PRELIMINARY/FINAL DRAINAGE REPORT SPACE VILLAGE FILING NO. 3

SOUTHWEST CORNER OF PETERSON BOULEVARD & SPACE VILLAGE AVENUE EL PASO COUNTY, COLORADO

PREPARED FOR:

Space Village Retail, LLC 90 South Cascade Avenue, Suite 1500 Colorado Springs, CO 80903 (719) 448-4034 Contact: Danny Mientka

PREPARED BY:

Olsson Associates 1880 Fall River Drive, Suite 200 Loveland, CO 80538 (970) 461-7733 Contact: Josh Erramouspe

August 29, 2018
PCD Project No. SP-17-009 & SF-18-016
Olsson Project No. 017-1754



ENGINEER'S STATEMENT

ENGINEER'S STATEMENT
The attached drainage plan and report were prepared under my direction and supervision and are correct
to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria
established by the County for drainage reports and said report is in conformity with the applicable master
plan of the drainage basin. I accept responsibility for any liability cause by any negligent acts, errors, or
omissions on my part in preparing this report.

Josh Erramouspe Colorado Licensed Professional Engineer No. 42141

DEVELOPER'S STATEMENT

I, the developer, have read and will comply with all the requirements specified in this drainage report and plan.

Space Village Retail, LLC hereby certifies that the drainage facilities for Space Village Filing No. 3 shall be constructed according to the design presented in this report. I understand that El Paso County does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that El Paso County reviews drainage plans pursuant to Colorado Revised Statutes, Title 30, Article 28; but cannot, on behalf of Space Village Filing No. 3 guarantee that final drainage design review will absolve Space Village Retail, LLC and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.

Space Village Retail, LLC	
Ву:	
Title:	
Address:	
EL PASO COUNTY Filed in accordance with the requirements of the Drainag County Engineering Criteria Manual, and Land Development	
Jenifer Irvine, PE Count Engineer/ECM Administrator	Date

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1.0 GENERAL PROPERTY DESCRIPTION

The SITE is a 4.132-acre parcel situated in the northwest quarter of Section 17, Township 14 South, Range 65 West of the Sixth Principal Meridian, County of El Paso, State of Colorado. The SITE is bounded to the north by Space Village Avenue, to the east by Lot 1, Space Village Filing No. 2 and 6685 Space Village Avenue, to the west by Peterson Boulevard, and to the south by Lot 1 Cowperwood SAIC and Lot 1 Peterson Office Project. The property is located in Flood Zone "X", areas determined to be outside the 500-yr floodplain according to FEMA FIRM Map 08041C0754 F with an effective date of March 17, 1997.

2.0 GENERAL EXISTING DRAINAGE CHARACTERISTICS

2.1 Soils Condition

Existing soils within the SITE consist entirely of Truckton sandy loam. The NRCS hydrologic soil classification assigned to this type of soil is Type A. Refer to Appendix A for NRCS web soil survey mapping.

2.2 Existing Site Conditions

The SITE, which lies within the Sand Creek Drainage Basin, contains strip retail and undeveloped ground. Portions of the property are also being used as a parking lot for the surrounding developments. The existing strip retail, with its associated drives/parking, occupies 2.36 acres. The remaining 1.77 acres has been reserved for future commercial development. Asphalt paving covers approximately 50% of the SITE. The remaining area is covered by buildings, grass and landscape gravel.

2.3 Existing Drainage Conditions

The existing drainage on the site generally flows from northeast to southwest with slopes ranging from 1%-10%. Refer to the Existing Drainage Basin Map in Appendix C.

Basin B-1 encompasses approximately 3.07 acres. The basin is comprised of approximately 30% grassy landscape and 70% asphalt pavement. Runoff (Q_5 =9.12 cfs, Q_{100} =18.07 cfs) flows into the existing 24" RCP culvert located on the west side of the SITE. The basin runoff is discharged from the 24" culvert on the west side of the site to the west side of Peterson Boulevard.

Basin B-2 encompasses approximately 1.12 acres south of the proposed Lot 1. The basin is comprised of mostly asphalt pavement, with small portions of roof & landscape. This basin was assumed to be 95% impervious per the El Paso County Drainage Criteria Manual. Runoff (Q_5 =4.39 cfs, Q_{100} =7.98 cfs) flows into the existing 24" RCP culvert located on the west side of the SITE. The basin runoff is discharged from the 24" culvert on the west side of the site to the west side of Peterson Boulevard. The drainage patterns within the basin will not be altered after the development of Lot 1 and Lot 3; however, the basin has been analyzed here since the runoff from this basin will be routed through the 24" RCP culvert.

Basin B-3 encompasses an additional 1.51 acres of land to the north & west of the SITE. Currently stormwater surface runoff (Q_5 =4.17 cfs, Q_{100} =8.40 cfs) discharges to the existing 24" RCP culvert located on the west side of the SITE. Again, the drainage patterns associated with this additional 1.51 acres will not be altered after Lot 1 and Lot 3 are developed. We have included the runoff from this acreage in our sizing calculations for the proposed grated inlet that will replace the existing 24" RCP flared end section located on the west side of the SITE.

Design Point 4 is located at the inlet side of the existing 24" culvert that runs below Peterson Boulevard and outfalls on the west side of that road to property owned by Peterson AFB. Runoff generated within Basins B-1, B-2 and B-3 converges at this design point. In the existing



condition the total flows at this design point are Q₅=17.25 cfs, Q₁₀₀=26.37 cfs. It should be noted that this culvert will experience inundation during the 100 YR event since the calculated runoff is greater than the full-flow capacity of the culvert.

3.0 PROPOSED DRAINAGE CONDITIONS

3.1 Proposed Basin Description

Upon future development of Lot 1 and Lot 3, developed runoff from Basin B-1 will drain through a private storm sewer system to a private on-site detention facility. The detention facility will discharge to the existing 24" RCP pipe at the west side of the SITE and will ultimately outfall to the land on the west side of Peterson Boulevard. Refer to the Drainage Basin Map for more detail on basin delineation. A detailed breakdown of the runoff generated on-site is described as follows:

Basin B-1 is the on-site portion of flow that will be routed to a detention facility. This basin encompasses approximately 3.07 acres and is assumed to be commercial development. The El Paso County Drainage Criteria Manual states that commercial development shall be assumed to be 95% impervious. Runoff generated in Basin B-1 in the proposed condition (Q₅=12.08 cfs, Q₁₀₀=22.04 cfs) was calculated using the rational method and will be routed to a detention facility via overland flow, curb and gutter, and private storm sewer if necessary.

