

**Happy Valley 40**

**A Single Family Residential Planned Area Development**

**Zoning Case Z13-0006**

**Owner**

Happy Valley Funding LLC  
4350 E Camelback Rd, Suite E240  
Phoenix, AZ 85018

**Applicant**

Happy Valley Land Partners LLC  
4222 E Camelback Rd, Suite H100  
Phoenix, AZ 85018

PLANNED AREA DEVELOPMENT  
APPROVAL

P/Z Commission Date 3/6/14  
City Council Approval Date 4/22/14

  
Planner

**3<sup>rd</sup> Submittal**

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## **Development Team**

### Developer

#### **M3 Companies, LLC**

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4222 E Camelback Rd, Suite H100

Phoenix, AZ 85018

602-386-1308

## **Land Planning and Landscape Design**

### **Greey/Pickett**

Contact: Wendell Pickett

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Scottsdale, AZ 85251

480-609-0009

### Engineering

#### **Slater Hanifan Group**

Contact: Tara O'Connor

11801 N. Tatum Blvd, Suite 123

Phoenix, AZ 85028

602-687-9664

Happy Valley Land Partners LLC, an Arizona limited liability company, whose manager is M3 Builders, LLC (“**HVLP**”) is submitting a request for the rezoning of 45.7 gross acres from R1-35 to Planned Area Development (“**PAD**”). The 45.7 gross acres is located on the south side of Happy Valley Road west of 83<sup>rd</sup> Avenue and east of 91<sup>st</sup> Avenue (the “**Property**”).

The PAD would allow for up to 62 single family home lots (1.36 du/acre) in a well-planned cohesive subdivision with 27.5% of open space (the “**Project**”). The Property has 80 feet of slope from north to south from Happy Valley Road and is an isolated parcel surrounded by approximately 100 acres of State Trust Lands.

The general market area surrounding the Property has grown substantially over the past few years and is transitioning to a more suburban market, specifically to the west and north of the Property. Happy Valley Road borders the northern portion of the Property and is a six-lane major arterial street; it was completed in 2008. The current traffic count is 19,100 vehicle trips per day and will substantially increase in traffic with the continued development of commercial and higher density residential at the intersection of Happy Valley Road and Lake Pleasant Parkway, and further to the west in Vistancia and along the 303 corridor. A mix of residential densities has been developed in the area immediately surrounding the Property; State Trust Lands zoned Agricultural surround the Property; R1-18 (on the east side of 83<sup>rd</sup> Avenue from Hatfield Road south to Deer Valley Road) to SR-43 to the south, west and east of the State Lands; a PAD is planned immediately to the north of Happy Valley Road (PAD Z97-13A2) and West Wing, a Planned Community Development (PCD Z98-09A9) is located to the north of PAD Z97-13A2.

The Project site plan is based upon single family residential home lots with an overall density of 1.36 dwelling units per acre. The actual width, depth and size of each lot within the Project will vary based on changing terrain and development constraints to provide a more fluent and desirable community. It is anticipated that there will be one or two builders within the Project, with architectural design guidelines being imposed by the developer to maintain continuity within the Project. The size of lots will vary with a minimum of 12,000 square feet to greater than 18,000 square feet, thus allowing for a mix of different product types and price points. The majority of lots within the community will be 18,000 square feet or greater. The Project design incorporates natural open spaces throughout the community, walking trail and sidewalk throughout the community, increased landscaping as well as a central landscaped park, and a sound wall along Happy Valley Road.

The PAD, as submitted, meets the City of Peoria submittal requirements for planned area developments. Several meetings have been held with the staff to discuss the design constraints, solutions to these constraints and site planning options. The result of these meetings is set forth in this application which includes planning documents, standards and guidelines for the build out of the Project. The use of a PAD will allow the Project to establish a unique character, inclusive of open space, which is otherwise unattainable under the Property's current zoning of R1-35.



### **Relationship to Surrounding Properties**

The Project is approximately 1,500 feet from the intersection of Happy Valley Road and 83<sup>rd</sup> Avenue and 1,200 feet west of the intersection of Happy Valley Road and 91<sup>st</sup> Avenue. To the north of the Property across Happy Valley Road is the planned Sunrise Canyon PAD, a 209 acre community planned for single family residential lots, ranging from .5 acre to over 1 acre lots. Due to the terrain and hillside conditions of Sunrise Canyon, higher density residential was not feasible.

To the south, east and west of the Property are State Trust Lands zoned AG, General Agricultural. Running on the southern border of the State Trust Lands are a 230 foot wide SRP

easement for high power lines and a 60 foot wide El Paso Gas easement. The gas and electric easements provide a 230 foot buffer to the R1-35 and SR-43 single family residential to the south. The distance from the southeastern corner of the Property to the closest single family residential property line is approximately 300 feet located in R1-35 (Z94-28).

Two small parcels of vacant land are located along the west side of 83<sup>rd</sup> Avenue approximately 1,000 feet to the east of the Property between the State Trust Lands and 83<sup>rd</sup> Avenue (created by the re-alignment of 83<sup>rd</sup> Avenue), zoned SR-43. To the west of the State Trust Lands, approximately 1,350 feet from the Property on the west side of 91<sup>st</sup> Avenue are single family lots ranging in size from SR-35 to SR-43.

### **General Plan**

The Property is designated as “**Residential/Estate**” with a density of 0-2 du/ac on the City of Peoria’s General Plan Land Use Map. This PAD application is consistent with the current General Plan designation with an average density of 1.36 dwelling units per acre; however, it exceeds the “Target Density” designation outlined in the General Plan. The “Target Density” allocation for “Residential/Estate” land designation is 1 dwelling unit per acre. The average planned density for the Project is 1.36 density units per gross acre. In accordance with Section 2.c of the General Plan, which outlines allowances for exceeding Target Density, the project will implement enhanced design and architectural standards; the Property open spaces will be planted with water conservation and preservation of native vegetation in mind, community design to allow variation in lot sizing; and additional open space above what is required by the City of Peoria.

### **Explanation of Rezoning Request**

The Project has many design constraints, such as a six-lane arterial roadway along its northern border, sloping topographical conditions with 80 foot of fall from north to south across the site, multiple drainages created as a result of the construction of Happy Valley Road and the drainage being disbursed onto the Property, and an irregular shape as a result of a larger than typical dedication of right of way for Happy Valley Road to the City of Peoria, all of which have been overcome in the design concepts for the Project. The use of a PAD will accommodate these design constraints while remaining consistent with the General Plan. The PAD limits the overall density to 62 density units or 1.36 units per gross acre.

This PAD report includes conceptual designs of the Project’s entrance, walls, landscaping, lotting pattern and sizes, community parks, and natural open space. The primary entrance into the Project will be located on the south side of Happy Valley Road approximately 3,100 feet west of 83<sup>rd</sup> Avenue. The interior streets will be privately owned and maintained, but designed and constructed to the City of Peoria street standards. Improvements to Happy Valley Road will be in accordance with approved traffic plans,

Useable open space is provided within the Project via a large centralized community park, as well as a smaller pocket park which will be connected through sidewalks and pathways within the Project. Retention areas surrounding these park areas will also be landscaped to enlarge the useable park area. The Project provides approximately 10.8 acres or 27.5% of total open space within the Property. The landscaped area within the right-of-way between Happy Valley Road and the north property line will also be maintained by the community.

The slope is within the City right of way, but due to the elevation changes and the requirement for an 8' foot tall sound wall along Happy Valley Road, this 2.1 acre parcel of City right of way will be best served if it is maintained and landscaped as part of the Project.

### **Permitted Principle, Conditional and Accessory Uses**

#### Permitted Principle Uses

- a. One detached single-family dwelling unit per lot.
- b. All permitted uses in accordance with the City of Peoria Zoning Ordinance 14-5-2.

#### Permitted Conditional Uses

- a. Conditional uses permitted by the City of Peoria Zoning Ordinance 14-5-3

#### Permitted Accessory Uses

- a. Permitted Accessory uses shall comply with the City of Peoria Zoning Ordinance Article 14-5-4

### **Project Phasing**

Development of the Project will occur in one or two phases and the houses will be constructed by one or two merchant home builders to be completed in multiple phases.

### **Project Development Standards**

- a. Lot Coverage: 50% Maximum
- b. Setbacks:
  - Front Setback (ft) - Side Entry Garage<sup>1</sup> (10')\*
  - Front Setback (ft) - Front Facing Garage (20')\*\*
  - Interior Setback (min/total ft) - (5'/15')
  - Rear Setback (ft) - (15')
  - Corner Setback (ft) - (10')

\* Not more than 60% of the total front-facing elevation shall occur at the 10 foot setback.

\*\* Where front-facing garages are present, a 10 foot front setback shall apply to the livable portion of the home provided that not more than 60% of the total front-facing elevation occurs at the 10 foot setback.

<sup>1</sup>. Side-entry garages shall be prohibited on corner lots.

c. Minimum Lot Size(s):

- All lots: 12,000 square feet or greater
- Minimum 50% of lots 18,000 square feet or greater  
Maximum 62 lots total

d. Building Heights: Maximum of 30'

e. Accessory Use Standards: Accessory uses shall comply with the City of Peoria Zoning Ordinance Article 14-5-8

f. Open Space Requirements: The Project will contain a total of 10.8 acres of open space comprised of 2.8 acres of useable open space, 2.1 acres of HOA maintained open space, and 5.9 acres of natural open space. 5.89 acres of Natural Open Space is required per the Desert Lands Conservation Overlay, the Project meets this requirement. Community parks, trails, retention areas and other open spaces will be improved with plant material that will conform to the low water use plant requirements of the Arizona Department of Water Resources. Multi-Use trails wind around the community park with connectivity to all adjacent residential streets. The community park will also provide amenities including a useable turf area and additional amenities such as sport court, play structure, shade structure, bench seating, gathering node, and barbeque area.

g. Lighting: Lighting shall conform to Article 14-3-2F of the City of Peoria Zoning Ordinance governing exterior lighting for residential development. Lighting within the Project will be upgraded from standard fixtures in order to enhance the appeal of the community. Specific fixtures have not been selected yet; examples, however, are provided with this application.

h. Roadway Standards: The entrance into the Project will be gated and is located on Happy Valley Road, approximately 3,100 feet west of the 83<sup>rd</sup> Avenue intersection. This entry provides long range views of the valley to the south and the neighborhood park, then winds east and west before each branches off into several short streets culminating in cul-de-sacs. The entry provides a 70 foot minimum right-of-way, divided roadway section with one inbound and one outbound lane, a center landscaped median, a call box/gate control and a turn-around in compliance with the City of Peoria standards. The interior streets meet the City of Peoria standards and are planned within a 50 foot tract width utilizing two street standards: (1) a double loaded street (lots on both sides) having a 32 foot face of curb to face of curb pavement section, a five foot detached sidewalk on each side of the street, and a three

and one-half foot landscape buffer separating the back of curb from the detached sidewalk; and (2) a single loaded street (lots on only one side) having a 26 foot face of curb to face of curb pavement section, a five foot detached sidewalk on each side of the street, and a six and one-half foot landscape buffer separating the back of curb from the detached sidewalk.

- i. Parking: Parking shall be in conformance with Article 14-23 of the City of Peoria Zoning Ordinance. The double-loaded streets with the 32 foot pavement section will permit parking on both sides of the street while the narrower single-loaded streets with the 26 foot pavement section will only allow parking on one side of the street.
  
