PRELIMINARY Basis of Design Report

- ☐ ACCEPTED
- ☑ ACCEPTED AS NOTED
- ☐ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY apritchard **DATE** 9/20/2024

WOOD PATEL

Final Basis of Design report required for DRB. DSPM 7-1.200. Update BOD addressing comments to this preliminary BOD in a Final BOD report submitted for approval with the final plans.

WASTEWATER COLLECTION SYSTEM
PRELIMINARY BASIS OF DESIGN REPORT
FOR
ASM SCOTTSDALE

August 30, 2024
WP# 235526

The City of Scottsdale engaged Carollo Engineers to develop the North Airpark Sewer Study to analyze the impact of development in the area with respect to required sewer collection system infrastructure. This analysis has determined that there is insufficient capacity in the existing gravity sewer within the TPC to accommodate additional flows from this development. Design and construction for new sewer to accommodate sewer demands from this area is underway. No new flows will be permitted to be discharged to the existing sewer until construction and County acceptance of the new sewer from Scottsdale Rd/Mayo Blvd to the North Pumpback Station has been completed.

This development will be responsible for repayment of proportional design and construction costs for new sewer infrastructure required to convey flows from this development through a Repayment Agreement. (DSPM 7-1.000, 7-1.400, SRC 49-212) :

- Along the Mayo Rd frontage from Miller Rd west to the property boundary
- From the intersection of the Mayo Blvd and Miller Rd south along Miller road, across Princess Blvd, south/southeast along Princess Dr to approximately Hayden Rd
- South and east through the TPC golf course to Pima Rd
- Miller Rd from Loop 101 to Mayo Blvd.

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
Date Signed 08/30/24
ARIZONA, U.S.A.

EXPIRES 06-30-25

3-DR-2024

TABLE OF CONTENTS

APPENDICES

EXHIBITS

EXPIRES 06-30-25

se
Y:\WP\Reports\Commercial\235526 ASM Scottsdale Preliminary Wastewater BOD.docx

1.0 INTRODUCTION

The ASM Scottsdale (Site) is a proposed industrial and office development. This Site is on a parcel with an approximate area of 24.9 acres in the City of Scottsdale (APN#125-07-209K). The project will include multiple buildings with hardscape, landscape, parking, and utility improvements to support the development. The Site is located directly south of the Loop 101 freeway and approximately 1,300-feet to the east of Scottsdale Road along Mayo Boulevard. The Site is split between Sections 26 and 35, Township 4 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. Refer to Exhibit 1 – *Vicinity Map* for the project location. The existing undeveloped desert is currently zoned PCD.

The design criteria used to estimate wastewater demands and evaluate system hydraulics are based on Wood, Patel & Associates, Inc's (WOODPATEL's) understanding of the requirements listed in the *City of Scottsdale Design Standards and Policies Manual, 2018*.

The following is a summary of the design criteria utilized:

Average Day Wastewater Demand, Office: .....0.40 gpd/sf
Average Day Wastewater Demand, Restaurant:.....1.20 gpd/sf
Peak Factor, Office: 3.0
Peak Factor, Restaurant: 6.0
Minimum Mean Full Flow Velocity: .....2.50 fps
Maximum Peak Full Flow Velocity: .....10.0 fps
Maximum Peak Flow d/D Ratio (12-inch diameter or less sewers): .....d/D = 0.65
Abbreviations: gpd = gallons per day; fps = feet per second; P = population/1,000

2.0 EXISTING WASTEWATER INFRASTRUCTURE

2.1 Existing Utility System Conditions

The offsite infrastructure proposed by Kimley Horn & Associates, Inc. (Kimley Horn) will be constructed with the proposed Site improvements. The improvements include a public 27-inch sewer main in Mayo Boulevard. The 27-inch sewer main in Mayo Boulevard is currently in construction by Optima (COS #3094-23-4). Refer to Appendix A and B for a depiction of the existing wastewater infrastructure surrounding the Site.

3.0 PROPOSED WASTEWATER INFRASTRUCTURE

3.1 Proposed Wastewater Conditions

The proposed wastewater infrastructure is sized to convey the wastewater flows to the public 27-inch wastewater main in Mayo Boulevard. The proposed infrastructure includes two (2) sewer connections to existing manholes on the 27-inch sewer main in Mayo Boulevard.