See Section 2.3 for descriptions of Basin B-2 and B-3 as these basins will not change with the development of Lot 1 and Lot 3. Both basins will bypass the future detention facility and will discharge runoff directly to the existing 24" culvert under Peterson Boulevard.

Design Point 4 will see significantly less flow in the proposed condition compared to the existing

condition because a detention facility will be designed to capture and attenuate the flows from Basin B-1 prior to discharging to the existing 24" of 22.62 cfs (See appendix for Flowmaster calcul from basins B-2 and B-3 is Q_5 =8.34 cfs, Q_{100} =15. for an additional 6.65 cfs in the 100 YR event bef 1 could feasibly contribute 6.65 cfs to the culvert detention pond will capture runoff from Basin B-1 than 6.65 cfs due to full spectrum design requirer release less than 6.65 cfs in the 100 YR event, th Peterson AFB (on the west side of Peterson Boul discharged to that same land today.

3.2 Detention Facility

Upon the development of either Lot 1 or Lot 3, a privately owned & maintained detention facility will be constructed to provide water quality, attenuation of the EURV, and also attenuation of the 100 YR runoff rate associated with Basin B-1. The water quality capture volume (WQCV), EURV release rate, and 100 YR release rate will be sized using the latest version of UD-Detention from Urban Drainage for full spectrum detention facilities. The detention facility and site design for development within Basin B-1 shall adhere to the four-step process as detailed in Appendix I Section 1.7.2 of the ECM.

4.0 DRAINAGE FEES/DRAINAGE BASIN PLANNING STUDY

This proje⊌ is located within the Sand Creek Drainage Basin and is in general conformance

Expand regarding the privately owned & maintained ent of Lot 1 and Lot 3 will need to comply with the It appears that a single detention facility will be constructed to provide FSD for development of Lot 1 and 3. However, the location of the detention facility is within Lot 1.

If Lot 3 develops first a condition should be placed that would enable Lot 3 to construct the required detention facility within Lot 1.

Identify who is expected to own/maintain the detention facility. Will it solely be lot 1 or a Business Owners Association or both lot 1 & 3. Some type of maintenance agreement must be put in place. Note 6 in the plat might need to be revised.

Finally, which ever lot develops first will they be required to design and construct the facility for full buildout

WE'VE ADDED A NOTE TO THE PLAT & PRELIMINARY PLAN EXPLAINING LOT 3'S ABILITY TO CONSTRUCT A DETENTION POND ON LOT 1 (IN THE INSTANCE LOT 3 IS DEVELOPED PRIOR TO LOT 1).

THE PETERSON GATEWAY METROPOLITAN DISTRICT WILL MAINTAIN THE POND WITHIN LOT 1, HOWEVER, THE POND WILL BE OWNED BY THE OWNER OF LOT 1. UPON DESIGN/CONSTRUCTION OF THE POND, AN EASEMENT WILL BE GRANTED AROUND THE PERIMTER OF THE POND FOR THE BENEFIT OF THE DISTRICT AND LOT 3.

THE POND WILL BE CONSTRUCTED TO ACCOMMODATE FULL BUILD-OUT OF BOTH LOTS 1 & 3. WHICHEVER LOT DEVELOPS FIRST WILL BE RESPONSIBLE FOR BUILDING THE POND ACCORDINGLY.

WE'VE ADDED LANGUAGE TO SECTION 3.2 TO MONUMENT THE ITEMS DESCRIBED ABOVE.

Drainage Fee: \$17,197 per impervious acre x (0.95 x 4.13ac) = \$67,472.43

Bridge Fee: \$5,210 per impervious acre x (0.95 x 4.13ac) = \$20,441.44

* These fees are based on the 2018 fee schedule and are due prior to recordation of the plat.

5.0 SUMMARY

In summary, assuming vacant portions of the SITE will be developed with commercial uses, the developed drainage patterns within the SITE will not be altered compared to existing drainage patterns. The ultimate discharge point will remain the same for this site (the 24" RCP culvert crossing Peterson Boulevard). As a part of any future development within Basin B-1, runoff generated within this basin will be detained in a full-spectrum detention facility and released at a controlled rate to the aforementioned existing 24" RCP culvert. If future development within Basin B-1 adheres to the recommendations presented in this drainage report, the runoff discharged to the existing 24" culvert under Peterson Boulevard will be less that what is discharged to the same culvert in the existing condition. A full, site-specific drainage report will need to be submitted to El Paso County for review and approval in conjunction with a Site Development Plan for either Lot 1 or Lot 3.

6.0 REFERENCES

"Drainage Criteria Manual Volume 1." Colorado Springs, CO (1994)

"Urban Storm Drainage." Criteria Manual Volume 1 (2017)

"Urban Storm Drainage." Criteria Manual Volume 2 (2017)

"Urban Storm Drainage." Criteria Manual Volume 3 (2010)

Sand Creek Drainage Basin Planning Study



Basin Name	Basin Description	Paved 100% (acres)	Building 90% (acres)	Gravel 40% (acres)	Landscape 2% (acres)	Total Area (ac)	C5	C100	Percent Imperviousness
B-1	Flows to Detention Pond	2.20	-	-	0.87	3.07	0.67	0.79	72.1%
B-2	Flows Around Detention Pond	1.06	•	-	0.05	1.12	0.86	0.93	95.2%
B-3	Within ROW	1.02	-	-	0.48	1.50	0.64	0.76	67.9%
_					TOTAL	5.69	0.70	0.81	76%

		OVERLAND FLOW				GUTTER FLOW 1			ER FLC)W 2	Total T _c	Check T _c	Final T _c
BASIN	L1	S1	C5	Ti (m.tm)	L2	V (51/-)	T2	L3	V	T3	(min)	Eq 6-5	(min)
	(ft)	(%)		(min)	(ft)	(ft/s)	(min)	(ft)	(ft/s)	(min)	` '		` '
B-1	100.0	2.30%	0.67	6.01	357.0	2.9	2.1				8.06	12.54	8.06
B-2	100.0	1.00%	0.86	4.40	399.0	2.2	3.0				7.40	12.77	7.40
B-3	64.0	2.81%	0.64	4.81	579.0	2.5	3.8				8.63	13.57	8.63

	Basin Characteris	Inten	sities	Sub-basin					
BASIN NAME	Description	AREA (acres)	C5	C100	Tc* (min)	l5 (in/hr)	l 100 (in/hr)	Q 5-yr (cfs)	Q 100-yr (cfs)
B-1	Flows to Detention Pond	3.07	0.67	0.79	8.1	4.45	7.47	9.12	18.07
B-2	Flows Around Detention Pond	1.12	0.86	0.93	7.4	4.58	7.69	4.39	7.98
B-3	Within ROW	1.50	0.64	0.76	8.6	4.35	7.30	4.17	8.40