- j. Screening, Fencing and Walls: The standards for fencing and walls shall be in conformance with Article 14-3-5 of the City of Peoria Zoning Ordinance. Screening shall be in conformance with the standards set forth in Article 14-3-4 of the City of Peoria Zoning Ordinance. Thematic wall design will complement the Project's identity established at the community entry monument at Happy Valley Road. Thematic walls will be provided along Happy Valley Road and within the Project along property boundaries with the exception of view walls/fencing which will be located adjacent to open space. The Project's theme will be emphasized by a consistent use of enhanced materials and detailing throughout the community
  
- k. Enhanced Design Review Standards: The Project will be developed in accordance with Chapter 3 (Single Family Residential) of the City of Peoria's Design Review Manual. The Project will include safe and efficient roadway design which will minimize potential vehicular and pedestrian conflict within the community. A centrally located community park will be the visual terminus and focal element when entering the Project. The gated entry will provide a unique design including decorative walls, gates and paving material, an enhanced landscape median and vehicle turn around. Single family residential architectural features will include diverse housing floor plans, elevations, material and colors. All houses within the Project will include enhanced design elements.
  
- l. Enhanced Architectural Design Elements:
  - Four-sided architecture. Rear and side elevations shall have architectural treatments consistent with the front elevation.
  - Enhanced building articulation and materials including porches and front entries. Shade elements will be thoughtfully integrated to provide protection from the desert sun.
  - Residential architecture will provide well-articulated public spaces including porches and patios, meaningful front door design, feature window, and thoughtful design and material selection for garage doors.
  - Changes in volume, building plane, sloping roofs and porches will be used to reduce the perceived scale of the structure.

- Basic architectural shapes and volumes, and uncluttered architectural details are encouraged.
  - Variety in buildings materials and colors is encouraged within a neighborhood, but should also compliment the natural desert environment.
- A simple and harmonious application of materials is encouraged. Materials changes will occur when there is a change in volume or plane, or other logical change.
- Residential streets will contain a variety of floor plans and building elevations to create a diverse streetscape. A minimum separation of at least three lots will be maintained for any model with similar elevation, colors and materials.
- A mix of materials, colors and façade treatments will be employed.

### **Project Signage Standards**

Signage shall conform to the standards in Article 14-34 of the City of Peoria Zoning Ordinance. A permanent subdivision identification sign will be located at the Project entry at Happy Valley Road. The entry monument signage shall conform to Article 14-34-28 of the City of Peoria Zoning Ordinance.

### **Project Landscape Standards**

Landscaping for the Project shall conform to the requirements set forth in Article 14-35 of the City of Peoria Zoning Ordinance, except in the immediate area adjacent to the Happy Valley Road right of way. In the area adjacent to the Happy Valley Road right of way, landscape areas are to be allowed on both sides of the sound wall which shall be constructed in similar fashion to the existing sound wall along Happy Valley Road adjacent to the Property. The grading of the slope which is south of the sound wall and north of the wall located on the residential lot line shall accommodate a landscaped bench area adjacent to the sound wall which will vary in width based upon the height of the slope and the amount of area between the sound wall and the lot line. The intent of the bench area is to support plant materials which when planted will have a canopy higher than the top of the sound wall. The slope between the sound wall and the residential lot wall will be graded at no less than a 2.5 to 1 and be no less than 10' in width when measured from the face of the wall on the lot line to the face of the sound wall. The slope area within the city of Peoria right of way along Happy Valley Road (approximately 2.1 acres) will be graded and landscaped by the Developer at its expense. The Developer shall work with the City in making application to the state of Arizona for modification to its existing easement within the right of way to accommodate the aforementioned improvements.

Throughout the community landscaping will be designed to be ecologically smart, and with water preservation in mind. The community will be landscaped with native desert landscaping that requires minimal amounts of water. Other water preservation for non-native materials will

include water-sensing irrigation valves, as well drip irrigation to replace spray irrigation for appropriate applications.

### **Slope Analysis**

The existing topography for the Project slopes generally from north to south with the majority of slope ranging from 0%-10%. The site is approximately 0.4 miles downstream of the Peoria Sunrise Mountain Preserve. There is a rock outcropping that has been sheared off on the north side by construction of Happy Valley Road improvements which rises 15 feet above the existing road surface and is located 0.5 mile northwest of the intersection of 83<sup>rd</sup> Avenue and Happy Valley Road. The minor hill formation is a remnant of the construction of Happy Valley Road constructed by the City of Peoria and does not provide any scenic value or natural hillside characteristics. The formation slopes from North to South, with the North portion of the formation rising vertically 15 feet from the crest to Happy Valley Road right of way before it slopes south within the project boundaries. This natural formation will remain in place as natural open space while retaining its natural hillside characteristics. The site elevation ranges from a high of 1,438 feet above mean sea level atop the hill to 1,358 at the southeast corner of the site. A slope analysis map has been prepared in accordance with the City of Peoria requirements as set forth in Article 14-22A-3.E.2. The existing outcropping will be removed as a part of the mass grading program to effectively and efficiently develop the site.

### **Grading, Drainage and Retention**

The Project is a proposed residential development comprised of 62 single-family residential lots, interior circulating streets, retaining and perimeter walls, drainage channels and structures, storm water retention basins, and open space amenities.

The existing topography for the Project slopes generally from north to south with slopes ranging from 5-10%. The site is approximately 0.4 miles downstream of the Peoria Sunrise Mountain Preserve. The site is primarily undisturbed Sonoran desert land with typical vegetation, including native cactus, bushes and grasses with several trails and dirt roadways crisscrossing it.

All grading will conform to City of Peoria requirements. Debris, vegetation, and other deleterious material will be stripped/removed from areas proposed for structural fill placement prior to construction. Site development will consist of typical cut and fill earthwork to attain the desired graded construction of one- to two-story detached single family residential structures using conventional construction equipment. Final site grade will be within 10 feet of existing site elevations with no basements or below grade structures proposed.

Two options for lot grading will be utilized due to underlying bedrock conditions on site. The first option includes providing up to a three foot fill blanket of moisture conditioned and compacted soil for uniform support of structures at building pads where over excavation would encounter bedrock. The second option involves excavating the proposed building pads to grade then over excavating the building pad. The foundation soil for the second option shall consist of moisture conditioned and compacted soil or bedrock.

Street grading involves over excavation and then a minimum 12-inch moisture conditioned and compacted soil sub grade base will be placed. The finish floor elevations will be set at a minimum of 14 inches above the expected 100-year water surface elevation of the drainage channels, basins and low outfall elevation of the site.

Offsite flows from drainage areas north of Happy Valley Road and from Happy Valley Road improvements are concentrated in existing storm drain culverts constructed under Happy Valley Road. These concentrated flows then outlet at the north boundary of the site via concrete structures in the roadway embankment then are conveyed into ephemeral washes south through the site. The seasonal washes traverse the site from north to south. These offsite flows will be conveyed in underground storm pipes or via earthen channels from north to south across the site within dedicated drainage easements before discharging to their historic flow path on the parcel's southern boundary. When necessary, off-site runoff will be detained within on-site retention basins before discharging at their historic outfall locations. The on-site retention basins will be constructed with weir outlets to maintain flow rates and velocities equal to or less than pre-development levels.

Drainage for the proposed storm water management system onsite is proposed to sheet flow runoff to the paved roadway section where it will be captured and conveyed within 6" vertical curb. Flows will then be conveyed along the streets to catch basins and scuppers located at low points. From these inlets, storm water runoff will be conveyed via underground storm drain pipes or graded swales to retention basins located in landscaped open space throughout the site. The retention basins will be appropriately sized to retain the on-site 100-year, 2-hour storm event runoff volume generated by the post-development condition. Bleed-off systems will be constructed for the retention basins to outlet into the natural washes to meet the required 36-hour dry up time.

### **Wash Preservation**

Washes within the Property will be preserved according to the drainage plan for the Property, as well as the Army Corps of Engineers Section 404 requirements. During the course of construction, washes that are to be mitigated will be fenced in order to maintain the integrity of the wash. Washes that have been created by artificial conditions from the construction and

placement of Happy Valley Road will not be maintained to this standard, as they are not naturally occurring.

### **Water and Wastewater**

The Project is located within the Sunrise Water Company service area and will connect to the Sunrise Water Company system. A watermain extension for a looped onsite water system is anticipated. In order to provide reliable water service in conformance with the adopted pressure standards of Sunrise Water Company, a looped distribution system has been proposed to provide adequate flow conditions when modeled for the Average Day, Peak Hour and the Maximum Day plus Fire Flow as required. The looped water system is planned to have a point of connection on two separate waterlines which will provide redundancy in the onsite system.

Southwest of the Project site, an existing waterline (currently 6") runs from 91<sup>st</sup> Avenue to 89<sup>th</sup> Avenue in Hatfield Road, then south in 89<sup>th</sup> Avenue. An existing waterline (currently 8") runs north from Calle Lejos in 83<sup>rd</sup> Avenue and terminates at West Via Lindo southeast of the site. Conceptually, these two waterlines are the proposed points of connection in order to serve the proposed development. Dedicated utility easements across adjacent State Trust Lands will be obtained prior to connection and construction of the watermain extensions to the project site.

The onsite water system facilities shall include the appurtenances necessary for the proper conveyance and service of water within the system and to conform to the applicable Maricopa Association of Governments Uniform Standard Details and Specifications for Public Works Construction. The water distribution and service lines will be appropriately sized to assure they are adequate to satisfy fire flow and pressure requirements. Proposed water pipes will be sized for the total design flow of the Maximum Day Demand plus the Fire-Flow at 20 psi, minimum. Onsite the water distribution lines will be constructed within the dedicated private roadway tract and/or dedicated utility tracts in standard locations conforming to the City of Peoria Infrastructure Design Guidelines.

The Project will be served by the City of Peoria for wastewater. The proposed onsite sewer mains (8" anticipated) will be constructed within the 50' private roadway tracts or within dedicated utility tracts. Due to the natural topography of the site, two sewer outfalls maybe required. Two existing sewer mains have been identified for potential mainline extensions (8" anticipated) and connection to serve the project. The first is an existing manhole in 83<sup>rd</sup> Avenue and West Via Lindo. An existing 30' utility easement has already been dedicated across the State Trust Lands to accommodate this connection. A second point is an existing offsite sewer main in 89<sup>th</sup> Avenue, north of Calle Lejos. Additional utility easement dedications across State Trust Lands will be required and obtained.

Calculations demonstrate an 8" pipe will provide 389 gpm capacity flowing full at the City of Peoria minimum allowable 0.0050 ft/ft slope. Based on the preliminary calculations (See Water and Wastewater Analysis in Appendix), it is anticipated that 8" onsite sewer mains throughout the Project will provide sufficient capacity to serve the demands of the Project.

### **Electrical Power, Natural Gas and Telephone**

All dry utilities will be undergrounded within the 8' PUE on either side of the 50 foot private street/utility tract. Electric service will be provided by Arizona Public Service, telephone service will be provided by CenturyLink and the cable service provider will be Cox Communications. The closest natural gas facilities are approximately one half mile from the Property. Should the developer choose to extend the main gas line to provide service to the Project, Southwest Gas Corporation would provide gas service.

**Exhibit A**

Legal Description

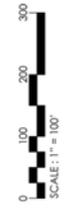
The land referred to herein below is situated in the County of Maricopa, State of Arizona and is described as follows:

Banden Mine and Banden Mine No. 2, located in Sections 3 and 10, Township 4 North, Range 1 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona; as more fully described in survey #2597 of the Arizona Land District.

**Exhibit B**  
Concept Plan



32: > 18,000 sf Lots  
 30: 12,000 - 18,000 sf Lots  
 62 Total



# Happy Valley 40 Concept Plan

**Exhibit C**

Parks and Open Space Map



Property Gross: 45.7 Ac. Property Net: 39.3 Ac.

