

**TO: Mr. Boyd Robertson, Engineer, Town of Prescott Valley**

**CC: Jeff Kost, Glenwood Development Company, L.L.C.**

**FROM: Joseph F. Spadafino, P.E., PTOE**

**SUBJECT: Family Dollar Store Technical Memorandum**

**DATE: October 3, 2011**



### **PURPOSE**

The purpose of this technical memorandum is to provide a site plan review and assessment for a Family Dollar Store proposed for the southeast corner of Bradshaw Mountain Road at State Route (SR) 69 in the Town of Prescott Valley, Arizona.

### **INTRODUCTION**

Glenwood Development Company, L.L.C. is planning on developing a Family Dollar Store on a parcel located such that it could serve both Prescott Valley and the Town of Dewey-Humboldt. The proposed development will consist of an 8,320-square foot (SF) Family Dollar discount store on a 1.49-acre site that abuts the east side of SR 69. Access to the site will be via one driveway to Bradshaw Mountain Road and not from the highway.

The developer has been asked to prepare a letter from a traffic engineer assessing the proposed development. Hence, the developer has asked Y.S. Mantri and Associates, L.L.C. to prepare a document containing the requested information.

### **EXISTING CONDITIONS**

The proposed development site is within a Planned Area Development designated PAD 5-II in the Town's *General Plan* (RBF, January 2002). Quailwood Meadows, a 988-dwelling unit residential community is located to the east of the site. Bradshaw Mountain Road is the primary access to Quailwood Meadows, which, YSMA understands, is approximately two-thirds built out. A traffic impact study (TIS) was prepared for the Quailwood Meadows community and approved in 2003.

The Town envisions properties along SR 69 to be developed commercially. A review of aerial photographs available from the Yavapai County Internet website reveals that the Family Dollar Store may be the first commercial development proposed along SR 69 in PAD 5-II.

Bradshaw Mountain Road is the only access to Quailwood Meadows. Village Way is one of only two accesses to the Villages at Lynx Creek, a golf course community between Quailwood Meadows and SR 69. Village Way is constructed to its ultimate cross-section north of Bradshaw Mountain Road; on the south side of the intersection, there is a "stub-out" where curb returns have been provided for a future extension of Village Way. Bradshaw Mountain Road is constructed to its ultimate cross section from SR 69 to and including Village Way; east of Village Way it narrows down to a single lane in each direction where it continues to serve Quailwood Meadows.

### **Y. S. Mantri & Associates, LLC**

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**SITE PLAN REVIEW**

Attachment 1 is a plan of the proposed Family Dollar Store site. It shows a single access point from Bradshaw Mountain Road with no access to SR 69. The access, designated the Village Way Extension on the site plan, is located across from Village Way. YSMA understands that this extension will ultimately become a public right of way as the remainder of the area surrounding the Family Dollar Store is developed commercially.

The site plan shows the Village Way Extension to be widened between Bradshaw Mountain Road and the site driveway to the Family Dollar Store. Its curb does not align with the curb to the east, that is, on the north side of the store. While pushing this curb out saves pavement, it also gives drivers reason to not go through into the adjacent vacant property.

YSMA understands that the site is designed for Family Dollar delivery trucks to enter and exit via the Village Way Extension and to circulate around the site as necessary.

**TRIP GENERATION AND ASSIGNMENT**

The trips generated by the site were estimated using *Trip Generation, Eighth Edition*, published by the ITE in 2008. Vehicle trips are estimated for total average weekday and for AM and PM peak hours. The proposed development includes the individual land use described below. The figure in brackets represents the Land Use Code (LUC) per the ITE *Trip Generation*.

**Free-Standing Discount Store (815):** The discount stores in this category are free-standing stores with off-street parking. They usually offer a variety of customer services, centralized cashiering and a wide range of products. They typically maintain long store hours seven days a week. The stores included in this land use are often the only ones on the site, but they can also be found in mutual operation with a related or unrelated garden center and/or service station. Free-standing discount stores are also sometimes found as separate parcels within a retail complex with their own dedicated parking. They are not usually open for business during the AM peak hour.

*Table 1: Family Dollar Store Site-Generated Traffic* summarizes the trips estimated to be generated by the proposed Family Dollar Store and the estimated pass-by trips.

**Table 1: Family Dollar Store Site-Generated Traffic**

	Weekday ADT	AM Peak Hour		PM Peak Hour		Saturday ADT	Saturday Peak Hour	
		Trips IN	Trips OUT	Trips IN	Trips OUT		Trips IN	Trips OUT
8,320 SF	478	6	3	21	21	592	32	31
Pass-by Trips*	22			3	3			
<b>Net "New" Trips</b>	<b>456</b>	<b>9</b>		<b>36</b>		<b>592</b>	<b>63</b>	

\* Pass-by trips are drawn from existing traffic already "passing by" the site and, thus, are not "new" trips.

