSED PROJECT							
Shopping Center	42,365 SF	2.21	94	6.11	259	3.93	166
Apartments	8 DU	0.51	4	0.29	2	0.62	5
Totals			98		261		171
PROJECT ANALYZED IN TRAFFIC STUDY							
Shopping Center	39,250 SF	2.21	87	6.11	240	3.93	154
Apartments	9 DU	0.51	5	0.29	3	0.62	6
Totals			92		243		160
NET TRAFFIC DIFFERENCES			**+6**		**+18**		**+11**

As shown, the currently proposed project would result in a net increase in traffic when compared to the project that was analyzed in the traffic study (+6 A.M. peak hour trips, +18 Noon peak hour trips, and +11 P.M. peak hour trips).

POTENTIAL IMPACTS

The traffic study prepared for the previous project found that the SR 246/Alamo Pintado Road intersection would operate at LOS C during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet Caltrans's LOS C standard. The modified project would result in a net increase at the intersection of about 4 trips during the A.M. peak hour; 13 trips during the Noon peak hour; and 7 trips during the P.M. peak hour. The intersection would operate at LOS C during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic assuming the minor amount of additional peak hour traffic that would be generated by the modified project. Thus, the currently proposed project would not impact the intersection.

Similarly, the traffic study prepared for the previous project found that the driveways that serve the shopping center would operate at LOS A-B during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet City's LOS C standard. There are four driveways that would serve the center and the modified project would result in a net increase of less than 5 trips at each of the driveways during the peak hour periods. The driveways would operate at LOS A-B during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic assuming the minor amount of additional peak hour traffic that would be generated by the modified project. Thus, the currently proposed project would not impact the project driveways.

RESPONSES TO PEER REVIEW COMMENTS

The following section addresses the peer review comments that were provided by Stantec in the letter dated August 18, 2015 (attached for reference).

Alamo Pintado/Old Mission Road Intersection

The Alamo Pintado Road/Old Mission Drive intersection is located approximately 250 feet north of the SR 246/Mission Drive intersection and is controlled by All Way Stop-Signs. The section of Old Mission Drive west of the Alamo Pintado Road intersection provides access to the two existing Valley Plaza Shopping Center driveways as well as several single family homes. The section east of the intersection provides access to the Nielsen's Shopping Center.

The traffic study completed for the project did not include a detailed operational analysis for the Alamo Pintado Road/Old Mission Drive intersection since the proposed project would reduce traffic at the intersection. The traffic analysis found that adding the new driveway on SR 246 and closing one of the driveways on Old Mission Road would result in a net reduction in traffic at the Alamo Pintado Road/Old Mission Drive intersection, a beneficial impact.

As noted above, the Alamo Pindtado Road/Old Mission Drive intersection is controlled by All Way Stop-Signs. The All Way Stop-Signs were installed at the intersection several years ago after the City completed an operational analysis to determine the best traffic control options for the intersection. With the implementation of the All Way Stop-Signs, the intersection operates acceptably in the LOS B range. No significant operational or queuing issues were observed at the intersection during the field work completed for this study.

SR 246/Alamo Pintado Road Intersection LOS Calculations

The Stantec peer review comments stated that the LOS calculation worksheets for the SR 246/Alamo Pintado Road intersection incorrectly included an eastbound right-turn lane (where none is currently provided). As shown on the attached Figure 1, an eastbound right-turn lane is currently provided at the intersection, thus no changes are required for the worksheets.

SR 246/Alamo Pintado Road Intersection Cumulative Impacts

The traffic analysis completed for the City's Circulation Element update indicated that the operation of the SR 246/Alamo Pintado Road intersection would degrade to the LOS D-F range with buildout of the General Plan and regional growth in the Santa Ynez Valley area. The Valley Station Shopping Center Project would contribute to the future traffic growth at the intersection, a potentially significant cumulative impact.

The City of Solvang has identified improvement options for the intersection that will be funded through the City's Traffic Mitigation Fund which comes from Road Improvement Fees charged to new developments in the City. The proposed Valley Station Shopping Center Project will be required to pay the Road Improvement fees to mitigate its cumulative traffic additions to the SR 246/Alamo Pintado Road intersection.

P.M. Peak Hour Traffic Counts

The Stantec peer review comments indicated that the P.M. peak hour count sheets for the SR 246/Alamo Pintado intersection and the shopping center driveways were not included in the traffic study attachments. The count sheets are attached to this letter.

This concludes our supplemental analysis for the Valley Station Shopping Center Project. We appreciate the opportunity to assist you the project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

Attachments

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	42,365	42.70	1,809	2.21	94	65%	61	35%	33	3.93	166	44%	73	56%	93
2. Apartments(b)	8	6.65	53	0.51	4	20%	1	80%	3	0.62	5	65%	3	35%	2
Project Totals:			1,862		98		62		36		171		76		95

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Associated Transportation Engineers
Trip Generation Worksheet

VALLEY STATION PLAZA PROJECT - PROPOSED PROJECT - NOON PEAK HOUR

Land Use	Size	NOON PEAK HOUR					
		Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	42,365	6.11	259	52%	135	48%	124
2. Apartments(b)	8	0.29	2	50%	1	50%	1
Project Totals:			261		136		125

(a) Midday rates from existing shopping center driveway counts.
(b) Midday rates from count data published by SANDAG and Caltrans trip generation studies.

Stantec

Stantec Consulting Services Inc.
111 East Victoria Street, Santa Barbara CA 93101-2018

August 18, 2015
File: 2064112200

David Foote
Firma Consultants
187 Tank Farm Rd
San Luis Obispo, CA 93401

Subject: **Traffic Study Peer Review for The Merkantile Shopping Center , Solvang, CA**

Dear Mr. Foote,

Stantec reviewed the *Revised Traffic Study for the Valley Station Shopping Center Project* prepared by ATE in May, 2015, and the *Supplemental Analysis for the Valley Station Shopping Center Project* prepared by ATE in July, 2015. The following letter discusses the traffic analysis sections and provides comments where applicable.

The project site is located on the northwest corner of the State Route 246/Alamo Pintado Road intersection in the City of Solvang. The project proposes to reconstruct the existing 46,453 SF shopping center (Valley Plaza) to provide for 42,365 SF of commercial space and 8 apartment units (The Merkantile). Access to the site is proposed via existing driveways on Old Mission Drive and Alamo Pintado Road, and a new ingress only driveway on State Route 246.

Discussion

ATE Report - Existing Conditions: Existing peak hour intersection volumes for the State Route 246/Alamo Pintado Road intersection and the existing Valley Plaza driveways were obtained from counts conducted in March 2015 (AM peak hour), May, 2015 (Noon peak hour) and August, 2014 (PM peak hour). After review, PM peak hour counts collected in March, 2012 were used for the State Route 246/Alamo Pintado Road intersection as these are higher compared to the August, 2014 counts.

The intersection analysis indicates that the State Route 246/Alamo Pintado Road intersection operates at LOS C during the peak hours, which meets the City's and Caltrans LOS C standard. The existing shopping center driveways operate in the LOS A-B range.

Stantec Peer Review: The counts from 2012 used to analyze the PM peak hour exceed the typical traffic count shelf life of two (2) years. However, updated (non-Summer) counts are unlikely to change the analysis results, since Caltrans annual counts indicate that traffic volumes along the State Route 246 corridor are relatively stable. The PM peak hour counts for the intersection and shopping center driveways are not included in the traffic study attachments.

Levels of service for the State Route 246/Alamo Pintado Road intersection are correctly calculated using the methodologies outlined in the 2010 Highway Capacity Manual and apply peak hour factors pursuant Caltrans requirements. The calculations also include pedestrian and bicycle volumes. We have the following comments:

1. The Alamo Pintado Road/Old Mission Drive intersection is located directly north of the State Route 246/ Alamo Pintado Road intersection and is used by shopping center traffic to access the site. It is recommended that a discussion of this intersection be included in the study.
2. Review of the intersection geometry indicates that the calculation sheets are coded to include an eastbound right turn lane at the State Route 246/Alamo Pintado Road intersection, which is not provided.
3. During the PM peak hour, westbound traffic flow is periodically obstructed by queues extending from the downstream State Route 246/Alisal Road intersection. While not a function of the geometry or control at the State Route 246/Alamo Pintado Road intersection, westbound delays for the through and right-turn movements are typically higher during the PM peak hour compared to the values reported in the traffic study.

ATE Report - Project Trip Generation and Distribution: Trip generation estimates for the project were developed using commercial space rates derived from counts at the existing shopping center driveways and rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual (2012)* for the Land Use "Apartment". Using this methodology, the project is expected to generate 98 AM peak hour trips, 261 Noon peak hour trips and 171 PM peak hour trips. The net trip increase would be 7 AM peak hour trips, 9 Noon peak hour trips and 9 PM peak hour trips. Project trips were distributed based on the existing shopping center trip distribution and the proposed access plan.

Stantec Peer Review: Trip generation estimates were developed using site specific rates and standard trip rates derived from the 9th Edition of *ITE's Trip Generation Manual.* Stantec concurs with the project trip generation estimates and distribution.

ATE Report – Project-Specific Analysis. The existing plus project intersection analysis indicates that the State Route 246/Alamo Pintado Road intersection and project driveways would operate at LOS C or better, which meets City and Caltrans level of service standards.

The study indicates that the Alamo Pintado Road/Old Mission Drive intersection was not analyzed because the project would reduce traffic at the intersection. The project would not generate any project-specific intersection impacts.

The traffic study states that the ingress only driveway proposed on State Route 246 would be constructed to Caltrans standards, including a new deceleration lane on SR 246. It was noted that the speed limit in the vicinity of the new driveway will be reduced to 40 MPH in the near future.

Stantec Peer Review: Stantec concurs that the project trip additions and diversion of a portion of existing westbound right-turn trips to the through movement would not adversely affect the State Route 246/Alamo Pintado Road intersection. As noted previously, westbound traffic experiences delays resulting from queues extending from the downstream State Route 246/Alisal Road intersection during the PM peak hour. However, these delays are not a function of geometry or control at the State Route 246/Alamo Pintado Road intersection.

The traffic study does not provide information regarding the operations at the Alamo Pintado Road/Old Mission Drive intersection. While the project may reduce trips at the intersection, operational data should be provided because its proximity directly affects the State Route 246/Alamo Pintado Road intersection.

Because the project site plan is conceptual in nature, Stantec cannot comment on the proposed geometric layout of the proposed ingress only driveway on State Route 246.

ATE Report – Alternative Travel Modes: the analysis states that good inter-visibility would be provided between westbound vehicles using the new access driveway on State Route 246 and westbound bicyclists. The new driveway would not significantly impact bicycle flows along State Route 246. In addition, new sidewalk extensions and improved bus stop adjacent to the project site would improve the walking environment.

Stantec Peer Review: Stantec agrees that the proposed new ingress only driveway on State Route 246 would not significantly impact bicyclist as sufficient sight lines are provided.

ATE Report – Congestion Management Program Analysis: The traffic study states that the proposed project is consistent with CMP criteria because it generates less than 500 daily trips or 50 peak hour trips. No CMP analysis is therefore required.

Stantec Peer Review: We concur that the project is consistent with CMP criteria and no futher CMP analysis is warranted.

Other Stantec comments: It is recommended that an analysis of cumulative conditions be provided to evaluate near future circulation and access conditions for the site. It is also recommended that a parking analysis be provided.

This concludes our peer review for the Updated Traffic and Circulation Study for The Markentile Shopping Center.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Dennis Lammers, PTP
Senior Transportation Planner
Phone: (805) 963-9532
Dennis.Lammers@stantec.com

Source: Google Maps

Associated
Transportation
Engineers

SR 246/ALAMO PINTADO ROAD - EXISTING INTERSECTION CONFIGURATION

FIGURE 1

MMF - #14056

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , City of Solvang

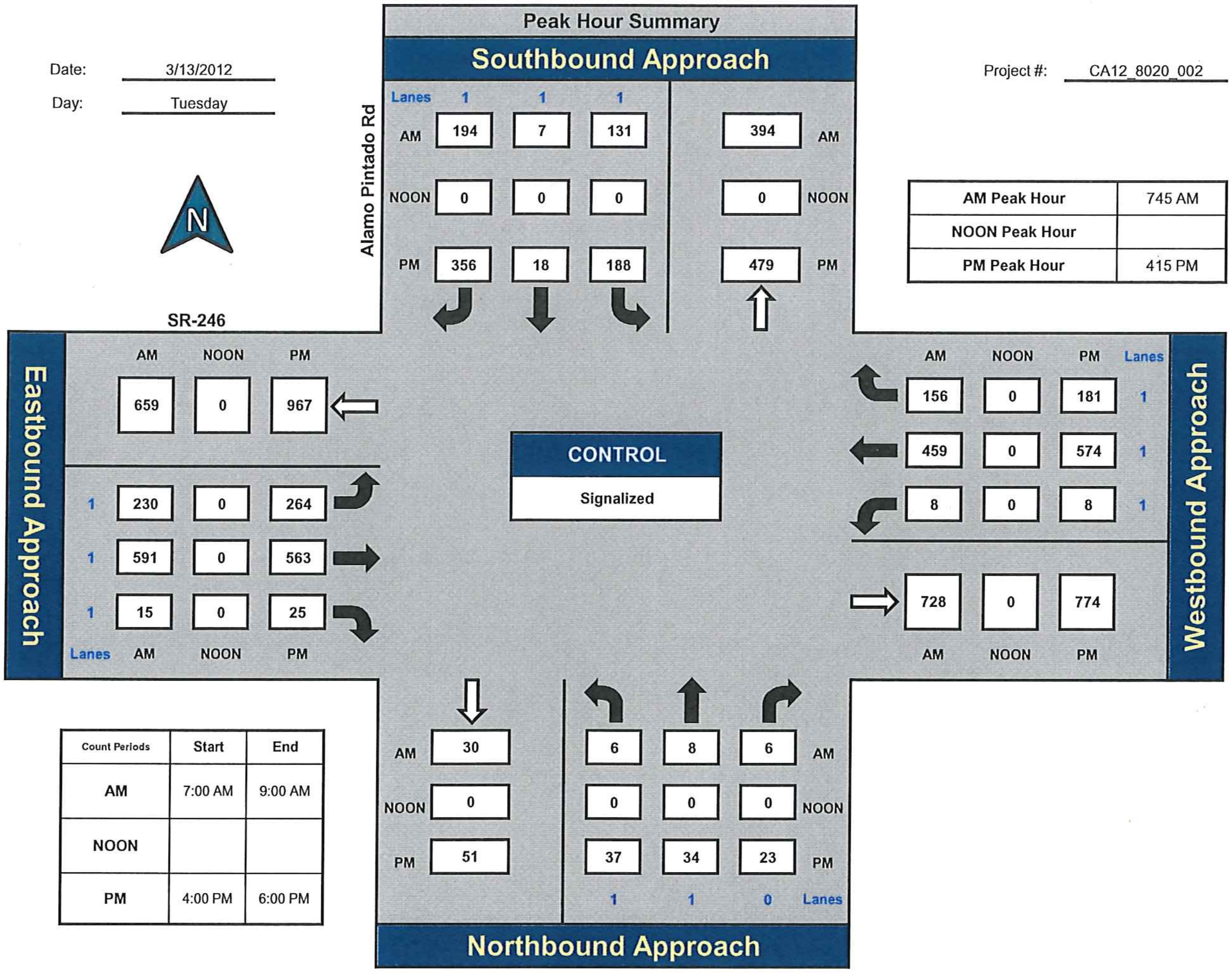
Date: 3/13/2012

Day: Tuesday

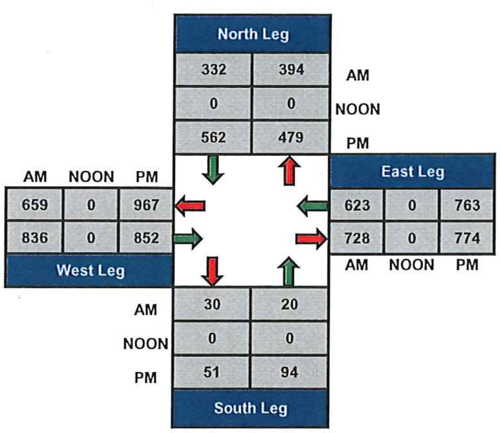
Project #: CA12_8020_002

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	415 PM

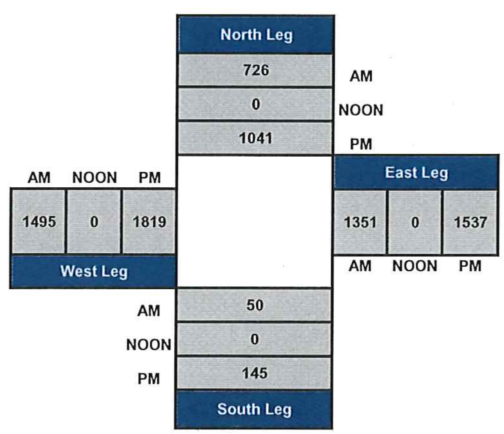
Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date:	8/26/2014
Day:	Tuesday
Project #:	14-8105-001
City:	Solvang

N

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Alamo Pintado Rd

SR-246

Southbound Approach (Lanes)

	Right	Through	Left	Out
AM	0	0	0	0
NOON	0	0	0	0
PM	311	22	157	380

Eastbound Approach (Lanes)

	AM	NOON	PM
Out	0	0	728
Left	0	0	212
Through	0	0	504
Right	0	0	20

Westbound Approach (Lanes)

	AM	NOON	PM
Right	0	0	140
Through	0	0	379
Left	0	0	6
Out	0	0	680

Northbound Approach (Lanes)

	Out	Left	Through	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	48	38	28	19

CONTROL

Signalized

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

Leg	Period	In	Out
North Leg	AM	0	0
North Leg	NOON	0	0
North Leg	PM	490	380
East Leg	AM	0	680
East Leg	NOON	0	0
East Leg	PM	525	680
West Leg	AM	0	0
West Leg	NOON	0	0
West Leg	PM	736	728
South Leg	AM	0	0
South Leg	NOON	0	0
South Leg	PM	85	48

	AM	NOON	PM
North Leg	0 / 0	0 / 0	490 / 380
East Leg	0 / 0	0 / 0	525 / 680
West Leg	0 / 0	0 / 0	728 / 736
South Leg	0 / 0	0 / 0	48 / 85

Total Volume Per Leg

	AM	NOON	PM
North Leg	0	0	870
East Leg	0	0	1205
West Leg	0	0	1464
South Leg	0	0	133

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date:	8/26/2014
Day:	Tuesday
Project #:	14-8105-002
City:	Solvang

N

Peak Hour Summary

Southbound Approach

Alamo Pintado Rd

Lanes

AM	0	0	0	0
NOON	0	0	0	0
PM	11	454	0	398

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

Commercial Dwy

Eastbound Approach

	AM	NOON	PM
	0	0	11
	0	0	0
	0	0	5
	0	0	37

Lanes

CONTROL

No Control

Westbound Approach

Lanes

	AM	NOON	PM
	0	0	23
	0	0	0
	0	0	0
	0	0	13

Northbound Approach

Lanes

AM	0	0	0	0
NOON	0	0	0	0
PM	491	0	375	8

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

AM	0	0
NOON	0	0
PM	465	398

West Leg

AM	NOON	PM
0	0	11
0	0	42

East Leg

AM	NOON	PM
0	0	23
0	0	13

South Leg

AM	0	0
NOON	0	0
PM	491	383

Total Volume Per Leg

North Leg

AM	0
NOON	0
PM	863

West Leg

AM	NOON	PM
0	0	53

East Leg

AM	NOON	PM
0	0	36

South Leg

AM	0
NOON	0
PM	874

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and 1st Dwy , Solvang

Date:	8/26/2014
Day:	Tuesday
Project #:	14-8105-004
City:	Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	500 PM

N

Peak Hour Summary

Old Mission Dr

1st Dwy

Southbound Approach

Lanes

	Right	Through	Left	Out
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Out	0	0	4
Left	0	0	0
Through	0	0	3
Right	0	0	0

Lanes

Westbound Approach

Lanes

	AM	NOON	PM
Right	0	0	0
Through	0	0	4
Left	0	0	44
Out	0	0	25

CONTROL

No Control

Northbound Approach

	Out	Left	Through	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	44	0	0	22

Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

Leg	Period		
North Leg	AM	0	0
North Leg	NOON	0	0
North Leg	PM	0	0
East Leg	AM	0	0
East Leg	NOON	0	0
East Leg	PM	48	25
West Leg	AM	0	0
West Leg	NOON	0	0
West Leg	PM	4	3
South Leg	AM	0	0
South Leg	NOON	0	0
South Leg	PM	44	22

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	0
East Leg	0	0	73
West Leg	0	0	7
South Leg	0	0	66

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and Commercial Dwy , Solvang

Date:	8/26/2014
Day:	Tuesday
Project #:	14-8105-003
City:	Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	415 PM

N

Old Mission Dr

Commercial Dwy

Peak Hour Summary

CONTROL

1-Way Stop (SB)

Southbound Approach

Lanes	Right	Thru	Left	Out (North Leg)
AM	0	0	0	0
NOON	0	0	0	0
PM	2	0	7	7

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	5
Thru	0	0	44
Left	0	0	16
Out (East Leg)	0	0	57

Eastbound Approach

Lanes	AM	NOON	PM
Out (West Leg)	0	0	46
Left	0	0	1
Thru	0	0	24
Right	0	0	0

Northbound Approach

Lanes	Out (South Leg)	Left	Thru	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	16	0	1	26

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

Leg	Period	In	Out
North Leg	AM	0	0
North Leg	NOON	0	0
North Leg	PM	9	7
West Leg	AM	0	0
West Leg	NOON	0	0
West Leg	PM	25	46
East Leg	AM	0	0
East Leg	NOON	0	0
East Leg	PM	65	57
South Leg	AM	0	0
South Leg	NOON	0	0
South Leg	PM	27	16

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	16
West Leg	0	0	71
East Leg	0	0	122
South Leg	0	0	43

Stantec Consulting Services Inc.
111 East Victoria Street, Santa Barbara CA 93101-2018

September 15, 2015
File: 2064112200

David Foote
Firma Consultants
187 Tank Farm Rd
San Luis Obispo, CA 93401

Subject: **Updated Traffic Study Peer Review for The Merkantile Shopping Center, Solvang, CA**

Dear Mr. Foote,

Stantec reviewed the *Revised Traffic Study for the Valley Station Shopping Center Project* prepared by ATE in May, 2015, and the *Supplemental Analysis for the Valley Station Shopping Center Project* prepared by ATE on September 9, 2015. The following letter discusses the traffic analysis sections and provides comments where applicable.

The project site is located on the northwest corner of the State Route 246/Alamo Pintado Road intersection in the City of Solvang. The project proposes to reconstruct the existing 46,453 SF shopping center (Valley Plaza) to provide for 42,365 SF of commercial space and 8 apartment units (The Merkantile). Access to the site is proposed via existing driveways on Old Mission Drive and Alamo Pintado Road, and a new ingress only driveway on State Route 246.

Discussion

ATE Report - Existing Conditions: Existing peak hour intersection volumes for the State Route 246/Alamo Pintado Road intersection and the existing Valley Plaza driveways were obtained from counts conducted in March 2015 (AM peak hour), May, 2015 (Noon peak hour) and August, 2014 (PM peak hour). After review, PM peak hour counts collected in March, 2012 were used for the State Route 246/Alamo Pintado Road intersection as these are higher compared to the August, 2014 counts.

The intersection analysis indicates that the signalized State Route 246/Alamo Pintado Road intersection operates at LOS C during the peak hours, which meets the City's and Caltrans LOS C standard. The Alamo Pintado Road/Old Mission Drive intersection, which is controlled by all-way stop control, operates in the LOS B range, and the existing shopping center driveways operate in the LOS A-B range.

Stantec Peer Review: The counts from 2012 used to analyze the PM peak hour exceed the typical traffic count shelf life of two (2) years. However, updated (non-Summer) counts are unlikely to change the analysis results, since Caltrans annual counts indicate that traffic volumes along the State Route 246 corridor are relatively stable.

Levels of service for the State Route 246/Alamo Pintado Road intersection are correctly calculated using the methodologies outlined in the 2010 Highway Capacity Manual and apply peak hour factors pursuant Caltrans requirements. The calculations also include pedestrian and bicycle volumes. It is noted that during the PM peak hour, westbound traffic flow on State Route 246 is periodically obstructed by queues extending from the downstream State Route 246/Alisal Road intersection. While not a function of the geometry or control at the State Route 246/Alamo Pintado Road intersection, delays for the westbound through and right-turn movements are typically higher during the PM peak hour compared to the values reported in the traffic study.

ATE Report - Project Trip Generation and Distribution: Trip generation estimates for the project were developed using commercial space rates derived from counts at the existing shopping center driveways and rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual (2012)* for the Land Use "Apartment". Using this methodology, the project is expected to generate 98 AM peak hour trips, 261 Noon peak hour trips and 171 PM peak hour trips. The net trip increase would be 7 AM peak hour trips, 9 Noon peak hour trips and 9 PM peak hour trips. Project trips were distributed based on the existing shopping center trip distribution and the proposed access plan.

Stantec Peer Review: Trip generation estimates were developed using site specific rates and standard trip rates derived from the 9th Edition of *ITE's Trip Generation Manual*. Stantec concurs with the project trip generation estimates and distribution.

ATE Report – Project-Specific Analysis: The existing plus project intersection analysis indicates that the State Route 246/Alamo Pintado Road intersection and project driveways would operate at LOS C or better, which meets City and Caltrans level of service standards. The study indicates that the Alamo Pintado Road/Old Mission Drive intersection was not analyzed because the project would reduce traffic at the intersection. The project would not generate any project-specific intersection impacts.

The ingress only driveway proposed on State Route 246 would be constructed to Caltrans standards, including a new deceleration lane on SR 246. It was noted that the speed limit in the vicinity of the new driveway will be reduced to 40 MPH in the near future.

Stantec Peer Review: Stantec concurs that the project trip additions and diversion of a portion of existing westbound right-turn trips to the through movement would not adversely affect the State Route 246/Alamo Pintado Road intersection. As noted previously, westbound traffic experiences delays resulting from queues extending from the downstream State Route 246/Alisal Road intersection during the PM peak hour. However, these delays are not a function of geometry or control at the State Route 246/Alamo Pintado Road intersection.

Because the project site plan is conceptual in nature, Stantec cannot comment on the proposed geometric layout of the proposed ingress only driveway on State Route 246.

ATE Report – Cumulative Analysis: The City's Circulation Element update indicates that the State Route 246/Alamo Pintado Road intersection is expected to operate at LOS D-F under future conditions, and the project would generate a potentially significant cumulative impact at this location. The project would be required to pay Road Improvement fees to mitigate its cumulative traffic additions to the SR 246/Alamo Pintado Road intersection.

Stantec Peer Review: Stantec concurs with the conclusion that the project's payment fees into the City's Traffic Mitigation Fund will be required. It is noted that the Circulation Element does not identify improvement measures for subject intersection, other than construction of a bypass, which is unlikely to occur under cumulative conditions.

ATE Report – Alternative Travel Modes: the analysis states that good inter-visibility would be provided between westbound vehicles using the new access driveway on State Route 246 and westbound bicyclists. The new driveway would not significantly impact bicycle flows along State Route 246. In addition, new sidewalk extensions and improved bus stop adjacent to the project site would improve the walking environment.

Stantec Peer Review: Stantec agrees that the proposed new ingress only driveway on State Route 246 would not significantly impact bicyclist as sufficient sight lines are provided.

ATE Report – Congestion Management Program Analysis: The traffic study states that the proposed project is consistent with CMP criteria because it generates less than 500 daily trips or 50 peak hour trips. No CMP analysis is therefore required.

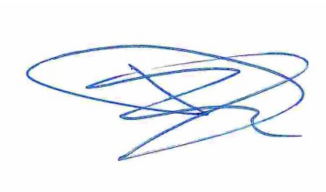
Stantec Peer Review: We concur that the project is consistent with CMP criteria and no further CMP analysis is warranted.

Other Stantec comments: It is recommended that a parking analysis be provided.

This concludes our updated peer review for the *Revised Traffic Study for the Valley Station Shopping Center Project* and the *Supplemental Analysis for the Valley Station Shopping Center Project*.

Sincerely,

STANTEC CONSULTING SERVICES INC.



Dennis Lammers, PTP
Senior Transportation Planner
Phone: (805) 963-9532
Dennis.Lammers@stantec.com

Sound Level Assessment for

Valley Plaza
1980 - 1992 Old Mission Drive
Solvang, CA

prepared for
1980s Old Mission Drive, LLC
425 Market Street, Suite 2200
San Francisco, CA 94105

August 26, 2015

45dB.com
David Lord, PH.D.
Acoustics Consulting

David Lord

P.O. Box 1406
San Luis Obispo
California 93406
tel. 805.704.8046
email: dl@45db.com

Table of Contents

List of Figures

List of Tables

Sound Level Assessment for

Proposed Valley Plaza
1980 - 1992 Old Mission Drive
Solvang, CA

1.0 Description

This sound level assessment is intended to determine the noise impacts associated with the proposed Valley Plaza development project. The following topics are presented in this report:

- A description of the study area, project site, and proposed project.
- A description of the regulatory setting, including guidelines and standards.
- An evaluation of the existing noise environment.
- An assessment of potential short-term construction-related noise and vibration impacts.
- An assessment of future potential noise and vibration impacts.
- Information on fundamentals of noise and vibration.

2.0 Location

The general location of the proposed development is in the city of Solvang, in Santa Barbara County. The general vicinity of the site is shown in “Figure 3. Larger Site Vicinity” on page 15. More specifically, the project site is located at 1980 - 1992 Old Mission Drive to the northwest of the intersection of Alamo Pintado Road and State Route 246 (APN 139-240-074 and 139-24-075). The project site currently consists of a similar, older development. The distance from the commercial buildings to the potential nearest sensitive residential receptor is shown in “Figure 4. Nearby Site Vicinity” on page 16. The specific proposed building site location and layout is shown in “Figure 5. Site Plan, specific” on page 17.

3.0 Regulatory Setting

The proposed project will be located within the city of Solvang. Noise regulations are addressed by federal, state, and local government agencies, discussed below. Local policies are generally adaptations of federal and state guidelines, adjusted to prevailing local condition.

3.1 Federal Regulation

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

(a) Promulgating noise emission standards for interstate commerce.

(b) Assisting state and local abatement efforts.

(c) Promoting noise education and research.

The Department of Transportation (DOT) assumed a significant role in noise control. The Federal Aviation Administration (FAA) regulates noise of aircraft and airports. Surface transportation system noise is regulated by the Federal Transit Administration (FTA). Freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA).

3.2 State Regulation

California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regulatory tools to control and abate noise for use by local agencies. One significant model, which has been adopted by municipal governments, is shown in "Figure 1. Solvang Regulatory Matrix" on page 6. This matrix depicts land use compatibility for community noise environments, which allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60 dBA CNEL (or greater) noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45 dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms shall have an interior CNEL of 45 dBA or less due to aircraft noise.

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

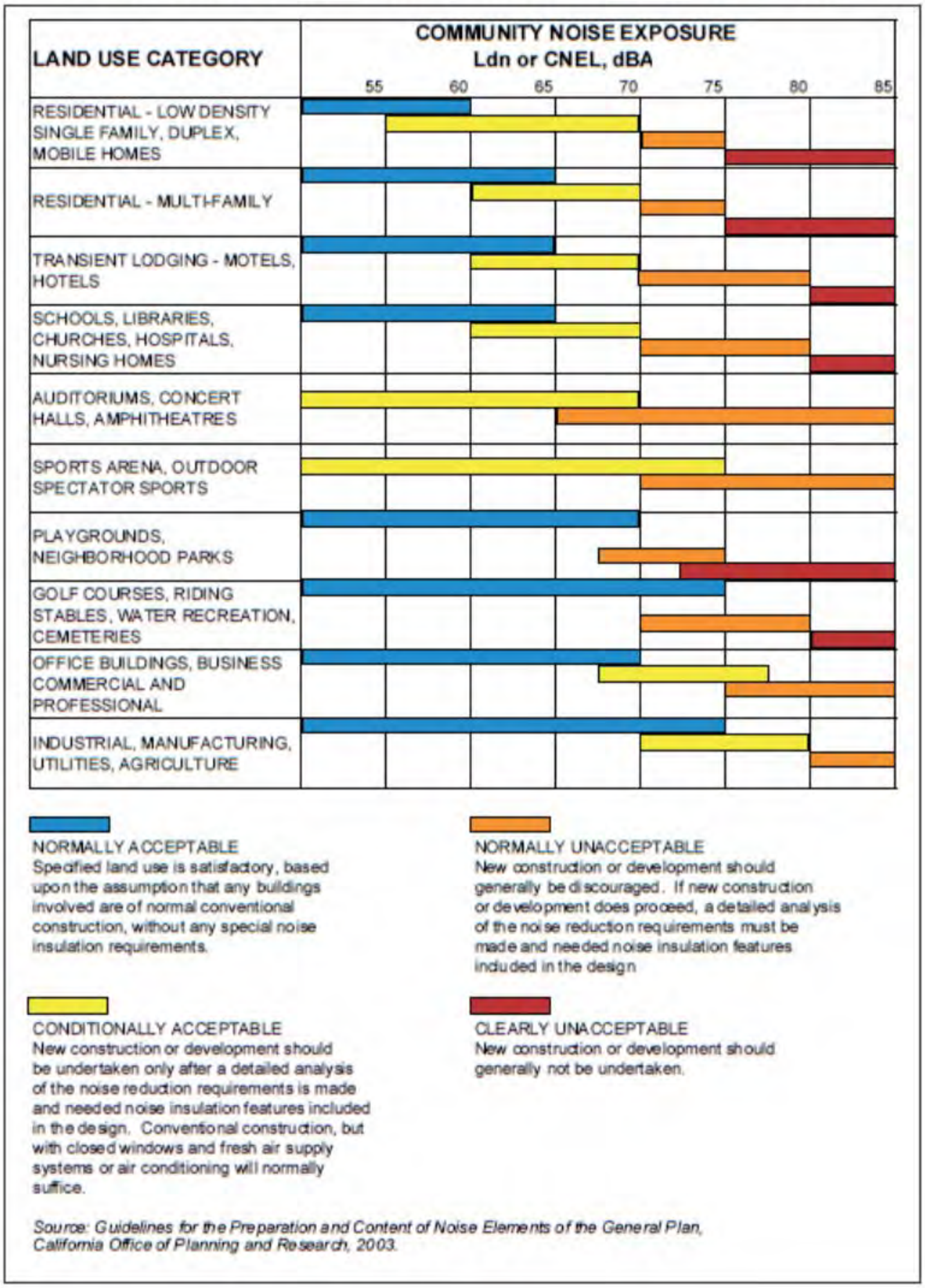
3.3 Local Regulation

The County of Santa Barbara Comprehensive Plan, the Environmental Thresholds and Guidelines Manual, the Santa Barbara County Code, and the Solvang Community Plan establish the following applicable conclusions, recommendations, standards, policies, and regulations regarding to noise and vibration.

Figure 1. Solvang Regulatory Matrix

Land Uses Category and Community Noise Exposure Level (Ldn or CNEL) dBA.

FIGURE 3 - CALIFORNIA LAND USE/NOISE COMPATIBILITY MATRIX



3.4 Environmental Thresholds and Guidelines Manual

The County of Santa Barbara Environmental Thresholds and Guidelines Manual provides the following thresholds of significance for assisting in the determination of significant noise impacts. The thresholds are intended to be used with flexibility, as each project must be viewed in its specific circumstances. A proposed development that would generate noise levels in excess of 65 dBA CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.

Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dBA CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dBA CNEL or less.

A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise-sensitive receptors adjoining areas. This may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dBA CNEL or more.

Noise from grading and construction activity within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 AM to 5 PM only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dBA may require additional mitigation.

3.5 City of Solvang Comprehensive Plan

The Noise Element of the City of Solvang Comprehensive Plan provides the conclusions, recommendations, and strategies necessary to ensure an appropriately quiet and pleasurable environment for the residents, employees and visitors in the city. The following conclusions and recommendations are made in the Noise Element: The maximum exterior noise exposure compatible with noise sensitive uses is 60 dBA Day-Night Average Sound Level unless noise mitigation features are included in project designs. The relevant noise-sensitive land use in this instance is residential, located some 140 feet from the proposed development.

Noise-sensitive uses proposed in areas where the Day-Night Average Sound Level is 60 dBA or more should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dBA Ldn when doors and windows are closed. An analysis of the noise insulation effectiveness of proposed construction should be required, showing that the building design and construction specifications are adequate to meet the prescribed interior noise standard.

The Noise Element stipulates that noise level limits, applicable to new noise sources, should be incorporated into all commercial and industrial zoning districts and into conditional use permit requirements.

3.6 City of Solvang Municipal Code

The Municipal Code establishes the following noise regulation that is relevant to the proposed project:

> "Each permittee shall conduct and carry out work permitted hereunder in such manner as to avoid unnecessary inconvenience and annoyance to the general public and occupants of neighboring property. The permittee shall take appropriate measures to reduce to the fullest extent practicable in the performance of the work, noise, dust and unsightly debris. During the hours of 10:00 P.M. to 7:00 A.M., the permittee shall not use, except with the express written permission of the commissioner or in case of an emergency as herein otherwise provided, any tool, appliance or equipment producing noise of sufficient volume to disturb the sleep or repose of occupants of the neighboring property.
>
> Nighttime Noise Restriction establishes limits for noise during the following periods of time:
>
> The night and following morning of any Sunday, Monday, Tuesday, Wednesday, or Thursday between the hours of 10:00 P.M. of such day and 7:00 A.M. the following morning; or, the morning hours after midnight of any Friday or Saturday, between twelve midnight, following such day, and 7:00 A.M. the following morning. Within such time periods, and for the purposes of this chapter, a loud and unreasonable sound shall include any sound created by means prohibited above which is clearly discernible at a distance of one hundred feet from the property line of the property upon which it is broadcast or which is at any level of sound in excess of sixty decibels at the edge of the property line of the property upon which the sound is broadcast, as such sound would be measured on a sound measuring instrument meeting American National Standard Institute's Standard SI.4-1971 (or more recent revision thereof) for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which provide equivalent data. Enforcement of a violation under this chapter shall not require the use of a sound level meter.
>
> 26.11-12-21: HOURS OF CONSTRUCTION:
>
> Hours of construction shall be limited to seven thirty o'clock (7:30) A.M. to five thirty o'clock (5:30) P.M. weekdays. No construction shall be allowed on Saturday, Sunday, state or national holidays except as approved in writing by the public works director, or his designee, or in the case of an emergency for the immediate preservation of life, health, or property. Notwithstanding the foregoing, an individual property owner or tenant solely (not including any volunteer or paid construction crew) in addition to the above permissible hours of construction may also construct, repair, or remodel his or her real property or any structure on such property, pursuant to obtaining the required permits, during the hours of five thirty o'clock (5:30) P.M. to eight o'clock (8:00) P.M. on weekdays and eight o'clock (8:00) A.M. to eight o'clock (8:00) P.M. on Saturday, Sunday and national legal holidays. All noise or sounds associated with the construction, gardening and/or

maintenance activities of said property shall not create any inconvenience or annoyance to the general public beyond the boundary lines of the property.

4.0 Existing Sound Level

To ascertain the existing sound levels at and adjacent to the project site, field monitoring was conducted between 8 am and 9 am on Friday, August 21, 2015, which qualifies as a "design hour" for traffic noise measurement. By observation it was noted that noise within the project area is characterized and dominated by highway and roadway traffic from the direction of Mission Road and Alamo Pintado Road. Airport and railway noise are not source of ambient noise on the project site.

Sound level monitoring was performed using a Larson Davis Model 820, Type 1 integrating sound level meter. The Larson Davis meter was programmed in A-weighted "slow" mode to record the sound pressure level at Leq = 10-second intervals. The sound level meter and microphone were mounted approximately five feet above the ground and equipped with a windscreen during all measurements. See "9.0 Measurements, Calculations and Modeling" on page 27 for further details on sound level measurement and protocol.

Three sound level monitoring locations were selected in order to measure the existing noise sources impacting the vicinity of the project site and to provide a baseline for any potential noise impacts that may be created by construction, development and operation of the proposed project. The sites are shown in "Figure 2. Measurement Locations." on page 10. Each measurement site was approximately 40 feet from centerline of adjacent roadway.

Existing sound levels on the site were measured at 10-second intervals over a typical workday commute time period. Recorded sound level data consist of:

Average instantaneous sound level, dBA; Leq 1 hour sound levels, dBA

Lmax sound level, dBA; Audio recording of each event over 60 dBA.

From the measured data, existing hourly LEQ values were calculated. For an explanation of technical definitions, see "7.0 APPENDIX A: Glossary of AcoustiNcal Terms" on page 9.

Table 1. Existing Sound Level Measurements

Location	description	dBA Leq 1 hr	dBA Lmax
1	NW side of site	65	72
2	NE corner of site	68	76
3	SW corner of site	66	75

Figure 2. Measurement Locations.

Three locations of sound level measurements. Each measurement location shown is approximately 40 feet from centerline of adjacent roadway. Also shown in this exhibit is the distance to the nearest potential sensitive residential receptor, west of the development, which is 147 feet.

5.0 Future Sound Levels

5.1 Short Term Construction Noise

With reference to potential short-term construction noise, Section 4.3.2, the County of Santa Barbara Environmental Thresholds and Guidelines Manual provides the following thresholds of significance for assisting in the determination of significant noise impacts. The thresholds are intended to be used with flexibility, as each project must be viewed in its specific circumstances:

> "Noise from grading and construction activity within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 AM to 5 PM only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dBA may require additional mitigation."

Short-term noise impacts could potentially occur during project construction activities from either the noise impacts created from the transport of workers and movement of construction materials to and from the project site, or from the noise generated on-site during demolition and ground clearing activities; excavation, grading, and similar ground-disturbing activities; and construction activities.

Construction noise levels vary significantly based upon the size and topographical features of the active construction zone, duration of the workday, and types of equipment employed, as indicated in "Table 4. Construction Equipment Vibration Levels" on page 23. A typical eight-hour construction day may generate 84 dBA CNEL at a distance of 50 feet from the noise source. Typical operating cycles may involve a short period of full power operation followed by a longer period at lower power settings. Although there would be potential for a relatively high single-event noise exposure, resulting in potential short-term intermittent annoyances, the effect on long-term ambient noise levels would be nominal when averaged over a longer period. As shown by the ambient noise level measurements in "Table 1. Existing Sound Level Measurements" on page 9, maximum existing noise levels along the project west side are up to 72 dBA Lmax.

Project construction is anticipated to utilize a mix of construction equipment on the project site, including tractors for excavation and grading activities, backhoes for trenching, earth rollers for compaction, and asphalt rollers for paving. The closest noise-sensitive uses to the Project site are residential units, located roughly 140 feet northwest of the project site.

The Federal Highway Administration (FHWA) Roadway Construction Model (RCNM Version 1.1), allows the preliminary prediction of construction noise levels for a variety of construction operations based on a compilation of empirical data and the application of acoustical propagation formulas.

Potential noise impacts on the nearby residential receptors were modeled to understand the potential effect. "Table 2. Construction Equipment Noise Levels" on page 12 below shows the calculated noise levels at 150 feet for typical items of equipment to be utilized on the project site. The results of modeling show that the average (Leq) noise level of the backhoe, paver, and roller are less than 60 dBA. The tractor may generate a noise level of 64 dBA Leq, below the 65 dBA standard before mitigation for sensitive receptors.

Table 2. Construction Equipment Noise Levels

Equipment	*calculated dBA at 150 feet from source*	
	Lmax	Leq
Backhoe	62	58
Paver	61	57
Roller	65	57
Tractor	69	64
Total	69	65
Source: FHWA Roadway Construction Model, RCNM ver. 1.1, 2012		

5.2 Short Term Construction Vibration

Potential construction vibration from the project would be a localized event and is typically only perceptible to a receptor that is in close proximity to the vibration source. As an example, the potential vibration from worst-case construction equipment, a small bulldozer: is: PPV at 100 feet = 0.0004 inches / second. This vibration level is far below the Federal Transit Administration Significant Impact guideline maximum of 0.2 inches / second.

A vibration impact would be generally considered significant if it involves any construction-related or operations-related impacts in excess of 78 VdB at sensitive receptors. The construction and operations-related vibration impacts have been analyzed separately below. Construction activities can produce vibration that may be felt by adjacent uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The project site is relatively small—approximately 0.68 acre—and will not utilize many pieces of construction equipment. The primary source of vibration during project construction would likely be from a bulldozer (tractor), which would generate 0.089 inch per second PPV at 25 feet with an approximate vibration level of 87 VdB.

The closest receptors to the project site is approximately 140 feet northwest of the site. It is anticipated that vibration levels generated by a bulldozer operating on the periphery of the area of disturbance during project construction and experienced at the nearest off-site structure will be approximately 69 VdB, which is below the acceptable threshold of 78 VdB for residential (sensitive) uses during the day.

Neither the County of Santa Barbara nor the city of Solvang have any specific provisions regarding vibration that would be applicable to the project site as currently zoned; nonetheless, the increase in off-site vibration generated by on-site construction activities would represent only a nominal increase whose impact would not be considered significant. Therefore, impacts associated with construction vibration are considered less than significant.

5.3 Future Operations Noise Level

The operations for multiple tenants have been analyzed for the contribution of traffic flow into, within, and out of the proposed project site. The existing traffic flows are shown in "Figure 6. Existing Traffic Volumes" on page 18. The surrounding traffic flow attributable to the proposed project would result in little or no total change from existing to future, and the change in future traffic sound level is therefore judged to be negligible and less than significant.

In addition to traffic flow from commercial operations, there are other potential sources of noise which are addressed below:

- Mechanical Equipment

The project may use as many as three condenser/compressor air conditioning units. Typical air conditioning units for this type of application generate exterior noise levels of 82 dBA (at 21 feet distance) of the units. The exterior noise level generated by smaller units ranges from 70 to 75 dBA at 21 feet. Noise impacts from the simultaneous operation of three condenser/compressors running are anticipated to be 50 dBA Leq at a distance of 100 feet, which is below the 60 dBA permitted sound level at residential boundaries.

In order to determine the noise created by the HVAC unit, a noise measurement was taken approximately 21 feet from an HVAC unit on a similar, existing mixed-use commercial building in Solvang. The sound level measurement was recorded at 68 dBA Leq while the HVAC unit was operational.

The nearest sensitive receptor to Valley Plaza is more than 145 feet from the planned development, and therefore impacts from noise generated by potential ventilation fans, exhaust fans and air conditioning compressors and condensers are considered to be less than significant. Line-of-sight solid barrier screening of compressors may be specified to reduce visibility and audibility of compressors.

- Loading Dock

The loading dock may have occasional periods of noise generation from delivery trucks, which may be audible to residential receptors located 140 feet to the northwest. This potential noise may be mitigated by a combination of acoustical screening and by limiting delivery hours to a period from 7 am to 7 pm. Operational regulation of idling trucks and refrigerated trucks with compressors is recommended.

6.0 Discussion and Conclusions

The existing sound levels on the undeveloped site and future sound levels for the developed project are assessed in relation to potential residential sensitive receptors. The nearest sensitive receptors are more than 140 feet from the proposed project, and are primarily affected by surrounding existing traffic noise, not noise from the proposed project.

Future sound levels from the proposed project are compatible with surrounding business and residential uses and traffic patterns. Attenuation of noise toward potential residential receptors occurs due to the distance involved and to the presence of buildings and obstructions which act as a noise barriers to traffic on Mission Drive (Highway 226) and Alamo Pintado Road.

Therefore, in our opinion this project is compatible with the General Plan Noise Element and the proposed project is in compliance with regulations governing noise and vibration. Beyond short term construction noise, future change in noise level from this project is less than significant.

Figure 3. Larger Site Vicinity

The vicinity of the site shows the proposed location of the Valley Plaza project, with adjacent and surrounding potential transportation noise sources, near and far.

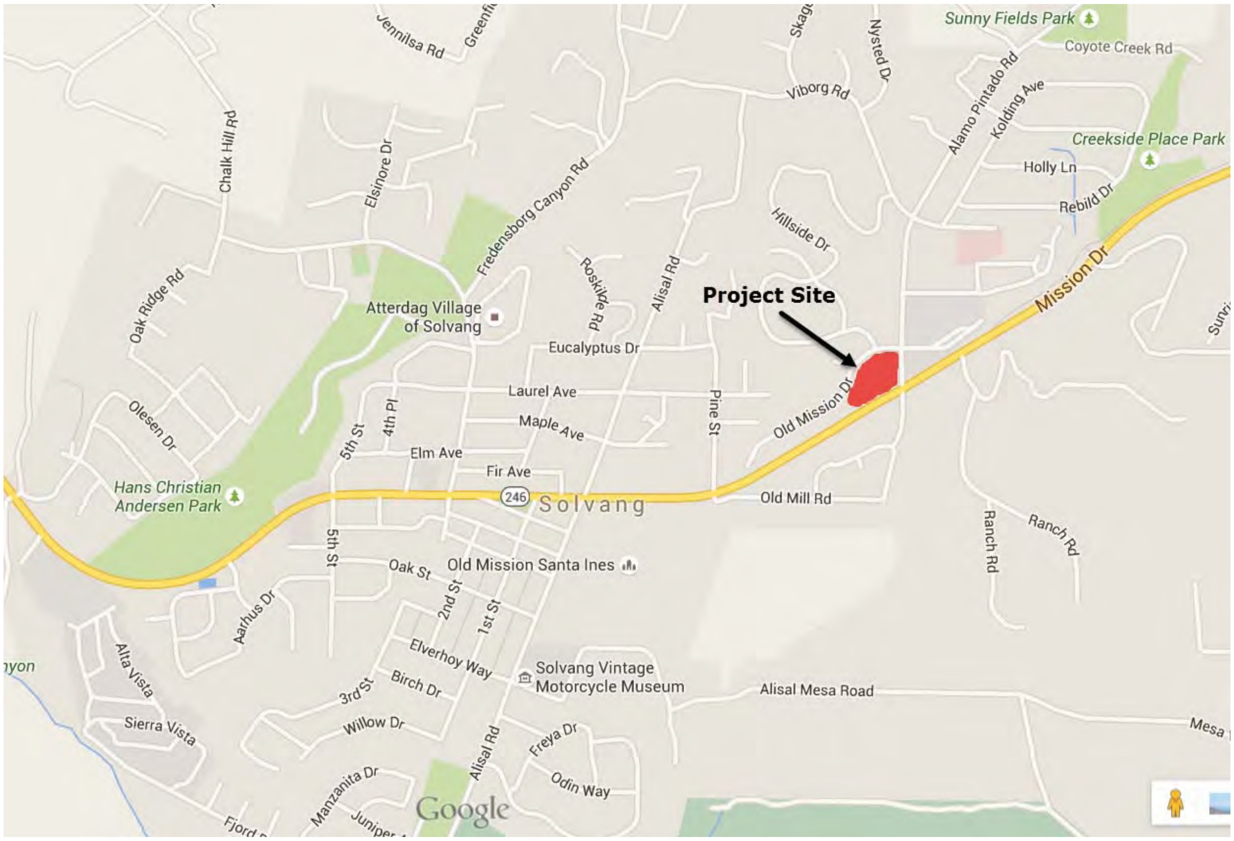


Figure 4. Nearby Site Vicinity

A larger view site vicinity plan shows the proposed location of the Valley Plaza Project and the neighboring streets and potential residential sensitive receptors. The nearest residence is about 140 feet from the nearest northwest edge of the proposed Valley Plaza. This plan also shows the location of existing sound level measurements, described in the text.

Figure 5. Site Plan, specific

The site plan shows the proposed location of each of the proposed tenants, with a proposed drive-thru order call box at the north side of the site, located approximately 200 feet from the nearest potentially sensitive residential receptor.

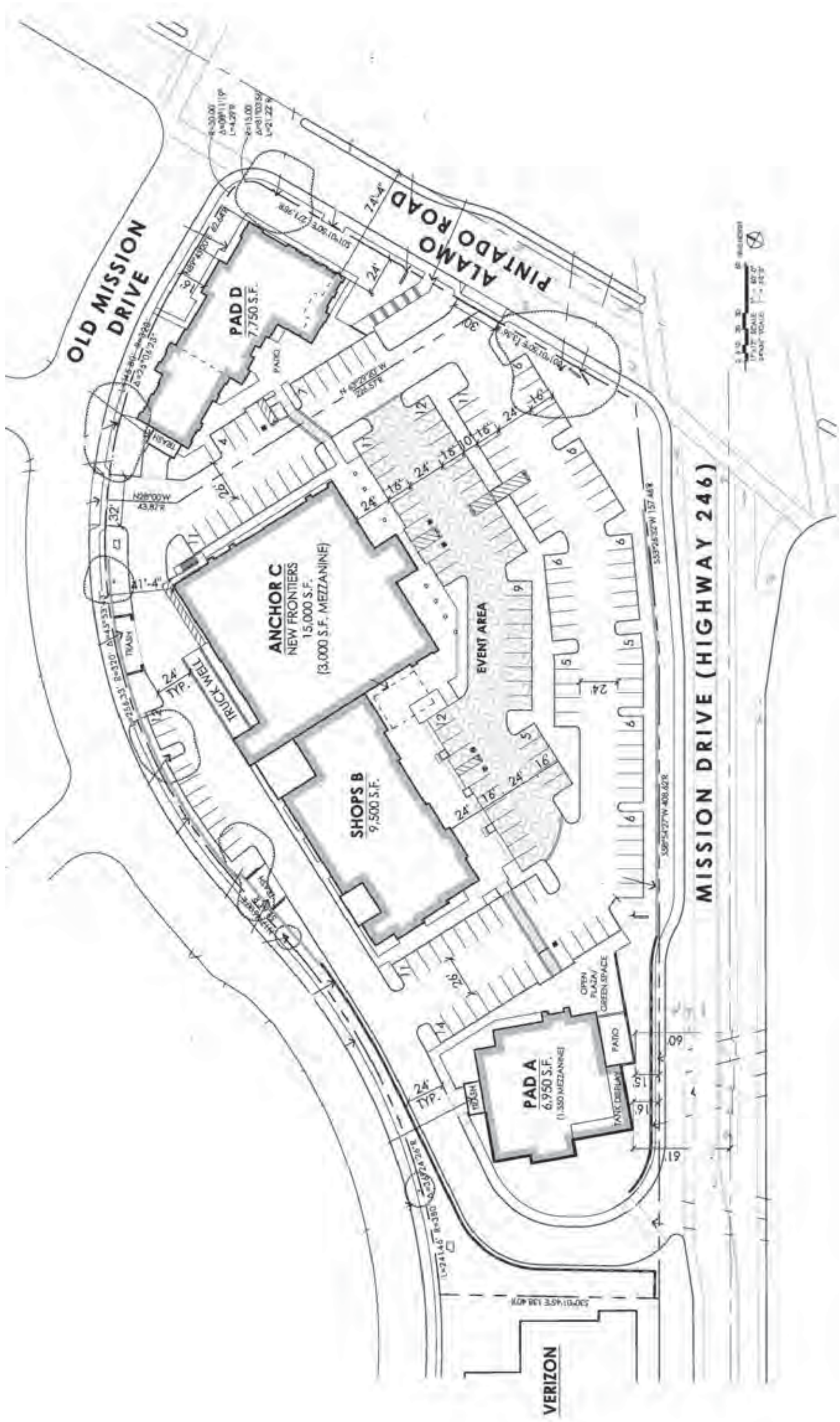


Figure 6. Existing Traffic Volumes

Existing Traffic Volumes measured and future volumes predicted will cause a negligible change in sound level from the site and surrounding area.

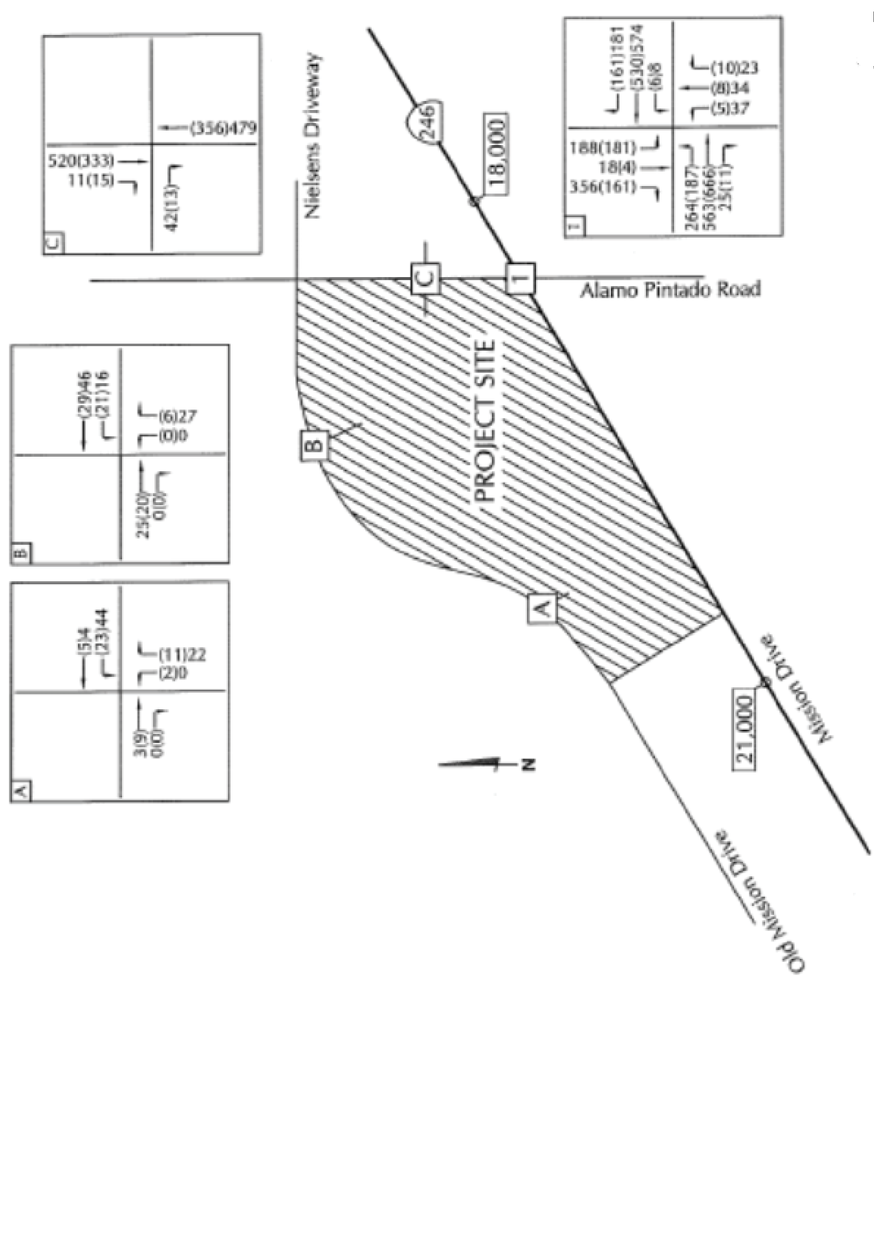
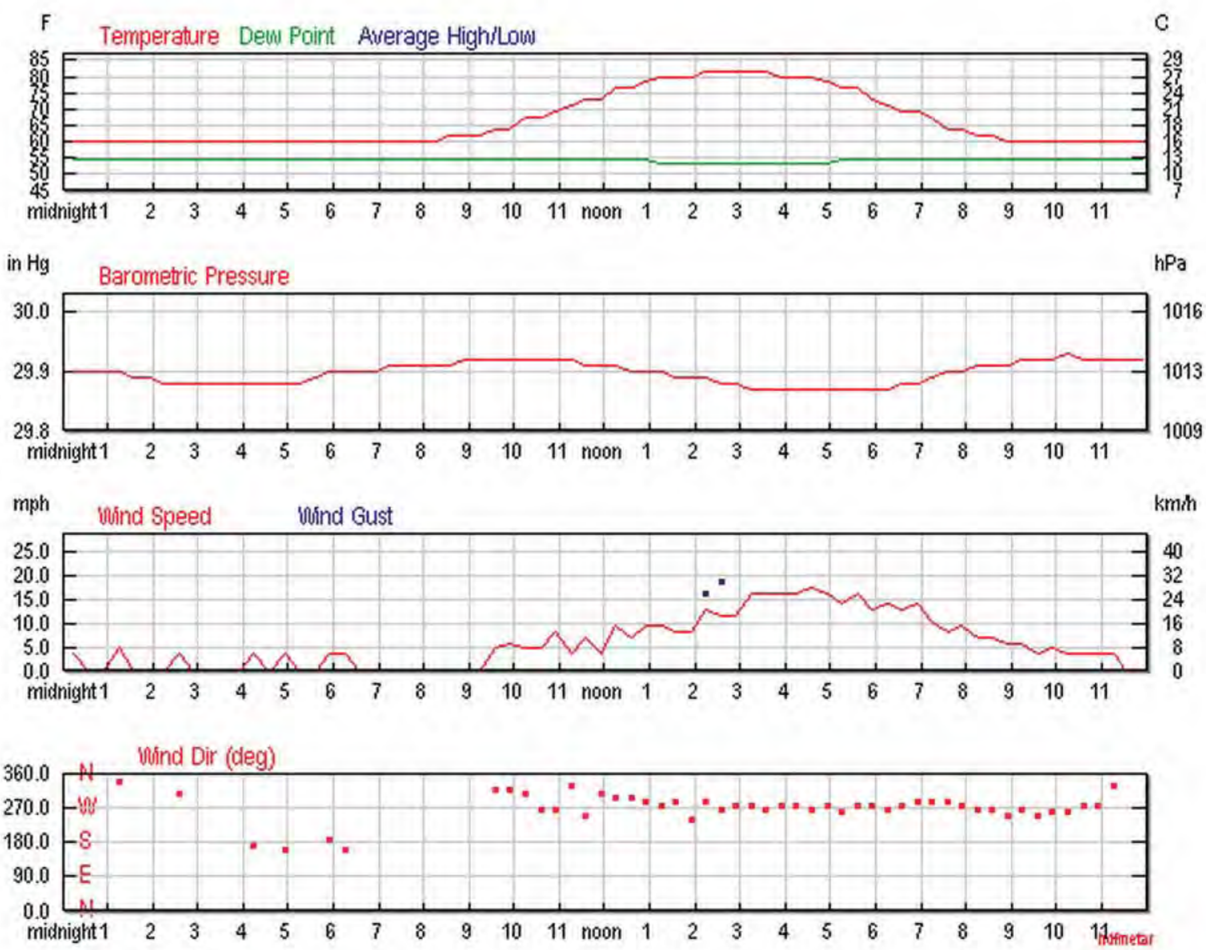


Figure 7. Average Wind Conditions

Sound measurement and sound propagation can be influenced by the wind speed and wind direction. The data graphed below represent average conditions at a nearby Solvang weather station, August 21, 2015. During the time of measurement from 8 am to 9 am, wind speed was calm, and is therefore not a factor in the measurement of traffic noise.



