



**WASTEWATER COLLECTION SYSTEM  
BASIS OF DESIGN REPORT  
FOR  
ATAVIA - ONE SCOTTSDALE**

March 5, 2024  
WP# 235518

Prepared by  
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     |
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| <b>FINAL Basis of Design Report</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| <input type="checkbox"/> APPROVED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                     |
| <input type="checkbox"/> APPROVED AS NOTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                     |
| <input checked="" type="checkbox"/> REVISE AND RESUBMIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| <p>Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance.<br/>For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.</p> |                                                                                     |
| BY apritchard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | DATE 5/10/2024                                                                      |



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## EXHIBITS

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| EXHIBIT 2 | Modeled On-Site Land Use Plan (From Master Report)               |
| EXHIBIT 3 | Onsite Wastewater Collection System Exhibit (From Master Report) |
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Y:\WP\Reports\Commercial\235518 Atavia - One Scottsdale Preliminary Wastewater BOD.docx



1.0 INTRODUCTION

Atavia – One Scottsdale (Site) is an approximately 4.58-acre parcel located within the One Scottsdale community 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* for project location. Proposed development for the Atavia – One Scottsdale parcel consists of 88 multifamily units and a 4,275-square foot Clubhouse with associated parking, landscape, hardscape, and utility services.

Prior to the submittal of this Report, a Master Report titled *One Scottsdale (Stacked 40s) Master Onsite Wastewater Plan* (20-ZN-2002#3) (ref 1) was approved by the City of Scottsdale. The proposed site improvements analyzed in this Report are included within the Planning Unit II portion of the Master Report. Specifically, the Site is proposed to align with sub-areas 2B and 2D as denoted within the Master Report. (Refer to Exhibit 2 - *Modeled On-site Land Use Plan*)

The design criteria used to estimate wastewater flows and evaluate system hydraulics were based on the design criteria used in the *One Scottsdale (Stacked 40s) Master Onsite Wastewater Plan*. The following is a summary of the primary design criteria utilized:

|                                                                    |                |
|--------------------------------------------------------------------|----------------|
| Average Day Wastewater flows, Residential 12-22 DU/ac:.....        | 100 gpd/person |
| Average Day Wastewater flows, Fitness Center/Spa/Health club:..... | 0.8 gpd/sf     |
| Population Density, Onsite.....                                    | 2 persons/DU   |
| Peaking Factor, Residential 12-22 DU/ac:.....                      | 4.0            |
| Peaking Factor, Fitness Center/Spa/Health club:.....               | 3.5            |
| Minimum Mean Full Flow Velocity: .....                             | 2.50 fps       |
| Minimum Peak Full Flow Velocity: .....                             | 10.0 fps       |
| Minimum Peak Flow d/D Ratio (12-inch diameter or less):.....       | d/D = 0.65     |
| Minimum Peak Full Flow Velocity: .....                             | 10.0 fps       |
| Minimum Peak Flow d/D Ratio (12-inch diameter or greater): .....   | d/D = 0.70     |

Abbreviations: gpd = gallons per day; sf = square foot; DU = Dwelling Unit; fps = feet per second

2.0 EXISTING WASTEWATER INFRASTRUCTURE

Existing wastewater infrastructure adjacent to Planning Unit II includes a public 12-inch sewer main within a portion of Legacy Boulevard and a public 15-inch sewer main in Scottsdale Road. Two (2) exiting 10-inch sewer stubs extend from the public sewer main in Scottsdale Road toward the western property boundary of Planning Unit II.

Within Planning Unit II, there is an existing 8-inch sanitary sewer main that runs within Henkey Way. This line has been designed to serve the existing building at the southwest corner of the Site and future parcels along Henkey Way. This sewer line was constructed per the *One Scottsdale - Planning Unit II South End Improvements Sewer Plan* (C.O.S. #3030-06-1) (ref 2).

There is also an onsite sewer main that is currently under construction within the Planning Unit II site. This line runs within the 73<sup>rd</sup> Way roadway alignment currently under construction, then turns to cross west along Planning Unit II to the outfall at the 12-inch stub within the Henkel Drive connection to Scottsdale Road. Pipe sizes vary from 10-inches to 12-inches in accordance with sewer demands. Please refer to the approved *One Scottsdale Private Drive Plan* (C.O.S. #2328-22) (ref 3).

### **3.0 PROPOSED WASTEWATER INFRASTRUCTURE**

#### **3.1 Onsite Infrastructure (Post Development)**

The Master Report analyzed the overall wastewater infrastructure needed to serve the One Scottsdale development, including this Site. This infrastructure has been described in Section 2.0 of this Report.

The proposed private sewer system for the Site will consist of a 6-inch sewer service for each of the fifteen (15) buildings located on the Site. These services will connect the two (2) 8-inch private sewer lines with manholes flowing north to south through the Site. The proposed private sewer system will outfall to the south of the Site, into the 12-inch sewer that is currently under construction.

#### **3.2 Modeling and Results**

As noted in Section 1.0 of this report, a master report for the One Scottsdale development was previously approved by the City of Scottsdale titled *One Scottsdale (Stacked 40s) Master Onsite Wastewater Plan* (ref 1). That report analyzed the overall wastewater demands for the One Scottsdale project, including the proposed project Site. The proposed Site aligns with sub-areas 2B and 2D from that Master Report. Refer to Exhibit 3 – *Onsite Wastewater Collection System Exhibit* and Exhibit 2 – *Modeled On-site Land Use Plan*.

Based on the design criteria utilized within the Master Report, the projected average day flow for the Site is calculated to be 21,050 gpd and the peak flow is projected to be 73,850 gpd. Refer to Appendix A – *Wastewater Demand Calculations*. Previously defined flows within the master wastewater report for the areas 2B and 2D were found to be 134,998 gallons per day (gpd) for the average day flow and 454,198 gpd for the peak flow. Refer to Appendix B - *Excerpts of Master Report Calculations Relevant to The Atavia – One Scottsdale Improvements* for applicable flows from Master Report. Per these numbers, the calculated peak flow for the proposed Site improvements is less than what was anticipated in the Master Report analysis. Therefore, it is our understanding that the sewer system as designed has capacity to serve the Site.

Per the direction of the City of Scottsdale, the projected flow for the Site was also calculated using the design criteria from the Design Standards & Policies Manual (2018) (ref 4). Using these design criteria, the Site has a projected average day flow of 25,450 gpd and a projected peak flow of 100,076 gpd. These flows have been provided as a reference for the City of Scottsdale and are not meant to be used when analyzing the existing and proposed wastewater infrastructure for the Site. Refer to Appendix A – *Wastewater Demand Calculations*.

The infiltration and inflow from wet weather has been accounted for in the published design flow rates for the development and the maximum d/D of 0.65 per City of Scottsdale – Design Standards and Policies Manual Section 7-404.

#### 4.0 CONCLUSIONS

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

1. The design criteria used to estimate wastewater flows and evaluate system hydraulics are based on the approved *One Scottsdale (Stacked 40s) Master Onsite Wastewater Plan*.
2. The projected average-day flow for the proposed Site is calculated to be 26,921 gpd, with a projected peak flow of 105,223 gpd. The proposed wastewater infrastructure is anticipated to have sufficient capacity for these flows, since they are less than the flows anticipated in the Master Report.