Five (5) proposed sewer services will connect to the proposed Office building to serve the Office and Cafeteria. The improvements will include five (5) 6-inch sewer service connections to the Office Building, two (2) manholes, and an 8-inch private sewer line. This sewer service connects to the existing 27-inch

sewer main in Mayo Blvd. at an existing manhole (Outfall 1). Refer to Exhibit 2 – *Wastewater Exhibit* for layout of the wastewater network.

The sewer service for the Lab and CUP will include a single 6-inch service connection to a sewer monitoring vault, one (1) manhole, and an 8-inch sewer service which connects to an existing manhole in Mayo Blvd (Outfall 2). Refer to Exhibit 2 – *Wastewater Exhibit* for layout of the wastewater network.

3.2 Modeling and Results

The wastewater demands calculated for the Site have been agreed to by the City of Scottsdale. (Refer to Appendix D - *Water Resources Water/Sewer Demand Acceptance Email*) The wastewater demands for the Office and Cafeteria were calculated using the *City of Scottsdale Design Standards and Policy Manual, 2018 (DSPM)*. The wastewater demands for the Lab and CUP were based on a percentage of the water demands agreed to between the City of Scottsdale and ASM. The Lab wastewater demand is based on 80% of the water demand for the building. The CUP wastewater demand is based on 50% of the water demand for the building. Outfall 1 has a proposed wastewater Average Day and Peak Flow for the Site of 71.7 gallons per minute (gpm) and 483.8 gpm, respectively. Outfall 2 has a proposed wastewater Average Day and Peak Flow for the Site of 87.0 gpm and 260.9 gpm, respectively. Refer to Appendix A – *Wastewater Demand Calculations* for the proposed sewer slopes, projected flow velocities, and pipe flow capacities.

4.0 CONCLUSIONS

Based on our wastewater collection system analysis for the proposed Site, the following conclusions are made:

1. The design criteria used to estimate wastewater flows and evaluate system hydraulics for the Lab is based on 80% of the water demand agreed to between ASM and the City of Scottsdale.
2. The design criteria used to estimate wastewater flows and evaluate system hydraulics for the CUP is based on 50% of the water demand agreed to between ASM and the City of Scottsdale.
3. The projected average-day flow for the Site is 228,491 gallons per day (gpd), or 158.7 gpm.
4. The projected peak flow for the Site is 723,992 gpd, or 744.7 gpm.
5. Maximum d/D value projected with the addition of the Site for Outfall 1 is 0.53, meeting standard.
6. Maximum d/D value projected with the addition of the Site for Outfall 2 is 0.31, meeting standard.

5.0 REFERENCES

1. *City of Scottsdale Design Standards and Policies Manual*, 2018
2. *City of Scottsdale Public Improvements Mayo Boulevard and Miller Road Gravity Main Improvements, Scottsdale, AZ* Plan Review No. 3094-23-4, dated November 2023 by Kimley Horn.
3. *Off-Site Improvement Plans for Hayden 101 NWC of Mayo Boulevard and Hayden Road, Scottsdale, AZ*, proposed by Kimley Horn.

APPENDIX A – WASTEWATER DEMAND CALCULATIONS

WOOD PATEL

TABLE 1
WASTEWATER DESIGN CRITERIA

Project	ASM - Arizona
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, EIT
References	City of Scottsdale Design Standards and Policies Manual (2018)

WASTEWATER DEMANDS			
LAND USE	**AVERAGE DAILY DEMAND (ADD)**		**POPULATION[1]**
	VALUE	**UNITS**	
Commercial/Retail	0.50	gpd/sf	0.005 Persons per sf
Office	0.40	gpd/sf	0.004 Persons per sf
Restaurant	1.20	gpd/sf	0.012 Persons per sf
High Density Condominiums	140	gpd/DU	1.4 Persons per DU
School: without Cafeteria	30	gpd/Student	0.3 Persons per Student
School: with Cafeteria	50	gpd/Student	0.5 Persons per Student
Resort Hotel	380	gpd/Room	3.8 Persons per Room
Cultural	0.1	gpd/sf	0.001 Persons per sf
Fitness Center/Spa/ Health Club	0.8	gpd/sf	0.008 Persons per sf

