

Case #: 30-DR-2021 Review Cycle: 2 Reviewed By: GA Date: 06/18/2024

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#### PRELIMINARY DRAINAGE REPORT FOR ATAVIA - ONE SCOTTSDALE

May 17, 2024 WP# 235518



Prepared by Andrew Sanchez

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#### **EXHIBITS**

EXHIBIT 1	Vicinity Map
EXHIBIT 2	FEMA FIRM
EXHIBIT 3	One Scottsdale Regional Retention Area Exhibit
EXHIBIT 4	Atavia – One Scottsdale Drainage Exhibit
EXHIBIT 5	Atavia – One Scottsdale Preliminary Grading& Drainage Plan

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#### 1.0 INTRODUCTION

Atavia – One Scottsdale (Site) is an approximately 4.58-acre parcel located within Planning Unit II of the One Scottsdale master development. The Site is a proposed multifamily development located approximately 600-feet east of Scottsdale Road and 700-feet south of Legacy Boulevard in Scottsdale, Arizona. The Site is located in Section 26, Township 4 North, Range 4 East of the Gila and Salt River Meridian. Refer to Exhibit 1 – *Vicinity Map.* Proposed development for the Atavia – One Scottsdale parcel consists of 88 multifamily units and a 4,275-square foot Clubhouse with associated parking, landscape, and hardscape, and utility services.

This Preliminary Drainage Report is prepared for Belgravia Group, LTD and submitted to the City of Scottsdale in support of the project's preliminary grading and drainage submittal. This Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (WOODPATEL's) understanding of the City of Scottsdale technical requirements for stormwater drainage and collection systems (ref. 1, 2, 3), and the approved One Scottsdale Master Drainage Report (ref. 4).

#### 2.0 EXISTING DRAINAGE CONDITIONS

#### 2.1 Onsite Drainage

The Site is part of the phased, 120-acre One Scottsdale master planned development. The existing topography of the Site generally slopes from north to south with an approximate elevation change of 5 feet. A portion of the Site was previously mass graded as part of a larger development effort within Planning Unit II. This portion of the Site ranges from 5-feet to 15-feet below the adjacent grade and will need to be raised as part of the proposed improvements.

#### 2.2 Offsite Drainage

A regional retention basin for the One Scottsdale master plan development, constructed per the One Scottsdale South Drainage Basin Improvements, C.O.S. #6787-06-2 (ref. 5), is located to the north of the State Route 101 Freeway, south of the Site. Per the One Scottsdale Master Drainage Plan (ref. 4) this regional retention basin has capacity for the 100-year, 6-hour post-development flows for a portion of the One Scottsdale master plan development, including this Site. This regional retention basin consists of both surface and underground retention systems that ultimately bleed-off into Arizona Department of Transportation (ADOT) culverts 4, 5, and 6. The surface retention basin bleeds-off into ADOT culverts 4 & 5 using a combination of a pipe and weir at each outfall location. For storm events exceeding the design storm, excess storm water overtops the weirs, allowing additional flow to outfall into ADOT culverts 4 & 5. As the surface basin fills up, water enters a series of catch basins connected to the underground retention system. This underground retention basin bleeds-off into ADOT culvert 6 via a pump system that drains the basin into a pair of 54-inch RGRCP pipes that discharge directly into ADOT culvert 6. Refer to the One Scottsdale East Reginal Drainage Corridor Improvements, C.O.S. #6787-06-1 (ref. 7) for the design of the existing 54-inch RGRCP pipes. All bleed-off systems mentioned above were designed, at the time, to drain the basin within 36-hours. Refer to Exhibit 3 - One Scottsdale Regional Retention Area Exhibit for drainage area.

In the existing condition, stormwater runoff enters the Site from the north and outfalls to the south. However, in the final condition, the Site is to be abutted on all sides by private roadways containing storm drain systems designed to collect and convey potential offsite flows for the 100-year design storm. 73<sup>rd</sup> Way, a private roadway for the One Scottsdale development, is currently under construction and will be located along the Site's eastern property boundary. The construction of this roadway includes a storm drain system that has been designed to collect and convey the 100-year runoff for the roadway and adjacent properties, including this Site. This storm drain system ultimately outfalls to the regional retention basins located south of the Site. Refer to the One Scottsdale Private Drive Plan, C.O.S. #2328-22 (ref. 6).

Private roadways to the north, south and west of the Site are proposed to be constructed concurrently with the Site under separate permits. These private roadways will be designed with drainage infrastructure to collect and convey stormwater runoff in accordance with the approved Drainage Master Plan.

#### 2.3 FEMA Floodplain

The Federal Emergency Management Agency (FEMA) has published Flood Insurance Rate Maps for Maricopa County and Incorporated Areas. The Site is located within "Other Areas of Flood Hazard" Zone "X" Flood Insurance Rate Map (FIRM) Panel 1320 of 4425, Map Number 04013C1320L, dated October 16, 2013. Refer to Exhibit 2 - *FEMA FIRM*.

The applicable zone X is described by FEMA as follows:

"Area of 0.2% annual chance flood hazard; areas of 1% annual chance flood with average depths less than 1 foot or with drainage areas of less than 1 square mile".