#### 5.0 REFERENCES

1. *One Scottsdale (Stacked 40s) Master Onsite Wastewater Plan*, Wood, Patel & Associates, Inc. Revised January 28, 2016
2. *One Scottsdale Private Drive Plan*, Wood, Patel & Associates, Inc. Submitted August 18, 2022
3. *One Scottsdale - Planning Unit II South End Improvements Water Plan*, Wood, Patel & Associates, Inc. Submitted December 12, 2007
4. *Design Standards & Policies Manual*, City of Scottsdale, 2018

## **APPENDIX A – WASTEWATER DEMAND CALCULATIONS**



**Project** Atavia - One Scottsdale  
**Location** Scottsdale, AZ  
**Project Number** 215518  
**Project Engineer** Zachary Radovich, PE  
**References** One Scottsdale (Stacked 40s) Master On-Site Wastewater Plan (2016)  
Arizona Administrative Code, Title 18, Chapter 9

**WASTEWATER DEMAND CALCULATIONS**  
FULL BUILD-OUT CONDITION  
DESIGN CRITERIA PER ONE SCOTTSDALE (STACKED 40s)  
MASTER ON-SITE WASTEWATER PLAN (2016)

**PROPOSED SITE IMPROVEMENTS**

| Node   | Residential (DU) | Fitness Center / Spa / Health club (sf) | DEMAND VALUE             |                                             | TOTAL ADD (gpd) | PEAKING FACTOR (Residential) | PEAKING FACTOR (Fitness Center / Spa / Health club) | PEAK FLOW <sup>1</sup> (gpd) | PEAK FLOW (gpm) |
|--------|------------------|-----------------------------------------|--------------------------|---------------------------------------------|-----------------|------------------------------|-----------------------------------------------------|------------------------------|-----------------|
|        |                  |                                         | Residential (persons/DU) | Fitness Center / Spa / Health club (gpd/sf) |                 |                              |                                                     |                              |                 |
| Atavia | 88               | 4,313                                   | 200                      | 0.8                                         | 21,050          | 4.0                          | --                                                  | 73,850                       | 51              |
| Total  | 88               |                                         |                          |                                             | 21,050          |                              |                                                     | 73,850                       | 51              |

**MASTER PLAN DEMAND CALCULATIONS - SUB AREA 2B & 2D**

| Node  | Residential (DU) | Retail (sf) | DEMAND VALUE             |                 | TOTAL ADD (gpd) | PEAKING FACTOR (Residential) | PEAKING FACTOR (Commercial/Retail) | PEAK FLOW <sup>1</sup> (gpd) | PEAK FLOW (gpm) |
|-------|------------------|-------------|--------------------------|-----------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------|
|       |                  |             | Residential (persons/DU) | Retail (gpd/sf) |                 |                              |                                    |                              |                 |
| 2D    | 266              | 23,831      | 200                      | 0.6             | 67,499          | 4.0                          | --                                 | 227,099                      | 158             |
| 2B    | 266              | 23,831      | 200                      | 0.6             | 67,499          | 4.0                          | --                                 | 227,099                      | 158             |
| Total | 532              | 47,662      |                          |                 | 134,998         |                              |                                    | 454,198                      | 316             |

**Notes**  
1. Per the approved One Scottsdale (Stacked 40s) Master On-Site Wastewater Plan, projected peak flow was caculated using a variable peaking factor method, in which peak flow was caculated for either residential or commercial uses and average daily flow was caculated for the other, whichever combination generated the greater flow. For this Site, peak flow was calculated for residential uses and average daily flow calculated for commercial uses.

Unit from MP appears to be 200 gpd/DU

Value differs from Water BOD

Need to show which scenario yields the greatest peak flow, as done in the Master Plan.

3.5



**WASTEWATER DEMAND CALCULATIONS**  
FULL BUILD-OUT CONDITION  
DESIGN CRITERIA PER DESIGN STANDARDS  
& POLICIES MANUAL (2018)

**Project** Atavia - One Scottsdale  
**Location** Scottsdale, AZ  
**Project Number** 215518  
**Project Engineer** Zachary Radovich, PE  
**References** City of Scottsdale Design Standards & Policies Manual (2018)  
Arizona Administrative Code, Title 18, Chapter 9

140 gpd/unit

4.5

PROPOSED SITE IMPROVEMENTS

| Node         | Residential<br>(DU) | Fitness Center<br>/ Spa / Health<br>club<br>(sf) | DEMAND VALUE                |                                                   | TOTAL ADD<br>(gpd) | PEAKING FACTOR<br>(Residential) | PEAKING FACTOR<br>(Fitness Center / Spa<br>/ Health club) | PEAK FLOW<br>(gpd) | PEAK FLOW<br>(gpm) |
|--------------|---------------------|--------------------------------------------------|-----------------------------|---------------------------------------------------|--------------------|---------------------------------|-----------------------------------------------------------|--------------------|--------------------|
|              |                     |                                                  | Residential<br>(persons/DU) | Fitness Center /<br>Spa / Health club<br>(gpd/sf) |                    |                                 |                                                           |                    |                    |
| Atavia       | 88                  | 4,313                                            | 250                         | 0.8                                               | 25,450             | 4.0                             | 3.5                                                       | 100,076            | 69                 |
| <b>Total</b> | <b>88</b>           |                                                  |                             |                                                   | <b>25,450</b>      |                                 |                                                           | <b>100,076</b>     | <b>69</b>          |

Update demand calculations in using DSPM Figure 7-1.2 values.

**APPENDIX B – EXCERPTS OF MASTER REPORT CALCULATIONS RELEVANT TO  
ATAVIA – ONE SCOTTSDALE IMPROVEMENTS**

Project: Master On-Site Wastewater Plan for One  
Scottsdale (Stacked 40s)  
Location: Scottsdale, Arizona  
Date: December 4, 2015

Proj. Number: 154391  
Proj. Engineer: JGR

## PLANNING UNIT II

| PHASE 1                   |                      |                     |                     |                         |                |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|----------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | AREA<br>(SF)   | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                |                  |
| 17 (Henkel Building)      | ---                  | 325,156             | ---                 | ---                     | 325,156        | ---              |
| <b>SUBTOTAL</b>           | ---                  | <b>325,156</b>      | ---                 | ---                     | <b>325,156</b> | ---              |

| PHASE 2                   |                      |                     |                     |                         |                          |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | TOTAL COMMERCIAL<br>(SF) | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                          |                  |
| 2a                        | 133                  | ---                 | 62,500              | 26,000                  | 88,500                   | ---              |
| 2b                        | 266                  | ---                 | 23,831              | ---                     | 23,831                   | ---              |
| 2c                        | 133                  | ---                 | 62,500              | 26,000                  | 88,500                   | ---              |
| 2d                        | 266                  | ---                 | 23,831              | ---                     | 23,831                   | ---              |
| <b>SUBTOTAL</b>           | <b>798</b>           | ---                 | <b>172,662</b>      | <b>52,000</b>           | <b>224,662</b>           | ---              |

| PHASE 3                   |                      |                     |                     |                         |                          |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | TOTAL COMMERCIAL<br>(SF) | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                          |                  |
| 3a                        | ---                  | 260,000             | 3,000               | 5,000                   | 268,000                  | 140              |
| 3b                        | ---                  | 140,000             | 2,000               | ---                     | 142,000                  | ---              |
| 3c                        | ---                  | 260,000             | 3,000               | ---                     | 263,000                  | ---              |
| 3d                        | ---                  | 140,000             | 2,000               | ---                     | 142,000                  | ---              |
| <b>SUBTOTAL</b>           | ---                  | <b>800,000</b>      | <b>10,000</b>       | <b>5,000</b>            | <b>815,000</b>           | <b>140</b>       |

Project: Master On-Site Wastewater Plan for One  
Scottsdale (Stacked 40s)  
Location: Scottsdale, Arizona  
Date: December 4, 2015

