

November 3rd, 2021

City of Sedona Community Development 102 Roadrunner Drive Sedona, AZ 86336

### Re: Bowers Subdivision (Preliminary Plat APN: 401-38-012)

To Whom It May Concern,

We respectfully submit this package for your consideration of a preliminary plat. This application is for the division of the existing parcel number 401-38-012, into the Bowers Subdivision that consist of 5 residential lots. The parcel is currently undeveloped, and vegetation exists throughout the site. The Bowers Subdivision is located in a portion of section 07, township 17 north, range 6 east, Gila and Salt River Meridian within Coconino County, Arizona. The project will preserve existing viewsheds and have minimal impact to local traffic. There are no modifications to basic ordinance requirements proposed for this project. The subdivision requirements and which map they are shown on are listed below.

#### **Preliminary Plat Map:**

Each lot will be a minimum of 18,000 SF. The existing zoning is RS-18 (single family residential) and the proposed zoning for all 5 proposed lots shall remain RS-18. Adjacent zoning is CO (Commercial), and NF (National Forest). The lots will have access to the proposed Forest Road roadway improvements being completed under City of Sedona Public Works project Sedona In Motion – 5. The max building coverage is 35% of the lot and max total coverage is 60% of the lot. The proposed setbacks are 25 ft for front and rear and 10 ft for side. Electrical, gas, and sewer will tie into existing facilities in Forest Road. A potential water main extension could provide service for each lot.

#### **Topographic/Slope Analysis Map:**

This map shows the site with 1-foot contours for both existing grade and proposed grade. The limits where the existing slope is less than 10 percent up to greater than 40% are also shown.

#### **Circulation Map:**

This map shows the proposed Bowers Subdivision in relation to the proposed Forest Road connection to 89A.

#### **Preliminary Grading and Drainage Plan:**

Drainage will discharge into the proposed public storm drain system to be installed as part of the Forest Roadway Improvements project at the predeveloped rate. 20 ft wide driveways will tie into the new Forest Road extension. The existing and proposed grades are shown around the pad for each lot. The proposed site is located within flood zone 'x'.



Thank you for your time. If you have any more questions or require any additional information, please feel free to contact me at 480-207-2680 or Sterling.Margetts@kimley-horn.com.

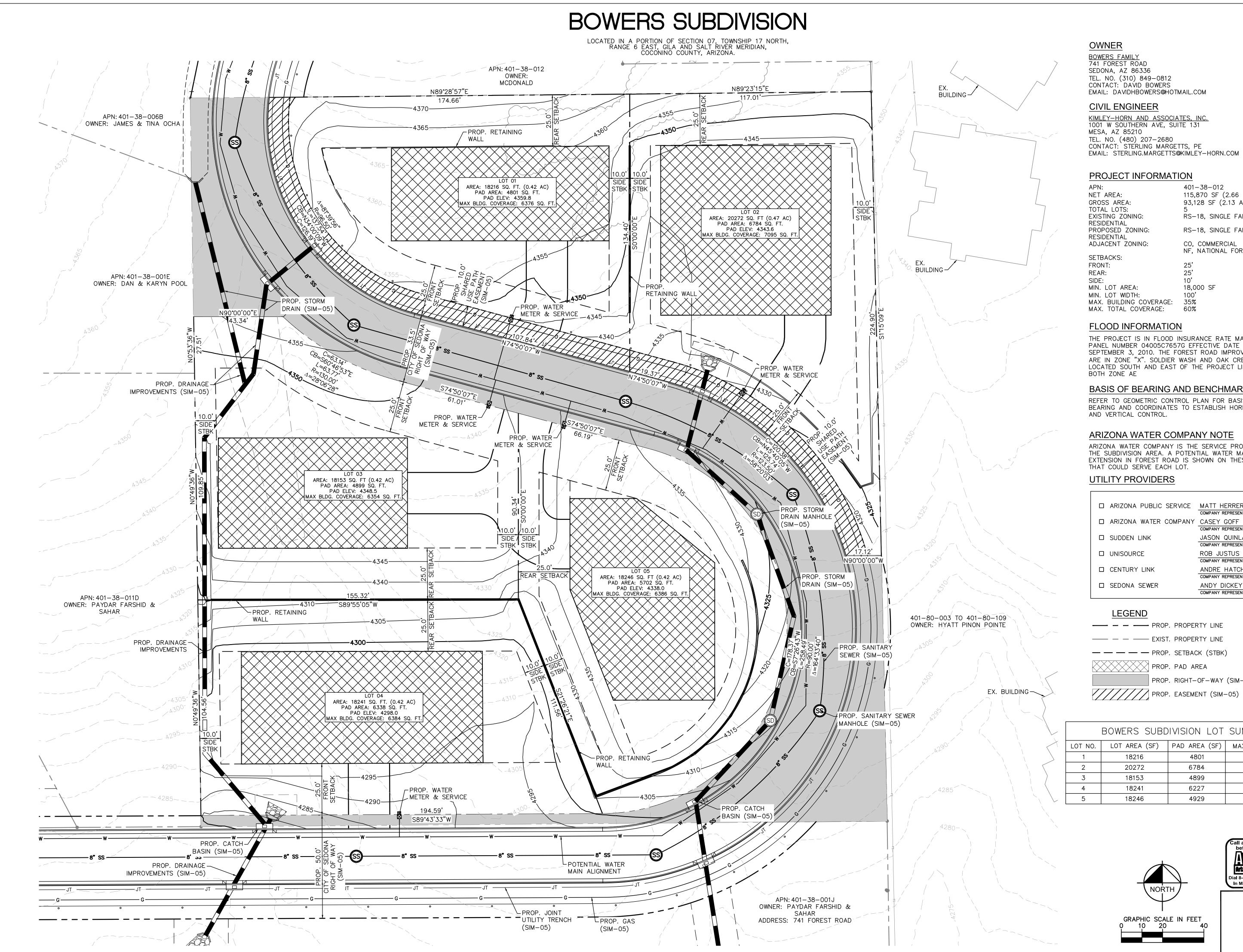
Sincerely,

Sterling Margetts, PE

Kimley-Horn and Associates, Inc.