#### 3.0 PROPOSED DRAINAGE PLAN

#### 3.1 Drainage Conditions

Onsite grades will direct stormwater runoff away from the buildings, toward concentration points on the Site or the adjacent Private Drives. Area drains, connected to an onsite storm drain system, will be located at the Site's concentration points to capture onsite surface runoff. Capacity calculations for the onsite catch basins will be provided with the Final Plan Submittal. Stormwater runoff from the roof of the building will be captured via roof drains. The proposed storm drain system will outfall at the southeast corner of the Site, connecting to the proposed stormwater infrastructure within the southern perimeter road that was discussed in Section 2.2. The offsite storm water infrastructure will be constructed concurrently with the Site. Refer to Exhibit 5 – *Atavia* – *One Scottsdale Preliminary Grading & Drainage Plan* for the routing of the proposed storm drain system.

The onsite storm drains and catch basins have been designed to collect and convey runoff from the 100year design storm. Refer to Exhibit 4 – *Atavia* – *One Scottsdale Drainage Exhibit* and Appendix A – *Hydrology Calculations,* which uses the rational method for the calculated flows for each of the onsite sub-basins.

#### 3.2 Lowest Floor Elevation

The proposed fifteen (15) buildings are designed to have finished floor elevations ranging from 1631.40 to 1625.65. The highest finished floor elevation is located at the northeast property corner of the Site, and the lowest finished floor elevation is located along the southern property boundary of the Site. The proposed finished floors, adjacent to private roadways, have been set above the top of curb elevations directly adjacent to the buildings. The lowest finished floor elevation for the Site, 1625.65, is 1-foot above the lowest adjacent top of curb elevation, and ultimate outfall for the Site, of 1624.65. Finished floor elevations for the buildings have also been set above the surface outfall for the adjacent sub basins. See Exhibit 5 - Atavia - One Scottsdale Preliminary Grading & Drainage Plan.

#### 3.3 Retention and Dissipation

Per City of Scottsdale requirements, the Site will be required to provide sufficient retention or treatment of the first flush storm event. Based on the calculations below, the existing basin is understood to accommodate the first flush requirement.

In accordance with the current *City of Scottsdale Design Standards and Policies Manual* (ref. 3), the following first flush volume equation was used:

 $Vol_{req} = \frac{P}{12} x A x C$ P = 0.5-inch A = Total Area (acres) C = 0.9 (Weighted C value)

Per the One Scottsdale South Drainage Basin Improvements, C.O.S. #6787-06-2 (ref. 5), the retention basin has a capacity of 8-acre-feet. The first flush volume for the full contributing area One Scottsdale master plan development, including this project Site is 3.64-acre-feet and therefore can be accommodated in the retention basin.

The regional retention basin will ultimately bleed off via ADOT culverts 4, 5, and 6 as was discussed in Section 2.2.

### 3.4 Ongoing Maintenance

Ongoing maintenance of the designed and recommended drainage system is required to preserve the system's integrity. Failure to provide maintenance can prevent the drainage system from performing its intended design purpose and can result in reduced performance. Maintenance within the public right-of-way is the responsibility of the governing municipality. The property owner shall be solely responsible for the operation and maintenance of facilities on private property and within drainage easements, including private streets.

#### 4.0 SPECIAL CONDITIONS

Currently, there are no washes with 100-year flows greater than 50 cfs traversing the Site and, accordingly, no drainage easements are required. There are no designated Section 404 washes within the Site. Therefore, a Section 404 permit is not required for development.

Since the disturbed area exceeds 1 acre an NOI and SWPP Plan are required for the Site. These will be completed in conjunction with the final plans for the Site.

#### 5.0 CONCLUSIONS

Based on our analysis of the Site, the following conclusions can be made:

- 1. The proposed drainage infrastructure will be designed in accordance with the *City of Scottsdale Design Standards & Policies Manual*, 2018.
- 2. The proposed Site lies within a FEMA Zone "X".
- 3. In the current condition, offsite flows enter the Site from the north. However, in the final condition, private roadways, constructed concurrently with the Site, will be designed to capture these offsite flows.
- 4. The proposed finished floors for the buildings have been set above the adjacent curb and ultimate outfall elevation. The lowest onsite finished floor elevation is 1-foot above the ultimate outfall for the Site.
- 5. Per City of Scottsdale requirements, the project is required to retain the first flush runoff for the Site. Based on this analysis, the existing regional retention basin has sufficient capacity to retain the first flush runoff for the full contributing area from the One Scottsdale master plan development.
- 6. The property owner shall perform ongoing maintenance of the onsite stormwater system.

#### 6.0 REFERENCES

- 1. Drainage Design Manual, Hydrology, Edition 4, Flood Control District of Maricopa County, December 14, 2018.
- 2. Drainage Design Manual, Hydraulic, Edition 4, Flood Control District of Maricopa County, December 14, 2018.
- 3. Design Standards and Policies Manual, Chapter 4: Grading and Drainage, City of Scottsdale, January 2018.
- 4. One Scottsdale Master Drainage Report, Wood, Patel & Associates, Inc, Revised June 20, 2013.
- One Scottsdale South Drainage Basin Improvements, Wood, Patel & Associates, Inc., Submitted August 2007
- 6. One Scottsdale Private Drive Plan, Wood, Patel & Associates, Inc., Submitted August 18, 2022.
- 7. One Scottsdale East Regional Drainage Corridor Improvements, Wood, Patel & Associates, Inc., Submitted August 2007.