2.8 Ac. of Useable Open Space Provided (7%)

2.1 Ac. of other HOA maintained Open Space (5%)

5.9 Ac. of Natural Open Space Provided. 5.9 Ac. Required (15%)

10.8 Total Ac. Open Space (27.5%)

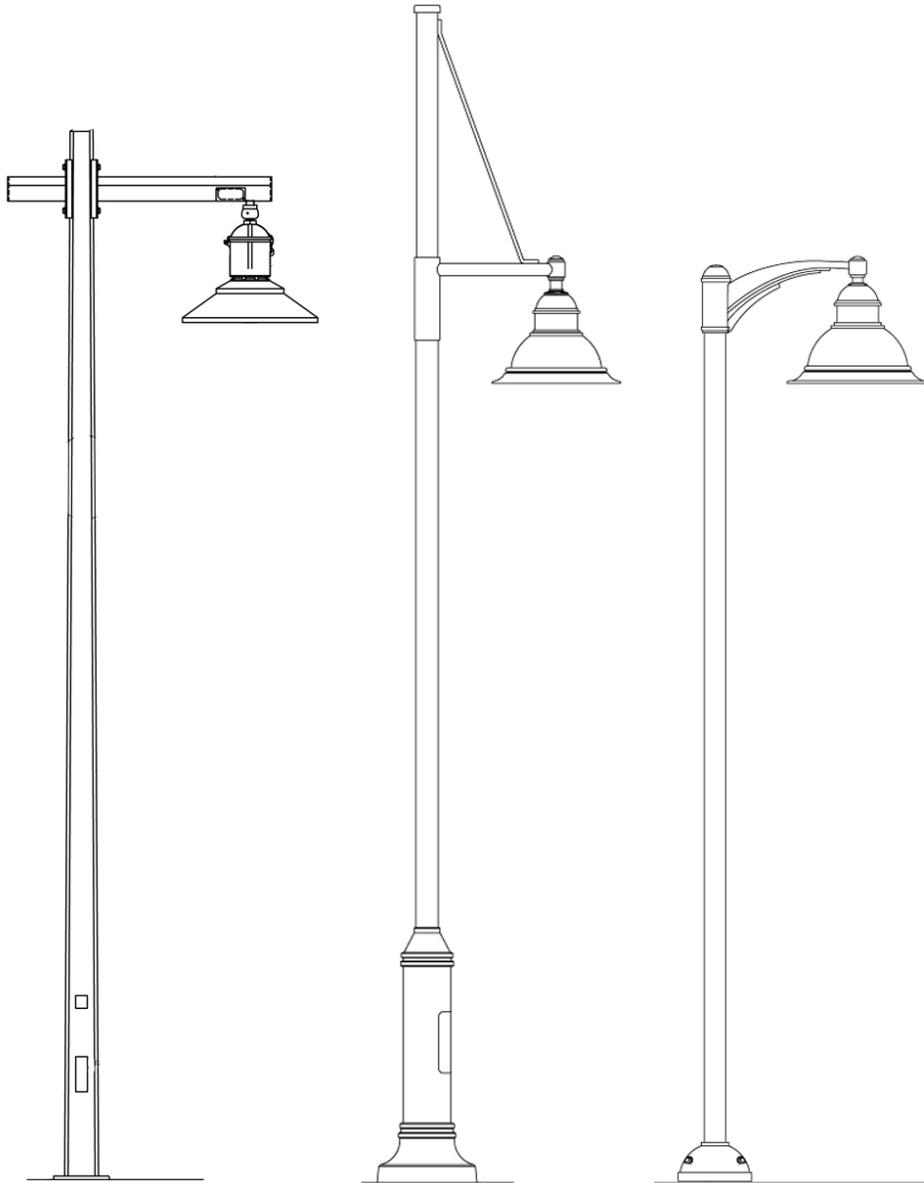


Trails/Sidewalks



## Parks, Open Space & Trails Plan

**Exhibit D**  
Street Lighting



# Potential Street Lighting Examples

**Exhibit E**

Signage



Subdivision  
Signage Examples

**Exhibit F**

Community Entry Concept

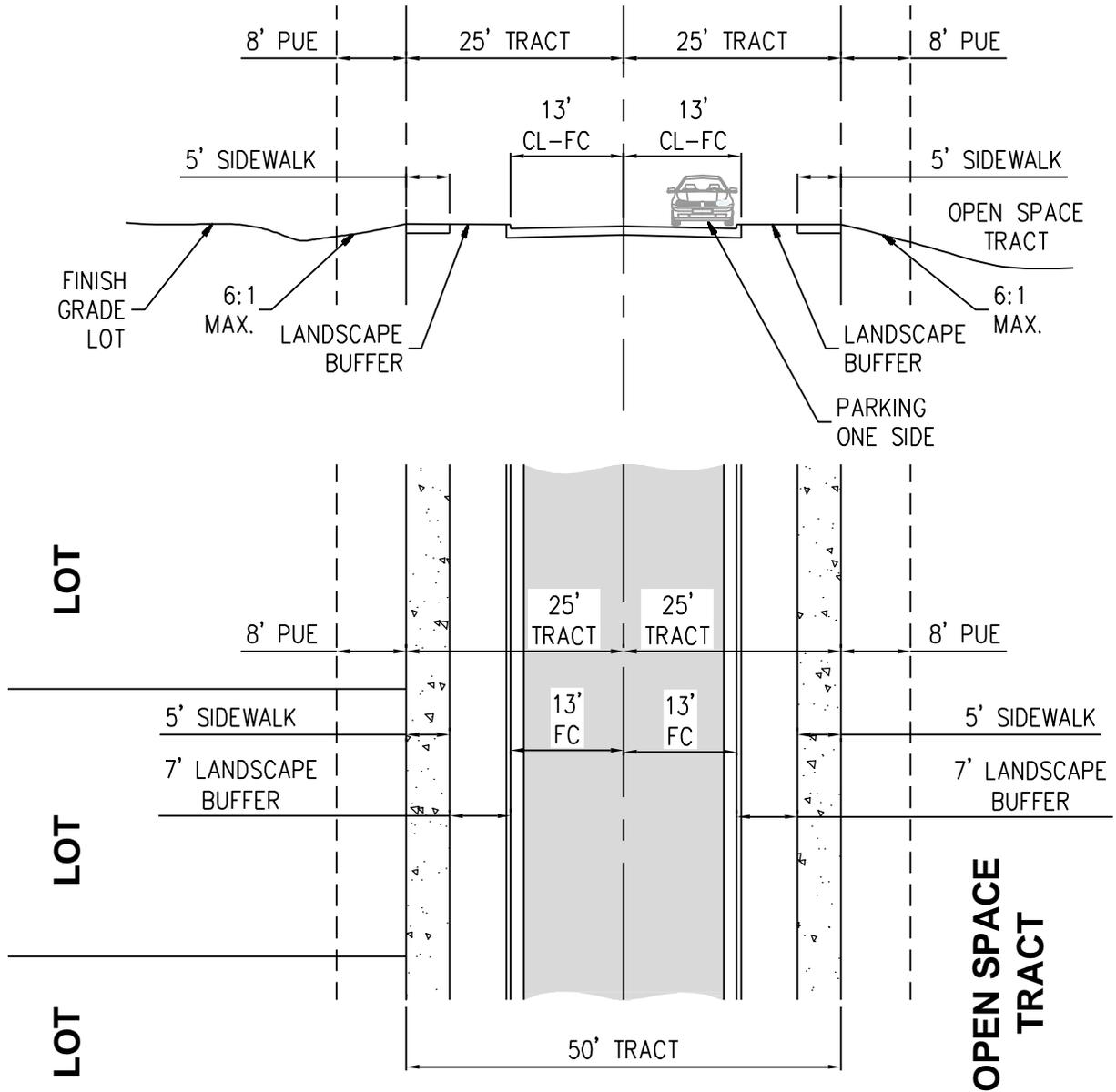


Community Entry Concept

**Exhibit G**

Roadway Sections

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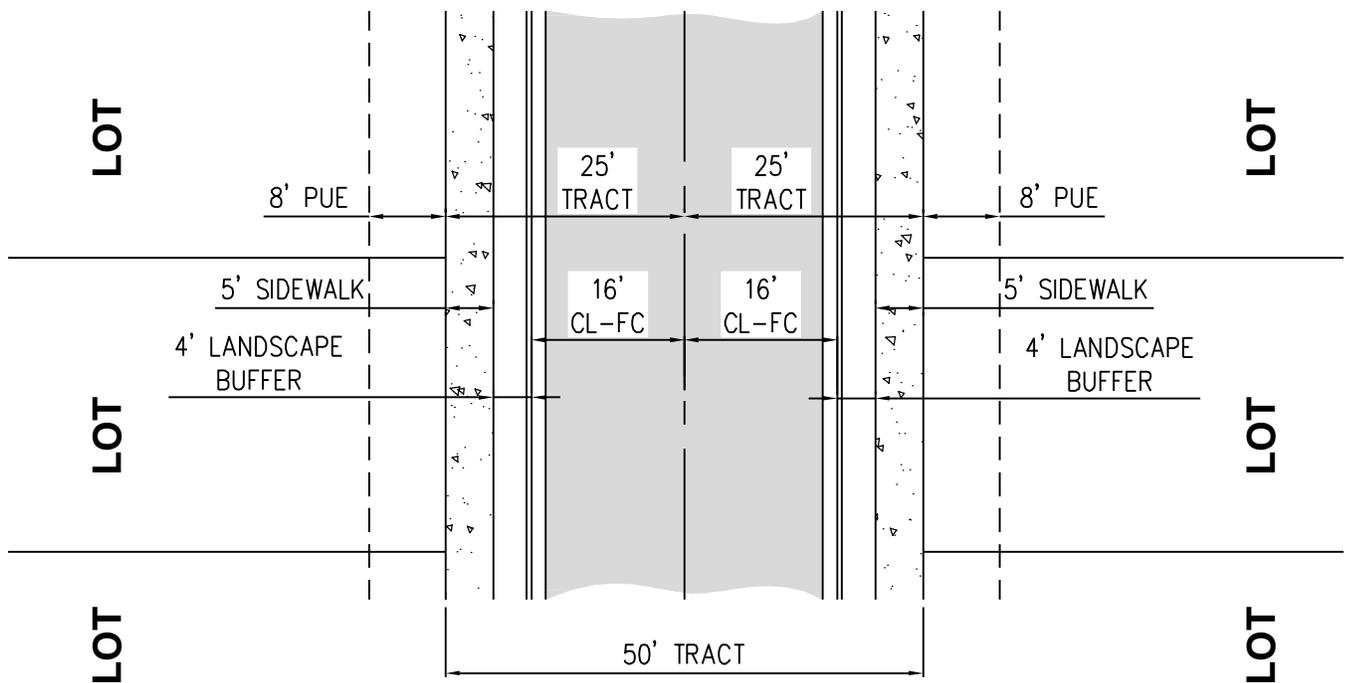
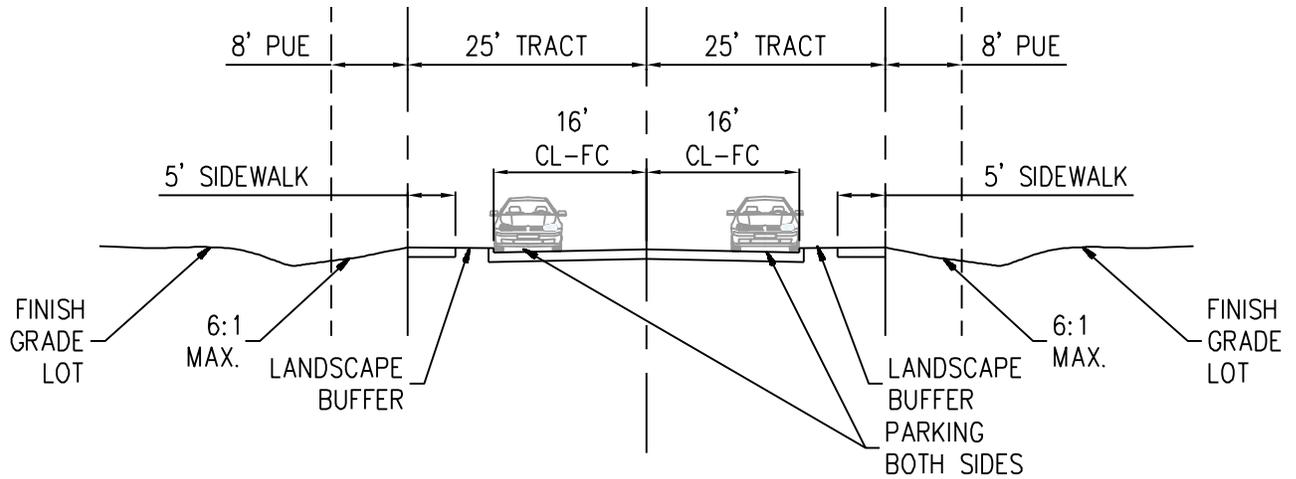
CITY OF PEORIA  
 STANDARD DETAIL PE-010-6  
 PRIVATE STREET  
 26' PAVEMENT PROVIDES PARKING ONE SIDE