7.0 Sound and Vibration Fundamentals

7.1 Terminology / Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily and objectively measured, the perception of noise and the physical, subjective response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.”

The following are brief definitions of terminology used in this report:

- Sound. A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

- Noise. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- Decibel (“dB”). A unitless measure of sound on a logarithmic scale.

- A-Weighted Decibel (“dBA”). An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

- Equivalent Continuous Noise Level (“Leq”). The mean of the noise level averaged over the measurement period, regarded as an average level.

- Day-Night Level (“Ldn”). The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

- Community Noise Equivalent Level (“CNEL”). The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

Note that Ldn and CNEL values rarely differ by more than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

7.2 Characteristics of Sound

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighted filter system is used to adjust measured soundlevels. The normal range of human hearing extends from approximately 0 dBA to 140 dBA.Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representingpoints on a sharply rising curve. Because of the physical characteristics of noise transmission and of noiseperception, the relative loudness of sound does not closely match the actual amounts of sound energy.

“Table 3.” below presents the subjective effect of changes in sound pressure levels.

Table 3. Decibel Changes

Decibel Changes, Loudness, Energy Loss		
Sound level change	***Relative Loudness***	***Acoustic Energy Loss***
0 dBA	Reference	0%
-3 dBA	Barely Perceptible Change	50%
-5 dBA	Readily Perceptible Change	67%
-10 dBA	Half as Loud	90%
-20 dBA	1/4 as Loud	99%
-30 dBA	1/8 as Loud	99.9%
Source: Highway Traffic Noise Analysis and Abatement Policy and Guidance, U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, June 1995.		

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as spreading loss. Generally, sound levels from a point source will decrease by 6.0 dBA for each doubling of distance. Sound levels for a highway line source vary differently with distance because sound pressure waves propagate along the line and overlap at the point of measurement. A closely spaced, continuous line of vehicles along a roadway becomes a line source and produces a 3.0 dBA decrease in sound level for each doubling of distance. However, experimental evidence has shown that where sound from a highway propagates close to “soft” ground (e.g., plowed farmland, grass, crops, etc.), a more suitable drop-off rate to use is not 3.0 dBA but rather 4.5 dBA per distance doubling (FHWA 2010).

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. The Leq is the most common parameter associated with such measurements. The Leq metric is a single-number noise descriptor that represents the average sound level over a given period of time. For example, the L50 noise level is the level that is exceeded 50 percent of the time. This level is also the level that is exceeded 30 minutes in an hour. Similarly, the L02, L08 and L25 values are the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. Other values typically noted during a noise survey are the Lmin and Lmax. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet-time noise levels in a 24-hour noise descriptor called the CNEL or Ldn. This increment is incorporated in the calculation of CNEL or Ldn, described earlier.

7.3 Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to building damage, and acceptable equipment vibration levels.

During construction of a development project, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may experience annoyance due to noise generated from vibration of a structure or items within a structure. This type of vibration is best measured in velocity and acceleration.

The three main wave types of concern in the propagation of groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation (known as retrograde elliptical).

- Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.

- Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

The peak particle velocity ("PPV") or the root mean square ("RMS") velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak of the vibration signal and RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage.

The units for PPV velocity is normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Human-made vibration problems are, therefore, usually confined to short distances (500 feet or less) from the source.

Construction operations generally include a wide range of activities that can generate groundborne vibration. In general, blasting and demolition of structures generate the highest vibrations. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at distances within 200 feet of the vibration sources. Heavy trucks can also generate groundborne vibrations, which vary depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, etc., all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration of normal traffic on streets and freeways with smooth pavement conditions. Trains generate substantial quantities of vibration due to the mass and momentum of their engines, vibration transmission from steel wheels to steel track, and heavy loads.

Table 4. Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level (L_V) at 25 feet
Pile driver (impact)	1.518 (upper range) 0.644 (typical)	112 104
Pile driver (sonic)	0.734 upper range 0.170 typical	105 93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil 0.017 in rock	66 75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.		

8.0 Appendix: Glossary of Acoustical Terms

A-Weighted Sound Level (dBA)

The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made. A-weighting de-emphasizes the low and very high frequency components of the sound in a manner similar to the response of the average human ear. A-weighted sound levels correlate well with subjective reactions of people to noise and are universally used for community noise evaluations.

Airborne Sound

Sound that travels through the air, differentiated from structure-borne sound.

Ambient Sound Level

The prevailing general sound level existing at a location or in a space, which usually consists of a composite of sounds from many sources near and far. The ambient level is typically defined by the Leq level.

Background Sound Level

The underlying, ever-present lower level noise that remains in the absence of intrusive or intermittent sounds. Distant sources, such as traffic, typically make up the background. The background level is generally defined by the L90 percentile noise level.

Community Noise Equivalent Level (CNEL):

The Leq of the A-weighted noise level over a 24-hour period with a 5 dB penalty applied to noise levels between 7 p.m. and 10 p.m. and a 10 dB penalty applied to noise levels between 10 p.m. and 7 a.m.

Day-Night Sound Level (Ldn):

The Leq of the A-weighted noise level over a 24-hour period with a 10 dB penalty applied to noise levels between 10 p.m. and 7 a.m.

Decibel (dB):

The decibel is a measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

DBA or dB(A)

A-weighted sound level. The ear does not respond equally to all frequencies, but is less sensitive at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound level of a noise containing a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are dBA. The A-weighted sound level is also called the noise level.

Energy Equivalent Level (LEQ):

Because sound levels can vary markedly in intensity over a short period of time, some method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, one describes ambient sounds in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called LEQ. In this report, an hourly period is used.

Field Sound Transmission Class (FSTC):

A single number rating similar to STC, except that the transmission loss values used to derive the FSTC are measured in the field. All sound transmitted from the source room to the receiving room is assumed to be through the separating wall or floor-ceiling assembly.

Outdoor-Indoor Transmission Class (OITC):

A single number classification, specified by the American Society for Testing and Materials (ASTM E 1332 issued 1994), that establishes the A-weighted sound level reduction provided by building facade components (walls, doors, windows, and combinations thereof), based upon a reference sound spectra that is an average of typical air, road, and rail transportation sources. The OITC is the preferred rating when exterior facade components are exposed to a noise environment dominated by transportation sources.

Percentile Sound Level, Ln:

The noise level exceeded during *n* percent of the measurement period, where *n* is a number between 0 and 100 (e.g., L10 or L90)

Sound Transmission Class (STC):

STC is a single number rating, specified by the American Society for Testing and Materials, which can be used to measure the sound insulation properties for comparing the sound transmission capability, in decibels, of interior building partitions for noise sources such as speech, radio, and television. It is used extensively for rating sound insulation characteristics of building materials and products.

Structure-Borne Sound:

Sound propagating through building structure. Rapidly fluctuating elastic waves in gypsum board, joists, studs, etc.

Sound Exposure Level (SEL)

SEL is the sound exposure level, defined as a single number rating indicating the total energy of a discrete noise-generating event (e.g., an aircraft flyover) compressed into a 1-

second time duration. This level is handy as a consistent rating method that may be combined with other SEL and Leq readings to provide a complete noise scenario for measurements and predictions. However, care must be taken in the use of these values since they may be misleading because their numeric value is higher than any sound level which existed during the measurement period.

Subjective Loudness Level

In addition to precision measurement of sound level changes, there is a subjective characteristic which describes how most people respond to sound:

•A change in sound level of 3 dBA is *barely perceptible* by most listeners.

•A change in level of 6 dBA is *clearly perceptible*.

•A change of 10 dBA is perceived by most people as being *twice* (or *half*) as loud.

9.0 Measurements, Calculations and Modeling

9.1 Wind Measurement

Sound level measurements become less reliable when average wind speed is greater than 11 m.p.h. at the measurement site. Therefore, wind speed and direction were measured periodically at the measurement site and the results are correlated with wind data from nearby established weather stations. A Larson Davis WS 001 windscreen is used as wind protection for all microphones and is left in place at all times.

Wind speed and direction were noted throughout the measurement period and compared with data from the nearby weather station in the city of Solvang. A Davis Turbo Wind meter was used to measure wind speed at the measurement site to cross-check wind speeds. The Turbo Wind meter is a high performance wind speed indicator with exceptional accuracy.

9.2 Precision of Sound Level Meters.

The American National Standards Institute (ANSI) specifies several types of sound level meters according to their precision. Types 1,2, and 3 are referred to as “precision,” “general purpose,” and “survey” meters, respectively. Most measurements carefully taken with a type 1 sound level meter will have an error not exceeding 1 dB. The corresponding error for a type 2 sound level meter is about 2 dB.

The sound level meters used for measurements shown in this report are Larson-Davis Laboratories Model 820. These sound level meters meet all requirements of ANSI s1.4, IEC 651 for Type 1 accuracy and include the following features: 110 dB dynamic range for error free measurements. Measures FAST, SLOW, Unweighted PEAK, Weighted PEAK, Impulse, Leq, LDOD, LOSHA, Dose, Time Weighted Average, SEL, Lmax, Lmin, Ldn. Time history sampling periods from 32 samples per second up to one sample every 255 seconds.

Field calibration of each sound level meter with an external calibrator is accomplished before and after all field measurements. Laboratory calibration accuracy of the all instruments can be traced to the U.S. National Institute of Science and Technology standard.

9.3 Sound Level Measurement Method

The protocol for conducting sound level measurements is prescribed in detail by the American Society for Testing and Materials (ASTM) in their E 1014 publication and the CalTrans Traffic Noise Analysis Protocol. The procedures and standards in those documents are met or exceeded for sound level measurements shown in this report. The standards of ASTM E 1014 are exceeded by using Type 1 sound level meters for all measurements in this report instead of the less accurate Type 2 meters. Therefore, the precision of the measurements in this report is likely to be better than +/- 2 dB as stated in ASTM E1014. Particular and specific sound sources are identified by listening to synchronous audio recordings of peak sound level events.

Caltrans Noise Measurement Guidelines: Caltrans makes available general guidelines for taking into account environmental elements in noise measurements. The following is an excerpt from their guidelines. The Traffic Noise Analysis Protocol contains Caltrans noise policies, which fulfill the highway noise analysis and abatement/mitigation requirements stemming from the following State and Federal environmental statutes:

- California Environmental Quality Act (CEQA)
- National Environmental Policy Act (NEPA)
- Title 23 United States Code of Federal Regulations, Part 772 “Procedures for Abatement of Highway Traffi c Noise and Construction Noise” (23 CFR 772)
- Section 216 et seq. of the California Streets and Highways Code

Noise Contour Modeling

Noise contours incorporating the measured sound level values were generated for this assessment using CADNA/A, an acoustical modeling program that is in conformance with the TNM 2.5 algorithms, and which was developed to predict hourly Leq values for free-flowing traffic conditions. This computer modeling tool, made by Datakustik GmbH, is an internationally accepted acoustical modeling software program, used by many acoustics and noise control professional offices in the U.S. and abroad. The software has been validated by comparison with actual values in many different settings. The program has a high level of reliability and follows methods specified by the International Standards Organization in their ISO 9613-2 standard, “Acoustics – Attenuation of sound during propagation outdoors, Part 2: General Method of Calculation.” The standard states that, “this part of ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level under meteorological conditions favorable to propagation from sources of known sound emissions. These conditions are for downwind propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs at night.”

The computer modeling software takes into account source sound power levels, surface reflection and absorption, atmospheric absorption, geometric divergence, meteorological conditions, walls, barriers, berms, and terrain variations. The CADNA/A software uses a grid of receivers covering the project site.

10.0 References

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4. Bolt, Beranek and Newman. 1973. *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration.

5. California Department of Transportation (Caltrans). 1982. *Caltrans Transportation Laboratory Manual.*

6. ______. 1998. *Caltrans Traffic Noise Analysis Protocol For New Highway Construction and Highway Reconstruction Projects*.

7. ______. 2006. *California Transportation Plan 2025*, chapter 6.

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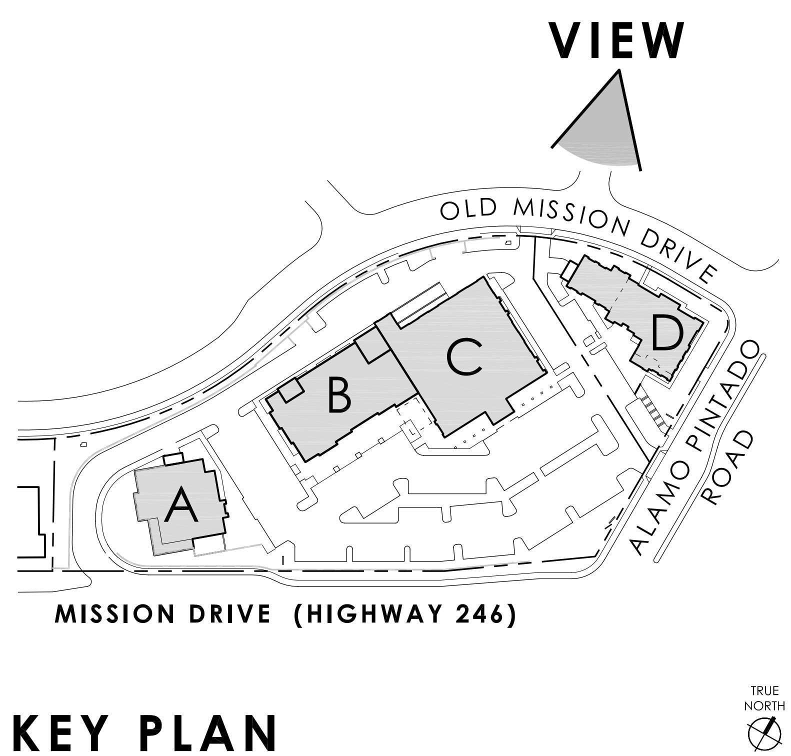
9. City of Solvang. *City of Solvang General Plan, Noise Element*.

10. Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide Final Report.* FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01.

11. Harris, Cyril.M., editor. 1979 *Handbook of Noise Control*.

PROPOSED

EXISTING



KEY PLAN

Arris
STUDIO ARCHITECTS

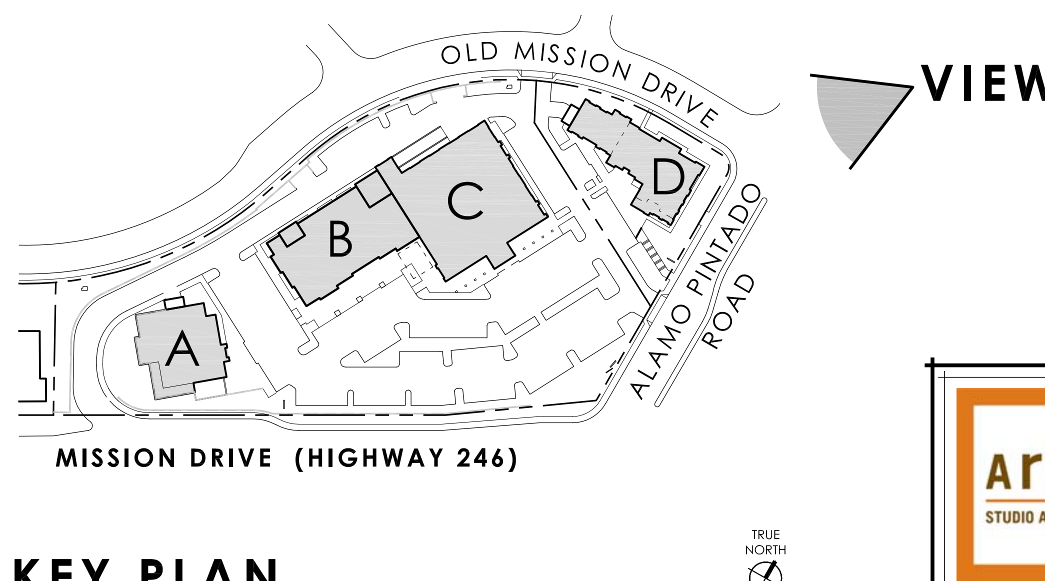
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE COMPOSITION
PHOTO SIMULATION

06-16-2015
A5.0

PROPOSED

EXISTING



KEY PLAN

Arris STUDIO ARCHITECTS

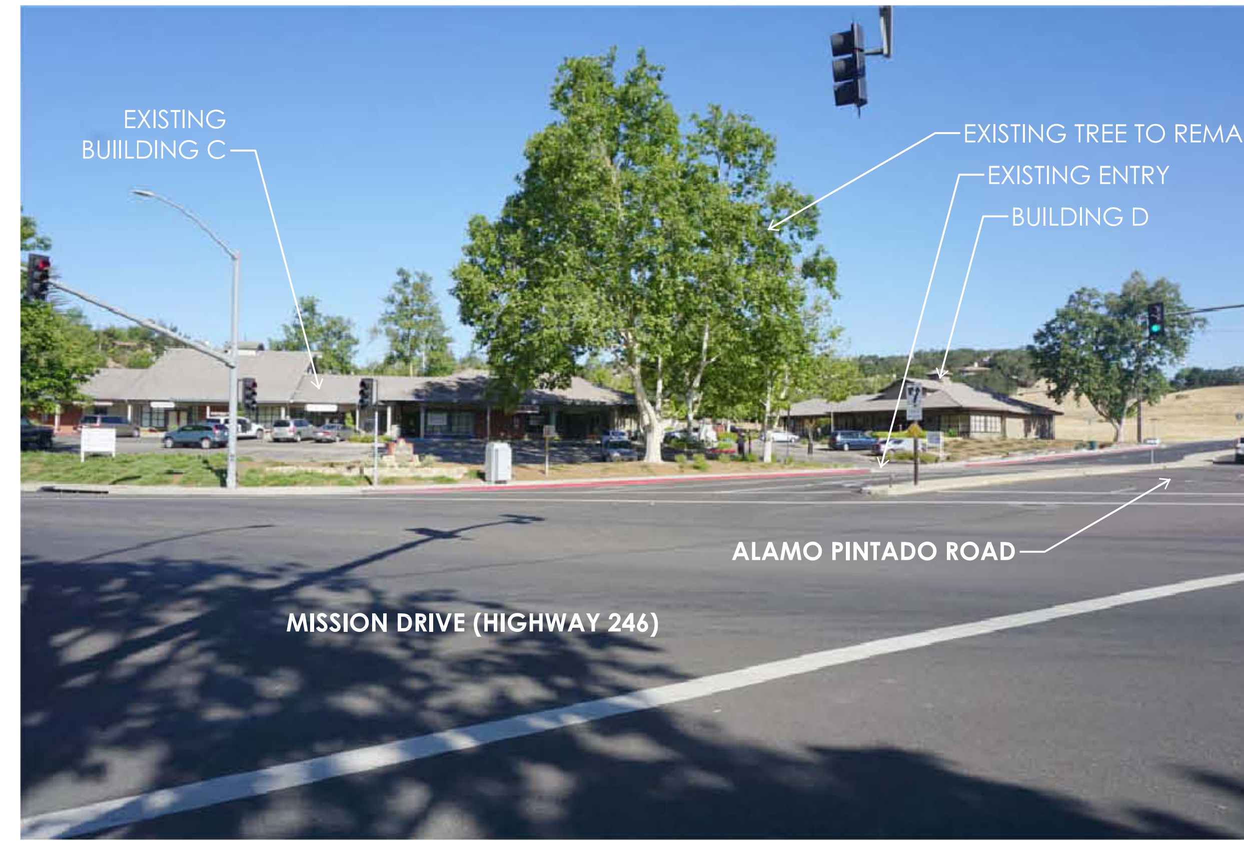
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE COMPOSITION
PHOTO SIMULATION

06-16-2015

A5.1

PROPOSED



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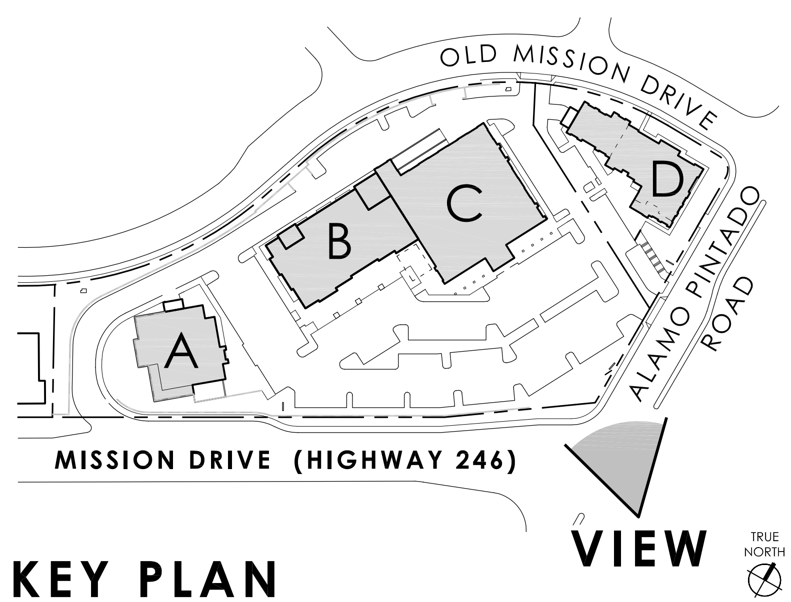


KEY PLAN

Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE COMPOSITION
PHOTO SIMULATION

06-16-2015

A5.2

ARRIS
STUDIO ARCHITECTS

the Merkantile

October 15, 2015

Water Usage Narrative

Water usage has become a very important issue over the years and with the current drought it has brought this issue to forefront. In response to this, the State of California has responded by creating building codes that require all projects to use energy and water more efficiently. On top of the building code improvements over the past 35 years, the State has also introduced the California Green Building Code, which incorporates many of the requirements created by the US Green Building Council and LEED, and mandates that all new projects to comply with. This includes:

- 20% reduction in indoor water use. This is verified through water use baseline tables, fixture flow rates, and standards for plumbing fixtures and fittings.
- Reduce wastewater by 20% via water conserving fixtures or utilizing non-potable systems such as graywater, rainwater, recycled, etc.
- Develop water budget for landscape that conforms to local ordinance or to the CA Department of Water Resources Model Water Efficient Landscape ordinance.
- Automatic irrigation systems utilizing weather and/or soil moisture based irrigation controllers. This is already a requirement for any projects for the City of Santa Barbara going through Design Review, per the Landscape Design Standards for Water Conservation.

For landscaping, the Governor mandated a 25% reduction in water usage from what was previously allowed. These code requirements and mandates further reduce potential impacts on water and energy for all new projects like The Merkantile.

Water Usage Calculations

For the building calculations, we utilized the existing buildings water bills over years 2013 and 2014. While the center was not fully occupied for these two years, the Valley Plaza buildings used 2,802 HCF/Year in 2013 and 2,602 HCF/Year in 2014. This number went down because there were fewer tenants in 2014 than there were in 2013. If we average these numbers out, the existing center, which is not fully occupied, used an average of 2,702 HCF/Year. The Merkantile, as designed and fully occupied will use 2,480 HCF/Year. This is an 8.2% reduction in water use from the existing center.

For the landscape water usage, we took a different approach as a result of the State mandate. Per the state requirements, The Merkantile project is allowed to use 619,562 gallons/year. Our estimate indicates that we will use 619,353 gallons/year. Due to the state mandate, this means that we are using at least 25% less water from last year.

Please look over the calculations provided above and the attached calculation sheets for additional information and contact us if you have any questions or comments.

Kind Regards,

Stephen Rigor, Architect

BALANCE Green Consulting
100 Cross Street, Suite 204
San Luis Obispo, CA 93401
(805) 235-6355

The Merkantile Water Use Analysis

October 15, 2015

Overview

We have prepared this report to compare current and anticipated indoor water use throughout the proposed Merkantile shopping center. This project is a major renovation of a retail center in Solvang, including new construction to accommodate a New Frontiers grocery store. The intent of this analysis is to quantify the total anticipated water use. The water use is then compared to the historic consumption of 2013 and 2014 for the shopping center. The analysis indicates that the overall space, post renovation, would use less water than the previous use.

Our analysis does not include landscape demand, as irrigation is on a separate water meter and water use reduction is being addressed by the landscape architect.

Methodology

For our water use analysis, we used the methodology standardized by the LEED certification program and largely adopted by the California Green Building Standards (CAL Green). LEED bases consumption on the average number of people per day and the category of each person in relation to the space type (e.g., employee, visitor or resident). LEED provides standard occupancy values defined by space type, but in this case we increased the anticipated occupant values based on the traffic study dated September 9, 2015.

The employee count, listed in Full Time Equivalent (FTE), is based on the LEED standard per occupancy type. In this case we have a total of **77** FTE throughout the project. A visitor or customer falls in the Transient category. We have estimated a total of **1,321** transients. Also included are **16** residents, assuming two occupants per one bedroom or studio unit.

Space Usage Type	Area, SF	FTE	Transients
Grocery Store	15,000	27	1,000
General Office	3,000	12	1
Restaurant	6,385	15	134
Warehouse, Storage	4,615	1	1
Retail, general	12,000	22	185
Total	41,000	77	1,321

Restaurant customers are tracked separately as they have a higher use rate than a typical retail or grocery store customer.

Average Occupants Per Day	
Employees, FTE	77
Restaurant Customers	134
Retail Customers	1,185
Residents	16
Total Building Users	1,412

To calculate the estimated uses per day, LEED Fixture Use values were applied.

Description	**Uses per Day**				
Flow Fixtures	**FTE**	**Restaurant**	**Retail/ Grocery**	**Resident**	**Total Uses per day**
Lavatory - Commercial	3	0.5	0.2		534
Lavatory - Residential				5	80
Kitchen Sink - Residential				4	64
Shower - Residential				1	16
Flush Fixtures	**FTE**	**Visitor**	**Retail/ Grocery**	**Resident**	**Total Uses per day**
Urinal	2	0.4	0.1		163
Toilet - female	3	0.5	0.2		267
Toilet - male	1	0.1	0.1		104
Toilet - Residential				5	80

Anticipated Water Use

The proposed water use for each flush and flow fixture type is based on the maximum allowable requirements within the California Green Building Code.

Description: Flow Fixtures	**GPM Proposed**	**Proposed Duration**	**Total per day**	**Proposed Gal/year**
Lavatory - Commercial	0.5	15	534	24,384
Lavatory - Residential	1.5	60	80	43,800
Kitchen Sink - Residential	1.8	60	64	42,048
Shower - Residential	2.0	480	16	93,440
TOTAL FLOW				203,672
Description: Flush Fixtures	**GPF**		**Total per day**	**Proposed Gal/year**
Urinal	0.50		163	29,726
Toilet - female	1.28		267	124,845
Toilet - male	1.28		104	48,746
Toilet - Residential	1.28		80	37,376
TOTAL FLUSH				240,694
Total Fixture Water Use, Gallons				**444,366**

Other indoor water use, ‘process loads’, include laundry, cleaning and food prep. Restaurant water use is based on gallons of water per meal. As the final tenant has not been selected, we made the following assumptions:

Restaurant Meal Prep and Cleaning	
Gallons per plate	12
Plates at one time	75
Turns per day	4
Occupancy	70%
Gallons per day	**2,520**

Grocery store use is based on historic data provided by others.

Description: Process Water use	Gal/Load	Uses per week	Proposed Gal/year
Residential Dishwasher	5.5	16	4,576
Residential Laundry	14	16	11,648
	Gal/Day		
Retail, Misc. Cleaning	50.0		18,250
Restaurant	2520.0		919,800
Market Dishwasher	500.0		182,500
Market Food Prep	750.0		273,750
Total Process Water Use, Gallons			1,410,524
Total Water Use, Gallons			**1,854,890**
Total Water Use (hundred cubic foot)			**2,480**

Summary

Water Use	HCF/Year
Historic Use: 2014	2,602
Historic Use: 2013	2,802
New Anticipated Use	**2,480**

Based on the analysis above, The Merkantile shopping center will use less water than the previous water use prior to the renovation.

As the project progresses, additional strategies for conservation will be evaluated, including ultra-low-flow fixtures and greater irrigation efficiency.

Respectfully Submitted,

Andy Pease

Andrea Pease, AIA, LEED AP
Principal
andy@inbalancegreen.com

DATE:	September 8, 2015
JOB No.:	0001-0032-01-C015
JOB NM:	The Merkantile
CALC BY:	Chris Dufour

rrm design group
3765 South Higuera Street, Suite 102 / San Luis Obispo, CA 93401
Ph: (805) 543-1794 Fax: (805).543.4609 email: www.rrmdesign.com

CHALLENGE: Determine the Volume of Water (Acre Feet) used for projected site improvements

TERMINOLOGY

ET o	=	Evapotranspiration Rate (per month) Based on Santa Ynez #s
Kc	=	Crop Coefficient Factor/Plant Factor
0.62	=	Conversion Factor to Gallons
0.4	=	ET Adjustment Factor
LA	=	Landscape Area (sqft)
0.5	=	Additional Water Allowance for SLA
SLA	=	Special Landscape Area (sqft)
IE	=	Irrigation Efficiency
Kc	=	Plant Factor
1 Acre	=	43,560 square feet

METHOD 1: MAWA: Maximum Allowable Water Usage

SAMPLE FORMULA: (ETo)(0.62) [(0.4xLA)+(0.5xSLA)]

(ETo)/year	To Gal	ET. Adj	LA	SLA adj	SLA		MAWA	
50.74	0.62	0.40	49236	0.5	0	=	619,562	Gal/Year
							1.9	Acre-foot/Year

METHOD 2: ETWU: Estimated Total Water Usage

SAMPLE FORMULA: (ETo)(0.62) [(PFxLA/IE)+SLA)]

(ETo)/year	To Gal	PF x LA	IE	SLA		ETWU	
50.74	0.62	18304	0.9	0	=	**619,353**	Gal/Year
						1.9	Acre-foot/Year

The estimate provided above is preliminary based on areas shown in the conceptual landscape plan dated April 28, 2015. The water use values shown above are based upon an assumed revision to the concept plan which would modify all plant material to 100% drought tolerant plants with greater spacing. Furthermore, they are estimates. Actual water usage may vary based on watering practices.

PROJECT DATA

Landscape Areas (LA)		
Turf (High Use)	0	
Turf (Low Use)	0	
Shrubs (Moderate Use)	19,000	
Shrubs (Low Use)	30,236	
Thinned (Low Use)		
Non Planted Area	0	
Total	49,236	49236

Special Landscape Area (SLA)		
Turf		0
Edible Plants		
Other		
Other		
		0

Irrigation Efficiency (IE)				
Type	Eff	Sqft	Eff x Sqft	IE
Rotors	0.75	0	0	
Rotary	0.85	10,000	8,500	0.9
Drip	0.95	39,236	37,274	
Bubblers	0.85		0	
	Total	49,236	45,774	

Plant Factor (PF)			
Type	PF	LA	Total
Turf (High Use)	0.87	0	0
Turf (Low Use)	0.74	0	0
Shrubs (Moderate Use)	0.57	19,000	10,745
Shrubs (Low)	0.25	30,236	7,559
		PFxLA=	18,304

PC RESOLUTION NO. 16-01

**A RESOLUTION OF THE PLANNING COMMISSION
OF THE CITY OF SOLVANG
APPROVING THE VALLEY PLAZA SHOPPING CENTER/THE MERKANTILE DEVELOPMENT PLAN
FOR A NEW 41,429 SQUARE FOOT SHOPPING CENTER WITH 8 RESIDENTIAL UNITS; AND TO APPROVE THE MITIGATED NEGATIVE DECLARATION PURSUANT TO THE STATE GUIDELINES FOR THE IMPLEMENTATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA).**

THE PLANNING COMMISSION OF THE CITY OF SOLVANG HEREBY RESOLVES AS FOLLOWS:

WHEREAS, the Planning Commission of the City of Solvang has considered the Valley Plaza Shopping Center/The Merkantile Development Plan Project to allow the subject Development Plan proposal in the C-2 Commercial Retail Zone; and

WHEREAS, the Planning Commission has held a duly noticed public hearing on the subject Development Plan proposal on April 4, 2016, at which time all interested persons were given the opportunity to be heard; and

WHEREAS, the Planning Commission has reviewed this project in compliance with the California Environmental Quality Act (CEQA) and has approved the Mitigated Negative Declaration, subject to the Mitigation Measures as adequate environmental review for the project; and

WHEREAS, the Planning Commission finds after due study, deliberation and public hearing that the following circumstances exist:

1. That the site for the project is adequate in size, shape, location and physical characteristics to accommodate the type of use and level of development proposed;

2. That streets and highways are adequate and properly designed;

3. That there are adequate public services, including but not limited to fire protection, water supply, sewage disposal, and police protection to serve the project;

4. That the project will not be detrimental to the health, safety, comfort, convenience, and general welfare of the neighborhood and will not be incompatible with the surrounding area;

5. That the project is in conformance with the applicable provisions and policies of Title 11 of the City Code, Zoning Regulations, and the General Plan;

6. That the development will not materially or adversely aggravate the parking and traffic conditions in the area;

7. That the project will not conflict with any easements required for public access through, or public use of, a portion of the property;

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Solvang hereby approves the Valley Plaza Shopping Center/The Merkantile Development Plan subject to the attached Conditions of Approval contained in the proposed Exhibit A.

On motion by Commissioner ________ and seconded by Commissioner _______, the foregoing Resolution is hereby adopted by the following vote:

AYES:

NOES:

ABSTAINED:

DATE:

APPROVED AS TO CONTENT:	APPROVED:
____________________________	____________________________
Arleen T. Pelster, AICP Planning & Economic Development Director	Robert Clarke Planning Commission Chair

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

November 30, 2015

Arleen Pelster
City of Solvang
411 Second Street
Solvang, CA 93464

Subject: Valley Plaza Shopping Center / Merkantile Development Plans
SCH#: 2015101093

Dear Arleen Pelster:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on November 25, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

SCH#	**2015101093**
Project Title	Valley Plaza Shopping Center / Merkantile Development Plans
Lead Agency	Solvang, City of

Type	**MND** Mitigated Negative Declaration
Description	The Proposed Project is the reconfiguration and reconstruction of the existing Valley Plaza mixed-use shopping center in the City of Solvang. The proposed project will rebuild the existing shopping center to include 42,365 sf commercial space and 8 apartment units. The mix of tenants and uses proposed at this time will include: New Frontiers Natural Marketplace, Restaurant, Retail stores, eight second-floor residential apartments.

Lead Agency Contact

Name	Arleen Pelster				
Agency	City of Solvang				
Phone	(805) 688-4414	***Fax***			
email					
Address	411 Second Street				
City	Solvang	***State***	CA	***Zip***	93464

Project Location

County	Santa Barbara		
City	Buellton		
Region			
Lat / Long			
Cross Streets	SR 246 / Old Mission Drive / Alamo Pintado		
Parcel No.	139-240-074 and 139-240-075		
Township	***Range***	***Section***	***Base***

Proximity to:

Highways	SR 246
Airports	
Railways	
Waterways	Alamo Creek
Schools	
Land Use	Commercial (C2 allow residential as secondary use per City Ordinance)

Project Issues	Air Quality; Noise; Traffic/Circulation; Water Supply

Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 5; Air Resources Board; Regional Water Quality Control Board, Region 3; Native American Heritage Commission

Date Received	10/27/2015	***Start of Review***	10/27/2015	***End of Review***	11/25/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

TO: CITY OF SOLVANG
411 Second Street
Solvang California, 93463

RECEIVED

NOV 30 2015

CITY OF SOLVANG

November 30, 2015

To: Ms. Arleen Pelster, AICP
Director of Planning and Economic Development

Dear Ms. Pelster:

Thank you for the opportunity to comment on the Draft Mitigated Negative Determination (MND) for the Valley Plaza Reconstruction project. We, William Claire and neighbors recognize that the redevelopment of commercial uses in a city is an ongoing fact of life and important to the City of Solvang. Our comments are designed to question, point out potential areas of concern, to the surrounding community and suggest solutions, while not threatening or attempting to derail such a project. We are interested in a project that will be successful and accepted by the community during the redevelopment and when complete and operational.

General Comments

The purpose of CEQA is to disclose impacts to the public and decision makers (including the Solvang Planning Commission and possibly the City Council) so that impacts can be reduced or avoided. The Mitigated Negative Declaration (MND) should not be obscure or defer impact analysis.

The MND concludes that the potential for significant environmental impacts is fully mitigated by the proposed mitigation measures, but the document seriously underestimates or fails to evaluate certain impacts. In some areas the document is unclear and appears to be missing the appropriate check marks within the impact matrices. Throughout the document, there are numerous typos where the intended meaning of statements is sometimes obscured by extraneous or inappropriate words.

Page 2 of the Initial Environmental Study (IS) contains a matrix of environmental factors potentially affected under heading 12, but none (impacts to fish and wildlife are checked separately) of the factors have been checked (on our copy) despite the later statement, "although the proposed project *could* have a significant effect on the environment..."

- The Initial Study (IS) uses the #12 heading for both Environmental Factors Potentially Affected and Determination. Is this a numbering error or is information incorrect or missing?

The document uses various terms to describe the project - "remodel, reconfiguration, reconstruction." Earlier documents specifically referred to the "demolition" component of the project which is immense. Almost all of the existing commercial construction will be razed and most of the site will be re-graded.

- Does the document take in to account every aspect of the demolition and re-grading of the site and all the associated impacts? (Potential impacts include Air Quality, Noise, Traffic, Lighting, reduced parking for customers, employees and construction crews, Hazards & Hazardous Materials, etc):

The project description for the Initial Study (Page 1) differs from that of the MND. The "mix of tenants and uses proposed at this time" for the IS includes a "Brewery/Restaurant." The MND only includes a "restaurant."

- Does the MND evaluate the impacts of a "Brewery / Restaurant?" In particular, water use, traffic and noise? If not, what additional environmental and discretionary review would be necessary for such use?

- Does the document take in to account every aspect of the demolition and re-grading of the site and all the associated impacts? (Potential impacts include Air Quality, Noise, Traffic, Lighting, reduced parking for customers, employees and construction crews, Hazards & Hazardous Materials, etc):

Impacts of Proposed Project Phasing

The applicants have proposed a phased schedule for different areas that would allow New Frontiers Market to remain in business at its current location while the new market is constructed. This approach to development creates a number of issues that are not discussed or reported in the traffic and transportation reports or general planning.

- The time for grading, construction and transportation impacts are all extended in time by the decision to keep the food store operational during construction.

- There is no mention in any of the reporting and transportation study of use of the limited curb parking space on the Southside of Old Mission Drive.

- Was there an assumption that the entire curb parking would be available – maybe for employees of the businesses in the center?

Santec Consulting Services Inc. (was retained by the City for a peer review of the traffic and circulation plans and data.) Their report recommended:

- An analysis of cumulative conditions to evaluate near future circulation and access to the site.

- Also suggested was a parking analysis that should include parking impacts for customers, employees and construction vehicles over the extended development timeframe, including the Old Mission Drive frontage as well as the cumulative parking off and on-site.

- Have these analyses been authorized and completed? If they have not been authorized, when will the studies be completed?

The vacant parcels on the south-side and westerly end of Old Mission Drive contain eight vacant single family residential parcels that do not have normal the street improvements,- curbs, gutters and sidewalks. These sites are awaiting development, but no time for development of these parcels has been set. Also, since none of the normal street improvements are in place on north-side of Old Mission Street West of Honey Locust Circle development, none of these property frontages should be used for employee parking.

- Does (or will) the MND evaluate *the detailed impacts* of attempting to demolish, re-grade and construct one section of the site, while business, with the necessary parking and circulation for customers and employees continues on another part of the site?

- Answers to questions raised by the phasing of development are critical to our neighbors adjacent to the development. All of the construction

- Has a determination been made as to sufficient parking remaining on-site for customers of the market, their employees, construction crews and equipment?

- Is the use of the potential all- day employee curb parking on Old Mission Street anticipated in the parking study? There is no mention of its use we could find in the reports.

Aesthetics/Landscaping

The Aesthetics discussion on pages 6 and 7 *seriously underestimates the impacts* of the project and is not consistent with the internal discussion. Two mitigation measures are proposed to reduce aesthetic impacts but the matrix does not show the potential for significant impacts under category a, c or d (b is not applicable).

The impact discussion for 1a-c and the language of Mitigation Measure MM-AES-1 reveal serious flaws in the analysis. Although the discussion speaks of the tree removal that is proposed, the description is incomplete and underestimates the level of impact.

The Impact Threshold notes that "activities that are inconsistent with community standards expressed in the Community Design Element and which substantially alter the scenic character would result in a significant impact on visual resources."

- Relevant city policies / findings call for"*preservation of specimen and landmark trees*" and direct that *"existing significant trees or natural features should be protected."*

- The dramatic removal of 26 specimen Sycamore trees and 4 mature Live Oaks will *"substantially alter the scenic character of the site" and result in "a significant impact on visual resources"* at the entry to Solvang.

- The project proposes to remove all 10 existing specimen Sycamore trees on the Mission Drive frontage that currently function as street trees. 13 specimen Sycamores are to be removed from the interior and 3 along Old Mission Drive.

- The discussion states the project *is "substantially consistent"* with section 4.4.2 of the Community Design." (sic) What does *"substantially" mean in this context?* Does it mean that the project is only partially consistent with this section? *If so, what is not consistent?*

The analysis acknowledges that "the removal of existing street trees could result in a significant impact." That statement should result in potentially significant if not fully significant. Aesthetic impacts under categories a and c. Instead, the MND appears to defer the analysis of that impact to a later date during BAR Review. At that point however the, BAR cannot be expected to identify significant impacts and request a revised project that would avoid those impacts or fully mitigate them.

As noted above the purpose of CEQA is to disclose impacts to the public and decision makers (including the Solvang Planning Commission and possibly the City Council) so that impacts can be reduced or avoided. The *MITIGATED NEGATIVE DECLARATION* should not be obscure or defer impact analysis.

Should the BAR actually determine that the wholesale tree removals were inconsistent with the General Plan (as they are), it cannot be assumed that "architectural review" would fully mitigate or avoid (as CEQA directs) a significant impact.

The analysis claims that "The retention of the of (sic) existing Sycamore Trees around the perimeter on Old Mission and Alamo Pintado, combined with the addition of 50 (or more) new trees in the landscape would result in a visual character substantially like the existing center (refer to attached Photo Simulations comparing proposed and existing site.)" This statement is false.

It ignores that the entire Mission Drive frontage will no longer have a mature row of specimen Sycamores and that 20 more mature trees will be removed from the site. It ignores the fact that the proposed project is dramatically taller, boxier, and obtrusive than the existing structures.

The existing shopping center is well suited to the topography of the site and the surrounding residential development. It includes four buildings with different orientations, floor elevations, heights and staggered rooflines. Apart from a small two story building set into the grade, the existing buildings generally appear single story. The two existing upper story apartments disappear in the staggered rooflines that break up the massing. The architectural style, materials, color scheme (predominantly brown and gray) and roofing of the existing structures help them blend with the residential neighborhood and surroundings. The architecture of the existing shopping center is predominantly California Ranch style (a residential style) with simple rooflines, large overhangs that shade the frontages, and minimal signage.
The proposed development will be dramatically taller and more massive with commercial elements and a variety of materials designed to call attention to the various businesses and signage. Most of the rooflines will be 28' – 34' high, and almost all of the structures will be two stories.

Visual Character
The claim that the new project *"will have a visual character substantially like the existing center"* apparently assumes that the three visual simulations provided give an accurate portrayal of how the entire site will appear to the naked eye. In fact, the three views chosen are atypical of the entire site. They rely heavily on the few locations where a few of the existing trees will be retained. For instance, no trees will be retained on the entire Mission Drive frontage where a large parking lot will feature cars four rows deep. The existing center features smaller structures and only two rows of parking in any location. It should also be noted that despite the increased size of the structures proposed the visual simulations do not necessarily "show" taller structures in all instances.

The visual simulations include large swaths of green that may or may not depict future landscaping. In fact there is no guarantee that water will be available for new landscaping or that future climatic conditions will ever support establishment and maintenance of trees similar to those existing. The idea that 50 small trees will replace those existing is farcical. Just one of the large existing specimens has the mass and foliage of 30 new plantings.

As noted above, mitigation measure MM-AES-1 attempts to defer CEQA analysis and the determination of appropriate mitigation to a later date and a decision-making body that may not have the necessary discretion. It cannot be assumed that the BAR will be able to fully mitigate project impacts "through architectural review" or "adequate tree-replacement."

There is substantial evidence that *the proposed tree removal is inconsistent with adopted policy* and combined with the proposed development, will "substantially alter the scenic character" of the site, and therefore *constitutes a significant impact to visual resources.*

Traffic and Transportation

The traffic and transportation requirements and needs for the redevelopment of the Valley Plaza have been extensively studied and found to be are within normal parameters for all transportation factors. Circulation will be improved by the closing of the westerly egress on Old Mission Street, and the development of the new access from SR 246 will provide a safe and more convenient ingress to the complex for west bound shoppers.

Closing the Westerly Valley Plaza ingress and egress on Old Mission Drive, however, will dramatically increase the traffic using the remaining Valley Plaza entry opposite the Hillside Drive entrance to Mission Oaks. Drivers exiting from either entry will have limited site distance due to an existing curve in Old Mission Drive. The close proximity to the intersection with Alamo Pintado exacerbates this problem with vehicles accelerating into Old Mission Drive. On-street parking adjacent to the Valley Plaza and the Mission Oaks entries adversely affects the already limited sight distance that can make turning motions hazardous. A dramatic increase in traffic volume of all types of vehicles and on street parking has the potential to create a significant traffic hazard. These hazards can be partially mitigated by eliminating on-street parking between the entries and Alamo Pintado and a short distance westward along the southerly side of Old Mission Drive.

As pointed out in the Development Phasing comments above, a highly detailed study of parking for customers, employees, residents, and construction crews should be undertaken before the project is approved.
This concludes our comments and we thank you for considering them. Thank you for your consideration of our comments. We stand ready to help the City and staff to deal with the myriad of issues found in a project such as Valley Plaza Redevelopment Project.

Sincerely,

William H. Claire
611 Aqueduct Way
805.691.9857

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3111
TTY 711
http://www.dot.ca.gov/dist05/

Serious drought,
Help save water!

December 3, 2015

Ms. Arleen Pelster
Solvang Community Development Department
411 Second Street
Solvang CA 93464

SB 246 PM 030.28
SCH#2015101093

VALLEY PLAZA SHOPPING CENTER / MERKANTILE DEVELOPMENT PLANS MITIGATED NEGATIVE DECLARATION (MND)

Dear Ms. Pelster:

The California Department of Transportation (Caltrans) appreciates the opportunity to review and comment on the MND for this project. The following are comments on the MND and a follow up to our phone conversation with Mr. Steve Rigor of Arris Studio Architects on November 30, 2015.

Based on the plans we received on October 23, 2015, a right turn only lane from State Route 246 to the project site does not meet Caltrans design standards. Furthermore, an access with a right turn only lane at this location presents operational concerns to both motorists and bicyclists and is therefore not permitable.

In addition, the traffic study does not show that this project necessitates a driveway with a right turn only lane. However, if the applicant wishes to pursue access on SR 246 it would be as an optional design feature of the project and not as a mitigation for traffic impacts to SR 246.

The following are two options the Department is willing to explore to allow a driveway access to the project:

1) A driveway access as part of a roundabout constructed at the intersection of SR 246 and Alamo Pintado Road.

2) A new travel lane on SR 246 that would begin east of the Alamo Pintado Road intersection (likely back to the Alamo Pintado Creek bridge) and would taper past a driveway to the project.

However, these options are not foregone conclusions and a design proposal would need to be evaluated to ensure it meets Caltrans design standards and does not negatively impact how SR 246 operates for all modes of through travel.

Thank you for the opportunity to provide comments. If you have any questions or concerns, please do not hesitate to contact me at (805) 549-3131 or adam.fukushima@dot.ca.gov.

Sincerely,

Adam Fukushima, PTP
Development Review
Caltrans District 5

Cc: Steve Rigor

ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509

Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

January 13, 2016 14056L09

1980s Old Mission Drive, LLC
c/o Clint Pearce
284 Higuera Street
San Luis Obispo, CA 93101

TRAFFIC STUDY FOR THE
MERKANTILE SHOPPING CENTER PROJECT, CITY OF SOLVANG, CALIFORNIA

Associated Transportation Engineers (ATE) is submitting the following traffic study for the Merkantile Shopping Center Project proposed in the City of Solvang. ATE previously prepared several studies for the proposed project. The following traffic study combines the analyses contained in the previous traffic studies, and has been revised to exclude Highway 246 access from the project and instead assumes that the three existing access points will be retained.

PROJECT DESCRIPTION

The existing Valley Plaza center is a 41,316 SF shopping center, with the commercial uses occupying 39,282 SF and the 2 apartment units occupying 2,034 SF. The existing center is located on the northwest corner of the SR 246/Alamo Pintado Road intersection in the City of Solvang. Figure 1 shows the location and configuration of the existing shopping center site. As shown on Figure 1, access for the center is currently provided by two full-access driveways on Old Mission Drive on the north side of the center and one right-turn only driveway on Alamo Pintado Road on the east side of the center.

Figure 2 shows the conceptual site plan for the proposed Merkantile Shopping Center Project (the "Project). The proposed Project includes 41,429 SF of commercial space plus 8 apartment units. The existing access driveways would be retained as part of the Project.

LEVEL OF SERVICE DEFINITIONS

The ability of a roadway system to carry traffic is expressed in terms of "Levels of Service" (LOS). LOS A through F are used to rate traffic operations, with LOS A indicating very good operations and LOS F indicating poor operations. More complete level of service definitions are provided in Table 1.

Table 1
Level of Service Definitions

LOS	Definition
A	Conditions of free unobstructed flow, no delays.
B	Conditions of stable flow, very little delay.
C	Conditions of stable flow, delays are low to moderate.
D	Conditions approaching unstable flow, delays are moderate to heavy.
E	Conditions of unstable flow, delays are significant.
F	Conditions of forced flow, travel speeds are low and volumes are well above capacity.

Source: Highway Capacity Manual, 2010.

TRAFFIC IMPACT CRITERIA

The following section outlines the impact criteria used for the traffic impact analysis. Although the Project is located within the City of Solvang, the SR 246/Alamo Pintado Road intersection is located on SR 246, which is a California state highway under the jurisdiction of Caltrans. As outlined below, the City's criteria states that LOS D is acceptable for intersection operations and the Caltrans criteria states that LOS C is acceptable. The more stringent LOS C criteria established by Caltrans was therefore used to assess potential traffic impacts at the SR 246/Alamo Pintado Road intersection.

City of Solvang Criteria

The City of Solvang traffic criteria states, "Maintain a minimum level of service D at all intersections during normal peak hours and level of service E during "average tourist season peak hours" to ensure that traffic delays are kept to a minimum."

Caltrans Criteria

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. While Caltrans has not established traffic thresholds of significance, this traffic analysis utilizes the following traffic threshold of significance:

A significant project impact occurs at a State highway intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F).

EXISTING CONDITIONS

Street Network

SR 246, located along the southern frontage of the Valley Plaza center, is a two-lane State highway that serves as a major east-west route in the Santa Ynez Valley area. SR 246 provides access to U.S. Highway 1 to the west and SR 154 to the east. Turn lanes are provided at the SR 246/Alamo Pintado Road intersection and the intersection is controlled by traffic signals.

Alamo Pintado Road, located along the eastern frontage of the Valley Plaza center, extends south from Santa Barbara Avenue in Los Olivos to SR 246 in Solvang. The segment of Alamo Pintado Road adjacent to the Valley Plaza center is a four-lane arterial road with a raised median between SR 246 and Old Mission Drive. The Valley Plaza center includes a right-turn only driveway that connects to Alamo Pintado Road (see Figure 1).

Old Mission Drive, located along the northern frontage of the Valley Plaza center, extends west of Alamo Pintado Road and terminates just west of the commercial center. There are two driveways on Old Mission Drive that serve the Valley Plaza center (see Figure 1).

Traffic Volumes

Figures 3a and 3b illustrate the existing traffic volumes used for this study (traffic count data is attached for reference). Average Daily Traffic (ADT) volumes for SR 246 were obtained from Caltrans. Peak hour traffic counts were collected by ATE at the SR 246/Alamo Pintado Road intersection and at the Valley Plaza driveways for this study. The A.M. peak hour counts were collected at the SR 246/Alamo Pintado Road intersection in March 2015; the Noon peak hour counts were collected in May 2015; and the P.M. peak hour counts were collected in August 2014. The A.M. and P.M. peak hour traffic counts collected at the SR 246/Alamo Pintado Road intersection were compared to historical counts collected in March 2012 and it was found that the P.M. peak hour counts collected in August 2014 counts were somewhat lower than the March 2012 counts. The P.M. peak hour counts collected in March 2012 were used for the analysis to represent as reasonable worst case scenario. Pedestrian and bicycle counts were also collected at the SR 246/Alamo Pintado Road intersection for the impact analysis. The pedestrian and bicycle counts were collected in March and May 2015.

Existing Levels of Service

Existing delays and levels of service were calculated for the SR 246/Alamo Pintado Road intersection and the Valley Plaza center driveways using the operations methodology provided in the Highway Capacity Manual.[1] Table 2 shows the Existing delays and levels of service. Level of service calculation worksheets are attached for reference.

Table 2
Existing Levels of Service

Intersection	Control	Delay/LOS A.M. Peak	Delay/LOS Noon Peak	Delay/LOS P.M. Peak
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	22.0 Sec/LOS C	23.9 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:				
Inbound Left Turns	Yield	6.0 Sec/LOS A	6.5 Sec/LOS A	6.7 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A	8.4 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:				
Inbound Left Turns	Yield	3.1 Sec/LOS A	2.8 Sec/LOS A	1.9 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.6 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:				
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	10.2 Sec/LOS B	10.4 Sec/LOS B
Delays and levels of service based on Highway Capacity Manual procedures.				

As shown in Table 2, the SR 246/Alamo Pintado Road intersection currently operates at LOS C during the A.M., Noon, and P.M. peak hour periods - which meets Caltrans' LOS C standard and the City's LOS D standard. Delays for turning into and out of the Valley Plaza access driveways are relatively low and equate to LOS A-B operations, which meet City standards.

TRIP GENERATION ANALYSIS

Existing Trip Generation

The traffic counts collected at the Valley Plaza driveways show that the center generates traffic volumes that are higher than average for similar shopping centers, as reported in the Institute of Transportation Engineers (ITE) Trip Generation manual.[2] Figures 4a and 4b illustrate the existing traffic generated by the Valley Plaza center. Table 3 compares the traffic

[1] Highway Capacity Manual, Transportation Research Board, 2010.
[2] Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

generation for the existing Valley Plaza center based on the driveway counts with the traffic generation estimates based on rates contained in the ITE Trip Generation manual. Worksheet showing the detailed trip generation calculations are attached for reference.

Table 3
Valley Plaza Center – Existing Trip Generation

Trip Generation Source	Size	A.M. Peak Hour		Noon Peak Hour		P.M. Peak Hour	
		Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Valley Plaza Counts							
Shopping Center(a)	39,282 SF	2.29	90	6.39	251	4.10	161
Apartments(b)	2 Units	0.51	1	0.29	1	0.62	1
Totals:			91		252		162
ITE Rates							
Shopping Center(a)	39,282 SF	0.96	37	3.78	148	3.71	146
Apartments(b)	2 Units	0.51	1	0.29	1	0.62	1
Totals:			38		149		147

(a) Trip rates per 1,000 SF of building area.
(b) Trip rates per apartment unit.

As shown, the Valley Plaza center currently generates 91 A.M. peak hour trips, 252 Noon peak hour trips, and 162 P.M. peak hour trips based on the traffic counts collected at the center's driveways. Application of ITE rates results in a predicted trip generation of 38 A.M. peak hour trips, 149 Noon peak hour trips, and 147 P.M. peak hour trips – which are somewhat lower than the counts collected at the existing center.

Proposed Project Trip Generation

Trip generation estimates were calculated for the proposed commercial uses based on the trip rates developed from the existing Valley Plaza center since those rates represent local shopping center conditions and are higher than ITE rates. Trip generation estimates were calculated for the proposed 8 apartment units using ITE rates for Apartments (ITE Code 220).

Table 4 lists the trip generation estimates for the proposed Merkantile Project. Worksheets showing the detailed calculations are attached for reference. As shown in Table 4, the Project would generate 99 A.M. peak hour trips, 267 Noon peak hour trips, and 175 P.M. peak hour trips.

Table 4
Merkantile Project – Proposed Trip Generation

Use	Size	A.M. Peak Hour		Noon Peak Hour		P.M. Peak Hour	
		Trip Rate	Trips	Trip Rate	Trips	Trip Rate	Trips
Shopping Center(a)	41,429 SF	2.29	95	6.39	265	4.10	170
Apartments(b)	8 DU	0.51	4	0.29	2	0.62	5
Totals:			99		267		175

(a) Shopping center trip rates per 1,000 SF of building area based on local study.
(b) Apartment trips rates per dwelling unit based on ITE apartment rates (ITE Code 220).

Net Trip Generation

Impacts generated by the Project are assessed based on the net change in traffic generated at the site. Table 5 lists the net change in traffic as a result of the Project (proposed Merkantile center minus existing Valley Plaza center).

Table 5
Merkantile Project – Net Trip Generation

Scenario	Trip Generation			
	ADT(a)	A.M. Trips	Noon Trips	P.M. Trips
Proposed Project	1,822	99	267	175
Existing Center	1,690	91	252	162
Net Trip Generation	+132	+8	+15	+13

(a) Average Daily Trips based on ITE rates for shopping centers.

As shown in Table 5, the proposed Project would generate slightly more traffic than is currently generated at the site.

PROJECT IMPACTS

The net new trips that would be generated by the proposed Merkantile Project were added to the Existing traffic volumes to determine potential impacts. The Existing + Project volumes are shown on Figures 5a and 5b. Tables 6, 7 and 8 compare the Existing and Existing + Project delays and levels of service for the A.M., Noon, and P.M. peak hour periods.