**APPENDIX A – HYDROLOGY CALCULATIONS** 



## **FIRST FLUSH VOLUME**

ProjectOne Scottsdale - AtaviaLocationScottsdale, AZProject Number235518Project EngineerAndrew J. Sanchez, EIT

Rainfall Depth "P" = 0.50 inches

Drainage Subbasin ID	Drainage Area "A"	100 YR Runoff Coefficient "C"	A*C	Required First Flush Volume
	(Acres)			(AF)
PU II	57.87	1.00	57.87	2.41
PU III	29.47	1.00	29.47	1.23
TOTAL	87.34			3.64

#### **Calculated Values**

Required First Flush Volume = (P/12)\*C\*A



## SITE I-D-F CURVE

# ProjectOne Scottsdale - AtaviaLocationScottsdale, AZProject Number235518Project EngineerAndrew J. Sanchez, EIT

#### **RAINFALL DEPTHS, INCHES**

Duration	Average Rec	Average Reccurence Interval (years)									
Duration	2	5	10	25	50	100					
5-min	0.256	0.346	0.415	0.507	0.578	0.651					
10-min	0.390	0.526	0.631	0.772	0.880	0.991					
15-min	0.483	0.652	0.782	0.957	1.090	1.230					
30-min	0.651	0.878	1.050	1.290	1.470	1.660					
60-min	0.805	1.090	1.300	1.600	1.820	2.050					
2-hr	0.931	1.240	1.480	1.800	2.040	2.300					
3-hr	1.020	1.330	1.580	1.920	2.200	2.480					
6-hr	1.210	1.540	1.800	2.170	2.450	2.740					
12-hr	1.360	1.720	1.990	2.370	2.660	2.960					
24-hr	1.600	2.070	2.440	2.960	3.370	3.800					

#### RAINFALL INTENSITY, INCHES/HOUR

Duration	Frequency, y	Frequency, years										
minutes	2	5	10	25	50	100						
5	3.07	4.15	4.98	6.08	6.94	7.81						
10	2.34	3.16	3.79	4.63	5.28	5.95						
15	1.93	2.61	3.13	3.83	4.36	4.92						
30	1.30	1.76	2.10	2.58	2.94	3.32						
60	0.81	1.09	1.30	1.60	1.82	2.05						
120	0.47	0.62	0.74	0.90	1.02	1.15						
180	0.34	0.44	0.53	0.64	0.73	0.83						
360	0.20	0.26	0.30	0.36	0.41	0.46						
720	0.11	0.14	0.17	0.20	0.22	0.25						
1440	0.07	0.09	0.10	0.12	0.14	0.16						



**DURATION (MIN)** 



## COMPOSITE WEIGHTED "C" FACTOR CALCULATIONS 10 YEAR

Project One Scottsdale - Atavia Location Scottsdale, AZ Project Number 235518 Project Engineer Andrew J. Sanchez, EIT

Drainage Subbasin ID	Area	Paved Stre Lots, roofs ect.	ets, Parking , driveways,	Undisterbe desert or c landscape	100 YR Runoff Coefficient	
(Description/ID)	(Acres)	%	"C"	%	"C"	"C"
A1	0.05	81	0.90	19	0.37	0.80
A2	0.04	88	0.90	12	0.37	0.84
A3	0.11	96	0.90	4	0.37	0.88
A4	0.10	95	0.90	5	0.37	0.87
A5	0.05	91	0.90	9	0.37	0.85
A6	0.13	66	0.90	34	0.37	0.72
A7	0.19	83	0.90	17	0.37	0.81
A8	0.26	88	0.90	12	0.37	0.84
A9	0.13	92	0.90	8	0.37	0.86
A10	0.41	73	0.90	27	0.37	0.76
A11	0.15	85	0.90	15	0.37	0.82
A12	0.10	85	0.90	15	0.37	0.82
A13	0.16	85	0.90	15	0.37	0.82
A14	0.20	85	0.90	15	0.37	0.82
A15	0.11	85	0.90	15	0.37	0.82
A16	0.11	85	0.90	15	0.37	0.82
R1	0.12	100	0.90	0	0.37	0.90
R2	0.12	100	0.90	0	0.37	0.90
R3	0.12	100	0.90	0	0.37	0.90
R4	0.12	100	0.90	0	0.37	0.90
R5	0.15	100	0.90	0	0.37	0.90
R6	0.12	100	0.90	0	0.37	0.90
R7	0.12	100	0.90	0	0.37	0.90
R8	0.15	100	0.90	0	0.37	0.90
R9	0.12	100	0.90	0	0.37	0.90
R10	0.12	100	0.90	0	0.37	0.90
R11	0.12	100	0.90	0	0.37	0.90
R12	0.12	100	0.90	0	0.37	0.90
R13	0.12	100	0.90	0	0.37	0.90
R14	0.12	100	0.90	0	0.37	0.90
R15	0.10	100	0.90	0	0.37	0.90
OFF-N	0.02	85	0.90	15	0.37	0.82
OFF-E1	0.07	85	0.90	15	0.37	0.82
OFF-E2	0.07	85	0.90	15	0.37	0.82
OFF-E3	0.13	85	0.90	15	0.37	0.82
OFF-S	0.06	85	0.90	15	0.37	0.82
OFF-W1	0.03	85	0.90	15	0.37	0.82
OFF-W2	0.04	85	0.90	15	0.37	0.82
OFF-W3	0.03	85	0.90	15	0.37	0.82
OFF-W4	0.03	85	0.90	15	0.37	0.82