HYDRAULIC MODELING CRITERIA		
DESCRIPTION		**VALUE[2]**
PEAK FLOW		
Peak Flow = Peaking Factor (PF) x ADD		
	Commercial/Retail	3.0
	Fitness Center/Spa/Health Club	3.5
	High Density Condominium	4.5
	Restaurant	6.0
	Resort Hotel	4.5
	Clubhouse for Subdivision Golf Course	4.5
HYDRAULICS		
Minimum Pipe Diameter (in)		6
Manning's "n" value		0.013
Maximum d/D ratio at peak flow		0.65

PIPE SIZE	MEAN VELOCITY[2]		DESIGN SLOPE[2]	
(in)	Minimum (ft/sec)	Maximum (ft/sec)	Minimum (%)	Maximum (%)
6	2.5	10.0	0.765	12.234
8	2.5	10.0	0.521	8.336
10	2.5	10.0	0.387	6.191
12	2.5	10.0	0.303	4.855

Notes
1. Per Arizona Administrative Code, Title 18, Chapter 9
2. Per City of Scottsdale Design Standards and Policies Manual (2018)

WOOD PATEL

TABLE 2
FULL BUILD OUT CONDITION
WASTEWATER MODEL

Project	ASM - Arizona
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, EIT
References	City of Scottsdale Design Standards and Policies Manual (2018)
	Arizona Administrative Code, Title 18, Chapter 9

FROM NODE	TO NODE	AREA (SF)	LAND USE	SEWER AVERAGE DAY FLOW (GPD)	TOTAL AVERAGE DAY FLOW (GPM)	TOTAL AVERAGE DAY FLOW (GPM)	SEWER PEAK FLOW (GPD)	TOTAL PEAK FLOW (GPM)	TOTAL PEAK FLOW (GPM)
Outfall 1 Office									
Office	SSMH#1	226,100	Office	90,440	62.8	62.8	271,320	377	376.8
Cafeteria	SSMH#1	10,700	Cafeteria	12,840	8.9	71.7	77,040	107	483.8
SSMH#1	SSMH#2			--	--	71.7	--	--	483.8
SSMH#2	Outfall 1			--	--	71.7	--	--	483.8
Total Outfall 1				**103,280**	**71.7**		**348,360**	**483.8**	
Outfall 2 Lab									
Lab	MV	359,758	N/A	87,661*	60.9	60.9	262,982	183	182.6
CUP	MV	9,540	N/A	37,550**	26.1	87.0	112,650	78	260.9
MV	SSMH#3			--	--	87.0	--	--	260.9
SSMH#3	Outfall 2			--	--	87.0	--	--	260.9
Total Outfall 2				**125,211**	**87.0**		**375,632**	**260.9**	
Total Flow into 27" Sanitary Sewer Main from Site				**228,491**	**158.7**		**723,992**	**744.7**	

Notes:
MV = Monitouring Vault
* = 80% of "*Lab*" value from Phase 2 Water Demand Design Flows spreadsheet for the Water Basis of Design Report.
** = 50% of "*CUP*" value from Phase 2 Water Demand Design Flows spreadsheet for the Water Basis of Design Report.

WOOD PATEL

TABLE 3
FULL BUILD OUT WASTEWATER CAPACITY

Project	ASM - Arizona
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, EIT
References	City of Scottsdale Design Standards and Policies Manual (2018)
	ADEQ Bulletin No. 11