Basin Name	Basin Description	Paved 100% (acres)		Gravel 40% (acres)	Landscape 2% (acres)	Total Area (ac)	C5	C100	Percent Imperviousness
B-1	Flows to Detention Pond					3.07	0.81	0.88	95.0%
B-2	Flows Around Detention Pond	1.06	-	-	0.05	1.12	0.86	0.93	95.2%
B-3	Within ROW	1.02	-	-	0.48	1.50	0.64	0.76	67.9%
					TOTAL	5.69	0.77	0.86	88%

		OVERLAND FLOW				GUTTER FLOW 1			ER FLC)W 2	Total T _c	Check T _c	Final T _c
BASIN	L1 (ft)	S1 (%)	C5	Ti (min)	L2 (ft)	V (ft/s)	T2 (min)	L3 (ft)	V (ft/s)	T3 (min)	(min)	Eq 6-5	(min)
B-1	100.0	1.93%	0.81	4.26	354.0	3.1	1.9	(11)	(103)	(111111)	6.17	12.52	6.17
B-2	100.0	1.00%	0.86	4.40	399.0	2.2	3.0				7.40	12.77	7.40
B-3	64.0	2.81%	0.64	4.81	579.0	2.5	3.8				8.63	13.57	8.63

	Basin Characteris	Inten	sities	Sub-basin					
Basin Name	Description	Area (acres)	C5	C100	Tc* (min)	l5 (in/hr)	l 100 (in/hr)	Q 5-yr (cfs)	Q 100-yr (cfs)
B-1	Flows to Detention Pond	3.07	0.81	0.88	6.17	4.85	8.15	12.08	22.04
B-2	Flows Around Detention Pond	1.12	0.86	0.93	7.40	4.58	7.69	4.39	7.98
B-3	Within ROW	1.50	0.64	0.76	8.63	4.35	7.30	4.17	8.40

Chapter 6 Hydrology

Table 6-6. Runoff Coefficients for Rational Method

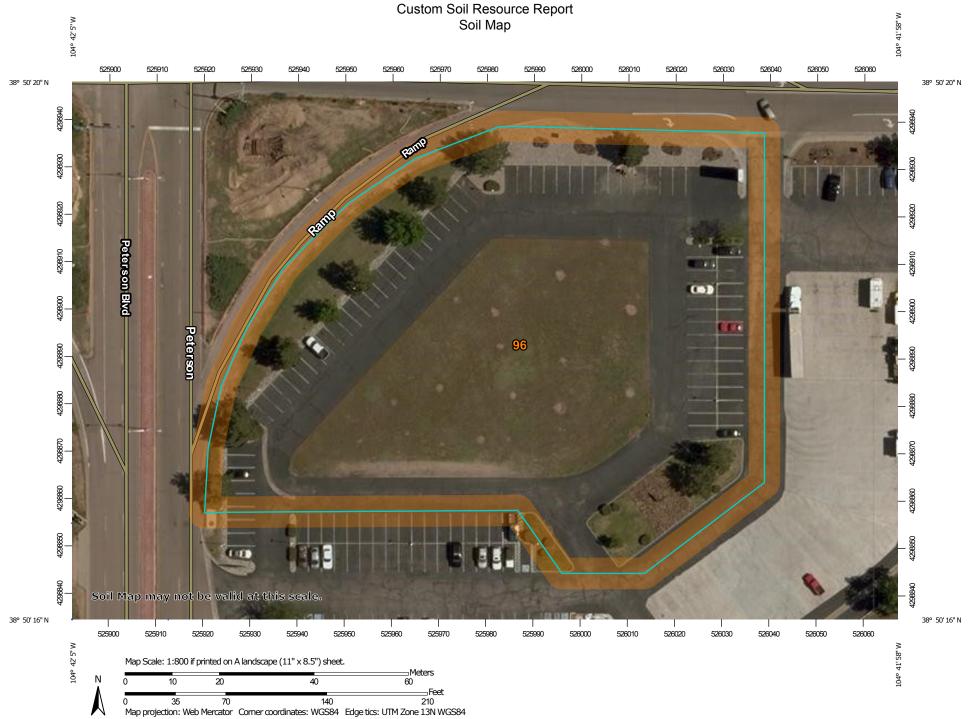
(Source: UDFCD 2001)

Land Use or Surface	Percent						Runoff Co	efficients					
Characteristics	Impervious	2-у	ear	5-у	ear	10-	year	25-	/ear	50-y	year	100-	year
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Charache													
Streets Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.89	0.60	0.59	0.90	0.92	0.92	0.94	0.70	0.95	0.95	0.70	0.96
	,								- 1				
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

3.2 Time of Concentration

One of the basic assumptions underlying the Rational Method is that runoff is a function of the average rainfall rate during the time required for water to flow from the hydraulically most remote part of the drainage area under consideration to the design point. However, in practice, the time of concentration can be an empirical value that results in reasonable and acceptable peak flow calculations.

For urban areas, the time of concentration (t_c) consists of an initial time or overland flow time (t_i) plus the travel time (t_i) in the storm sewer, paved gutter, roadside drainage ditch, or drainage channel. For non-urban areas, the time of concentration consists of an overland flow time (t_i) plus the time of travel in a concentrated form, such as a swale or drainageway. The travel portion (t_i) of the time of concentration can be estimated from the hydraulic properties of the storm sewer, gutter, swale, ditch, or drainageway. Initial time, on the other hand, will vary with surface slope, depression storage, surface cover, antecedent rainfall, and infiltration capacity of the soil, as well as distance of surface flow. The time of concentration is represented by Equation 6-7 for both urban and non-urban areas.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

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Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

00

Major Roads Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado Survey Area Data: Version 14, Sep 23, 2016

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Jun 3, 2014—Jun 17, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

El Paso County Area, Colorado (CO625)									
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI						
96	Truckton sandy loam, 0 to 3 percent slopes	2.2	100.0%						
Totals for Area of Interest		2.2	100.0%						

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Paso County Area, Colorado

96—Truckton sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 36bf Elevation: 6,000 to 7,000 feet

Mean annual precipitation: 14 to 15 inches Mean annual air temperature: 46 to 50 degrees F

Frost-free period: 125 to 145 days

Farmland classification: Prime farmland if irrigated and the product of I (soil

erodibility) x C (climate factor) does not exceed 60

Map Unit Composition

Truckton and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Truckton

Setting

Landform: Flats

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic

residuum weathered from sedimentary rock

Typical profile

A - 0 to 8 inches: sandy loam Bt - 8 to 24 inches: sandy loam

C - 24 to 60 inches: coarse sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00

in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: Sandy Foothill (R049BY210CO)