Proj. Number: 154391

Proj. Engineer: JGR

| PHASE 4                   |                      |                     |                     |                         |                          |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | TOTAL COMMERCIAL<br>(SF) | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                          |                  |
| 4a                        | 279                  | ---                 | ---                 | ---                     | ---                      | 260              |
| 4b                        | 267                  | ---                 | ---                 | 8,000                   | 8,000                    | ---              |
| 4c                        | 372                  | ---                 | ---                 | ---                     | ---                      | ---              |
| <b>SUBTOTAL</b>           | <b>918</b>           | <b>---</b>          | <b>---</b>          | <b>8,000</b>            | <b>8,000</b>             | <b>260</b>       |

| PHASE 5                   |                      |                     |                     |                         |                          |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | TOTAL COMMERCIAL<br>(SF) | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                          |                  |
| 5a                        | ---                  | 127,834             | 21,074              | 2,500                   | 151,408                  | ---              |
| 5b                        | ---                  | 204,533             | 15,332              | 2,500                   | 222,365                  | ---              |
| 5c                        | ---                  | 204,533             | 15,332              | ---                     | 219,865                  | ---              |
| <b>SUBTOTAL</b>           | <b>---</b>           | <b>536,900</b>      | <b>51,738</b>       | <b>5,000</b>            | <b>593,638</b>           | <b>---</b>       |

| PHASE 6                   |                      |                     |                     |                         |                          |                  |
|---------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|------------------|
| PLANNING UNIT<br>SUB-AREA | RESIDENTIAL<br>(DUs) | COMMERCIAL          |                     |                         | TOTAL COMMERCIAL<br>(SF) | HOTEL<br>(ROOMS) |
|                           |                      | OFFICE AREA<br>(SF) | RETAIL AREA<br>(SF) | RESTAURANT AREA<br>(SF) |                          |                  |
| 6                         | ---                  | 197,089             | ---                 | ---                     | 197,089                  | ---              |
| <b>SUBTOTAL</b>           | <b>---</b>           | <b>197,089</b>      | <b>---</b>          | <b>---</b>              | <b>197,089</b>           | <b>---</b>       |

|                        |       |           |         |        |           |     |
|------------------------|-------|-----------|---------|--------|-----------|-----|
| PLANNING UNIT II TOTAL | 1,716 | 1,859,145 | 234,400 | 70,000 | 2,163,545 | 400 |
|------------------------|-------|-----------|---------|--------|-----------|-----|

Project: Master On-Site Wastewater Plan for One Scottsdale (Stacked 40s)  
 Location: Scottsdale, Arizona  
 Date: December 4, 2015

Proj. Number: 154391  
 Proj. Engineer: JGR

## ONSITE WASTEWATER DESIGN CRITERIA

| DESCRIPTION                                                  | VALUE | UNITS      | Note |
|--------------------------------------------------------------|-------|------------|------|
| <b>GENERAL</b>                                               |       |            |      |
| Minimum Mean Full-Flow Velocity:                             | 2.50  | ft/s       | 1    |
| Max. Peak Flow Depth-to-Diameter Ratio (8-12" Dia. Sewers):  | 0.65  | —          | 1,3  |
| Max. Peak Flow Depth-to-Diameter Ratio (>12" Dia. Sewers):   | 0.70  | —          | 1    |
| Max. Utilized Capacity:                                      | 90    | %          | —    |
| Minimum Pipe Diameter:                                       | 8     | in         | 1    |
| <b>RESIDENTIAL</b>                                           |       |            |      |
| Average Day Wastewater Flow per Person, (8-12" Dia. Sewers): | 100   | gpd/person | 2    |
| Average Day Wastewater Flow per Person, (>12" Dia. Sewers):  | 100   | gpd/person | 2    |
| Population Density, On-Site:                                 | 2.00  | persons/DU | 2    |
| Population Density, Off-Site Condominiums:                   | 1.70  | persons/DU | 2    |
| Peaking Factor, Residential:                                 | 4.00  | —          | 1    |
| <b>OFFICE</b>                                                |       |            |      |
| Average Day Wastewater Flow, Office:                         | 0.10  | gpd/SF     | 2    |
| Peaking Factor, Office:                                      | 3.00  | n/a        | 2    |
| <b>RETAIL</b>                                                |       |            |      |
| Average Day Wastewater Flow, Retail:                         | 0.60  | gpd/sf     | 2    |
| Peaking Factor, Retail:                                      | 3.50  | —          | 2    |
| <b>RESTAURANT</b>                                            |       |            |      |
| Average Day Wastewater Flow, Restaurant:                     | 1.20  | gpd/sf     |      |
| Peaking Factor, Restaurant:                                  | 6.00  |            |      |
| <b>HOTEL</b>                                                 |       |            |      |
| Average Day Wastewater Flow, Hotel:                          | 100   | gpd/room   |      |
| Peaking Factor, Hotel:                                       | 4.00  | —          | 1    |

## OFFSITE WASTEWATER DESIGN CRITERIA

| DESCRIPTION                          | VALUE | UNITS    | Note |
|--------------------------------------|-------|----------|------|
| <b>MIXED USE DEVELOPMENT</b>         |       |          |      |
| Average Day Wastewater Flow per Acre | 1447  | gpd/acre | 2    |
| Max. Day Wastewater Flow per Acre    | 2098  | gpd/acre | 2    |
| Peaking Factor                       | 4     | —        | 2    |

Notes: 1 —  
 2 —  
 3 —

Project Master On-Site Wastewater Plan for One Scottsdale  
(Stacked 40s)  
Location City of Scottsdale  
Date December 4, 2015  
References City of Scottsdale Design Standards and Policies Manual

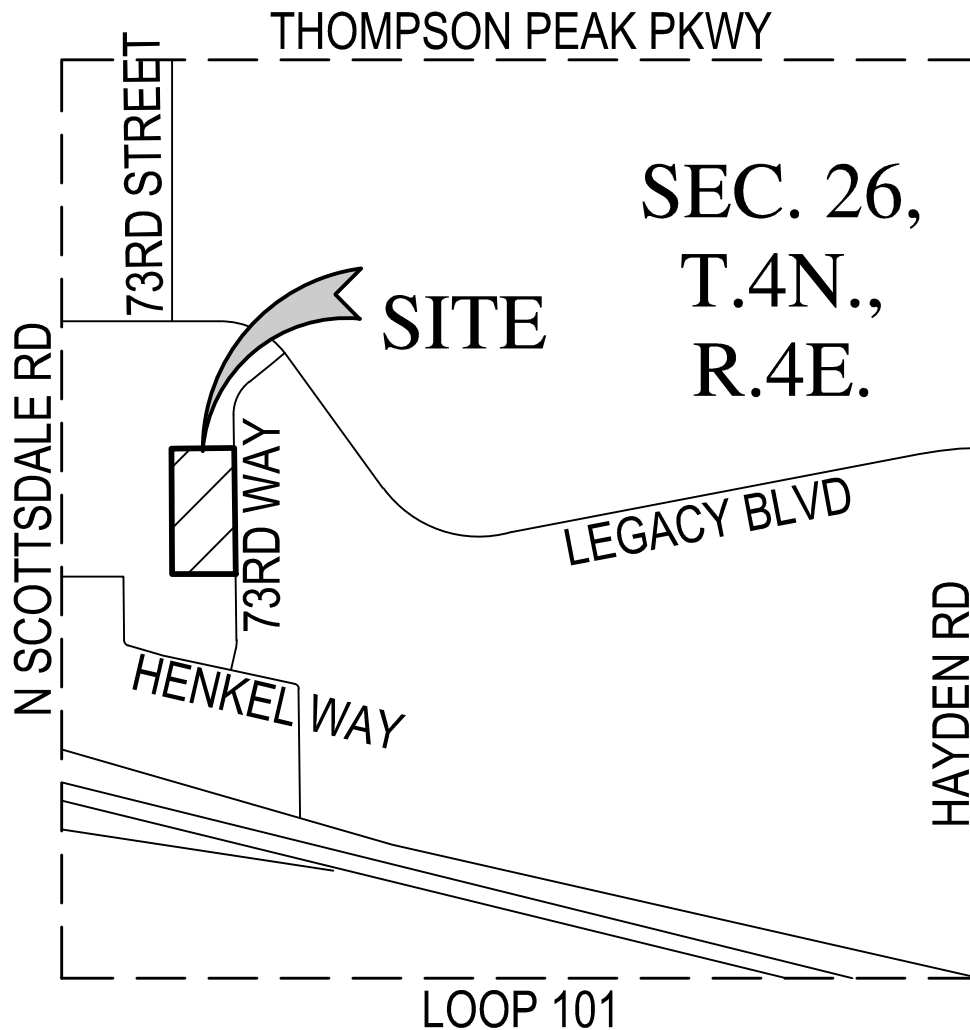
CIVIL ENGINEERS • HYDROLOGISTS • LAND SURVEYORS  
Proj Number 153481  
Proj Engineer JGR