**S-I-G** SLATER HANIFAN GROUP  
 CONSULTING ENGINEERS & PLANNERS  
 11801 N. TATUM BOULEVARD #123, PHOENIX, AZ 85208  
 PHONE (602) 687-9664

**HAPPY VALLEY 40**  
**TYPICAL 26' FC-FC**  
**PRIVATE STREET DETAIL**

DATE: 04-02-2013	PROJECT NO.
DRAFTER: DJC	M3C1201
DESIGNER:	
CHECKED: TLO	SHEET 1 OF 3

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CITY OF PEORIA  
 STANDARD DETAIL PE-010-6  
 PRIVATE STREET  
 32' PAVEMENT PROVIDES PARKING BOTH SIDES

**S-I-G** SLATER HANIFAN GROUP  
 CONSULTING ENGINEERS & PLANNERS  
 11801 N. TATUM BOULEVARD #123, PHOENIX, AZ 85208  
 PHONE (602) 687-9664

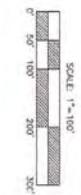
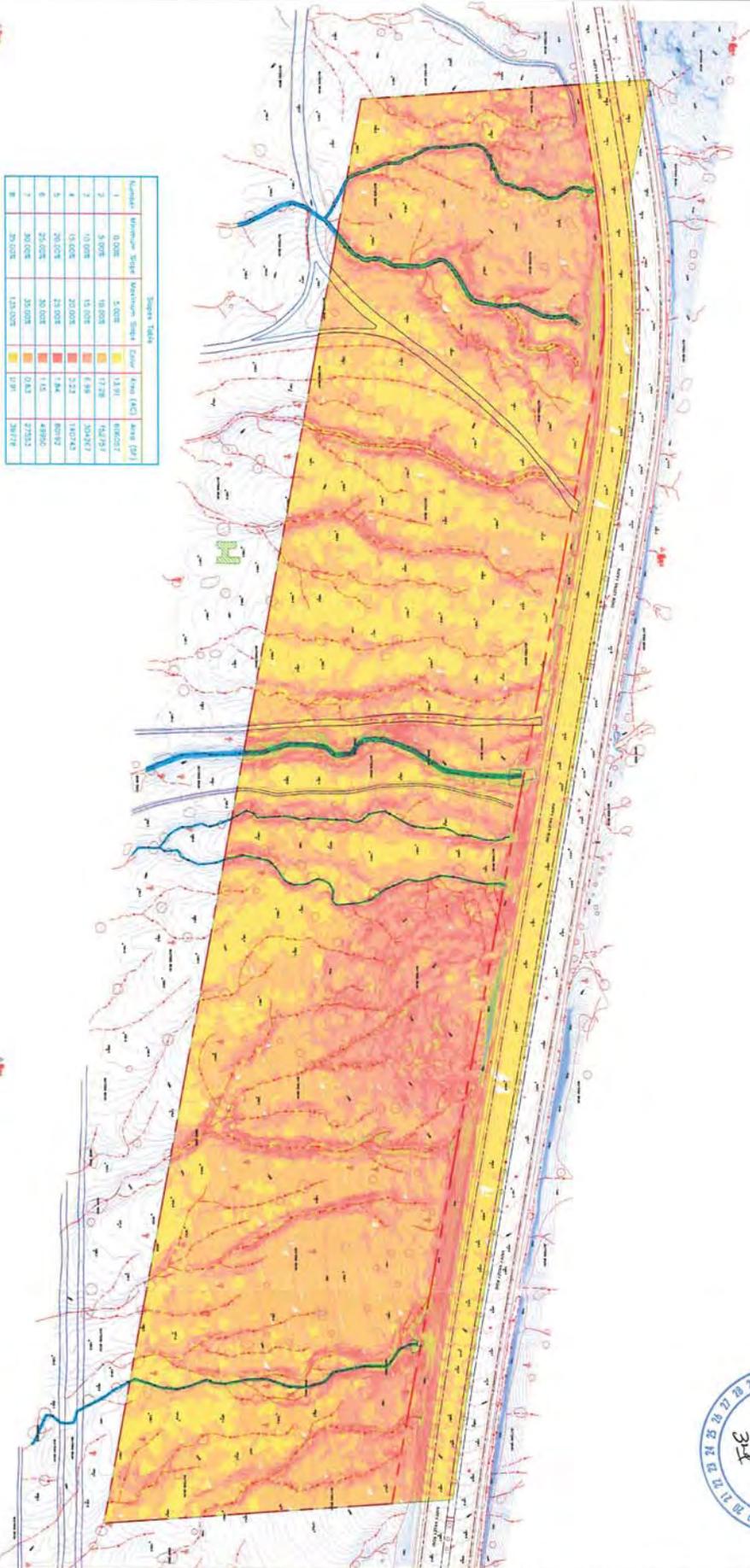
**HAPPY VALLEY 40**  
**TYPICAL 32' FC-FC**  
**PRIVATE STREET DETAIL**

DATE: 04-02-2013	PROJECT NO. M3C1201
DRAFTER: DJC	
DESIGNER:	
CHECKED: TLO	SHEET 2 OF 3

**Exhibit H**

Slope Analysis

Number	Minimum Slope		Maximum Slope		Color	Area (AC)	Area (SQ)
	1	2	1	2			
1	0.00%	5.00%	5.00%	13.00%	13.00%	696,207	14,292
2	3.00%	10.00%	10.00%	17.00%	6.50%	304,872	6,647
3	10.00%	15.00%	15.00%	22.00%	2.23%	102,472	2,232
4	15.00%	20.00%	20.00%	27.00%	1.84%	86,812	1,872
5	20.00%	25.00%	25.00%	32.00%	0.63%	27,552	597
6	25.00%	30.00%	30.00%	35.00%	0.23%	10,752	233
7	30.00%	35.00%	35.00%	40.00%	0.09%	3,872	85
8	35.00%	40.00%	40.00%	45.00%	0.04%	1,512	33



**DATE:** 04/04/2013  
**DRAWN BY:** CD  
**CHECKED BY:** RD  
**PROJECT NO:** M31201-001  
**SHEET NO:** SA-1  
**SHEET 1 OF 1**

**HAPPY VALLEY 40**  
**PRELIMINARY SLOPE MAP**  
**PEORIA, ARIZONA**

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

**S-I-G SLATER HANIFAN GROUP**  
 CONSULTING ENGINEERS & PLANNERS  
 11801 N. TATUM BOULEVARD #122, PHOENIX, AZ 85028  
 PHONE: (602) 887-9964

## **APPENDICES**

**Appendix 1 – Traffic Study**

**Appendix 2 – A.L.T.A.**

**Appendix 3 – Preliminary Grading Plan**

**Appendix 4 – Preliminary Utility Plan**

**Appendix 5 – Preliminary Drainage Plan**

## **Appendix 1 – Traffic Study**



1904 East Medlock Drive • Phoenix • AZ • 85016

Phone: 602 • 277 • 4224 Fax: 602 • 277 • 4228 e-mail: task@taskeng.net

---

November 25, 2013

Ms. Tara O'Connor  
Slater Hanifan Group  
11801 N. Tatum Blvd. #123  
Phoenix, AZ 85028

E-mail: [toconnor@shg-inc.com](mailto:toconnor@shg-inc.com)



**RE: Traffic Statement for Happy Valley 40 Residential Development on Happy Valley Road, Peoria, AZ**

Dear Ms. O'Connor:

This traffic statement examines traffic issues and impacts of a proposed 62 lot gated residential development in northern Peoria, Arizona. This development is located south of Happy Valley Road between 83<sup>rd</sup> Avenue and 91<sup>st</sup> Avenue. It is connected to Happy Valley Road by a divided, local entrance. The units are planned as single-family residential dwellings.

This revised report incorporates comments from the City of Peoria dated April 3, 2013 and October 30, 2013. These comments and a memorandum describing how each is incorporated into the revised report are found in Attachment 3.

Happy Valley Road is a six lane divided roadway classified as an arterial. It has a 16 foot wide median and a 65 foot wide half street right of way adjacent to the site, which are consistent with a standard major arterial cross section.

There is a proposed median break on Happy Valley Road at this location. Current traffic volume on Happy Valley Road is 19,100 ADT, according to traffic counts taken in September, 2012 (See Attachment 1).

## **SITE CONDITIONS**

The attached Exhibit 1 shows the new proposed lotting plan for the site. There are 62 single family residential lots. There is one divided entry access point onto Happy Valley Road, located  $\pm 3,050$  feet west of 83<sup>rd</sup> Avenue, and  $\pm 2,450$  feet east of 91<sup>st</sup> Avenue, measured from near curb to near curb. 83<sup>rd</sup> Avenue is the nearest intersection to the east and 91<sup>st</sup> Avenue is the nearest intersection to the west.

**TRIP GENERATION**

The next step in estimating traffic from the proposed development is to calculate the total estimated vehicle trips to and from the site on an average weekday after the site has been completely built out. This is called trip generation. Vehicle trips are estimated for a total average weekday and for AM and PM peak hours. *Trip Generation, Ninth Edition*, published by the Institute of Transportation Engineers (ITE) in 2012 was the source for the trip rates used in this study. All trip rates for the area are calculated from the ITE equations for weekday and peak hour of the generator.

Table 1 presents the resulting trip generation. The proposed lotting plan is expected to generate 676 total calculated trip ends per average weekday, with 53 morning peak hour and 68 evening peak hour trips. There are 40 outbound trips in the morning peak hour, and 43 inbound trips in the evening peak hour.

**Table 1**  
**Trip Generation**  
*Happy Valley 40 Traffic Statement*

	<b>Proposed</b>
LUC	210
Units	DUs
Amount	62
Trip Rates:*	
Daily	10.91
AM Peak Hour	0.86
PM Peak Hour	1.10
% Inbound:	
AM Peak Hour	25%
PM Peak Hour	63%
Trips:	
Weekday	676
AM Peak Hour Inbound	13
AM Peak Hour Outbound	40
Total AM Peak Hour	53
PM Peak Hour Inbound	43
PM Peak Hour Outbound	25
Total PM Peak Hour	68

\* Equations used to calculate rate

The terms on Table 1 are explained below.

**LUC** is the Institute of Transportation Engineers (ITE) Land Use Code. It refers to the section of the ITE manual from which the trip rates were obtained.

**Units** specify the type of land used for generating trips. In this case, the number of dwellings units was used to estimate the generated trips from the site.

**Amount** is the number of dwellings units expected in the Parcels after full build out conditions.

**Rates** present the number of daily, AM peak hour, and PM peak hour vehicle trips to and from the subject land use per unit.

**Percent Inbound** is the percentage of AM and PM vehicle trips arriving inbound at the land use. The remaining percent of trips are leaving outbound. For daily trips, it is assumed that 50 percent are inbound trips and 50 percent are outbound trips.

**Trips** are the calculated number of trips. They are calculated as the amount times the rate times the percent inbound or outbound.

## **TRAFFIC DESIGN ISSUES**

Exhibit 2 shows existing traffic and expected 2015 traffic on Happy Valley Road. It also shows total 2015 traffic and expected level of service. A 3.2 percent growth factor is applied to 2013 traffic, and a 3 percent seasonal adjustment is made to obtain estimated 2015 background traffic. Site traffic is expected to split with 70 percent traveling east and 30 percent traveling west, proportional to the amount of employment within 10 miles of the site. Exhibit 2C shows the resulting site traffic.