#### Attachments:

- 1 Preliminary Plat Map
- 2 Topographic/Slope Analysis Map
- 3 Circulation Map
- 4 Preliminary Grading and Drainage Plan
- 5 Geometric Control Plan
- 6 Forest Road Sewer Report
- 7 Preliminary Domestic Water Demand Memo



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XREFS: xBD\_291516000 xFOREST ROAD\_191502008 xNUT\_191502008 xSS\_191502008 xTOPO\_191502008 xUT\_191502008 xTB\_291516000
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BOWERS FAMILY 741 FOREST ROAD SEDONA, AZ 86336 TEL. NO. (310) 849-0812 CONTACT: DAVID BOWERS EMAIL: DAVIDHBOWERS@HOTMAIL.COM

**CIVIL ENGINEER** 

1001 W SOUTHERN AVE, SUITE 131 MESA, AZ 85210

CONTACT: STERLING MARGETTS, PE EMAIL: STERLING.MARGETTS@KIMLEY-HORN.COM

## PROJECT INFORMATION

401-38-012 115,870 SF (2.66 AC) GROSS AREA: 93,128 SF (2.13 AC) **EXISTING ZONING:** RS-18, SINGLE FAMILY

ADJACENT ZONING: CO, COMMERCIAL NF, NATIONAL FOREST

RS-18, SINGLE FAMILY

MIN. LOT AREA: 18,000 SF MIN. LOT WIDTH: MAX. BUILDING COVERAGE: 35%

## FLOOD INFORMATION

THE PROJECT IS IN FLOOD INSURANCE RATE MAP (FIRM) PANEL NUMBER 04005C7657G EFFECTIVE DATE SEPTEMBER 3, 2010. THE FOREST ROAD IMPROVEMENTS ARE IN ZONE "X". SOLDIER WASH AND OAK CREEK LOCATED SOUTH AND EAST OF THE PROJECT LIMITS ARE

## BASIS OF BEARING AND BENCHMARK

REFER TO GEOMETRIC CONTROL PLAN FOR BASIS OF BEARING AND COORDINATES TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL.

## ARIZONA WATER COMPANY NOTE

ARIZONA WATER COMPANY IS THE SERVICE PROVIDER FOR THE SUBDIVISION AREA. A POTENTIAL WATER MAIN EXTENSION IN FOREST ROAD IS SHOWN ON THESE PLANS THAT COULD SERVE EACH LOT.

## UTILITY PROVIDERS

☐ ARIZONA PUBLIC SERVICE MATT HERRERA ☐ ARIZONA WATER COMPANY CASEY GOFF COMPANY REPRESENTATIVE JASON QUINLAN

☐ SUDDEN LINK

COMPANY REPRESENTATIVE ROB JUSTUS ☐ UNISOURCE COMPANY REPRESENTATIVE ANDRE HATCHER ☐ CENTURY LINK COMPANY REPRESENTATIVE

☐ SEDONA SEWER ANDY DICKEY COMPANY REPRESENTATIVE

## LEGEND

---- EXIST. PROPERTY LINE

— — — — PROP. SETBACK (STBK)

PROP. RIGHT-OF-WAY (SIM-05)

BOWERS SUBDIVISION LOT SUMMARY				
LOT NO.	LOT AREA (SF)	PAD AREA (SF)	MAX BLDG. COVERAGE	
1	18216	4801	6376	
2	20272	6784	7095	
3	18153	4899	6354	
4	18241	6227	6384	
5	18246	4929	6386	