Table 6
Existing & Existing + Project Levels of Service – A.M. Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	24.9 Sec/LOS C	25.0 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.0 Sec/LOS A	6.1 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	3.1 Sec/LOS A	3.4 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	9.4 Sec/LOS A	9.5 Sec/LOS A
Delays and levels of service based on Highway Capacity Manual procedures.			

Table 7
Existing & Existing + Project Levels of Service – Noon Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	22.0 Sec/LOS C	22.1 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.5 Sec/LOS A	6.6 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.5 Sec/LOS A	8.5 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	2.8 Sec/LOS A	3.0 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.6 Sec/LOS A	8.7 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	10.2 Sec/LOS B	10.3 Sec/LOS B
Delays and levels of service based on Highway Capacity Manual procedures.			

Table 8
Existing & Existing + Project Levels of Service – P.M. Peak Hour

Intersection	Control	Delay/LOS Existing	Delay/LOS Existing + Project
SR 246/Alamo Pintado Rd	Signal	23.9 Sec/LOS C	23.4 Sec/LOS C
Old Mission Dr/Shopping Center West Dwy:			
Inbound Left Turns	Yield	6.7 Sec/LOS A	6.7 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.4 Sec/LOS A	8.4 Sec/LOS A
Old Mission Dr/Shopping Center East Dwy:			
Inbound Left Turns	Yield	1.9 Sec/LOS A	2.3 Sec/LOS A
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Left+Right Turns	Stop Sign	8.6 Sec/LOS A	8.6 Sec/LOS A
Alamo Pintado Rd/Shopping Center Dwy:			
Inbound Right Turns	Yield	0.0 Sec/LOS A	0.0 Sec/LOS A
Outbound Right Turns	Stop Sign	10.4 Sec/LOS B	10.5 Sec/LOS B
Delays and levels of service based on Highway Capacity Manual procedures.			

The delay and levels of service data listed in Tables 6, 7 and 8 show that the study-area intersections are forecast to operate at LOS C or better during the A.M., Noon, and P.M. peak hour periods with Existing + Project traffic, which meet Caltrans and City standards.

The following text describes the Project's impacts at the Alamo Pintado Road/Old Mission Drive and SR 246/High Meadow intersections.

Alamo Pintado Road/Old Mission Drive. Operational analysis was not undertaken for the Alamo Pintado Road/Old Mission Drive intersection since the proposed Project would result in minor increases of traffic at the intersection (5 A.M., 10 Noon, and 9 P.M. peak hour trips). The Alamo Pintado Road/Old Mission Drive intersection is located approximately 250 feet north of the SR 246/Mission Drive intersection and is controlled by All Way Stop-Signs. The section of Old Mission Drive west of the Alamo Pintado Road intersection provides access to the two existing Valley Plaza center driveways as well as several single family homes. The section east of the intersection provides access to the Nielsen's Shopping Center.

The Alamo Pintado Road/Old Mission Drive intersection is controlled by All Way Stop-Signs. The All Way Stop-Signs were installed at the intersection several years ago after the City completed an operational analysis to determine the best traffic control options for the intersection. With the implementation of the All Way Stop-Signs, the intersection operates acceptably in the LOS B range. No significant operational or queuing issues were observed at the intersection during the field work completed for this study. The intersection is forecast to continue to operate at LOS B with Existing + Project traffic.

SR 246/High Meadow Road. Operational analysis was not undertaken for SR 246/High Meadow intersection since the proposed Project would have a negligible effect on the intersection. The proposed Project would add 1 eastbound trip and 1 westbound trip to SR 246 during the A.M. peak hour; 2 eastbound trips and 3 westbound trips to SR 246 during the Noon peak hour; and 2 eastbound trips and 3 westbound trips to SR 246 during the P.M. peak hour. The Project would not increase traffic on High Meadow Road and would not significantly impact delays and levels of service at the SR 246/High Meadow intersection.

SITE ACCESS

As shown on Figure 1, access for the existing center is currently provided by two full-access driveways on Old Mission Drive on the north side of the center and one right-turn only driveway on Alamo Pintado Road on the east side of the center. The existing access driveways would be retained as part of the Project. The operational analyses found that the site access driveways are forecast to operate at LOS A-B during the A.M., Noon, and P.M. peak hour periods, which meet the City's LOS D standard.

Sight distances at the access driveways were reviewed to determine if adequate sight lines are available for drivers to see other vehicles when exiting the shopping center. The eastern driveway on Old Mission Drive is located on the inside of a curve on Old Mission Drive (see Figure 1). The sight distances from the driveway looking to the east and west along Old Mission Drive are more than 150 feet, which is the minimum sight distance requirement for driveways located on roads with a 25 MPH speed limit.

The western driveway on Old Mission Drive is located on the outside of a curve on Old Mission Drive (see Figure 1). The sight distance from the driveway looking to the east is more than 150 feet, which meets the sight distance requirement for driveways located on 25 MPH roads. However, the sight distances looking to the west from the driveway is limited by an existing hedge that is located at the back of the sidewalk on the shopping center site. It is recommended that the Project modify the landscaping to provide low-level plantings (less than 3.5 feet in height) on the Project site west of the driveway in order to provide 150 feet of sight distance from the driveway.

The right-turn only driveway on the east side of the center is located on Alamo Pintado Road. The sight distance looking to the north from the driveway extends beyond the Alamo Pintado Road/Old Mission Drive intersection, which meets the minimum sight distance requirement.

ALTERNATIVE TRAVEL MODES

Pedestrian and bicycle counts were collected at the SR 246/Alamo Pintado Road intersection and along SR 246 adjacent to the Project site (count data attached). The pedestrian and bicycle volumes were included in the preceding operational analyses for the study-area intersections.

A total of 6 pedestrians and 1 bicyclist crossed the SR 246/Alamo Pintado Road intersection during the 2-hour A.M. peak commuter period (7-9 A.M.); 6 pedestrians and 5 bicyclists crossed the intersection during the 2-hour Noon period (11 A.M.-1:00 P.M.); and 10 pedestrians and 1 bicyclist crossed the intersection during the 2-hour P.M. peak commuter period (4-6 P.M.).

The counts also show 1 pedestrian and 1 bicyclist traveling westbound along the segment of SR 246 west of Alamo Pintado Road during the 2-hour A.M. peak commuter period; 0 pedestrians and 0 bicyclists during the 2-hour Noon peak period; and 0 pedestrians and 2 bicyclists during the 2-hour P.M. peak commuter period. The shoulders along SR 246 are marked as bike lanes in the Project vicinity (bike lanes on both sides of SR 246).

The proposed Project includes a new sidewalk along the north side of SR 246 adjacent to the Project site that would connect to the existing sidewalk near the SR 246/Alamo Pintado Road intersection (see Figure 2 – Project Site Plan). The new sidewalk facilities would be a benefit to pedestrians in the vicinity of the Project site. During the field studies, there were two groups of pedestrians (a group of 4 and a group of 2) that crossed the SR 246/Alamo Pintado Road intersection and then considered walking westbound along SR 246 towards downtown Solvang (a relatively short distance of about ½ mile between the Valley Plaza center and the SR 246/Alisal Road intersection near downtown). Instead of walking along SR 246, those two groups decided to walk through the Valley Plaza center and then walk westbound along Old Mission Drive toward Solvang. The new sidewalk proposed on the north side of SR 246 along the Project site would provide a more direction connection for these pedestrian flows.

The proposed Project includes a new shelter at the existing bus stop located on the west side of Alamo Pintado Road adjacent to the site. The improved bus stop would enhance the attractiveness for pedestrian trips in the Project vicinity and the new sidewalk facilities would improve the walking environment for pedestrians.

CUMULATIVE IMPACTS

The traffic analysis completed for the City's Circulation Element indicates that operations at the SR 246/Alamo Pintado Road intersection will degrade to the LOS D-F range with buildout of the General Plan and regional growth in the Santa Ynez Valley area. The Merkantile Project would contribute to the future traffic growth at the intersection, a potentially significant cumulative impact.

The City of Solvang has identified improvement options for the intersection that will be funded through the City's Traffic Mitigation Fund, with funds coming from Road Improvement Fees charged to new developments in the City. The proposed Merkantile Project will be required to pay the Road Improvement Fees to mitigate its cumulative traffic additions to the SR 246/Alamo Pintado Road intersection.

CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Program (CMP) roadway system. SR 246 is part of the CMP system. Pursuant to the CMP impact criteria, potential impacts to SR 246 are based on operations at intersections since SR 246 is a signalized route.

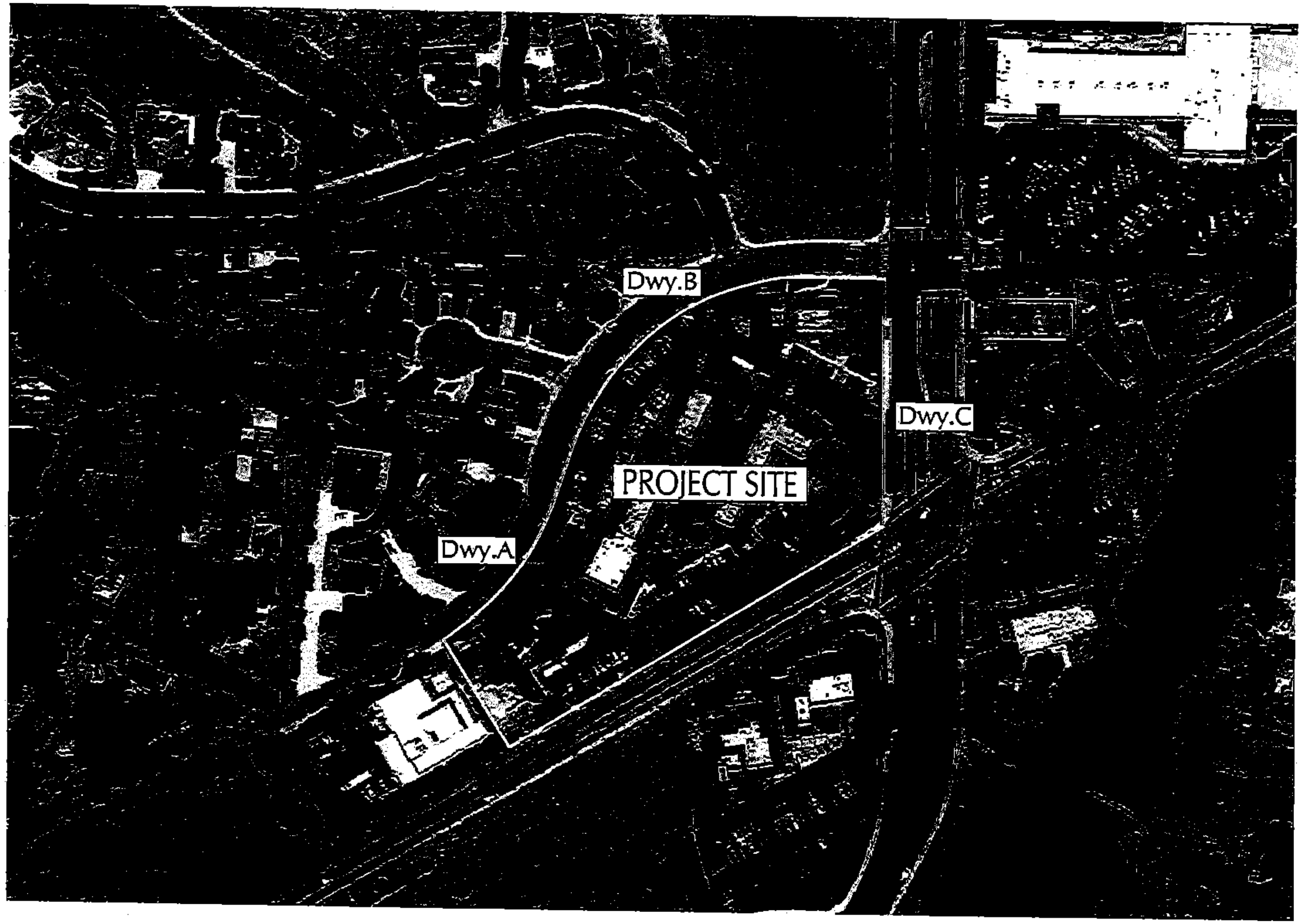
CMP impact criteria state that projects that generate less than 500 daily trips and less than 50 peak hour trips are considered to be consistent with the CMP. As shown in Table 5, the Project would generate less than 500 daily trips and less than 50 peak hour trips. Thus, the Project would not impact SR 246 based on adopted CMP criteria.

This concludes our traffic study for the Merkantile Shopping Center Project. We appreciate the opportunity to assist you the project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

Attachments



Source: Google Earth

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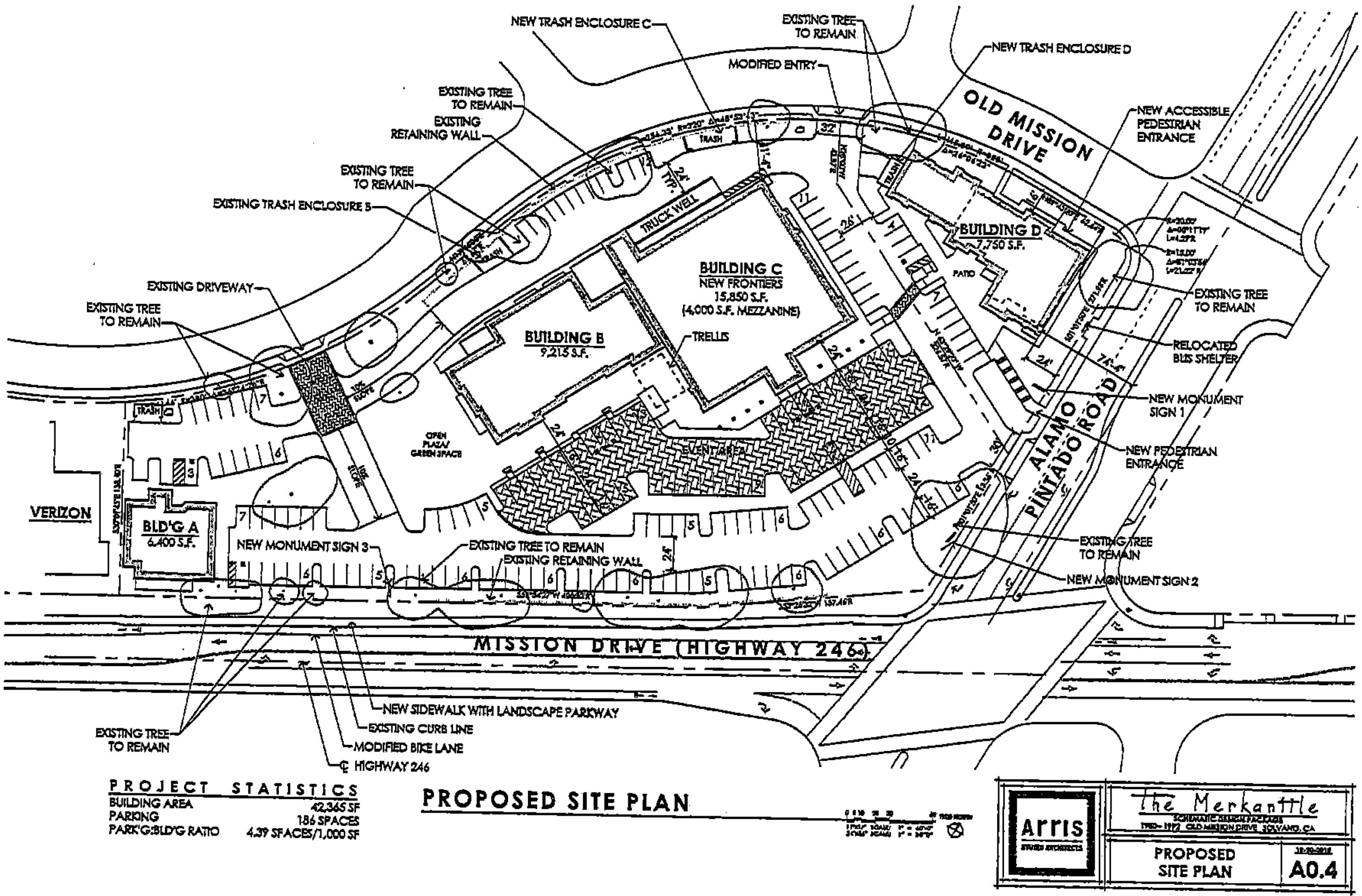
EXISTING PROJECT SITE

FIGURE 1

MMF - #14056



PROJECT STATISTICS

BUILDING AREA	42,365 SF
PARKING	186 SPACES
PARK'G:BLD'G RATIO	4.39 SPACES/1,000 SF

PROPOSED SITE PLAN

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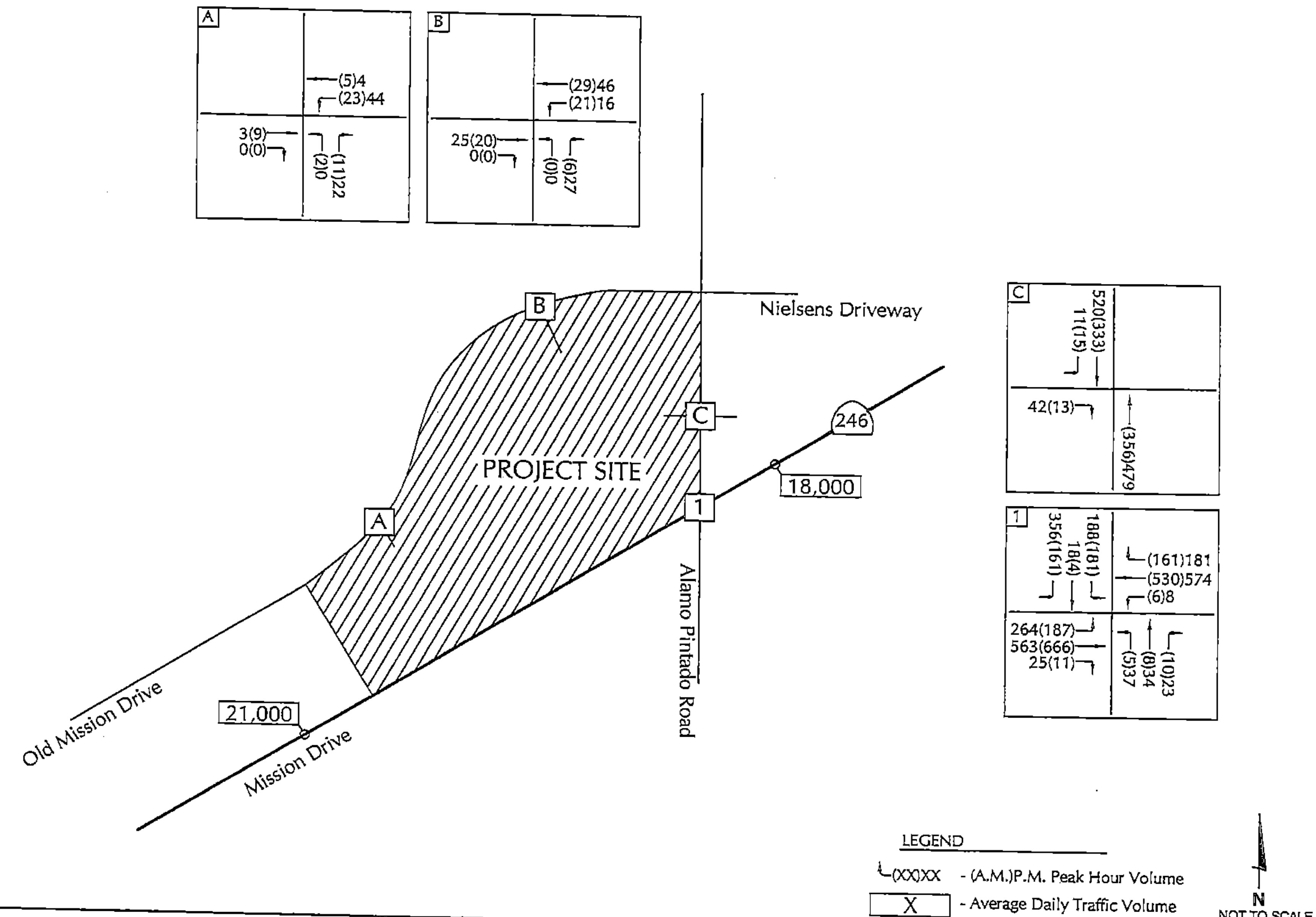
PROJECT SITE PLAN

FIGURE 2

MMF - #14056



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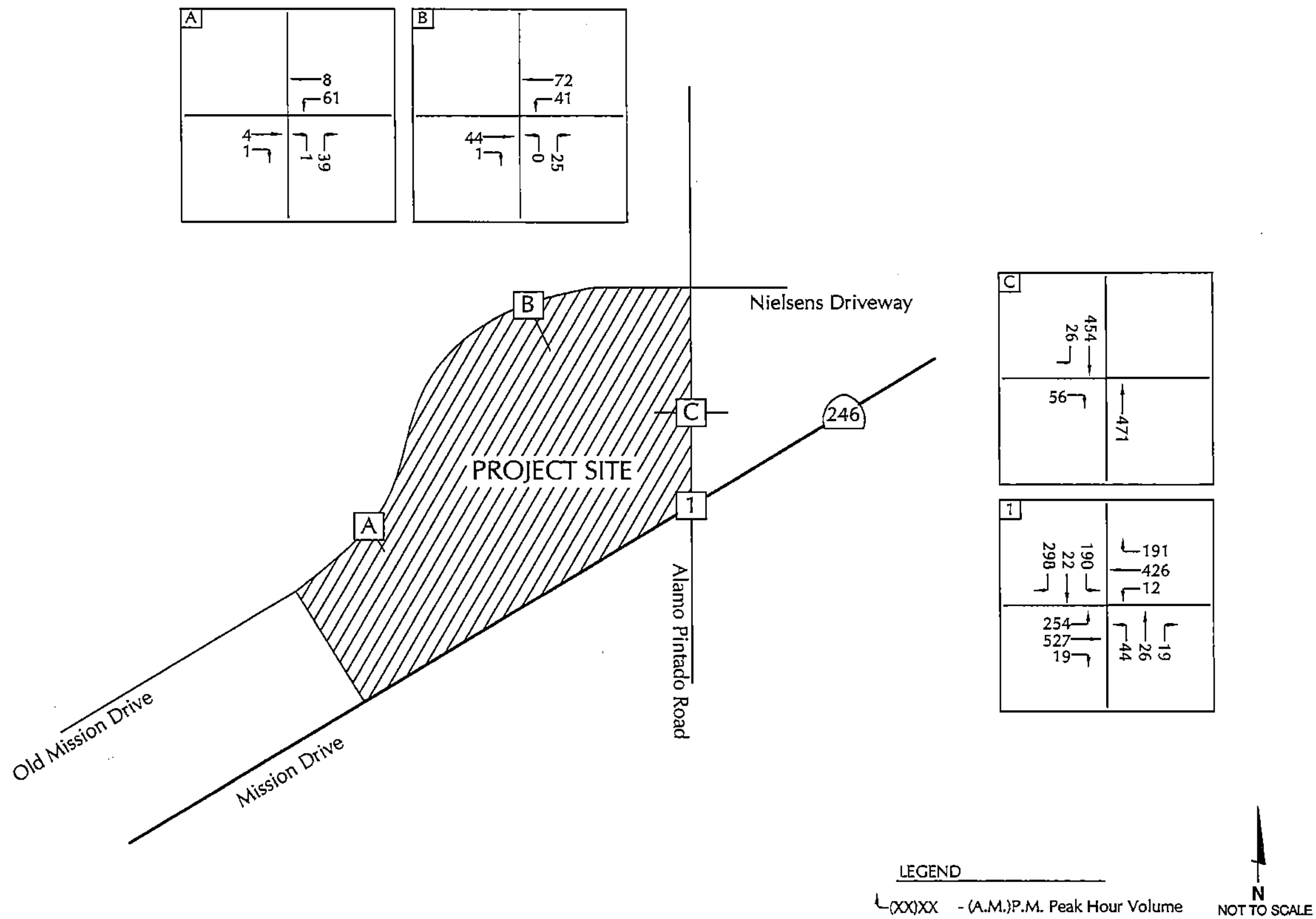
EXISTING TRAFFIC VOLUMES

FIGURE 3a

MMF - #14056

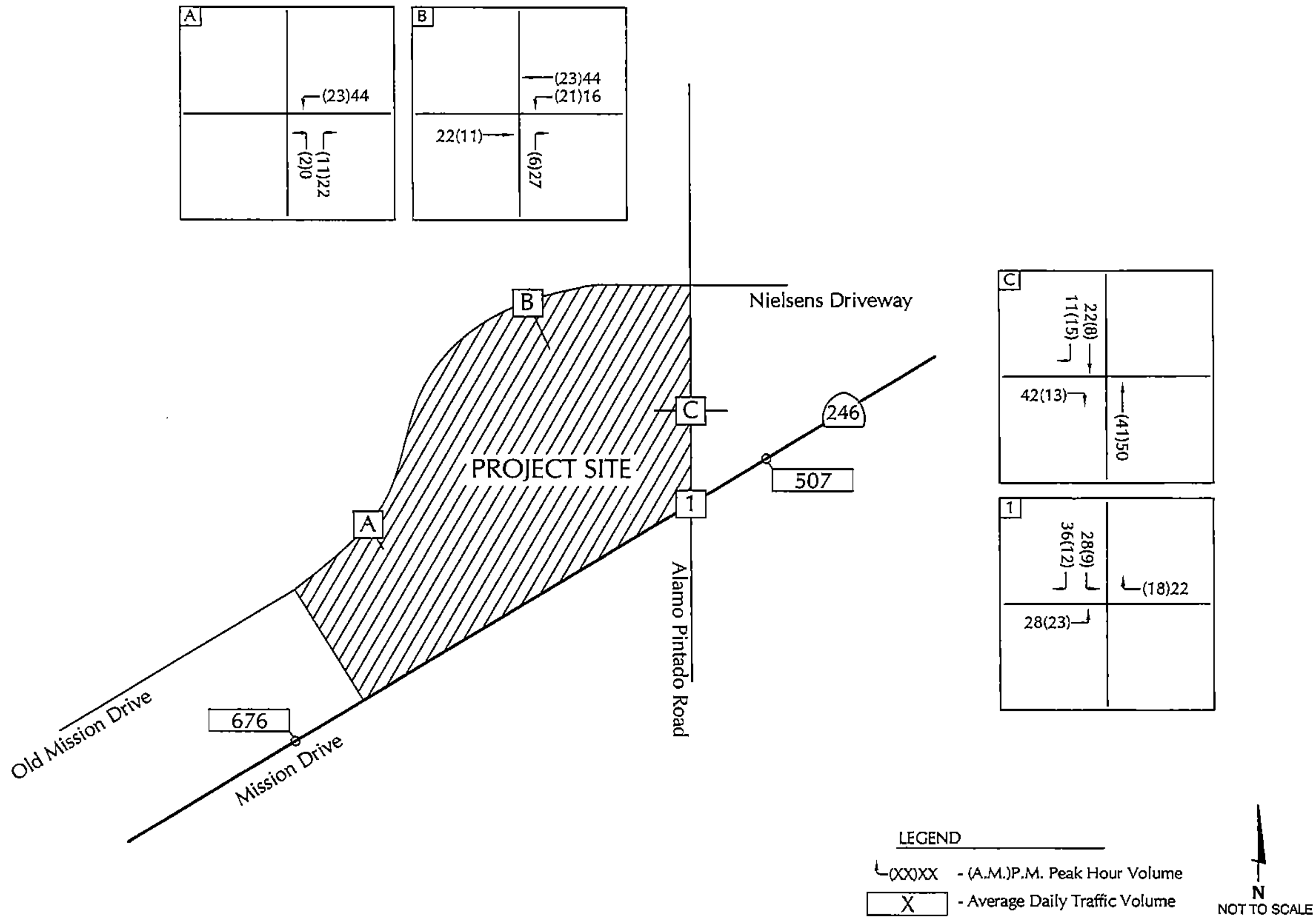


Associated Transportation Engineers

EXISTING TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 3b

MMF - #14056



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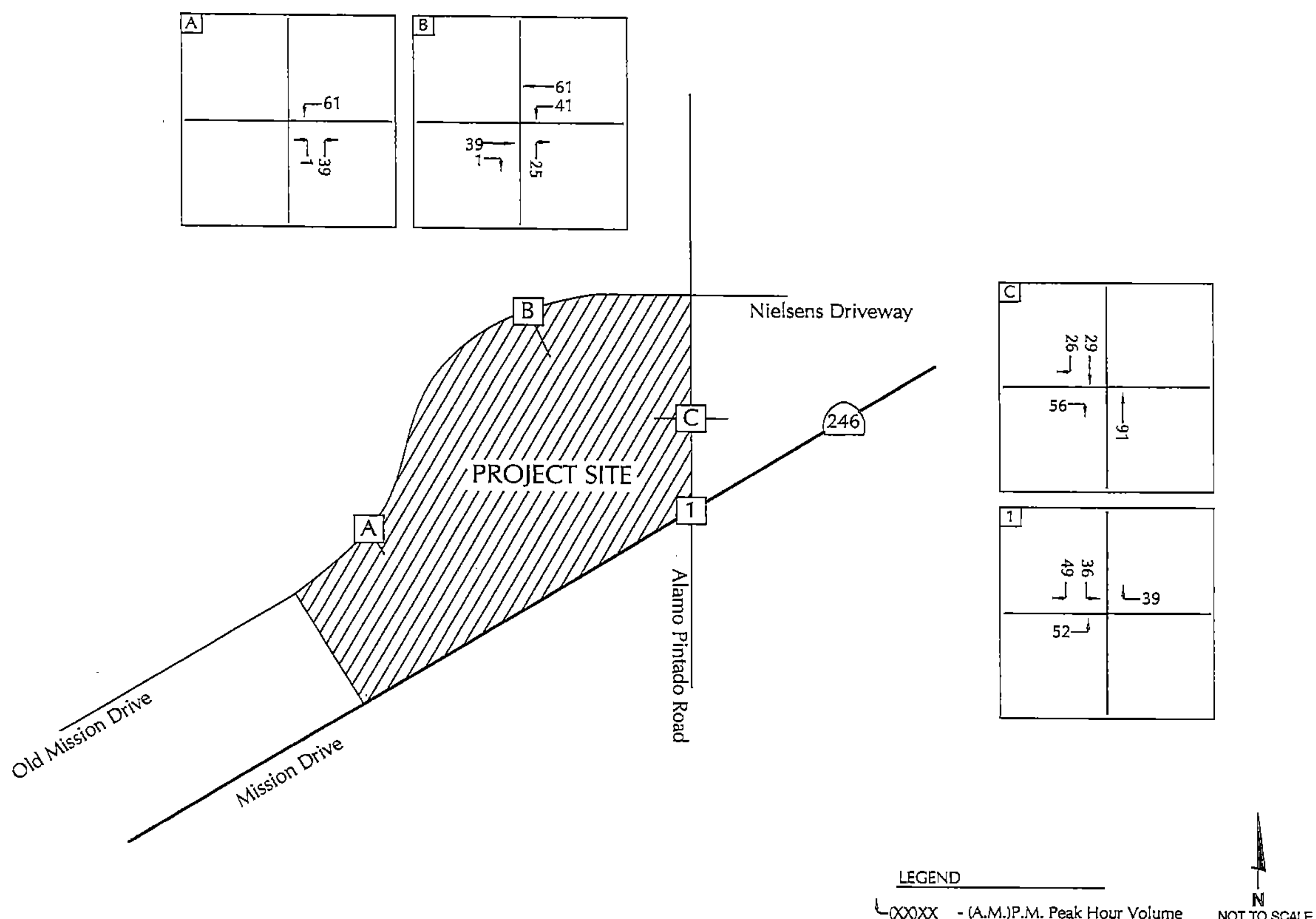
EXISTING VALLEY PLAZA CENTER TRAFFIC VOLUMES

FIGURE 4a

MMF - #14056



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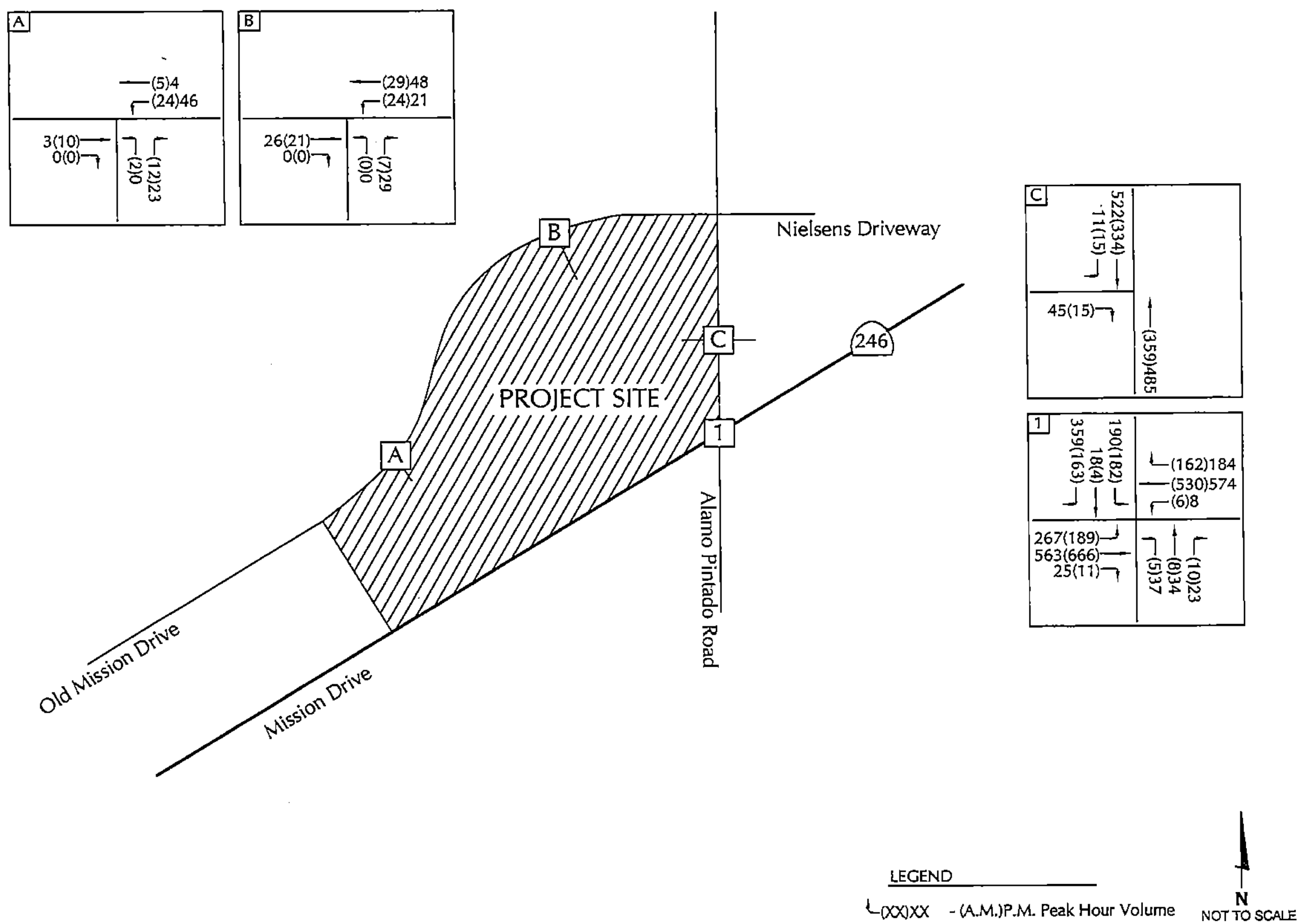
EXISTING VALLEY PLAZA CENTER TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 4b

MMF - #14056

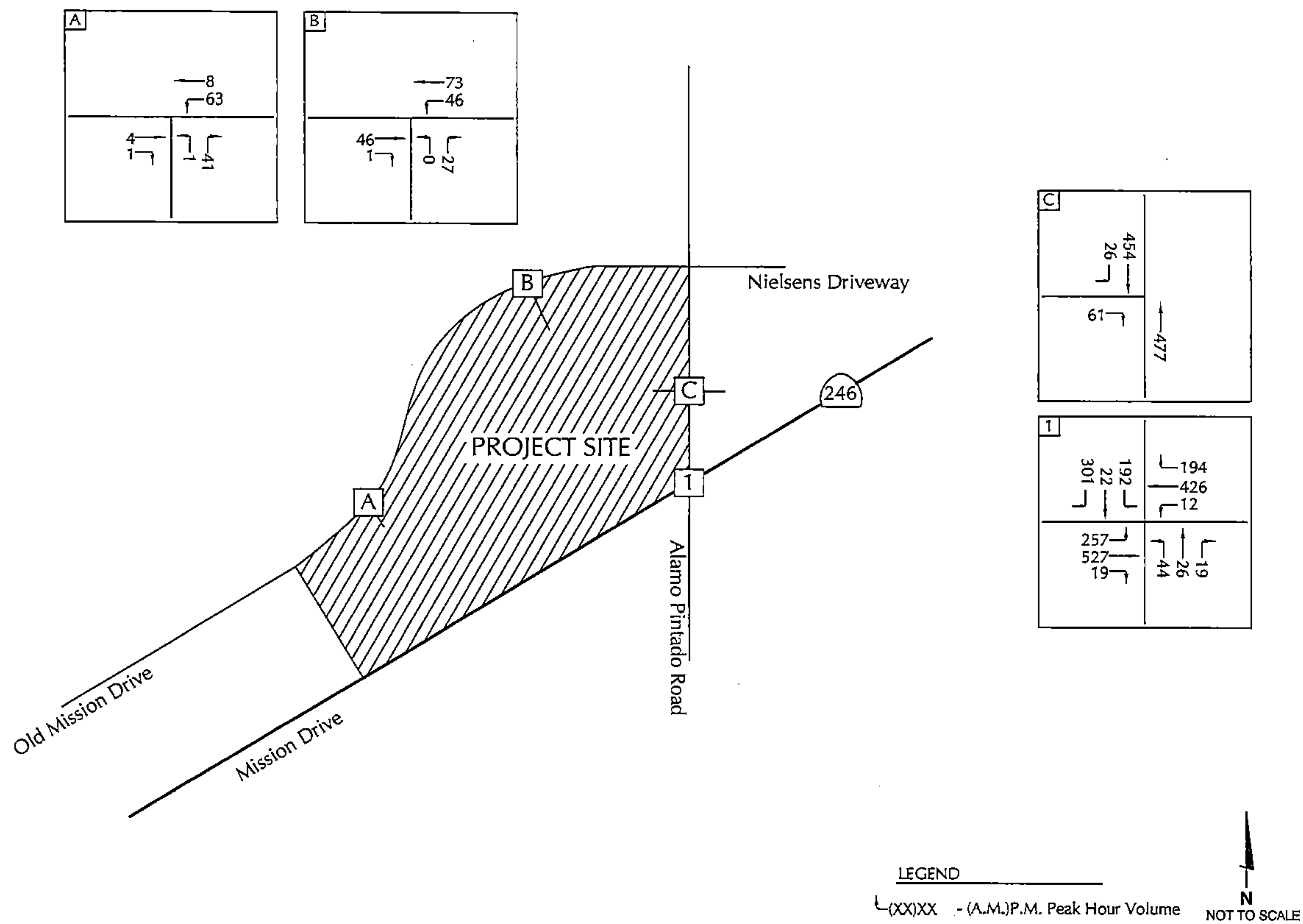


ASSOCIATED
TRANSPORTATION
ENGINEERS

EXISTING + PROJECT TRAFFIC VOLUMES

FIGURE 5a

MMF - #14056



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING + PROJECT TRAFFIC VOLUMES - NOON PEAK HOUR

FIGURE 5b

MMF - #14056

Associated Transportation Engineers
Trip Generation Worksheet

MERKANTILE SHOPPING CENTER PROJECT - EXISTING TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	39,282	42.70	1,677	2.29	90	65%	59	35%	31	4.10	161	44%	71	56%	90
2. Apartments(b)	2	6.65	13	0.51	1	20%	0	80%	1	0.62	1	65%	1	35%	0
Project Totals:			1,690		91		59		32		162		72		90

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Associated Transportation Engineers
Trip Generation Worksheet

MERKANTILE SHOPPING CENTER PROJECT - EXISTING NOON PEAK HOUR

	Land Use	Size	NOON PEAK HOUR					
			Rate	Trips	In %	Trips	Out %	Trips
1.	Shopping Center(a)	39,282	6.39	251	52%	131	48%	120
2.	Apartments(b)	2	0.29	1	50%	0	50%	1
	Project Totals:			252		131		121

(a) Midday rates from existing shopping center driveway counts.
(b) Midday rates from count data published by SANDAG and Caltrans trip generation studies.

Associated Transportation Engineers
Trip Generation Worksheet

MERKANTILE SHOPPING CENTER PROJECT - PROPOSED PROJECT TRIP GENERATION

Land Use	Size	ADT		A.M.						P.M.					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	41,429	42.70	1,769	2.29	95	65%	62	35%	33	4.10	170	44%	75	56%	95
2. Apartments(b)	8	6.65	53	0.51	4	20%	1	80%	3	0.62	5	65%	3	35%	2
Project Totals:			1,822		99		63		36		175		78		97

(a) ADT rate from ITE Code 810 (Shopping Centers). A.M./P.M. rates from existing shopping center driveway counts.
(b) ITE Code 220 (Apartments).

Associated Transportation Engineers
Trip Generation Worksheet

MERKANTILE SHOPPING CENTER PROJECT - PROPOSED PROJECT NOON HOUR

Land Use	Size	NOON PEAK HOUR					
		Rate	Trips	In %	Trips	Out %	Trips
1. Shopping Center(a)	41,429	6.39	265	52%	138	48%	127
2. Apartments(b)	8	0.29	2	50%	1	50%	1
Project Totals:			267		139		128

(a) Midday rates from existing shopping center driveway counts.
(b) Midday rates from count data published by SANDAG and Caltrans trip generation studies.

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date:	3/24/2015
Day:	Tuesday

Project #:	15-8027-001
City:	Solvang

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	

Peak Hour Summary

Southbound Approach (Alamo Pintado Rd)

Lanes				Out
AM	161	4	161	356
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach (SR-246)

	AM	NOON	PM
Out	696	0	0
Left	167	0	0
Through	666	0	0
Right	11	0	0

Lanes

Westbound Approach

	AM	NOON	PM
Right	161	0	0
Through	530	0	0
Left	6	0	0
Out	857	0	0

Lanes

CONTROL

Northbound Approach

	Out			
AM	21	5	8	10
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

	In	Out
AM	346	356
NOON	0	0
PM	0	0

West Leg

	AM	NOON	PM
Out	696	0	0
In	864	0	0

East Leg

	AM	NOON	PM
In	697	0	0
Out	857	0	0

South Leg

	Out	In
AM	21	23
NOON	0	0
PM	0	0

Total Volume Per Leg

	North Leg	South Leg	West Leg	East Leg
AM	702	44	1560	1554
NOON	0	0	0	0
PM	0	0	0	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date: 5/13/2015

Day: Wednesday

Project #: 15-8064-001

City: Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

N

Peak Hour Summary

CONTROL

Signalized

Southbound Approach

Alamo Pintado Rd

Lanes	1	1	1	
AM	0	0	0	0
NOON	298	22	190	471
PM	0	0	0	0

Westbound Approach

AM	NOON	PM	Lanes
0	191	0	1
0	426	0	1
0	12	0	1
0	736	0	

Eastbound Approach

SR-246

Lanes	AM	NOON	PM
	0	768	0
1	0	254	0
1	0	527	0
1	0	19	0

Northbound Approach

AM	0	0	0	0
NOON	53	44	26	19
PM	0	0	0	0
Lanes		1	1	0

Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs

Leg		AM	NOON	PM
North Leg		0 / 0	510 / 471	0 / 0
West Leg		0 / 0	768 / 800	0 / 0
East Leg		0 / 0	629 / 736	0 / 0
South Leg		0 / 0	53 / 69	0 / 0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	981	0
West Leg	0	1568	0
East Leg	0	1365	0
South Leg	0	142	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and SR-246 , Solvang

Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-001

City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Alamo Pintado Rd)

Lanes				Out
AM	0	0	0	0
NOON	0	0	0	0
PM	311	22	157	380

Eastbound Approach (SR-246)

	AM	NOON	PM
Out	0	0	728
Left	0	0	212
Thru	0	0	504
Right	0	0	20

Lanes

CONTROL

Signalized

Westbound Approach

	AM	NOON	PM
Right	0	0	140
Thru	0	0	379
Left	0	0	6
Out	0	0	680

Lanes

Northbound Approach

	Out			
AM	0	0	0	0
NOON	0	0	0	0
PM	46	38	28	19

Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

Leg	Period	In	Out
North Leg	AM	0	0
North Leg	NOON	0	0
North Leg	PM	490	380
West Leg	AM	0	0
West Leg	NOON	0	0
West Leg	PM	728	736
East Leg	AM	0	0
East Leg	NOON	0	0
East Leg	PM	525	680
South Leg	AM	0	0
South Leg	NOON	0	0
South Leg	PM	48	85

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	870
West Leg	0	0	1464
East Leg	0	0	1205
South Leg	0	0	133

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

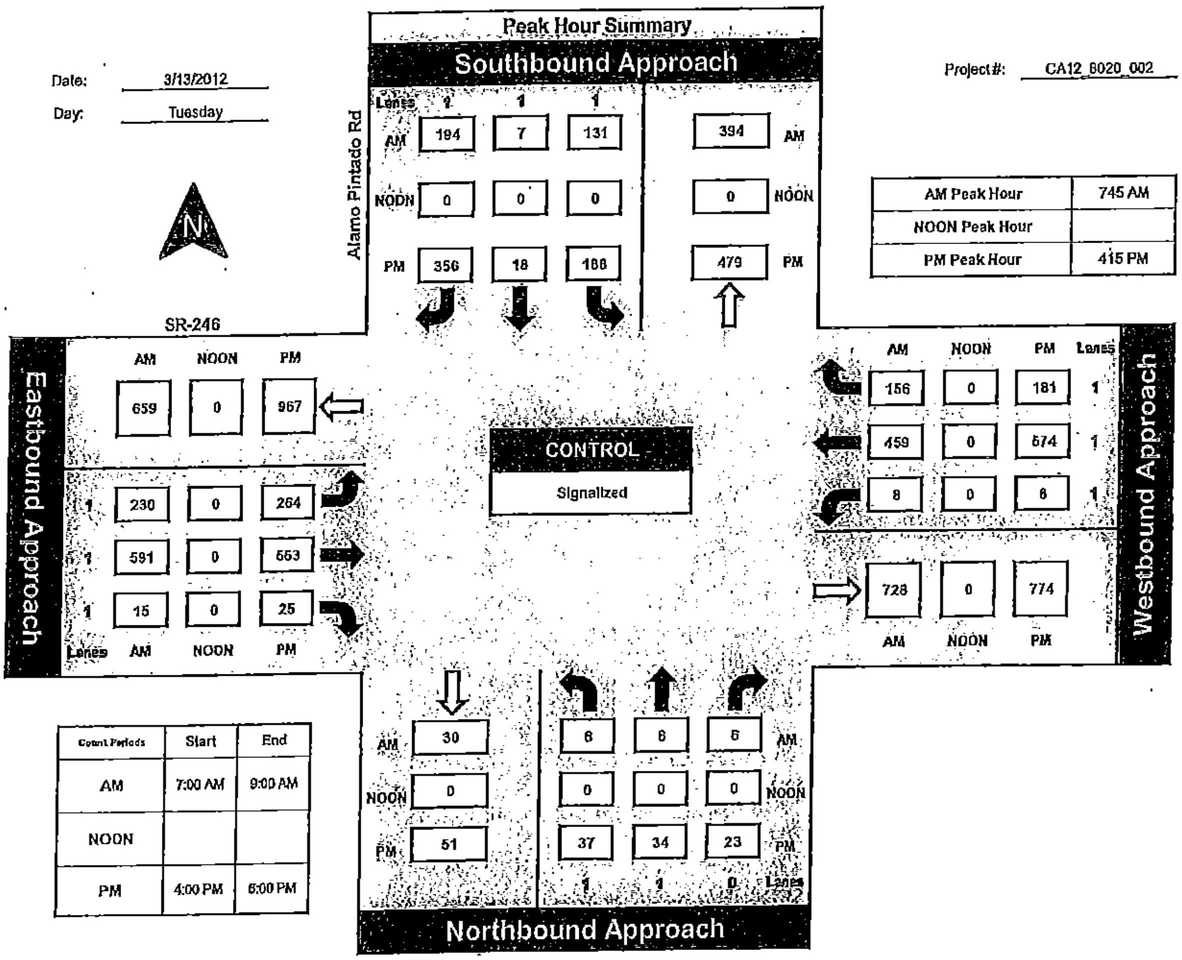
Alamo Pintado Rd and SR-246 , City of Solvang

Date: 3/13/2012

Day: Tuesday

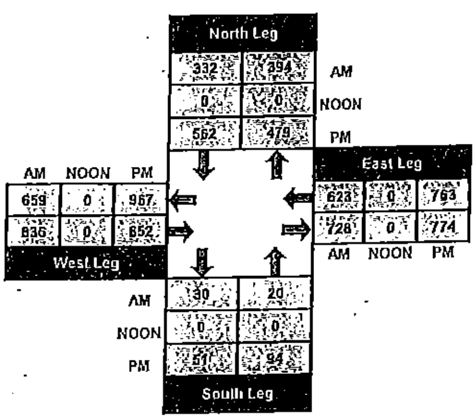
Project#: CA12_6020_002

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	415 PM

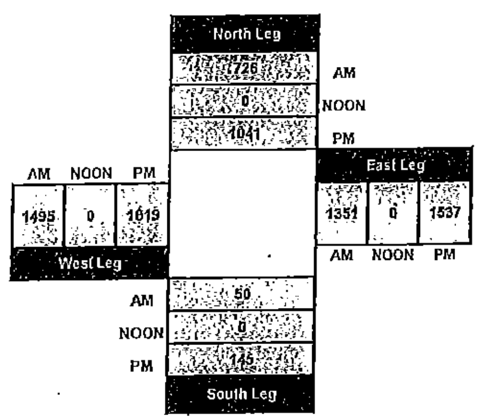


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Dwy A

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Commercial Dwy and Old Mission Dr , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-004

City: Solvang

Peak Hour Summary

Southbound Approach

Commercial Dwy

Lanes				Out
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

Eastbound Approach

Old Mission Dr

	AM	NOON	PM
Out	7	0	0
Left	0	0	0
Through	0	0	0
Right	0	0	0

Lanes

CONTROL

Westbound Approach

	AM	NOON	PM
Right	0	0	0
Through	5	0	0
Left	23	0	0
Out	20	0	0

Lanes

Northbound Approach

	Out	Left	Through	Right
AM	23	2	0	11
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

	Out	In
AM	0	0
NOON	0	0
PM	0	0

West Leg

	AM	NOON	PM
Out	7	0	0
In	9	0	0

East Leg

	AM	NOON	PM
In	28	0	0
Out	20	0	0

South Leg

	Out	In
AM	23	13
NOON	0	0
PM	0	0

Total Volume Per Leg

North Leg

AM	0
NOON	0
PM	0

West Leg

AM	NOON	PM
16	0	0

East Leg

AM	NOON	PM
48	0	0

South Leg

AM	36
NOON	0
PM	0

Dwy A

ITM Peak Hour Summary

Prepared by:

NDS

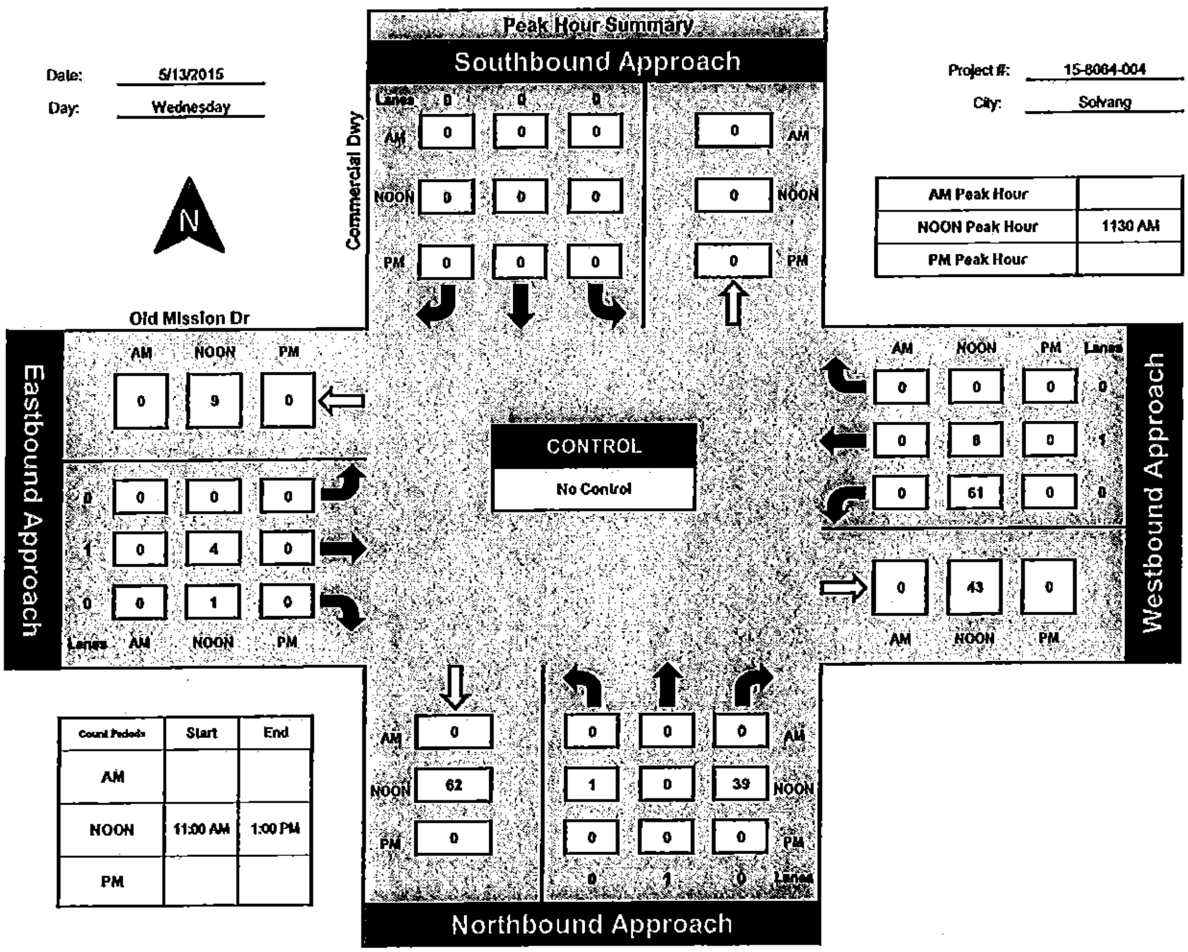
National Data & Surveying Services

Commercial Dwy and Old Mission Dr , Solvang

Date:	5/13/2015
Day:	Wednesday

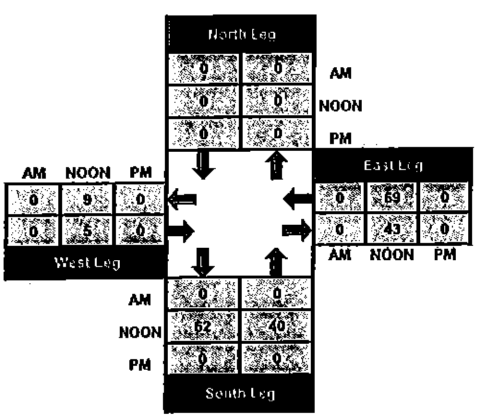
Project #:	15-8064-004
City:	Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

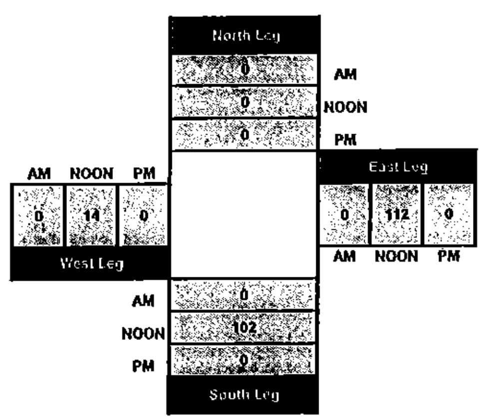


Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Dwy A

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and 1st Dwy , Solvang

Date:	8/26/2014
Day:	Tuesday

Project #:	14-8105-004
City:	Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	500 PM

N

Peak Hour Summary

Old Mission Dr

1st Dwy

Southbound Approach

Lanes

	Right	Through	Left	Northbound (exiting)
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Westbound (exiting)	0	0	4
Left	0	0	0
Through	0	0	3
Right	0	0	0

Lanes

Westbound Approach

Lanes

	AM	NOON	PM
Right	0	0	0
Through	0	0	4
Left	0	0	44
Eastbound (exiting)	0	0	25

CONTROL

No Control

Northbound Approach

	Southbound (exiting)	Left	Through	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	44	0	0	22

Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

	Out	In
AM	0	0
NOON	0	0
PM	0	0

West Leg

	AM	NOON	PM
Out	0	0	4
In	0	0	8

East Leg

	AM	NOON	PM
In	0	0	48
Out	0	0	25

South Leg

	Out	In
AM	0	0
NOON	0	0
PM	44	22

Total Volume Per Leg

North Leg

AM	0
NOON	0
PM	0

West Leg

AM	NOON	PM
0	0	7

East Leg

AM	NOON	PM
0	0	73

South Leg

AM	0
NOON	0
PM	66

Dwy 6

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Hillside Dr/Commercial Dwy and Old Mission Dr , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-003

City: Solvang

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	

Peak Hour Summary

Hillside Dr/Commercial Dwy

Old Mission Dr

CONTROL

Southbound Approach

Lanes	Right	Through	Left	Out
AM	0	0	9	9
NOON	0	0	0	0
PM	0	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
Right	9	0	0
Through	29	0	0
Left	21	0	0
Out	35	0	0

Eastbound Approach

Lanes	AM	NOON	PM
Out	29	0	0
Left	0	0	0
Through	20	0	0
Right	0	0	0

Northbound Approach

Lanes	Out	Left	Through	Right
AM	21	0	0	6
NOON	0	0	0	0
PM	0	0	0	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

Leg	Period	Out	In
North Leg	AM	9	9
North Leg	NOON	0	0
North Leg	PM	0	0
South Leg	AM	21	6
South Leg	NOON	0	0
South Leg	PM	0	0

Leg		AM	NOON	PM
West Leg	Out	29	0	0
West Leg	In	20	0	0
East Leg	In	59	0	0
East Leg	Out	35	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	18	0	0
West Leg	49	0	0
East Leg	94	0	0
South Leg	27	0	0

Dwy B

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Hillside Dr/Commercial Dwy and Old Mission Dr , Solvang

Peak Hour Summary

Date: 5/13/2015
Day: Wednesday

Project #: 15-8064-003
City: Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

N

Hillside Dr/Commercial Dwy

Old Mission Dr

CONTROL

1-Way Stop (SB)

Southbound Approach

	Left	Thru	Right	Outbound
Lanes	0	1	0	
AM	0	0	0	0
NOON	0	2	10	11
PM	0	0	0	0

Eastbound Approach

	AM	NOON	PM
Outbound	0	72	0

Lanes		AM	NOON	PM
0	Left	0	0	0
1	Thru	0	44	0
0	Right	0	1	0

Westbound Approach

	AM	NOON	PM	Lanes
Left	0	10	0	0
Thru	0	72	0	1
Right	0	39	0	0
Outbound	0	78	0	

Northbound Approach

	Outbound	Left	Thru	Right
AM	0	0	0	0
NOON	42	0	1	24
PM	0	0	0	0
Lanes		0	1	0

Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs

North Leg

	In	Out
AM	0	0
NOON	12	11
PM	0	0

East Leg

	AM	NOON	PM
In	0	121	0
Out	0	78	0

West Leg

	AM	NOON	PM
Out	0	72	0
In	0	45	0

South Leg

	Out	In
AM	0	0
NOON	42	25
PM	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	23	0
East Leg	0	199	0
West Leg	0	117	0
South Leg	0	67	0