The resulting level of service is shown on Exhibit 2E. The worst case movement is the northbound left turn, which is LOS D in the morning peak hour and LOS C in the evening peak hour (See Capacity Summaries in Attachment 2). Separate right and left outbound lanes are recommended to avoid delay to right turns. There is a ±100 foot queue space between Happy Valley Road and the gate.

Right Turn Lane: City of Peoria criteria for a right turn lane are contained in a March 31, 2003 Engineering Department memorandum. A right turn lane is warranted if a minimum of three of the following criteria are met:

1. At least 5,000 vehicles per day are using or expected in the near future to be using the adjacent street.
2. The 85<sup>th</sup> percentile speed limit is greater than 35 mph or the posted speed limit is 35 mph or greater.
3. At least 1,000 vehicles per day are using or are expected to use the driveway for the development.
4. At least 30 vehicles are expected to make right-turns into the driveway for a one-hour period.

The development entrance onto Happy Valley Road meets the first two of these criteria, but not the last two. The expected total traffic per day on the entrance-way is 835, which is less than the 1,000 vehicle daily volume criterion. The maximum number of right turns in a peak hour will be 16, which is less than the 30 vehicle peak hour criterion. The site does not meet the warrant for a right turn lane.

The City memorandum of March 31, 2003 also states that right turn lanes “are required at all street intersections of Parkways, and Major Arterials.” The entrance to the Happy Valley 40 development is an intersection of a 6 lane divided arterial and a residential entrance road, so it does not meet this warrant.

From an engineering judgment viewpoint, the eastbound traffic on Happy Valley Road has three lanes and is traveling uphill with good sight distance. Bike traffic can be expected in the eastbound bike lane. With the small number of expected right turns it does not appear that a deceleration lane would be needed here. Considering this, it is a safer condition for bicyclists for right turning vehicles to be turning across the bike lane at slow speed at the corner, rather than at high speed at the entrance to a deceleration lane. Consequently it is recommended that an eastbound right turn deceleration lane not be built on Happy Valley Road at the project entrance.

Median Break and Left Turn Lane: A median break and a westbound left turn lane are recommended to provide access into the site. To provide adequate deceleration distance, a 100 foot taper and 100 foot straight section are recommended for the left turn lane. There is more than ¼ mile spacing between the proposed median break and median breaks to the east or west.

Site Access Driveway: The site access driveway is located along a straight section of Happy Valley Road with a curve to the west and a crest to the east. This location is fixed by the existing rough topography, an adjacent 404 wash, and at a location to maximize available sight distance along Happy Valley Road.

Sight distance for right and left turns is estimated based on roadway elevation plans. Table 2 compares estimated sight distance with needed sight distance according to Chapter 9 of *A Policy on Geometric Design of Highways and Streets, 6<sup>th</sup> Edition* (2011, American Society of State Highway and Transportation Officials).

**Table 1**  
**Sight Distances**  
*Happy Valley 40 Traffic Statement*

	Need	Have
Right Turn	530'	560'
Left Turn	727'	660'
Left Turn – 2 Stage		
Stage 1	610	647
Stage 2	610	655

Needed sight distance is intersection sight distance based on a design speed of 55 mph. Needed sight distance is increased due to the width of Happy Valley Road. These sight distance estimates are also based on the assumption that drivers waiting on the Access Driveway to turn onto Happy Valley Road are on a level section of road. There is adequate sight distance for a right turn and for a left turn based on the assumption that drivers will pause in the median to check for oncoming westbound traffic. Due to the expected volumes on Happy Valley Road, the 2-stage turn assumptions are reasonable in this case.

This location appears to be acceptable for an access to the land on the north side of Happy Valley Road. When development occurs north of Happy Valley Road, consideration should be given to locating an access at this location.

## **CONCLUSIONS**

Traffic to and from the proposed site for 62 single-family, gated residential development can be met by the existing roadway network.

- The proposed site will have less than 100 peak hour trips.
- The existing 65 feet of right of way on Happy Valley Road is adequate.
- An eastbound right turn lane into the site is not warranted or recommended.
- A median break is recommended on Happy Valley Road at the site access point.
- The recommended left turn bay into the site is recommended to have  $\pm 100$  feet of straight section and  $\pm 100$  feet of taper.
- The site entrance approach to Happy Valley Road should be level with the roadway for at least one car length (25') at its junction with the main roadway.
- The site entrance location is set by topography, adjacent 404 wash and sight distance along Happy Valley Road. When development occurs north of Happy Valley Road, consideration should be given to locating an access at the location of the Happy Valley 40 access.

Happy Valley 40 Residential Development

11/25/2013

Page 6

I hope this analysis addresses the traffic questions regarding traffic access to the proposed site. If you have any questions or comments, or if I can be of any further help, please contact me at [khowell@taskeng.net](mailto:khowell@taskeng.net), or 602-277-4224. Thank you.

Sincerely,



Ken Howell, PE  
Traffic Engineer

- |             |  |
|-------------|--|
| Exhibits:   | 1. Happy Valley 40 Conceptual Plan           |
|             | 2. Traffic and Recommendations               |
| Attachments | 1. Traffic Count                             |
|             | 2. Capacity Summaries                        |
|             | 3. City of Peoria Comments and Response Memo |

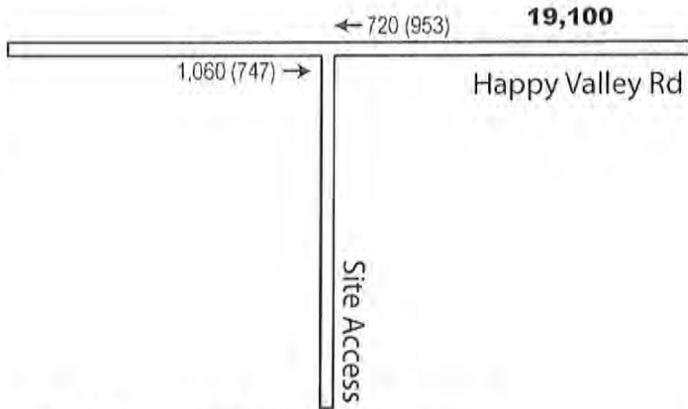
X:\JobFiles\2562.01\2562.01B\Final 2562.01B.doc



32: > 18,000 sf Lots  
 30: 12,000 - 18,000 sf Lots  
 62 Total, 1.36 du/ac  
 Property Gross: 45.7 Ac. Property Net: 39.3 Ac.  
 2.0 Ac. of Useable Open Space Provided/Required (5%)  
 6.0 Ac. of Natural Open Space Provided. (15%)

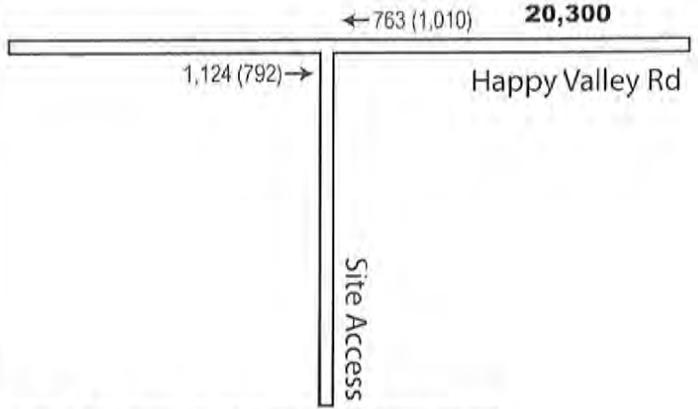
# Happy Valley 40 Concept Plan "P"

**A: Existing Traffic (Year 2013)**



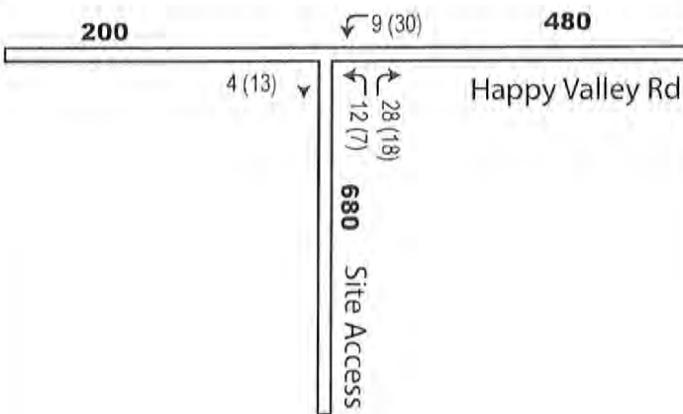
X(Y): AM (PM) Peak Hour Traffic  
**Z**: Average Daily Traffic (in bold font)

**B: Background Traffic (Year 2015)**



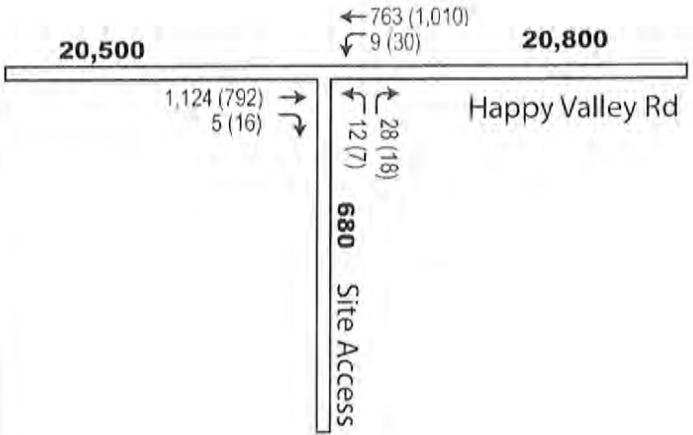
X(Y): AM (PM) Peak Hour Traffic  
**Z**: Average Daily Traffic (in bold font)

**C: Site Traffic**



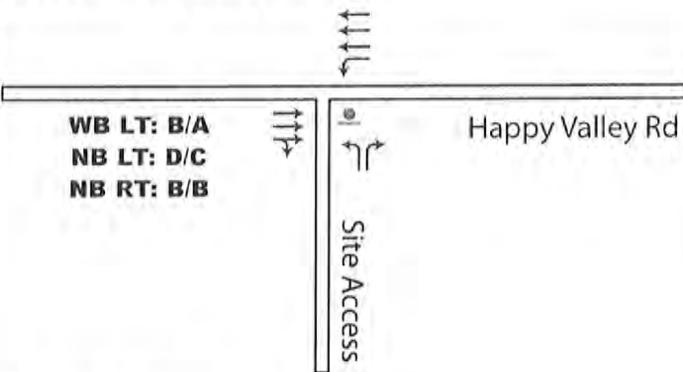
X(Y): AM (PM) Peak Hour Traffic  
**Z**: Average Daily Traffic (in bold font)

**D: Total Traffic (Year 2015)**



X(Y): AM (PM) Peak Hour Traffic  
**Z**: Average Daily Traffic (in bold font)

**E: Level of Service (Year 2015)**



X/Y: AM/PM Level of Service (LOS)  
 ■ : Stop Control (LOS for the most difficult movement shown)  
 ↕ : Turn Lanes