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: Hydric soil rating: No

Custom Soil Resource Report

Pleasant

Percent of map unit: Landform: Depressions Hydric soil rating: Yes

Worksheet for 24" RCP Culvert

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Friction Method Manning Formula
Solve For Full Flow Capacity

Input Data

 Roughness Coefficient
 0.013

 Channel Slope
 1.00000
 %

 Normal Depth
 24 in

 Diameter
 24 in

 Discharge
 22.62 ft³/s

Results

Discharge 22.62 ft³/s Normal Depth 24 in Flow Area 3.14 ft² Wetted Perimeter 6.28 ft Hydraulic Radius 6 in Top Width 0.00 ft Critical Depth 1.69 ft Percent Full 100.0 % Critical Slope 0.00946 ft/ft Velocity 7.20 ft/s Velocity Head 0.81 ft Specific Energy 2.81 Froude Number 0.00 Maximum Discharge 24.33 ft³/s Discharge Full 22.62 ft³/s Slope Full 0.01000 ft/ft Flow Type SubCritical

GVF Input Data

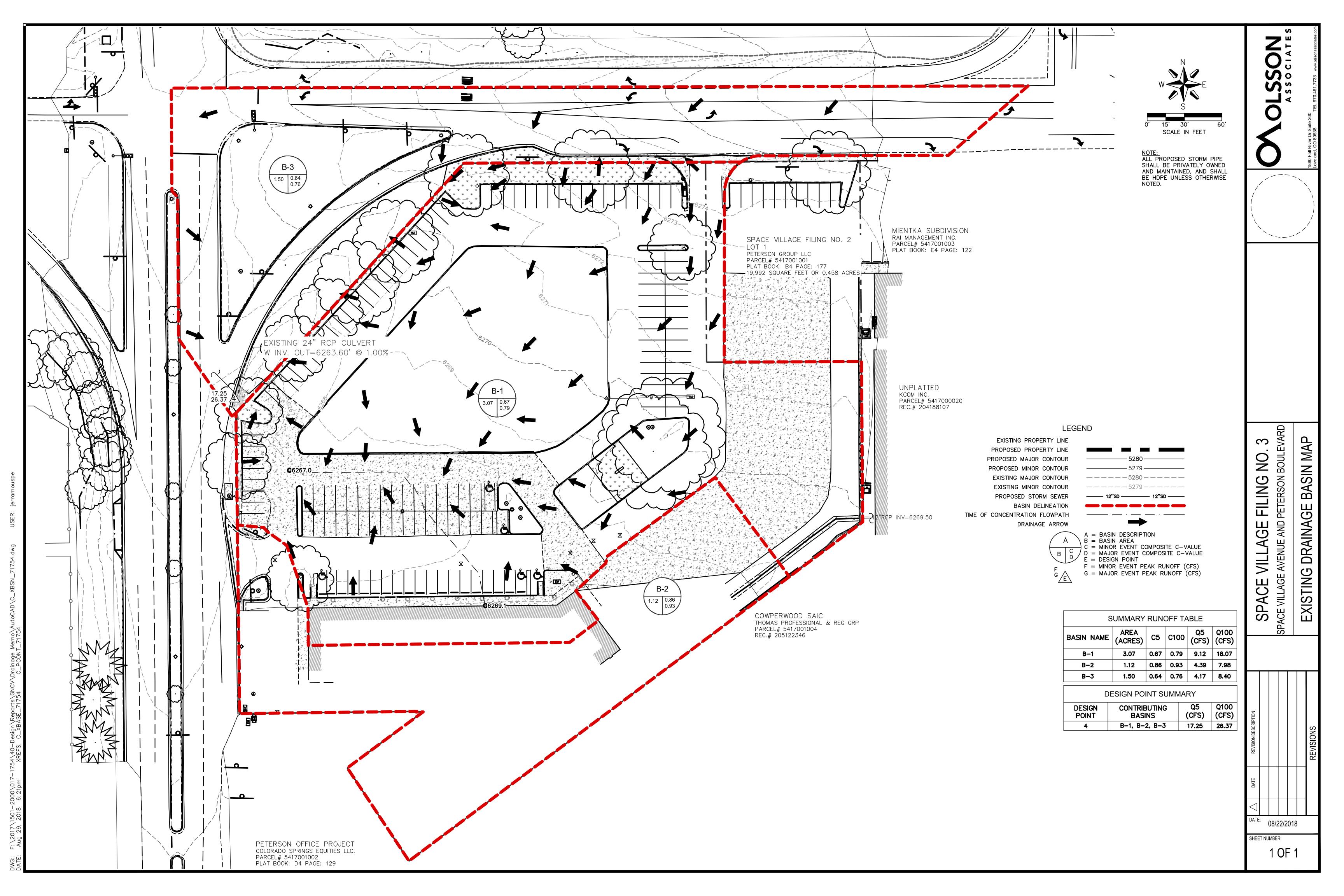
Downstream Depth 0 in Length 0.00 ft Number Of Steps 0