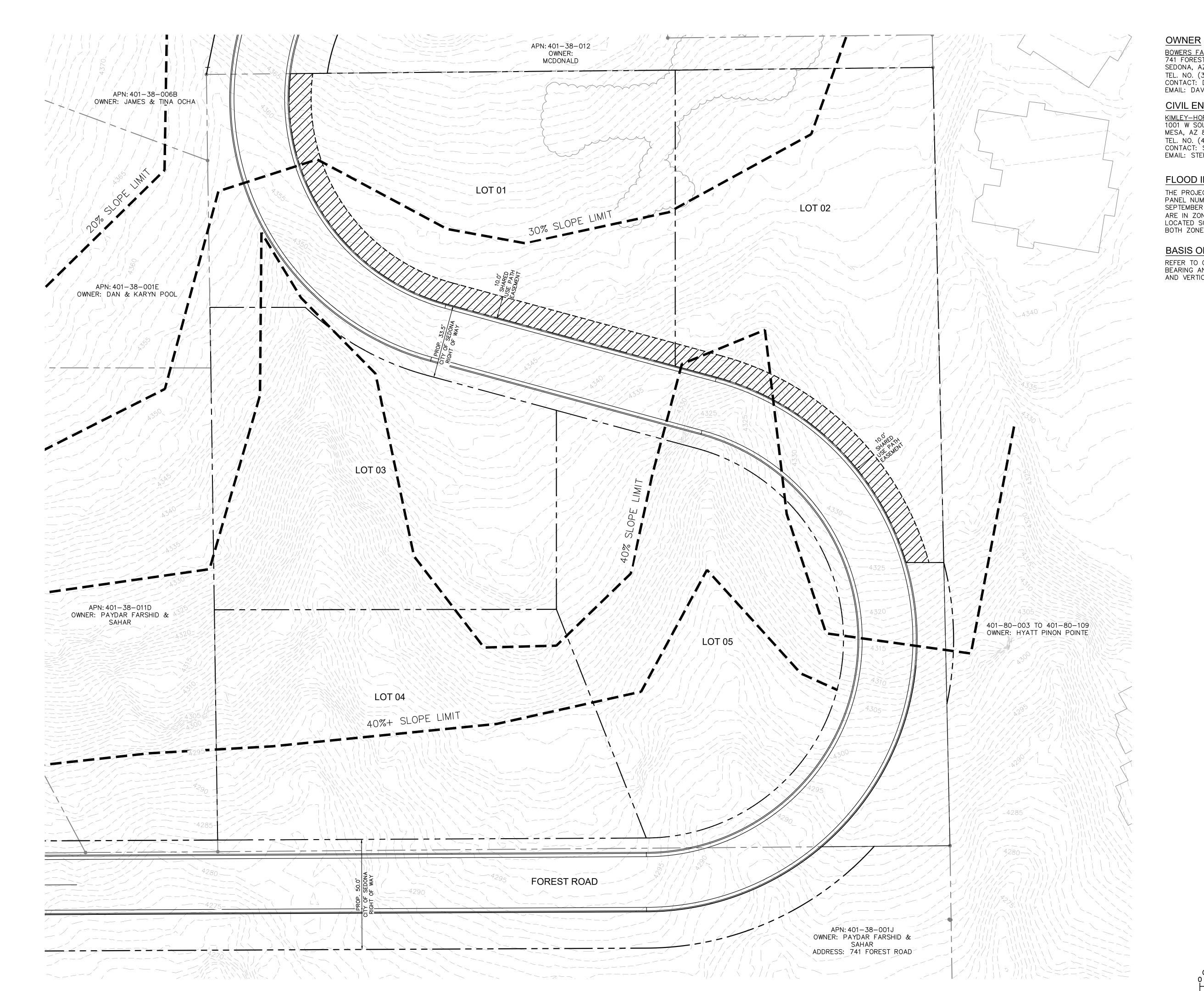


PROJECT NO. 291516000

DRAWING NAME

STERLING MARGETTS

CEK STM STM



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XREFS: xBD\_291516000 xFOREST ROAD\_191502008 xNUT\_191502008 xSS\_191502008 xTOPO\_191502008 xUT\_191502008 xTB\_291516000 xDR\_191502008 xEFRED.
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OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY—HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY—HORN AND ASSOCIATES.

BOWERS FAMILY 741 FOREST ROAD SEDONA, AZ 86336 TEL. NO. (310) 849-0812 CONTACT: DAVID BOWERS EMAIL: DAVIDHBOWERS@HOTMAIL.COM

## CIVIL ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC. 1001 W SOUTHERN AVE, SUITE 131 MESA, AZ 85210 TEL. NO. (480) 207-2680 CONTACT: STERLING MARGETTS, PE EMAIL: STERLING.MARGETTS@KIMLEY-HORN.COM

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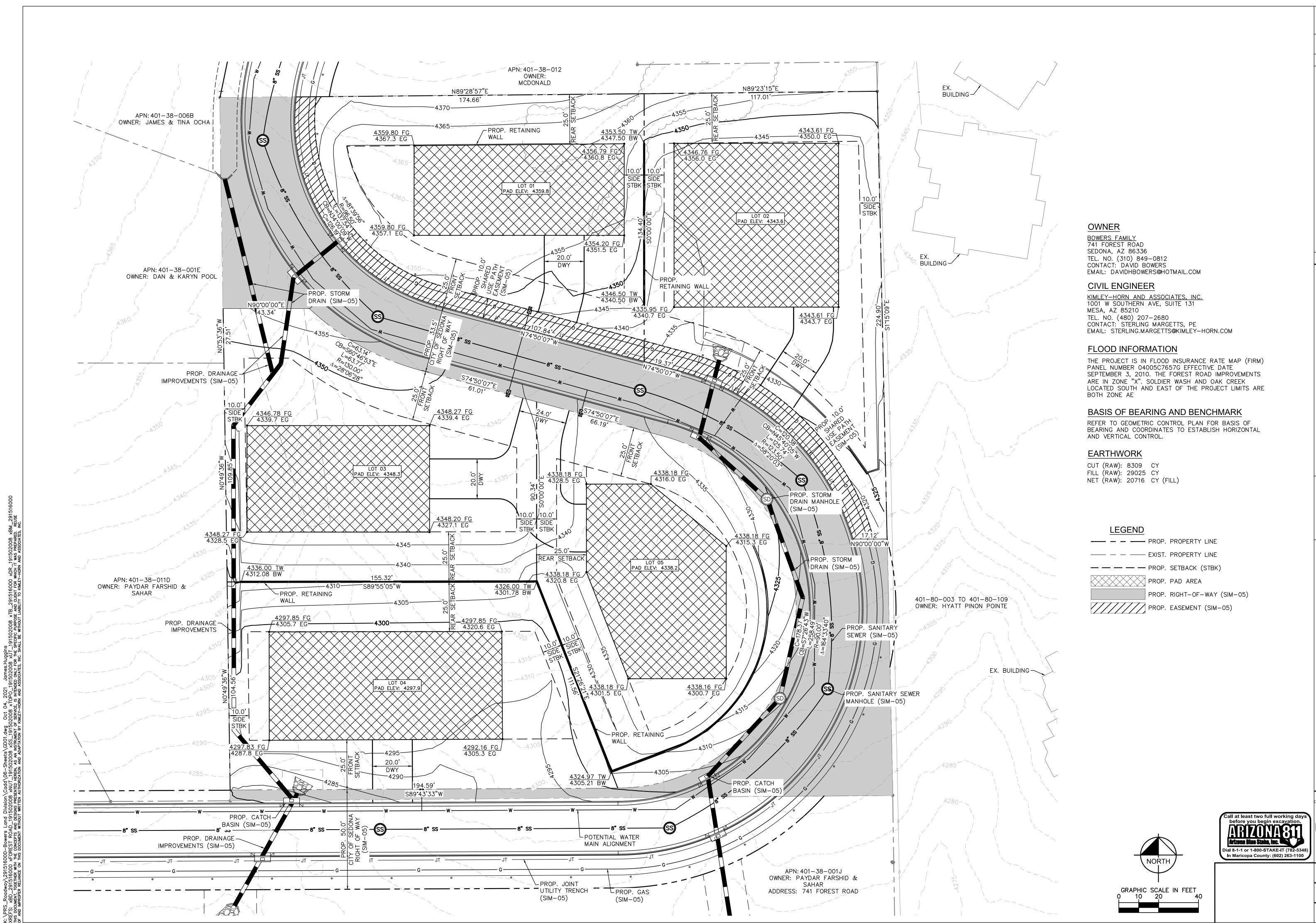
## BASIS OF BEARING AND BENCHMARK

REFER TO GEOMETRIC CONTROL PLAN FOR BASIS OF BEARING AND COORDINATES TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL.