**ATTACHMENT 1**

**TRAFFIC COUNT**

**United Civil Group**  
2803 N. 7th Avenue  
Phoenix, AZ 85007

Street : Happy Valley Road  
Location : E. of 91st Avenue

1/9/2013  
Wednesday

24 Hour Volume (Volume factor 0.500)

Interval Start	Interval Start			Interval Start			Combined	EB	WB	Combined	EB	WB	Combined
	EB	WB	Combined	EB	WB	Combined							
14:00	130	572	113	582	243	1154	28						
14:15	140	132	132	5	2	7	7						
14:30	140	146	146	286	286	5	5						
14:45	162	191	191	353	353	6	6						
15:00	130	615	159	754	289	1369	32						
15:15	160	198	198	358	358	8	8						
15:30	156	181	181	337	337	8	8						
15:45	169	216	216	385	385	12	12						
16:00	176	692	228	900	404	1592	119						
16:15	162	199	199	361	361	25	25						
16:30	164	258	258	422	422	40	40						
16:45	190	215	215	405	405	43	43						
17:00	168	747	229	938	397	1685	406						
17:15	211	251	251	462	462	88	88						
17:30	176	246	246	422	422	128	128						
17:45	192	212	212	404	404	144	144						
18:00	158	573	218	837	376	1410	876						
18:15	154	218	218	372	372	103	103						
18:30	139	209	209	348	348	249	249						
18:45	122	192	192	314	314	289	289						
19:00	120	409	139	518	259	927	1705						
19:15	103	134	134	237	237	438	438						
19:30	102	126	126	228	228	433	433						
19:45	84	119	119	203	203	463	463						
20:00	86	304	88	338	174	642	1359						
20:15	70	105	105	175	175	350	350						
20:30	76	78	78	154	154	322	322						
20:45	72	67	67	139	139	284	284						
21:00	58	216	72	262	130	478	1010						
21:15	58	78	78	136	136	241	241						
21:30	52	68	68	120	120	250	250						
21:45	48	44	44	92	92	267	267						
22:00	34	133	52	151	86	284	906						
22:15	42	44	44	86	86	234	234						
22:30	38	26	26	64	64	219	219						
22:45	19	29	29	48	48	230	230						
23:00	21	72	28	95	49	167	941						
23:15	26	30	30	55	55	241	241						
23:30	16	12	12	28	28	256	256						
23:45	9	25	25	34	34	222	222						
1/10/2013 00:00	6	22	10	40	16	62	949						
00:15	6	10	10	16	16	107	107						
00:30	6	12	12	18	18	217	217						
00:45	4	8	8	12	12	232	232						
01:00	4	16	7	22	11	40	264						
01:15	5	5	5	10	10	242	242						
01:30	5	4	4	9	9	245	245						
01:45	4	6	6	10	10	244	244						

Interval Start	EB	WB	Combined	EB	WB	Combined	Volume Totals
00:00 - 12:00	4527 (60.5%)	2957 (39.5%)	7484	1060	720	1780	9269 (48.4%)
12:00 - 00:00	5338 (45.8%)	6312 (54.2%)	11650	9865 (51.6%)	9269 (48.4%)	19134	0.92
24 Hours	9865 (51.6%)	9269 (48.4%)	19134	0.93	0.83	0.94	0.91

Interval Start	EB	WB	Combined	EB	WB	Combined	Volume Totals
00:00 - 12:00	1060	720	1780	1060	720	1780	9269 (48.4%)
12:00 - 00:00	9865 (51.6%)	9269 (48.4%)	19134	9865 (51.6%)	9269 (48.4%)	19134	0.92
24 Hours	9865 (51.6%)	9269 (48.4%)	19134	0.93	0.83	0.94	0.91

**ATTACHMENT 2**  
**CAPACITY SUMMARIES**

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	kmh			Intersection	Happy Valley Rd/Site Entrance			
Agency/Co.	TASK			Jurisdiction	Peoria			
Date Performed	11/21/2013			Analysis Year	2015			
Analysis Time Period	AM Pk Hr							
Project Description Happy Valley Rd and Entrance to Site 2015 AM Pk Hr								
East/West Street: Happy Valley Rd				North/South Street: Site Entrance				
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)		1124	4	11	763			
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.92	0.92	1.00		
Hourly Flow Rate, HFR (veh/h)	0	1221	4	11	829	0		
Percent Heavy Vehicles	0	--	--	3	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	12		28					
Peak-Hour Factor, PHF	0.92	1.00	0.92	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	13	0	30	0	0	0		
Percent Heavy Vehicles	3	0	3	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		11	13		30			
C (m) (veh/h)		559	186		488			
v/c		0.02	0.07		0.06			
95% queue length		0.06	0.22		0.20			
Control Delay (s/veh)		11.6	25.8		12.9			
LOS		B	D		B			
Approach Delay (s/veh)	--	--	16.8					
Approach LOS	--	--	C					

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	kmh			Intersection	Happy Valley Rd/Site Entrance			
Agency/Co.	TASK			Jurisdiction	Peoria			
Date Performed	11/20/2013			Analysis Year	2015			
Analysis Time Period	AM Pk Hr							
Project Description Happy Valley Rd and Entrance to Site 2015 PM Pk Hr								
East/West Street: Happy Valley Rd				North/South Street: Site Entrance				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		792	13	32	1010			
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.92	0.92	1.00		
Hourly Flow Rate, HFR (veh/h)	0	860	14	34	1097	0		
Percent Heavy Vehicles	0	--	--	3	--	--		
Median Type	Raised curb							
RT Channelized			0					0
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	7		18					
Peak-Hour Factor, PHF	0.92	1.00	0.92	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	7	0	19	0	0	0		
Percent Heavy Vehicles	3	0	3	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0					0
Lanes	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		34	7		19			
C (m) (veh/h)		761	239		615			
v/c		0.04	0.03		0.03			
95% queue length		0.14	0.09		0.10			
Control Delay (s/veh)		10.0	20.5		11.0			
LOS		A	C		B			
Approach Delay (s/veh)	--	--	13.6					
Approach LOS	--	--	B					

**ATTACHMENT 3**  
**RESPONSE MEMORANDUM**

## **Appendix 2 – A.L.T.A.**



7301 EAST EVANS ROAD  
 PEORIA, ARIZONA 86801  
 PHONE (480) 832-0780  
 FAX (480) 832-0781  
 WWW.SIGSURVEY.COM



**SIG**  
 SURVEY INNOVATION  
 GROUP, INC.  
 Land Surveying Services

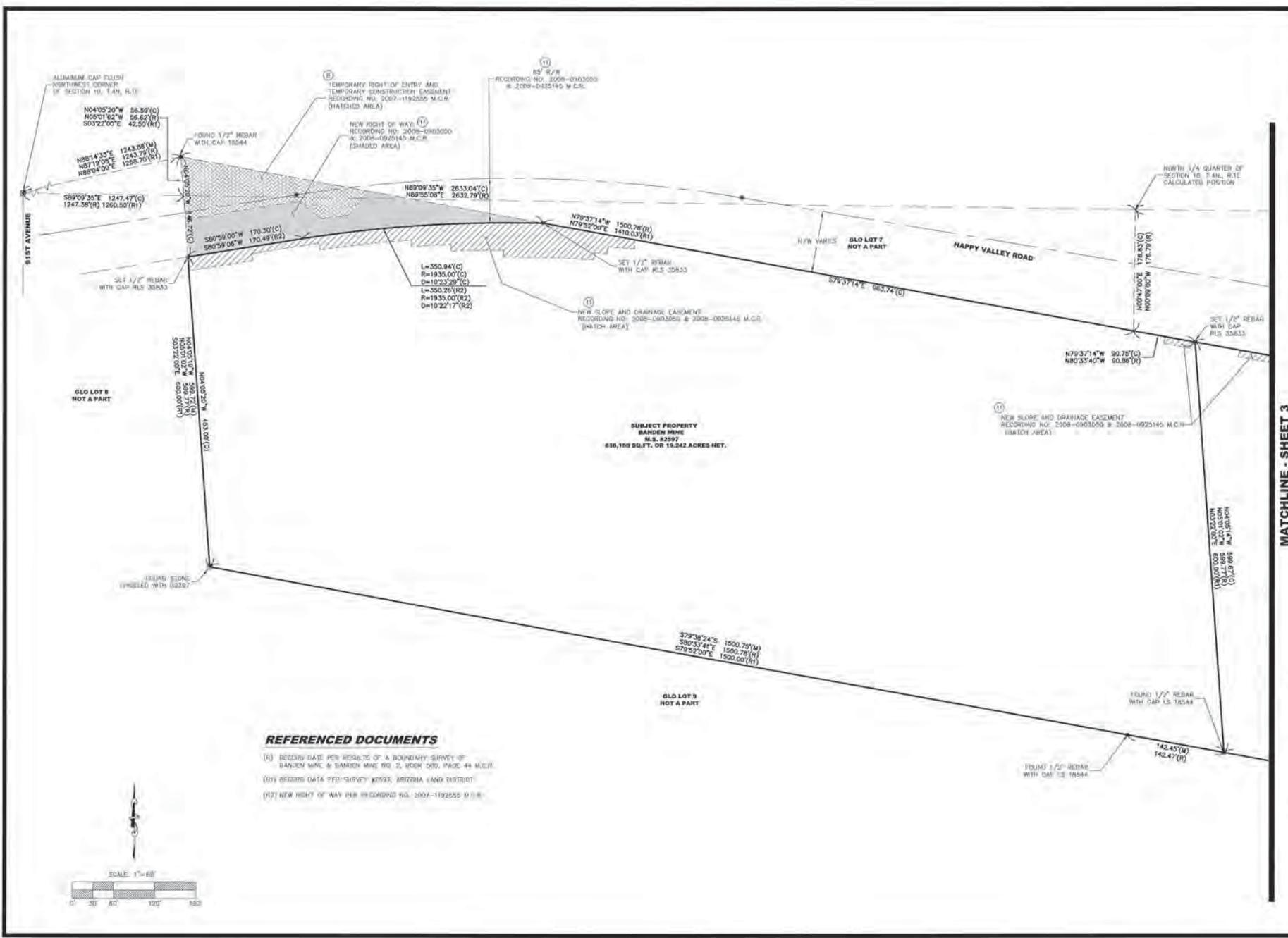
**ALTA/ACSM LAND TITLE SURVEY  
 HAPPY VALLEY 40  
 PEORIA, ARIZONA**

MATCHLINE - SHEET 3



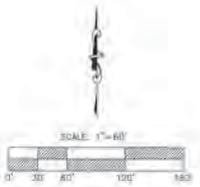
REVISIONS:  
 1. SYMBOL & PL  
 TOPOGRAPHY 1-8-13

DRAWING NAME:  
 2012-189 ALTA  
 JOB NO. 2012-199  
 DRAWN: RNT  
 CHECKED: RMH  
 DATE: 01-02-2012  
 SCALE: 1"=60'  
 SHEET: 2 OF 5