Dwy 3

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Old Mission Dr and Commercial Dwy , Solvang

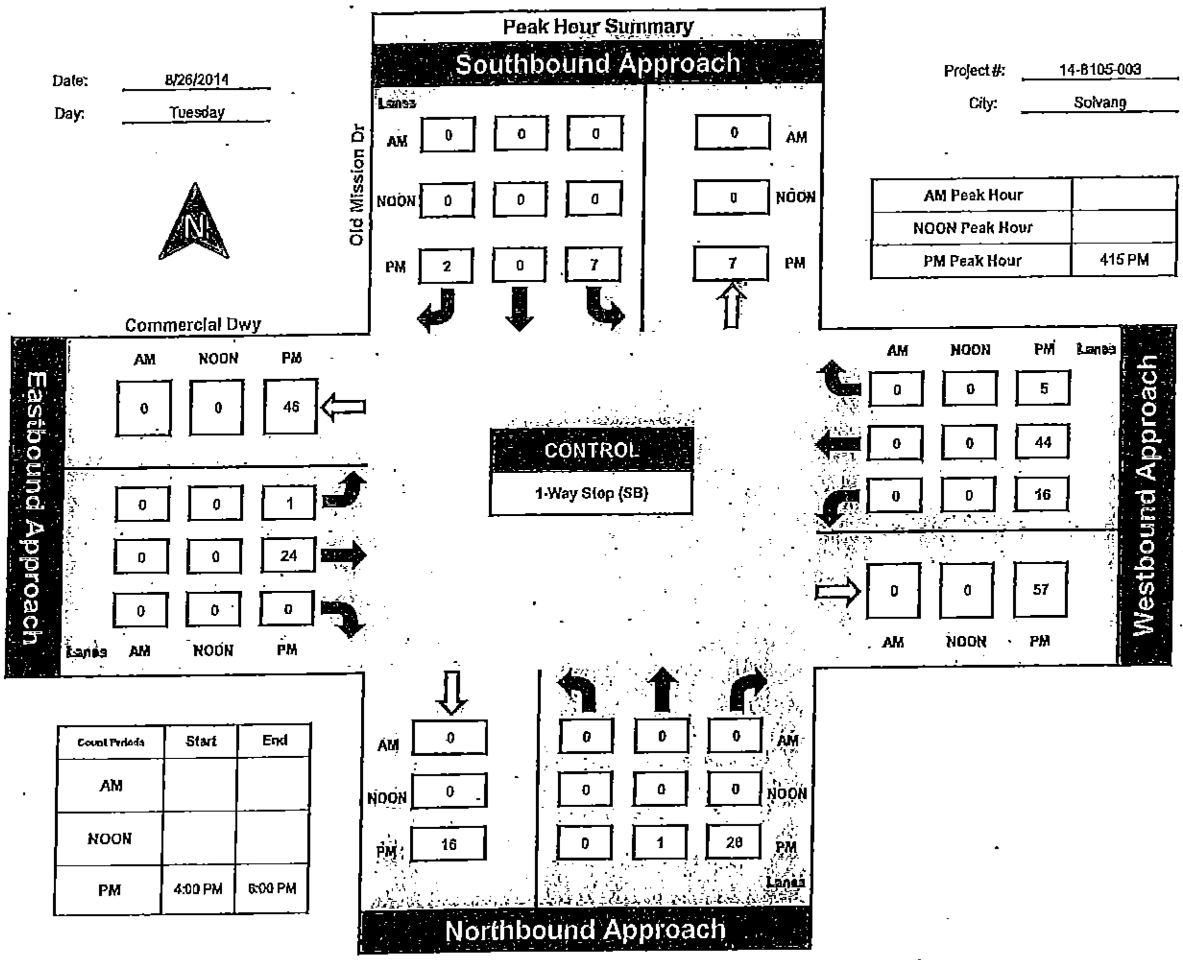
Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-003

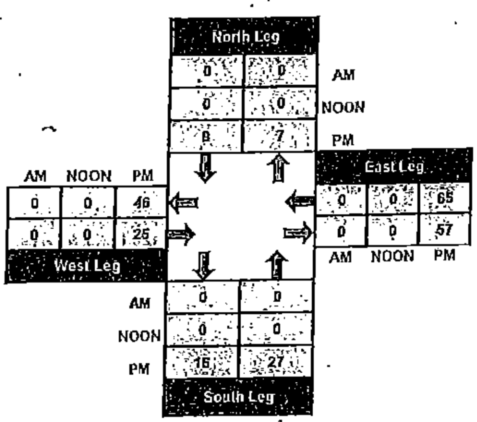
City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	415 PM

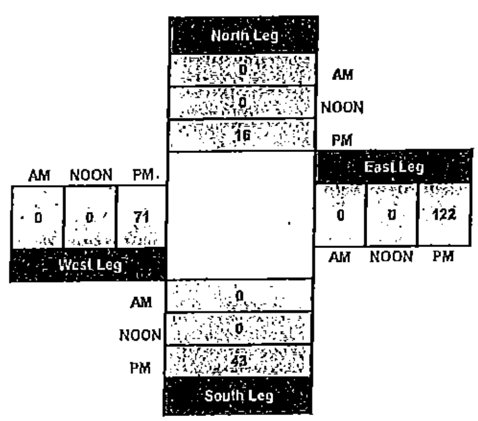


Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date: 3/24/2015

Day: Tuesday

Project #: 15-8027-002

City: Solvang

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	

N

Peak Hour Summary

Southbound Approach (Alamo Pintado Rd)

Lanes	Right	Through	Left	Out
AM	15	325	0	403
NOON	0	0	0	0
PM	0	0	0	0

Eastbound Approach (Commercial Dwy)

	AM	NOON	PM
Out	15	0	0
Left	0	0	0
Through	0	0	0
Right	13	0	0

Lanes

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	0
Through	0	0	0
Left	0	0	0
Out	0	0	0

CONTROL

Northbound Approach

	Out	Left	Through	Right
AM	338	0	403	0
NOON	0	0	0	0
PM	0	0	0	0

Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM		

Total Ins & Outs

North Leg

	In	Out
AM	340	403
NOON	0	0
PM	0	0

West Leg

	AM	NOON	PM
Out	15	0	0
In	13	0	0

East Leg

	AM	NOON	PM
Out	0	0	0
In	0	0	0

South Leg

	Out	In
AM	338	403
NOON	0	0
PM	0	0

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	743	0	0
West Leg	28	0	0
East Leg	0	0	0
South Leg	741	0	0

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

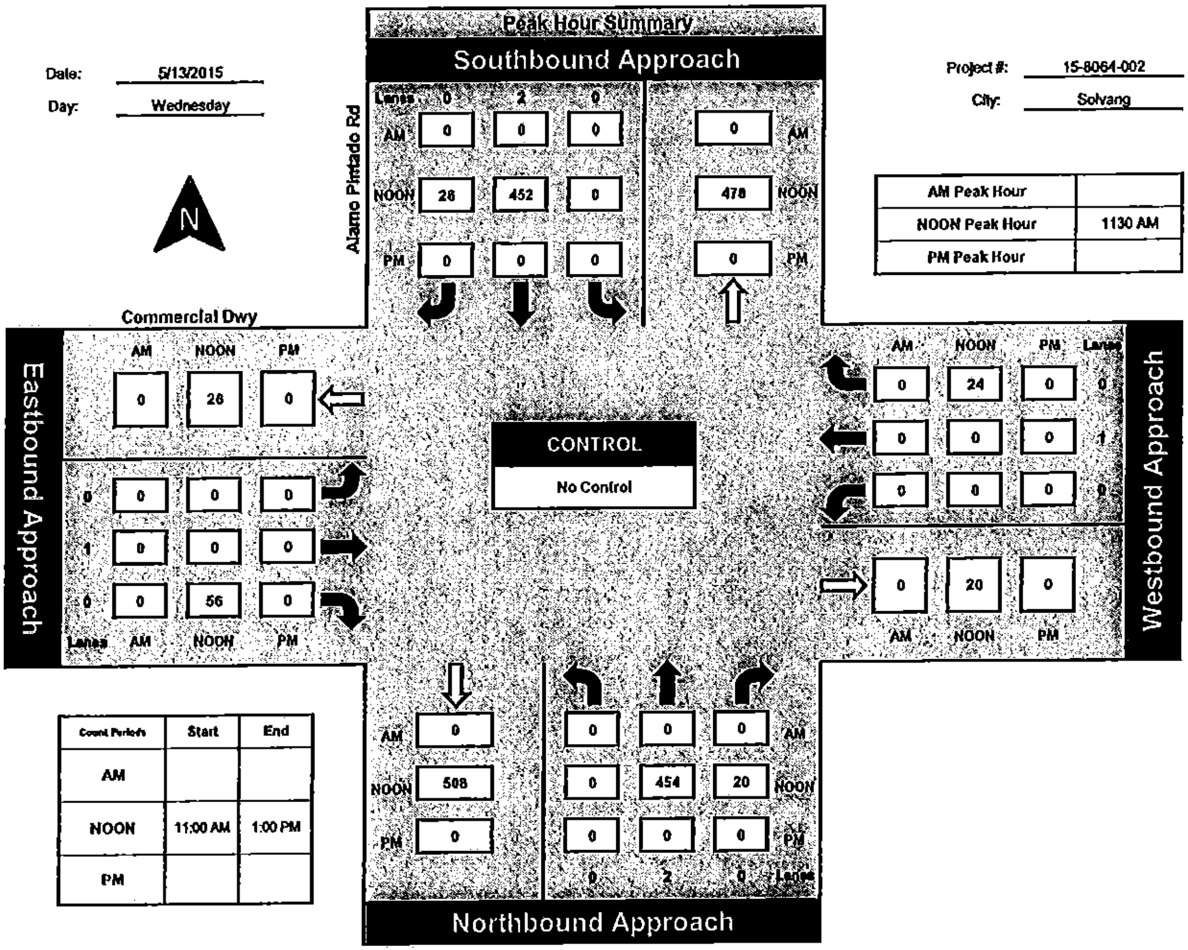
Date: 5/13/2015

Day: Wednesday

Project #: 15-8064-002

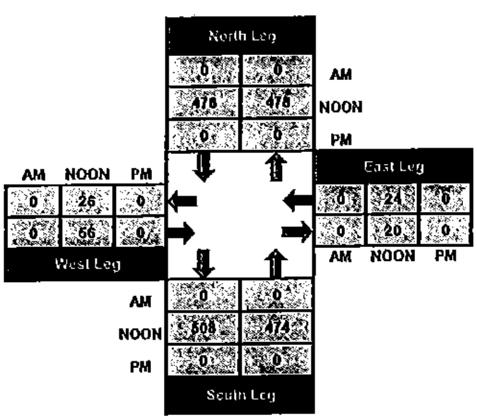
City: Solvang

AM Peak Hour	
NOON Peak Hour	1130 AM
PM Peak Hour	

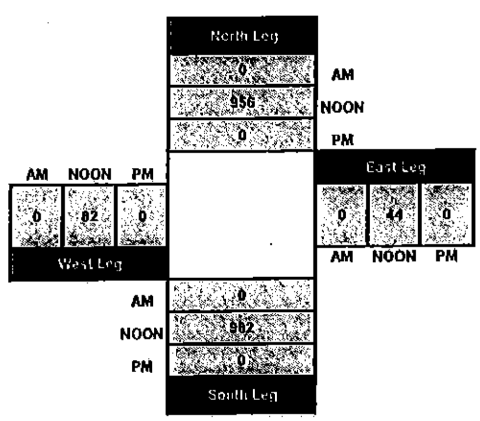


Count Periods	Start	End
AM		
NOON	11:00 AM	1:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Alamo Pintado Rd and Commercial Dwy , Solvang

Date: 8/26/2014

Day: Tuesday

Project #: 14-8105-002

City: Solvang

AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	400 PM

Peak Hour Summary

Southbound Approach (Alamo Pintado Rd)

Lanes	Left	Through	Right	Northbound departure
AM	0	0	0	0
NOON	0	0	0	0
PM	11	454	0	398

Eastbound Approach (Commercial Dwy)

	AM	NOON	PM
Westbound departure	0	0	11
Left	0	0	0
Through	0	0	5
Right	0	0	37

Westbound Approach

Lanes	AM	NOON	PM
Right	0	0	23
Through	0	0	0
Left	0	0	0
Eastbound departure	0	0	13

CONTROL

No Control

Northbound Approach

	Southbound departure	Left	Through	Right
AM	0	0	0	0
NOON	0	0	0	0
PM	491	0	375	8

Lanes

Count Periods	Start	End
AM		
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

AM	0	0
NOON	0	0
PM	465	398

West Leg

	AM	NOON	PM
Out	0	0	11
In	0	0	42

East Leg

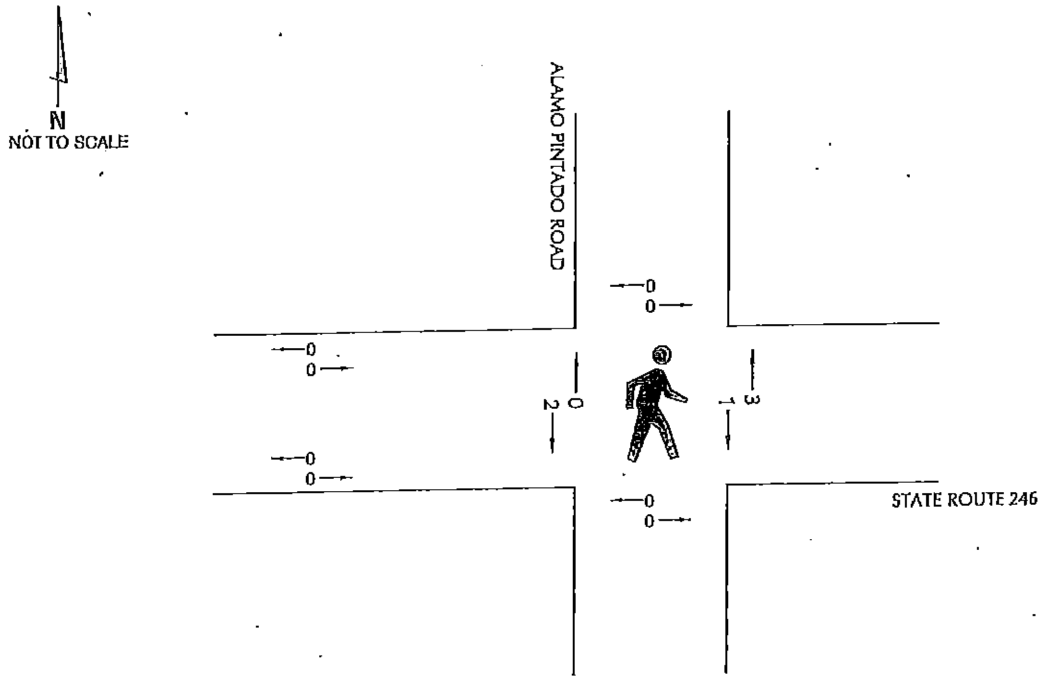
	AM	NOON	PM
In	0	0	23
Out	0	0	13

South Leg

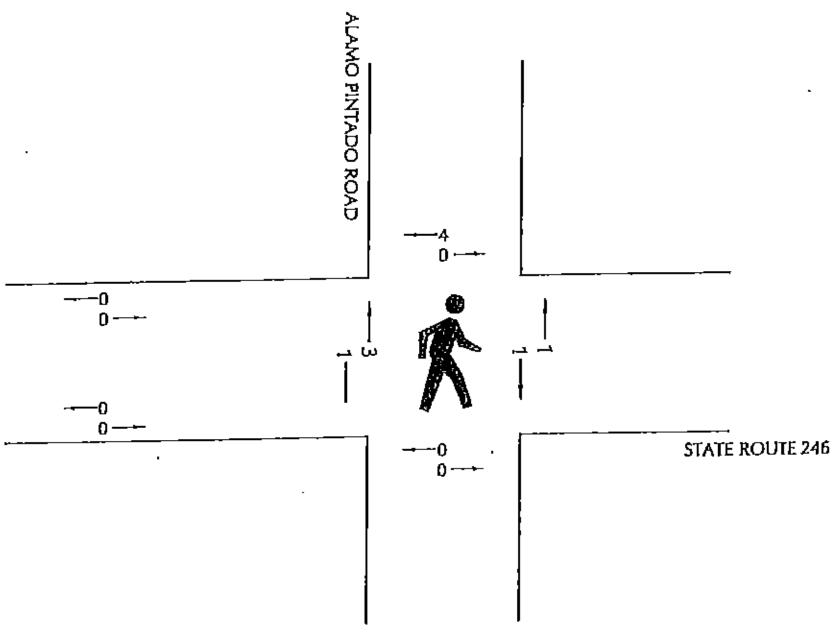
AM	0	0
NOON	0	0
PM	491	383

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	863
West Leg	0	0	53
East Leg	0	0	36
South Leg	0	0	874



A.M. PEAK PERIOD PEDESTRIAN VOLUMES (7:00 A.M. TO 9:00 A.M.)



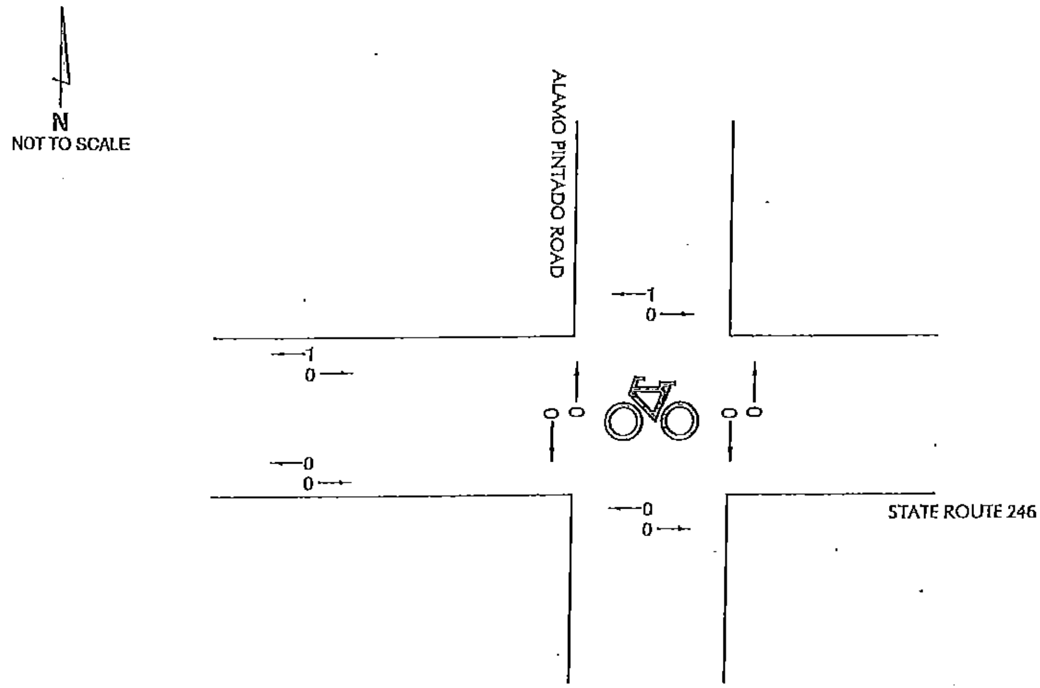
P.M. PEAK PERIOD PEDESTRIAN VOLUMES (4:00 P.M. TO 6:00 P.M.)

ASSOCIATED TRANSPORTATION ENGINEERS

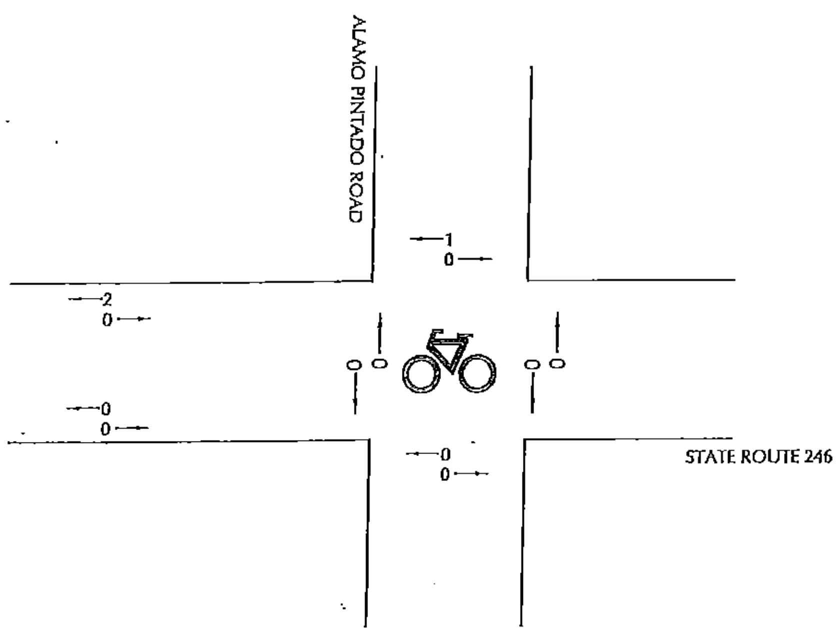
PEDESTRIAN VOLUMES

FIGURE A

MMF - #14056



A.M. PEAK PERIOD BICYCLE VOLUMES (7:00 A.M. TO 9:00 A.M.)



P.M. PEAK PERIOD BICYCLE VOLUMES (4:00 P.M. TO 6:00 P.M.)

Associated Transportation Engineers

BICYCLE VOLUMES

FIGURE B

MMF - #14056

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1726	1652		1722	1827	1529
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1371	1652		1347	1827	1529
Volume (vph)	187	666	11	6	530	161	5	8	10	181	4	161
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	231	822	14	7	654	199	6	10	12	223	5	199
RTOR Reduction (vph)	0	0	6	0	0	115	0	9	0	0	0	83
Lane Group Flow (vph)	231	822	8	7	654	84	6	13	0	223	5	116
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Effective Green, g (s)	14.4	49.7	49.7	0.7	36.0	36.0	22.5	22.5		22.5	22.5	36.9
Actuated g/C Ratio	0.17	0.59	0.59	0.01	0.42	0.42	0.27	0.27		0.27	0.27	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	294	1070	886	14	775	647	363	438		357	484	737
v/s Ratio Prot	c0.13	0.45		0.00	c0.36			0.01			0.00	0.03
v/s Ratio Perm			0.01			0.06	0.00			c0.17		0.05
v/c Ratio	0.79	0.77	0.01	0.50	0.84	0.13	0.02	0.03		0.62	0.01	0.16
Uniform Delay, d1	33.8	13.3	7.3	41.9	21.9	14.9	23.0	23.1		27.5	23.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.4	0.0	25.4	8.3	0.1	0.1	0.1		8.0	0.0	0.1
Delay (s)	46.7	16.6	7.3	67.3	30.3	15.0	23.1	23.2		35.5	23.0	14.7
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		23.0			27.0			23.2			25.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	0	23	5	2	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	25	5	2	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			10		65	10
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			10		65	10
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1597		921	1066

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	10	30	14
Volume Left	0	25	2
Volume Right	0	0	12
cSH	1700	1597	1041
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	6.0	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	20	0	21	29	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	23	32	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			22		99	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			22		99	22
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1581		882	1050

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	22	54	7
Volume Left	0	23	0
Volume Right	0	0	7
cSH	1700	1581	1050
Volume to Capacity	0.01	0.01	0.01
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	3.1	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	3.1	8.5
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	13	0	356	333	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	0	387	362	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	555	181	378			
vC1, stage 1 conf vol	362					
vC2, stage 2 conf vol	193					
vCu, unblocked vol	555	181	378			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	401	824	1163			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	14	193	193	181	181	16
Volume Left	0	0	0	0	0	0
Volume Right	14	0	0	0	0	16
cSH	824	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.11	0.11	0.11	0.11	0.01
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.4	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1514	1736	1827	1526	1726	1652		1722	1827	1529
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.74	1.00	1.00
Satd. Flow (perm)	1736	1827	1514	1736	1827	1526	1371	1652		1347	1827	1529
Volume (vph)	189	666	11	6	530	162	5	8	10	182	4	163
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	233	822	14	7	654	200	6	10	12	225	5	201
RTOR Reduction (vph)	0	0	6	0	0	115	0	9	0	0	0	83
Lane Group Flow (vph)	233	822	8	7	654	85	6	13	0	225	5	118
Confl. Peds. (#/hr)			2			3	2		3	3		2
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	14.5	49.8	49.8	0.7	36.0	36.0	22.5	22.5		22.5	22.5	37.0
Effective Green, g (s)	14.5	49.8	49.8	0.7	36.0	36.0	22.5	22.5		22.5	22.5	37.0
Actuated g/C Ratio	0.17	0.59	0.59	0.01	0.42	0.42	0.26	0.26		0.26	0.26	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	296	1070	887	14	774	646	363	437		357	484	738
v/s Ratio Prot	c0.13	0.45		0.00	c0.36			0.01			0.00	0.03
v/s Ratio Perm			0.01			0.06	0.00			c0.17		0.05
v/c Ratio	0.79	0.77	0.01	0.50	0.84	0.13	0.02	0.03		0.63	0.01	0.16
Uniform Delay, d1	33.8	13.3	7.3	42.0	22.0	15.0	23.1	23.2		27.6	23.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.9	3.4	0.0	25.4	8.4	0.1	0.1	0.1		8.2	0.0	0.1
Delay (s)	46.7	16.6	7.3	67.4	30.4	15.0	23.2	23.3		35.8	23.1	14.7
Level of Service	D	B	A	E	C	B	C	C		D	C	B
Approach Delay (s)		23.1			27.1			23.3			25.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	9	0	24	5	2	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	26	5	2	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			10		67	10
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			10		67	10
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1597		917	1066

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	10	32	15
Volume Left	0	26	2
Volume Right	0	0	13
cSH	1700	1597	1042
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	6.1	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.1	8.5
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	21	0	24	29	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	0	26	32	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			23		107	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			23		107	23
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1579		872	1048

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	23	58	8
Volume Left	0	26	0
Volume Right	0	0	8
cSH	1700	1579	1048
Volume to Capacity	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	3.4	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	3.4	8.5
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	15	0	359	334	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	16	0	390	363	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	558	182	379			
vC1, stage 1 conf vol	363					
vC2, stage 2 conf vol	195					
vCu, unblocked vol	558	182	379			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	400	824	1161			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	16	195	195	182	182	16
Volume Left	0	0	0	0	0	0
Volume Right	16	0	0	0	0	16
cSH	824	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.11	0.11	0.11	0.11	0.01
Queue Length 95th (ft)	2	0	0	0	0	0
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.5	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

EXISTING NOON PEAK HOUR
1: SR 246 & Alamo Pintado 12/28/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1507	1736	1827	1529	1719	1692		1728	1827	1525
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1736	1827	1507	1736	1827	1529	1343	1692		1321	1827	1525
Volume (vph)	254	527	19	12	426	191	44	26	19	190	22	298
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	265	549	20	12	444	199	46	27	20	198	23	310
RTOR Reduction (vph)	0	0	9	0	0	133	0	14	0	0	0	102
Lane Group Flow (vph)	265	549	11	12	444	66	46	33	0	198	23	208
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.0	41.6	41.6	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.7
Effective Green, g (s)	16.0	41.6	41.6	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.7
Actuated g/C Ratio	0.20	0.53	0.53	0.01	0.33	0.33	0.31	0.31		0.31	0.31	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	352	962	794	15	608	509	420	529		413	571	863
v/s Ratio Prot	c0.15	0.30		0.01	c0.24			0.02			0.01	0.05
v/s Ratio Perm			0.01			0.04	0.03			c0.15		0.09
v/c Ratio	0.75	0.57	0.01	0.80	0.73	0.13	0.11	0.06		0.48	0.04	0.24
Uniform Delay, d1	29.6	12.7	8.9	39.1	23.2	18.4	19.3	19.0		22.0	18.9	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.8	0.8	0.0	132.2	4.5	0.1	0.5	0.2		3.9	0.1	0.1
Delay (s)	38.4	13.5	8.9	171.3	27.7	18.5	19.8	19.3		25.9	19.0	10.7
Level of Service	D	B	A	F	C	B	B	B		C	B	B
Approach Delay (s)		21.3			27.5			19.6			16.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	1	61	8	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	66	9	1	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			5		146	5
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			5		146	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	96
cM capacity (veh/h)			1603		807	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	5	75	43
Volume Left	0	66	1
Volume Right	1	0	42
cSH	1700	1603	1064
Volume to Capacity	0.00	0.04	0.04
Queue Length 95th (ft)	0	3	3
Control Delay (s)	0.0	6.5	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.5	8.5
Approach LOS			A

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	44	1	41	72	0	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	1	45	78	0	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			49		216	48
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			49		216	48
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	97
cM capacity (veh/h)			1545		746	1015

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	49	123	27
Volume Left	0	45	0
Volume Right	1	0	27
cSH	1700	1545	1015
Volume to Capacity	0.03	0.03	0.03
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	2.8	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.6
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	56	0	471	454	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	61	0	512	493	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	749	247	522			
vC1, stage 1 conf vol	493					
vC2, stage 2 conf vol	256					
vCu, unblocked vol	749	247	522			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	334	747	1027			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	61	256	256	247	247	28
Volume Left	0	0	0	0	0	0
Volume Right	61	0	0	0	0	28
cSH	747	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.15	0.15	0.15	0.15	0.02
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1507	1736	1827	1529	1719	1692		1728	1827	1525
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00		0.73	1.00	1.00
Satd. Flow (perm)	1736	1827	1507	1736	1827	1529	1343	1692		1321	1827	1525
Volume (vph)	257	527	19	12	426	194	44	26	19	191	22	300
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	268	549	20	12	444	202	46	27	20	199	23	312
RTOR Reduction (vph)	0	0	9	0	0	135	0	14	0	0	0	102
Lane Group Flow (vph)	268	549	11	12	444	67	46	33	0	199	23	210
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.1	41.7	41.7	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.8
Effective Green, g (s)	16.1	41.7	41.7	0.7	26.3	26.3	24.7	24.7		24.7	24.7	40.8
Actuated g/C Ratio	0.20	0.53	0.53	0.01	0.33	0.33	0.31	0.31		0.31	0.31	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	353	963	794	15	607	508	419	528		412	571	864
v/s Ratio Prot	c0.15	0.30		0.01	c0.24			0.02			0.01	0.05
v/s Ratio Perm			0.01			0.04	0.03			c0.15		0.09
v/c Ratio	0.76	0.57	0.01	0.80	0.73	0.13	0.11	0.06		0.48	0.04	0.24
Uniform Delay, d1	29.7	12.6	8.9	39.1	23.3	18.4	19.4	19.1		22.0	18.9	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.1	0.8	0.0	132.2	4.5	0.1	0.5	0.2		4.0	0.1	0.1
Delay (s)	38.7	13.5	8.9	171.3	27.8	18.6	19.9	19.3		26.0	19.1	10.8
Level of Service	D	B	A	F	C	B	B	B		C	B	B
Approach Delay (s)		21.4			27.6			19.6			16.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	4	1	63	8	1	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	68	9	1	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			5		151	5
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			5		151	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	96
cM capacity (veh/h)			1603		801	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	5	77	46
Volume Left	0	68	1
Volume Right	1	0	45
cSH	1700	1603	1064
Volume to Capacity	0.00	0.04	0.04
Queue Length 95th (ft)	0	3	3
Control Delay (s)	0.0	6.6	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	6.6	8.5
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

EXISTING + PROJECT NOON PEAK HOUR
3: Old Mission & Dwy B 1/12/2016

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	46	1	46	73	0	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	1	50	79	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			51		230	51
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			51		230	51
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	97
cM capacity (veh/h)			1542		729	1012

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	51	129	29
Volume Left	0	50	0
Volume Right	1	0	29
cSH	1700	1542	1012
Volume to Capacity	0.03	0.03	0.03
Queue Length 95th (ft)	0	3	2
Control Delay (s)	0.0	3.0	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	61	0	477	454	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	66	0	518	493	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	753	247	522			
vC1, stage 1 conf vol	493					
vC2, stage 2 conf vol	259					
vCu, unblocked vol	753	247	522			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	333	747	1027			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	66	259	259	247	247	28
Volume Left	0	0	0	0	0	0
Volume Right	66	0	0	0	0	28
cSH	747	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.15	0.15	0.15	0.15	0.02
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.3	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

EXISTING P.M. PEAK HOUR
1: SR 246 & Alamo Pintado

12/28/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1718	1698		1727	1827	1526
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1347	1698		1306	1827	1526
Volume (vph)	264	563	25	8	574	181	37	34	23	188	18	356
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	275	586	26	8	598	189	39	35	24	196	19	371
RTOR Reduction (vph)	0	0	11	0	0	114	0	18	0	0	0	86
Lane Group Flow (vph)	275	586	15	8	598	75	39	41	0	196	19	285
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Effective Green, g (s)	16.2	48.9	48.9	0.7	33.4	33.4	22.5	22.5		22.5	22.5	38.7
Actuated g/C Ratio	0.19	0.58	0.58	0.01	0.40	0.40	0.27	0.27		0.27	0.27	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	334	1062	876	14	726	607	360	454		349	489	775
v/s Ratio Prot	c0.16	0.32		0.00	c0.33			0.02			0.01	0.07
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.12
v/c Ratio	0.82	0.55	0.02	0.57	0.82	0.12	0.11	0.09		0.56	0.04	0.37
Uniform Delay, d1	32.6	10.8	7.4	41.6	22.7	16.1	23.2	23.1		26.5	22.8	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.6	0.0	46.0	7.5	0.1	0.6	0.4		6.4	0.1	0.3
Delay (s)	47.6	11.5	7.4	87.5	30.2	16.2	23.8	23.5		32.9	22.9	15.0
Level of Service	D	B	A	F	C	B	C	C		C	C	B
Approach Delay (s)		22.6			27.5			23.6			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	0	44	4	0	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	48	4	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			3		103	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3		103	3
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	98
cM capacity (veh/h)			1606		864	1075

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	3	52	24
Volume Left	0	48	0
Volume Right	0	0	24
cSH	1700	1606	1075
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	6.7	8.4
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	8.4
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	25	0	16	46	0	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	17	50	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			27		112	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			27		112	27
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1574		870	1043

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	27	67	29
Volume Left	0	17	0
Volume Right	0	0	29
cSH	1700	1574	1043
Volume to Capacity	0.02	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	1.9	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.9	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	42	0	479	520	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	46	0	521	565	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	826	283	577			
vC1, stage 1 conf vol	565					
vC2, stage 2 conf vol	260					
vCu, unblocked vol	826	283	577			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	309	708	979			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	260	260	283	283	12
Volume Left	0	0	0	0	0	0
Volume Right	46	0	0	0	0	12
cSH	708	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.15	0.15	0.17	0.17	0.01
Queue Length 95th (ft)	5	0	0	0	0	0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1506	1736	1827	1529	1718	1698		1727	1827	1526
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.72	1.00	1.00
Satd. Flow (perm)	1736	1827	1506	1736	1827	1529	1347	1698		1306	1827	1526
Volume (vph)	267	563	25	8	574	184	37	34	23	190	18	359
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	278	586	26	8	598	192	39	35	24	198	19	374
RTOR Reduction (vph)	0	0	11	0	0	115	0	18	0	0	0	86
Lane Group Flow (vph)	278	586	15	8	598	77	39	41	0	198	19	288
Confl. Peds. (#/hr)			4			2	4		2	2		4
Confl. Bikes (#/hr)						1						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.6	49.1	49.1	0.7	33.2	33.2	21.5	21.5		21.5	21.5	38.1
Effective Green, g (s)	16.6	49.1	49.1	0.7	33.2	33.2	21.5	21.5		21.5	21.5	38.1
Actuated g/C Ratio	0.20	0.59	0.59	0.01	0.40	0.40	0.26	0.26		0.26	0.26	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	346	1077	888	15	728	609	348	438		337	472	771
v/s Ratio Prot	c0.16	0.32		0.00	c0.33			0.02			0.01	0.07
v/s Ratio Perm			0.01			0.05	0.03			c0.15		0.11
v/c Ratio	0.80	0.54	0.02	0.53	0.82	0.13	0.11	0.09		0.59	0.04	0.37
Uniform Delay, d1	31.8	10.3	7.1	41.1	22.4	15.9	23.6	23.5		27.0	23.2	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.7	0.6	0.0	31.9	7.4	0.1	0.7	0.4		7.3	0.2	0.3
Delay (s)	44.4	10.9	7.1	73.0	29.8	16.0	24.3	23.9		34.3	23.3	15.1
Level of Service	D	B	A	E	C	B	C	C		C	C	B
Approach Delay (s)		21.3			26.9			24.1			21.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	3	0	46	4	0	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	50	4	0	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				395		
pX, platoon unblocked						
vC, conflicting volume			3		108	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			3		108	3
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	98
cM capacity (veh/h)			1606		857	1075

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	3	54	25
Volume Left	0	50	0
Volume Right	0	0	25
cSH	1700	1606	1075
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (ft)	0	2	2
Control Delay (s)	0.0	6.7	8.4
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	8.4
Approach LOS			A

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	26	0	21	48	0	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	0	23	52	0	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				159		
pX, platoon unblocked						
vC, conflicting volume			28		126	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			28		126	28
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1572		851	1041

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	28	75	32
Volume Left	0	23	0
Volume Right	0	0	32
cSH	1700	1572	1041
Volume to Capacity	0.02	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	2.3	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	2.3	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱		↑↑	↑↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	45	0	485	522	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	49	0	527	567	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised					
Median storage veh)	0					
Upstream signal (ft)				63	138	
pX, platoon unblocked						
vC, conflicting volume	831	284	579			
vC1, stage 1 conf vol	567					
vC2, stage 2 conf vol	264					
vCu, unblocked vol	831	284	579			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	307	707	977			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	49	264	264	284	284	12
Volume Left	0	0	0	0	0	0
Volume Right	49	0	0	0	0	12
cSH	707	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.16	0.16	0.17	0.17	0.01
Queue Length 95th (ft)	6	0	0	0	0	0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.5	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

The Merkantile

Solvang, California

rrm design group

Ashley & Vance ENGINEERING, INC.

ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

COVER SHEET

02-04-2016

A0.0

The Merkantile

Solvang, California

PROJECT STATISTICS

SITE INFORMATION

ADDRESS	1980 - 1992 OLD MISSION DRIVE
APN	139-240-074 & 139-240-075
SITE AREA	3.9 ACRES (169,884 S.F.)
ZONING	C-2 - COMMERCIAL
USE	
EXISTING USE	COMMERCIAL RETAIL & RESIDENTIAL
PROPOSED USE	COMMERCIAL RETAIL & RESIDENTIAL
EXISTING OCCUPANCIES	A-2/M/B/R-2
PROPOSED OCCUPANCIES	A-2/M/B/R-2
TYPE OF CONSTRUCTION	TYPE V-B
SPRINKLERS	YES (NFPA-13)
SETBACKS:	
FRONT	30' FROM STREET CENTERLINE 10' FROM R.O.W.
FROM HIGHWAY 246	42' FROM STREET CENTERLINE
SIDE	3'
REAR	10% OF THE LOT DEPTH, NO LESS THAN 12'
BUILDING HEIGHT:	
ALLOWABLE:	35'
PROPOSED:	22' - 35'
IMPERVIOUS AREA	
EXISTING	130,920 S.F. (77.1%)
PROPOSED	117,517 S.F. (69.2%)
(DOES NOT INCLUDE 14,996 S.F. OF PERVIOUS PAVERS)	
LOT COVERAGE	
EXISTING BUILDINGS (INCLUDES ROOF OVERHANGS)	53,706 S.F. (31.6%)
PROPOSED BUILDINGS (INCLUDES ROOF OVERHANGS)	43,034 S.F. (25.3%)
EXISTING PARKING LOT	69,026 S.F. (40.6%)
PROPOSED PARKING LOT	69,889 S.F. (41.1%)
EXISTING LANDSCAPE	38,964 S.F. (22.9%)
PROPOSED LANDSCAPE	37,371 S.F. (22.0%)

BUILDING INFORMATION

EXISTING COMMERCIAL AREA	**39,282 S.F.**
BUILDING A - 1980 OLD MISSION DRIVE (FIRST FLOOR: 3,040 S.F.; SECOND FLOOR: 3,360 S.F.)	6,464 S.F.
BUILDING B - 1984 OLD MISSION DRIVE	16,600 S.F.
BUILDING C - 1988 OLD MISSION DRIVE	11,000 S.F.
BUILDING D - 1992 OLD MISSION DRIVE	5,218 S.F.
PROPOSED COMMERCIAL AREA	**41,429 S.F.**
BUILDING A (EXISTING BUILDING TO REMAIN)	6,464 S.F.
BUILDING B	9,215 S.F.
BUILDING C (FIRST FLOOR: 15,000 S.F.; MEZZANINE: 3,000 S.F.)	18,000 S.F.
BUILDING D	7,750 S.F.
EXISTING RESIDENTIAL	
EXISTING NUMBER OF UNITS	2 UNITS
BUILDING B - 1 UNIT UPSTAIRS	1,034 S.F.
BUILDING C - 1 UNIT UPSTAIRS	1,000 S.F.

ALLOWED RESIDENTIAL

IN A COMMERCIAL ZONE, RESIDENTIAL MUST BE A "SECONDARY USE" TO PRIMARY COMMERCIAL USE. (PER CITY OF SOLVANG ORDINANCE SECTION 11-7B-2 NOTE O)

MAXIMUM DENSITY	20 UNITS/ACRE (DR-20)	
3.9 ACRES X 20 UNITS/ACRE =	78	
ALLOWED NUMBER OF UNITS		**78 UNITS**

PROPOSED RESIDENTIAL	
PROPOSED NUMBER OF UNITS	8 UNITS
BUILDING B	
FIRST FLOOR LOBBY & CIRCULATION	1,120 S.F.
SECOND FLOOR LOBBY & CIRCULATION: 2,066 S.F. RESIDENTIAL UNITS: 6,251 S.F.	8,317 S.F.

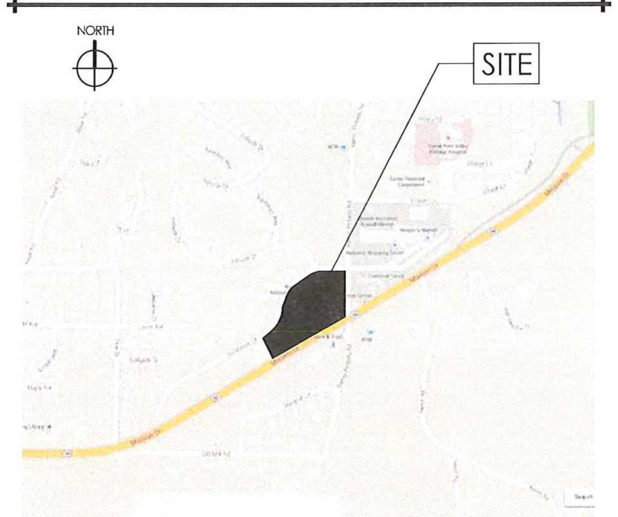
PARKING INFORMATION:

EXISTING PARKING PROVIDED			**170 SPACES**
COMMERICAL REQUIRED			**122 SPACES REQUIRED**
RETAIL 1 SPACE/500 S.F. GROSS			
BUILDING A	3,040 S.F. X $\frac{1 \text{ SPACE}}{500 \text{ S.F.}}$ =	6.1	6 SPACES
BUILDING B	9,215 S.F. X $\frac{1 \text{ SPACE}}{500 \text{ S.F.}}$ =	18.4	18 SPACES
BUILDING C	15,000 S.F. X $\frac{1 \text{ SPACE}}{500 \text{ S.F.}}$ =	30.0	30 SPACES
BUILDING D	7,750 S.F. X $\frac{1 \text{ SPACE}}{500 \text{ S.F.}}$ =	15.5	16 SPACES
OFFICE 1 SPACE/300 S.F. GROSS			
BUILDING A	3,360 S.F. X $\frac{1 \text{ SPACE}}{300 \text{ S.F.}}$ =	11.2	11 SPACES
BUILDING C	3,000 S.F. X $\frac{1 \text{ SPACE}}{300 \text{ S.F.}}$ =	10	10 SPACES
SHARED SPACES AS REQUIRED BY CITY			31 SPACES
RESIDENTIAL REQUIRED			**10 SPACES REQUIRED**
STUDIO 1 SPACE/UNIT			
BUILDING B - 3 STUDIO UNITS			3 SPACES
1-BEDROOM 1 SPACE/UNIT			
BUILDING B - 5 1-BEDROOM UNITS			5 SPACES
GUEST 1 SPACE/5 UNITS			
BUILDING B - 8 UNITS			2 SPACES
TOTAL PARKING REQUIRED			**132 SPACES**

PARKING PROVIDED*	**186 SPACES**
STANDARD SPACES	179 SPACES
ACCESSIBLE SPACES	7 SPACES

THE PARKING WILL BE SHARED BETWEEN THE RESIDENTIAL AND COMMERCIAL USES. PARKING WILL BE ON A FIRST COME FIRST SERVED BASIS.

VICINITY MAP



DRAWING INDEX

PROJECT DIRECTORY

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PROJECT DESCRIPTION

THE MERKANTILE PROPOSES THE RECONFIGURATION AND RECONSTRUCTION OF AN EXISTING MIXED-USE SHOPPING CENTER OUTSIDE THE TOURIST VILLAGE IN THE CITY OF SOLVANG. LOCATED IN THE COMMERCIAL HEART OF THE SANTA YNEZ VALLEY, THE CENTER WILL DRAW BOTH LOCALS AND TOURISTS WITH A MIX OF BUSINESSES THAT WILL INCLUDE NEW FRONTIERS NATURAL MARKETPLACE, A RESTAURANT, RETAIL STORES AND A RECONFIGURED AND EXPANDED PARKING FIELD TO APPROPRIATELY SERVICE THE ANTICIPATED PARKING DEMAND. THE PROJECT ALSO PROPOSES SEVERAL SECOND-FLOOR RESIDENTIAL APARTMENTS.

THE SITE DESIGN INCORPORATES MINOR RECONFIGURATION OF THE EXISTING DRIVEWAYS ALONG OLD MISSION DRIVE TO IMPROVE ACCESS TO THE SITE. IN FRONT OF AND ADJACENT TO NEW FRONTIERS WILL BE A COMMUNITY ORIENTED OUTDOOR SPACE FOR HOSTING EVENTS SUCH AS SMALL MUSIC SHOWS AND OTHER COMMUNITY GATHERINGS.

THE DEVELOPEMENT TEAM IS WORKING WITH CALTRANS ON A NEW ENTRANCE ON HIGHWAY 246 AND HAVE PROVIDED EXHIBITS TO REVIEW AS PART OF THIS PACKAGE.

LOW IMPACT DEVELOPMENT CONCEPTS ARE BEING MEANINGFULLY INCORPORATED INTO THE PROJECT TO ADDRESS STORM WATER QUALITY AS WELL AS WATER AND ENERGY CONSUMPTION. THE PROPOSED LANDSCAPING WILL INCLUDE A MIXTURE OF NATIVE AND NATIVE-STYLE PLANTS AND TREES THAT WILL BE WATERED WITH DRIP IRRIGATION. IT IS ANTICIPATED THAT THE NEW DEVELOPMENT WILL RESULT IN SIGNIFICANTLY REDUCED STORM WATER RUNOFF, WATER USAGE AND ENERGY CONSUMPTION.

THE PROPOSED RESIDENTIAL APARTMENTS ARE LOCATED ABOVE SHOPS B AND WILL ENJOY BEAUTIFUL VIEWS OF THE SURROUNDING MOUNTAINS AND VALLEY. RESIDENTS WILL HAVE WALKING ACCESS TO ONSITE RESTAURANTS, SHOPS AND NEARBY MEDICAL AND COMMERCIAL FACILITIES.

THE BUILDING ARCHITECTURE IS CONTEMPORARY AGRARIAN THAT DRAWS FROM THEMES OF THE SANTA YNEZ VALLEY. THE MATERIALS WILL RANGE FROM DISTRESSED WOOD, WEATHERED & PAINTED METAL PANELS, EXPOSED STEEL BEAMS AND ACCENTS CONSISTING OF CONCRETE AND PLASTER. GENEROUS USE OF SOUTH-FACING WINDOWS IS PROPOSED IN ORDER TO CAPTURE THE SURROUNDING VIEWS OF THE SANTA YNEZ MOUNTAIN RANGE AND MAXIMIZE EXPOSURE TO NATURAL LIGHT.

rrm design group

Ashley & Vance ENGINEERING, INC.

Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PROJECT INFORMATION

02-04-2016

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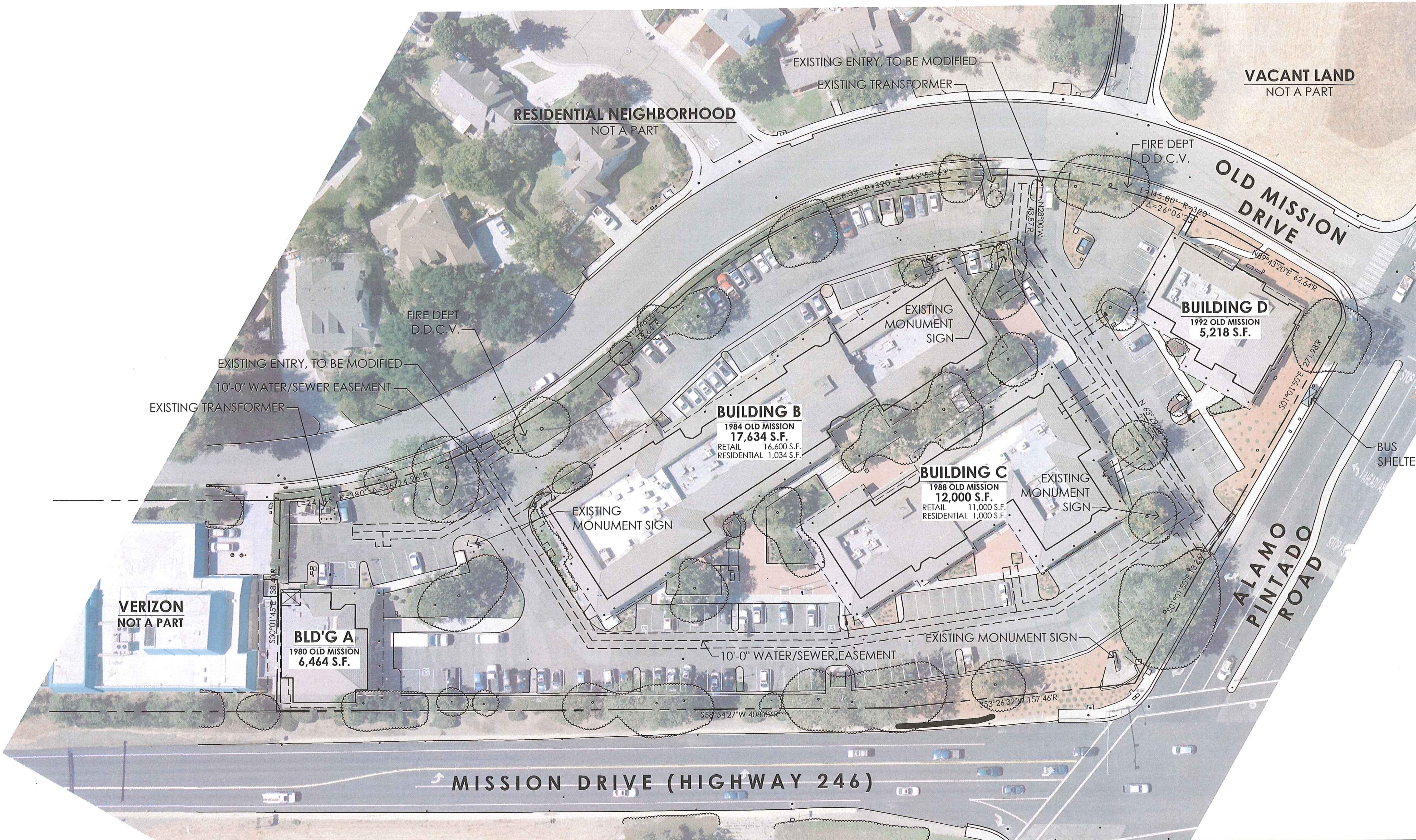

EXISTING SITE PLAN

0 5 10 20 30 60 TRUE NORTH
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"

ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

EXISTING SITE PLAN

03-01-2016

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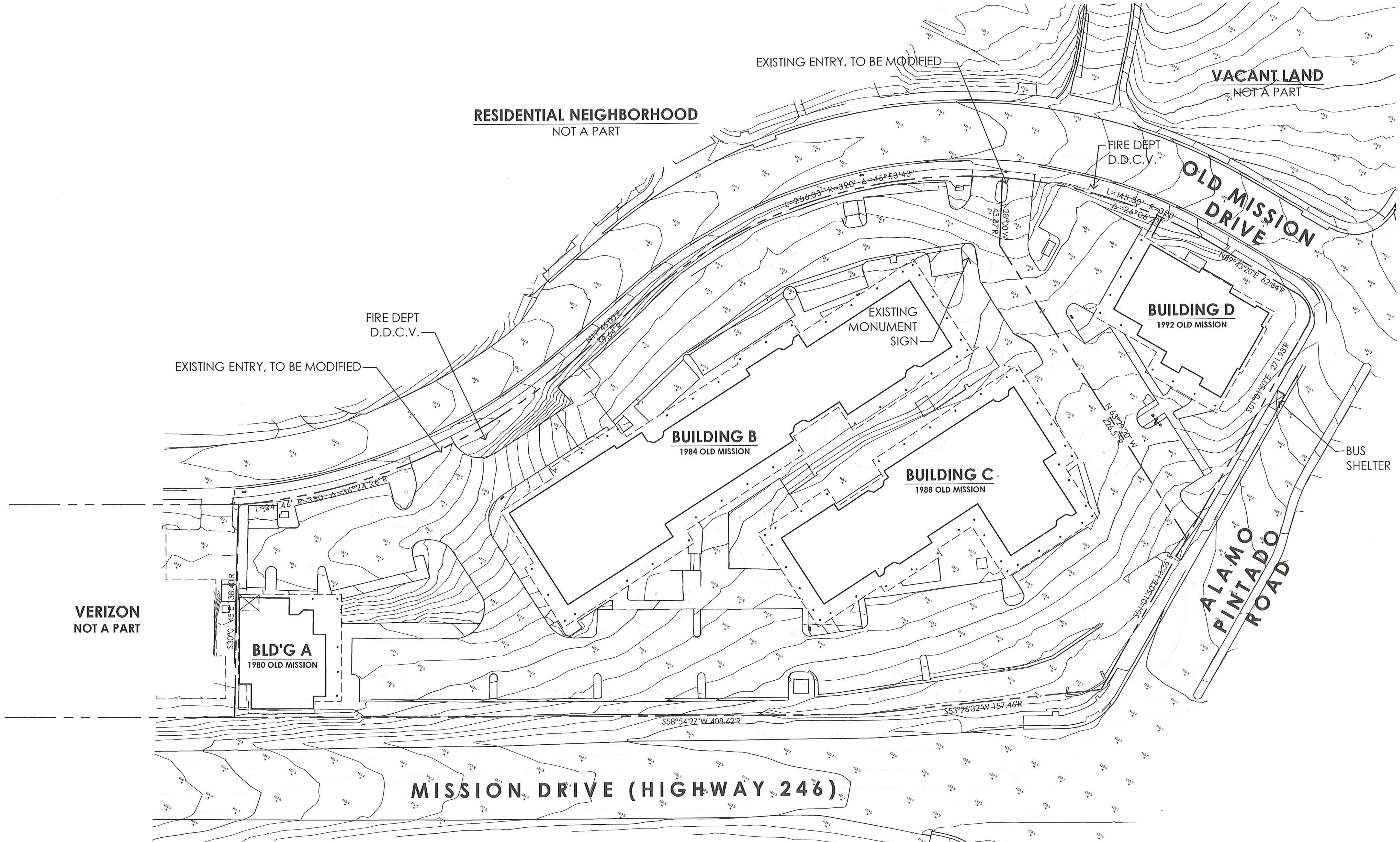


EXISTING SITE PLAN WITH TOPOGRAPHY

0 5 10 20 30 60 TRUE NORTH
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"

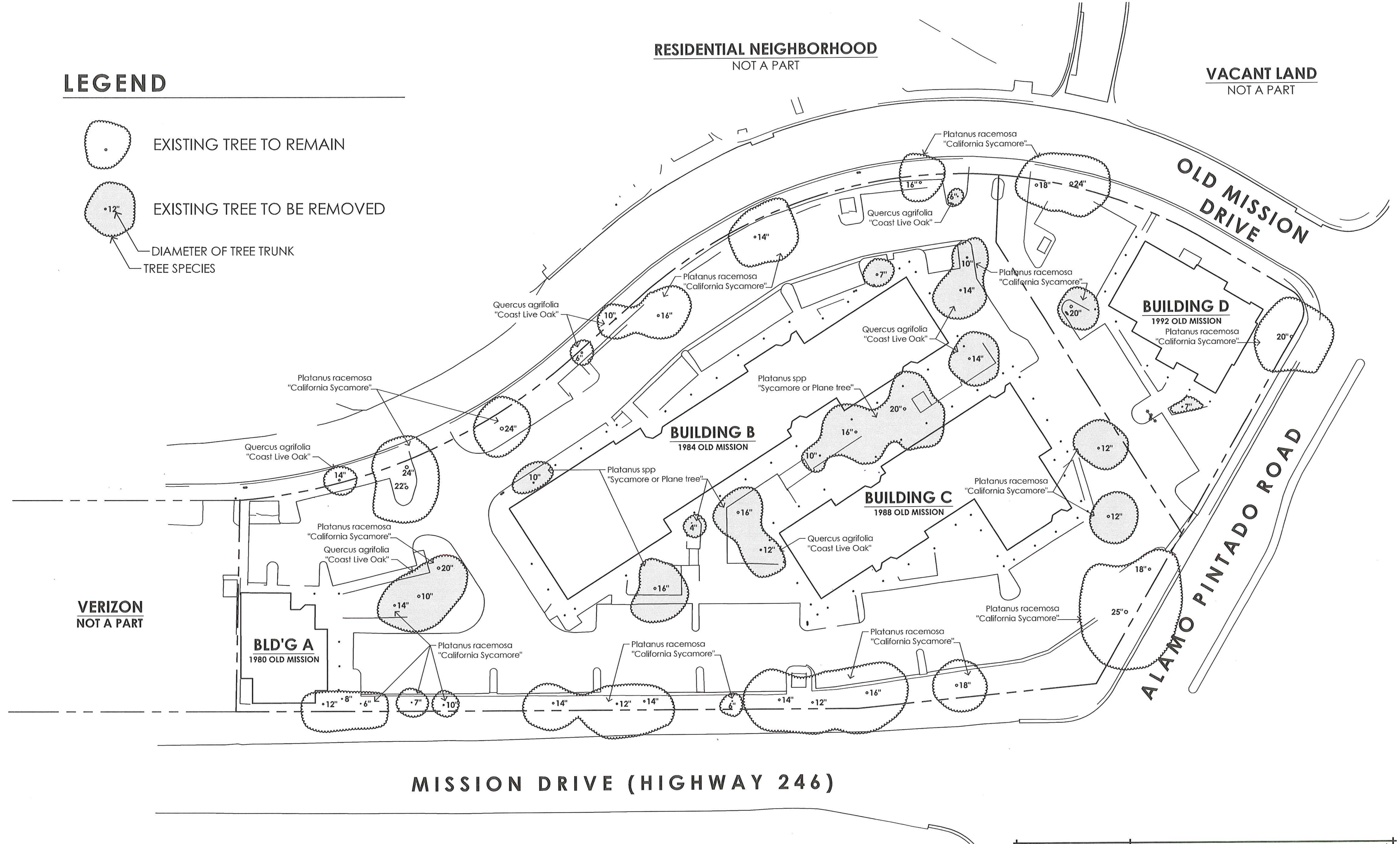
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