47183 STERLING MARGETTS

PROJECT NO. 291516000

DRAWING NAME PM01



MEY-HORN AND ASSOCIATES, INC.
MONTEZUMA, SUITE 206

DESIGNED BY: CEK
CHECKED BY: JTH
CHECKED BY: STM
DATE: OCT 2021

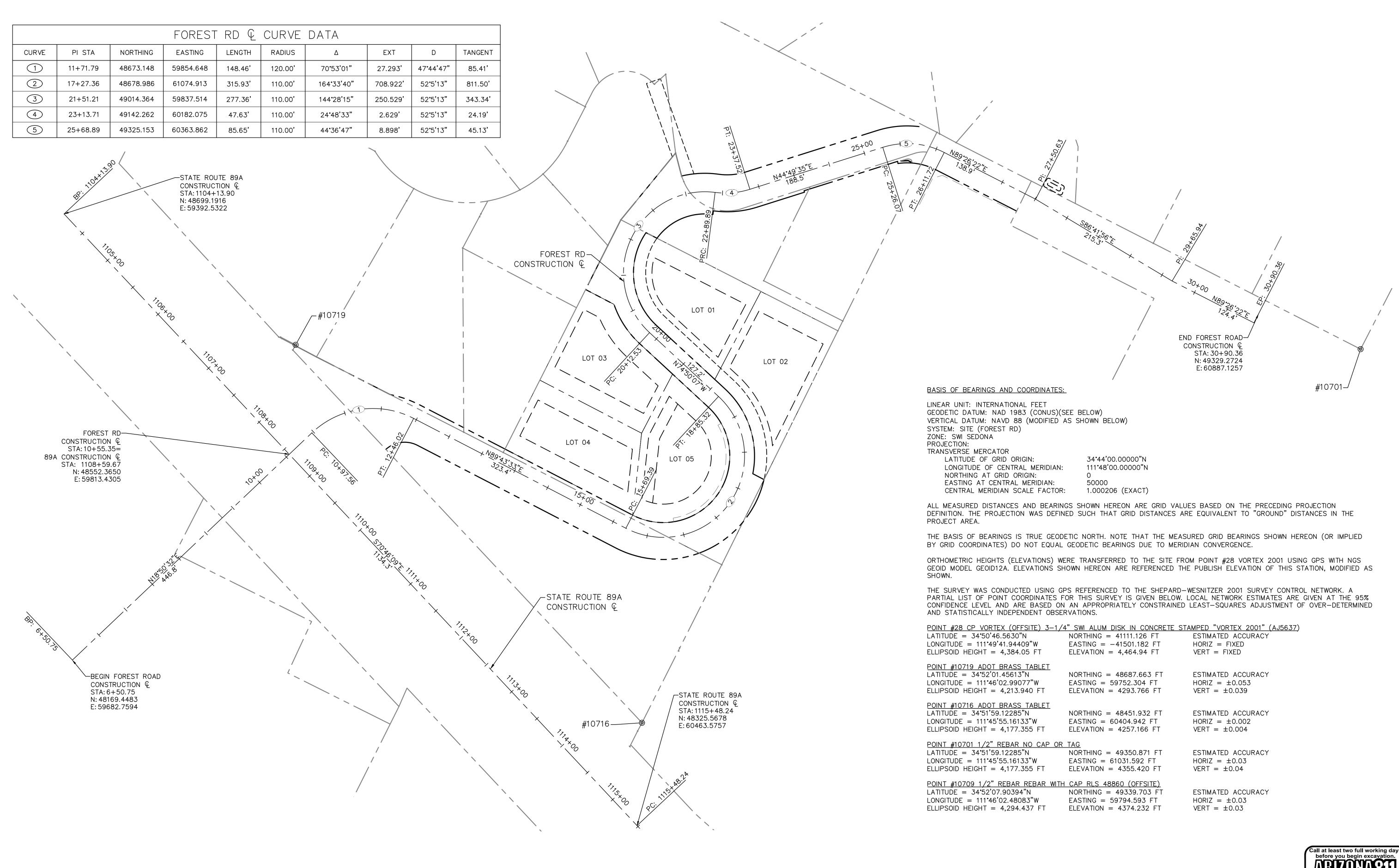
ROAD A. AZ

FOREST RO SEDONA, '

47183
STERLING
MARGETTS
MARGET

PROJECT NO. 291516000

DRAWING NAME PM01



Call at least two full working days before you begin excavation.

ARZORASI

Arizona Blue Stake, Inc.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

SUBDIVISI

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PROJECT NO. 291516000

CEK JTH STM

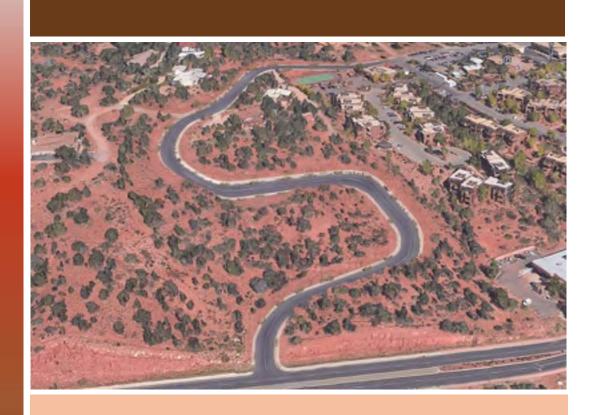
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GRAPHIC SCALE IN FEET 0 30 60 12

## **DESIGN REPORT**



Forest Road Connection Extension of Sanitary Sewers







City of Sedona Public Works Department

> Date: June 2021 Project No.: SIM-05b [Revision -]



## **TABLE OF CONTENTS**

1. INTRO	DUCTION	1
1.1. Proje	ect Description	1
1.2. Proje	ect Location	1
1.3. Con	tacts	4
1.3.1.	Project Owner/Applicant:	4
1.3.2.	Contractor:	4
1.3.3.	Wastewater Treatment Facility/Collection System:	4
1.3.4.	Engineer:	4
1.4. Elem	nents Served	6
1.5. Dow	nstream Point of Discharge	6
2. BASIS	OF DESIGN	6
2.1. Sew	er Basin and Elements Served	6
2.2. Was	tewater Design Flow	7
2.2.1.	Average Daily Dry Weather Flow (ADWF):	7
2.2.2.	Peak Dry Weather Flow, Daily (PDWF):	8
2.2.3.	Peak Wet Weather Flow, Daily (PWWF):	8
2.3. Syste	em Conveyance Analysis	9
2.3.1.	System Conveyance Performance	9
2.4. Supp	olemental Analysis	9
2.5. Sum	mary of System Design and Performance	9
2.5.1.	Design Details Summary	10
3. CONS	truction standards	12
3.1. Deta	alis	12
3.2. Spec	cifications	12
3.3. Qua	lity Assurance/Quality Control	12
3.4. Sani	tary Sewer Collection System Appurtenances/Equipment	12
3.4.1.	Materials Summary	12
3.4.1.1	. Piping:	12
3.4.1.2	2. Manholes:	12
4. CONC	CLUSION	13



S14	5. APPENDICES
Flood Insurance Rate Map	Appendix A
Sanitary Analysis Output	Appendix B
Sanitary Sewer Plan and Profile Sheets	Appendix C

ii



#### 1. INTRODUCTION

This report serves to present the design basis for construction of sanitary sewer collection facilities within the new roadway corridor project known as the Forest Road Connection.