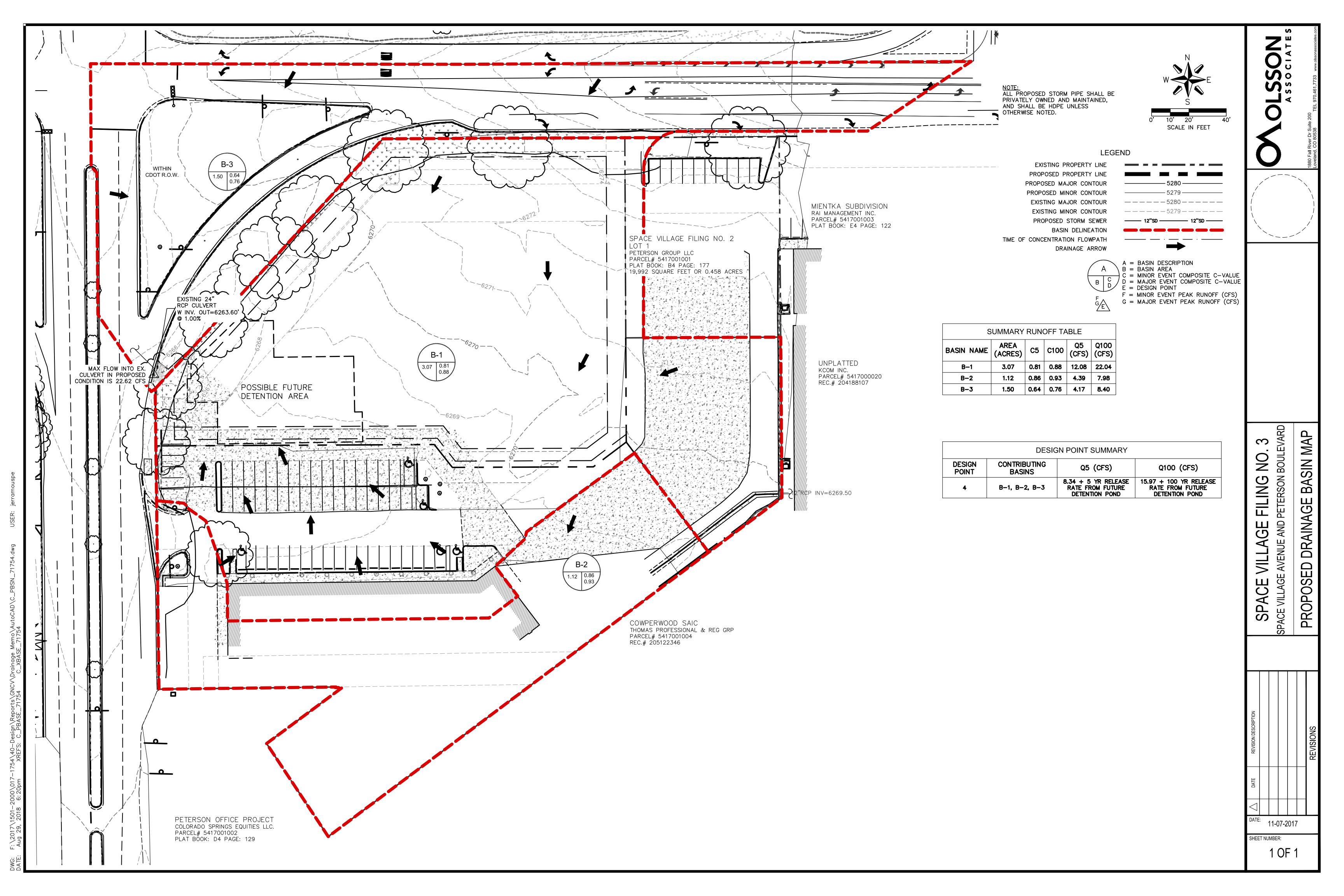
GVF Output Data

Worksheet for 24" RCP Culvert

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	24	in
Critical Depth	1.69	ft
Channel Slope	1.00000	%
Critical Slope	0.00946	ft/ft





Markup Summary

9/25/2018 2:02:25 PM (1)



Subject: Callout Page Label: 5 Lock: Locked Author: dsdlaforce

Date: 9/25/2018 2:02:25 PM

Color:

Expand regarding the "privately owned & maintained".

It appears that a single detention facility will be constructed to provide FSD for development of Lot 1 and 3. However, the location of the detention facility is within Lot 1.

If Lot 3 develops first a condition should be placed that would enable Lot 3 to construct the required detention facility within Lot 1.

Identify who is expected to own/maintain the detention facility. Will it solely be lot 1 or a Business Owners Association or both lot 1 & 3. Some type of maintenance agreement must be put in place. Note 6 in the plat might need to be revised.

Finally, which ever lot develops first will they be required to design and construct the facility for full buildout or just for their impact.

SPACE VILLAGE FILING NO. 3

A SUBDIVISION IN THE NORTHWEST QUARTER OF SECTION 17, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, (Unincorporated area) COUNTY OF EL PASO, STATE OF COLORADO

DEDICATION:

KNOW ALL PEOPLE BY THESE PRESENTS: That Space Village Retail LLC, a Colorado limited liability company, being the sole owner of the following described Tract of land:

A Tract of land lying in the Northwest Quarter of Section 17, Township 14 South, Range 65 West of the Sixth Principal Meridian, in the County of El Paso, State of Colorado, more particularly described as follows:

Commencing at the Northwest corner of said Section 17 monumented by a found 3-1/4" aluminum cap marked "PLS 22573", from which the North 1/4 corner of said Section 17, monumented by a found 3-1/4" aluminum cap marked "LS 13830", bears North 89° 43' 09" East (Basis of Bearings as determined by Global Positioning System observations and referenced to the Colorado State Plane Coordinate System, Central Zone, NAD83) a ground distance of 2651.73 feet, with all bearings herein relative thereto;

Thence North 89° 43' 09" East 215.38 feet on the North line of said Northwest Quarter; thence South 00° 16' 51" East 50.00 feet to the intersection of the East Right-of-Way line of Peterson Road and the South Right-of-Way line of Space Village Avenue (also being Colorado Highway 94) as shown on Colorado Department of Transportation highway plans, project number 017-2(13), dated 1966 and the POINT OF BEGINNING of the Tract of land herein described; Thence North 89° 43' 09" East 194.35 feet on said South Right-of-Way line, parallel with and 50.00 feet South of (as measured perpendicular to) said North line of the Northwest Quarter, said South Right-of-Way line also established by a Right-of-Way Deed recorded in Book 1005 at Page 262, to a 1/2 inch rebar found at the Northwest corner of Lot 1, SPACE VILLAGE FILING NO. 2, a subdivision in said County and State according to the plat recorded in Plat Book B4 at Page 177; Thence South 00° 16' 19" East 160.89 feet on the West line of said Lot 1 to a 1/2 inch rebar found at the Southwest corner of said Lot 1; Thence North 89° 44' 22" East 124.49 feet on the South line of said Lot 1 to the Southeast corner of said Lot 1; Thence South 00° 26' 52" East 128.86 feet to a 1/2 inch rebar with a red cap marked "MVE LS 37928" found at the northwesterly corner of Lot 1, COWPERWOOD SAIC, a subdivision of land in said County and State according to the plat recorded as Reception Number 205122546; Thence South 53° 13' 42" West 455.13 feet on the northwesterly line of last said Lot 1 to the southeasterly corner of Lot 1, PETERSON OFFICE PROJECT, a subdivision of land in said County and State according to the plat recorded in Plat Book D4 at Page 129; Thence North 33° 32' 13" West 89.69 feet on the easterly line of last said Lot 1; Thence North 53° 29' 26" East 75.71 feet continuing on said easterly line to the northerly line of said Lot 1; Thence South 89° 11' 03" West 5.73 feet on said northerly line; Thence North 53° 21' 20" East 0.81 feet continuing on said northerly line; Thence South 89° 16' 39" West 142.28 feet continuing on said northerly line to a 1/2 inch rebar with a yellow cap marked "MVE LS 17665" found at the Northwest corner of said Lot 1, said corner also lying on the East Right-of-Way line of Peterson Road as shown on said Colorado Department of Transportation plans, project number 017-2(13), and described as parcel 9, Formerly: C&W McDonald; Thence North 00° 43' 21" West 241.44 feet on said East Right-of-Way line, also shown on said Colorado Department of Transportation plans; Thence North 42° 20' 43" East 271.74 feet continuing on said East Right-of-Way line to the POINT OF BEGINNING; said Tract containing 180,028 square feet or 4.132 acres;