**DIRECTIONAL DISTRIBUTION AND TRIP ASSIGNMENT**

Directional distribution is the process of estimating from available socio-economic data, primarily where people live or work around a site, where trips generated by a development will originate or will be destined. Site trips are then assigned to site driveways and adjacent roadways per the directional distribution. No directional distribution or trip assignment is warranted for this memorandum, as will be explained in the next section.

## **INBOUND TURNING MOVEMENTS**

YSMA reviewed the draft of Prescott Valley's *Design and Construction Standards and Specifications* available at the Town's Internet website. No turn lane warranting criteria could be found. Therefore, YSMA will use criteria found in the Institute of Transportation Engineers' publication *Transportation and Land Development* (Stover & Koepke, 1988). From Table 6-3, a right-turn lane is warranted when the following four criteria are met: 1) the speed limit on the adjacent roadway is greater than 35 miles per hour, 2) there are more than 1,000 right turns into driveway each day, 3) there are more than 40 right turns during a peak hour, and 4) there is adequate site frontage. Based on the trip generation above, there would be neither 1,000 right turns per day into the driveway nor 40 inbound right turns during a peak hour; thus, a right-turn lane on Bradshaw Mountain Road into the site would not be warranted with just the development of the Family Dollar Store.

*In the future, when there is other commercial development surrounding Family Dollar, a right turn lane may prove to be warranted, but it will be the responsibility of that other developer to provide that. Family Dollar is already dedicating right of way for that purpose.*

With regard to the need for an exclusive left turn lane into the site, the aerial photos indicate there is sufficient pavement on Bradshaw Mountain Road east of Village Way and an existing painted median that could be striped to provide an exclusive left turn lane for the site. Since the intersection is not signalized, a left turn lane with the minimal storage capacity of 4 vehicles or 100 feet could be provided without additional widening of Bradshaw Mountain Road by the developer.

## **INTERSECTION CONFIGURATION**

At present, southbound Village Way is configured and striped to provide an exclusive right-turn lane and an exclusive left-turn lane at Bradshaw Mountain Road. With the construction of the Village Way Extension, a southbound through movement will become an option as will a westbound left turn. The developer will work with the Town to develop striping for the intersection, which could be accomplished in part by restriping the existing southbound right-turn lane to provide a shared through/right-turn lane and by restriping the existing painted median to provide a westbound left turn lane. Attachment 2 is a sketch of this configuration.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the above, YSMA concludes that the site plan for the proposed Family Dollar Store on Bradshaw Mountain Road at SR 69 is adequate in that it will accommodate delivery vehicles. YSMA also concludes that a right-turn lane from Bradshaw Mountain Road is not warranted with just the development of the Family Dollar Store, which would not generate enough trips to warrant a right-turn lane.

It is recommended that the developer and the Town work together to develop striping for the intersection of Village Way and Bradshaw Mountain Road that includes a southbound shared through/right-turn lane and a westbound left turn lane from Bradshaw Mountain Road using the existing painted median. Attachment 2 is a sketch of this.



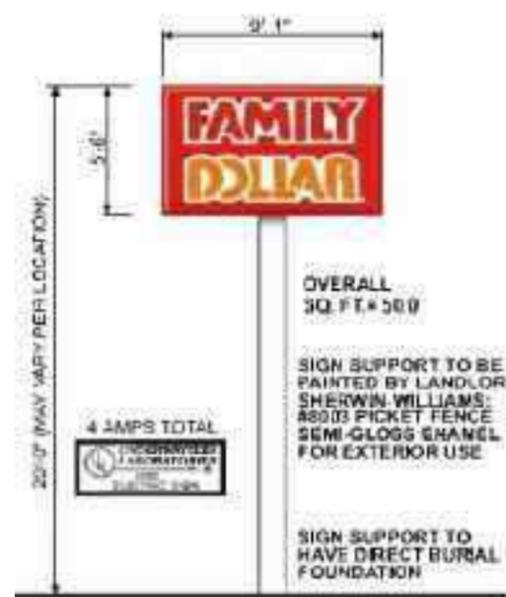
**STOUT**  
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FINAL DEVELOPMENT PLAN FOR:

**FAMILY DOLLAR**

HIGHWAY 69 & BRADSHAW MOUNTAIN ROAD  
PRESCOTT VALLEY, ARIZONA



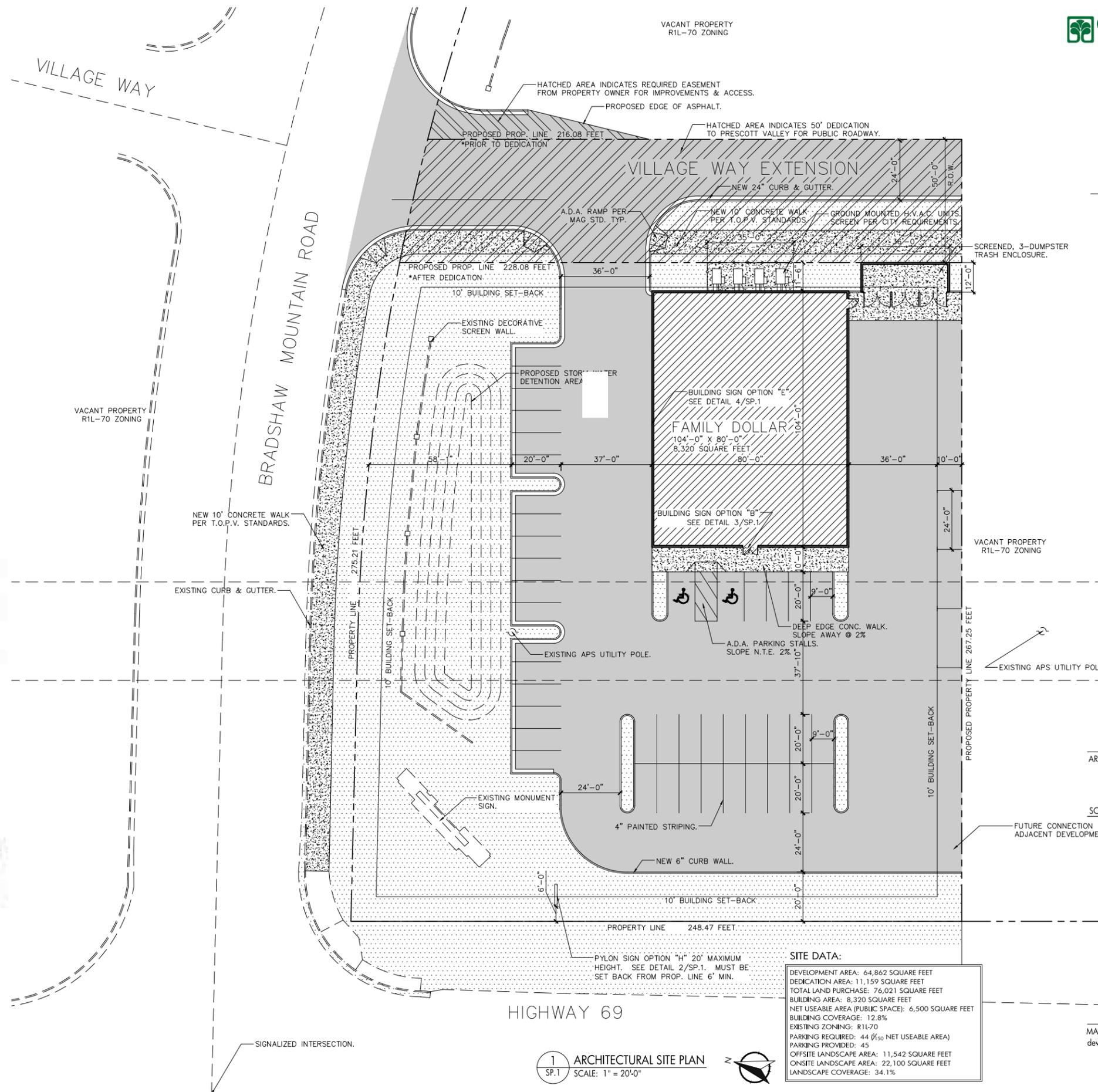
2 PYLON SIGN OPTION "H"  
SP.1 SCALE: NO SCALE



3 BUILDING SIGN OPTION "B"  
SP.1 SCALE: NO SCALE



4 BUILDING SIGN OPTION "E"  
SP.1 SCALE: NO SCALE



1 ARCHITECTURAL SITE PLAN  
SP.1 SCALE: 1" = 20'-0"

**SITE DATA:**

DEVELOPMENT AREA:	64,862 SQUARE FEET
DEDICATION AREA:	11,159 SQUARE FEET
TOTAL LAND PURCHASE:	76,021 SQUARE FEET
BUILDING AREA:	8,320 SQUARE FEET
NET USEABLE AREA (PUBLIC SPACE):	6,500 SQUARE FEET
BUILDING COVERAGE:	12.8%
EXISTING ZONING:	R1L-70
PARKING REQUIRED:	44 (1/500 NET USEABLE AREA)
PARKING PROVIDED:	45
OFFSITE LANDSCAPE AREA:	11,542 SQUARE FEET
ONSITE LANDSCAPE AREA:	22,100 SQUARE FEET
LANDSCAPE COVERAGE:	34.1%

ARCHITECTURAL SITE PLAN

SCALE: 1" = 20'-0"

FUTURE CONNECTION TO ADJACENT DEVELOPMENT.

MAY 23, 2011  
deweyfd.dwg

**SP.1**



- ### Legend
- City Boundaries
  - Cottonwood
  - Peoria
  - Prescott
  - Sedona
  - Camp Verde
  - Chino Valley
  - Clarkdale
  - Dewey-Humboldt
  - Jerome
  - Prescott Valley
  - Wickenburg
  - County Boundary
  - Counties
  - Parcels

## Attachment 2. Intersection Striping Concept



*Disclaimer: Map and parcel information is believed to be accurate but accuracy is not guaranteed. No portion of the information should be considered to be, or used as, a legal document. The information is provided subject to the express condition that the user knowingly waives any and all claims for damages against Yavapai County that may arise from the use of this data.*