#### 1.1. Project Description

Forest Road Connection is a transportation improvement project that proposes the extension of Forest Road from its current terminus to connect with State Route 89A (SR 89A) at a point approximately 500 feet west of the Brewer Road roundabout. The roadway extension provides a new transportation corridor and alternative route between Uptown Sedona and west Sedona, bypassing the heavily travelled "Y" roundabout.

Project improvements consist of a new two-lane bidirectional roadway, approximately 1,700-feet in length contained within a new 40 to 50-foot-wide public right-of way. Other improvements include sidewalk/shared-use path, bike lanes, landscaping, drainage infrastructure and sanitary sewer facilities. Improvements may also include new public utility infrastructure/facilities by private utility companies.

The proposed sanitary sewer improvements will consist of a typical gravity collection system having sewer main conveyance piping, manholes, and sewer service laterals. The collection system will be designed and constructed in accordance with ADEQ requirements.

#### 1.2. Project Location

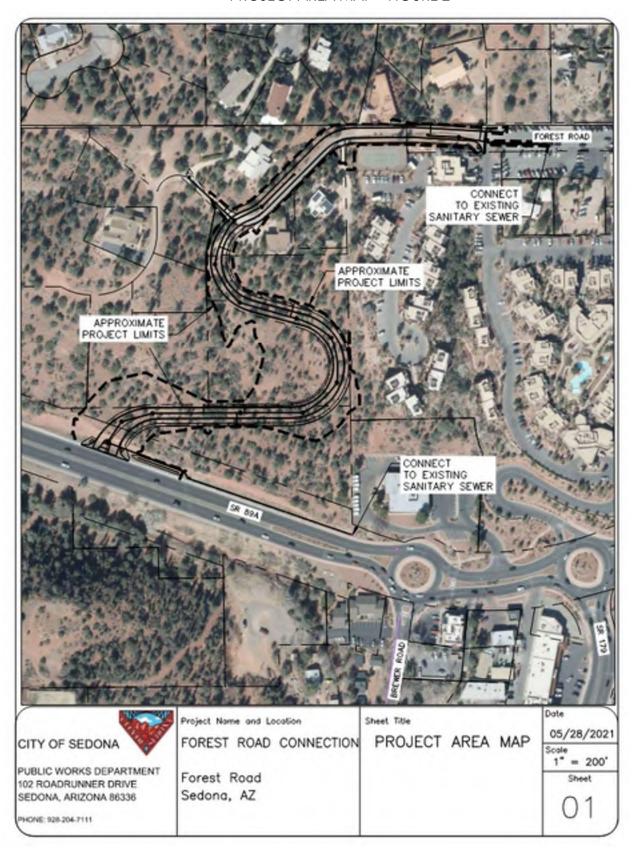
The project site is in Coconino County in the northeastern portion of the City of Sedona, Arizona, and further located as being in the northwest portion of the southeast quarter of Section 7, Township 17N, Range 6E of the Gila and Salt River Meridian. See Location Map – Figure 1, following page.

The downstream end of the proposed sewer collection system (point of discharge to existing sanitary sewer collection system) is at a Latitude of 34° 51' 58.47" N and Longitude 111° 45' 55.17" W and Latitude of 34° 52' 07.54" N and Longitude 111° 45' 49.67" W for the northern portion. See Project Area Map – Figure 2, page 3.

The site can be accessed from the north side of State Route 89A at a point located approximately 500-feet west of the SR 89A & Brewer Road roundabout. Alternatively, the site can be accessed from the current terminus of Forest Road, by heading west and following the existing private access road.



#### PROJECT AREA MAP - FIGURE 2





#### 1.3. Contacts

### 1.3.1. Project Owner/Applicant:

City of Sedona Wastewater Department

Mail: 102 Roadrunner Dr. Sedona AZ 86336

Site: 7500 W SR 89A, Sedona, AZ 86336

Roxanne Holland, PE Wastewater Manager

(928) 204-2234

RHolland@SedonaAZ.gov

Robert J. Welch, PE Associate Engineer/Project Manager

(928) 203-5120

BWelch@SedonaAZ.gov

#### 1.3.2. Contractor:

(Undetermined at this time)

#### 1.3.3. Wastewater Treatment Facility/Collection System:

City of Sedona Wastewater Reclamation Plant 102 Roadrunner Dr, Sedona AZ 86336

APP Number: 102298

Roxanne Holland, PE Wastewater Director

(928) 204-2234

RHolland@SedonaAZ.gov

#### 1.3.4. Engineer:

City of Sedona

Department of Public Works

102 Roadrunner Dr, Sedona AZ 86336

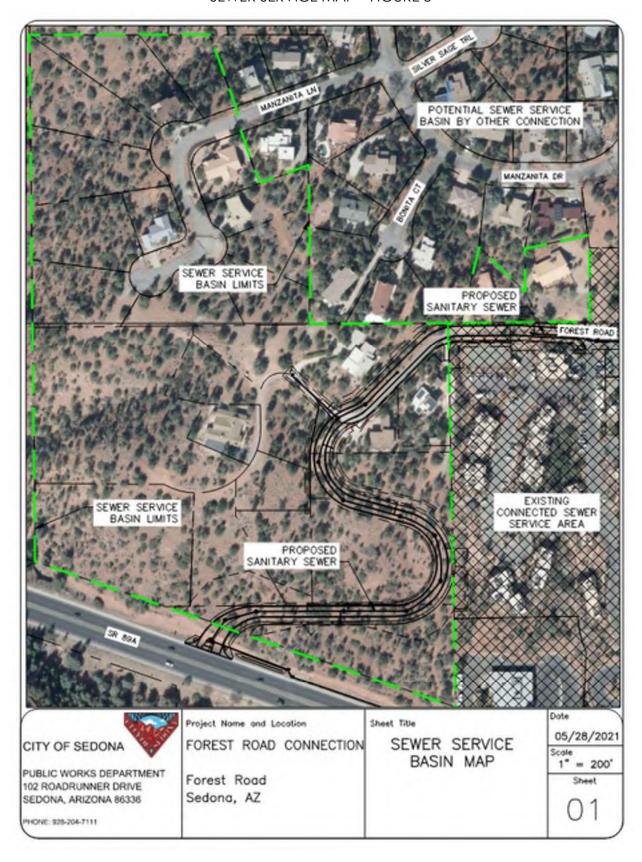
**Contact**: Robert J. Welch, PE Associate Engineer

(928) 203-5120

BWelch@SedonaAZ.gov



#### SEWER SERVICE MAP - FIGURE 3





#### 1.4. Elements Served

The proposed sewer line will serve existing single-family homes located in the sewer basin area shown in figure 3. The capacity of the proposed sewer extension will be designed assuming the area will further develop. Future development is assumed to include commercial development and additional single-family housing. The capacity also considers that the existing homes currently utilizing septic systems will ultimately be connected to the extension.