Has laid out, subdivided and platted said Tract into Lots as per the map shown hereon under the name and style of "SPACE VILLAGE FILING NO. 3", to hereafter be a subdivision of land in the County of El Paso, State of Colorado. The public easements designated hereon are hereby dedicated to public use and said owner does hereby covenant and agree that the public improvements will be constructed to El Paso County standards and that proper drainage and erosion control for same will be provided at said owner's expense, all to the satisfaction of the Board of County Commissioners of El Paso County, Colorado. Upon acceptance by resolution, all public improvements so dedicated will become matters of maintenance by El Paso County, Colorado. The public Sanitary Sewer Easement and Public Improvements Easement are hereby dedicated for the purposes as designated. The entities responsible for providing the services for which said public easements are established are hereby granted the perpetual right of ingress and egress from and to adjacent properties for installation, maintenance and replacement of the utility lines and related facilities.

Space Village Retail LLC **OWNER ADDRESS** Space Village Retail LLC 90 S. Cascade Avenue, Suite 1500 Colorado Springs, Colorado 80903 By: Danny Mientka, Manager

NOTARY CERTIFICATE

State of

County of

This instrument was acknowledged before me this

20___, by Danny Mientka as Manager of Space Village LLC, a Colorado limited liability company.

Notary Public

My commission expires:

BOARD OF COUNTY COMMISSIONERS CERTIFICATE

This plat for SPACE VILLAGE FILING NO. 3 was approved by the El Paso County, Colorado Board of County Commissioners on the , A.D., subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public, including the easements are accepted, but public improvements thereon will not become the maintenance esponsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Lanc Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

President, Board of County Commissioners

COUNTY APPROVAL:

Approval is granted for this plat of SPACE VILLAGE FILING NO. 3 on this

El Paso County Director of Planning and Community Development

El Paso County Assessor

GENERAL NOTES:

- This survey does not constitute a title search by Olsson Associates to determine ownership or easements of record. For all information regarding easements, right-of-way and title of record, Olsson Associates relied upon commitment for title insurance provided by client and issued by Old Republic National Title Insurance Company, Order No. SC55064238-3, Effective Date: November 2, 2017 at 5:00:00. Olsson Associates has examined the above referenced title commitment and all the documents referenced in the Schedule B-2 (Exception) section. All the plottable easements that are referenced therein and lying within or adjoining the subject property have been plotted on the map at right. All blanket, unplottable items encompassing the subject property that are listed therein are noted in the Property Notes section below. If any other matters affect this property they are unknown to this firm and surveyor and are therefore not shown or noted.
- Notice: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.
- Basis of Bearings: Bearings are based on the North line of the Northwest 1/4 of Section 17, Township 14 South, Range 65 West of the 6th Principal Meridian; being monumented at the West end of said North line by a 3.25" aluminum cap stamped "PLS 22573" and at the East end of said North line by a 3.25" aluminum cap stamped "LS 13830", bearing North 89° 43' 09" East with a ground distance of 2651.73 feet. Units shown are U.S. survey feet.
- Date of Survey: July 21, 2017.

1986 in Book 5270 at Page 687.

Instrument recorded April 21, 1988, in Book 5498 at Page 54.

Please combine all notes as general notes, when referring to water district this is our standard note, The water and sanitation is provided by Cherokee Metropolitan District.

PERTY NOTES" HAS BEEN

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PROPERTY NOTES:

According to the title commitment referenced in General Note 1, the following blanket and/or unplottable matters affect this property (Note: the numbers below directly correspond to the Schedule B-2 Exception item numbers as listed in said title commitment. Item numbers 1 through 8 are standard exceptions and are not addressed in these notes):

- The effect of inclusion of the subject property in the Cherokee Water District now known as the Cherokee Metropolitan District, as evidenced by order for inclusion recorded May 20, 1980 in Book 3312 at Page 965.
- 11. The effect of Resolution No. 82-79, Land Use-42 regarding variance of use recorded April 6, 1982 in Book 3550 at Page 396.
- The effect of inclusion of subject property in the Cherokee Water and Sanitation District now known as the Cherokee Metropolitan District, as evidenced by Order for Inclusion recorded October 13,1983 in Book 3791 at Page 1006.
- 14. Terms, conditions, provisions, burdens, obligations and easements as set forth and granted in Avigation Easement recorded November 14,
- Restrictive covenants, which do not contain a forfeiture or reverter clause, but omitting any covenants or restrictions, if any, based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as contained in
- 18. The effect of Resolution No. 12-299 regarding findings and order approving medical marijuana licenses, recorded August 31, 2012, under Reception no. 212101508.
- Those specific leases shown on rent roll attached to assignment of leases recorded April 12, 2016 under Reception No. 216037147.
- 20. Terms Conditions and Provisions of Resolution No. 17-294 recorded October 24, 2017 at Reception No. 217128921.

EXISTING NORTH R/W EXTENDS APPROXIMATELY 450' NORTH ENCOMPASSING BOTH COLORADO HIGHWAY 94 AND U.S. HIGHWAY 24

FTORNEY'S REQUESTED

N53°21'20"E 0.81'

S8916'39"W

142.28'

FLOOD ZONE:

Effective date: March 17, 1997.