|                      |                 |                          |                                              | LAND USE TYPE         |         |            |         |            |           |              |                                         |         |         |            |        |                                   |         |         |         |            |        |                                                                  |                       |                 |              |              |                                                                  |                |                          |              |                 |                 |                     |             |                          |                        |               |     |  |  |  |  |  |  |
|----------------------|-----------------|--------------------------|----------------------------------------------|-----------------------|---------|------------|---------|------------|-----------|--------------|-----------------------------------------|---------|---------|------------|--------|-----------------------------------|---------|---------|---------|------------|--------|------------------------------------------------------------------|-----------------------|-----------------|--------------|--------------|------------------------------------------------------------------|----------------|--------------------------|--------------|-----------------|-----------------|---------------------|-------------|--------------------------|------------------------|---------------|-----|--|--|--|--|--|--|
|                      |                 |                          |                                              | RESIDENTIAL           |         | COMMERCIAL |         |            |           | HOTEL        |                                         |         |         |            |        |                                   |         |         |         |            |        |                                                                  |                       |                 |              |              |                                                                  |                |                          |              |                 |                 |                     |             |                          |                        |               |     |  |  |  |  |  |  |
|                      |                 |                          |                                              | NO. OF DWELLING UNITS |         | AREA (SF)  |         |            |           |              | AVE. DAILY FLOW (ADF) PER SEGMENT (GPD) |         |         |            |        | CUMULATIVE AVERAGE DAY FLOW (GPD) |         |         |         |            |        | PEAK RESIDENTIAL & HOTEL FLOWS + AVE. DAY COMMERCIAL FLOWS (GPD) |                       |                 |              |              | PEAK COMMERCIAL FLOWS + AVE. DAY RESIDENTIAL & HOTEL FLOWS (GPD) |                |                          |              |                 |                 |                     |             |                          |                        |               |     |  |  |  |  |  |  |
| UPSTREAM NODE        | DOWNSTREAM NODE | LOCATION (PLANNING UNIT) | PLANNING UNIT SUB-AREAS CONTRIBUTING TO FLOW | OFF-SITE              | ON-SITE | OFFICE     | RETAIL  | RESTAURANT | TOTAL     | NO. OF ROOMS | RESID.                                  | OFFICE  | RETAIL  | RESTAURANT | HOTEL  | TOTAL (GPD)                       | RESID.  | OFFICE  | RETAIL  | RESTAURANT | HOTEL  | TOTAL ADF (GPD)                                                  | INFILT & INFLOW (GPD) | RESID. (PF=4.0) | OFFICE (ADF) | RETAIL (ADF) | RESTAURANT                                                       | HOTEL (PF=4.0) | TOTAL MAX DAY FLOW (GPD) | RESID. (ADF) | OFFICE (PF=3.0) | RETAIL (PF=3.5) | RESTAURANT (PF=6.0) | HOTEL (ADF) | TOTAL MAX DAY FLOW (GPD) | PEAK DESIGN FLOW (GPD) | PIPE DIA (IN) |     |  |  |  |  |  |  |
| A5                   | A4              | II                       | 4b, 4c, 6                                    | ---                   | 422     | 197,089    | ---     | 8,000      | 205,089   | ---          | 84,400                                  | 19,709  | ---     | 9,600      | ---    | 113,709                           | 84,400  | 19,709  | ---     | 9,600      | ---    | 113,709                                                          | ---                   | 337,600         | 19,709       | ---          | 9,600                                                            | ---            | 366,909                  | 84,400       | 59,127          | ---             | 57,600              | ---         | 201,127                  | 366,909                | 8             |     |  |  |  |  |  |  |
| A4                   | A3              | II                       | 5c                                           | ---                   | ---     | 204,533    | 15,332  | ---        | 219,865   | ---          | ---                                     | 20,453  | 9,199   | ---        | ---    | 29,653                            | 84,400  | 48,162  | 9,199   | 9,600      | ---    | 143,361                                                          | ---                   | 337,600         | 48,162       | 9,199        | 9,600                                                            | ---            | 398,561                  | 84,400       | 120,487         | 32,197          | 37,600              | ---         | 294,684                  | 398,561                | 8             |     |  |  |  |  |  |  |
| A3                   | A2              | II                       | 1                                            | ---                   | ---     | 325,158    | ---     | ---        | 325,158   | ---          | ---                                     | 32,516  | ---     | ---        | ---    | 32,516                            | 84,400  | 72,678  | 9,199   | 9,600      | ---    | 175,877                                                          | ---                   | 337,600         | 72,678       | 9,199        | 9,600                                                            | ---            | 429,077                  | 84,400       | 218,033         | 32,197          | 57,600              | ---         | 387,731                  | 429,077                | 8             |     |  |  |  |  |  |  |
| A2                   | A1 (OUTFALL #1) | II                       | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 84,400                                  | 72,678  | 9,199   | 9,600      | ---    | 175,877                           | 84,400  | 72,678  | 9,199   | 9,600      | ---    | 175,877                                                          | ---                   | 337,600         | 72,678       | 9,199        | 9,600                                                            | ---            | 429,077                  | 84,400       | 218,033         | 32,197          | 57,600              | ---         | 387,731                  | 429,077                | 8             |     |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #1 |                 |                          |                                              | ---                   | 422     | 728,776    | 15,332  | 8,000      | 750,110   | ---          | 84,400                                  | 72,678  | 9,199   | 9,600      | ---    | 175,877                           | 84,400  | 72,678  | 9,199   | 9,600      | ---    | 175,877                                                          | ---                   | 337,600         | 72,678       | 9,199        | 9,600                                                            | ---            | 429,077                  | 84,400       | 218,033         | 32,197          | 57,600              | ---         | 387,731                  | 429,077                | 8             |     |  |  |  |  |  |  |
| B5                   | B4              | II                       | 3d, 4a, 3b                                   | ---                   | 275     | 280,000    | 4,000   | ---        | 284,000   | 260          | 55,600                                  | 26,000  | 2,400   | ---        | 26,000 | 112,200                           | 55,600  | 26,000  | 2,400   | ---        | 26,000 | 112,200                                                          | ---                   | 223,200         | 26,000       | 2,400        | ---                                                              | 104,000        | 357,600                  | 55,600       | 84,000          | 8,400           | ---                 | 26,000      | 174,200                  | 357,600                | 10            |     |  |  |  |  |  |  |
| B4                   | B3              | II                       | 4b                                           | ---                   | 217     | ---        | ---     | ---        | ---       | ---          | 43,400                                  | ---     | ---     | ---        | ---    | 43,400                            | 99,200  | 28,000  | 2,400   | ---        | 26,000 | 173,200                                                          | ---                   | 398,800         | 28,000       | 2,400        | ---                                                              | 104,000        | 531,200                  | 99,200       | 84,000          | 8,400           | ---                 | 26,000      | 217,600                  | 531,200                | 10            |     |  |  |  |  |  |  |
| B3                   | B2              | II                       | 5a, 5b                                       | ---                   | ---     | 332,367    | 36,406  | 5,000      | 373,773   | ---          | ---                                     | 33,237  | 21,844  | 6,000      | ---    | 61,080                            | 99,200  | 61,237  | 24,244  | 6,000      | ---    | 173,280                                                          | ---                   | 398,800         | 61,237       | 24,244       | 6,000                                                            | 104,000        | 582,280                  | 99,200       | 163,710         | 64,633          | 36,000              | 26,000      | 429,753                  | 582,280                | 12            |     |  |  |  |  |  |  |
| B2                   | B1 (OUTFALL #2) | II                       | 2b, 2c                                       | ---                   | 532     | ---        | 47,662  | ---        | 47,662    | ---          | 106,400                                 | ---     | 28,167  | ---        | ---    | 134,567                           | 205,600 | 61,237  | 52,841  | 6,000      | ---    | 308,778                                                          | ---                   | 622,400         | 61,237       | 52,841       | 6,000                                                            | 104,000        | 1,048,478                | 205,600      | 163,710         | 184,943         | 36,000              | 26,000      | 636,253                  | 1,048,478              | 12            |     |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #2 |                 |                          |                                              | ---                   | 1,028   | 612,367    | 88,068  | 5,000      | 705,435   | 260          | 205,600                                 | 61,237  | 52,841  | 6,000      | 26,000 | 351,878                           | 205,600 | 61,237  | 52,841  | 6,000      | 26,000 | 351,878                                                          | ---                   | 622,400         | 61,237       | 52,841       | 6,000                                                            | 104,000        | 1,048,478                | 205,600      | 163,710         | 184,943         | 36,000              | 26,000      | 636,253                  | 1,048,478              | 12            |     |  |  |  |  |  |  |
| C2                   | C1 (OUTFALL #3) | II                       | 2a, 2c                                       | ---                   | 269     | ---        | 125,000 | 52,000     | 177,000   | ---          | 53,200                                  | ---     | 75,000  | 62,400     | ---    | 190,600                           | 53,200  | ---     | 75,000  | 62,400     | ---    | 190,600                                                          | ---                   | 212,800         | ---          | 75,000       | 62,400                                                           | ---            | 350,200                  | 53,200       | ---             | 262,500         | 374,400             | ---         | 690,100                  | 690,100                | 10            |     |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #3 |                 |                          |                                              | ---                   | 269     | ---        | 125,000 | 52,000     | 177,000   | ---          | 53,200                                  | ---     | 75,000  | 62,400     | ---    | 190,600                           | 53,200  | ---     | 75,000  | 62,400     | ---    | 190,600                                                          | ---                   | 212,800         | ---          | 75,000       | 62,400                                                           | ---            | 390,200                  | 53,200       | ---             | 282,500         | 374,400             | ---         | 690,100                  | 690,100                | 10            |     |  |  |  |  |  |  |
| D2                   | D1 (OUTFALL #4) | II                       | 3a, 3c                                       | ---                   | ---     | 520,000    | 6,000   | 5,000      | 531,000   | 140          | ---                                     | 52,000  | 3,600   | 6,000      | 14,000 | 75,600                            | ---     | 52,000  | 3,600   | 6,000      | 14,000 | 75,600                                                           | ---                   | ---             | 52,000       | 3,600        | 6,000                                                            | 56,000         | 117,600                  | ---          | 156,000         | 12,600          | 36,000              | 14,000      | 218,600                  | 218,600                | 10            |     |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #4 |                 |                          |                                              | ---                   | ---     | 520,000    | 6,000   | 5,000      | 531,000   | 140          | ---                                     | 52,000  | 3,600   | 6,000      | 14,000 | 75,600                            | ---     | 52,000  | 3,600   | 6,000      | 14,000 | 75,600                                                           | ---                   | ---             | 52,000       | 3,600        | 6,000                                                            | 56,000         | 117,600                  | ---          | 156,000         | 12,600          | 36,000              | 14,000      | 218,600                  | 218,600                | 10            |     |  |  |  |  |  |  |