#### 1.5. Downstream Point of Discharge

The proposed system will have two points of connection to the existing City of Sedona sanitary sewer collection system. The point of connection for the north portion of the basin is located within Forrest Road approximately 265 feet west of the Forrest Road/ Smith Road intersection. The remainder of the basin connects to the existing manhole immediately west of the State Route 89A/Brewer Road roundabout.

#### 2. BASIS OF DESIGN

#### 2.1. Sewer Basin and Elements Served

The proposed sanitary sewer improvements consist of two separate extensions of the existing sewer collection system, one derived from a connection point on State Route 89A at sewer plan station 1114+71.4 and the other from a connection point on the existing Forest Road at sewer plan station 30+63.99.

At full build-out, which considers future extensions of the proposed collection system herein, the sewer basin served from the extension of sewer collection facilities on State Route 89A encompasses approximately 24.9 acres. Land uses in the basin are zoned primarily Single-Family (SR18), with only one parcel zoned for Commercial (CO). Future extensions of the public sanitary sewer collection system beyond the proposed system herein, are expected to accommodate an additional twenty-two (22) single family residential dwellings.

The proposed sanitary sewer extension from State Route 89A, as provided herein, will service an area approximately 9.4 acres in size. Land uses in this sewer basin consist of single-family zoned parcels (SR18) and one commercial zoned parcel (CO). Approximately thirteen (13) single-family residential parcels can be realized within this basin at the current zoning and site topography constraints. One parcel in the basin is zoned as commercial (CO) and was calculated as a restaurant for flow development.

The proposed sanitary sewer extension near the existing Forest Road terminus will service two single-family parcels, zoned SR18. These parcels are currently developed



and operating individual onsite wastewater treatment systems. It is anticipated that these homes will be connected to public sewer collection system within a period of 5-years.

#### 2.2. Wastewater Design Flow

#### 2.2.1. Average Daily Dry Weather Flow (ADWF):

The anticipated average daily wastewater flows for the two proposed sanitary sewer extensions from State Route 89A (Sta 1114+71.4) and Forest Road (Sta 27+98.79) are indicated in the following Tables 1 and 2.

Table 1 represents the ADWF for the area served by the proposed sanitary sewer extension, which connects to the existing sewer collection system on Arizona SR 89A at sewer plan Station 1114+71.4 and is extended west along SR 89A to the new Forest Road intersection and then northerly within the new roadway corridor of Forest Road to sewer plan Station 24+32.66.

Table 2 represents the ADWF for the proposed sanitary sewer extension, which connects to the existing sewer collection system on Forest Road at sewer plan Station 30+63.99 and extends west to Station 27+98.79.

Table 3 indicates the future ADWF under the condition that the sanitary sewer collection system is further extended to service additional residential property lying north and west of the proposed system herein.

TABLE 1 - Average Daily Dry Wastewater Design Flow {System Extension from Sta 1114+71.4 (SR 89A) to Sta 24+32.66 (Forest Road)}

Facilities, Site Use (Wastewater Source)	Design Unit	Total Number of Units	Average Daily Flow per Unit (gpupd)	Average Daily Flow (ADWF) (gpd)
		28.6		
13 - Single Family Dwellings	Person	(13x2.2pu)	80	2,288
1 - Commercial (Assumed				
Restaurant 180 seats)	Employee	12	20	240
w/Toilet	Customer	240	7	1680
w/Kitchen Waste	Meal	240	6	1440
w/Lounge	Customer	40	2	80

TOTAL ADWF (gpd)

5,728



TABLE 2 - Average Daily Dry Wastewater Design Flow {System Extension from Sta 30+63.99 to Sta 27+98.79 (Forest Road)}

Facilities, Site Use (Wastewater Source)	Design Unit	Total Number of Units	Average Daily Flow per Unit (gpupd)	Average Daily Flow (ADWF) (gpd)
		4.4		
2 - Single Family Dwellings	Person	(2x2.2pu)	80	352

TOTAL ADWF (gpd)

352

TABLE 3 - Average Daily Dry Wastewater Design Flow (future sewer basin build-out)

Facilities, Site Use (Wastewater Source)	Design Unit	Total Number of Units	Average Daily Flow per Unit (gpupd)	Average Daily Flow (ADWF) (gpd)
		26.4		
22 - Single Family Dwellings	Person	(12x2.2pu)	80	2,112

TOTAL ADWF (gpd)

2,112

#### 2.2.2. Peak Dry Weather Flow, Daily (PDWF):

Peak flow anticipated under dry weather conditions are as stipulated by Arizona Administrative Code R18-9-E301 (D.1.b). Peak dry weather flow is calculated based upon upstream population.

Proposed Peak Factor (PF) = 3.62

Therefore, Peak Dry Weather Flow, gpd (PDWF) = ADWF x 3.62. PDWF for the two proposed collection systems herein and the future collection systems at full basin build-out are as follows:

- Table 1 System Extension from Sta 1114+71.4 (SR 89A) to Sta 24+32.66
   (Forest Road)
   PDWF = 5,728 x 3.62 = 20,735 gpd
- Table 2 System Extension from Sta 30+63.99 to Sta 27+98.79 (Forest Road)
   PDWF = 352 x 3.62 = 1,274 apd
- Table 3 System Extension from Sta 1114+71.4 (SR 89A), at Future Sewer
   Basin Build-out
   PDWF = (5,728 + 2,112) x 3.62 = 28,381 gpd

#### 2.2.3. Peak Wet Weather Flow, Daily (PWWF):

A factor for flow under wet weather conditions (I/I) was developed following PCWM standard practice of 250 gpad. The estimated acreage is based upon a 30-foot wide strip centered on the sewer facility line extension.