VEST 1/4 CORNER SECTION 17-T14S-R65W

NOT LOCATED — SURVEYOR WAS DENIED

ACCESS TO ENTER AIR FORCE BASE

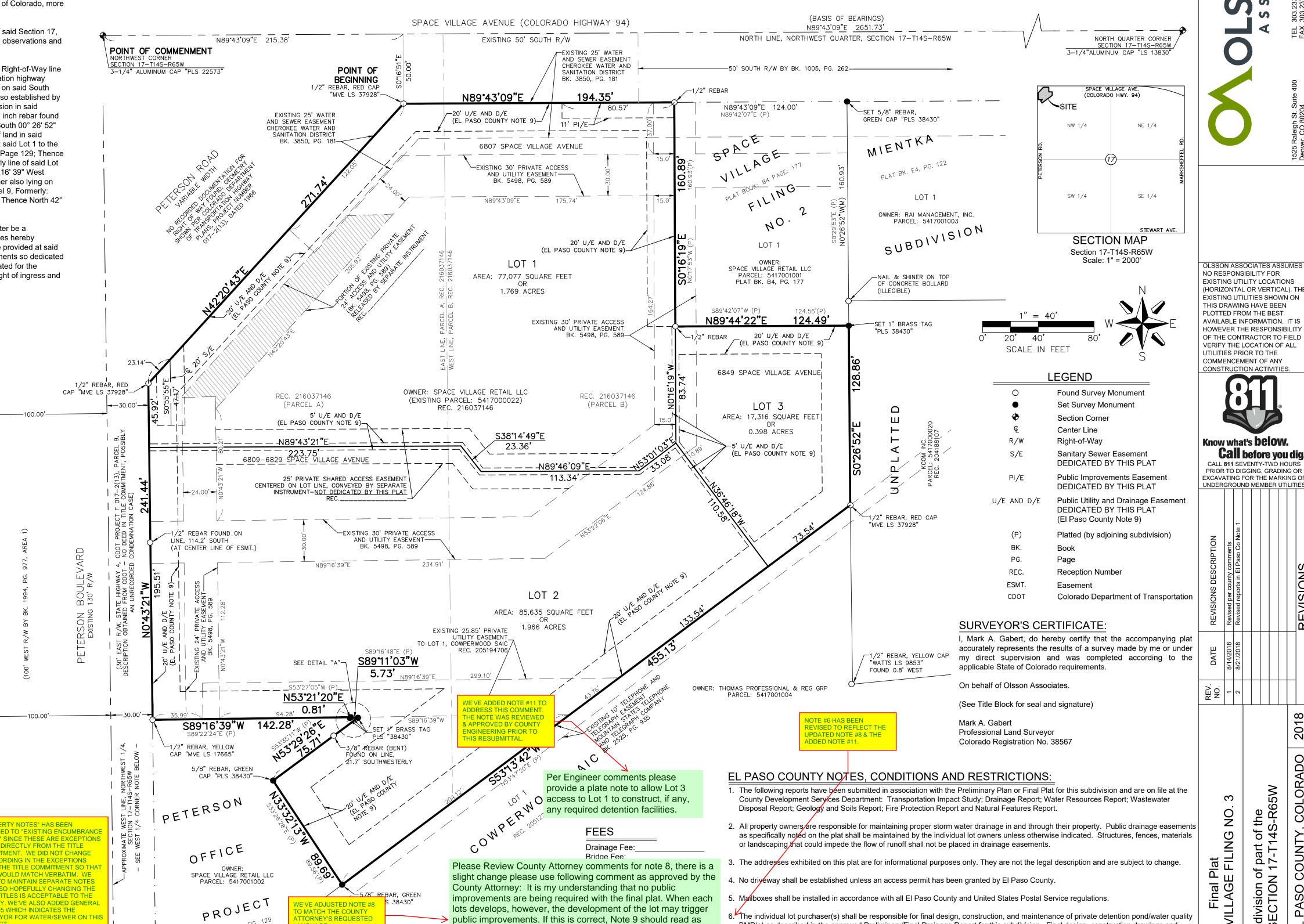
PROPERTY TO LOCATE SECTION CORNER

DETAIL "A"

This property lies in Flood Zone "X" (Areas determined

to be outside 500-year floodplain) according to FEMA

Flood Insurance Rate Map Number 08041C0754 F,



public improvements. If this is correct, Note 9 should read as

within the subdivision unless and until the required public

been constructed and completed in accordance with the

~S89*11'03" and defect warranty collateral has been posted with the County

Reception Number

PLS "3 improvement construction collateral.

improvements triggered by the development of that lot have

approved construction plans, preliminary acceptance of said

public improvements has been received from El Paso County,

In the alternative, the owner of a particular lot may enter into a

development agreement, in association with the required Site

the records of El Paso County, Colorado.

O CIOCK _.III. IIIIS _____

20___ and is duly recorded as

" issuance of a building permit upon the provision of public

Deputy County Clerk & Recorder

follows: No building permits shall be issued for any individual lot

- 5. The individual lot purchaser(s) shall be responsible for final design, construction, and maintenance of private detention pond/water quality BMP(s) as described in the approved Preliminary/Final Drainage Report for this subdivision. Final design, construction drawings and drainage report updates for the detention pond/water quality BMP(s) serving each lot shall be provided with Site Development Plan submittal. The detention pond/water quality BMP(s) shall be constructed and completed prior to the issuance of any building permits for the subject lots. Individual lot purchasers shall enter into a Private Detention Basin / Stormwater Quality BMP Maintenance Agreement and Easement ("Agreement") prior to the issuance of any building permits for the subject lots. In the case that the developer constructs the detention pond(s), the developer shall enter into an Agreement for each pond constructed.
- The subdivider(s) agree on behalf of him/herself and any developer or builder successors and assigns that subdivider and/or said successors and assigns shall be required to pay traffic impact fees in accordance with the countywide transportation improvement fee resolution (Resolution 16-454), as amended, at or prior to the time of building permit submittals. The fee obligation, if not paid at final plat recording, shall be documented on all sales documents and on plat notes to ensure that a title search would find the fee obligation before sale of the property. Development Plan, with El Paso County which will allow for the
 - . No lots shall be sold, conveyed or transferred, whether by deed or by contract, nor shall building permits be issued, unless and until the required public improvements for the subdivision have been constructed and completed in accordance with the approved construction plan, preliminary acceptance of said improvements has been received from El Paso County, and Defect Warranty Collateral has been posted with the County. In the alternative, the Property Owner may enter into a Subdivision Improvement Agreement with El Paso County | drawn by: which will allow for the sale of lots and the issuance of building permits upon the provision of Construction Collateral.
 - 9. Unless otherwise indicated, side, front, and rear lot lines are hereby platted on either side with a 10 foot (five foot for below 2.5 acres) public utility and drainage easement. All exterior subdivision boundaries shall have a 20 foot (seven foot for below 2.5 acres) public utility and drainage easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.
 - 10. All easements that are dedicated hereon for public utility purposes shall be subject to those terms and conditions as specified in the instrument recorded at reception number 212112548 of the records of El Paso County, Colorado. All other easements or interests of record affecting any of the platted property depicted hereon shall not be affected and remain in full force and effect.