Note: I. Fel Gity of Scottsuale Design Standards & Policies Manual (2010), Figure 4-1.5, Rution Coefficients for Rational Method



## COMPOSITE WEIGHTED "C" FACTOR CALCULATIONS **100 YEAR**

Project One Scottsdale - Atavia Location Scottsdale, AZ Project Number 235518 Project Engineer Andrew J. Sanchez, EIT

Drainage Subbasin ID	Area	Paved Stre Lots, roofs	ets, Parking , driveways,	Undisterbe desert or de landscapei	100 YR Runoff Coefficient	
(Description/ID)	(Acres)	%	"C"	%	"C"	"C"
A1	0.05	81	0.95	19	0.45	0.85
A2	0.04	88	0.95	12	0.45	0.89
A3	0.11	96	0.95	4	0.45	0.93
A4	0.10	95	0.95	5	0.45	0.93
A5	0.05	91	0.95	9	0.45	0.90
A6	0.13	66	0.95	34	0.45	0.78
A7	0.19	83	0.95	17	0.45	0.86
A8	0.26	88	0.95	12	0.45	0.89
A9	0.13	92	0.95	8	0.45	0.91
A10	0.41	73	0.95	27	0.45	0.82
A11	0.15	85	0.95	15	0.45	0.88
A12	0.10	85	0.95	15	0.45	0.88
A13	0.16	85	0.95	15	0.45	0.88
A14	0.20	85	0.95	15	0.45	0.88
A15	0.11	85	0.95	15	0.45	0.88
A16	0.11	85	0.95	15	0.45	0.88
R1	0.12	100	0.95		0.45	0.95
R2	0.12	100	0.95		0.45	0.95
R3	0.12	100	0.95		0.45	0.95
R4	0.12	100	0.95		0.45	0.95
R5	0.15	100	0.95		0.45	0.95
R6	0.12	100	0.95		0.45	0.95
R7	0.12	100	0.95		0.45	0.95
R8	0.15	100	0.95		0.45	0.95
R9	0.12	100	0.95		0.45	0.95
R10	0.12	100	0.95		0.45	0.95
R11	0.12	100	0.95		0.45	0.95
R12	0.12	100	0.95		0.45	0.95
R13	0.12	100	0.95		0.45	0.95
R14	0.12	100	0.95		0.45	0.95
R15	0.10	100	0.95		0.45	0.95
OFF-N	0.02	85	0.95	15	0.45	0.88
OFF-E1	0.07	85	0.95	15	0.45	0.88
OFF-E2	0.07	85	0.95	15	0.45	0.88
OFF-E3	0.13	85	0.95	15	0.45	0.88
OFF-S	0.06	85	0.95	15	0.45	0.88
OFF-W1	0.03	85	0.95	15	0.45	0.88
OFF-W2	0.04	85	0.95	15	0.45	0.88
OFF-W3	0.03	85	0.95	15	0.45	0.88
OFF-W4	0.03	85	0.95	15	0.45	0.88

Note: I. Fel Gity of Scottsuale Design Standards & Policies Manual (2010), Figure 4-1.5, Rution Coefficients for Rational Method



## RATIONAL METHOD SUMMARY 100 YEAR, 10 YEAR

Project One Scottsdale - Atavia Location Scottsdale, AZ Project Number 235518 Project Engineer Andrew J. Sanchez, EIT