| E4                   | E3              | III                      | Offsite                                      | 1,295                 | ---     | ---        | ---     | ---        | ---       | ---          | 220,150                                 | ---     | ---     | ---        | ---    | 220,150                           | 220,150 | ---     | ---     | ---        | ---    | 220,150                                                          | ---                   | 880,600         | ---          | ---          | ---                                                              | ---            | 880,600                  | 220,150      | ---             | ---             | ---                 | ---         | 220,150                  | 880,600                | 12            |     |  |  |  |  |  |  |
| E10                  | E9              | III                      | ---                                          | ---                   | 121     | ---        | ---     | ---        | ---       | ---          | 24,200                                  | ---     | ---     | ---        | ---    | 24,200                            | 24,200  | ---     | ---     | ---        | ---    | 24,200                                                           | ---                   | 96,800          | ---          | ---          | ---                                                              | ---            | 96,800                   | 24,200       | ---             | ---             | ---                 | ---         | 24,200                   | 96,800                 | 8             |     |  |  |  |  |  |  |
| E9                   | E8              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 244,350                                 | ---     | ---     | ---        | ---    | 244,350                           | 244,350 | ---     | ---     | ---        | ---    | 244,350                                                          | ---                   | 977,400         | ---          | ---          | ---                                                              | ---            | 977,400                  | 244,350      | ---             | ---             | ---                 | ---         | 244,350                  | 977,400                | 12            |     |  |  |  |  |  |  |
| E8                   | E7              | III                      | ---                                          | ---                   | 121     | ---        | ---     | ---        | ---       | ---          | 24,200                                  | ---     | ---     | ---        | ---    | 24,200                            | 24,200  | ---     | ---     | ---        | ---    | 24,200                                                           | ---                   | 96,800          | ---          | ---          | ---                                                              | ---            | 96,800                   | 24,200       | ---             | ---             | ---                 | ---         | 24,200                   | 96,800                 | 8             |     |  |  |  |  |  |  |
| E7                   | E1 (OUTFALL #5) | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 268,550                                 | ---     | ---     | ---        | ---    | 268,550                           | 268,550 | ---     | ---     | ---        | ---    | 268,550                                                          | ---                   | 1,074,200       | ---          | ---          | ---                                                              | ---            | 1,074,200                | 268,550      | ---             | ---             | ---                 | ---         | 268,550                  | 1,074,200              | 10            |     |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #5 |                 |                          |                                              | 1,295                 | 242     | ---        | ---     | ---        | ---       | ---          | 268,550                                 | ---     | ---     | ---        | ---    | ---                               | 268,550 | 268,550 | ---     | ---        | ---    | ---                                                              | 268,550               | ---             | 1,074,200    | ---          | ---                                                              | ---            | ---                      | 1,074,200    | 268,550         | ---             | ---                 | ---         | ---                      | 268,550                | 1,074,200     | 10  |  |  |  |  |  |  |
| F14                  | F13             | III                      | ---                                          | ---                   | 194     | ---        | ---     | ---        | ---       | ---          | 38,600                                  | ---     | ---     | ---        | ---    | 38,600                            | 38,600  | ---     | ---     | ---        | ---    | 38,600                                                           | ---                   | 155,200         | ---          | ---          | ---                                                              | ---            | 155,200                  | 38,600       | ---             | ---             | ---                 | ---         | 38,600                   | 155,200                | 8             |     |  |  |  |  |  |  |
| F13                  | F12             | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 38,600                                  | ---     | ---     | ---        | ---    | 38,600                            | 38,600  | ---     | ---     | ---        | ---    | 38,600                                                           | ---                   | 155,200         | ---          | ---          | ---                                                              | ---            | 155,200                  | 38,600       | ---             | ---             | ---                 | ---         | 38,600                   | 155,200                | 8             |     |  |  |  |  |  |  |
| F12                  | F11             | III                      | ---                                          | ---                   | 193     | ---        | ---     | ---        | ---       | ---          | 38,600                                  | ---     | ---     | ---        | ---    | 38,600                            | 38,600  | ---     | ---     | ---        | ---    | 38,600                                                           | ---                   | 155,200         | ---          | ---          | ---                                                              | ---            | 155,200                  | 38,600       | ---             | ---             | ---                 | ---         | 38,600                   | 155,200                | 8             |     |  |  |  |  |  |  |
| F11                  | F10             | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 38,600                                  | ---     | ---     | ---        | ---    | 38,600                            | 38,600  | ---     | ---     | ---        | ---    | 38,600                                                           | ---                   | 155,200         | ---          | ---          | ---                                                              | ---            | 155,200                  | 38,600       | ---             | ---             | ---                 | ---         | 38,600                   | 155,200                | 8             |     |  |  |  |  |  |  |
| F10                  | F9              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 77,400                                  | ---     | ---     | ---        | ---    | 77,400                            | 77,400  | ---     | ---     | ---        | ---    | 77,400                                                           | ---                   | 309,600         | ---          | ---          | ---                                                              | ---            | 309,600                  | 77,400       | ---             | ---             | ---                 | ---         | 77,400                   | 309,600                | 8             |     |  |  |  |  |  |  |
| F9                   | F8              | III                      | ---                                          | ---                   | 121     | ---        | ---     | ---        | ---       | ---          | 24,200                                  | ---     | ---     | ---        | ---    | 24,200                            | 24,200  | ---     | ---     | ---        | ---    | 24,200                                                           | ---                   | 96,800          | ---          | ---          | ---                                                              | ---            | 96,800                   | 24,200       | ---             | ---             | ---                 | ---         | 24,200                   | 96,800                 | 8             |     |  |  |  |  |  |  |
| F8                   | F7              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | 101,600                                 | ---     | ---     | ---        | ---    | 101,600                           | 101,600 | ---     | ---     | ---        | ---    | 101,600                                                          | ---                   | 406,400         | ---          | ---          | ---                                                              | ---            | 406,400                  | 101,600      | ---             | ---             | ---                 | ---         | 101,600                  | 406,400                | 10            |     |  |  |  |  |  |  |
| F7                   | F6              | III                      | 3a                                           | ---                   | ---     | 159,275    | 17,750  | 15,000     | 182,025   | ---          | ---                                     | 15,928  | 10,650  | 18,000     | ---    | 44,578                            | ---     | ---     | ---     | ---        | ---    | 44,578                                                           | ---                   | 15,928          | 10,650       | 18,000       | ---                                                              | 44,578         | ---                      | ---          | 47,783          | 37,275          | 108,000             | ---         | 193,058                  | 193,058                | 8             |     |  |  |  |  |  |  |
| F6                   | F5              | III                      | 3b                                           | ---                   | ---     | 159,275    | 17,750  | ---        | 177,025   | ---          | ---                                     | 15,928  | 10,650  | ---        | ---    | 26,578                            | ---     | ---     | ---     | ---        | ---    | 26,578                                                           | ---                   | 31,855          | 21,300       | 18,000       | ---                                                              | 71,155         | ---                      | ---          | 95,565          | 74,550          | 108,000             | ---         | 278,115                  | 278,115                | 8             |     |  |  |  |  |  |  |
| F5                   | F4              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | ---                                     | ---     | ---     | ---        | ---    | ---                               | ---     | ---     | ---     | ---        | ---    | ---                                                              | ---                   | ---             | ---          | ---          | ---                                                              | ---            | ---                      | ---          | ---             | ---             | ---                 | ---         | ---                      | ---                    | ---           | --- |  |  |  |  |  |  |
| F4                   | F3              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | ---                                     | ---     | ---     | ---        | ---    | ---                               | ---     | ---     | ---     | ---        | ---    | ---                                                              | ---                   | ---             | ---          | ---          | ---                                                              | ---            | ---                      | ---          | ---             | ---             | ---                 | ---         | ---                      | ---                    | ---           | --- |  |  |  |  |  |  |
| F3                   | F2              | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | ---                                     | ---     | ---     | ---        | ---    | ---                               | ---     | ---     | ---     | ---        | ---    | ---                                                              | ---                   | ---             | ---          | ---          | ---                                                              | ---            | ---                      | ---          | ---             | ---             | ---                 | ---         | ---                      | ---                    | ---           | --- |  |  |  |  |  |  |
| F2                   | F1 (OUTFALL #6) | III                      | ---                                          | ---                   | ---     | ---        | ---     | ---        | ---       | ---          | ---                                     | ---     | ---     | ---        | ---    | ---                               | ---     | ---     | ---     | ---        | ---    | ---                                                              | ---                   | ---             | ---          | ---          | ---                                                              | ---            | ---                      | ---          | ---             | ---             | ---                 | ---         | ---                      | ---                    | ---           | --- |  |  |  |  |  |  |
| TOTAL FOR OUTFALL #6 |                 |                          |                                              | ---                   | 508     | 637,100    | 33,500  | 30,000     | 702,600   | ---          | 101,600                                 | 63,710  | 21,300  | 36,000     | ---    | 222,610                           | 101,600 | 63,710  | 21,300  | 36,000     | ---    | 222,610                                                          | ---                   | 406,400         | 63,710       | 21,300       | 36,000                                                           | ---            | 527,410                  | 101,600      | 191,130         | 74,550          | 216,000             | ---         | 583,280                  | 583,280                | 10            |     |  |  |  |  |  |  |
| FULL BUILDOUT TOTAL  |                 |                          |                                              | 1,295                 | 2,468   | 2,496,245  | 269,900 | 100,000    | 2,866,145 | 400          | 713,350                                 | 249,625 | 161,940 | 120,000    | 26,000 | 1,284,915                         | 713,350 | 249,625 | 161,940 | 120,000    | 40,000 | 1,284,915                                                        | ---                   | 2,853,400       | 249,625      | 161,940      | 120,000                                                          | 160,000        | 3,544,965                | 713,350      | 748,673         | 566,790         | 720,000             | 40,000      | 2,789,014                | 4,041,735              | ---           |     |  |  |  |  |  |  |