					PEAK FLOW RESULTS					
FROM NODE	**PIPE SIZE**	**MODELED PIPE SLOPE**	**PIPE CAPACITY (FULL)**		**PEAK FLOW**	**PEAK FLOW**	**d/D**	**MEAN VELOCITY (at d/D=0.70)**	**SURPLUS CAPACITY**	**PERCENT OF CAPACITY**
	(in)	**(ft/ft)**	**(gpd)**	**(gpm)**	**(gpd)**	**(gpm)**		**(ft/sec)**	**(gpd)**	**(%)**
Outfall 1 Office										
Office	6	0.0595	887,043	1,232	271,320	377	0.38	7.7	615,723	30.6%
Cafeteria	6	0.0302	631,960	878	348,360	484	0.53	5.5	283,600	55.1%
SSMH#1	8	0.0375	1,517,478	2,108	348,360	484	0.33	7.4	1,169,118	23.0%
SSMH#2	8	0.0368	1,502,789	2,087	348,360	484	0.33	7.3	1,154,429	23.2%
Outfall 2 Lab										
Lab	6	0.0602	892,246	620	131,491	183	0.26	7.7	760,754	14.7%
CUP	6	0.0602	892,246	620	187,816	261	0.31	7.7	704,429	21.0%
MV	6	0.0992	1,145,360	795	187,816	261	0.27	9.9	957,544	16.4%
SSMH#3	8	0.1343	2,870,081	1,993	187,816	261	0.17	14.0	2,682,265	6.5%

Notes:
MV = Monitouring Vault

0.24

Maximum velocity is 10 FPS at estimated peak flow conditions. DSPM 7-1.404. At 261 gpm, velocity is approximately 8 ft/s

APPENDIX B – ASM WATER DEMAND PHASE 2 / DAY 2 BY CITY OF SCOTTSDALE

ASM Water Demand
Phase 2/Day 2

ASM Day 2 GPD	Winter	Summer	Average
Cleaning Room Air Cooling	0	106296	53148
Clean Room Room	109804	109347	109576
Sanitary	67525	67525	67525
Irrigation			4032
Total			**234281**

	from ASM 3/8/24 Day 2 Water Requirements, no safety factor applied
	from Wood Patel, ASM Project BOD for Phase 2 (Average Daily BOD), 2/26/24

ASM Water Deficit
Phase 2/Day 2

A S M - Water Demand					
	gpad	ac	gpd	MG/yr	af/yr
Landuse and water demand per the Integrated Water Resource Master Plan (IWRMP) →	2919	24	70,056	25.57	78
Water demand per the BOD →	9,762	24	234,281	85.51	262
Water deficit calculations over 10 years					
Basis of Design average daily use	234,281	gpd			
Maximum Water Demand per IWRMP	-70,056	gpd			
Total	164,225	gpd			
Industrial return flow discount 75%	-123,168				
Unaccounted for demand	41,056	gpd			
	15	MG/yr			
	46	af/yr			
	460	af over 10 years			

APPENDIX C – ASM SCOTTSDALE IMPROVEMENT PLAN
BY WOOD, PATEL & ASSOCIATES, INC., DATED AUGUST 30, 2024

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLAN
SCOTTSDALE, ARIZONA

A PORTION OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST
OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

Reviewed only for context of BOD report.