Longest Watercourse L' (ft)   Longest Watercourse L' (mi)   Longest Watercourse L' (mi)   Drainage A' (sf)   Drainage Area 'A' (sf)   ''K <sub>b</sub> ' (Acres)   Watershed Resistance Coefficient 'K <sub>b</sub> '   Top Elevation   Bottom Slope's   Basin Slope's   Calculated Q10 'Tc' (se Note 2)   100 YEAR Intensity ''   Q100 YR Runoff (see Note 2)   Q100 YG Runoff (see Note 2)   Q100 YG Runoff (in/hr)   Q100 YG Runoff (see Note 2)   Q100 YG Runoff (see Note 2)   Q100 YG Runoff (in/hr)   Q100 YG Runoff (see Note 2)   <		10 YEAR		100 YEAR				ON-SITE WATERSHEDS									
(ft)   (mi)   (sf)   (Acres)   (no. str.)   (ft/mi)   (min)   (in/hr)   (cfs)   (min)   (in/hr)     A1   120   0.023   2,324   0.05   A   0.0480   30.1   29.2   41.6   5.0   7.81   0.85   0.4   5.0   4.98     A2   169   0.032   1,616   0.04   A   0.0489   30.9   29.8   35.4   5.0   7.81   0.89   0.3   5.0   4.98     A3   68   0.013   4,626   0.11   A   0.0461   30.1   29.5   21.1   5.0   7.81   0.93   0.8   5.0   4.98     A4   155   0.029   4,449   0.10   A   0.0462   30.1   29.5   21.1   5.0   7.81   0.93   0.7   5.0   4.98     A5   119   0.022   2,251   0.05   A   0.0480   30.8   29.5   59.5   5.0   7.81   0.90	R ity 1 c	10 YEA Intensit 'i'	Calculated Q10 'Tc' (See Note 2)	Q100 Flow	100 YR Runoff Coefficient 'C'	100 YEAR Intensity 'i'	Calculated Q100 'Tc' (See Note 2)	Basin Slope 'S'	Bottom Elevation	Top Elevation	Watershed Resistance Coefficient 'K <sub>b</sub>	K <sub>b</sub> '	Drainage Area 'A'	Drainage Area 'A'	Longest Watercourse 'L'	Longest Watercourse 'L'	Drainage Subbasin ID
A11200.0232,3240.05A0.048030.129.241.65.07.810.850.45.04.98A21690.0321,6160.04A0.048930.929.835.45.07.810.890.35.04.98A3680.0134,6260.11A0.046130.128.988.45.07.810.930.85.04.98A41550.0294,4490.10A0.046230.129.521.15.07.810.930.75.04.98A51190.0222,2510.05A0.048030.829.559.55.07.810.900.45.04.98A61550.0295,5620.13A0.045630.528.471.85.07.810.900.45.04.98A71130.0218,4560.19A0.044430.528.2109.35.07.810.891.85.04.98A8680.01311.4690.26A0.043629.227.9102.05.07.810.891.85.04.98A9680.01311.4690.26A0.043629.227.9102.05.07.810.891.85.04.98		(in/hr)	(min)	(cfs)		(in/hr)	(min)	(ft/mi)			<b>b</b>	Jbc	(Acres)	(sf)	(mi)	(ft)	-
A21690.0321,6160.04A0.048930.929.835.45.07.810.890.35.04.98A3680.0134,6260.11A0.046130.128.988.45.07.810.930.85.04.98A41550.0294,4490.10A0.046230.129.521.15.07.810.930.75.04.98A51190.0222,2510.05A0.048030.829.559.55.07.810.900.45.04.98A61550.0295,5620.13A0.045630.528.471.85.07.810.900.45.04.98A71130.0218,4560.19A0.044430.528.2109.35.07.810.891.85.04.98A8680.01311.4690.26A0.043629.227.9102.05.07.810.891.85.04.98	0	4.98	5.0	0.4	0.85	7.81	5.0	41.6	29.2	30.1	0.0480	<b>.</b> (	0.05	2,324	0.023	120	A1
A3 68 0.013 4,626 0.11 A 0.0461 30.1 28.9 88.4 5.0 7.81 0.93 0.8 5.0 4.98   A4 155 0.029 4,449 0.10 A 0.0462 30.1 29.5 21.1 5.0 7.81 0.93 0.7 5.0 4.98   A5 119 0.022 2,251 0.05 A 0.0480 30.8 29.5 59.5 5.0 7.81 0.93 0.4 5.0 4.98   A6 155 0.029 5,562 0.13 A 0.0456 30.5 28.4 71.8 5.0 7.81 0.93 0.4 5.0 4.98   A7 113 0.021 8,456 0.19 A 0.0444 30.5 28.2 109.3 5.0 7.81 0.86 1.3 5.0 4.98   A8 68 0.013 11.469 0.26 A 0.0436 29.2 27.9 102.0 5.0 7.81 0.89 1.8 5.0 4.98	0	4.98	5.0	0.3	0.89	7.81	5.0	35.4	29.8	30.9	0.0489	•	0.04	1,616	0.032	169	A2