Peak Wet Weather Flow, gpd (PWWF) = PDWF + I/I; where I/I = 250 gpad x (30' x linear feet of sewer main/43,560). PWWF for the two proposed collection systems herein and the future collection systems at full basin build-out are as follows:

- Table 1 System Extension from Sta 1114+71.4 (SR 89A) to Sta 24+32.66 (Forest Road)
   I/I = 250 gpad x (30' x 2341'/43560) = 403 gpd
   PWWF = 20,735 + 403 = 21,138 gpd
- Table 2 System Extension from Sta 30+63.99 to Sta 27+98.79 (Forest Road)
   I/I = 250 gpad x (30' x 265'/43560) = 46 gpd
   PWWF = 1,274+ 46 = 1,313 gpd
- Table 3 System Extension from Sta 1114+71.4 (SR 89A), at Future Sewer Basin Build-out
   I/I = 250 gpad x (30' x 1353'/43560) = 233 gpd
   PWWF = 28,381 + 233 = 28,614 gpd

#### 2.3. System Conveyance Analysis

#### 2.3.1. System Conveyance Performance

Sanitary Analysis was prepared to justify the size and slopes of the proposed system by means of analyzing the full, half, and design flow of the steepest and flattest pipes. The analysis was performed by using Bentley Flowmaster software. The analysis was performed on the PWWF flow to determine the maximum expected velocities in the mains with steep slopes and flow depth in the mains with flat slopes. The full flow velocity and ratio of flow depth to diameter were evaluated and are part of the output. A schematic view of the system is shown in Figure 4, page 12.

#### 2.4. Supplemental Analysis

No supplemental analysis was required for this project.

#### 2.5. Summary of System Design and Performance

Based on the results of the analysis the maximum velocities are below the allowable 10 ft/sec., with the maximum 9.97 occurring between manholes 2 and 3. The depth ratio is well below the allowable .75, with the maximum of .2 occurring between sewer cleanout 02 and existing manhole 01. Due to the depth of the existing manhole at which the system can reasonably connect into the system has a couple runs of main that have flat slopes. These minimal slopes result in full flow velocities that are below the recommended 2.0 ft/sec. Care will need to be taken to periodically monitor the flow in the manhole adjacent to these areas and provide maintenance when needed. Below is a list of the design parameters that were utilized in the analysis. The complete results from the analysis can be found in Appendix B.



#### 2.5.1. Design Details Summary

Design Planimetric Datum: NAD 1983 (CONUS) See plans for Basis of

Bearing

Design Vertical Datum: NAVD88 See plans for Basis of Bearing

#### Wastewater Flow:

**Existing Forest Road Extension** 

ADWF: 352 gpd (0.24 gpm)

PDWF: 1,274 gpd (0.88 gpm)

PWWF: 1,313 gpd (0.91 gpm)

Existing State Route 89A Extension

ADWF: 7,840 gpd (5.44 gpm)

PDWF: 28,381 gpd (19.71 gpm)

PWWF: 28,614 gpd (19.87 gpm)

#### Sanitary Sewer Main:

Material: PVC

Size: Pipe Size = 6"

Nominal I.D. = 6.031"; Wall = 0.280"

Length: 412 +/- LF

Roughness Parameter "n" (Manning's): 0.013

Material: PVC

Size: Pipe Size = 8"

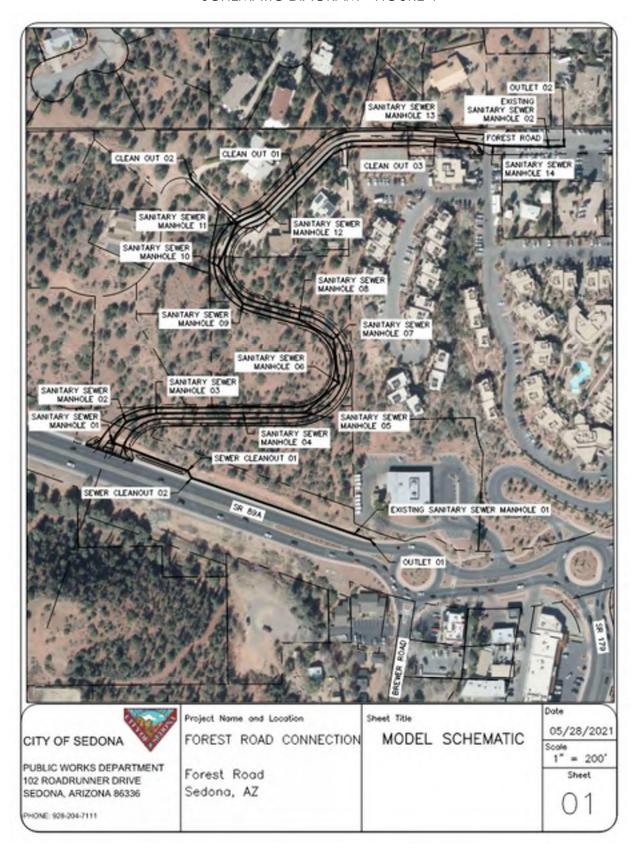
Nominal I.D. = 7.942"; Wall = 0.322"

Length: 1,929 +/- LF

Roughness Parameter "n" (Manning's): 0.013



#### SCHEMATIC DIAGRAM - FIGURE 4





#### 3. CONSTRUCTION STANDARDS

#### 3.1. Details

- MAG 200-1
- MAG 420-1
- MAG 423-2
- MAG 426-1
- MAG 441
- City of Sedona Special Detail 01

#### 3.2. Specifications

- 345 Adjusting Frames, Covers, Valve Boxes, Water Meter Boxes & Pull Boxes
- 615 Sanitary Sewer Line Construction
- 625 Manhole Construction and Drop Sewer Connections

#### 3.3. Quality Assurance/Quality Control

The quality of the installed system will be verified by a two-level approach as required by the permitting agency (ADEQ). The control level is achieved by means of construction inspection/administration of the system while in is being installed. The assurance level is achieved by testing the system after installation. Tests consist of; checking for deflection in the mains, low pressure air to identify leaks in the main, and vacuum testing the manhole to identify leaks. These test results are then sent to ADEQ for verification prior to approving the system for operation.