ENGINEER'S NOTES

1. MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION INCLUDING LATEST REVISION AND CURRENT SUPPLEMENTALS THEREOF PER THE LOCAL TOWN OR CITY) ARE INCORPORATED INTO THIS PLAN IN THEIR ENTIRETY.
2. ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION COVERED BY THIS PLAN SHALL BE IN ACCORDANCE WITH THE M.A.G. STANDARD SPECIFICATIONS AND DETAILS AND CURRENT SUPPLEMENTS THEREOF PER THE LOCAL CITY OR TOWN UNLESS SPECIFIED OTHERWISE IN THESE PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL REQUIRED STANDARD SPECIFICATIONS, DETAILS AND SUPPLEMENTS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, SEQUENCING, AND SAFETY CONCERNS ASSOCIATED WITH THIS PROJECT DURING CONSTRUCTION, UNLESS SPECIFICALLY ADDRESSED OTHERWISE IN THIS PLAN OR ELSEWHERE IN THE CONTRACT.
4. THE CONTRACTOR IS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION COVERED BY THIS PLAN.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE ALL WORK COVERED BY THIS PLAN.
6. THE QUANTITIES AND SITE CONDITIONS DEPICTED IN THESE PLANS ARE FOR GENERAL INFORMATIONAL PURPOSES ONLY AND MIGHT NOT REFLECT ACTUAL QUANTITIES AND SITE CONDITIONS. CONTRACTORS SHALL SATISFY THEMSELVES AS TO ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
7. A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL 48 HOURS IN ADVANCE FOR BLUE STAKE (1-800-STAKE-IT) PRIOR TO ANY EXCAVATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION OF CONSTRUCTION AFFECTING UTILITIES AND THE COORDINATION OF ANY NECESSARY UTILITY RELOCATION WORK.
9. ALL PAVING, GRADING, EXCAVATION, TRENCHING, PIPE BEDDING, CUT FILL AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THE SOILS (GEOTECHNICAL) REPORT FOR THIS PROJECT IN ADDITION TO THE REFERENCED REQUIRED SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL BE AWARE THAT CERTAIN UTILITIES REQUIRE PROPER ATTENTION AND CAREFUL PLANNING DURING SITE CONSTRUCTION. PLEASE NOTE THAT UTILITIES ON THESE PLANS MAY NOT EXHIBIT THE FULL PROTECTIVE COVER REQUIRED DURING THE SUBGRADE PREPARATION PHASE OF THE CONSTRUCTION. IN SUCH INSTANCES, THE CONTRACTOR SHALL PROVIDE ADDITIONAL PROTECTION (SUCH AS RAMPING) OR INCREASED PIPE STRENGTH TO PROVIDE THE NECESSARY PROTECTION REQUIRED TO PREVENT DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL HOLD THE ENGINEER HARMLESS IN ALL CASES FOR DAMAGES TO UTILITIES WHERE INADEQUATE PROTECTIVE MEASURES OCCUR.
10. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES AT POINTS OF TIE-IN PRIOR TO COMMENCING ANY NEW CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AGENT.
11. CONTRACTOR TO VERIFY AND COORDINATE ALL DIMENSIONS AND SITE LAYOUT WITH ARCHITECT'S FINAL SITE PLAN AND FINAL BUILDING DIMENSIONS BEFORE STARTING WORK. REPORT DISCREPANCIES TO OWNER'S AGENT.
12. COORDINATION BETWEEN ALL PARTIES IS ESSENTIAL PART OF CONTRACT.
13. CONTRACTOR IS RESPONSIBLE FOR PROJECT AND SITE CONDITIONS, AND TO WORK WITH WEATHER CONDITIONS AS THE PROJECT SITE MAY BE LOCATED IN A FLOOD PRONE AREA AND SUBJECT TO FLOODING AND ITS HAZARDS.
14. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER, OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITION, OR PAVEMENT CROSS-SLOPE DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.
15. CONTRACTOR IS RESPONSIBLE TO COORDINATE UTILITY CROSSINGS AT CULVERT CROSSINGS BEFORE STARTING WORK ON CULVERT. COORDINATE WITH OWNER REPRESENTATIVE. VERIFY UTILITY LINES AND/OR CONDUITS ARE IN PLACE BEFORE STARTING CULVERT WORK.
16. CONSTRUCT RETENTION BASIN AS SHOWN. CONTRACTOR TO SCARIFY BOTTOM OF BASIN TWO FEET DEEP AND NOT ALLOW COMPACTION OVER 80%.
17. THIS PROJECT REQUIRES A REGULAR ONGOING MAINTENANCE PROGRAM FOR THE DESIGNED DRAINAGE SYSTEM(S) TO PRESERVE THE DESIGN INTEGRITY AND THE ABILITY TO PERFORM ITS OPERATIONAL INTENT. FAILURE TO PROVIDE MAINTENANCE WILL JEOPARDIZE THE DRAINAGE SYSTEM(S)' PERFORMANCE AND MAY LEAD TO IT'S INABILITY TO PERFORM PROPERLY AND/OR CAUSE DAMAGE ELSEWHERE IN THE PROJECT.
18. SEWER LINES DESIGNED IN PROFILE AND PUBLIC WATER LINES ARE REQUIRED TO BE ASBUILT AND THE INSTALLATION AND TESTING WITNESSED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODES R18-9-E301 "4.01 GENERAL PERMIT: SEWAGE COLLECTIONS SYSTEMS" AND R18-5-507 AND 508 "APPROVAL OF CONSTRUCTION" AND "RECORD DRAWINGS", RESPECTIVELY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY OWNER 72 HOURS IN ADVANCE WHEN THOSE SYSTEMS ARE READY TO BE WITNESSED.
19. THE WORK PRODUCT PRESENTED IS BELIEVED TO BE COMPLIANT WITH THE INTENT OF THE CURRENT AMERICANS DISABILITIES ACT (ADA) REQUIREMENTS AS INTERPRETED BY THE REVIEWING AGENCY(S), IF CONSTRUCTION OF THE PROJECT IS DELAYED, THIS WORK PRODUCT SHOULD BE UPDATED TO ACCOUNT FOR ANY RELEVANT ADA UPDATES BEFORE CONSTRUCTION BEGINS.
20. LOWEST FLOOR (LF) REFERS TO EITHER FLOOR/SLAB ELEVATION OR TOP OF BASEMENT SLAB. LF ELEVATIONS ON THE GRADING AND DRAINAGE PLANS FOR RESIDENTIAL UNITS REFLECT SLAB ON GRADE CONDITIONS AND CANNOT BE LOWERED WITHOUT AGENCY APPROVAL IN LOCATIONS WHERE 'SPECIAL FLOOD HAZARD AREAS' EXIST. IN NON-FLOOD HAZARD LOCATIONS, TO ENSURE THAT ADEQUATE RESIDENTIAL LOT DRAINAGE CAN BE ACHIEVED, A PROFESSIONAL ENGINEER SHOULD BE CONSULTED IF THE LF FOR THE SLAB IS PROPOSED TO BE LOWERED, OR IF A BASEMENT IS TO BE CONSTRUCTED.