A41550.0294,4490.10A0.046230.129.521.15.07.810.930.75.04.98A51190.0222,2510.05A0.048030.829.559.55.07.810.900.45.04.98A61550.0295,5620.13A0.045630.528.471.85.07.810.780.85.04.98A71130.0218,4560.19A0.044430.528.2109.35.07.810.861.35.04.98A8680.01311.4690.26A0.043629.227.9102.05.07.810.891.85.04.98	0	4.98	5.0	0.8	0.93	7.81	5.0	88.4	28.9	30.1	0.0461	<b>.</b> (	0.11	4,626	0.013	68	A3
A5 119 0.022 2,251 0.05 A 0.0480 30.8 29.5 59.5 5.0 7.81 0.90 0.4 5.0 4.98   A6 155 0.029 5,562 0.13 A 0.0456 30.5 28.4 71.8 5.0 7.81 0.78 0.8 5.0 4.98   A7 113 0.021 8,456 0.19 A 0.0444 30.5 28.2 109.3 5.0 7.81 0.86 1.3 5.0 4.98   A8 68 0.013 11.469 0.26 A 0.0436 29.2 27.9 102.0 5.0 7.81 0.89 1.8 5.0 4.98	0	4.98	5.0	0.7	0.93	7.81	5.0	21.1	29.5	30.1	0.0462	<b>.</b> (	0.10	4,449	0.029	155	A4
A6 155 0.029 5,562 0.13 A 0.0456 30.5 28.4 71.8 5.0 7.81 0.78 0.8 5.0 4.98   A7 113 0.021 8,456 0.19 A 0.0444 30.5 28.2 109.3 5.0 7.81 0.86 1.3 5.0 4.98   A8 68 0.013 11.469 0.26 A 0.0436 29.2 27.9 102.0 5.0 7.81 0.89 1.8 5.0 4.98	0	4.98	5.0	0.4	0.90	7.81	5.0	59.5	29.5	30.8	0.0480	<b>.</b> (	0.05	2,251	0.022	119	A5
A7 113 0.021 8,456 0.19 A 0.0444 30.5 28.2 109.3 5.0 7.81 0.86 1.3 5.0 4.98   A8 68 0.013 11.469 0.26 A 0.0436 29.2 27.9 102.0 5.0 7.81 0.89 1.8 5.0 4.98	0	4.98	5.0	0.8	0.78	7.81	5.0	71.8	28.4	30.5	0.0456	•	0.13	5,562	0.029	155	A6
A8 68 0.013 11.469 0.26 A 0.0436 29.2 27.9 10.20 5.0 7.81 0.89 <b>1.8</b> 5.0 4.98	0	4.98	5.0	1.3	0.86	7.81	5.0	109.3	28.2	30.5	0.0444	•	0.19	8,456	0.021	113	A7
	0	4.98	5.0	1.8	0.89	7.81	5.0	102.0	27.9	29.2	0.0436	•	0.26	11,469	0.013	68	A8
A9 123 0.023 5,623 0.13 A 0.0456 29.0 27.1 83.0 5.0 7.81 0.91 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.91	7.81	5.0	83.0	27.1	29.0	0.0456	•	0.13	5,623	0.023	123	A9
A10 176 0.033 17,669 0.41 A 0.0424 30.7 26.2 135.8 5.0 7.81 0.82 <b>2.6</b> 5.0 4.98	0	4.98	5.0	2.6	0.82	7.81	5.0	135.8	26.2	30.7	0.0424	<b>.</b> (	0.41	17,669	0.033	176	A10
A11 177 0.034 6,424 0.15 A 0.0452 29.0 26.5 72.3 5.0 7.81 0.88 <b>1.0</b> 5.0 4.98	0	4.98	5.0	1.0	0.88	7.81	5.0	72.3	26.5	29.0	0.0452	•	0.15	6,424	0.034	177	A11
A12 178 0.034 4,275 0.10 A 0.0463 29.0 26.9 60.3 5.0 7.81 0.88 <b>0.7</b> 5.0 4.98	0	4.98	5.0	0.7	0.88	7.81	5.0	60.3	26.9	29.0	0.0463	•	0.10	4,275	0.034	178	A12
A13 179 0.034 6,753 0.16 A 0.0451 27.8 25.4 72.0 5.0 7.81 0.88 <b>1.1</b> 5.0 4.98	0	4.98	5.0	1.1	0.88	7.81	5.0	72.0	25.4	27.8	0.0451	<b>.</b> (	0.16	6,753	0.034	179	A13
A14 180 0.034 8,769 0.20 A 0.044 27.8 25.5 67.4 5.0 7.81 0.88 <b>1.4</b> 5.0 4.98	0	4.98	5.0	1.4	0.88	7.81	5.0	67.4	25.5	27.8	0.0444	<b>.</b> (	0.20	8,769	0.034	180	A14
A15 181 0.034 4,954 0.11 A 0.0459 26.1 24.7 41.3 5.0 7.81 0.88 <b>0.8</b> 5.0 4.98	0	4.98	5.0	0.8	0.88	7.81	5.0	41.3	24.7	26.1	0.0459	<b>.</b> (	0.11	4,954	0.034	181	A15
A16 182 0.034 4,660 0.11 A 0.0461 26.1 25.3 22.6 5.0 7.81 0.88 <b>0.7</b> 5.3 4.91	0	4.91	5.3	0.7	0.88	7.81	5.0	22.6	25.3	26.1	0.0461	•	0.11	4,660	0.034	182	A16
R1 10 0.002 5,176 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	•	0.12	5,176	0.002	10	R1
R2 10 0.002 5,130 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	、 ·	0.12	5,130	0.002	10	R2