#### 3.4. Sanitary Sewer Collection System Appurtenances/Equipment

#### 3.4.1. Materials Summary

#### 3.4.1.1. Piping:

- General gravity sewer pipe shall be ASTM D-3034, SDR 35;
- Special gravity sewer pipe (where indicated) shall be ASTM D1785, Schedule 40.
- Sewer Cleanout

#### 3.4.1.2. Manholes:

- 5' diameter precast concrete
- 30" cast iron manhole frame and cover



#### 4. CONCLUSION

Based on the analysis results and the design assumption presented herein the sanitary sewer collection system has sufficient capacity to convey the anticipated flows and meets the requirements of ADEQ. All sewer mains are gravity flow and will be placed within the proposed right-of-way or easements.



#### 5. APPENDICES

Appendix A Flood Insurance Rate Map

Appendix B Sanitary Analysis Output

Appendix C Sanitary Sewer Plan and Profile Sheets

# APPENDIX FOR SEWER REPORT CAN BE PROVIDED UPON REQUEST



#### PRELIMINARY WATER DESIGN MEMORANDUM

To: City of Sedona – Community Development

From: Sterling Margetts, P.E.

Kimley-Horn and Associates, Inc.

Date: October 04, 2021

Subject: Bowers Subdivision



#### BACKGROUND

The project site (Site) is located along Forest Road in Sedona, Arizona. The Site is bounded to the east and south by existing commercial development and to the north and west by residential development. The Site is located within a portion of Section 07, Township 17 North, Range 06 East. The Site consists of parcel 401-38-012, which will be divided into 5 residential lots. As part of this project the domestic water system will be analyzed for the 5 lots.

#### WATER SYSTEM

An existing 6-inch water line is located along Forest Road approximately 600 ft north of the site. Arizona Water Company is the service provider in the project area. A potential water main extension in Forest Road could provide service at each lot. Each lot is assumed to have a 4-bedroom home with 5 people per home. Design Flows obtained from the City of Cottonwood Engineering Design Standards Manual are 96 gpd per person. Therefore, the domestic water demand at each home would be 480 gpd and 2,400 gpd for the entire subdivision.

#### RECOMMENDATION

The potential water main extension in Forest Road would be adequate and sufficient enough to provide service to each lot within the Bowers Subdivision.

#### **Attachments**

Attachment 1 - Unit Design Flows for Water



#### **Attachments**

Attachment 1 – Unit Design Flows for Water

- 7. Hydraulic grade
- ii. Pipe Report
  - 1. Length
  - 2. Type
  - 3. Diameter
  - 4. Velocities
  - 5. C-Factor
  - 6. Control Status
  - 7. Discharge
  - 8. Head Loss
  - 9. Head Loss Gradient
- f. Boundary conditions that represent the interface between the development and the rest of the distribution system, shall be explained clearly.

**TABLE 4-1: UNIT DESIGN FLOWS FOR WATER** 

TYPE OF FACILITY SERVED	APPLICABLE UNIT	WATER DESIGN FLOW PER APPLICABLE UNIT GALLONS PER DAY (GPD)
Airport	Passenger (avg daily number)	5 18
Auto Wash	Employee	per Mfg
	Facility Seat	96 Wilg
Bar/Lounge	Chair	42
Barber Shop	Chair	120
Beauty Parlor		
Bowling Alley (Snack Bar Only)	Lane	90
Camp	6	36
- Day (No cooking facilities)	Camping Unit	36
<ul><li>Campground, Overnight,</li><li>Flush Toilets</li></ul>	Camping Unit	90
<ul> <li>Campground, Overnight,</li> <li>Flush Toilets &amp; Shower</li> </ul>	Camping Unit	180
- Campground – Luxury	Person	120 – 180
<ul> <li>Youth (Summer or Seasonal)</li> </ul>	Person	60
Church	1 613011	00
- with Kitchen	Person (max attendance)	8
- without Kitchen	Person (max attendance)	7
Country Club	Resident Member	120
,	Non-Resident Member	12
Dance Hall	Patron	6
Dental Office	Chair	600
Dog Kennel	Animal (max occupancy)	18
Dwellings	Person	96
Fire Station	Employee	54
Hospital	·	
- All Flows	Bed	300
- Kitchen Waste Only	Bed	30
- Laundry Waste Only	Bed	48

City of Cottonwood Engineering Design Standards Manual

Date: 6/10/2020

Hotel/Motel		
- with Kitchen	Bed (2 person)	72
<ul> <li>without Kitchen</li> </ul>	Bed (2 person)	60
Industrial Facility		
- with Shower	Employee	42
<ul> <li>without Shower</li> </ul>	Employee	30
<ul> <li>Cafeteria (add)</li> </ul>	Employee	6
Institutions		
- Resident	Person	90
- Nursing Home	Person	150
- Rest Home	Person	150
Laundry		
- Self Service	Wash Cycle	60
- Commercial	Washing Machine	per Mfg
Office Building	Employee	24
Park (temporary use)	,5,0,00	<b>4</b> T
- Picnic, with Flush Toilets Only	Parking Space	24
- Picnic, with Showers & Flush	Parking Space	48
Toilets	raiking Space	40
	Vehicle Space	00
- RV – no water or sewer	venicie space	90
connections	Vahiala Casas	120
- RV – with water & sewer	Vehicle Space	120
connections		222
- Mobile Home/Trailer	Space	300
Restaurant/Cafeteria	Employee	24
- With toilet (add)	Customer	8
- Kitchen Waste (add)	Meal	7
<ul> <li>Garbage Disposal (add)</li> </ul>	Meal	1
<ul> <li>Cocktail Lounge (add)</li> </ul>	Customer	2
- Kitchen Waste Disposal	Meal	2
Service (add)		
- Restroom, Public	Toilet	240
School		
<ul> <li>Staff &amp; Office</li> </ul>	Person	24
<ul> <li>Elementary (add)</li> </ul>	Student	18
<ul> <li>Middle &amp; High (add)</li> </ul>	Student	24
<ul> <li>with Gym &amp; Showers (add)</li> </ul>	Student	6
- with Cafeteria (add)	Student	4
- Boarding, total flow	Person	120
Service Station with Toilets	First Bay	1200
	Each Additional Bay	600
Shopping Center, No Food or Laundry	Square Foot of Retail Space	0.1
Store	Employee	24
Public Restroom (add)	Square Foot of Retail Space	0.1
Swimming Pool, Public	Person	12
Theater	1 0.3011	14
meater		
- Drive-in	Vehicle Space	12