EARTHWORK QUANTITIES (ESTIMATED)

RAW CUT:	CY
RAW FILL:	CY

QUANTITIES ARE ESTIMATED IN PLACE. NO PRECOMPACTION, SHRINK OR SWELL IS ASSUMED.

CITY OF SCOTTSDALE NOTES

PLEASE REFER TO SHEET C2 FOR CITY OF SCOTTSDALE NOTES.

QUANTITIES

PLEASE REFER TO SHEET C2 FOR ESTIMATED QUANTITIES FOR WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS.

LEGEND

PLEASE REFER TO SHEET C2 FOR LEGEND AND LIST OF ABBREVIATIONS.

UTILITY NOTES

1. THESE PLANS HAVE BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES FOR APPROVAL WITHIN THEIR AREA OF INTEREST. THE SIZE AND LOCATIONS, AS SHOWN, OF THE GAS, TELEPHONE AND POWER LINES, AND CONNECTIONS AGREE WITH THE FURNISHED INFORMATION CONTAINED IN THE UTILITY COMPANY'S RECORDS. WHERE THE WORK TO BE DONE CONFLICTS WITH ANY OF THESE UTILITIES, THE CONFLICTS SHALL BE RESOLVED AS SPECIFIED IN THE SPECIAL PROVISIONS AND/OR AS OTHERWISE NOTED ON THESE PLANS. CONFLICTS ARISING DURING THE COURSE OF CONSTRUCTION FROM UNFORESEEN CIRCUMSTANCES SHALL BE REPORTED TO THE INTERESTED UTILITY COMPANY AND BE RESOLVED BY THEM AND THE DESIGN ENGINEER.
2. THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR UTILITY RELOCATION.

FEMA FIRM NOTE (ZONE AO)

ACCORDING TO FEMA FLOOD INSURANCE RATE MAPPING, THE SUBJECT PROPERTY IS LOCATED IN 'SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD' "ZONE AO". ZONE AO IS DESCRIBED AS: "FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY SHEET FLOW ON SLOPING TERRAIN); AVERAGE DEPTHS DETERMINED. FOR AREAS OF ALLUVIAL FAN FLOODING, VELOCITIES ALSO DETERMINED."

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM	FIRM ZONE	BASE FLOOD ELEVATION (IN AO ZONE, USE DEPTH)
04013C	1320	L	07/20/2021	AO	1

ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION: THE LOWEST FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE REVISED CODE, CHAPTER 37-FLOODPLAIN AND STORMWATER REGULATIONS.