NO RESPONSIBILITY FOR **EXISTING UTILITY LOCATIONS** (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES

® N



Call before you dig CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING GRADING OR

EXCAVATING FOR THE MARKING OF

checked by: approved by QA/QC by: 017-1754

> 05.07.2018 SHEET

drawing no.: V_FPT_71754

of SF-18-016

Markup Summary

9/25/2018 2:01:58 PM (1)



Subject: Text Box Page Label: [1] FPT Lock: Locked Author: dsdsevigny

Date: 9/25/2018 2:01:58 PM

Color:

Please Review County Attorney comments for note 8, there is a slight change please use following comment as approved by the County Attorney: It is my understanding that no public improvements are being required with the final plat. When each lots develops, however, the development of the lot may trigger public improvements. If this is correct, Note 9 should read as follows: No building permits shall be issued for any individual lot within the subdivision unless and until the required public improvements triggered by the development of that lot have been constructed and completed in accordance with the approved construction plans, preliminary acceptance of said public improvements has been received from El Paso County, and defect warranty collateral has been posted with the County. In the alternative, the owner of a particular lot may enter into a development agreement, in association with the required Site Development Plan, with El Paso County which will allow for the issuance of a building permit upon the provision of public improvement construction collateral.

9/25/2018 2:02:02 PM (1)

Subject: Text Box Page Label: [1] FPT Lock: Locked Author: dsdsevigny

Date: 9/25/2018 2:02:02 PM

Color:

Please combine all notes as general notes, when referring to water district this is our standard note, The water and sanitation is provided by Cherokee Metropolitan District.

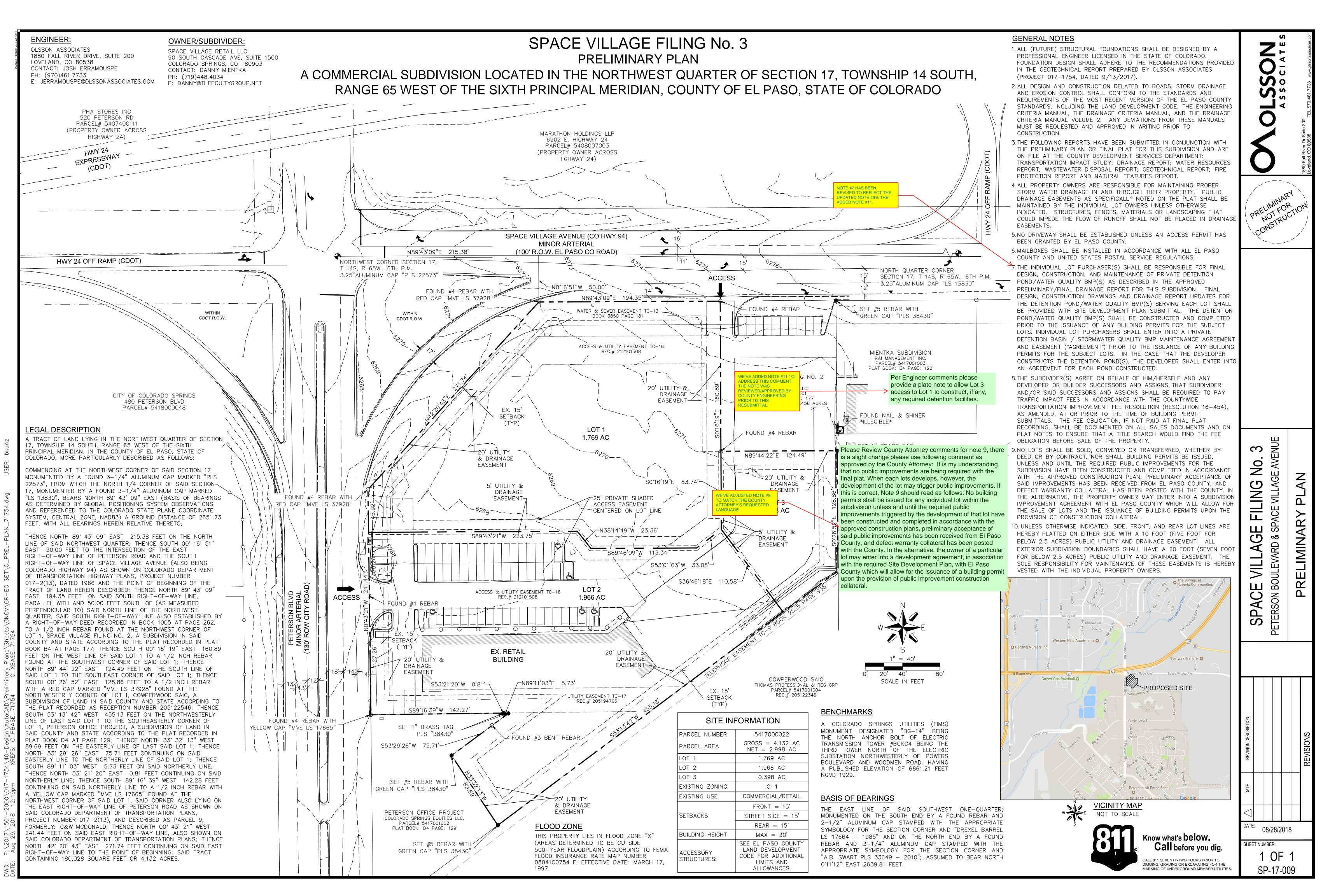
9/25/2018 2:02:04 PM (1)



Subject: Text Box Page Label: [1] FPT Lock: Locked Author: dsdsevigny Date: 9/25/2018 2:02:04 PM

Color:

Per Engineer comments please provide a plate note to allow Lot 3 access to Lot 1 to construct, if any, any required detention facilities.



Markup Summary

Per Engineer comments please provide a plate note to allow Lot 3 access to Lot 1 to construct, if any, any required detention facilit



Subject: Text Box

Page Label: [1] BOUNDARY

Lock: Locked
Author: dsdsevigny

Date: 9/25/2018 12:04:18 PM

Color:

Per Engineer comments please provide a plate note to allow Lot 3 access to Lot 1 to construct, if

any, any required detention facilities.

Please Review County Attorney comments for note 9, there is a slight change please use following comment as approved by the C



Subject: Text Box

Page Label: [1] BOUNDARY

Lock: Locked
Author: dsdsevigny

Date: 9/25/2018 12:04:19 PM

Color:

Please Review County Attorney comments for note 9, there is a slight change please use following comment as approved by the County Attorney: It is my understanding that no public improvements are being required with the final plat. When each lots develops, however, the development of the lot may trigger public improvements. If this is correct, Note 9 should read as follows: No building permits shall be issued for any individual lot within the subdivision unless and until the required public improvements triggered by the development of that lot have been constructed and completed in accordance with the approved construction plans, preliminary acceptance of said public improvements has been received from El Paso County, and defect warranty collateral has been posted with the County. In the alternative, the owner of a particular lot may enter into a development agreement, in association with the required Site Development Plan, with El Paso County which will allow for the issuance of a building permit upon the provision of public improvement construction collateral.