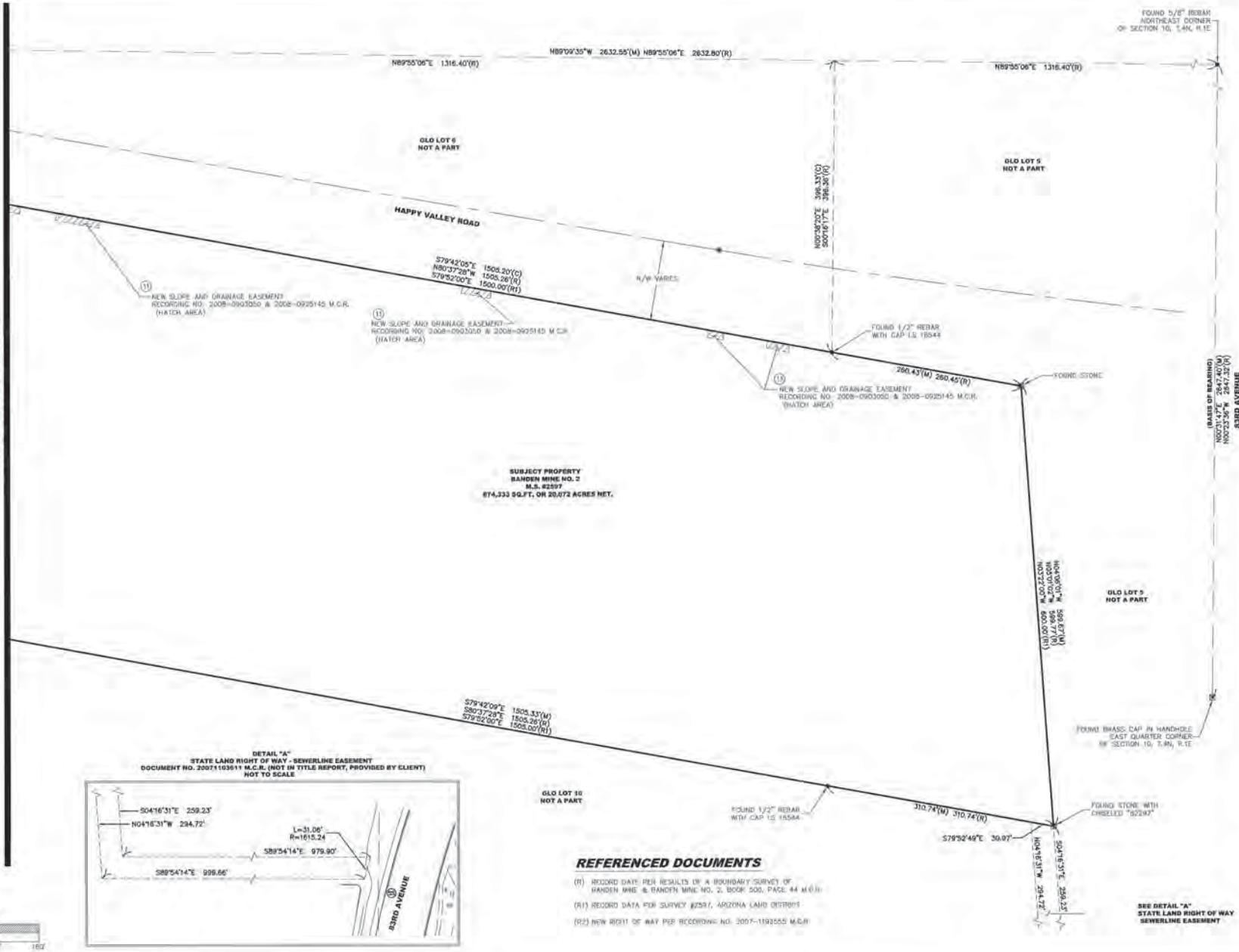


**REFERENCED DOCUMENTS**

- (R) RECORD DATE PER RESULTS OF A BOUNDARY SURVEY OF BANDEN MINE & BANDEN MINE TRG. 2, BOOK 580, PAGE 44 M.C.R.
- (D) RECORD DATA PER SURVEY #2793, ARIZONA LAND DISTRICT
- (N) NEW RIGHT OF WAY PER RECORDING NO. 2007-119255 M.C.R.



MATCHLINE - SHEET 2



**SUBJECT PROPERTY**  
 RANCHO MINE NO. 2  
 M.S. 82397  
 874,333 SQ.FT. OR 20.072 ACRES NET.



- REFERENCED DOCUMENTS**
- (R) RECORDED DATA PER RESULTS OF A BOUNDARY SURVEY OF RANCHO MINE & RANCHO MINE NO. 2, BOOK 500, PAGE 44 M.C.R.
  - (R1) RECORDED DATA FOR SURVEY #2517, ARIZONA LAND DISTRICT
  - (R2) NEW RIGHT OF WAY PER RECORDING NO. 2007-1192555 M.C.R.



7301 EAST EVANS ROAD  
 SUITE 100  
 PEORIA, ARIZONA 86801  
 PHONE (800) 922-0786  
 FAX (800) 922-0781  
 WWW.SIGSURVEYAL.COM



**SIG**  
 SURVEY INNOVATION  
 GROUP, INC.  
 Land Surveying Services

**ALTA/ACSM LAND TITLE SURVEY**  
**HAPPY VALLEY 40**  
**PEORIA, ARIZONA**

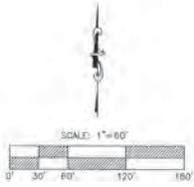
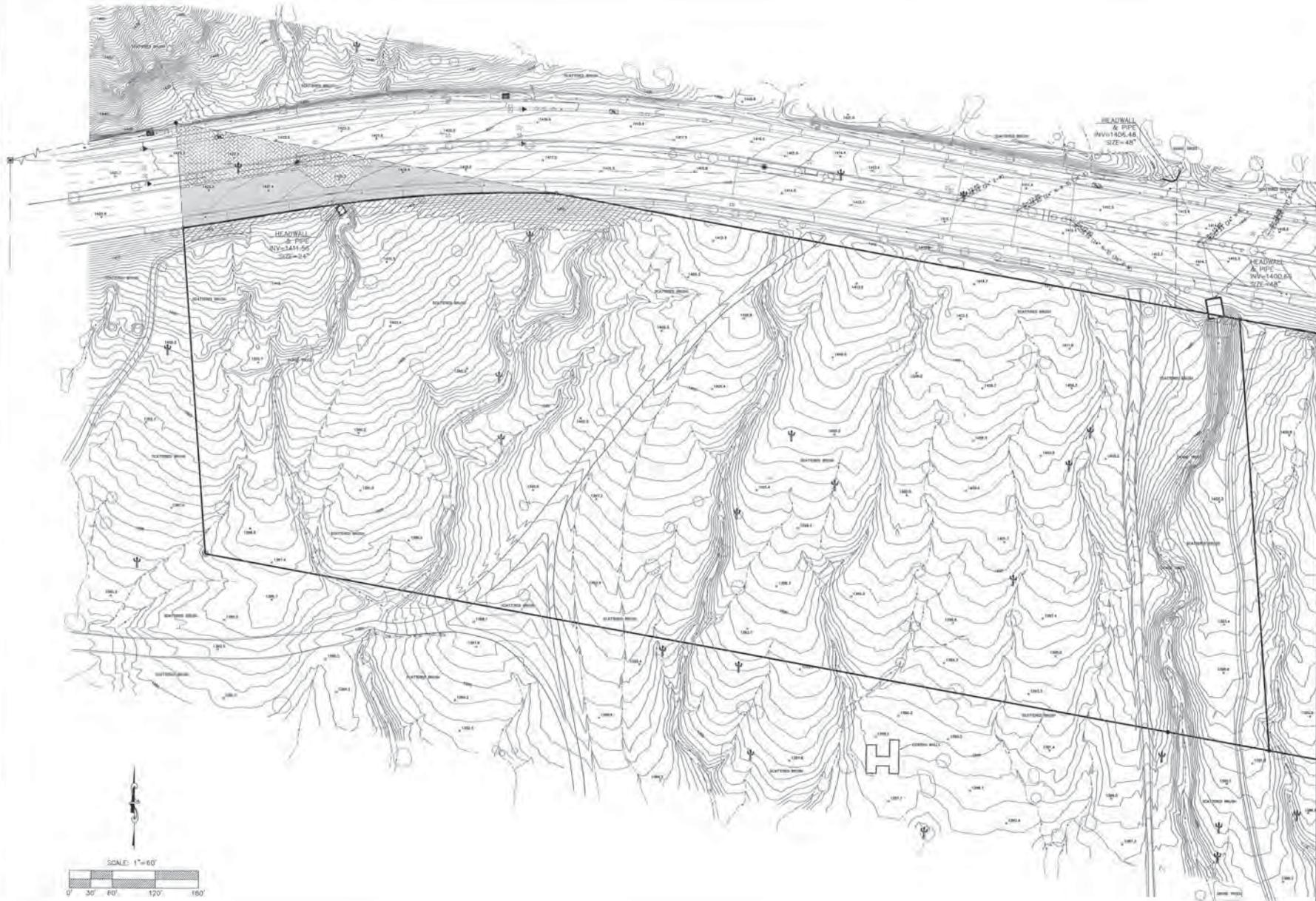


**REVISIONS:**

1	DATE: 1-8-13
2	
3	

**DRAWING NAME:** 2012-199 ALTA  
**DRAWN:** RST  
**JOB NO:** 2012-199  
**CHECKED:** RMB  
**DATE:** 01-02-2012  
**SCALE:** 1"=60'  
**SHEET:** 3 OF 5

SEE DETAIL "A"  
 STATE LAND RIGHT OF WAY  
 SEWERLINE EASEMENT



MATCHLINE - SHEET 5

**ALTA/ACSM LAND TITLE SURVEY  
HAPPY VALLEY 40  
PEORIA, ARIZONA**



REVISIONS:

NO.	DATE	DESCRIPTION
1	1-8-13	TERMINATION

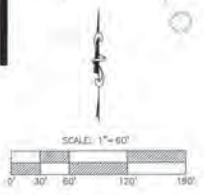
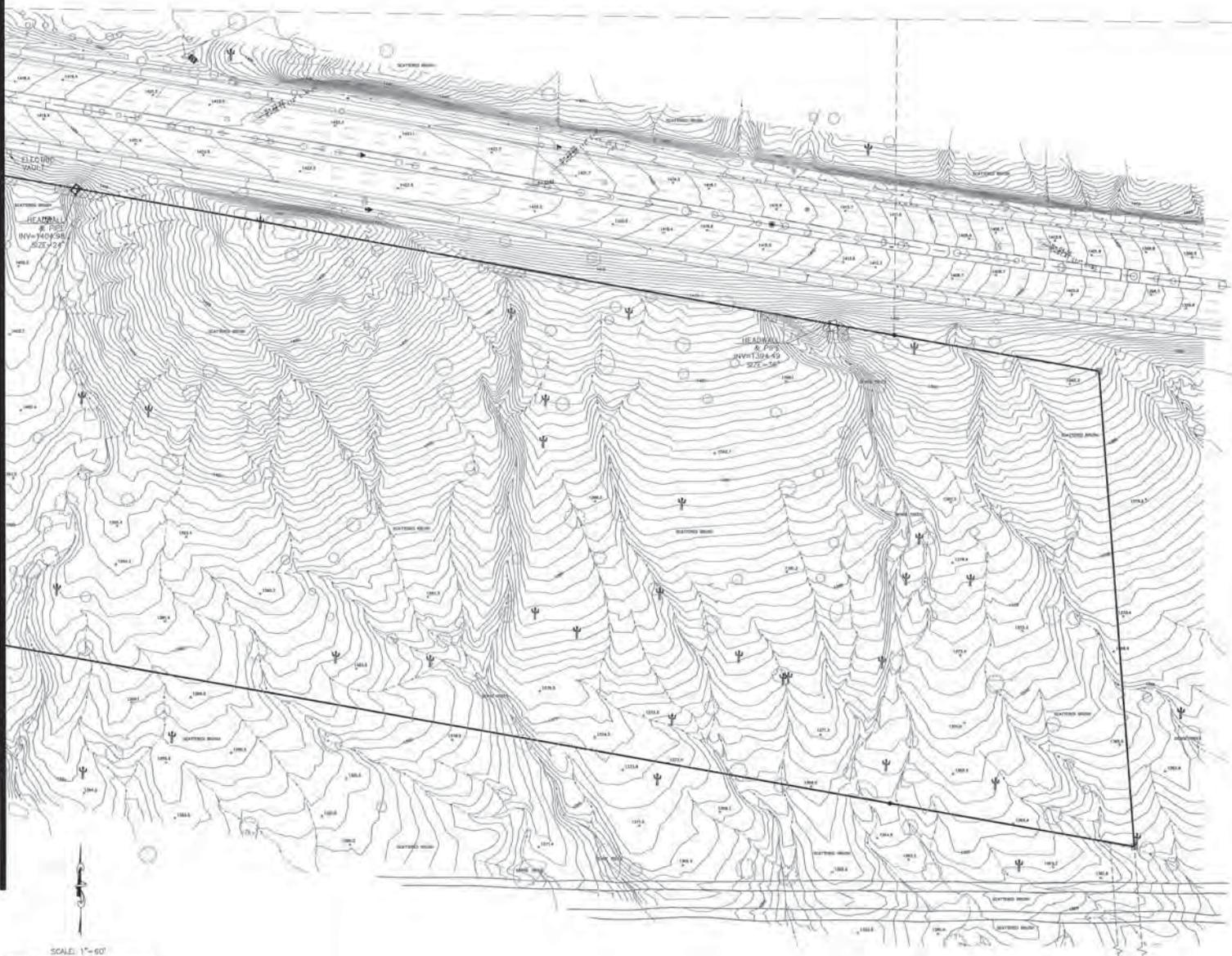
DRAWING NAME: 2012-199 ALTA  
 JOB NO. 2012-199  
 DRAWN: RNT  
 CHECKED: RMH  
 DATE: 01-02-2012  
 SCALE: 1"=60'  
 SHEET: 4 OF 5