Darin L. Moore — 08/30/2024

ENGINEER SIGNATURE — DATE

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/ LAND SURVEYOR — DATE

SEAL

FINISH FLOOR ELEVATION CALCULATION

HAG - LAB - 1599.14
- OFFICE - 1602.07
- PARKING STRUCTURE - 1599.76
- CUP - 1600.56
- CHEMICAL STORAGE - 1601.88

LAG - LAB - 1592.92
- OFFICE - 1598.01
- PARKING STRUCTURE - 1592.16
- CUP - 1599.06
- CHEMICAL STORAGE - 1599.10

LFF - LAB - 1602.50
- OFFICE - 1604.50
- PARKING STRUCTURE - 1599.00
- CUP - 1602.75
- CHEMICAL STORAGE - 1605.00

RFD - LAB - 1601.14
- OFFICE - 1604.07
- PARKING STRUCTURE - 1601.76
- CUP - 1603.58
- CHEMICAL STORAGE - 1604.75

ALL ELECTROMECHANICAL EQUIPMENT SHALL BE ELEVATED TO RFD ELEVATION

NO CONFLICT SIGNATURE BLOCK

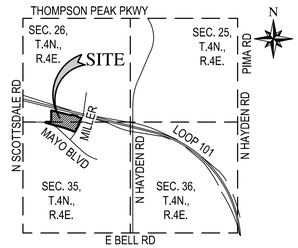
UTILITY	UTILITY COMPANY	NAME OF COMPANY REPRESENTATIVE	TELEPHONE NUMBER	DATE CONTACTED	DATE SIGNED
ELECTRIC	ARIZONA PUBLIC SERVICE	HAILEY PARKS	602-493-4401	-	
TELEPHONE	LUMEN	JEANETTE DEBOARD	480-221-7810	-	
NATURAL GAS	SOUTHWEST GAS	ANDY SAKS	480-730-3857	-	
CABLE TV	COX COMMUNICATIONS	JACOB HORSMAN	-	-	
OTHER	MCI	RICHARD YOUNG	602-615-8995	-	

ENGINEER'S CERTIFICATION

I DARIN L. MOORE, P.E. , AS THE ENGINEER OF RECORD FOR THIS DEVELOPMENT, HEREBY CERTIFY THAT ALL UTILITY COMPANIES LISTED ABOVE HAVE BEEN PROVIDED FINAL IMPROVEMENT PLANS FOR REVIEW, AND THAT ALL CONFLICTS IDENTIFIED BY THE UTILITIES HAVE BEEN RESOLVED. IN ADDITION, "NO CONFLICT" FORMS HAVE BEEN OBTAINED FROM EACH UTILITY COMPANY AND ARE INCLUDED IN THIS SUBMITTAL.

N/A — SIGNATURE

N/A — DATE



VICINITY MAP
N.T.S.

SHEET INDEX

PARCEL DESCRIPTION

PLEASE REFER TO SHEET C2 FOR PARCEL DESCRIPTION.

BASIS OF BEARING

THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST G.&S.R.B.&M. SAID LINE BEARS S89°58'25"E.

BENCHMARK

CITY OF SCOTTSDALE BRASS CAP FLUSH 450'± NORTH OF PRINCESS DRIVE ON SCOTTSDALE ROAD, BEING THE WEST QUARTER CORNER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST.
CITY OF SCOTTSDALE DATUM, NAVD88 DATUM
ELEVATION=1553.22'.

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON NAVD 1988, MCDOT, AND MEET THE FEMA BENCHMARK MAINTENANCE (BMM) CRITERIA.

PUBLIC UTILITIES

WATER	CITY OF SCOTTSDALE
SEWER	CITY OF SCOTTSDALE
ELECTRIC	APS
TELEPHONE	LUMEN
NATURAL GAS	SOUTHWEST GAS
CABLE TV	COX COMMUNICATIONS

SOILS REPORT NOTE

A SOILS GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROJECT TITLED, GEOTECHNICAL EVALUATION MAYO BOULEVARD AND MILLER ROAD DEVELOPMENT BY NINYO & MOORE DATED NOVEMBER 30, 2023. PROJECT NO. 607802001.

STIPULATION CONFORMANCE STATEMENT

"THE ENGINEER OF RECORD ON THESE PLANS HAS RECEIVED A COPY OF THE APPROVED STIPULATIONS FOR THIS PROJECT AND HAS DESIGNED THESE PLANS IN CONFORMANCE WITH THE APPROVED STIPULATIONS."