R3 10 0.002 5,130 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	、 ·	0.12	5,130	0.002	10	R3
R4 10 0.002 5.129 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	<b>`</b>	0.12	5,129	0.002	10	R4
R5 10 0.002 6,404 0.15 A 0.0452 0.0 0.0 5.3 5.0 7.81 0.95 <b>1.1</b> 5.0 4.98	0	4.98	5.0	1.1	0.95	7.81	5.0	5.3	0.0	0.0	0.0452	•	0.15	6,404	0.002	10	R5
R6 10 0.002 5,129 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	<b>`</b>	0.12	5,129	0.002	10	R6
R7 10 0.002 5,131 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	、 ·	0.12	5,131	0.002	10	R7
R8 10 0.002 6,404 0.15 A 0.0452 0.0 0.0 5.3 5.0 7.81 0.95 <b>1.1</b> 5.0 4.98	0	4.98	5.0	1.1	0.95	7.81	5.0	5.3	0.0	0.0	0.0452	、 ·	0.15	6,404	0.002	10	R8
R9 10 0.002 5,129 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	、 ·	0.12	5,129	0.002	10	R9
R10 10 0.002 5,134 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	•	0.12	5,134	0.002	10	R10
R11 10 0.002 5,129 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	•	0.12	5,129	0.002	10	R11
R12 10 0.002 5,176 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	<b>.</b> (	0.12	5,176	0.002	10	R12
R13 10 0.002 5,129 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	<b>.</b> (	0.12	5,129	0.002	10	R13
R14 10 0.002 5,130 0.12 A 0.0458 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.95	7.81	5.0	5.3	0.0	0.0	0.0458	<b>.</b> (	0.12	5,130	0.002	10	R14
R15 10 0.002 4,313 0.10 A 0.0463 0.0 0.0 5.3 5.0 7.81 0.95 <b>0.7</b> 5.0 4.98	0	4.98	5.0	0.7	0.95	7.81	5.0	5.3	0.0	0.0	0.0463	•	0.10	4,313	0.002	10	R15
OFF-N 13 0.002 1,068 0.02 A 0.0501 30.6 30.5 40.6 5.0 7.81 0.00 <b>0.0</b> 5.0 4.98	0	4.98	5.0	0.0	0.00	7.81	5.0	40.6	30.5	30.6	0.0501	•	0.02	1,068	0.002	13	OFF-N
OFF-E1 25 0.005 2,960 0.07 A 0.0473 31.4 31.0 90.8 5.0 7.81 0.00 <b>0.0</b> 5.0 4.98	0	4.98	5.0	0.0	0.00	7.81	5.0	90.8	31.0	31.4	0.0473	<b>.</b> (	0.07	2,960	0.005	25	OFF-E1
OFF-E2 25 0.005 2,859 0.07 A 0.0474 30.7 30.0 137.5 5.0 7.81 0.88 <b>0.4</b> 5.0 4.98	0	4.98	5.0	0.4	0.88	7.81	5.0	137.5	30.0	30.7	0.0474	、 ·	0.07	2,859	0.005	25	OFF-E2
OFF-E3 25 0.005 5,669 0.13 A 0.0455 28.0 26.7 280.9 5.0 7.81 0.88 <b>0.9</b> 5.0 4.98	0	4.98	5.0	0.9	0.88	7.81	5.0	280.9	26.7	28.0	0.0455	、 ·	0.13	5,669	0.005	25	OFF-E3
OFF-S 15 0.003 2,540 0.06 A 0.0477 25.7 25.6 32.8 5.0 7.81 0.88 <b>0.4</b> 5.0 4.98	0	4.98	5.0	0.4	0.88	7.81	5.0	32.8	25.6	25.7	0.0477		0.06	2,540	0.003	15	OFF-S
OFF-W1 12 0.002 1,202 0.03 A 0.0497 30.1 29.8 149.6 5.0 7.81 0.88 <b>0.2</b> 5.0 4.98	0	4.98	5.0	0.2	0.88	7.81	5.0	149.6	29.8	30.1	0.0497		0.03	1,202	0.002	12	OFF-W1
OFF-W2 12 0.002 1,677 0.04 A 0.0488 29.2 29.0 80.1 5.0 7.81 0.88 0.3 5.0 4.98	0	4.98	5.0	0.3	0.88	7.81	5.0	80.1	29.0	29.2	0.0488		0.04	1,677	0.002	12	OFF-W2
OFF-W3 12 0.002 1,400 0.03 A 0.0493 27.9 27.6 102.5 5.0 7.81 0.88 0.2 5.0 4.98	0	4.98	5.0	0.2	0.88	7.81	5.0	102.5	27.6	27.9	0.0493		0.03	1,400	0.002	12	OFF-W3
OFF-W4 12 0.002 1,159 0.03 A 0.0498 26.9 26.8 66.0 5.0 7.81 0.88 0.2 5.0 4.98	0	4.98	5.0	0.2	0.88	7.81	5.0	66.0	26.8	26.9	0.0498		0.03	1,159	0.002	12	OFF-W4
Total 199,188 4.10 29.0				29.0	·		-	•		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>			4.10	199,188	•	•	Total