| INFILTRATION & INFLOW |                                           |
|-----------------------|-------------------------------------------|
| VALUE                 | UNITS                                     |
| 85                    | ACRES PU II                               |
| 55                    | ACRES PU III                              |
| 250                   | GPD/ACRE                                  |
| 16,250                | GPD INFILTRATION / INFLOW PU II           |
| 13,750                | GPD INFILTRATION / INFLOW PU III          |
| 11                    | PIPES IN MASTER PLAN MODEL PU II          |
| 18                    | PIPES IN MASTER PLAN MODEL PU III         |
| 1,477                 | GPD PER PIPE INFILTRATION & INFLOW PU II  |
| 784                   | GPD PER PIPE INFILTRATION & INFLOW PU III |

NOTES:  
1. Unless the greater of peak flows from Residential/Hotel or Commercial  
2. Assumes 50% of flow contributes to node

## **EXHIBIT 1 – VICINITY MAP**



## VICINITY MAP

N.T.S.

**NOT  
FOR  
CONSTRUCTION  
OR RECORDING**



## ONE SCOTTSDALE - ATAVIA

### VICINITY MAP

|         |            |        |     |       |        |
|---------|------------|--------|-----|-------|--------|
| DATE    | 02/23/2024 | SCALE  | N/A | SHEET | 1 OF 1 |
| JOB NO. | 225518     | DESIGN | JGR | CHECK | ZNR    |
|         |            | DRAWN  | AJS | RFI # |        |