EXISTING SITE PLAN WITH TOPOGRAPHY

03-01-2016

A0.3



TREE REMOVAL PLAN

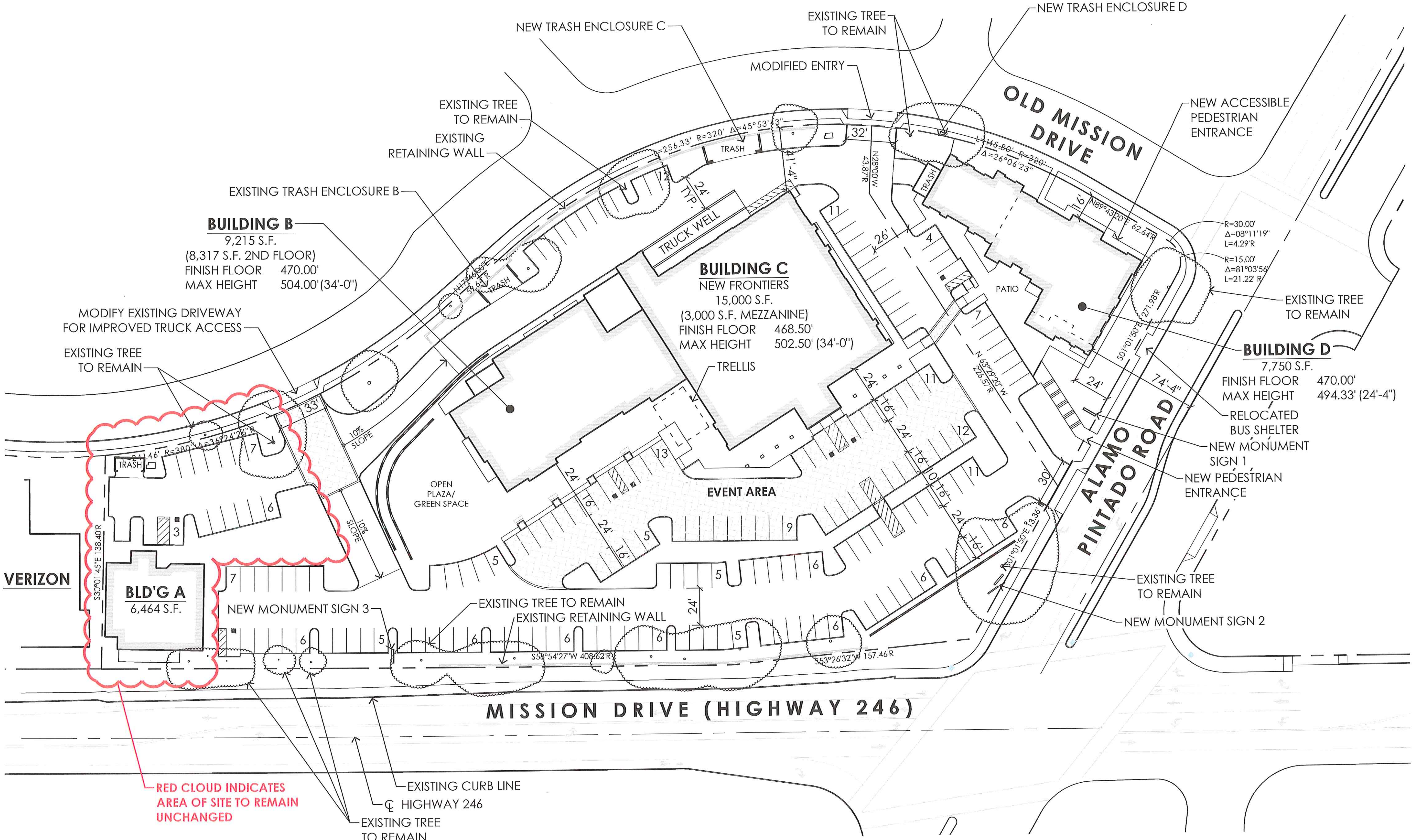
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

03-01-2016

TREE REMOVAL PLAN

A0.4



PROPOSED SITE PLAN

0 5 10 20 30 60 TRUE NORTH
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"

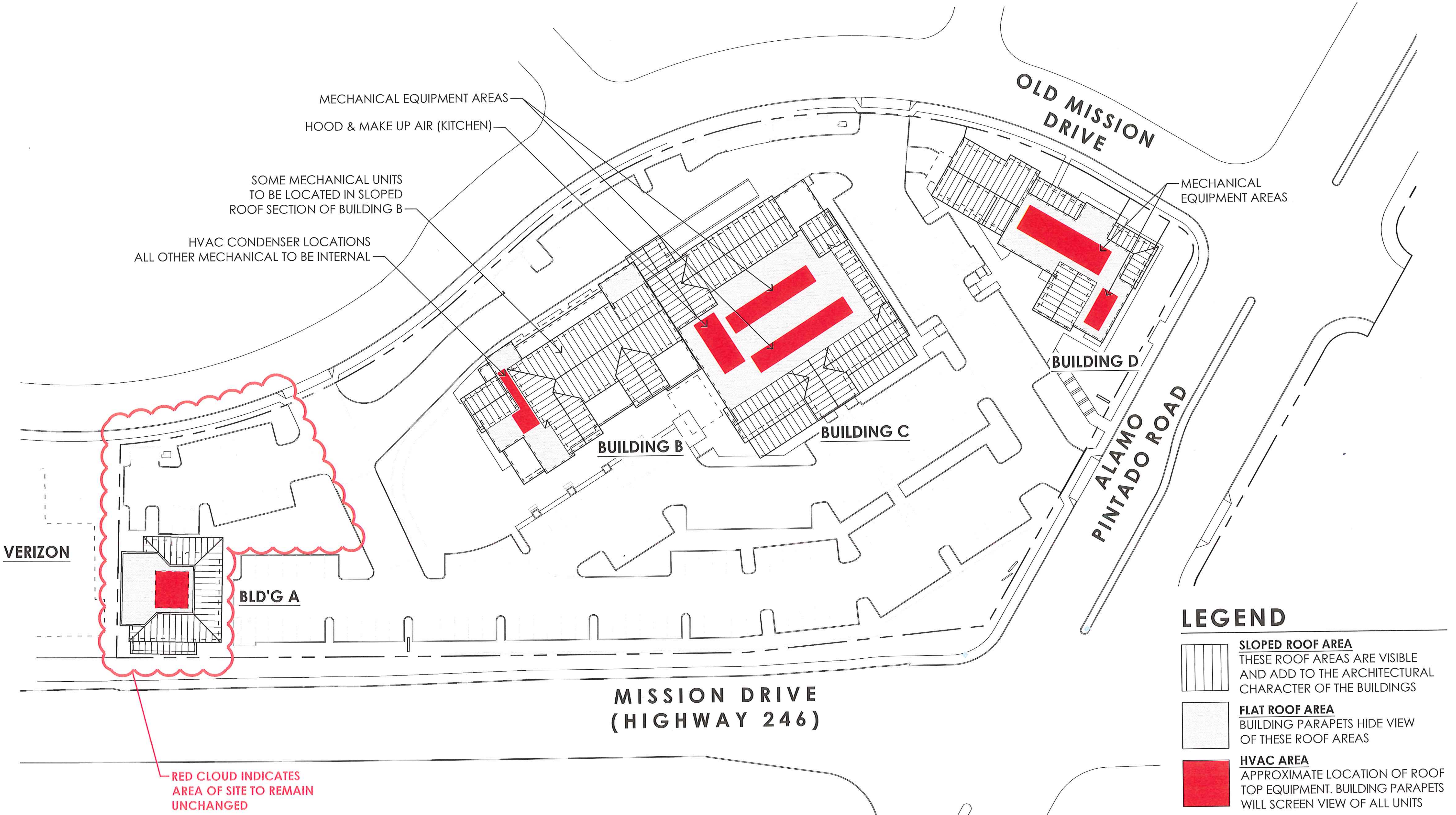
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PROPOSED SITE PLAN

03-01-2016

A0.5



PROPOSED ROOF PLANS

0 5 10 20 30 60
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"
TRUE NORTH

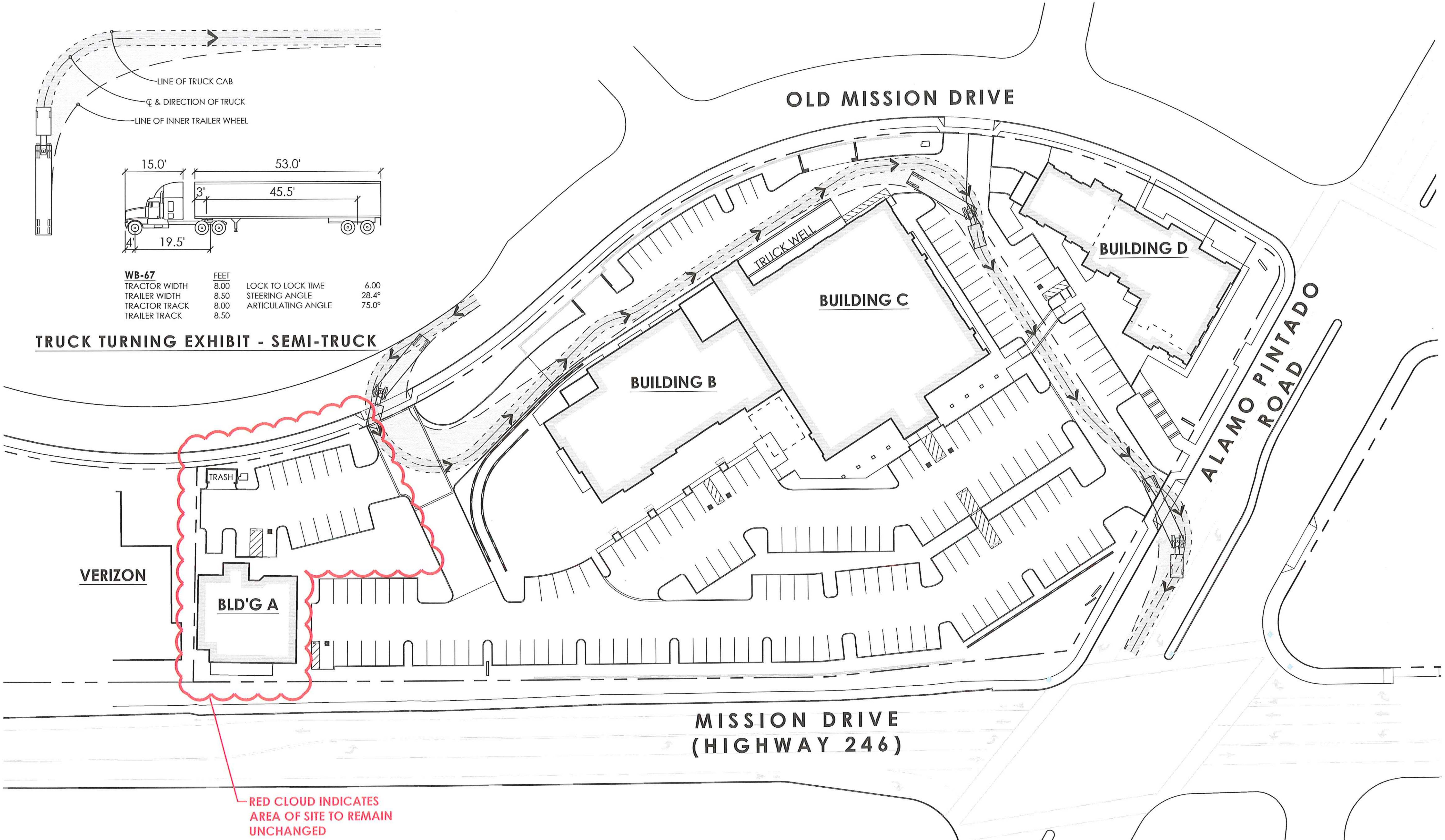
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PROPOSED ROOF PLANS

03-01-2016

A0.6



SEMI-TRUCK TURNING EXHIBIT

0 5 10 20 30 60 TRUE NORTH
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"

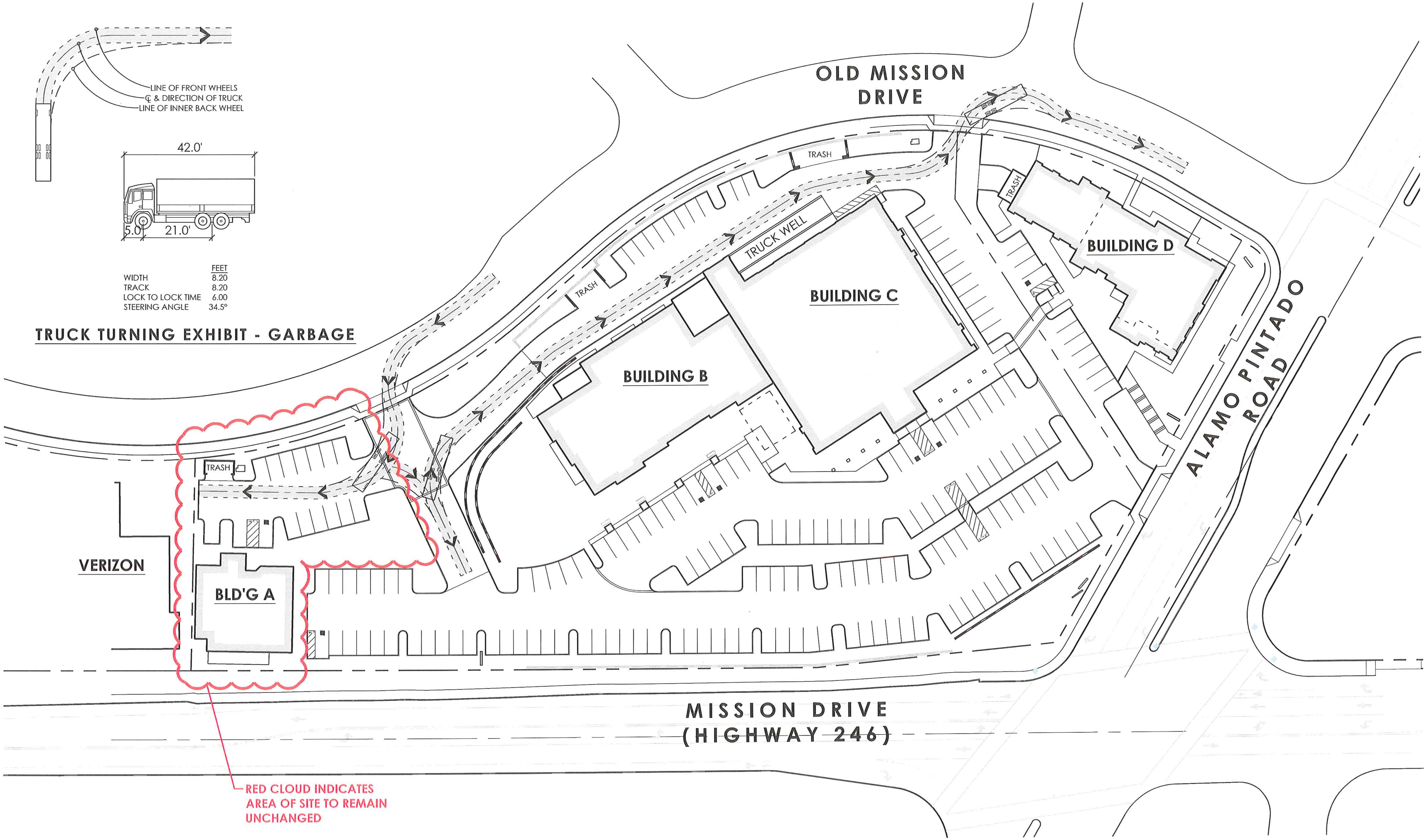
ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SEMI-TRUCK TURNING EXHIBIT

03-01-2016

A0.7



TRASH TRUCK TURNING EXHIBIT

0 5 10 20 30 60
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"
TRUE NORTH

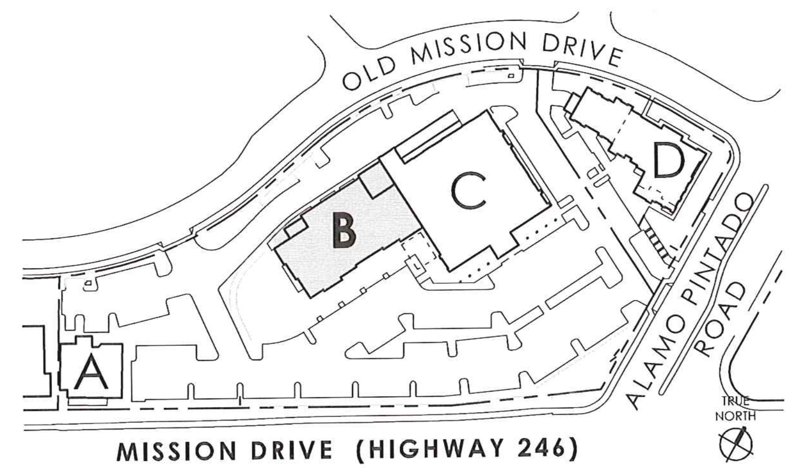
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

TRASH TRUCK TURNING EXHIBIT

03-01-2016

A0.8



KEY PLAN

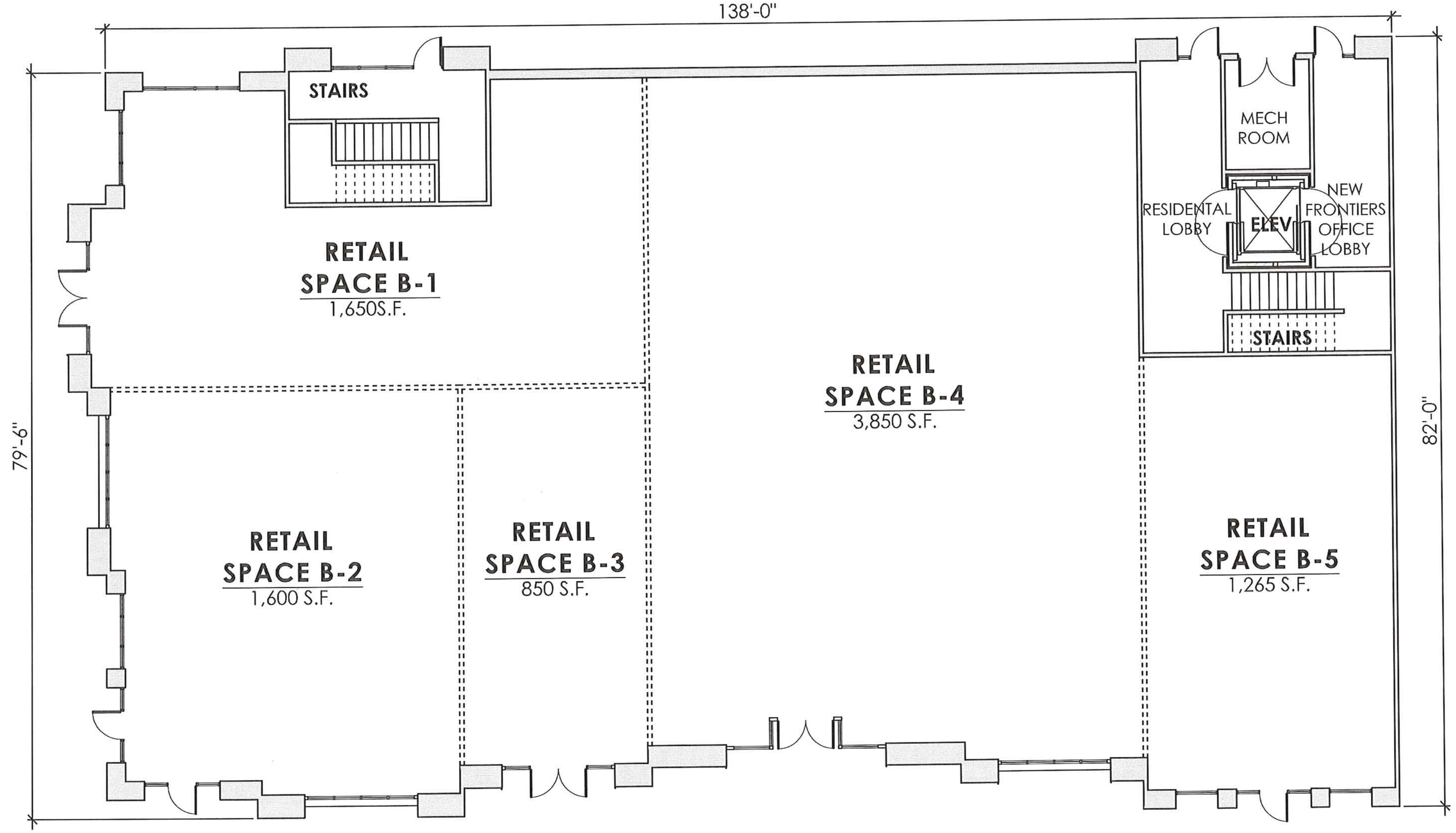
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
CONCEPTUAL PERSPECTIVE

03-01-2016

A2.0



FIRST FLOOR PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

TRUE NORTH PROJECT NORTH

BUILDING STATISTICS

RETAIL	9,215 S.F.
CIRCULATION INCLUDES LOBBY, STAIRS, ELEVATOR AND UTILITY	1,120 S.F.
TOTAL FIRST FLOOR AREA	10,335 S.F.

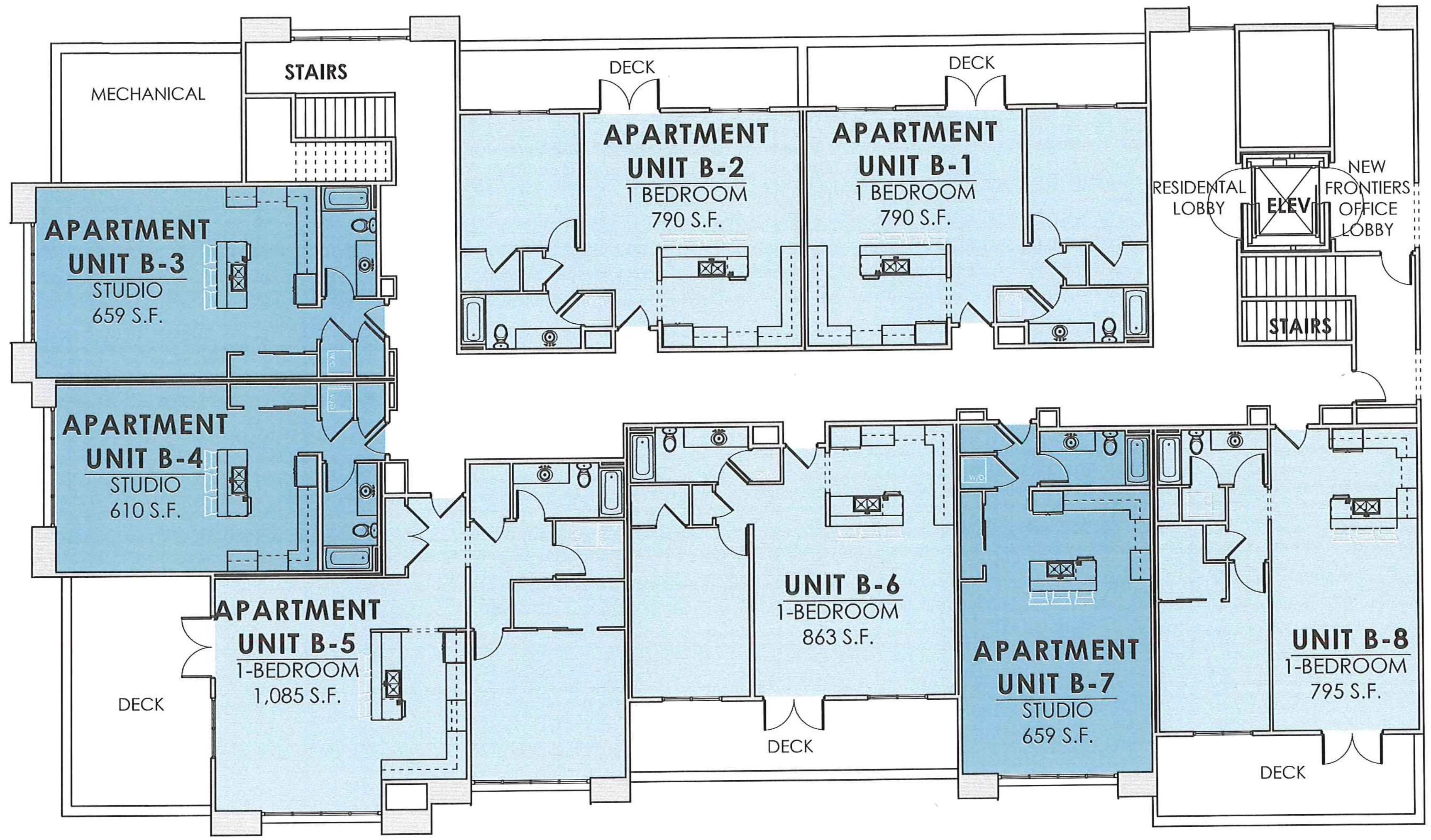
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
CONCEPTUAL
FIRST FLOOR PLAN

03-01-2016

A2.1



SECOND FLOOR PLAN

11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

TRUE NORTH PROJECT NORTH

RESIDENTIAL STATISTICS

APARTMENT UNITS	6,251 S.F.
DECKS	1,164 S.F.
CIRCULATION INCLUDES LOBBY AND MAIN HALL	2,066 S.F.
TOTAL SECOND FLOOR AREA	8,317 S.F.

Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
CONCEPTUAL SECOND FLOOR PLAN

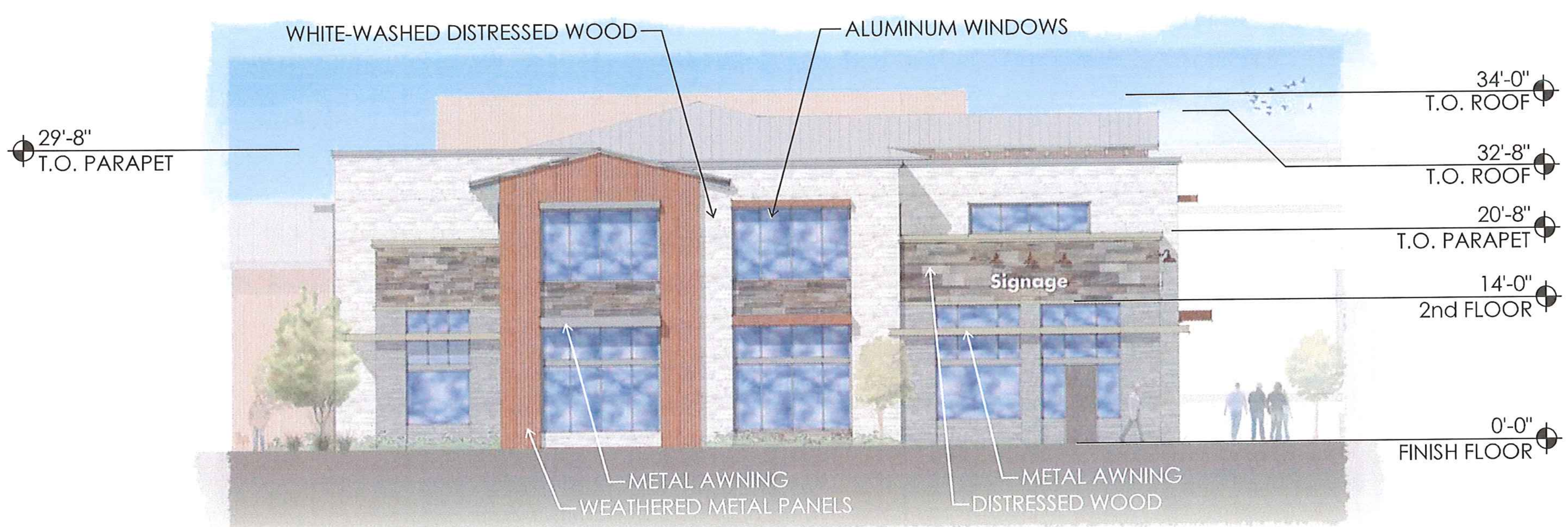
03-01-2016

A2.2

SOUTH ELEVATION

FRONT ELEVATION FACING PARKING LOT/HIGHWAY 246

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



WEST ELEVATION

LEFT ELEVATION FACING BUILDING A

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

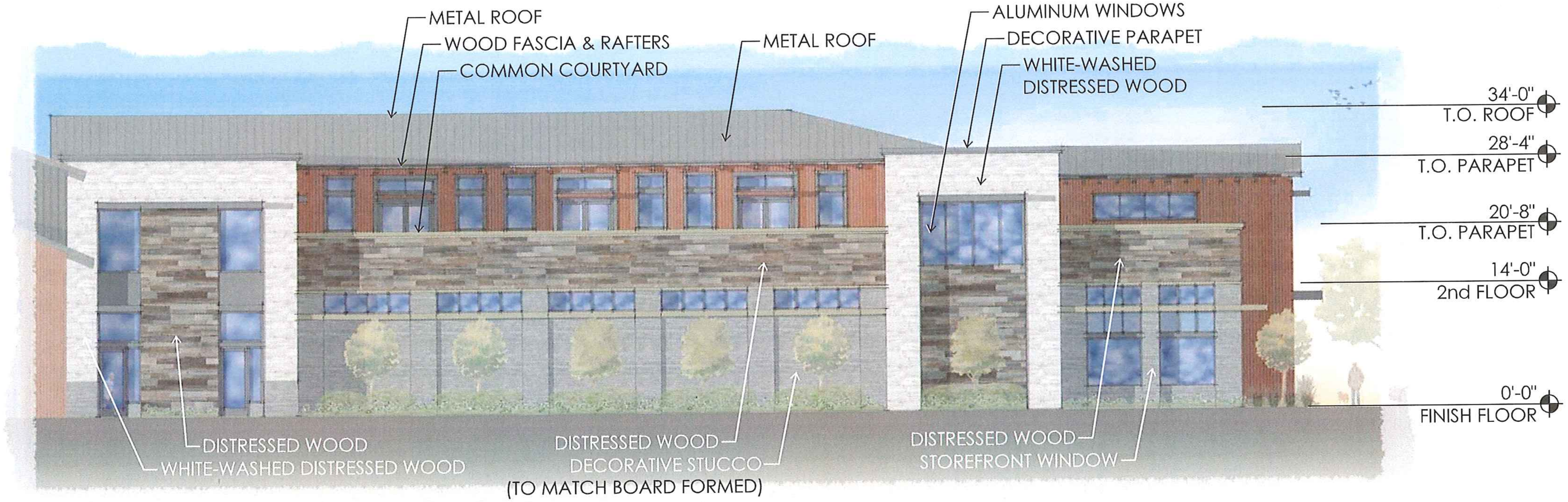
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
CONCEPTUAL ELEVATIONS

03-01-2016

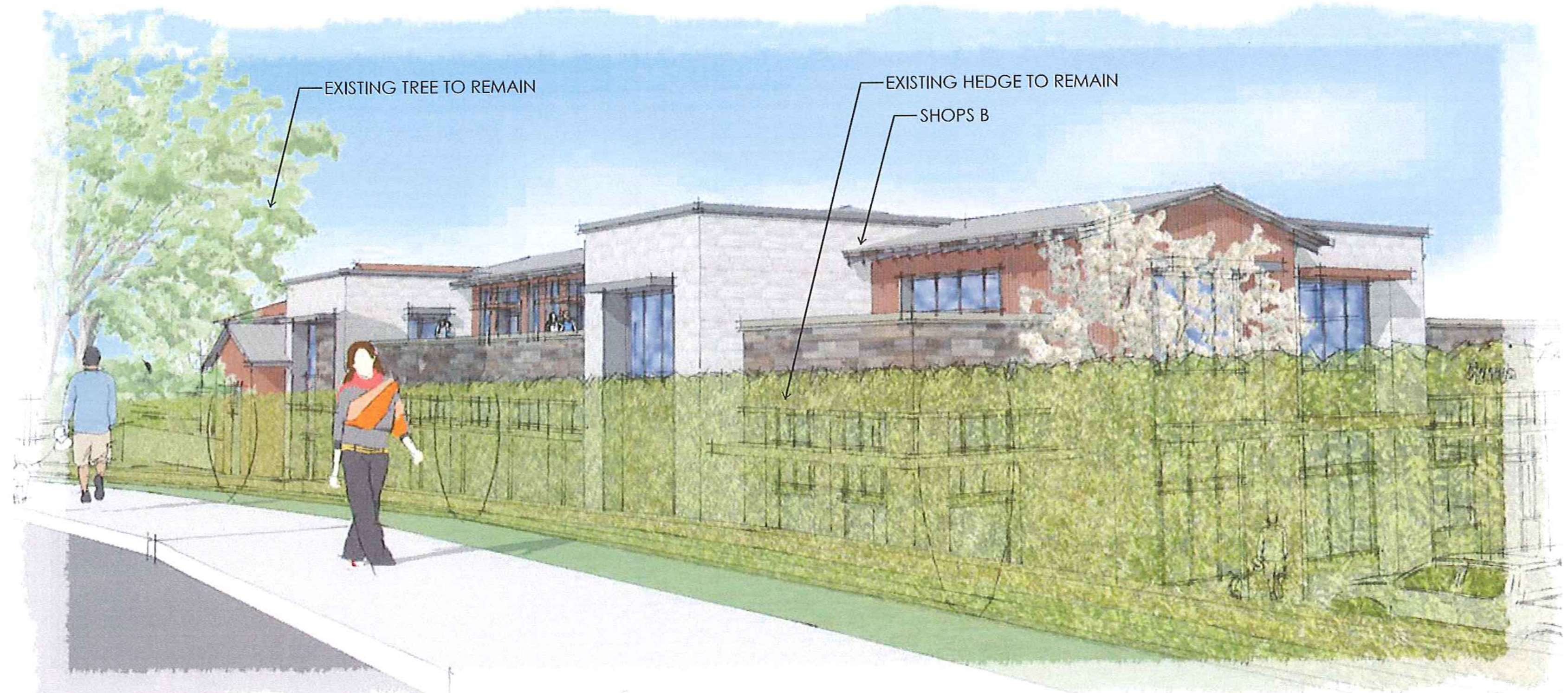
A2.3



NORTH ELEVATION

REAR ELEVATION FACING OLD MISSION DRIVE

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



PERSPECTIVE

FROM OLD MISSION DRIVE

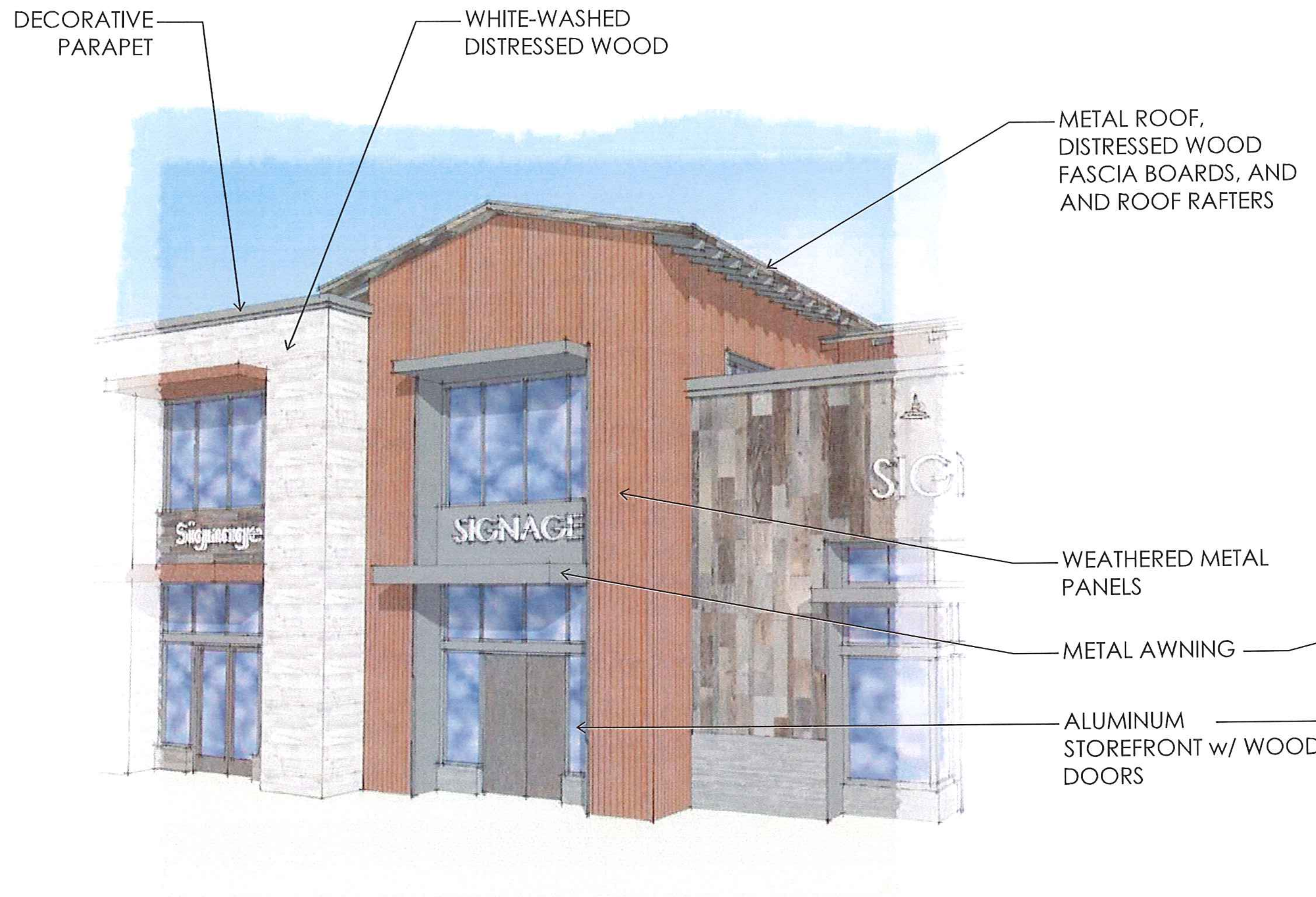
Arris
STUDIO ARCHITECTS

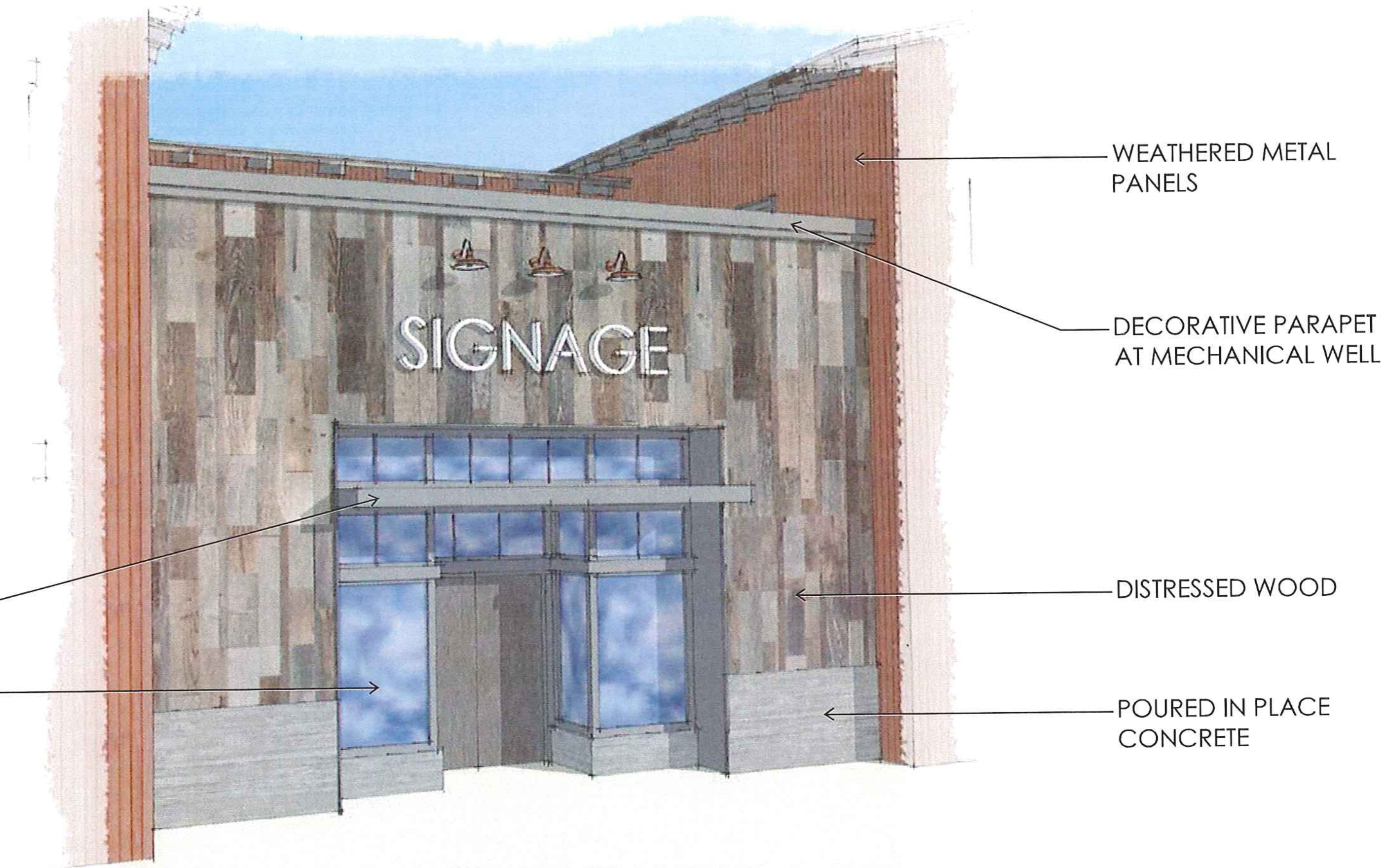
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
CONCEPTUAL ELEVATIONS & PERSPECTIVES

03-01-2016

A2.4



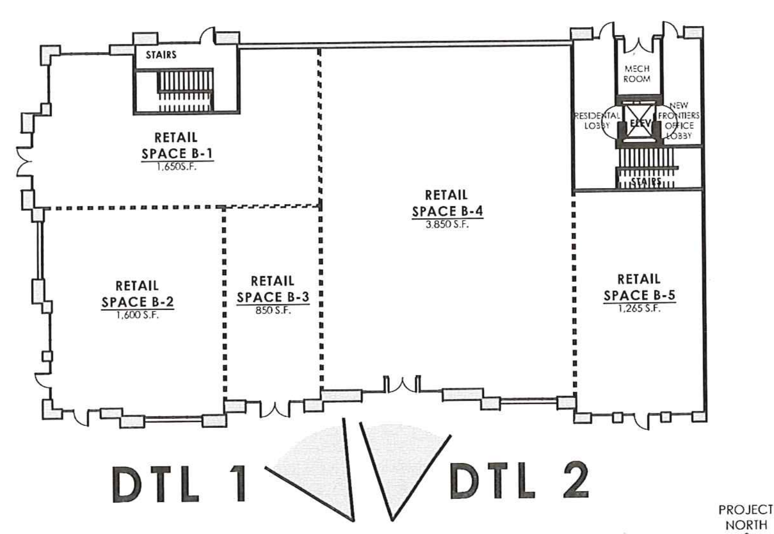


BUILDING DETAIL 1

SUITE B-3: PORTION OF SOUTH (FRONT) ELEVATION FACING THE PARKING LOT

BUILDING DETAIL 2

SUITE B-4: PORTION OF SOUTH (FRONT) ELEVATION FACING THE PARKING LOT



KEY PLAN

Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING B
BUILDING DETAILS

03-01-2016

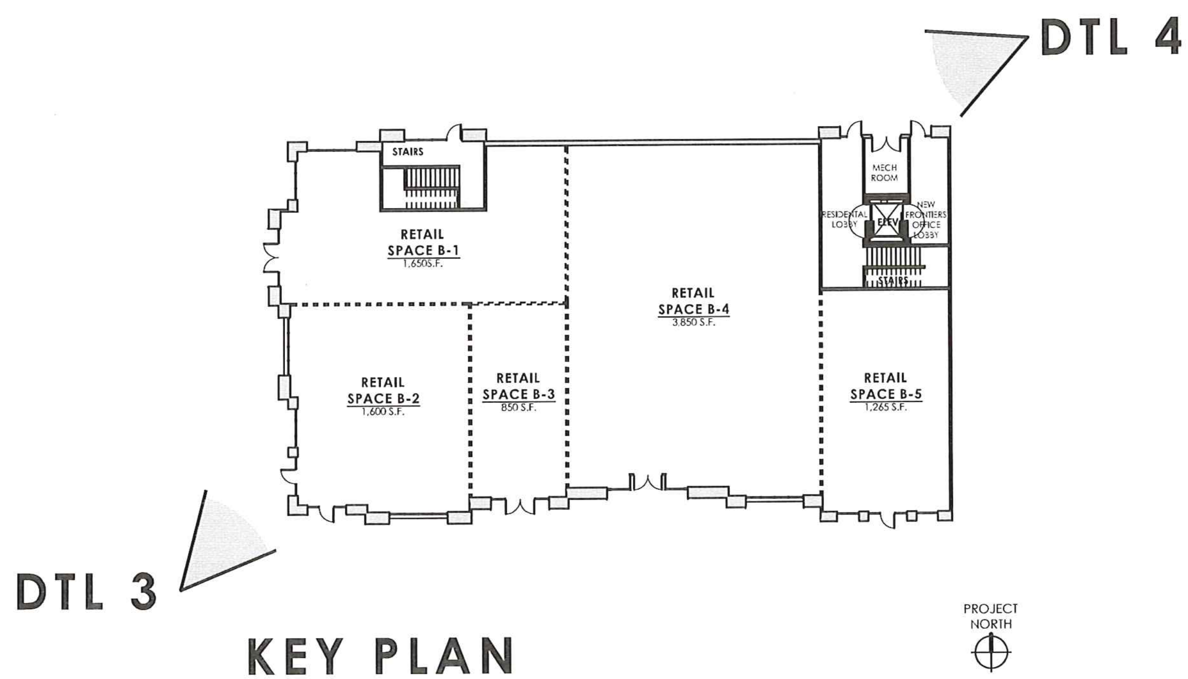
A2.5

BUILDING DETAIL 3

SUITE B-2: PORTION OF WEST ELEVATION FACING THE PARKING LOT

BUILDING DETAIL 4

SUITE B-4/ELEVATOR TOWER: PORTION OF NORTH ELEVATION FACING OLD MISSION DRIVE



KEY PLAN

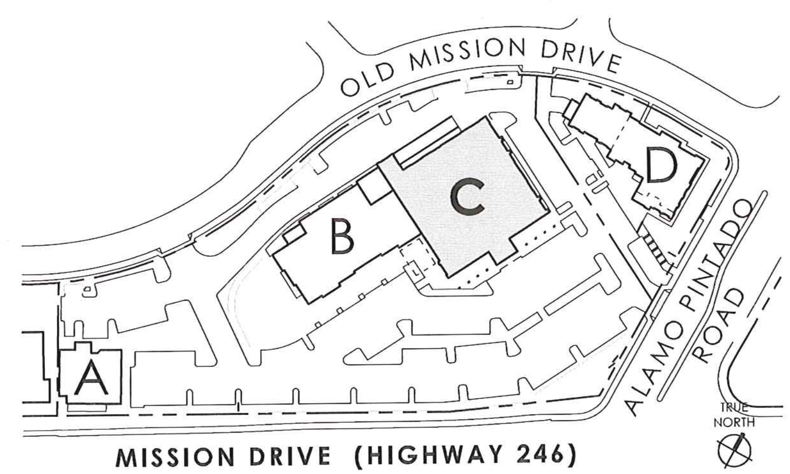
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

ArrIS STUDIO ARCHITECTS

BUILDING B
BUILDING DETAILS

03-01-2016

A2.6



KEY PLAN

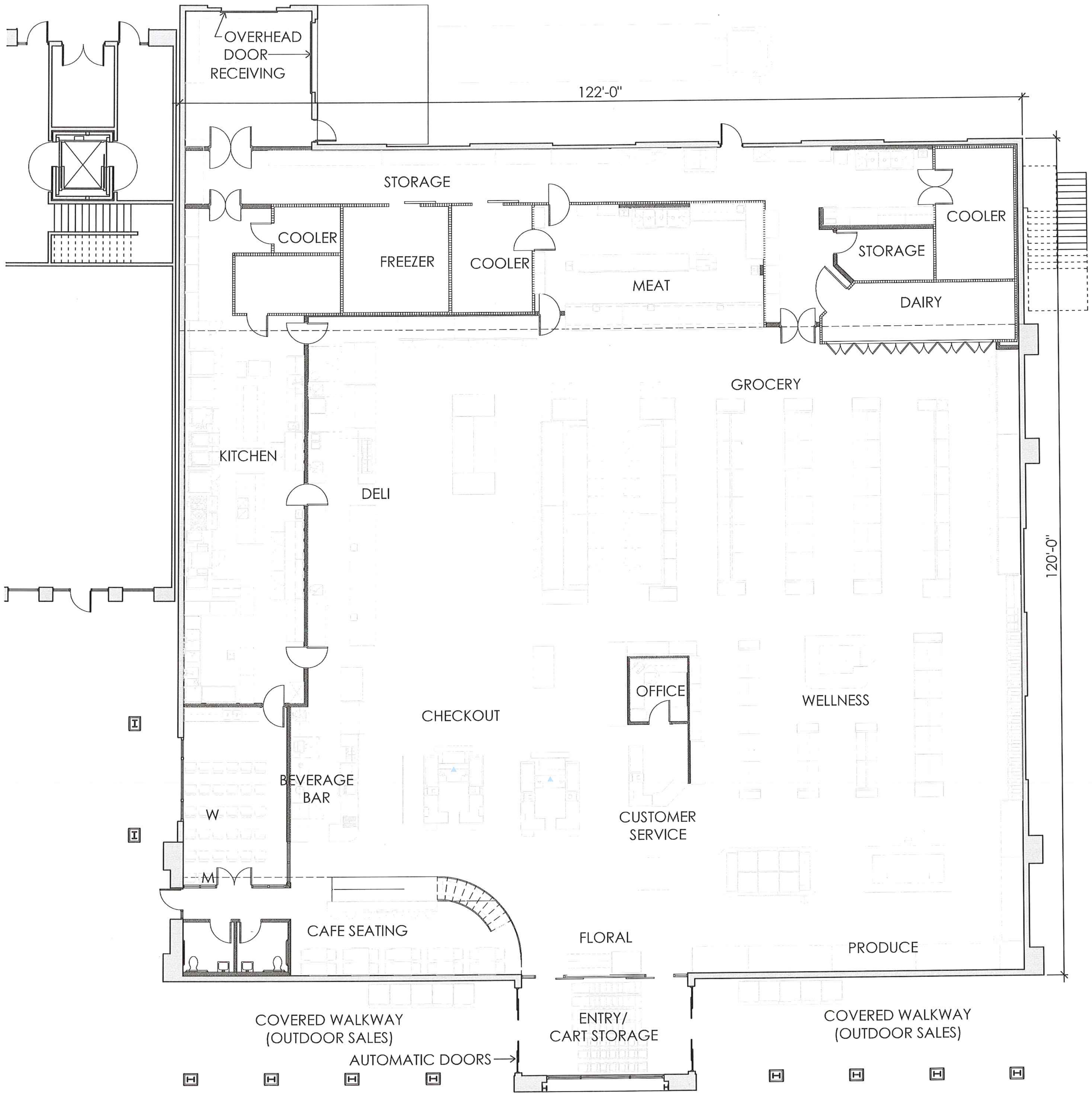
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING C
CONCEPTUAL PERSPECTIVE

03-01-2016

A3.0



FIRST FLOOR PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

TRUE NORTH PROJECT NORTH

BUILDING STATISTICS

RETAIL	15,000 S.F.
OFFICE	3,000 S.F.
TOTAL BUILDING AREA	18,000 S.F.

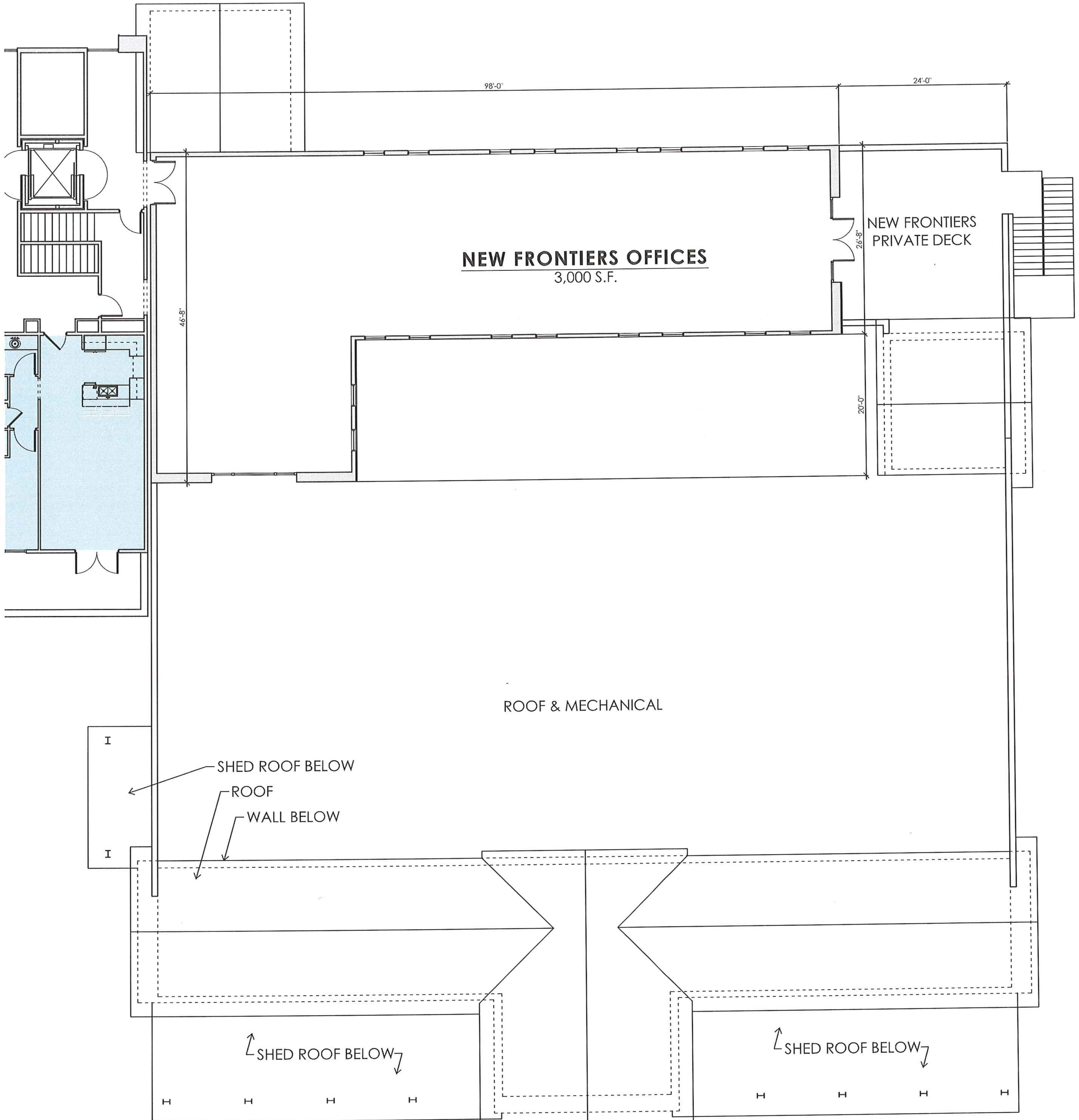
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING C
CONCEPTUAL
FIRST FLOOR PLAN

03-01-2016

A3.1



MEZZANINE PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

TRUE NORTH PROJECT NORTH

BUILDING STATISTICS

RETAIL	15,000 S.F.
OFFICE	3,000 S.F.
TOTAL BUILDING AREA	18,000 S.F.

Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING C
CONCEPTUAL
MEZZANINE PLAN

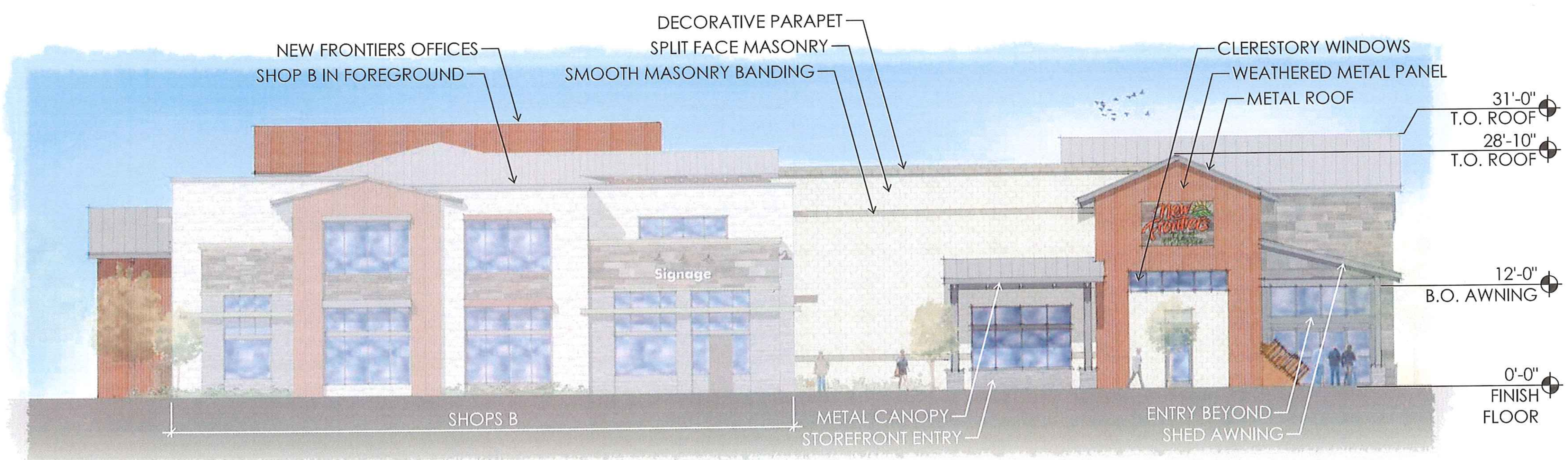
03-01-2016

A3.2

SOUTH ELEVATION

FRONT ELEVATION FACING PARKING LOT/HIGHWAY 246

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



WEST ELEVATION

LEFT ELEVATION FACING BUILDING A & B

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

arris STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA	
	BUILDING C CONCEPTUAL ELEVATIONS	03-01-2016 A3.3

NORTH ELEVATION

REAR ELEVATION FACING OLD MISSION DRIVE

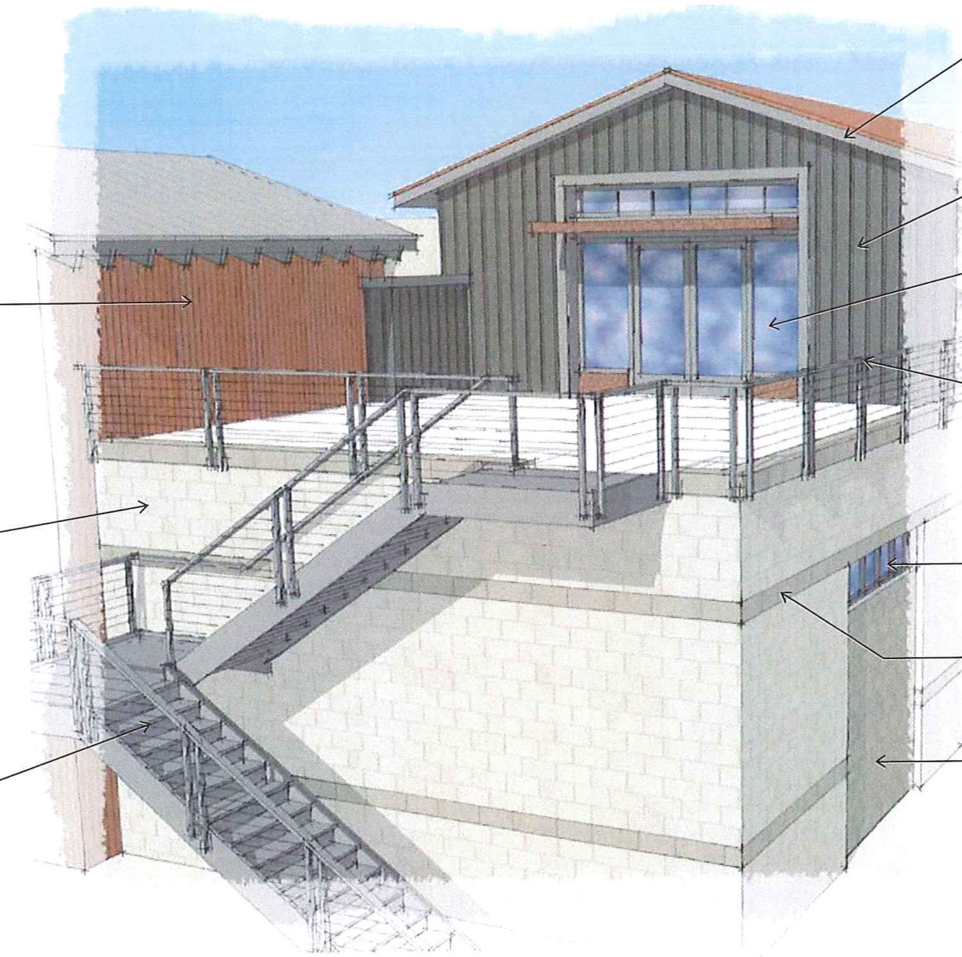
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

EAST ELEVATION

RIGHT ELEVATION FACING BUILDING D

11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

Arris STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA	
	BUILDING C CONCEPTUAL ELEVATIONS	03-01-2016 A3.4

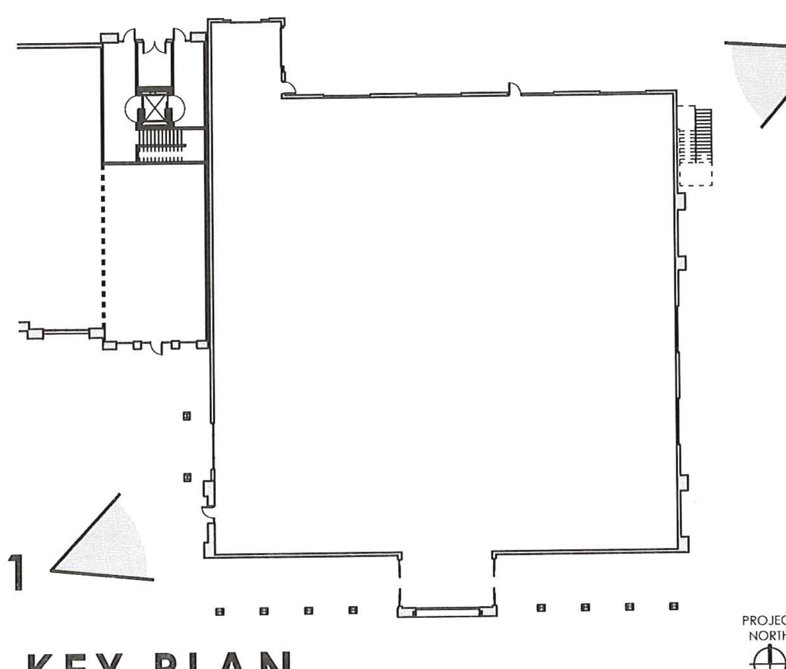


BUILDING DETAIL 1

PORTION OF WEST ELEVATION FACING BUILDING B

BUILDING DETAIL 2

OUTDOOR PRIVATE DECK AT NEW FRONTIERS OFFICES



KEY PLAN

arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING C
BUILDING DETAIL

03-01-2016

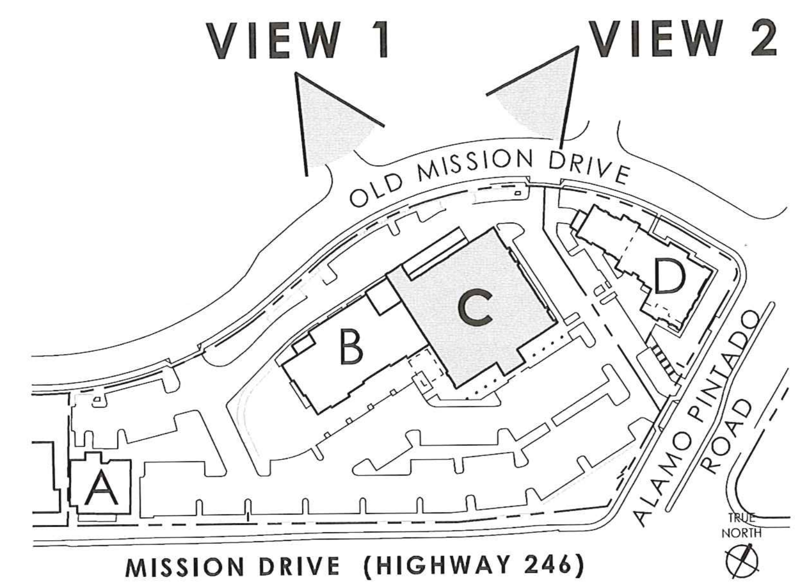
A3.5

PERSPECTIVE VIEW 1

FROM OLD MISSION DRIVE

PERSPECTIVE VIEW 2

FROM OLD MISSION DRIVE



KEY PLAN

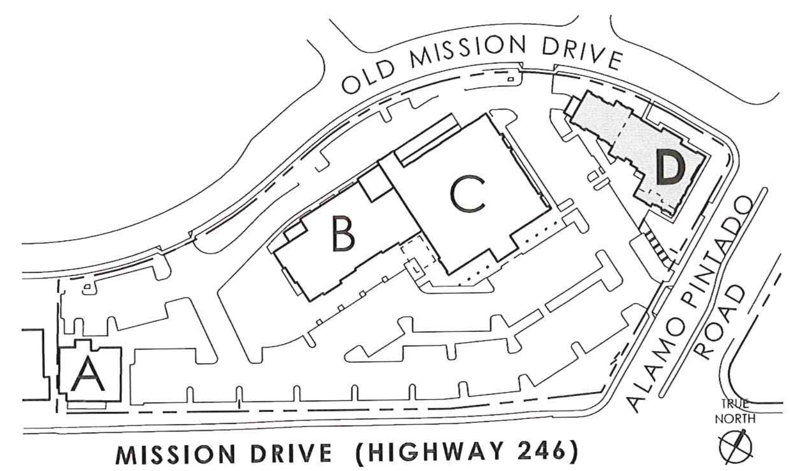
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING C
ADDITIONAL CONCEPTUAL PERSPECTIVES

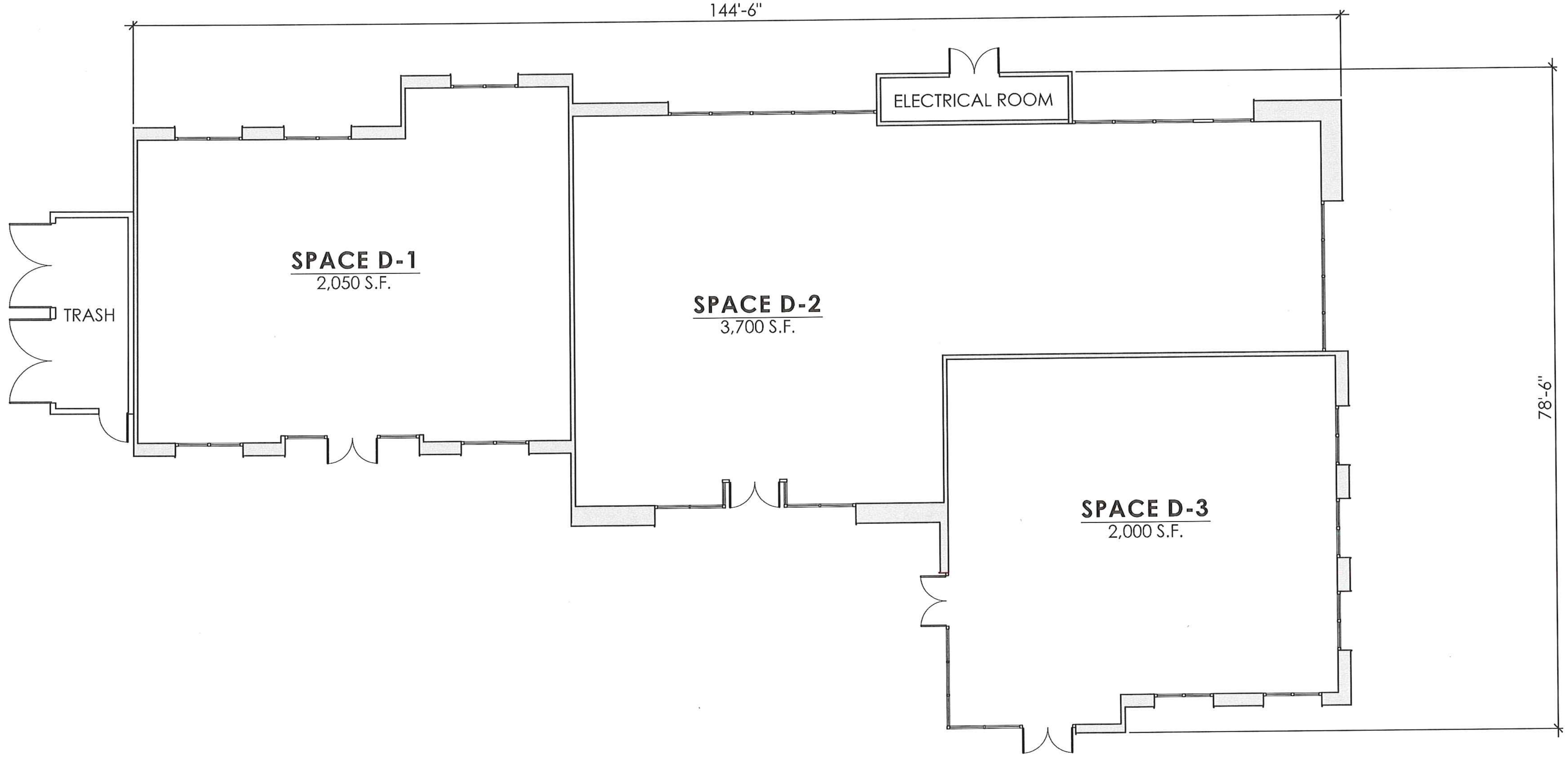
03-01-2016

A3.6



KEY PLAN

Arris STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA	
	BUILDING D CONCEPTUAL PERSPECTIVE	03-01-2016 A4.0



FLOOR PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

TRUE NORTH PROJECT NORTH

BUILDING STATISTICS

RETAIL	7,750 S.F.

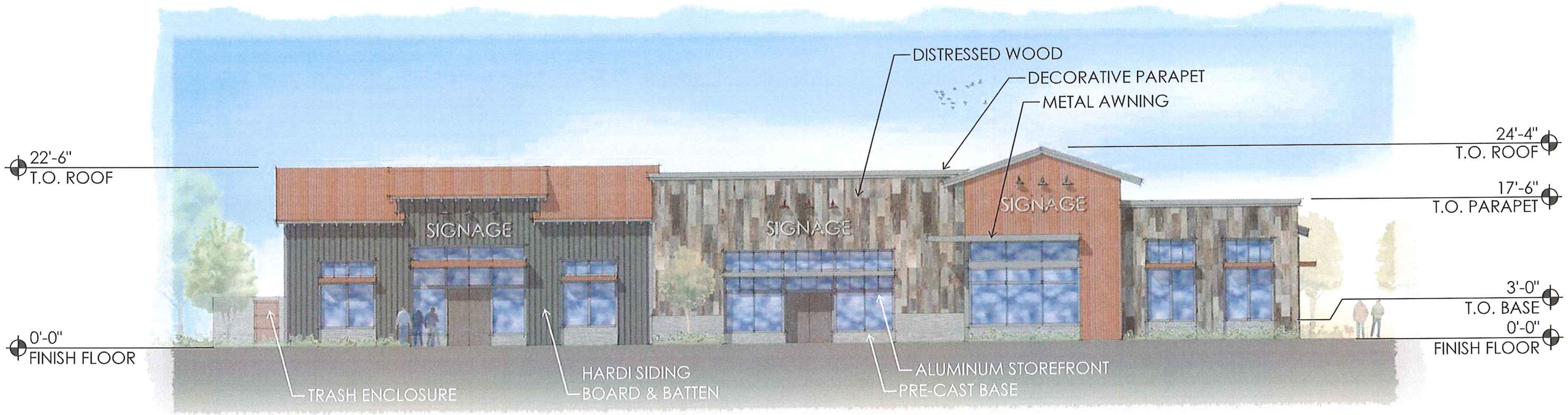
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING D
CONCEPTUAL
FLOOR PLAN

03-01-2016

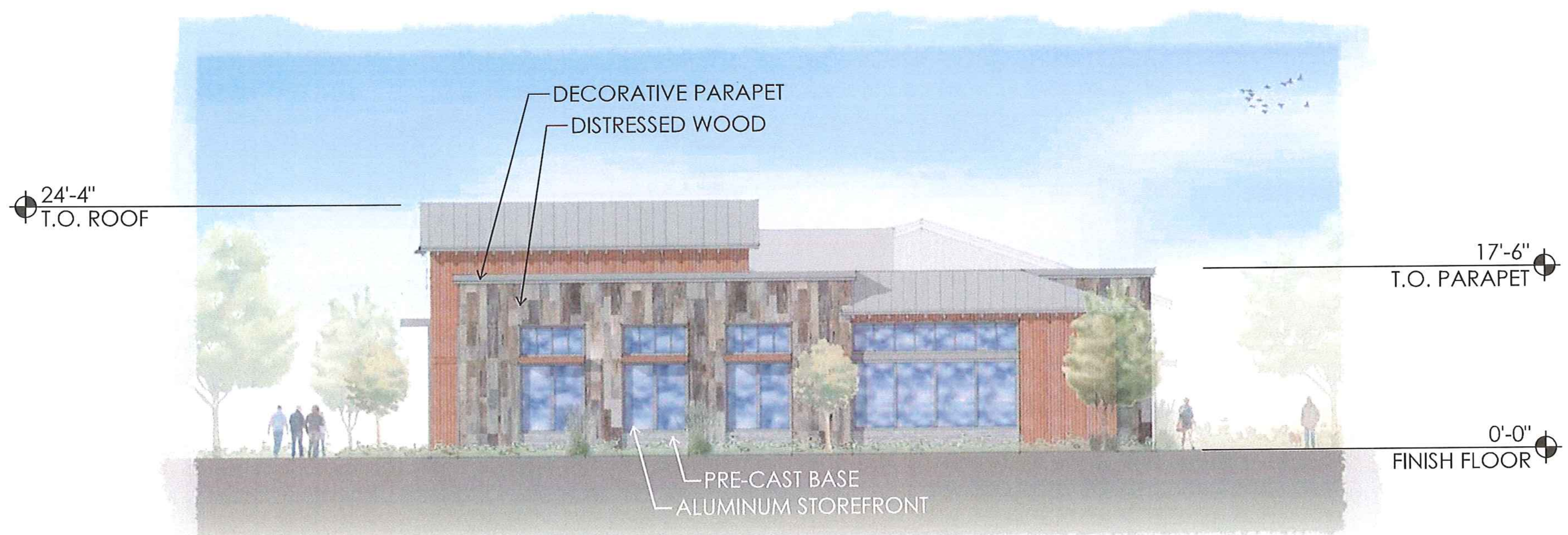
A4.1



SOUTH ELEVATION

FRONT ELEVATION FACING NEW FRONTIERS

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



EAST ELEVATION

RIGHT ELEVATION FACING ALAMO PINTADO

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

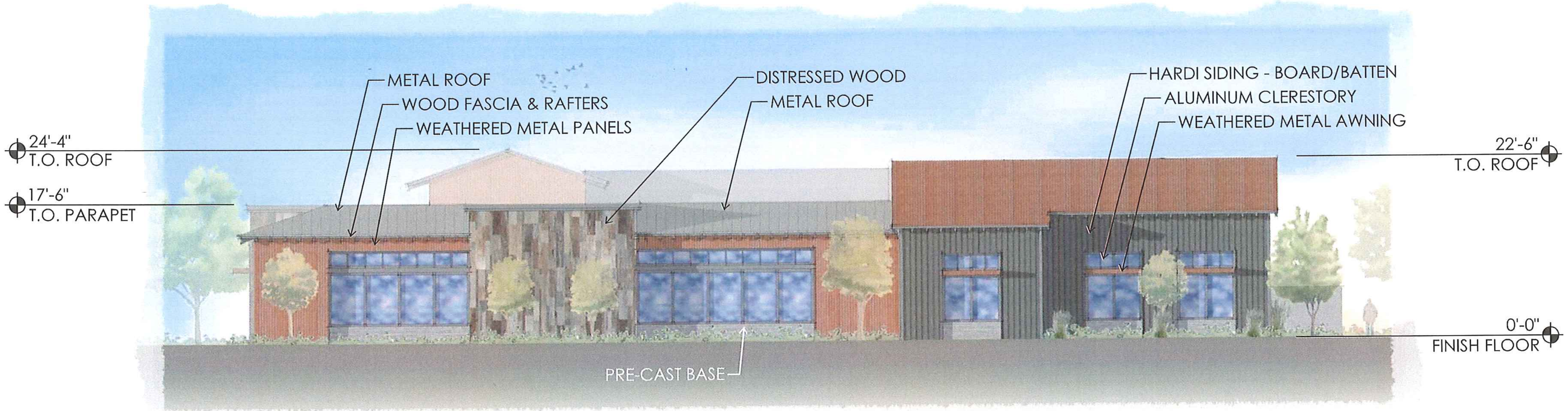
arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING D
CONCEPTUAL ELEVATIONS

03-01-2016

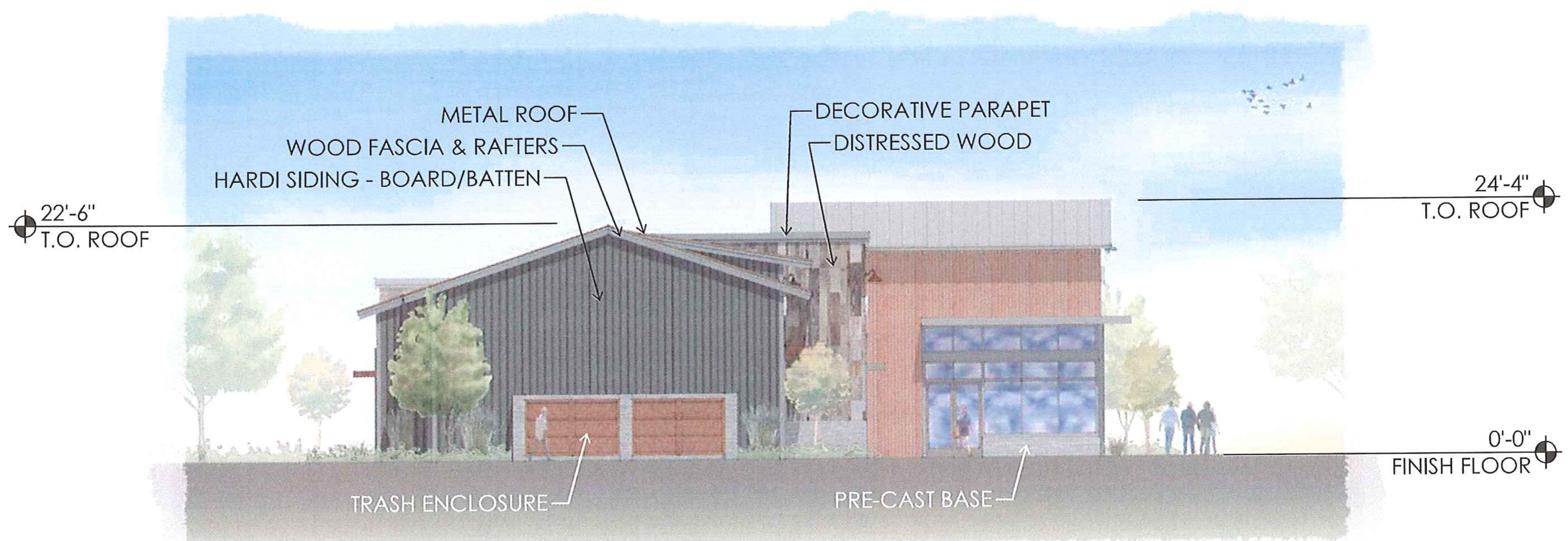
A4.2



NORTH ELEVATION

REAR ELEVATION FACING
OLD MISSION DRIVE/ALAMO PINTADO

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



WEST ELEVATION

LEFT ELEVATION FACING OLD MISSION DRIVE

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING D
CONCEPTUAL ELEVATIONS

03-01-2016

A4.3

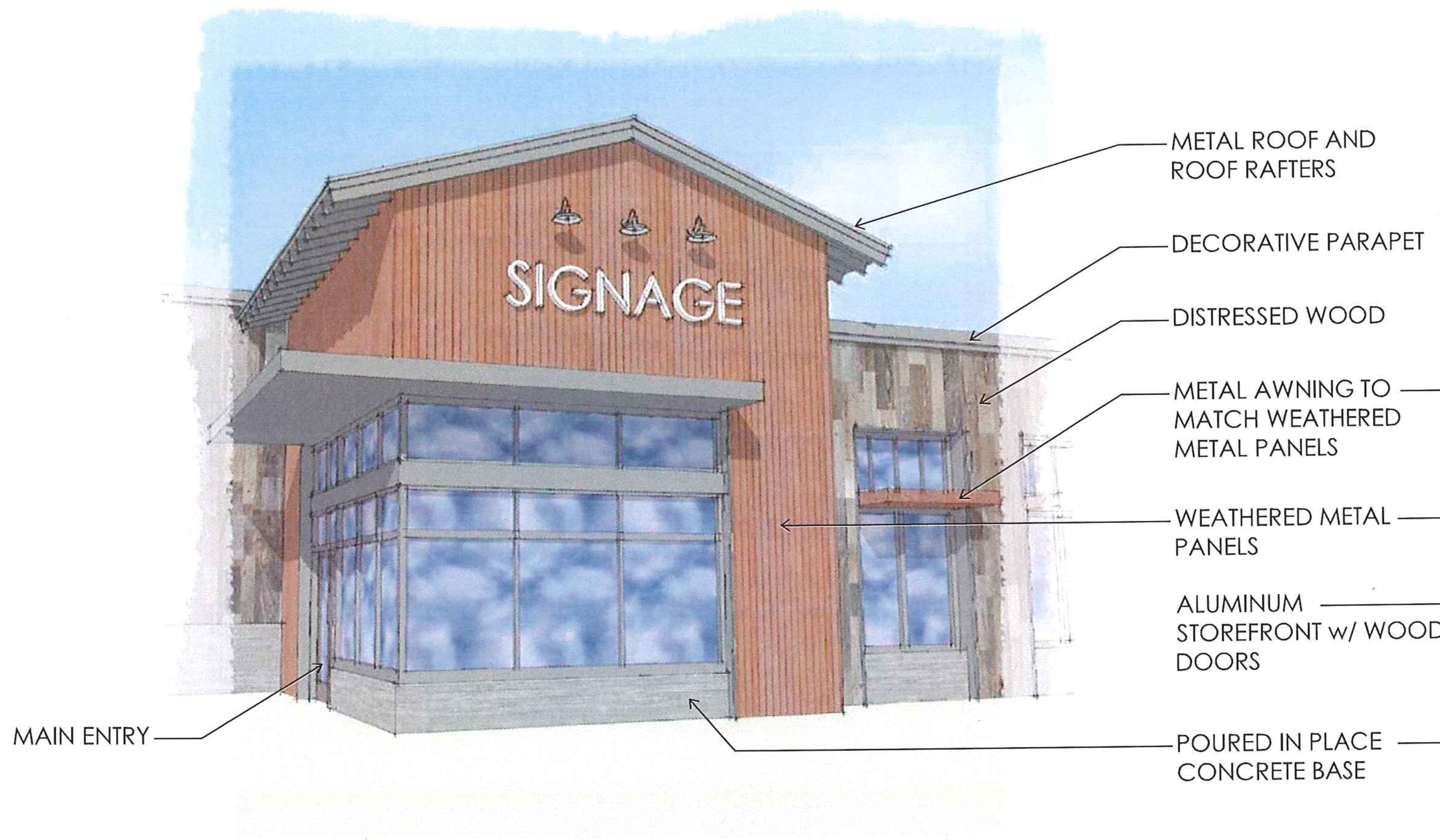
PERSPECTIVE

FROM CORNER OF OLD MISSION DRIVE & ALAMO PINTADO

PERSPECTIVE

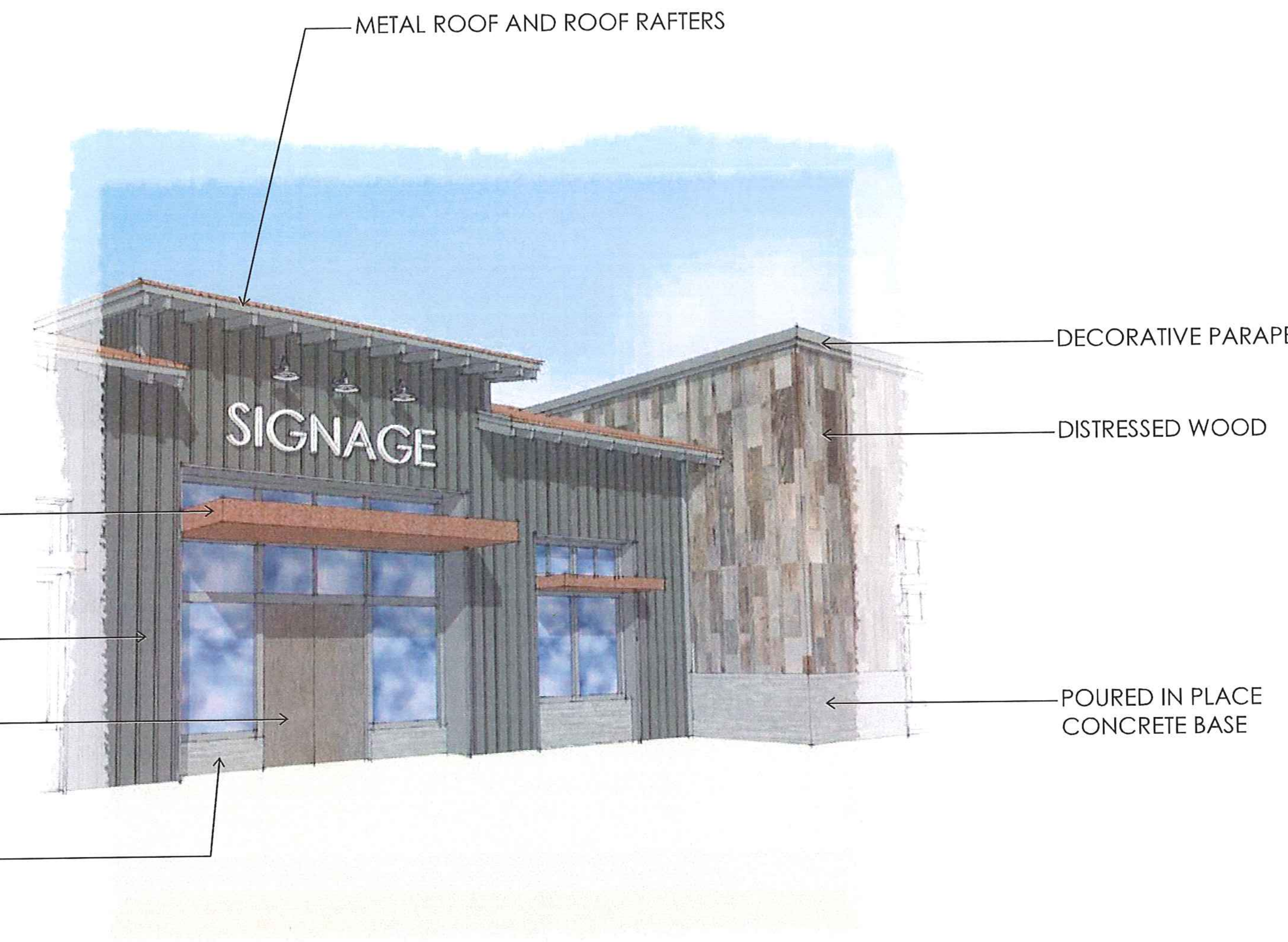
FROM ENTRY OFF OF ALAMO PINTADO

ARRIS STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA	
	BUILDING D ADDITIONAL CONCEPTUAL PERSPECTIVES	03-01-2016 A4.4



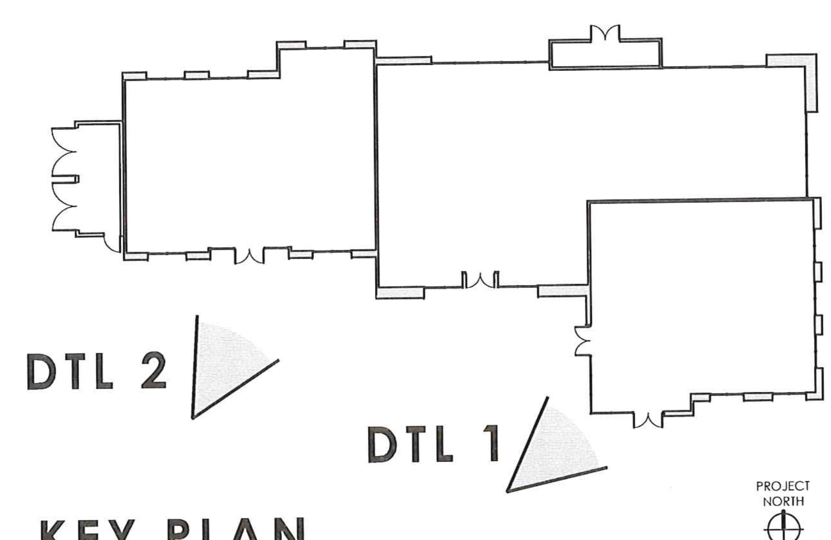
BUILDING DETAIL 1

SUITE D-3: PORTION OF SOUTH (FRONT) ELEVATION FACING PARKING LOT



BUILDING DETAIL 2

SUITE D-1: PORTION OF SOUTH (FRONT) ELEVATION FACING PARKING LOT



KEY PLAN

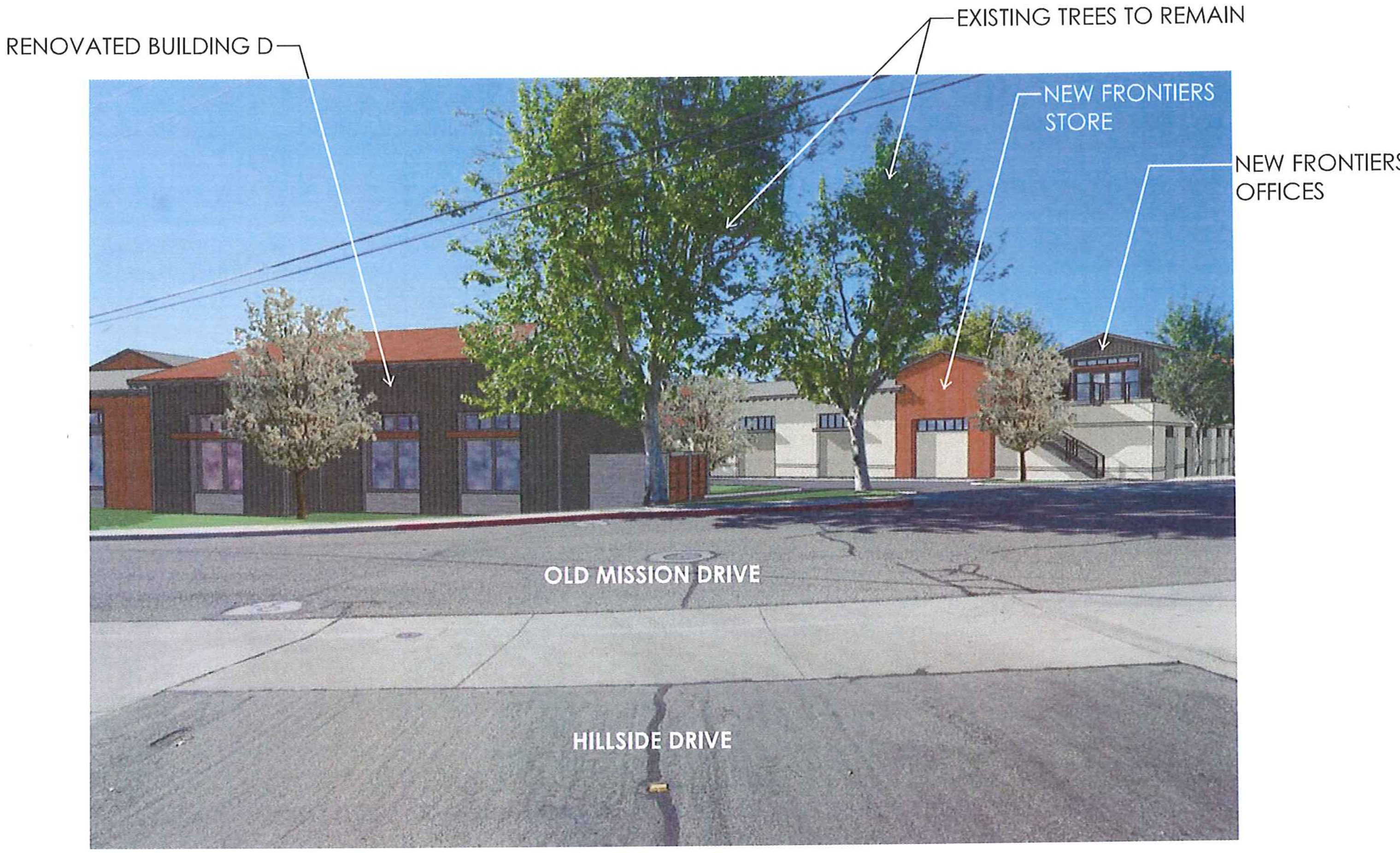
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING D
BUILDING DETAILS

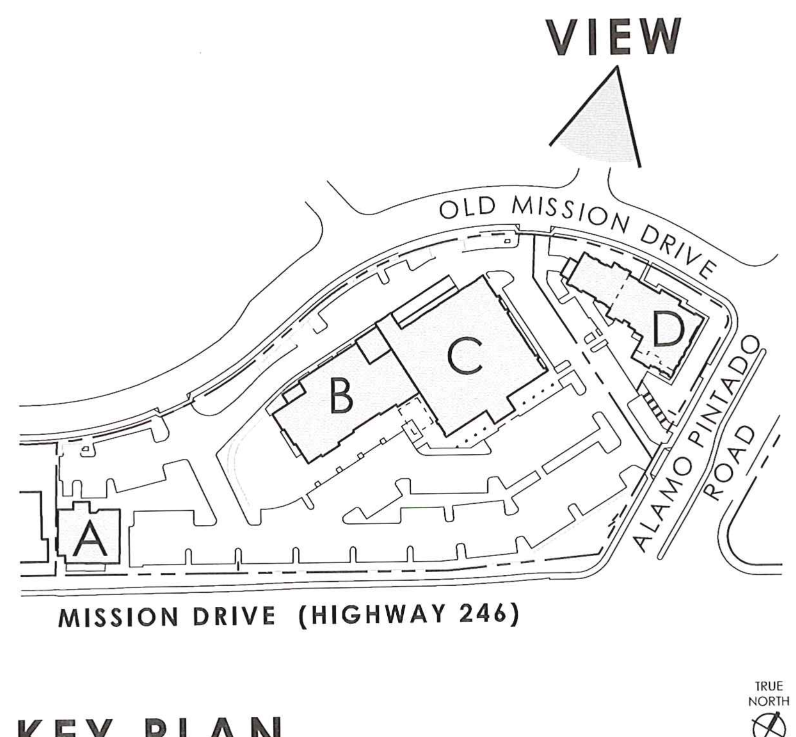
03-01-2016

A4.5



PROPOSED

EXISTING



KEY PLAN

ARRIS STUDIO ARCHITECTS

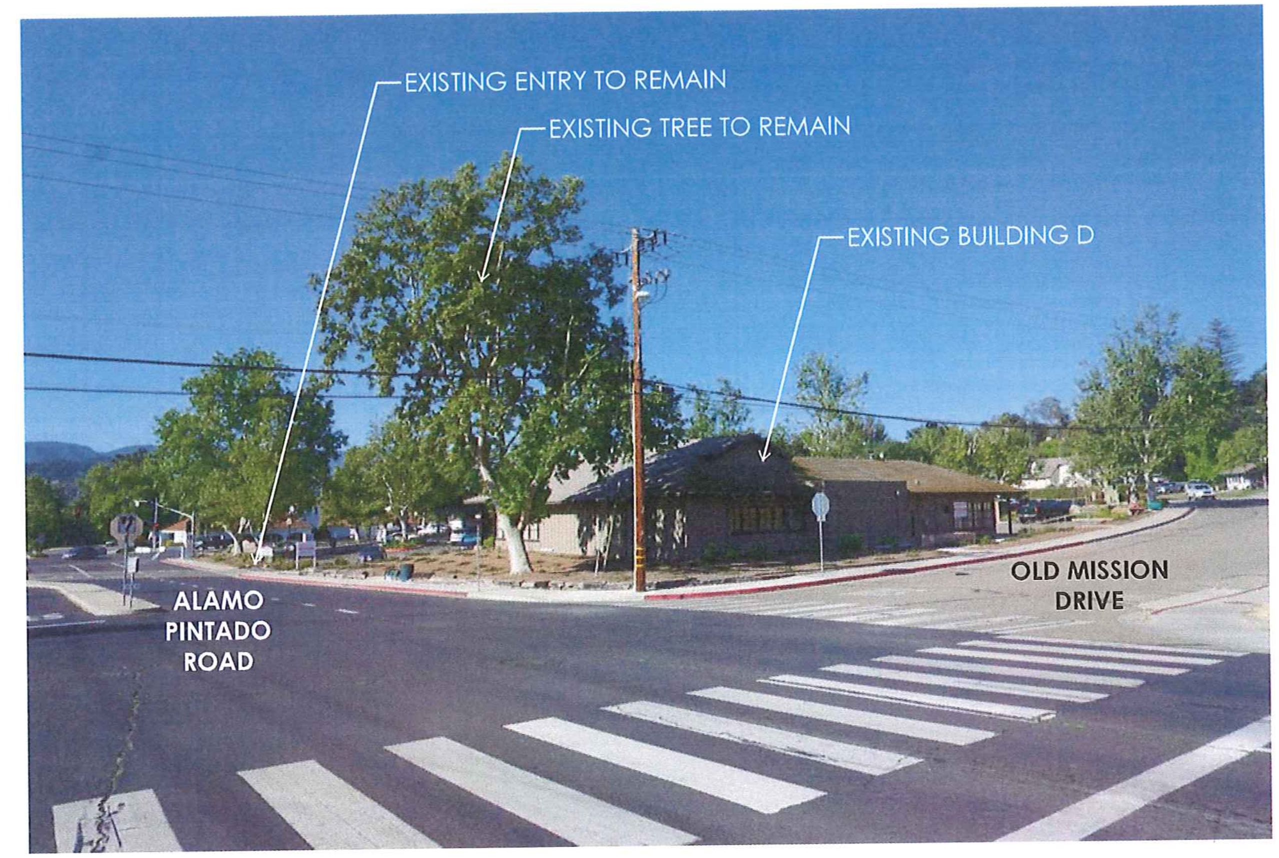
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE COMPOSITION
PHOTO SIMULATION

03-01-2016

A5.0

PROPOSED



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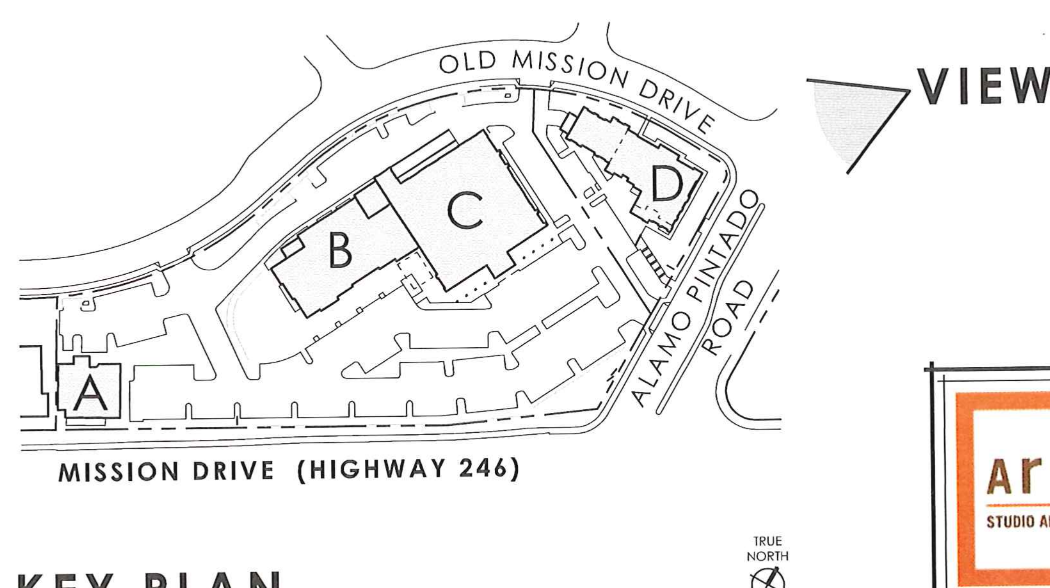
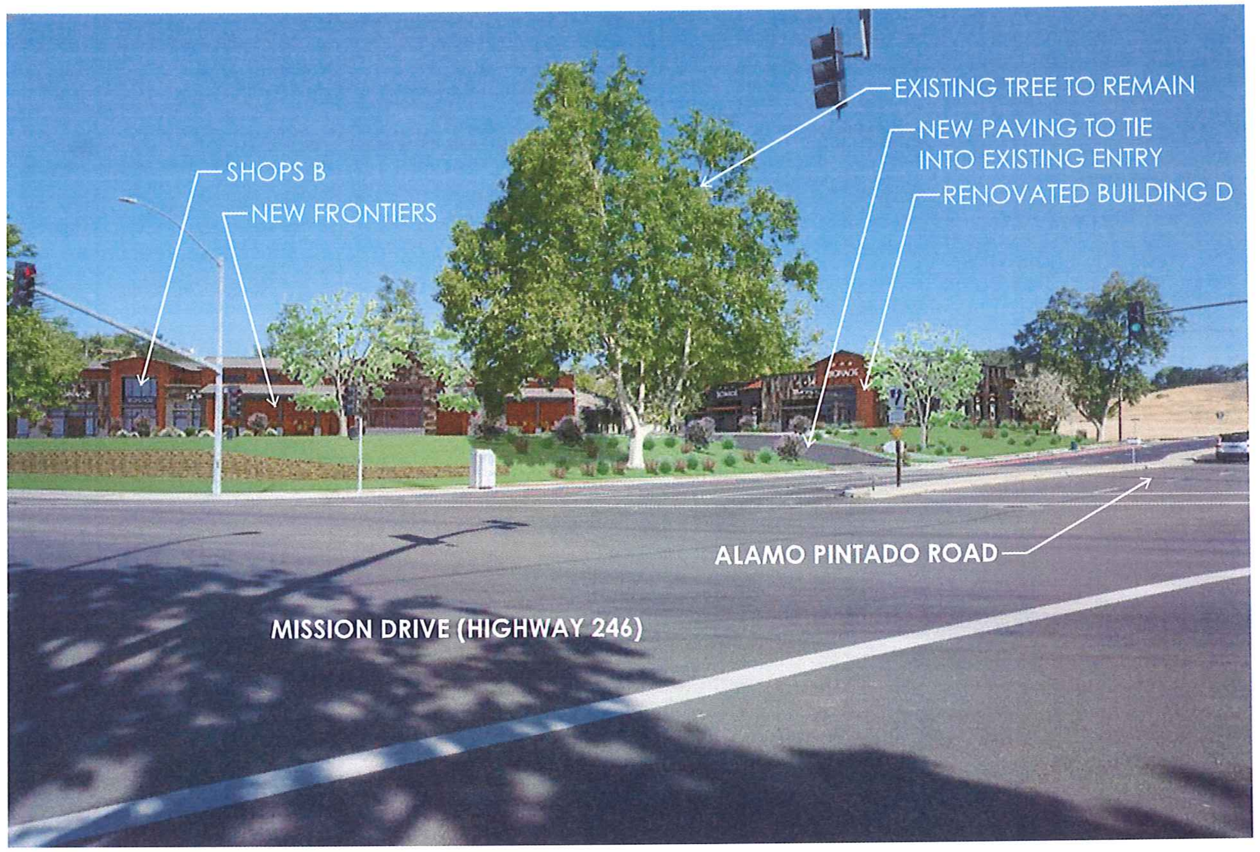
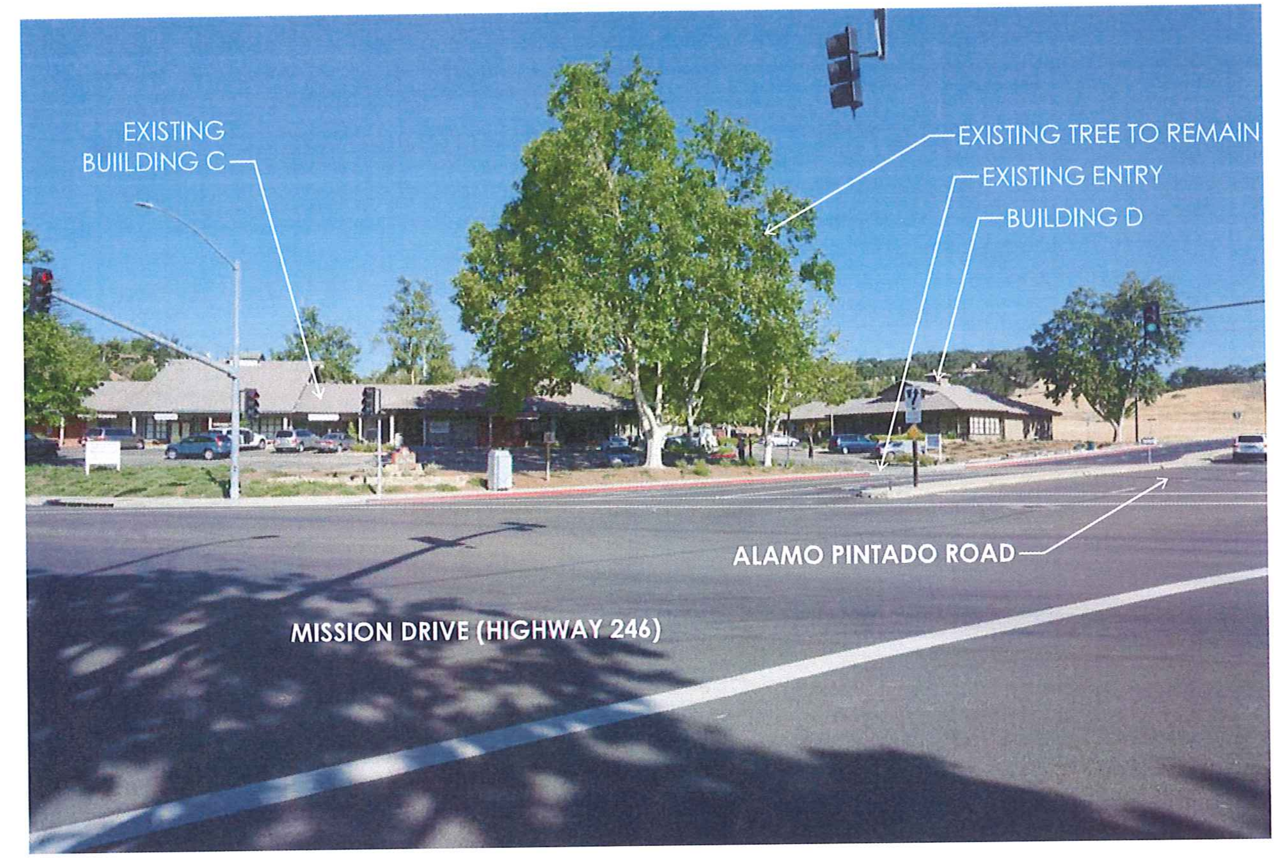


KEY PLAN

Arris STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA	
	SITE COMPOSITION PHOTO SIMULATION	03-01-2016 A5.1



PROPOSED



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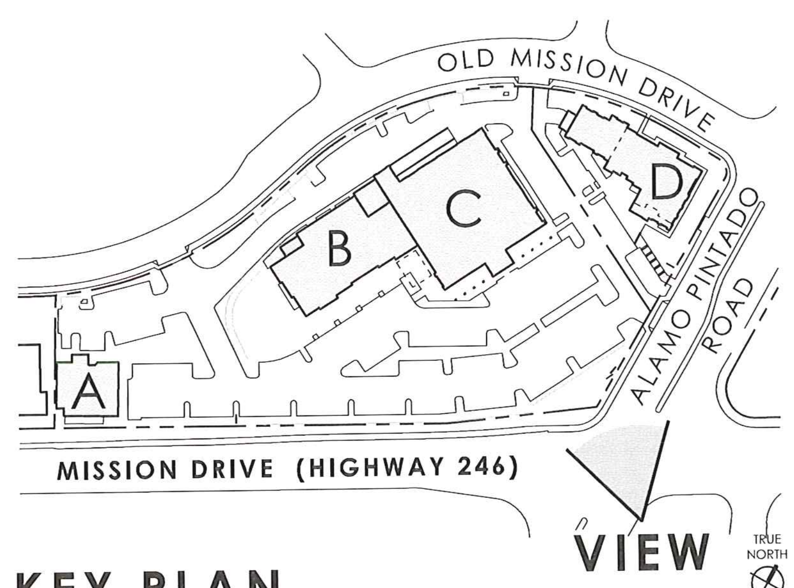


KEY PLAN

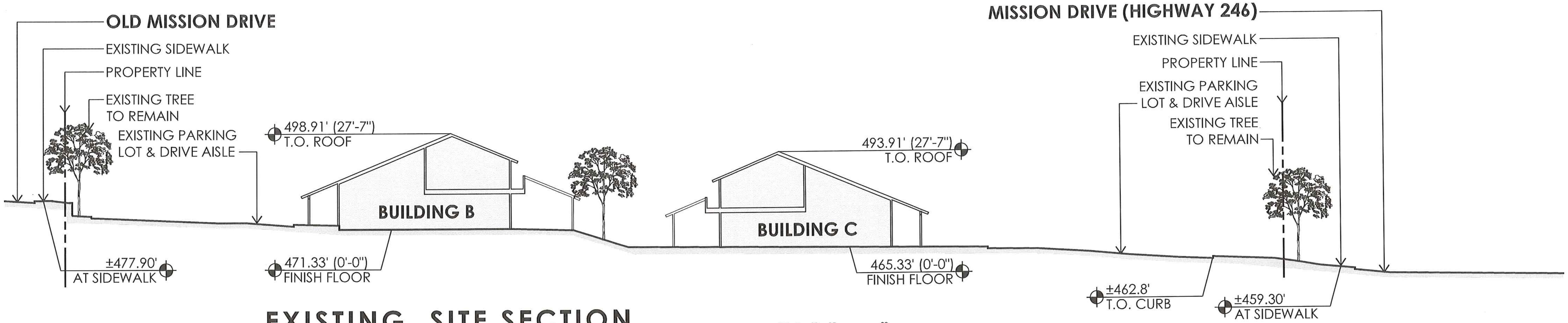
ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

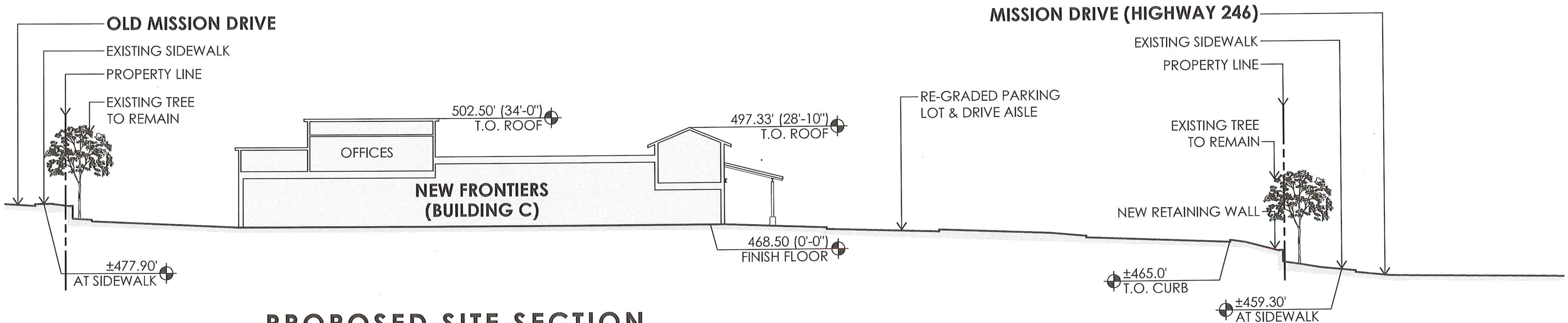
SITE COMPOSITION
PHOTO SIMULATION

03-01-2016

A5.2



EXISTING SITE SECTION



PROPOSED SITE SECTION

KEY PLAN

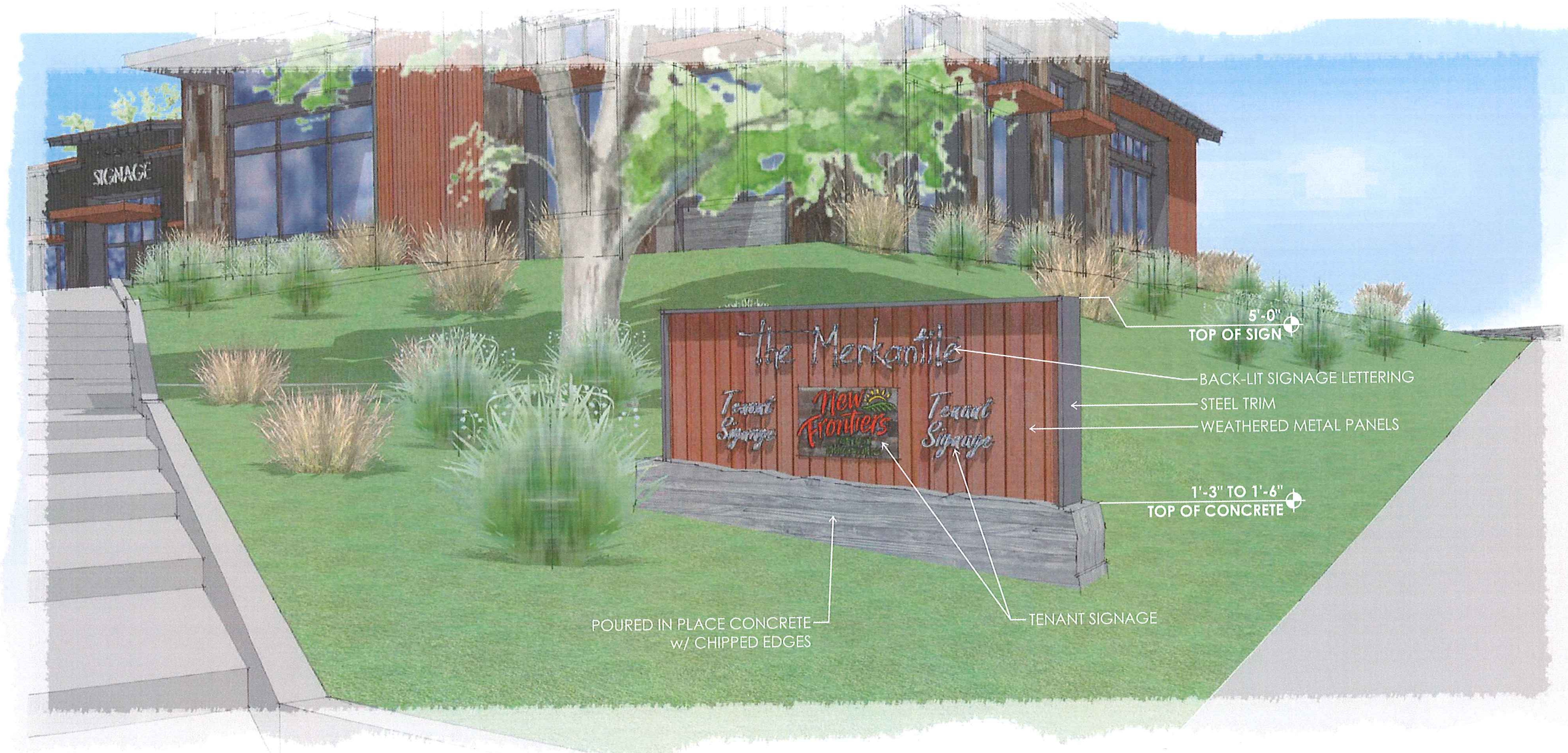
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE COMPOSITION
SITE SECTION

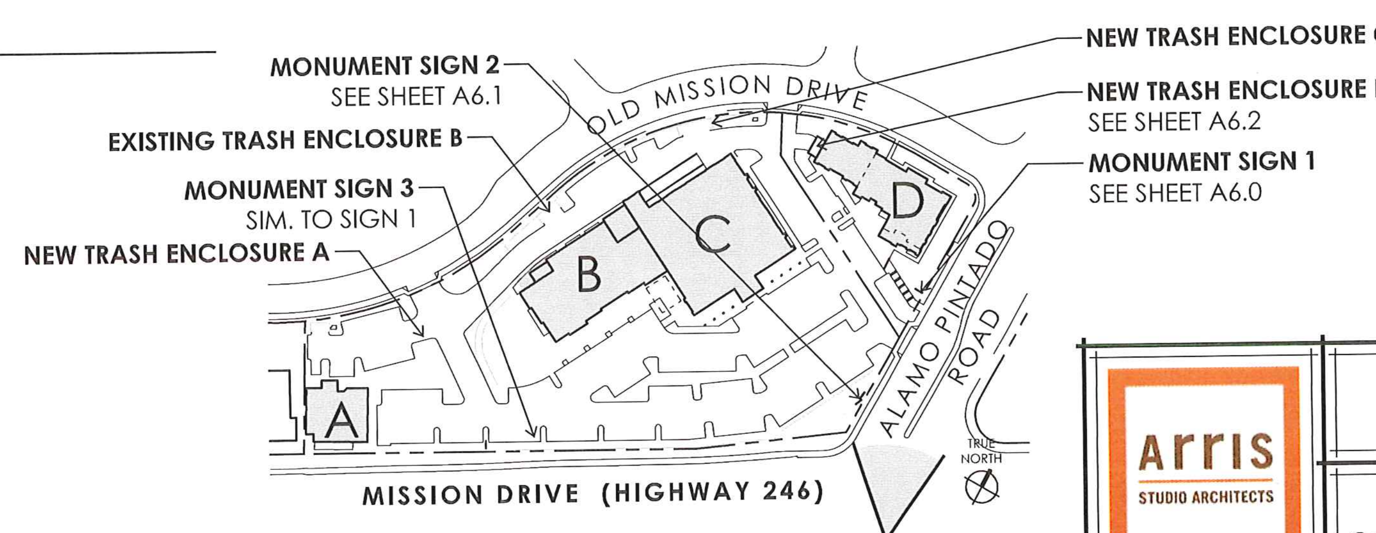
03-01-2016

A5.3



MONUMENT SIGN 1

FACING THE ALAMO PINTADO ROAD
MONUMENT SIGN 3 IS SIMILAR



KEY PLAN **VIEW**

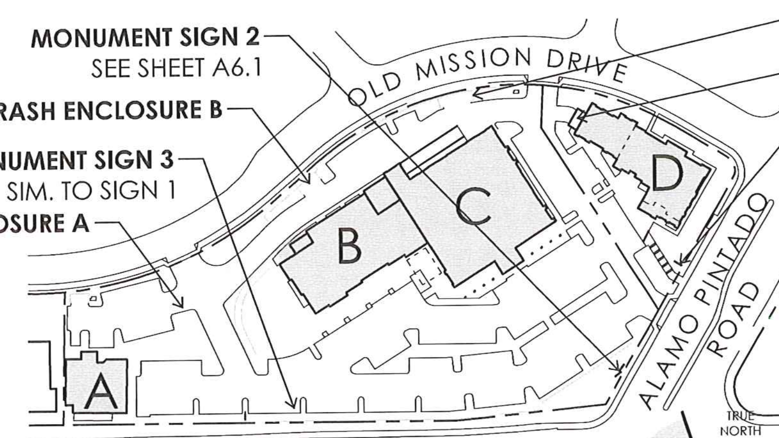
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE ELEMENTS CONCEPTUAL PERSPECTIVE	03-01-2016	A6.0