Notes

0 YR Runoff Coefficient 'C'	Q10 Flow
	(cfs)
.80	0.2
.84	0.2
.88	0.5
.87	0.4
.85	0.2
.72	0.5
.81	0.8
.84	1.1
.86	0.5
.76	1.5
.82	0.6
.82	0.4
.82	0.6
.82	0.8
.82	0.5
.82	0.4
.90	0.5
.90	0.5
.90	0.5
.90	0.5
.90	0.7
.90	0.5
.90	0.5
.90	0.7
.90	0.5
.90	0.5
.90	0.5
.90	0.5
.90	0.5
.90	0.5
.90	0.4
.00	0.0
.00	0.0
.82	0.3
.82	0.5
.82	0.2
.82	0.1
.82	0.2
.82	0.1
.82	0.1

17.4

EXHIBIT 1 – VICINITY MAP



EXHIBIT 2 – FEMA FIRM



EXHIBIT 3 – ONE SCOTTSDALE REGIONAL RETENTION AREA EXHIBIT



EXHIBIT 4 – ATAVIA – ONE SCOTTSDALE DRAINAGE EXHIBIT



EXHIBIT 5 – ATAVIA – ONE SCOTTSDALE PRELIMINARY GRADING & DRAINAGE PLAN

LEGEND/ABE	BREVIA	ATIONS
EXISTING SURVEY		PROPOSED WATER & SEWER
SECTION LINE    RIGHT OF WAY    PROPERTY LINE    ROAD CENTERLINE    EASEMENT   Image: I		Sever LNE "W WATER LINE PLUG SEWER CLEANOUT AREA DRAIN CATCH BASIN STORM DRAIN MANHOLE STORM DRAIN PIPE DRYWELL
	A.L.	
G GAS LINE	C.B.	
Sewer Line	DE	DRAINAGE EASEMENT
W WATER LINE	p.w.	DRYWELL
STORM DRAIN PIPE	Ĕ.O.L.	EDGE OF LANDSCAPE
S SEWER MANHOLE	J.B.	JUNCTION BOX
	FH	FIRE HYDRANT
	E.C.B.	
TOP OF CURB ELEVATION		LOWEST FINISH FLOOR FLEVATION
	TC 0.00	TOP OF CURB
	FG 0.00	FINISH GRADE ELEVATION
	<u>C 0.00</u>	CONCRETE ELEVATION
	Ĉ.A	CROSS ACCESS
	E.S.A	EMERGENCY SERVICE ACCESS
	P.U.E	PUBLIC UTILITY EASEMENT
	U.E	UTILITY EASEMENT
	P.A.E	PUBLIC ACCESS EASEMENT
	S.S.T	
	<u> S.V.I</u>	
		I TOP OF WALL

# FEMA FIRM NOTE (ZONE X)

ACCORDING TO FEMA FLOOD INSURANCE RATE MAPPING, THE SUBJECT PROPERTY IS LOCATED IN 'OTHER FLOOD AREAS' "ZONE X" (ZONE X SHADED). ZONE X SHADED IS DESCRIBED AS: "AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD."

# FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

MAP	COMMUNITY	PANEL	SUFFIX	DATE OF	INDEX	FIRM	BASE FLOOD ELEVATION
NUMBER	NUMBER	NUMBER		FIRM	DATE	ZONE	(IN AO ZONE, USE DEPTH)
04013C	045012	1320	L	10/16/2013	02/08/2024	х	N/A





# DEVELOPER

1101 WEST MONROE STREET / SUITE 200 CHICAGO, ILLINOIS 60607 CONTACT: JONATHAN McCULLOCH PHONE: (312) 561-5253

WOOD, PATEL & ASSOCIATES, INC. 2051 W NORTHERN AVE #100, CONTACT: ZACHARY RADOVICH, P.E. PHONE: (602) 335-8500

217 NORTH JEFFERSON STREET / SUITE 400 CHICAGO, ILLINOIS 60661 CONTACT: ERIC LUKACSIK PHONE: (312)-549-4908

# PROJECT SITE DATA

PROJECT SITE AREA(S): NET AREA =  $4.6 \pm AC$ 

# SHEET INDEX

SHEET 1 COVER SHEET / SHEET INDEX SHEET 2 PRELIMINARY GRADING & DRAINAGE PLAN SHEET 3 PRELIMINARY GRADING & DRAINAGE PLAN

FIRE LANE SURFACES SHALL SUPPORT 83K GVW PER DS&PM 2-1.303(3).





CHECKED BY: JGR DESIGNED BY: ZR DRAFTED BY: AS/B

THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON A MARICOPA COUNTY HIGHWAY DEPARTMENT BRASS CAP IN HANDHOLE, SCOTTSDALE GPS POINT 2272, LOCATED AT THE INTERSECTION OF SCOTTSDALE ROAD AND THOMPSON PEAK PARKWAY, HAVING AN ELEVATION OF 1622.878, CITY OF SCOTTSDALE NAVD 88 DATUM.

NATIONAL GEODETIC SURVEY (NGS) GEODETIC NORTH BASED ON: THE HORIZONTAL DATUM FOR THIS SURVEY IS BASED ON THE

TRANSPORTATION (MCDOT) GEODETIC DENSIFICATION AND CADASTRAL

"WWW.MCDOT.MARICOPA.GOV", UNDER THE SURVEY INFORMATION LINK

PROJECTION: ARIZONA CENTRAL ZONE, NAD 83, (EPOCH 92)

MODIFIED TO GROUND AT (GRID) N: 976521.464, E: 692046.432, USING A

RESULTING IN A LOCAL COORDINATE ORIGIN OF (GROUND) N:976520.864,



CHECKED BY: JGR DESIGNED BY: ZR DRAFTED BY: AS/B