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30-DR-2021#5

3/18/2024

**EXHIBIT 2 – MODELED ON-SITE LAND USE PLAN (FROM MASTER REPORT)**

PRELIMINARY  
NOT FOR  
CONSTRUCTION  
OR RECORDING

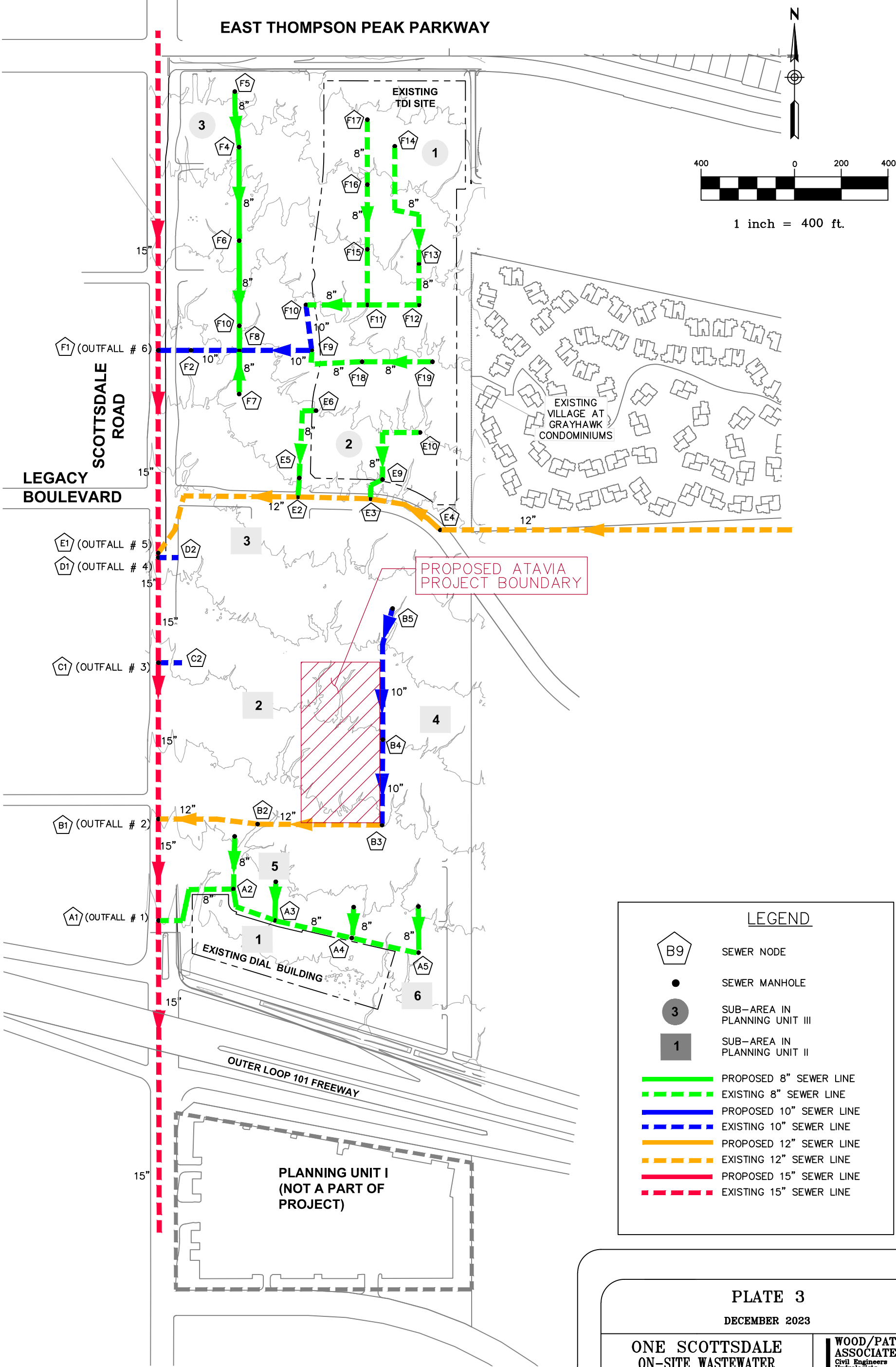


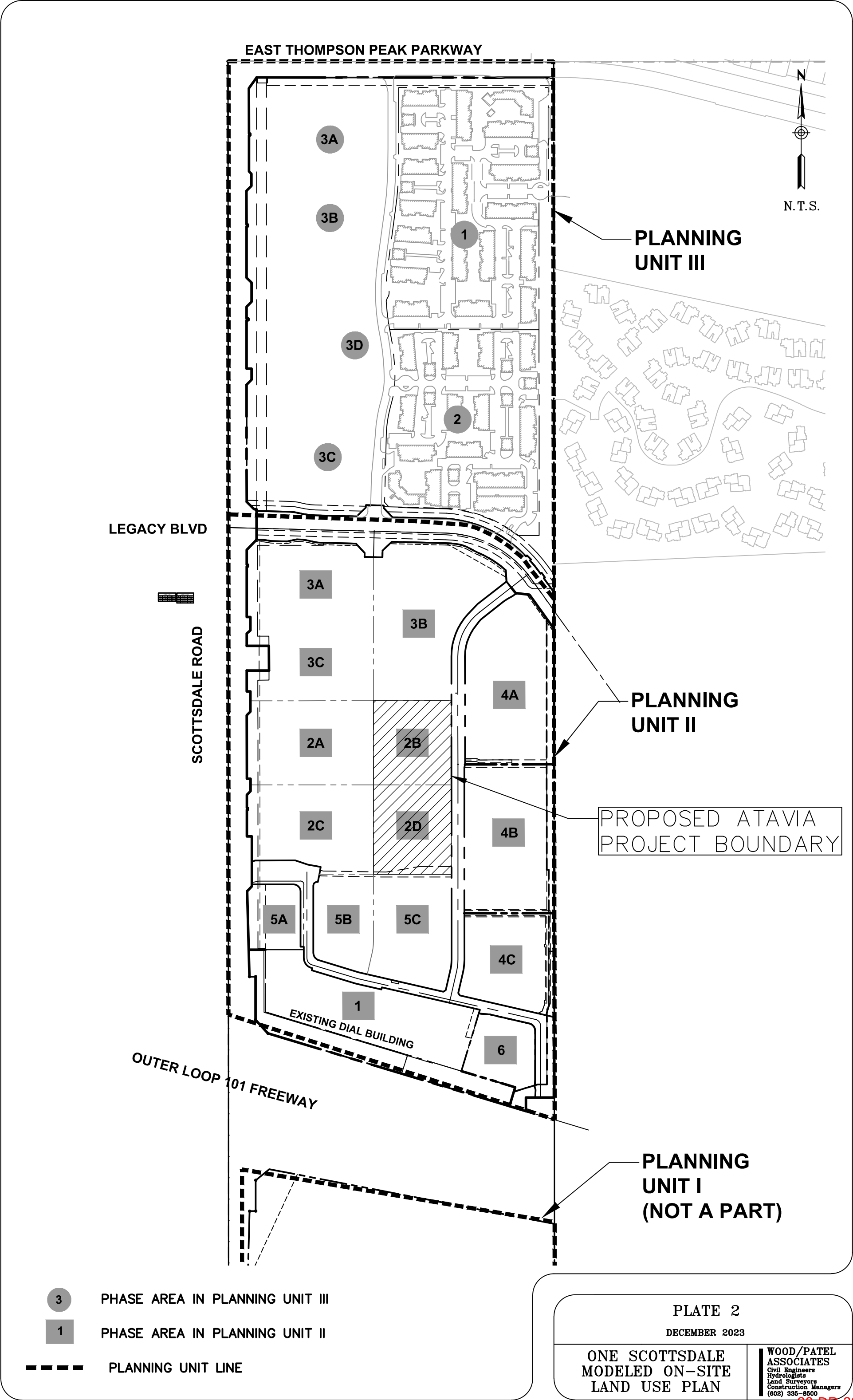
PLATE 3

DECEMBER 2023

ONE SCOTTSDALE  
ON-SITE WASTEWATER  
COLLECTION SYSTEM

WOOD/PATEL  
ASSOCIATES  
Civil Engineers  
Hydrologists  
Land Surveyors  
Construction Managers  
(602) 335-3500

**EXHIBIT 3 – ONSITE WASTEWATER COLLECTION SYSTEM EXHIBIT (FROM MASTER  
REPORT)**



3

PHASE AREA IN PLANNING UNIT III

1

PHASE AREA IN PLANNING UNIT II



PLANNING UNIT LINE

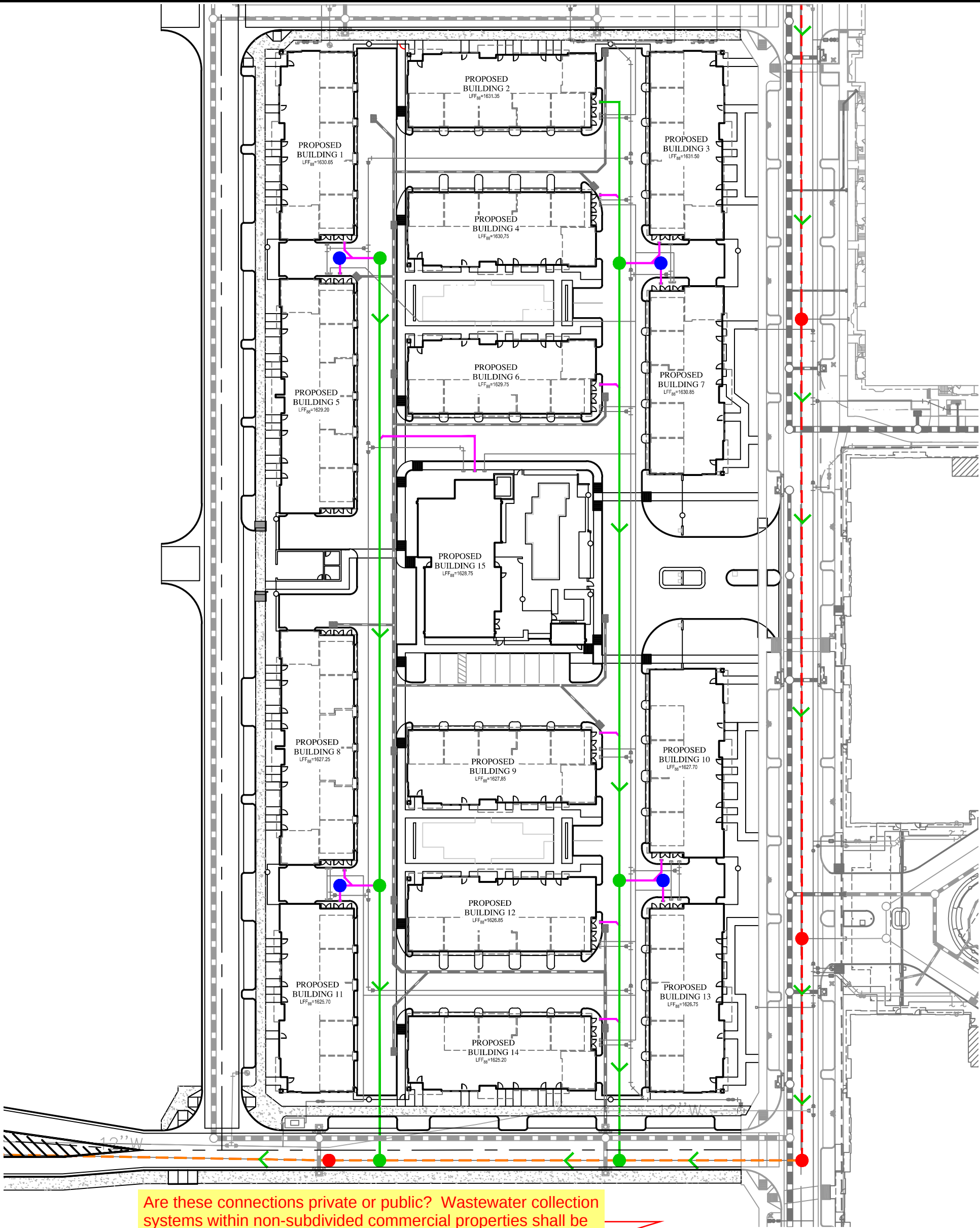
PLATE 2

DECEMBER 2023

ONE SCOTTSDALE  
MODELED ON-SITE  
LAND USE PLAN

WOOD/PATEL  
ASSOCIATES  
Civil Engineers  
Hydrologists  
Land Surveyors  
Construction Managers  
(902) 335-8500

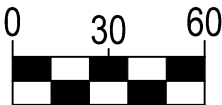
**EXHIBIT 4 – ATAVIA – ONE SCOTTSDALE RESIDENTIAL WASTEWATER EXHIBIT**



Are these connections private or public? Wastewater collection systems within non-subdivided commercial properties shall be designed as private systems. DSPM 7-1.414.

LEGEND

- PROPOSED 8" WASTEWATER PIPE
- PROPOSED 6" WASTEWATER PIPE
- EXISTING 10" WASTEWATER PIPE
- EXISTING 12" WASTEWATER PIPE
- FLOW DIRECTION
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEAN OUT



Horz. 1 in. = 60 ft.

NOT  
FOR  
CONSTRUCTION  
OR RECORDING

WOOD  
PATEL

ONE SCOTTSDALE - ATAVIA

WASTEWATER EXHIBIT

|         |            |        |          |       |        |
|---------|------------|--------|----------|-------|--------|
| DATE    | 02/23/2024 | SCALE  | 1" = 60' | SHEET | 1 OF 1 |
| JOB NO. | 235518     | DESIGN | JGR      | DRAWN | AJS    |

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