7381 EAST EVANS ROAD  
 SCOTTSDALE, AZ 85250  
 PHONE (480) 922-0780  
 FAX (480) 922-0781  
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**SIG**  
 SURVEY INNOVATION  
 GROUP, INC.  
 Land Surveying Services

MATCHLINE - SHEET 4



7301 EAST EVANS ROAD  
PEORIA, ARIZONA 85361  
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**SIG**  
SURVEY INNOVATION  
GROUP, INC.  
Land Surveying Services

**ALTA/ACSM LAND TITLE SURVEY  
HAPPY VALLEY 40  
PEORIA, ARIZONA**



REVISIONS:

Δ	SHEET 8 OF 13
Δ	VERIFICATION 1-8-13
Δ	
Δ	

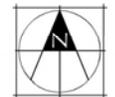
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2012-199 ALTA  
JOB NO. 2012-199  
DRAWN: RNT  
CHECKED: RMH  
DATE: 01-02-2012  
SCALE: 1"=60'  
SHEET: 5 OF 5

## **Appendix 3 – Preliminary Grading Plan**

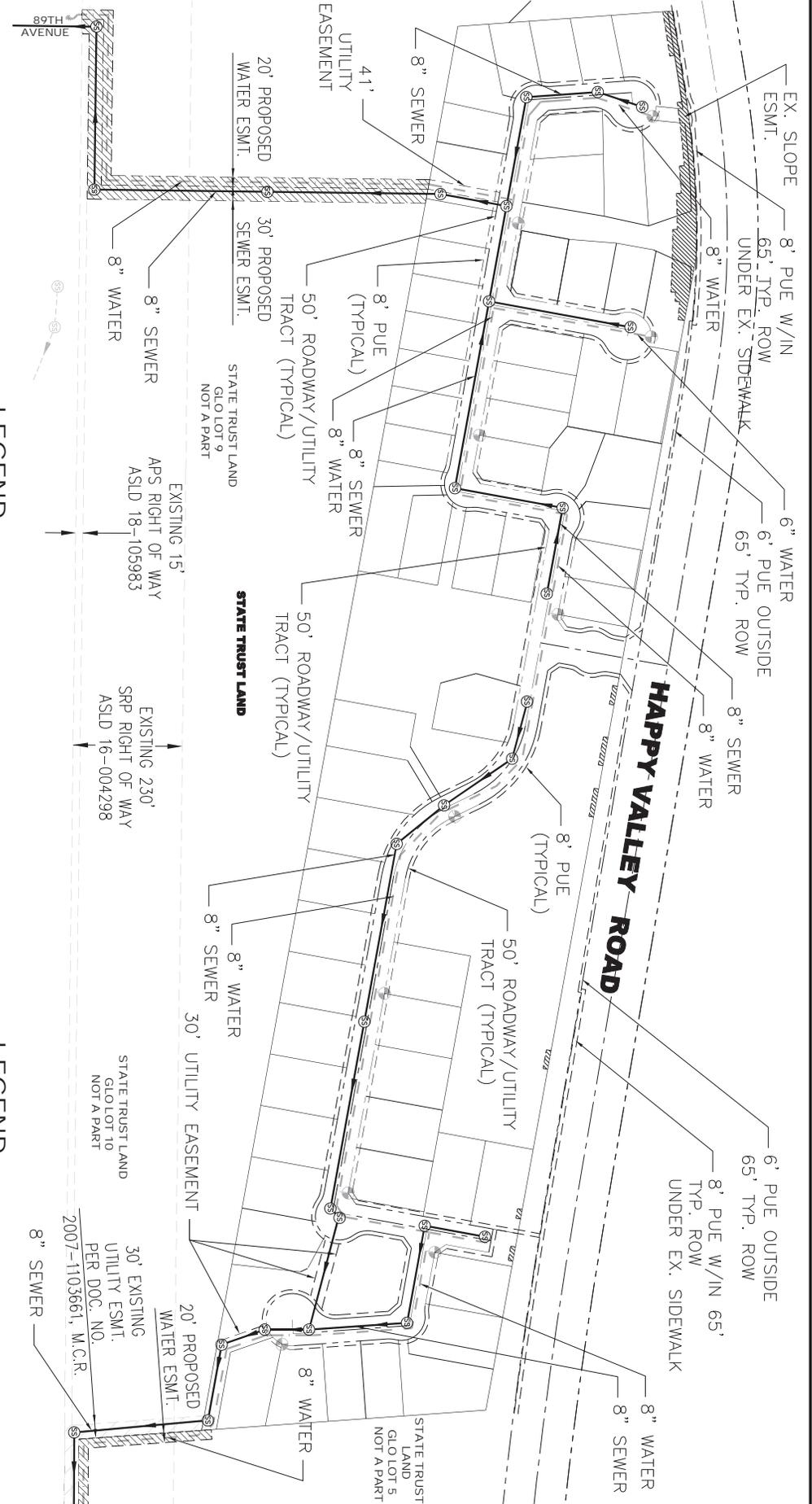


# Happy Valley 40 Concept Grading Plan

November 19, 2013  
 0 100 200 300



## **Appendix 4 – Preliminary Utility Plan**



**LEGEND**

- PROPOSED WATER
- PROPOSED SEWER
- RIGHT-OF-WAY
- PROPOSED LOT LINE
- EXISTING UTILITY EASEMENT
- PROPOSED UTILITY EASEMENT

**LEGEND**

- ⊕ PROPOSED FIRE HYDRANT
- ⊕ PROPOSED SEWER MANHOLE
- ⊕ EXISTING SEWER MANHOLE
- ⊕ EXISTING UTILITY EASEMENT
- ▨ EXISTING SLOPE EASEMENT
- ▨ PROPOSED UTILITY EASEMENT THROUGH STATE LANDS

**CONCEPTUAL UTILITY PLAN  
HAPPY VALLEY 40  
PLANNED AREA OF DEVELOPMENT**

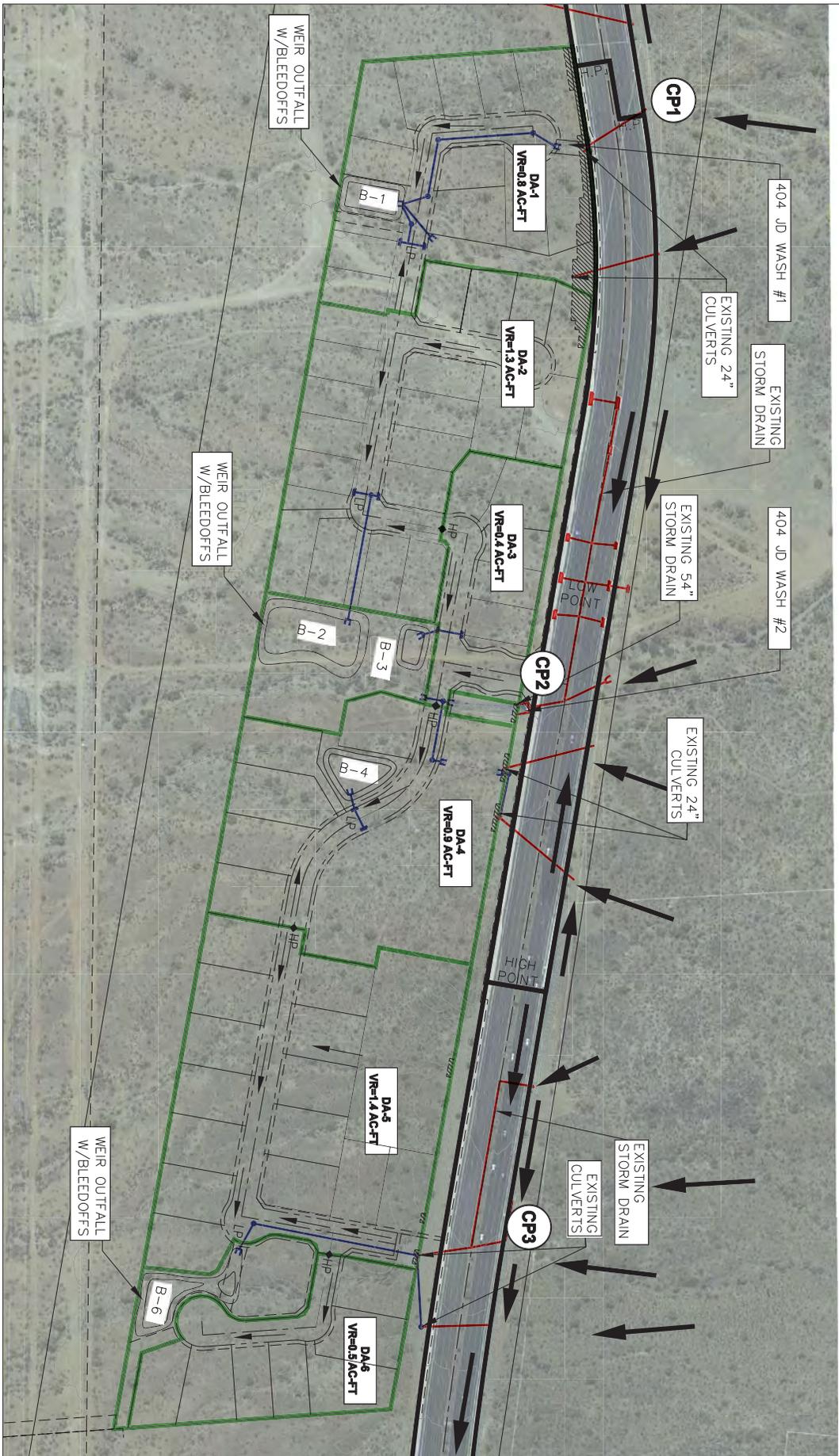
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**SLATER HANIFAN GROUP**  
 CONSULTING ENGINEERS & PLANNERS  
 11801 N. TATUM BOULEVARD #123, PHOENIX, AZ 85028  
 PHONE (602) 687-9664



DATE: 12/03/13  
 DRAWER: BJO  
 DESIGNER: BJO  
 CHECKER: ROT  
 PROJECT NO: **M3C1201-001**  
 SHEET 1 OF 1

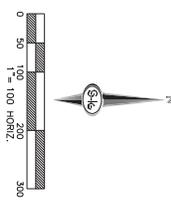
## **Appendix 5 – Preliminary Drainage Plan**



REFER TO FIGURE 3 OFFSITE DRAINAGE EXHIBIT

**LEGEND**

- DA DRAINAGE AREA LABEL
- VR RETENTION VOLUME REQUIRED FOR 100-YR. 2 HOUR STORM EVENT
- PROPOSED UNDERGROUND STORM DRAIN PIPE, MANHOLE & HEADWALL
- PROPOSED STORM DRAIN CATCH BASIN, UNDERGROUND PIPE & HEADWALL
- GRADE BREAK AT PROPOSED HIGH POINT
- DRAINAGE ZONE BOUNDARY
- EXISTING STORM DRAIN SYSTEM
- PROPOSED FLOW ARROW
- RUNOFF FLOW ARROW



**FIGURE 2**  
D-1  
SHEET 1 OF 1

DATE:	12/03/13
DRAWN BY:	BD
CHECKED BY:	BD
PROJECT NO.:	M3C1201-001

**CONCEPTUAL ON-SITE DRAINAGE EXHIBIT**  
**HAPPY VALLEY 40**  
**PLANNED AREA OF DEVELOPMENT**

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.


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