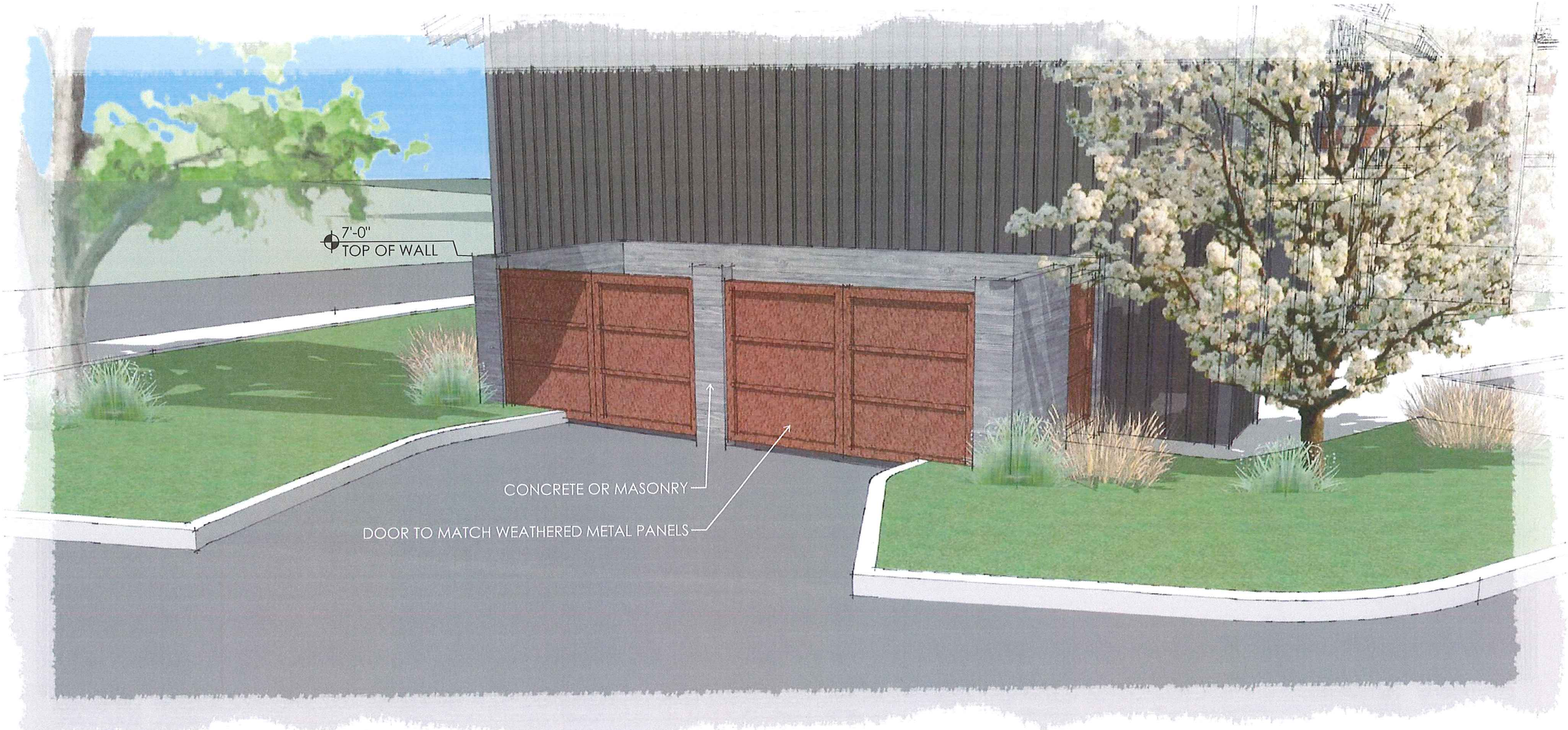
MONUMENT SIGN 2

FACING THE CORNER OF MISSION DRIVE & ALAMO PINTADO ROAD



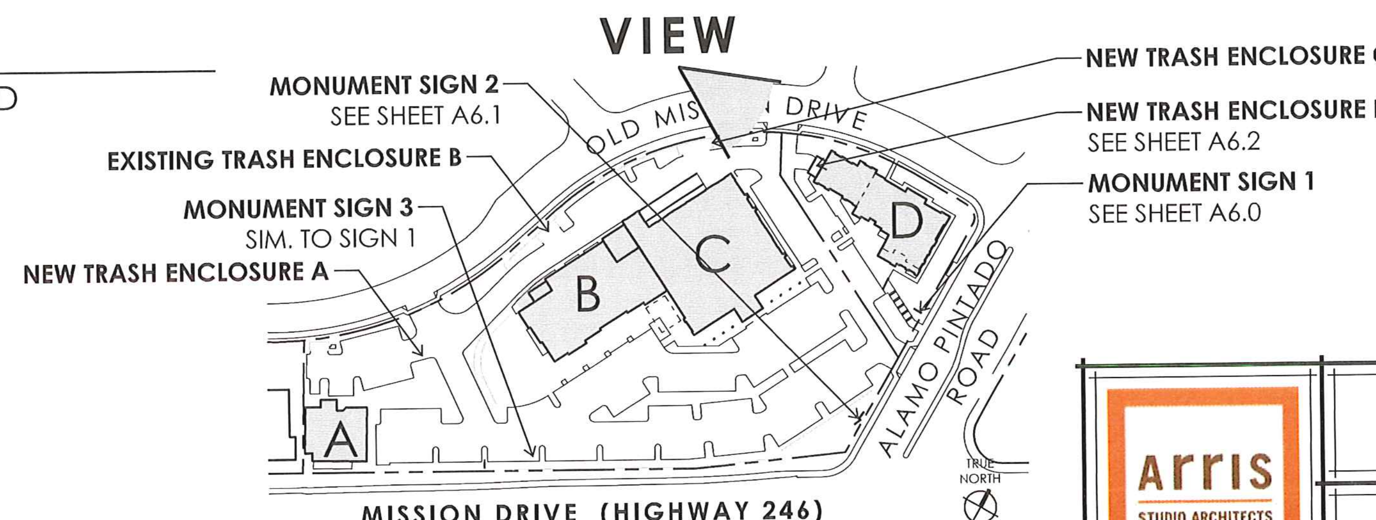
KEY PLAN **VIEW**

Arris STUDIO ARCHITECTS	The Merkantile SCHEMATIC DESIGN PACKAGE 1980 - 1992 OLD MISSION DRIVE SOLVANG, CA
	SITE ELEMENTS CONCEPTUAL PERSPECTIVE — 03-01-2016 — **A6.1**



TRASH ENCLOSURE

FACING THE OLD MISSION DRIVE, ATTACHED TO BUILDING D
ALL NEW TRASH ENCLOSURES ARE SIMILAR



KEY PLAN

Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SITE ELEMENTS
CONCEPTUAL PERSPECTIVE

03-01-2016

A6.2

CONCEPT PLANT SCHEDULE

LARGE TREES
Ginkgo biloba `Autumn Gold` TM / Maidenhair Tree
Pinus nigra / Austrian Black Pine
Platanus racemosa / California Sycamore
Platanus x acerifolia `Columbia` / London Plane Tree
Quercus agrifolia / Coast Live Oak Multi-Trunk
Quercus coccinea / Scarlet Oak
Umbellularia californica / California Laurel

SMALL/MEDIUM TREES
Cercis occidentalis / Western Redbud
Crataegus laevigata `Crimson Cloud` / Crimson Cloud Hawthorn
Lagerstroemia indica `Dynamite` / Dynamite Crape Myrtle
Olea europaea `Majestic Beauty` TM / Majestic Beauty Fruitless Olive
Vitex agnus-castus / Chaste Tree

SHRUBS AND GROUNDCOVERS
Arctostaphylos x `Emerald Carpet` / Emerald Carpet Manzanita
Calandrinia spectabilis / Pink Calandrinia
Carpenteria californica / Bush Anemone
Ceanothus griseus horizontalis / Carmel Creeper
Cedrus deodara `Prostrate Beauty` / Prostrate Beauty Deodar Cedar
Echeveria x `Black Prince` / Black Hen and Chicks
Fremontodendron x `Ken Taylor` / Flannel Bush
Helianthemum nummularium `Apricot` / Apricot Sunrose
Helictotrichon sempervirens `Blue Oats` / Blue Oat Grass
Lavandula angustifolia `Hidcote Superior` / Hidcote Superior Lavender
Pennisetum alopecuroides `Little Bunny` / Little Bunny Fountain Grass
Phormium tenax `Amazing Red` / Dwarf Red Flax
Pinus mugo pumilio / Dwarf Mugo Pine
Salvia x `Wendy`s Wish` / Sage
Senecio serpens / Blue Chalksticks
Spiraea x bumalda `Goldmound` / Gold Mound Spirea
Verbena lilacina `De la Mina` / Lilac Verbena
Zauschneria californica / California Fuchsia

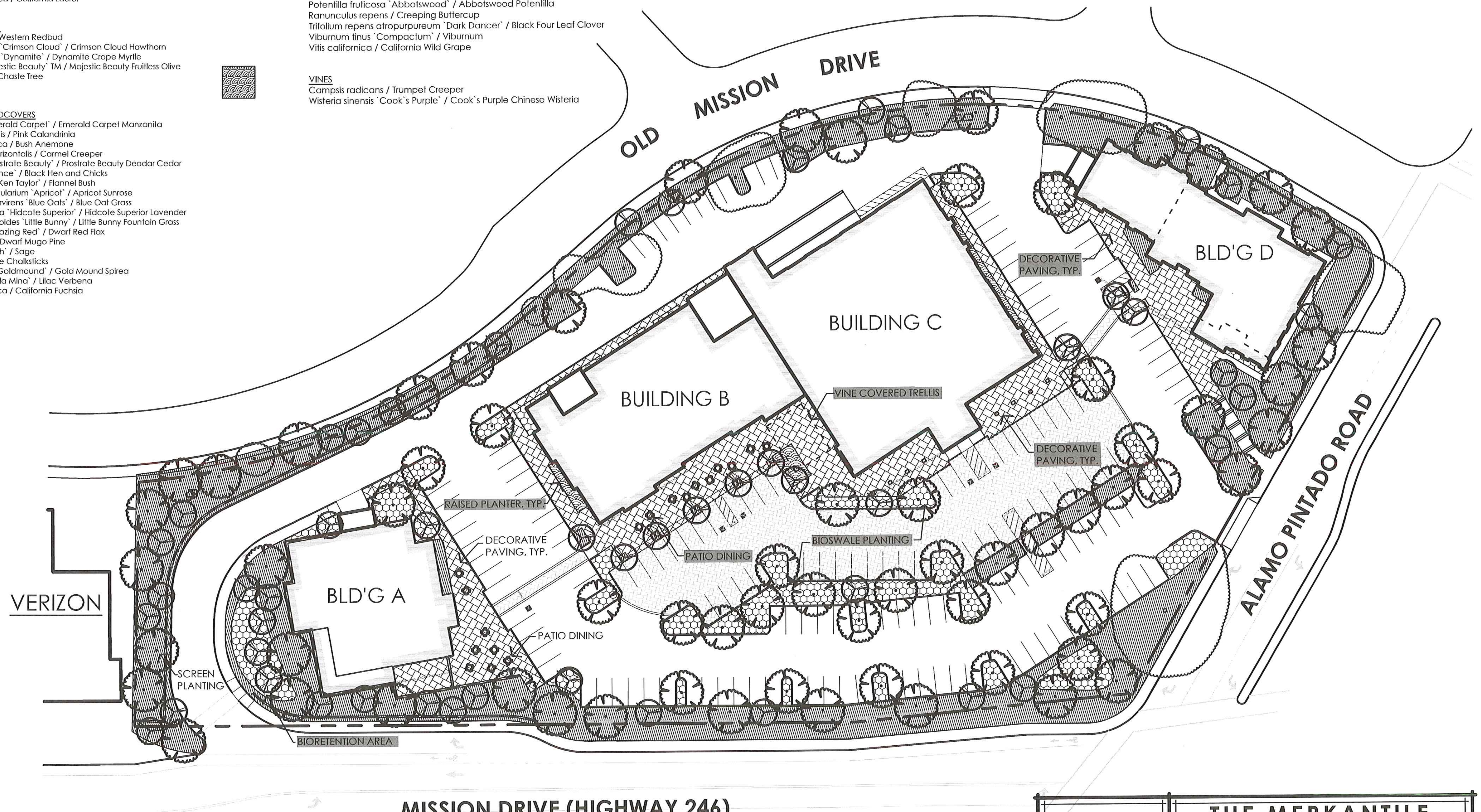
BIORETENTION PLANTS
Andromeda polifolia `Nana` / Compact Bog Rosemary
Carex spp. / Sedge
Cercis canadensis `Forest Pansy` TM / Forest Pansy Redbud
Corylus cornuta californica / Western Hazelnut
Iris douglasiana `Pacific Coast Hybrids` / PCH Iris
Pachysandra terminalis / Japanese Spurge
Potentilla fruticosa `Abbotswood` / Abbotswood Potentilla
Ranunculus repens / Creeping Buttercup
Trifolium repens atropurpureum `Dark Dancer` / Black Four Leaf Clover
Viburnum tinus `Compactum` / Viburnum
Vitis californica / California Wild Grape

VINES
Campsis radicans / Trumpet Creeper
Wisteria sinensis `Cook`s Purple` / Cook`s Purple Chinese Wisteria

IRRIGATION SYSTEM DESIGN INTENT

A. ALL OF THE PROPOSED LANDSCAPE AREAS FOR THE PROJECT WILL BE IRRIGATED BY MEANS OF AN AUTOMATIC IRRIGATION SYSTEM CONSISTING OF HIGH EFFICIENCY, LOW-FLOW DRIP EMITTERS, SPRAY, OR ROTARY SPRAY DEVICES.

B. THE IRRIGATION SYSTEM WILL UTILIZE A 'SMART' WEATHER-BASED CONTROLLER WITH THE ABILITY TO AUTOMATICALLY ADJUST WATERING RUN-TIMES BASED ON HISTORICAL AND CURRENT TEMPERATURE AND PRECIPITATION DATA.



0 60 120 180 240 feet

1"=60'

NOTE:
NEW PLANTINGS WILL BE INSTALLED AT THE EXISTING BUILDING A IF THE HIGHWAY 246 DOES NOT GET APPROVED BY CALTRANS

rrm design group

THE MERKANTILE
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

CONCEPTUAL LANDSCAPE PLAN

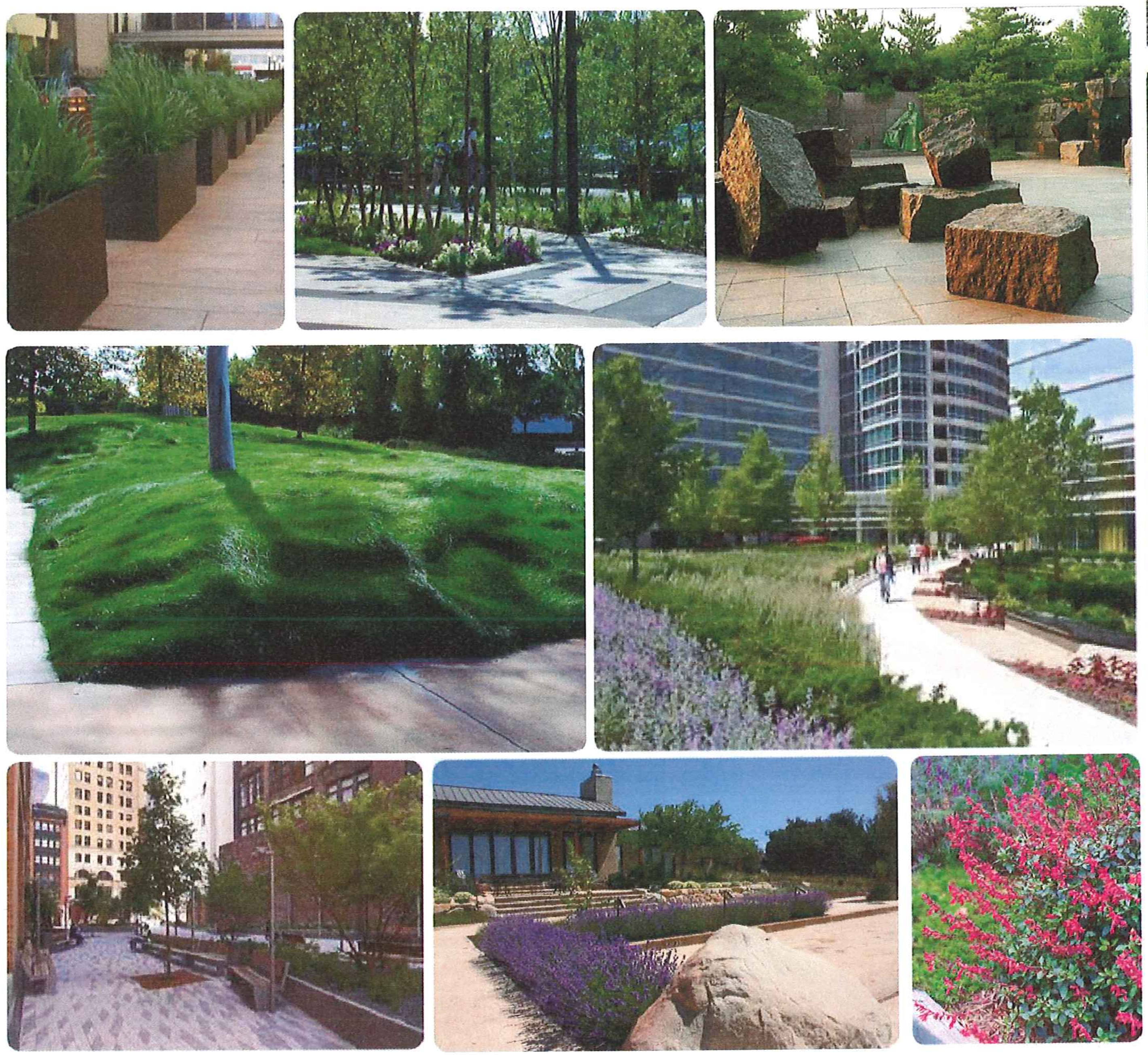
TRUE NORTH

06-16-2015

L-1

PLANT PALETTE

MATERIALS AND DESIGN CHARACTER



IMAGES ARE REPRESENTATIVE IN NATURE AND DO NOT DEPICT EXACT/SPECIFIC DESIGN.

rrm design group

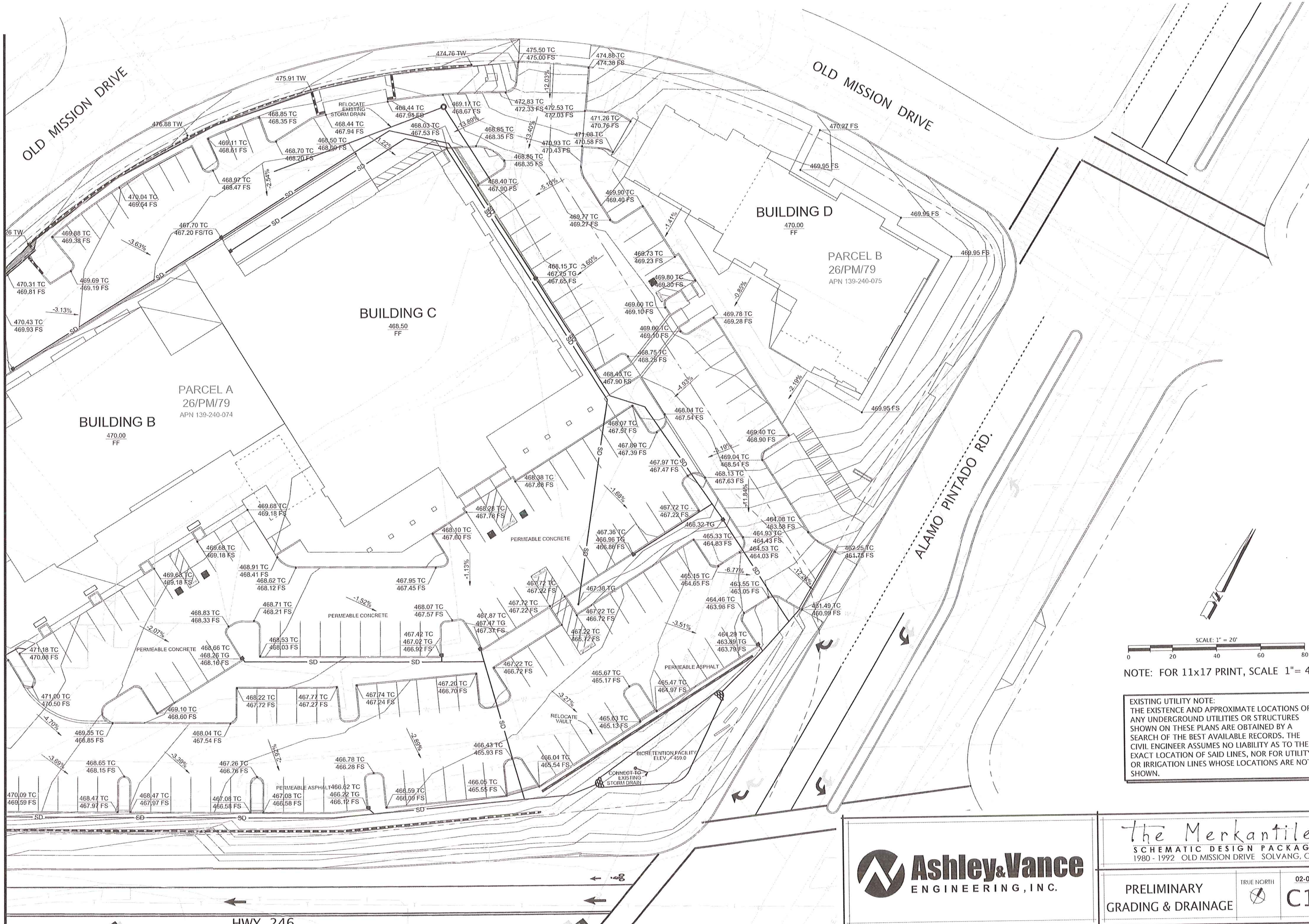
THE MERKANTILE
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

LANDSCAPE IMAGE BOARD

TRUE NORTH

06-16-2015

L-2



CONTINUED ON SHEET C1.1

SCALE: 1" = 20'

0 20 40 60 80

NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

EXISTING UTILITY NOTE:
THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE BEST AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES, NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN.

Ashley&Vance ENGINEERING, INC.

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY GRADING & DRAINAGE

TRUE NORTH

02-02-2016

C1.0

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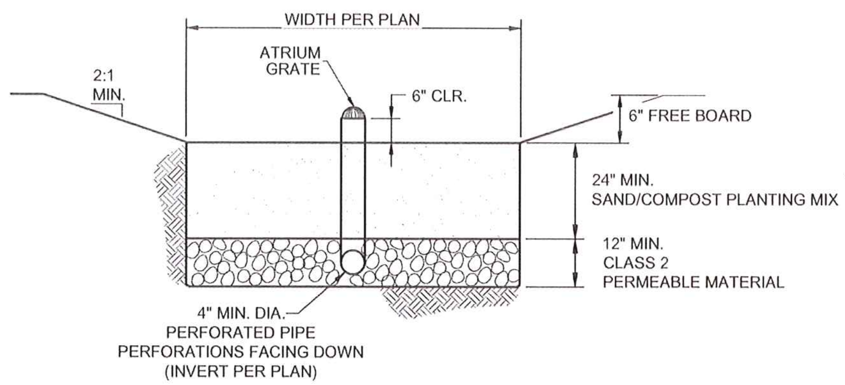
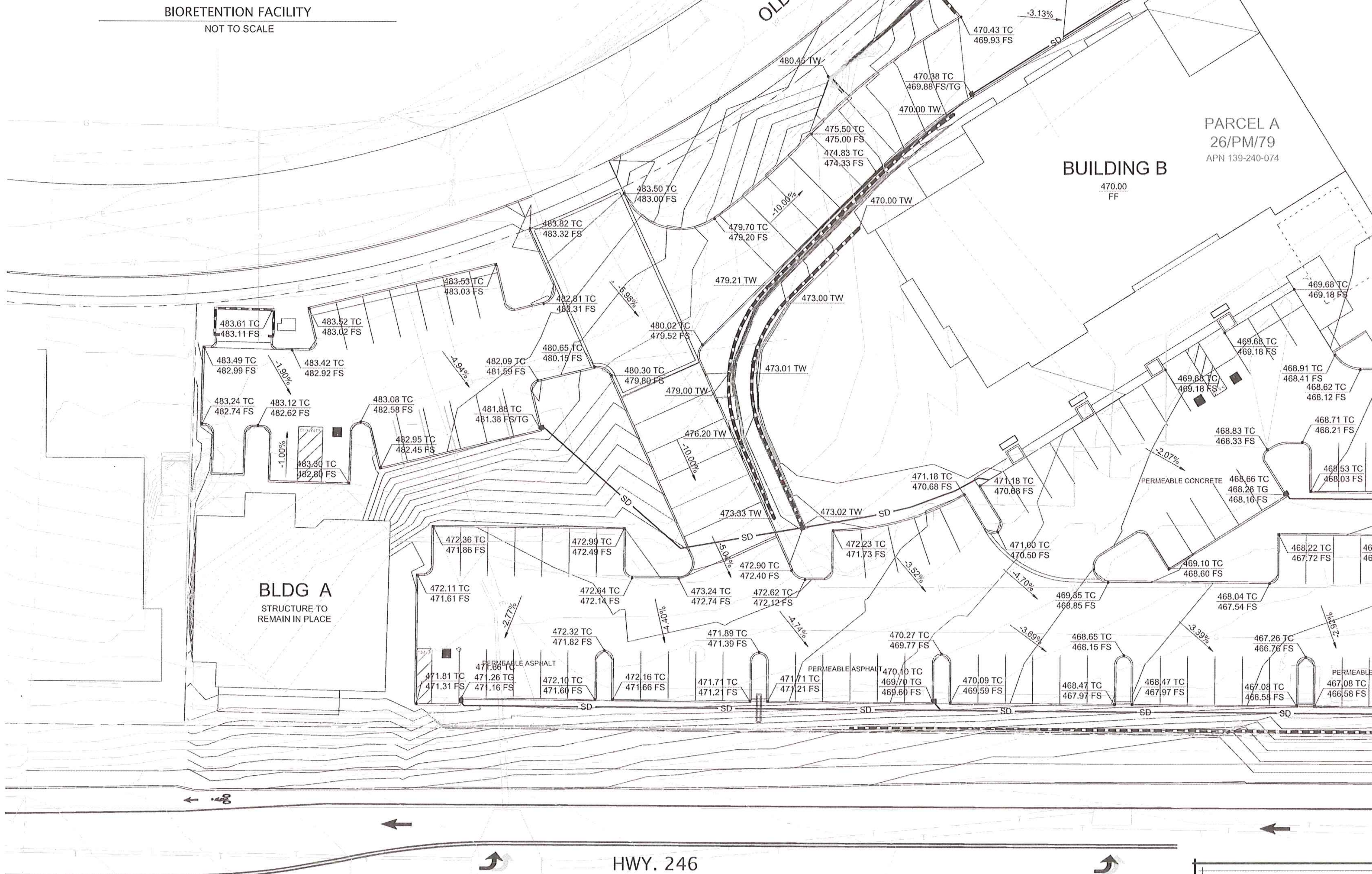


BIORETENTION FACILITY

NOT TO SCALE



CONTINUED ON SHEET C1.0

SITE RETAINING WALLS:

RETAINING WALL LENGTH TOTAL: APPROX. 1,000 L.F.
AREA APPROX. = 6,000 S.F. (APPROX.)
MAXIMUM WALL HEIGHT = 11'

SITE EARTHWORK ESTIMATE:

AREA OF DISTURBANCE: 4.2 ACRES.
CUT = 8,500 CY
FILL = 7,000 CY
EXPORT = 1,500 CY

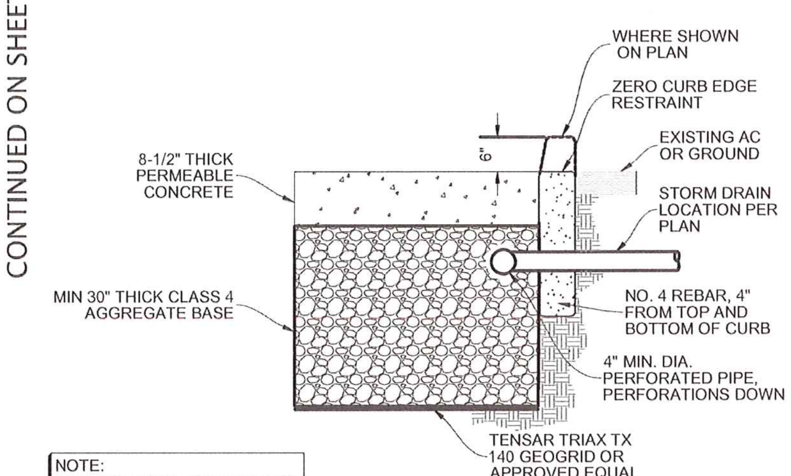
MAXIMUM CUT DEPTH = 17' (APPROX.)
MAXIMUM FILL DEPTH = 7' (APPROX.)

THE ABOVE QUANTITIES ARE FOR PLANNING AND PERMITTING PURPOSES ONLY. SHRINKAGE, CONSOLIDATION AND SUBSIDENCE FACTORS, LOSSES DUE TO CLEARING AND DEMOLITION OPERATIONS, AND TRENCHING FOR UTILITIES AND FOUNDATIONS ARE NOT INCLUDED. ESTIMATED EARTHWORK QUANTITIES ARE BASED ON THE APPROXIMATE DIFFERENCE BETWEEN EXISTING GRADES AND PROPOSED FINISH GRADES OR PAVEMENT SUBGRADES, AS INDICATED ON THE PLANS, AND SHOULD VARY ACCORDING TO THESE FACTORS AND LOSSES.

DISTURBED AREA DISCLAIMER

THE TOTAL ESTIMATED DISTURBED AREA OF GRADING AND CONSTRUCTION FOR THESE PLANS IS 4.2 ACRES. PROJECTS THAT ARE 1.0 ACRES OR GREATER IN DISTURBED AREA WILL REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND NOTICE OF INTENT (NOI) AS APPROVED BY THE STATE REGIONAL WATER QUALITY BOARD.

EXISTING UTILITY NOTE:
THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE BEST AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES, NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN.



NOTE:
GEOTECHNICAL ENGINEER TO VERIFY PAVER STRUCTURAL SECTION THICKNESS PRIOR TO CONSTRUCTION.

PERMEABLE CONCRETE SECTION

NOT TO SCALE

SCALE: 1" = 20'
0 20 40 60 80

NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

Ashley&Vance ENGINEERING, INC.

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY GRADING & DRAINAGE

TRUE NORTH

02-02-2016

C1.1

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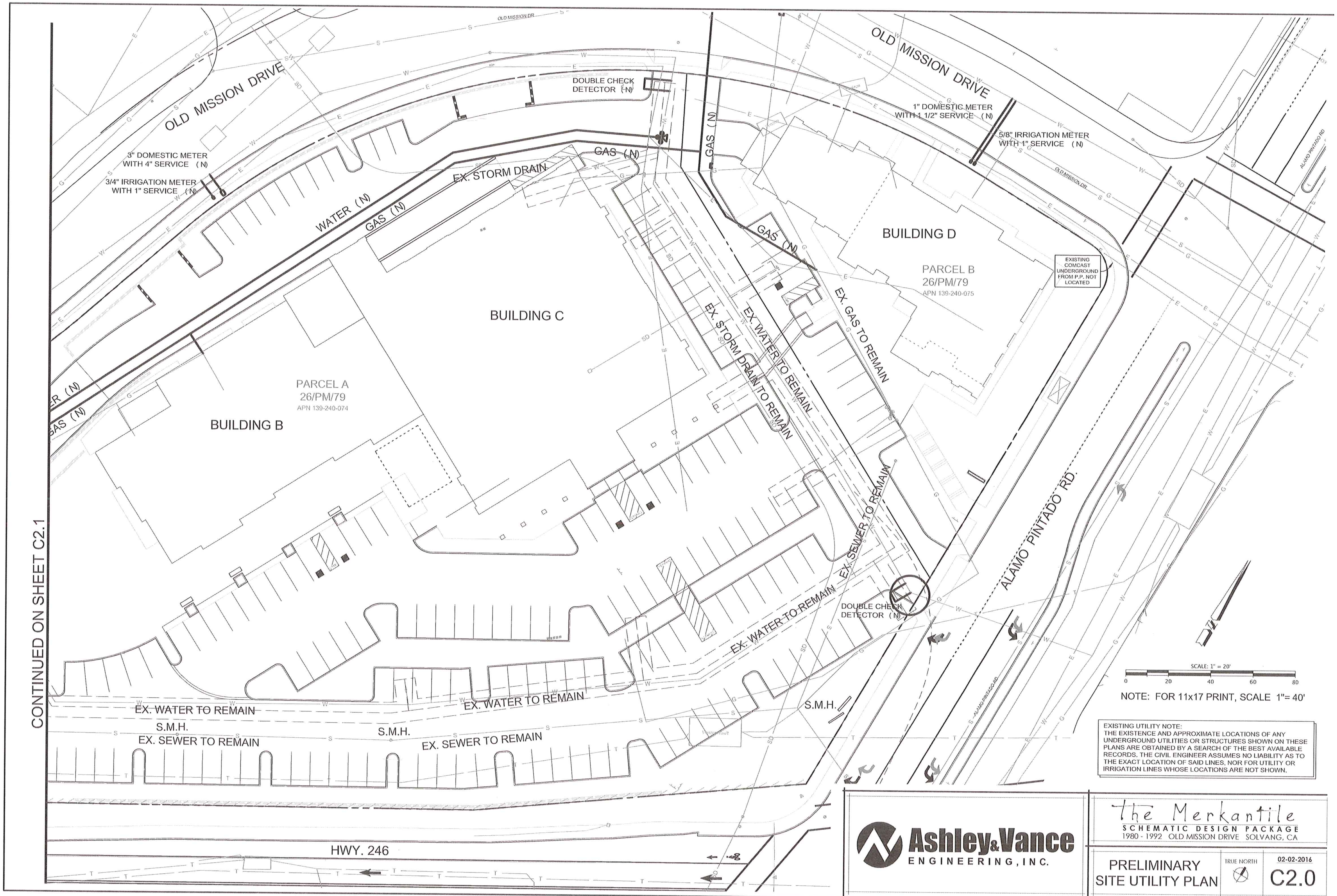
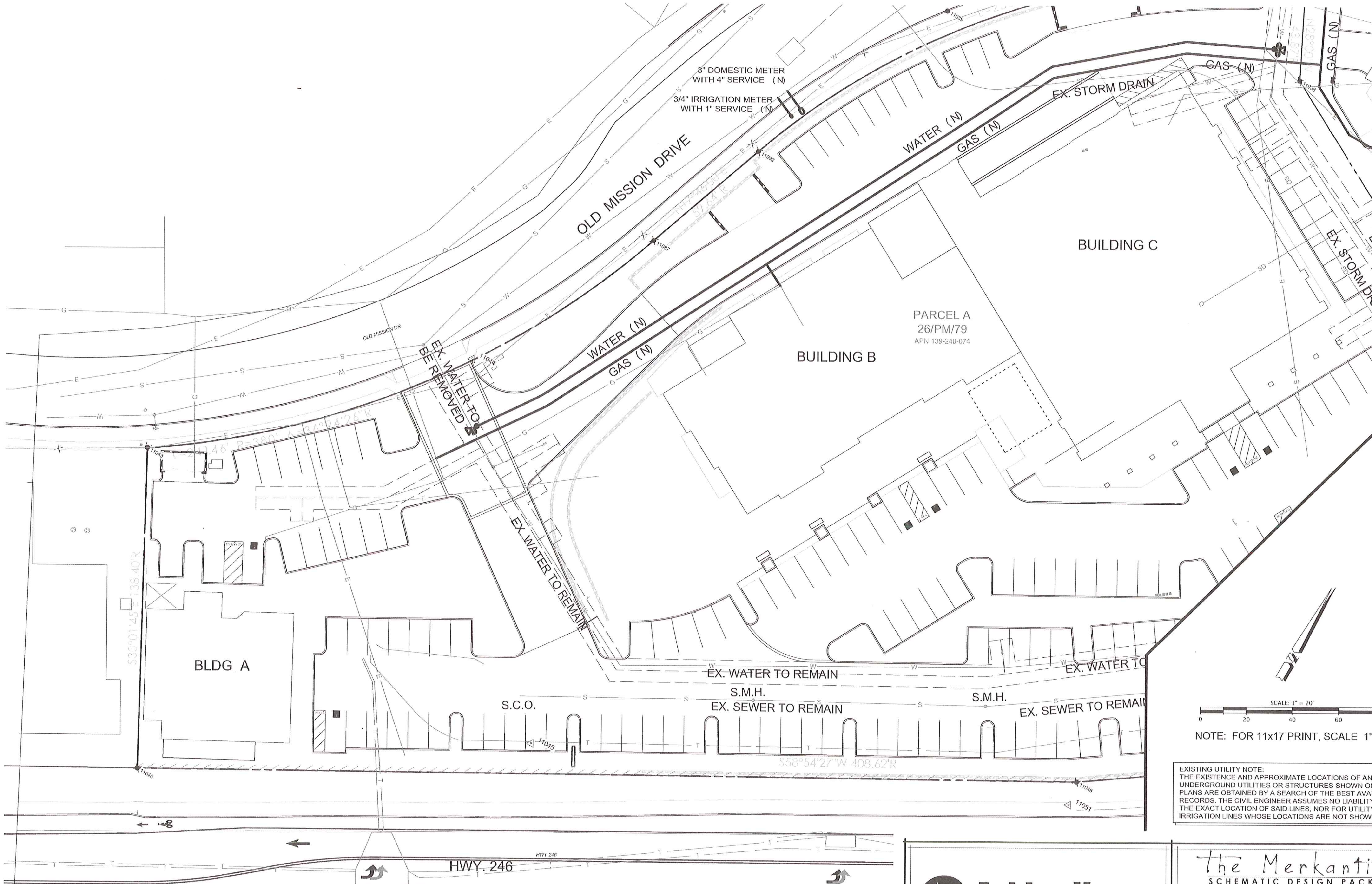

OLD MISSION DRIVE
OLD MISSION DRIVE
DOUBLE CHECK DETECTOR (N)
1" DOMESTIC METER WITH 1 1/2" SERVICE (N)
5/8" IRRIGATION METER WITH 1" SERVICE (N)
3" DOMESTIC METER WITH 4" SERVICE (N)
3/4" IRRIGATION METER WITH 1" SERVICE (N)
GAS (N)
GAS (N)
EX. STORM DRAIN
WATER (N)
GAS (N)
GAS (N)
BUILDING D
PARCEL B
26/PM/79
APN 139-240-075
EXISTING COMCAST UNDERGROUND FROM P.P. NOT LOCATED
BUILDING C
EX. STORM DRAIN TO REMAIN
EX. WATER TO REMAIN
EX. GAS TO REMAIN
PARCEL A
26/PM/79
APN 139-240-074
BUILDING B
EX. SEWER TO REMAIN
EX. WATER TO REMAIN
DOUBLE CHECK DETECTOR (N)
ALAMO PINTADO RD.
CONTINUED ON SHEET C2.1
EX. WATER TO REMAIN
EX. WATER TO REMAIN
S.M.H.
S.M.H.
S.M.H.
EX. SEWER TO REMAIN
EX. SEWER TO REMAIN
HWY. 246
SCALE: 1" = 20'
0 20 40 60 80
NOTE: FOR 11x17 PRINT, SCALE 1"= 40'
EXISTING UTILITY NOTE:
THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE BEST AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES, NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN.
Ashley&Vance
ENGINEERING, INC.
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA
PRELIMINARY
SITE UTILITY PLAN
TRUE NORTH
02-02-2016
C2.0



NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

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Ashley&Vance ENGINEERING, INC.

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY SITE UTILITY PLAN

TRUE NORTH

02-02-2016

C2.1

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the Merkantile

Solvang, California

PROJECT STATISTICS

SITE INFORMATION

ADDRESS	1980 - 1992 OLD MISSION DRIVE
APN	139-240-074 & 139-240-075
SITE AREA	3.9 ACRES (169,884 S.F.)
ZONING	C-2 - COMMERCIAL
USE	
EXISTING USE	COMMERCIAL RETAIL & RESIDENTIAL
PROPOSED USE	COMMERCIAL RETAIL & RESIDENTIAL
EXISTING OCCUPANCIES	A-2/M/B/R-2
PROPOSED OCCUPANCIES	A-2/M/B/R-2
TYPE OF CONSTRUCTION	TYPE V-B
SPRINKLERS	YES (NFPA-13)
SETBACKS:	
FRONT	30' FROM STREET CENTERLINE 10' FROM R.O.W.
FROM HIGHWAY 246	42' FROM STREET CENTERLINE
SIDE	3'
REAR	10% OF THE LOT DEPTH, NO LESS THAN 12'
BUILDING HEIGHT:	
ALLOWABLE:	35'
PROPOSED:	22' - 35'
IMPERVIOUS AREA	
EXISTING	130,920 S.F. (77.1%)
PROPOSED	117,517 S.F. (69.2%)
(DOES NOT INCLUDE 14,996 S.F. OF PERVIOUS PAVERS)	
LOT COVERAGE	
EXISTING BUILDINGS (INCLUDES ROOF OVERHANGS)	53,706 S.F. (31.6%)
PROPOSED BUILDINGS (INCLUDES ROOF OVERHANGS)	43,034 S.F. (25.3%)
EXISTING PARKING LOT	69,026 S.F. (40.6%)
PROPOSED PARKING LOT	69,889 S.F. (41.1%)
EXISTING LANDSCAPE	38,964 S.F. (22.9%)
PROPOSED LANDSCAPE	37,371 S.F. (22.0%)

BUILDING INFORMATION

EXISTING COMMERCIAL AREA	**39,282 S.F.**
BUILDING A - 1980 OLD MISSION DRIVE (FIRST FLOOR: 3,040 S.F.; SECOND FLOOR: 3,360 S.F.)	6,464 S.F.
BUILDING B - 1984 OLD MISSION DRIVE	16,600 S.F.
BUILDING C - 1988 OLD MISSION DRIVE	11,000 S.F.
BUILDING D - 1992 OLD MISSION DRIVE	5,218 S.F.
PROPOSED COMMERCIAL AREA	**42,365 S.F.**
BUILDING A (FIRST FLOOR: 7,220 S.F.; MEZZANINE: 530 S.F.)	7,750 S.F.
BUILDING B	9,215 S.F.
BUILDING C (FIRST FLOOR: 15,000 S.F.; MEZZANINE: 3,000 S.F.)	18,000 S.F.
BUILDING D	7,400 S.F.
EXISTING RESIDENTIAL	
EXISTING NUMBER OF UNITS	2 UNITS
BUILDING B - 1 UNIT UPSTAIRS	1,034 S.F.
BUILDING C - 1 UNIT UPSTAIRS	1,000 S.F.
ALLOWED RESIDENTIAL	
IN A COMMERCIAL ZONE, RESIDENTIAL MUST BE A "SECONDARY USE" TO PRIMARY COMMERCIAL USE. (PER CITY OF SOLVANG ORDINANCE SECTION 11-7B-2 NOTE O)	
MAXIMUM DENSITY	20 UNITS/ACRE (DR-20)
3.9 ACRES X 20 UNITS/ACRE = 78	
ALLOWED NUMBER OF UNITS	**78 UNITS**
PROPOSED RESIDENTIAL	
PROPOSED NUMBER OF UNITS	8 UNITS
BUILDING B	
FIRST FLOOR (LOBBY & CIRCULATION)	1,120 S.F.
SECOND FLOOR (LOBBY & CIRCULATION: 2,066 S.F.; RESIDENTIAL UNITS: 6,251 S.F.)	8,317 S.F.

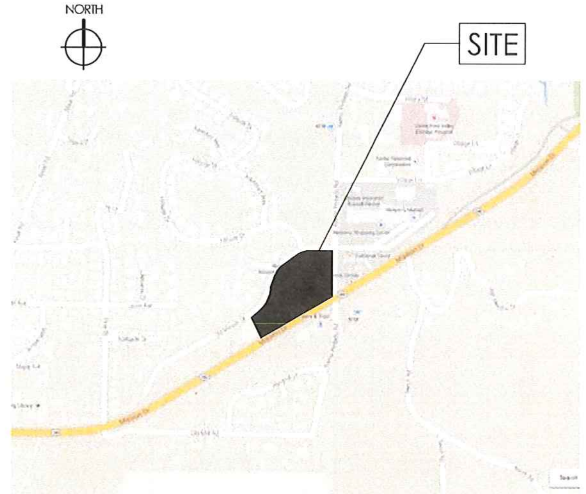
PARKING INFORMATION:

EXISTING PARKING PROVIDED			**170 SPACES**
COMMERICAL REQUIRED			**128 SPACES REQUIRED**
RESTAURANT 1 SPACE/300 S.F. FOR PATRONS + 1 SPACE/2 EMPLOYEES			
BUILDING A INDOOR	3,980 S.F.X $\frac{1\ SPACE}{300\ S.F.}$ =	13.2	13 SPACES
BUILDING A OUTDOOR	1,365 S.F.X $\frac{1\ SPACE}{300\ S.F.}$ =	4.6	5 SPACES
BUILDING A EMPLOYEE - 12 EMPLOYEES X $\frac{1\ SPACE}{2\ EMPLOYEES}$ =			6 SPACES
RETAIL 1 SPACE/500 S.F. GROSS			
BUILDING B	9,215 S.F. X $\frac{1\ SPACE}{500\ S.F.}$ =	18.4	18 SPACES
BUILDING C	15,000 S.F. X $\frac{1\ SPACE}{500\ S.F.}$ =	30.0	30 SPACES
BUILDING D	7,400 S.F. X $\frac{1\ SPACE}{500\ S.F.}$ =	14.8	15 SPACES
OFFICE 1 SPACE/300 S.F. GROSS			
BUILDING C	3,000 S.F. X $\frac{1\ SPACE}{300\ S.F.}$ =	10	10 SPACES
SHARED SPACES AS REQUIRED BY CITY			31 SPACES
RESIDENTIAL REQUIRED			**10 SPACES REQUIRED**
STUDIO 1 SPACE/UNIT			
BUILDING B - 3 STUDIO UNITS			3 SPACES
1-BEDROOM 1 SPACE/UNIT			
BUILDING B - 5 1-BEDROOM UNITS			5 SPACES
GUEST 1 SPACE/5 UNITS			
BUILDING B - 8 UNITS			2 SPACES
TOTAL PARKING REQUIRED			**138 SPACES**
PARKING PROVIDED*			**165 SPACES**
STANDARD SPACES			159 SPACES
ACCESSIBLE SPACES			6 SPACES

THE PARKING WILL BE SHARED BETWEEN THE RESIDENTIAL AND COMMERICAL USES. PARKING WILL BE ON A FIRST COME FIRST SERVED BASIS.

VICINITY MAP

NORTH



DRAWING INDEX

PROJECT DIRECTORY

OWNER
1980s OLD MISSION DRIVE, LLC
425 MARKET STREET, SUITE 2200
SAN FRANCISCO, CA 94105
ATTN JOSHUA J. RICHMAN, MANAGER
PHONE (805) 350-1791
EMAIL JJRICHMAN@GMAIL.COM

ARCHITECT
ARRIS STUDIO ARCHITECTS
1306 JOHNSON AVENUE
SAN LUIS OBISPO, CA 93401
ATTN STEVE RIGOR
PHONE (805) 547-2240
EMAIL SRIGOR@ARRIS-STUDIO.COM

CIVIL ENGINEER
ASHLEY VANCE ENGINEERS
924-D CHAPALA STREET
SANTA BARBARA, CA 93101
ATTN JASON GOTSIS
PHONE (805) 962-9966 x160
EMAIL JASON@ASHLEYVANCE.COM

LANDSCAPE ARCHITECT
RRM DESIGN GROUP
3765 SOUTH HIGUERA STREET, SUITE 102
SAN LUIS OBISPO, CA 93401
ATTN LIEF McKAY
PHONE (805) 903-1213
EMAIL LMcKAY@RRMDESIGN.COM

PROJECT DESCRIPTION

THE MERKANTILE PROPOSES THE RECONFIGURATION AND RECONSTRUCTION OF AN EXISTING MIXED-USE SHOPPING CENTER OUTSIDE THE TOURIST VILLAGE IN THE CITY OF SOLVANG. LOCATED IN THE COMMERCIAL HEART OF THE SANTA YNEZ VALLEY, THE CENTER WILL DRAW BOTH LOCALS AND TOURISTS WITH A MIX OF BUSINESSES THAT WILL INCLUDE NEW FRONTIERS NATURAL MARKETPLACE, A RESTAURANT, RETAIL STORES AND A RECONFIGURED AND EXPANDED PARKING FIELD TO APPROPRIATELY SERVICE THE ANTICIPATED PARKING DEMAND. BUILDING D WILL UTILIZE THE EXISTING BUILDING AND EXPAND THE AREA ALONG WITH UPDATING THE EXTERIOR TO COMPLIMENT THE NEW BUILDINGS. THE PROJECT ALSO PROPOSES SEVERAL SECOND-FLOOR RESIDENTIAL APARTMENTS.

THE SITE DESIGN INCORPORATES A NEW DRIVEWAY ON HIGHWAY 246 TO IMPROVE ACCESS TO THE SITE. THE PROJECT INCLUDES THE INSTALLATION OF A PEDESTRIAN SIDEWALK AND IMPROVED BIKE LANE ALONG HIGHWAY 246. THE DESIGN ALSO PROPOSES THE CLOSURE OF ONE OF THE REAR DRIVEWAYS ON OLD MISSION DRIVE IN ORDER TO REDUCE TRAFFIC IMPACTS ON THE SURROUNDING RESIDENTIAL NEIGHBORHOOD. IN FRONT OF AND ADJACENT TO NEW FRONTIERS WILL BE A COMMUNITY ORIENTED OUTDOOR SPACE FOR HOSTING EVENTS SUCH AS SMALL MUSIC SHOWS AND OTHER COMMUNITY GATHERINGS.

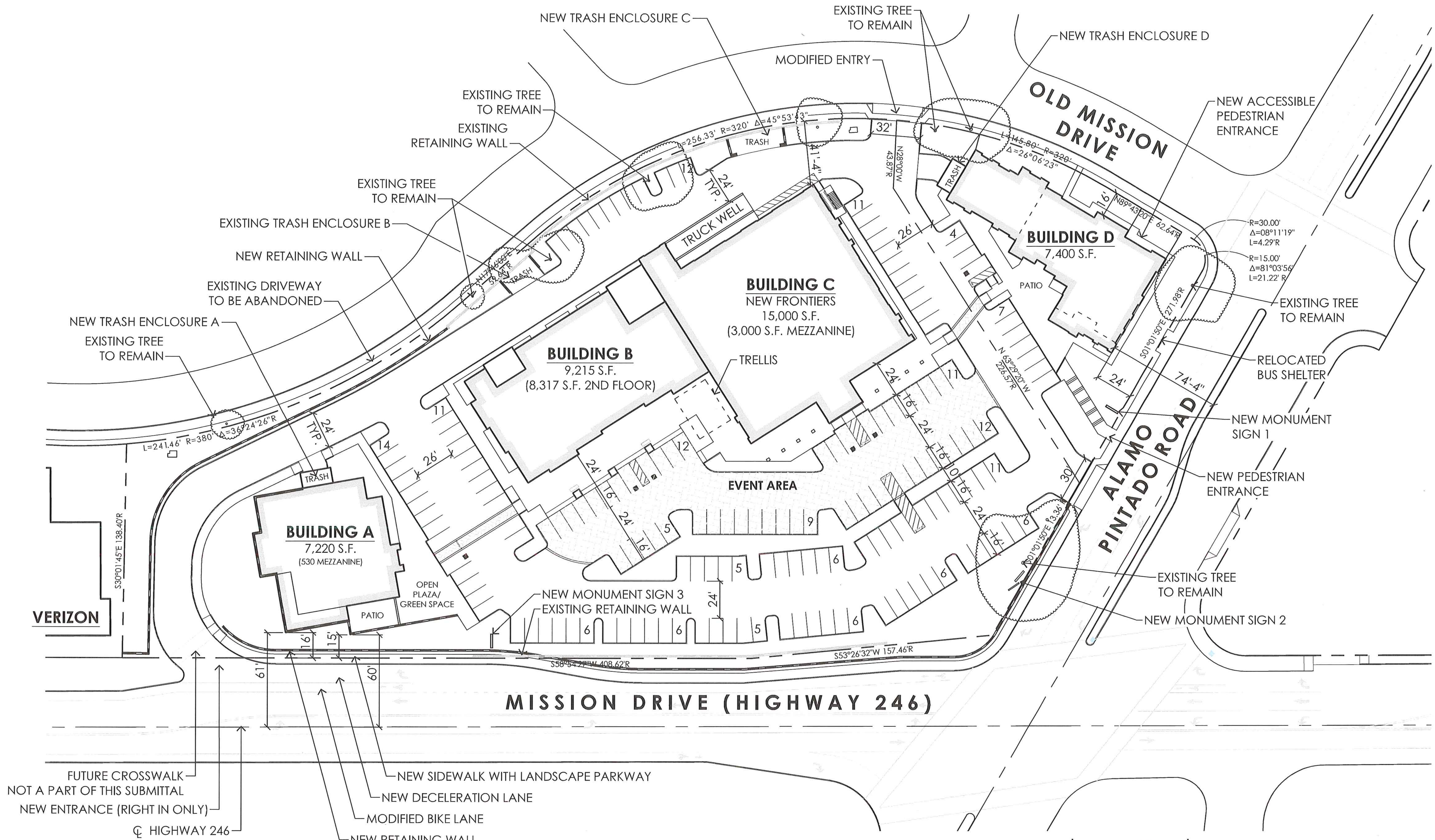
LOW IMPACT DEVELOPMENT CONCEPTS ARE BEING MEANINGFULLY INCORPORATED INTO THE PROJECT TO ADDRESS STORM WATER QUALITY AS WELL AS WATER AND ENERGY CONSUMPTION. THE PROPOSED LANDSCAPING WILL INCLUDE A MIXTURE OF NATIVE AND NATIVE-STYLE PLANTS AND TREES THAT WILL BE WATERED WITH DRIP IRRIGATION. IT IS ANTICIPATED THAT THE NEW DEVELOPMENT WILL RESULT IN SIGNIFICANTLY REDUCED STORM WATER RUNOFF, WATER USAGE AND ENERGY CONSUMPTION.

THE PROPOSED RESIDENTIAL APARTMENTS ARE LOCATED ABOVE SHOPS B AND WILL ENJOY BEAUTIFUL VIEWS OF THE SURROUNDING MOUNTAINS AND VALLEY. RESIDENTS WILL HAVE WALKING ACCESS TO ONSITE RESTAURANTS, SHOPS AND NEARBY MEDICAL AND COMMERCIAL FACILITIES.

THE BUILDING ARCHITECTURE IS CONTEMPORARY AGRARIAN THAT DRAWS FROM THEMES OF THE SANTA YNEZ VALLEY. THE MATERIALS WILL RANGE FROM DISTRESSED WOOD, WEATHERED & PAINTED METAL PANELS, EXPOSED STEEL BEAMS AND ACCENTS CONSISTING OF CONCRETE AND PLASTER. GENEROUS USE OF SOUTH-FACING WINDOWS IS PROPOSED IN ORDER TO CAPTURE THE SURROUNDING VIEWS OF THE SANTA YNEZ MOUNTAIN RANGE AND MAXIMIZE EXPOSURE TO NATURAL LIGHT.

rrm design group
Ashley&Vance ENGINEERING, INC.
Arris STUDIO ARCHITECTS

the Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA
03-01-2016
PROJECT INFORMATION
DECEL LANE EXHIBITS
CT0.0



PROPOSED SITE PLAN WITH DECELERATION LANE

0 5 10 20 30 60
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"
TRUE NORTH

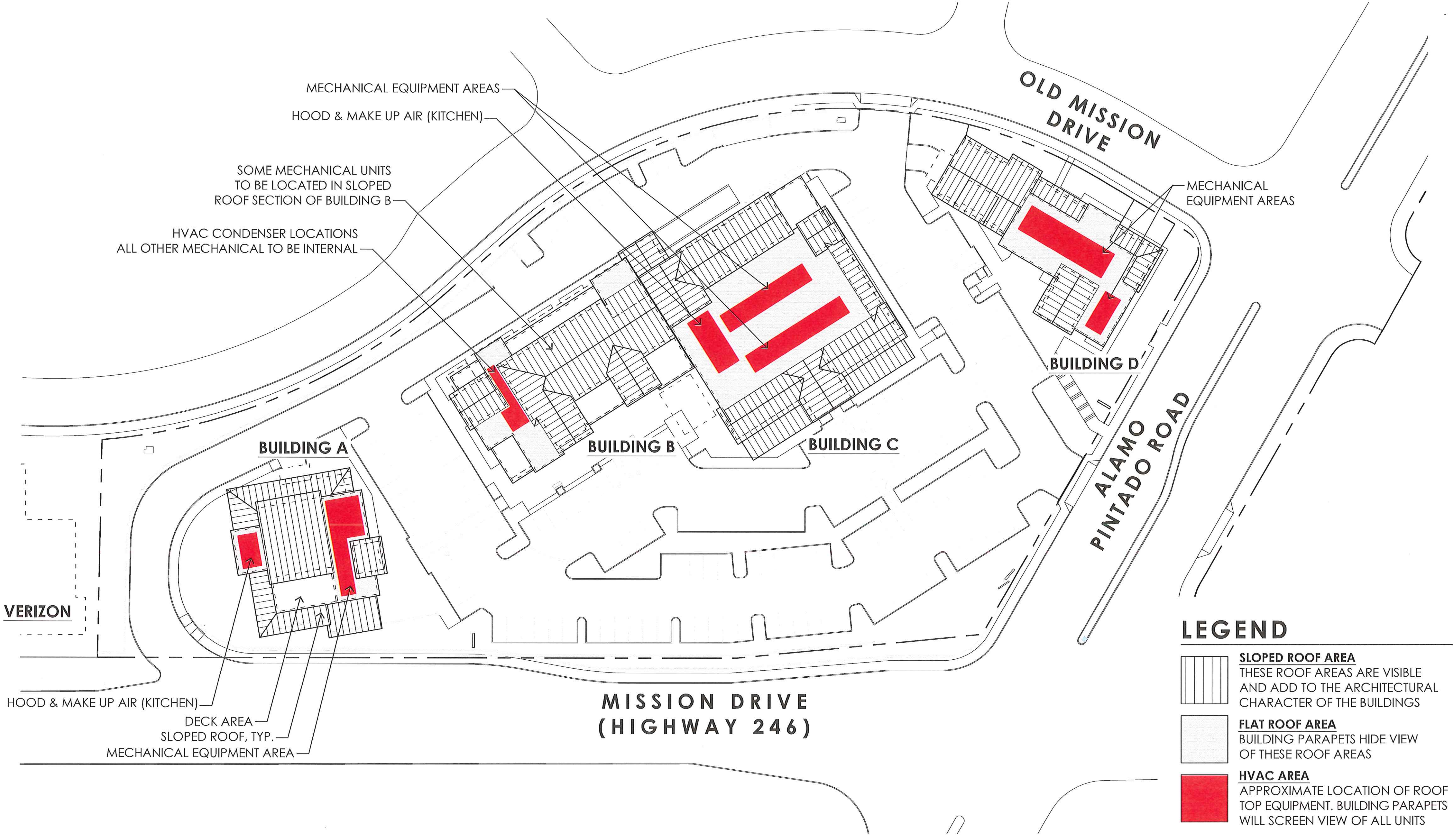
ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PROPOSED SITE PLAN WITH DECEL LANE

03-01-2016

CT1.0



PROPOSED ROOF PLANS

0 5 10 20 30 60
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'-0"
TRUE NORTH

Arris STUDIO ARCHITECTS

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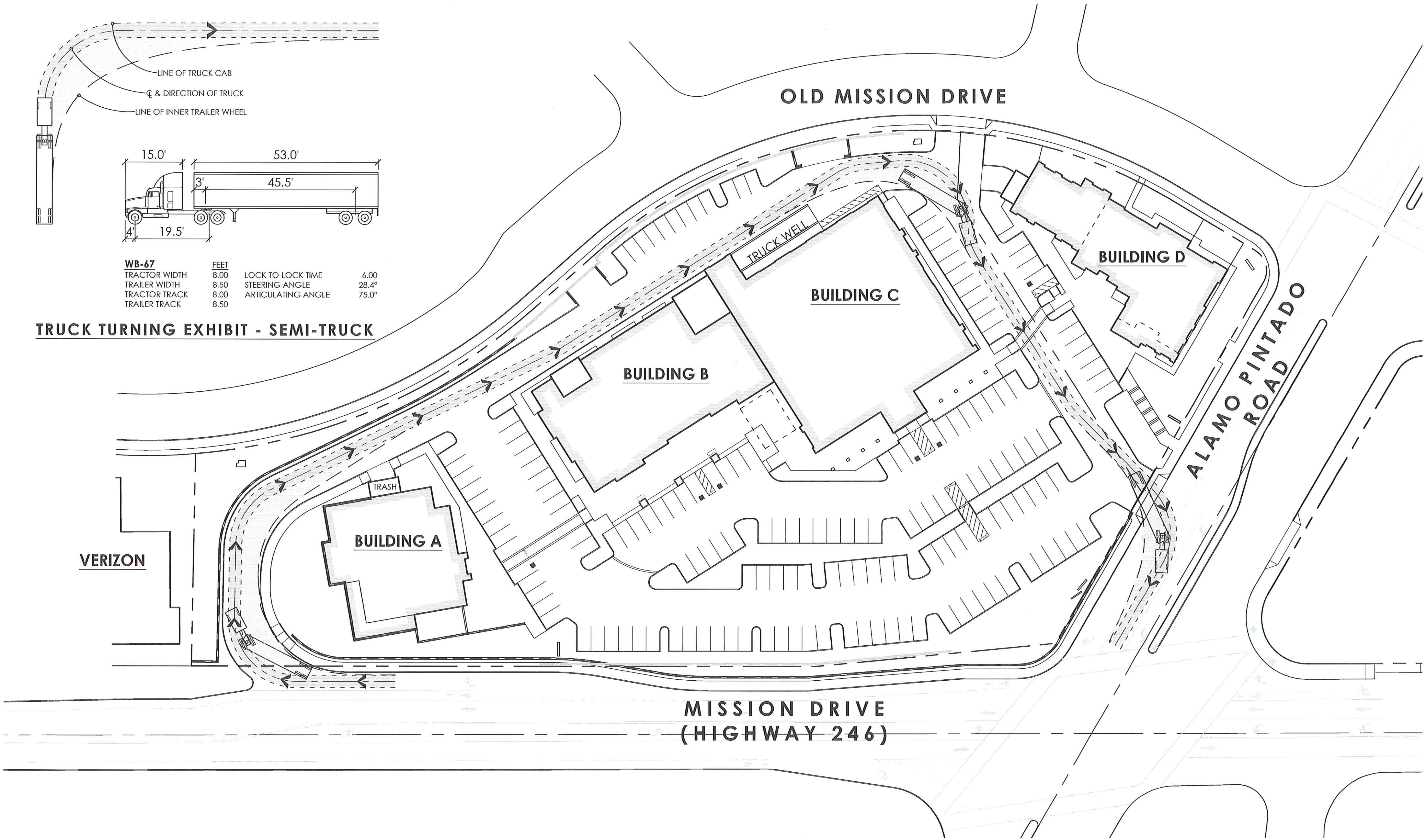
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PROPOSED ROOF PLANS

03-01-2016

CT1.1



SEMI-TRUCK TURNING EXHIBIT

0 5 10 20 30 60
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"
TRUE NORTH

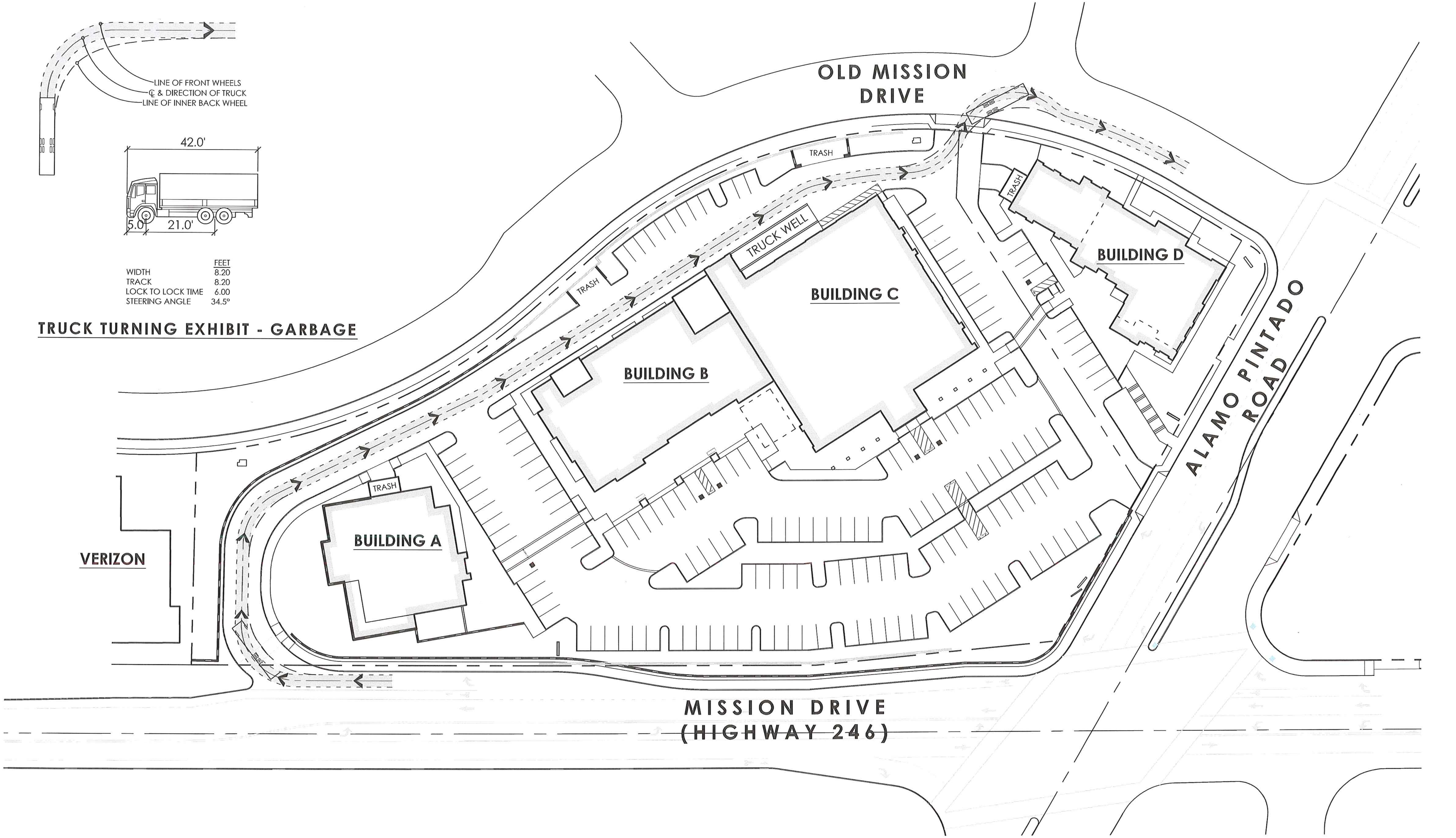
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

SEMI-TRUCK
TURNING EXHIBIT

03-01-2016

CT1.2



TRASH TRUCK TURNING EXHIBIT

0 5 10 20 30 60

11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"

TRUE NORTH

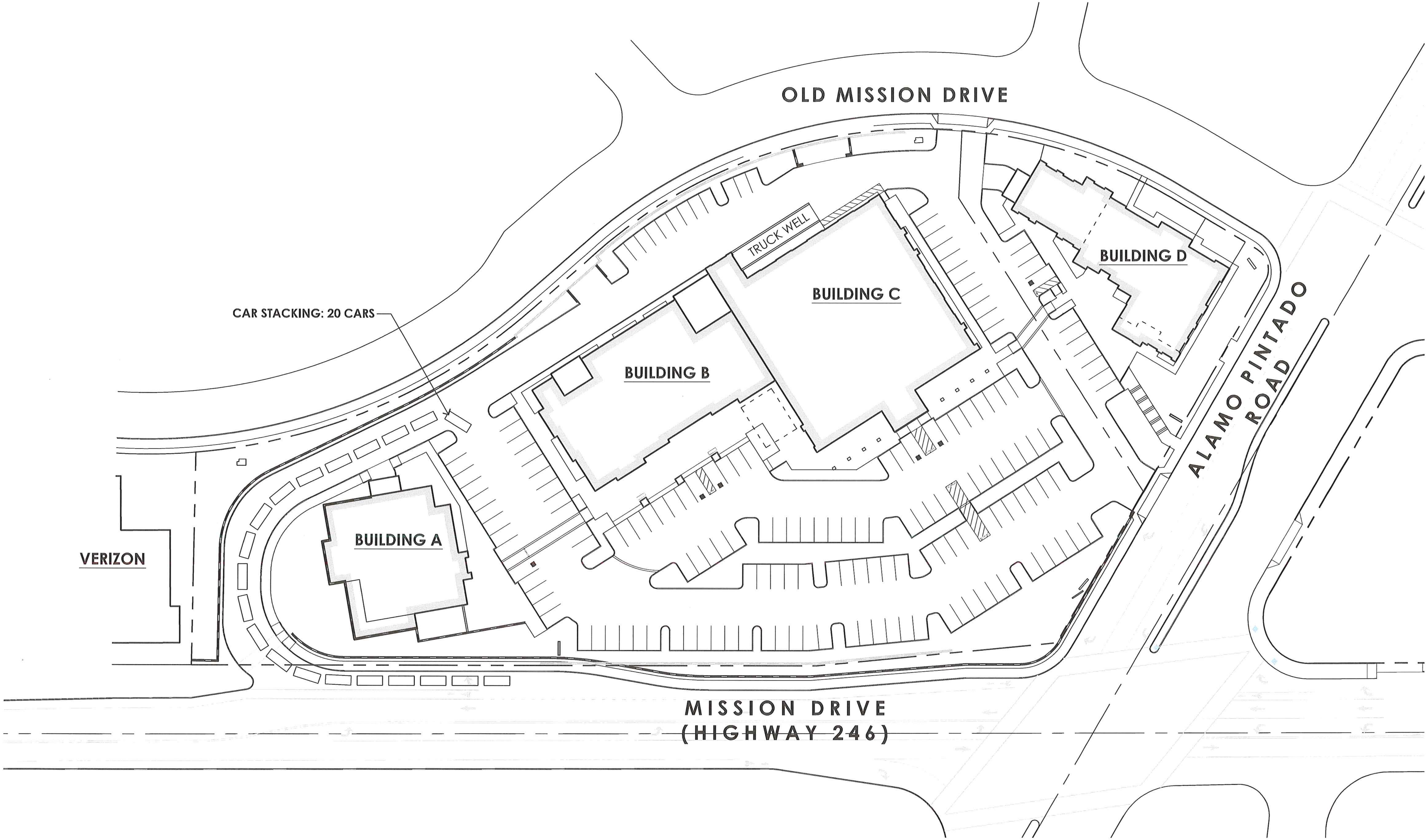
ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

TRASH TRUCK TURNING EXHIBIT

03-01-2016

CT1.3



CAR STACKING EXHIBIT

0 5 10 20 30 60 TRUE NORTH
11"x17" SCALE: 1" = 60'-0"
24"x36" SCALE: 1" = 30'0"

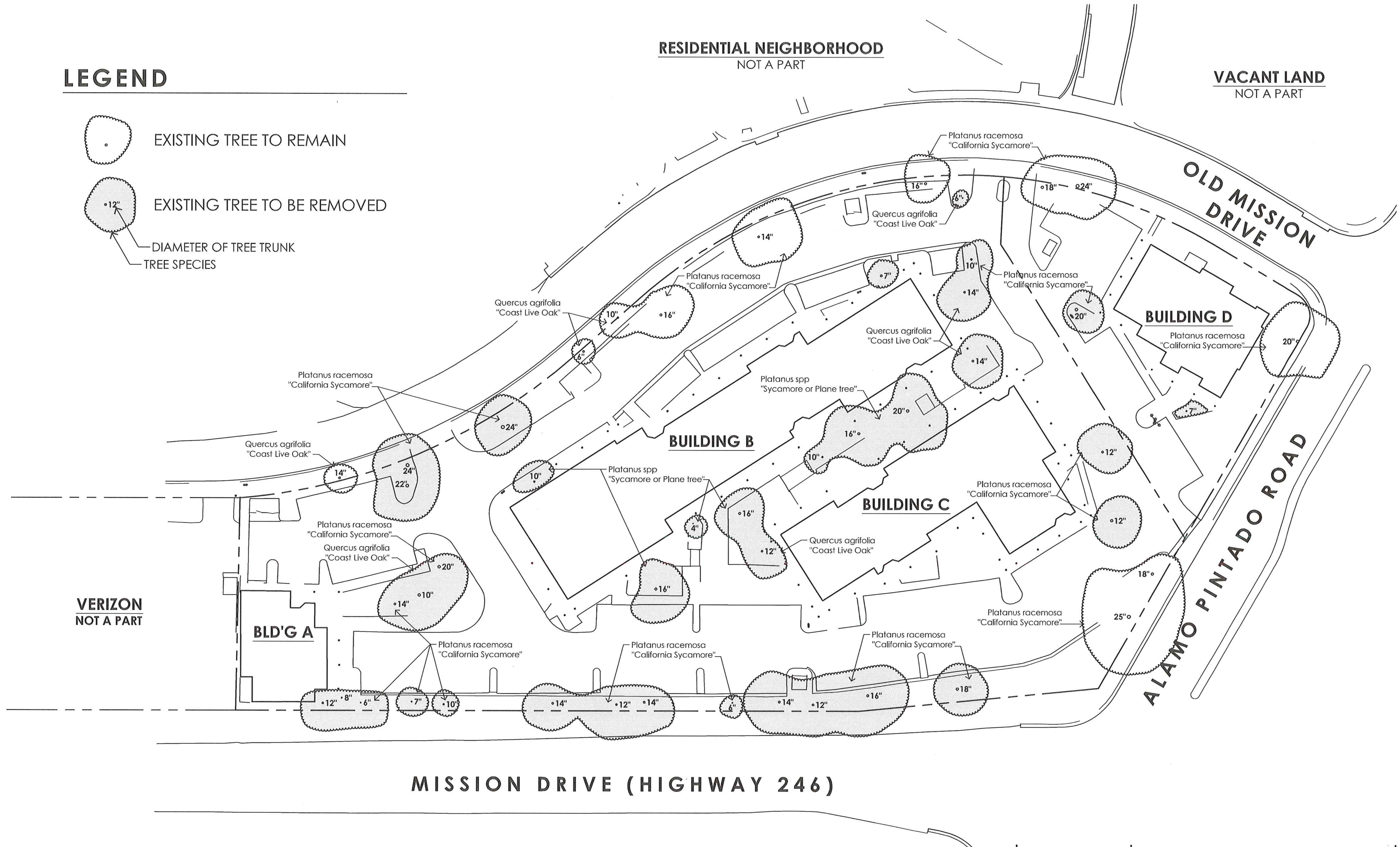
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

CAR STACKING EXHIBIT

03-01-2016

CT1.4

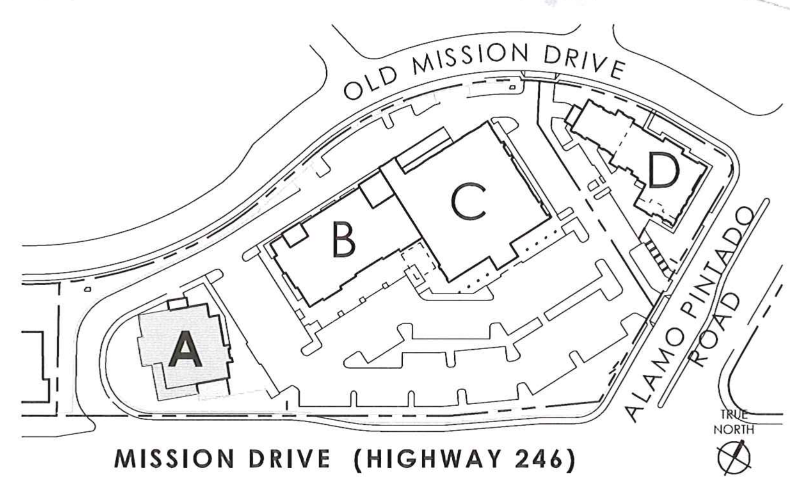


TREE REMOVAL PLAN

Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

03-01-2016
TREE REMOVAL PLAN
CT1.5



KEY PLAN

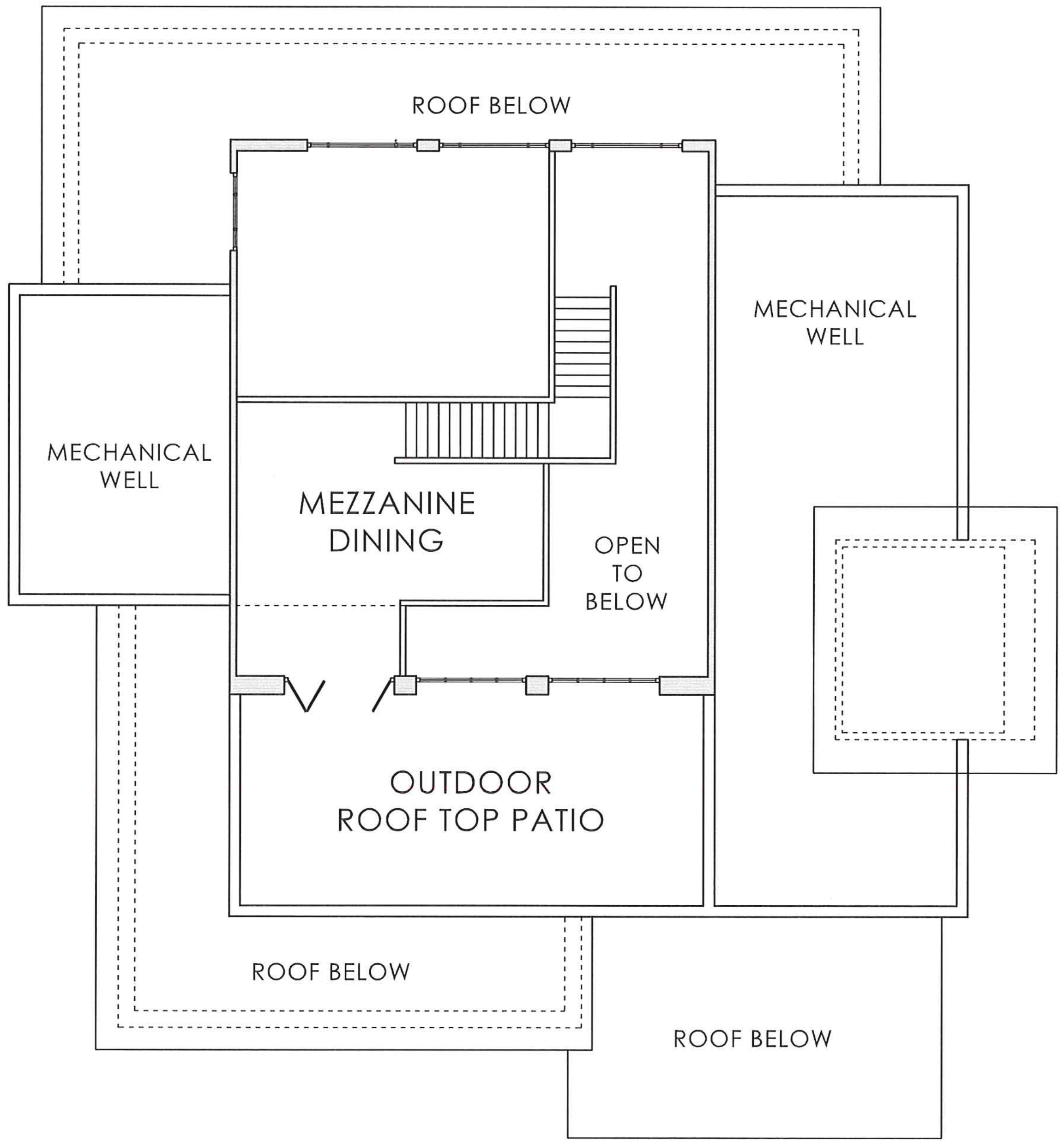
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING A
CONCEPTUAL PERSPECTIVE

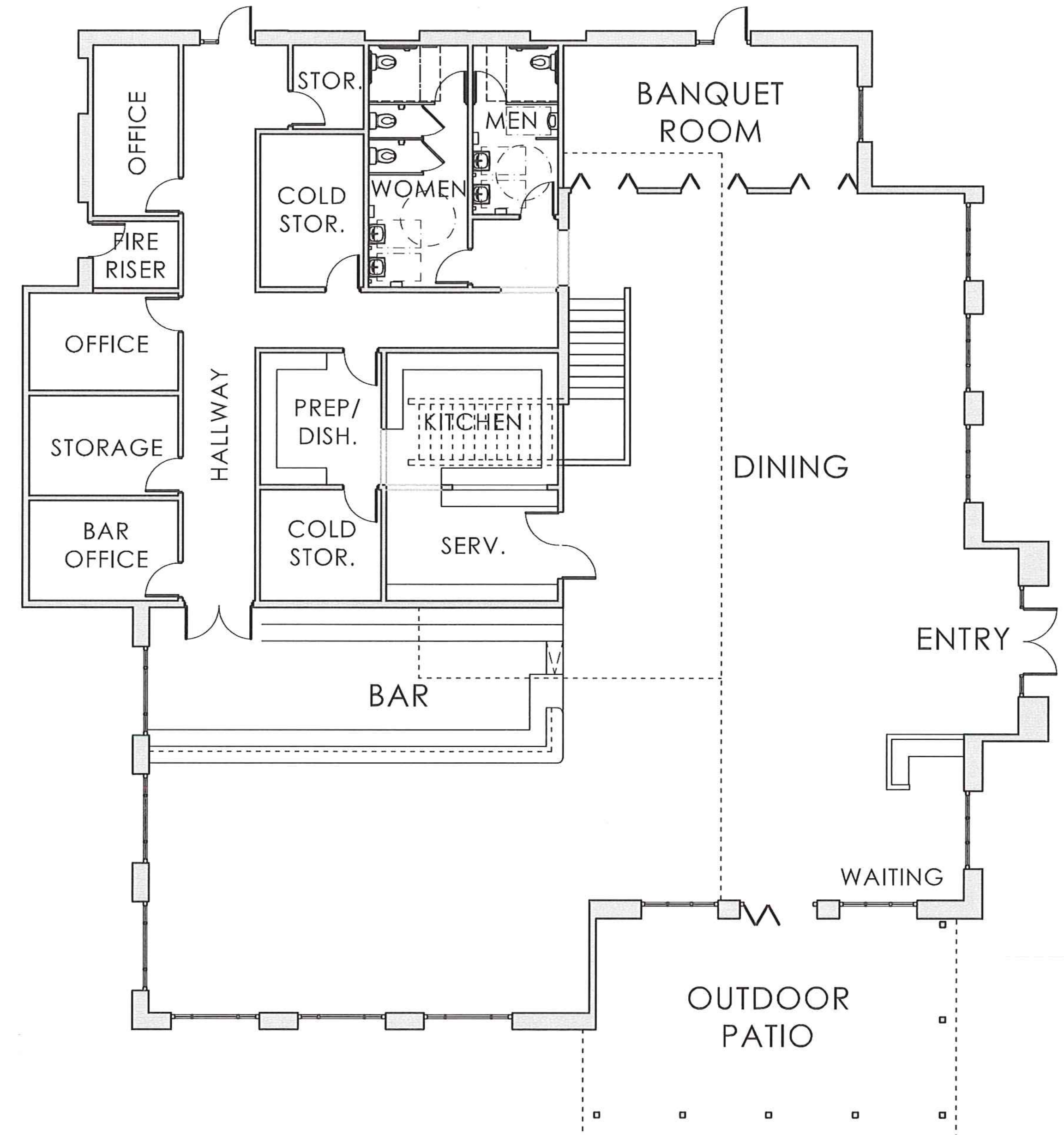
03-01-2016

CT2.0



MEZZANINE FLOOR PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"
TRUE NORTH PROJECT NORTH



FIRST FLOOR PLAN

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"
TRUE NORTH PROJECT NORTH

BUILDING STATISTICS

INDOOR DINING/BAR	3,980 S.F.
GROUND FLOOR: 3,450 SF, MEZZANINE: 530 SF	
OUTDOOR DINING	1,365 S.F.
PATIO: 565 SF, ROOF TOP PATIO: 800 SF	
BACK OF HOUSE	3,770 S.F.
KITCHEN: 1,475 SF, RESTROOMS: 410 SF, OFFICES/CIRCULATION	
TOTAL BUILDING AREA	7,750 S.F.

Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING A
CONCEPTUAL FLOOR PLAN

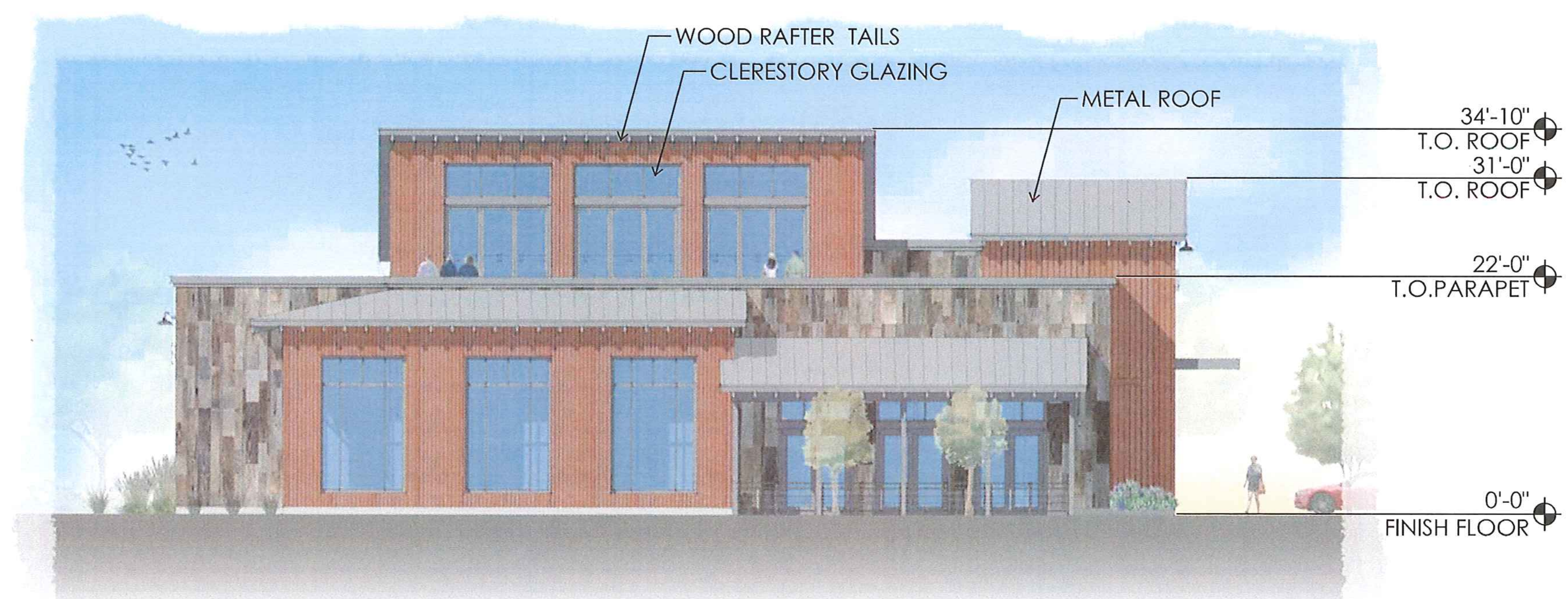
03-01-2016

CT2.1

EAST ELEVATION

FRONT ELEVATION FACING PARKING LOT & SHOPS B

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"



SOUTH ELEVATION

LEFT ELEVATION FACING HIGHWAY 246

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

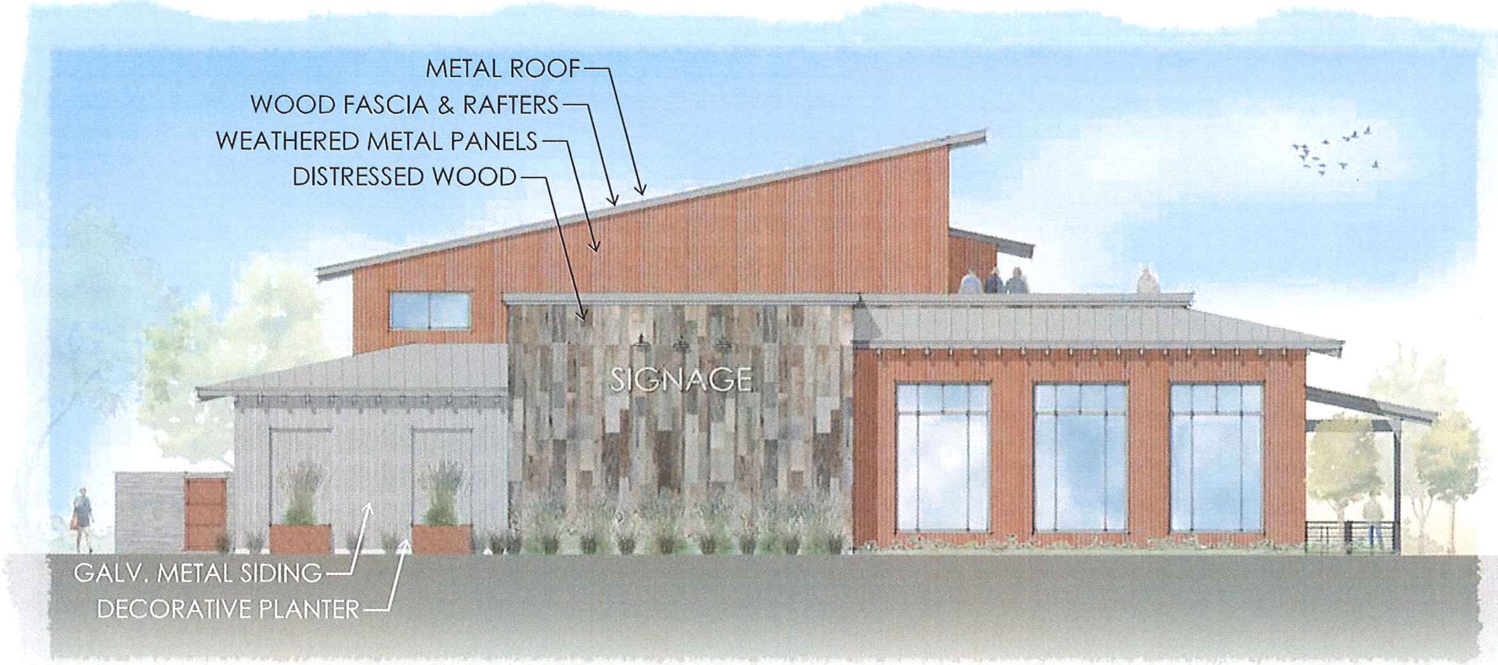
Arris
STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING A
CONCEPTUAL ELEVATIONS

03-01-2016

CT2.2



WEST ELEVATION

REAR ELEVATION

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

NORTH ELEVATION

RIGHT ELEVATION FACING OLD MISSION DRIVE

0 1 2 4 8 16
11x17 SHEET SCALE: 1/16" = 1'-0"
24x36 SHEET SCALE: 1/8" = 1'-0"

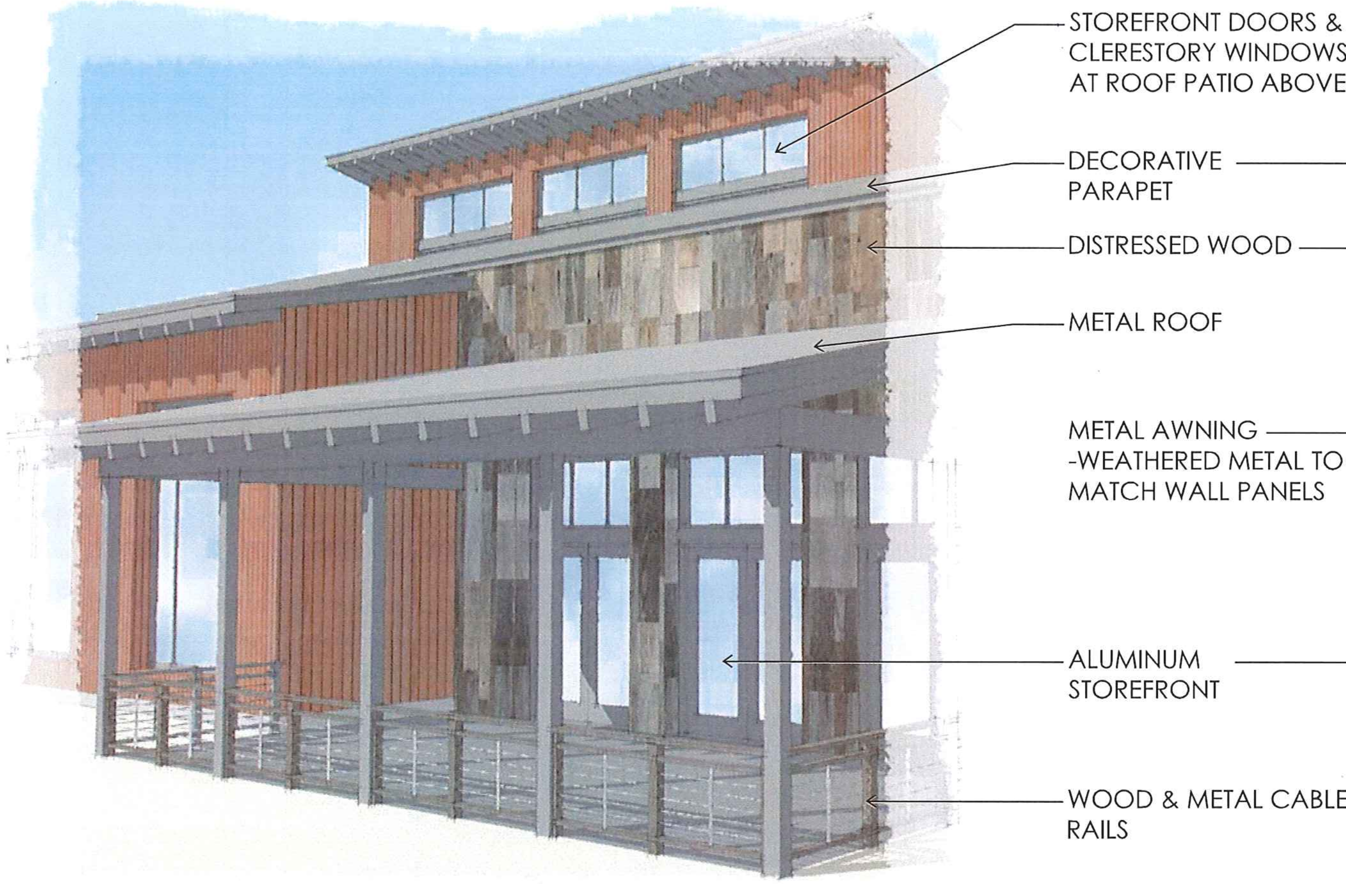
ARRIS STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING A
CONCEPTUAL ELEVATIONS

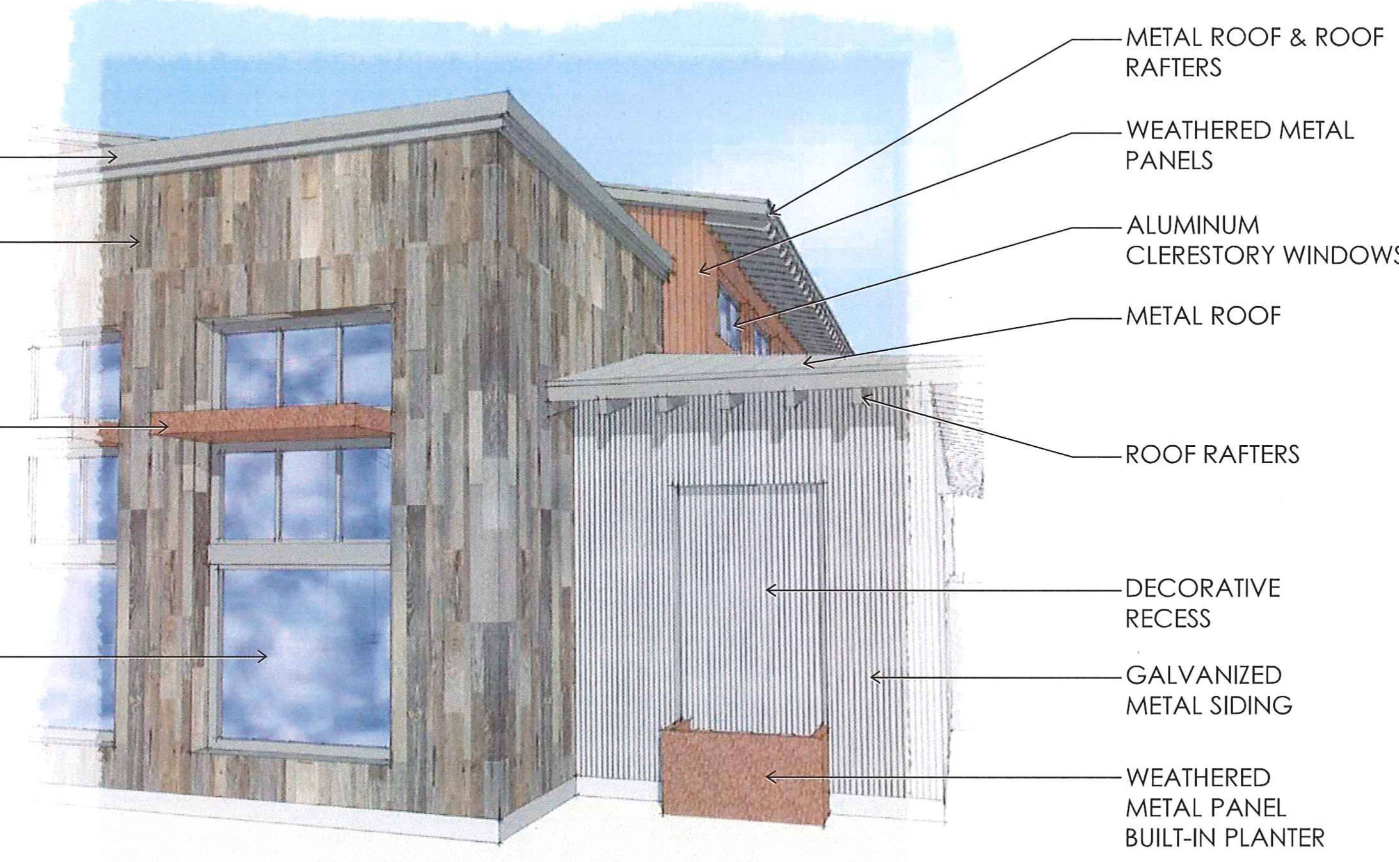
03-01-2016

CT2.3



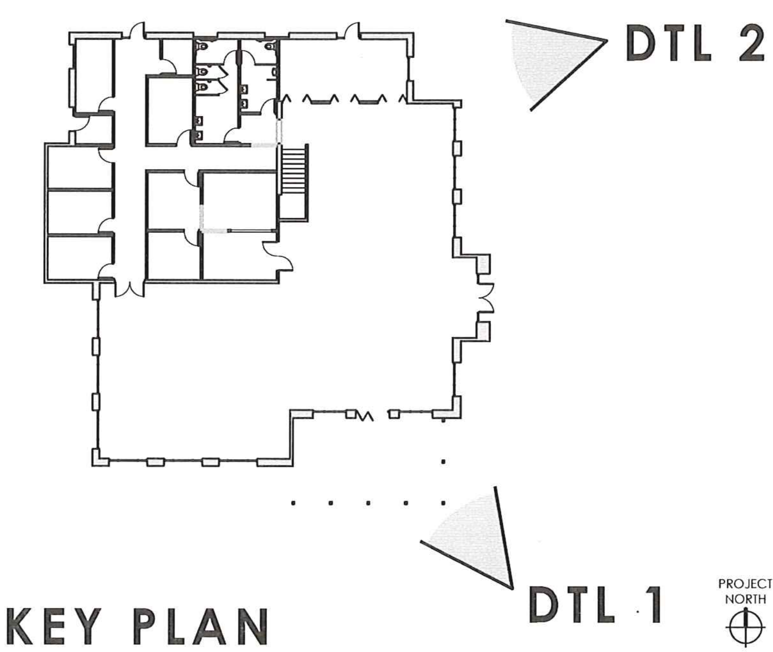
BUILDING DETAIL 1

COVERED PATIO AREA FACING MISSION DRIVE/HWY 246



BUILDING DETAIL 2

PORTION OF EAST (FRONT) ELEVATION FACING PARKING LOT



KEY PLAN

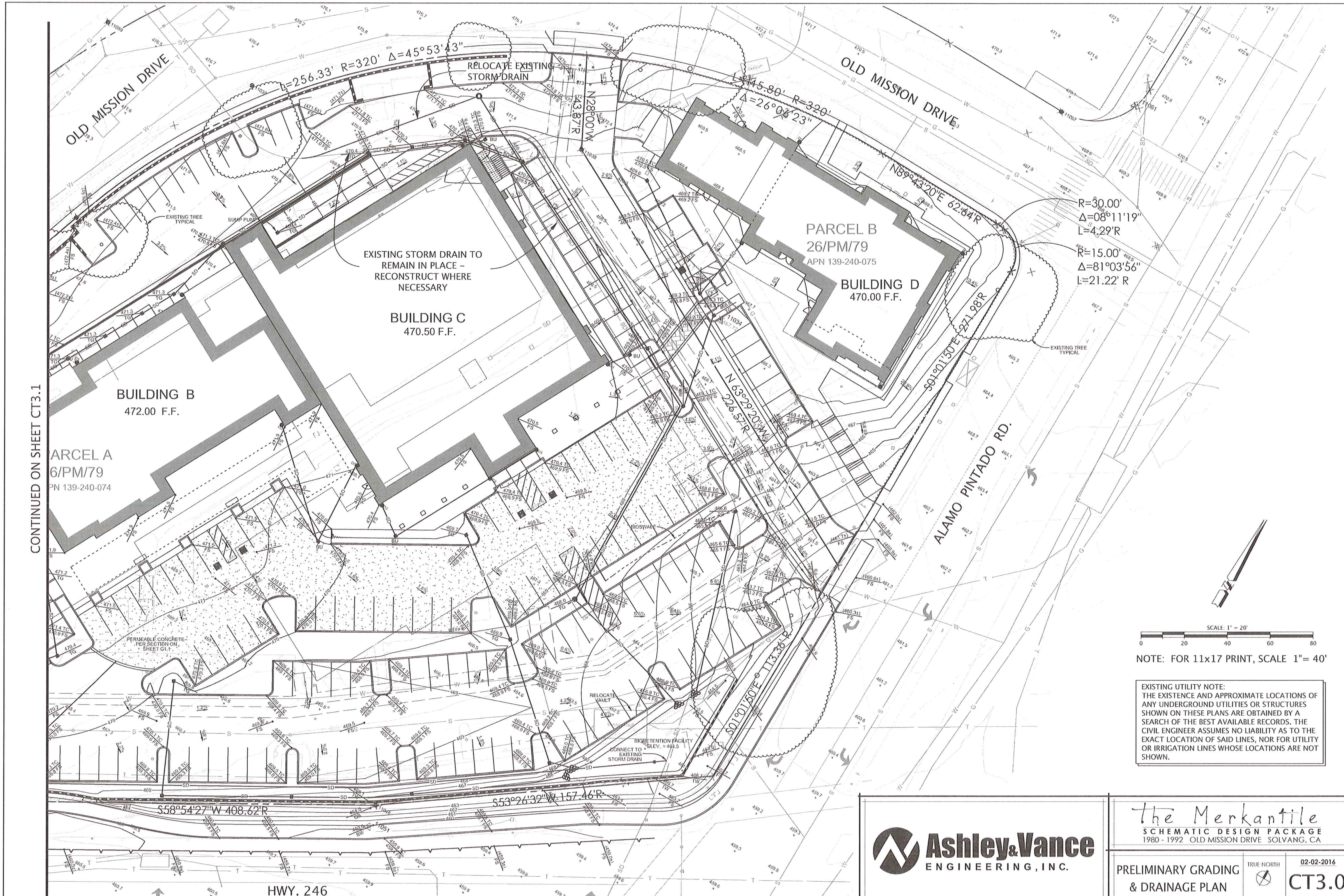
Arris STUDIO ARCHITECTS

The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

BUILDING A
BUILDING DETAILS

03-01-2016

CT2.4



NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

EXISTING UTILITY NOTE:
THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE BEST AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES, NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN.

Ashley&Vance ENGINEERING, INC.

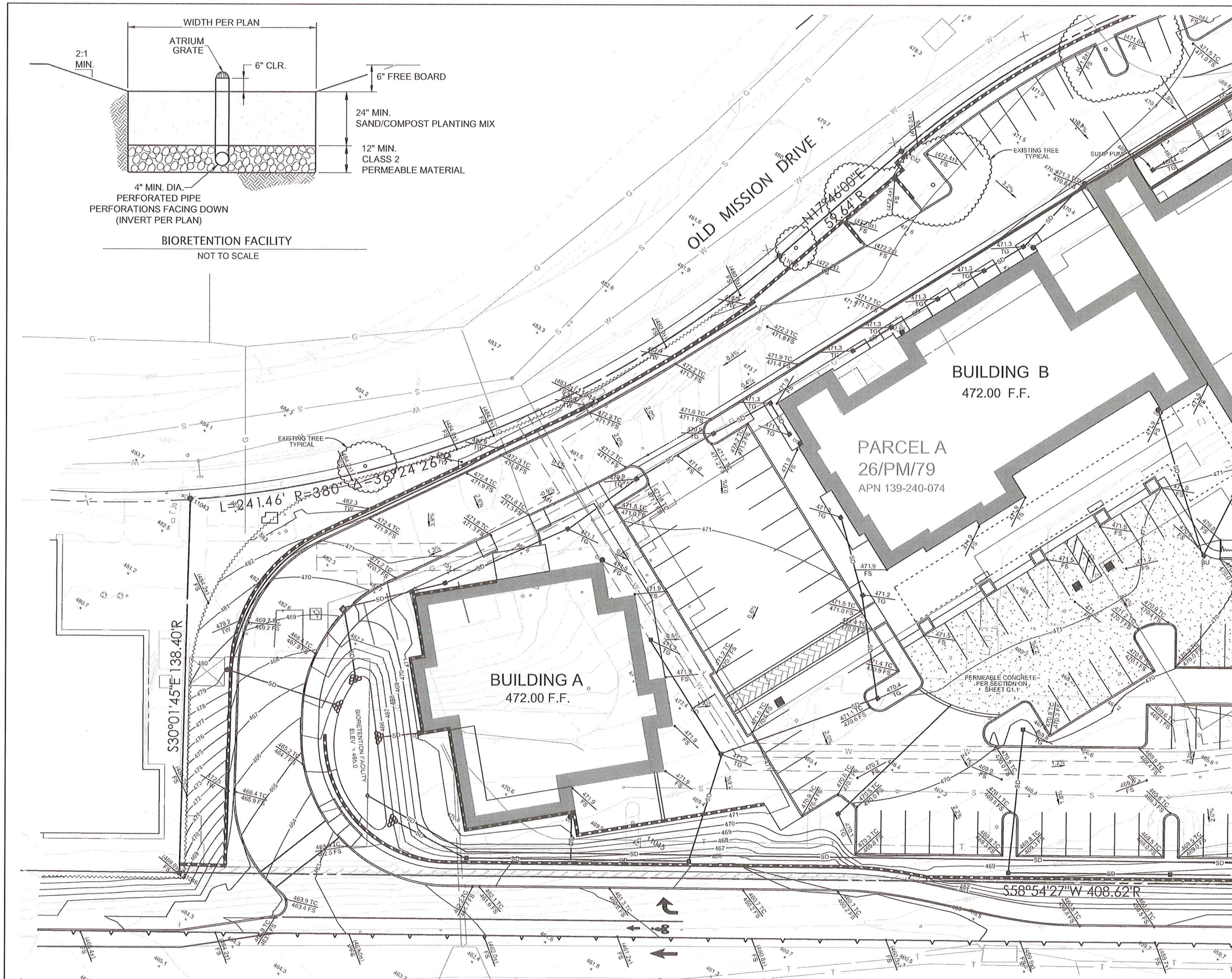
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY GRADING & DRAINAGE PLAN

TRUE NORTH

02-02-2016

CT3.0



SITE RETAINING WALLS:

RETAINING WALL LENGTH TOTAL: APPROX. 1,000 L.F.
AREA APPROX. = 6,000 S.F. (APPROX.)
MAXIMUM WALL HEIGHT = 11'

SITE EARTHWORK ESTIMATE:

AREA OF DISTURBANCE: 4.2 ACRES.
CUT = 8,500 CY
FILL = 7,000 CY
EXPORT = 1,500 CY

MAXIMUM CUT DEPTH = 17' (APPROX.)
MAXIMUM FILL DEPTH = 7' (APPROX.)

THE ABOVE QUANTITIES ARE FOR PLANNING AND PERMITTING PURPOSES ONLY. SHRINKAGE, CONSOLIDATION AND SUBSIDENCE FACTORS, LOSSES DUE TO CLEARING AND DEMOLITION OPERATIONS, AND TRENCHING FOR UTILITIES AND FOUNDATIONS ARE NOT INCLUDED. ESTIMATED EARTHWORK QUANTITIES ARE BASED ON THE APPROXIMATE DIFFERENCE BETWEEN EXISTING GRADES AND PROPOSED FINISH GRADES OR PAVEMENT SUBGRADES, AS INDICATED ON THE PLANS, AND SHOULD VARY ACCORDING TO THESE FACTORS AND LOSSES.

DISTURBED AREA DISCLAIMER

THE TOTAL ESTIMATED DISTURBED AREA OF GRADING AND CONSTRUCTION FOR THESE PLANS IS 4.2 ACRES. PROJECTS THAT ARE 1.0 ACRES OR GREATER IN DISTURBED AREA WILL REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND NOTICE OF INTENT (NOI) AS APPROVED BY THE STATE REGIONAL WATER QUALITY BOARD.

EXISTING UTILITY NOTE:
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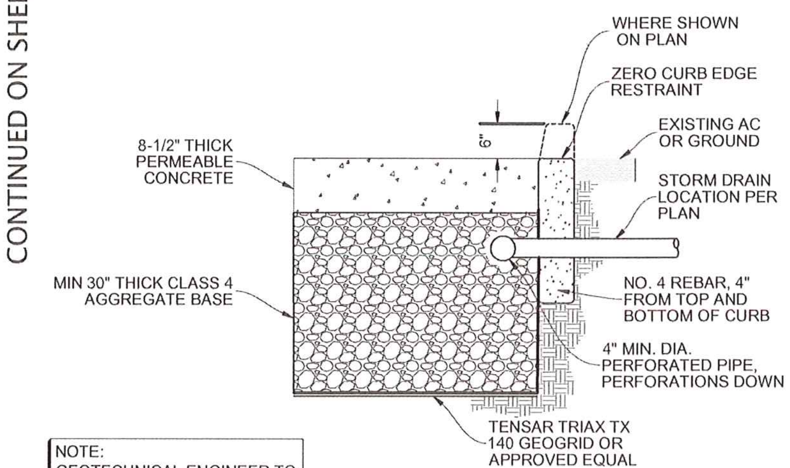


NOTE:
GEOTECHNICAL ENGINEER TO VERIFY PAVER STRUCTURAL SECTION THICKNESS PRIOR TO CONSTRUCTION.

PERMEABLE CONCRETE SECTION
NOT TO SCALE

SCALE: 1" = 20'
0 20 40 60 80

NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

Ashley&Vance ENGINEERING, INC.

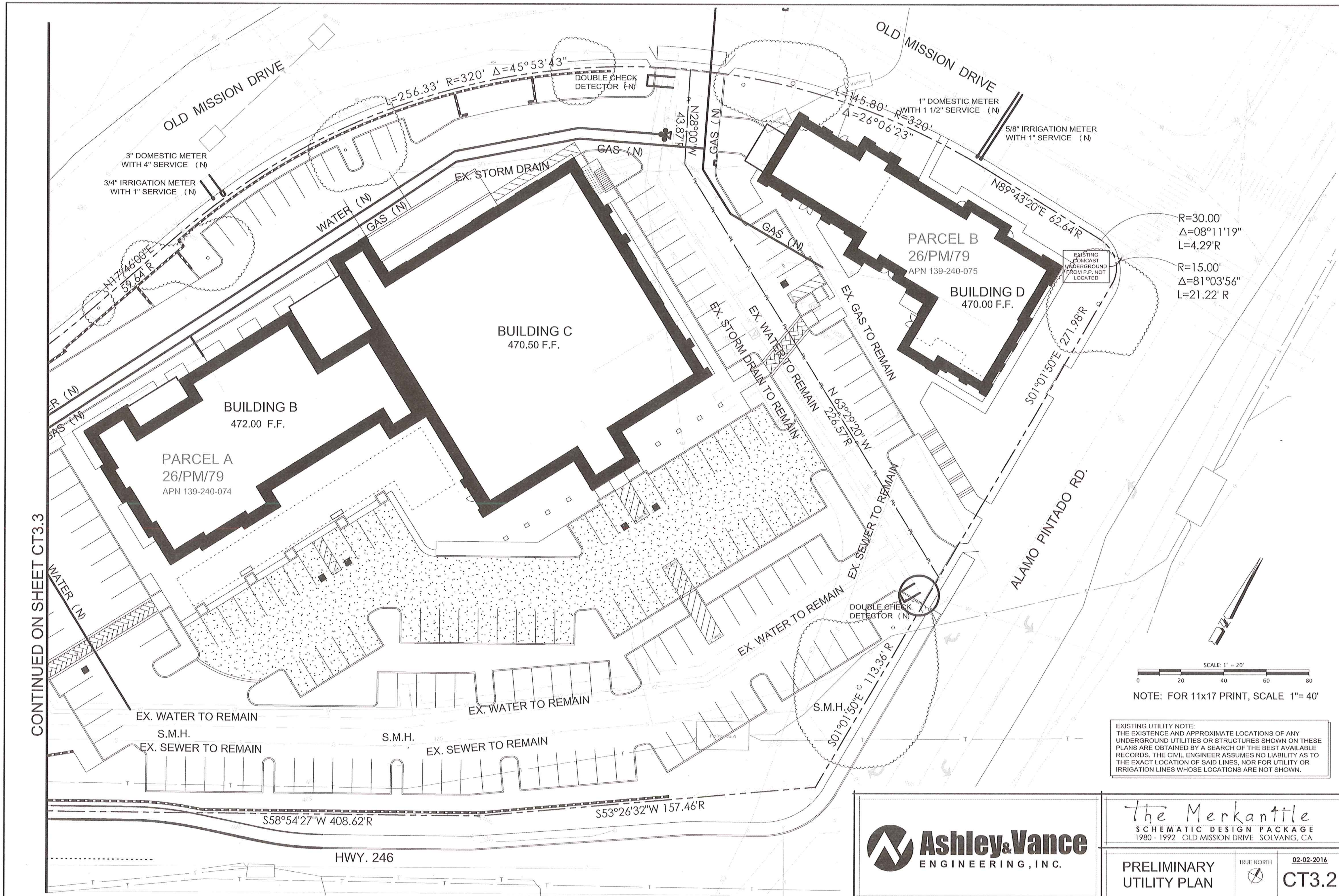
The Merkantile
SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY GRADING & DRAINAGE PLAN

TRUE NORTH

02-02-2016

CT3.1



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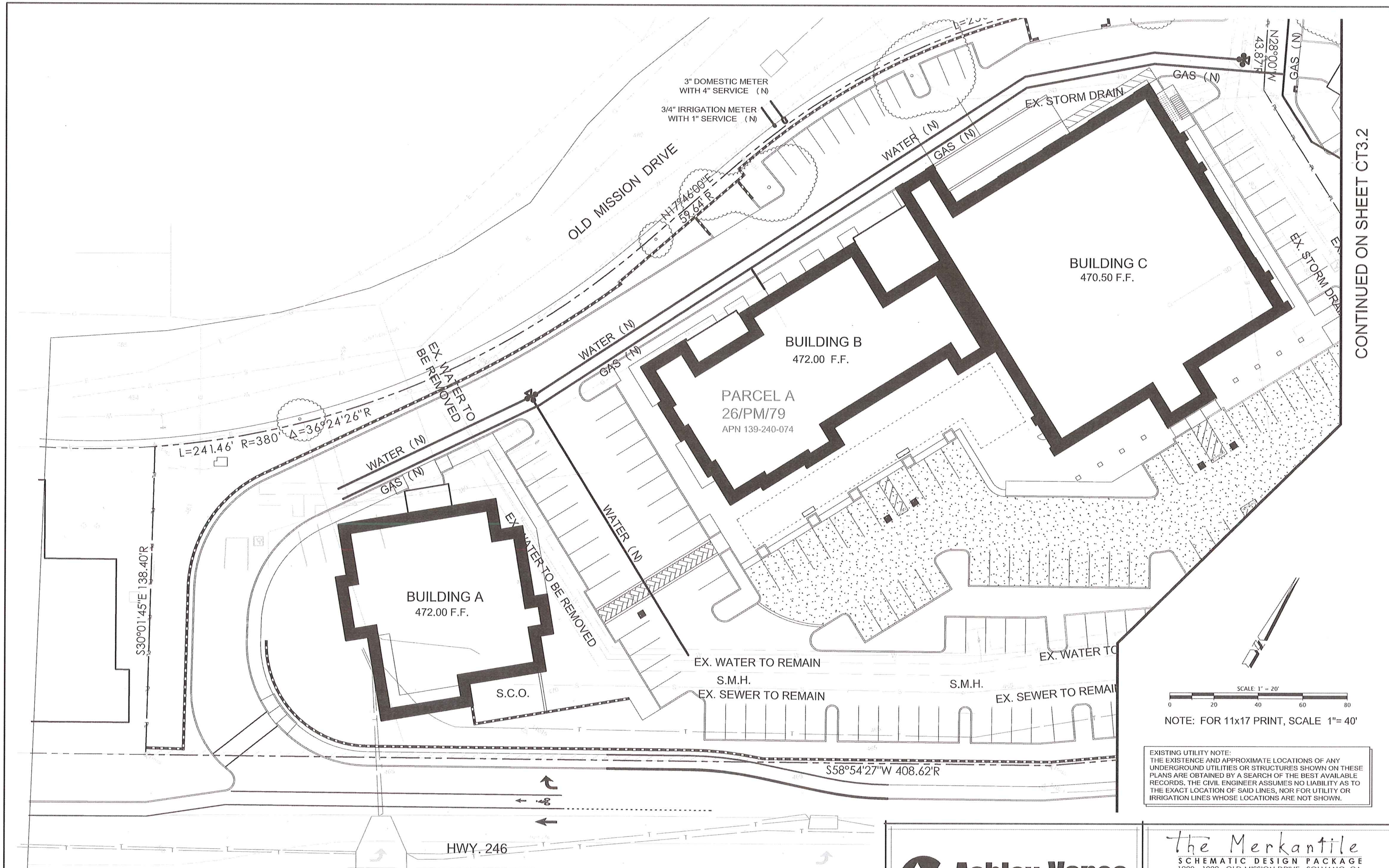

NOTE: FOR 11x17 PRINT, SCALE 1"= 40'

EXISTING UTILITY NOTE:
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SCHEMATIC DESIGN PACKAGE
1980 - 1992 OLD MISSION DRIVE SOLVANG, CA

PRELIMINARY UTILITY PLAN

TRUE NORTH

02-02-2016

CT3.3

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