N/A — ENGINEER SIGNATURE

N/A — DATE

CITY OF SCOTTSDALE CIVIL APPROVAL

REVIEW & RECOMMENDED APPROVAL BY:

PAVING		SIGNS & MARKINGS	
GRADING & DRAINAGE		PLANNING	
WATER & SEWER		FIRE	
RETAINING WALLS		SIGNALS & STREET	

ENGINEERING DEPARTMENT MANAGER — DATE

OWNER / DEVELOPER

ASM AMERICA INC.
3440 EAST UNIVERSITY DRIVE
PHOENIX, ARIZONA 85034
CONTACT: PAUL CROTHERS
PHONE: (602) 470-2600

ENGINEER

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN AVENUE, SUITE 100
PHOENIX, ARIZONA 85021
CONTACT: DARIN MOORE, P.E.
PHONE: (602) 335-8500
FAX: (602) 335-8580

ARCHITECT

GENSLER
2575 EAST CAMELBACK ROAD, SUITE 175
PHOENIX, ARIZONA 85016
CONTACT: DAVID HEALY
PHONE: (602) 523-4902

PROJECT SITE DATA

ASSESSOR PARCEL NUMBER(S):
215-07-209K
PROJECT SITE ADDRESS:
UNKNOWN
SCOTTSDALE, ARIZONA 85255
PROJECT SITE AREA(S):
NET AREA = 23.9 AC
DISTURBED AREA = 20.3± AC
ZONING:
C2

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE
PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
COVER SHEET

REV	DESCRIPTION	DATE

Registered Professional Engineer — Certificate No. 36382 — DARIN L. MOORE — Date Signed 08/30/24 — ARIZONA

Darin L. Moore

EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C1 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-CV-CON.dwg

3-DR-2024

CITY OF SCOTTSDALE NOTES

GENERAL CONSTRUCTION NOTES FOR CAPITAL PROJECTS

1. ALL IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THE 2020 MARICOPA COUNTY ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE SUPPLEMENTAL STANDARD SPECIFICATIONS AND DETAILS AND CITY OF SCOTTSDALE'S DESIGN STANDARDS & POLICIES MANUAL (DS&PM). IF THERE IS A CONFLICT, THE LATTER SHALL APPLY. ALL FACILITIES CONSTRUCTION SHALL COMPLY WITH THE LATEST BUILDING CODES AS AMENDED AND ADOPTED BY THE CITY OF SCOTTSDALE.
2. THE ENGINEERING DESIGNS ON THESE PLANS ARE APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. BASED ON THE INFORMATION SUBMITTED ON THE PLANS AND ASSOCIATED DOCUMENTS, THE CITY HAS REVIEWED AND FOUND THEM TO BE IN ACCORDANCE WITH THE SCOTTSDALE REVISED CODE AND ARE ACCEPTABLE FOR PERMIT ISSUANCE. THIS ACCEPTANCE BY THE CITY DOES NOT AUTHORIZE VIOLATIONS OF ANY APPLICABLE CODE, ORDINANCE OR STANDARD AS ADOPTED BY THE SCOTTSDALE REVISED CODE.
4. APPROVAL OF THE PLANS BY THE CITY IS VALID FOR SIX MONTHS. IF A PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN SIX MONTHS OF REVIEW, THE PLANS SHALL BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
5. ANY DEVIATION FROM THE APPROVED PLANS SHALL BE REVIEWED AND APPROVED BY THE CITY PRIOR TO THAT CHANGE BEING INCORPORATED INTO THE PROJECT.
6. A CITY CAPITAL PROJECTS INSPECTOR WILL INSPECT ALL WORK WITHIN THE CITY RIGHTS-OF-WAY, EASEMENTS AND FACILITIES.
7. ANY SPECIAL INSPECTION REQUIRED SHALL BE IN ADDITION TO ANY ROUTINE INSPECTION BY THE CITY.
8. CITY ENCROACHMENT AND BUILDING PERMITS ARE REQUIRED FOR WORK IN PUBLIC RIGHTS-OF-WAY, EASEMENTS GRANTED FOR PUBLIC PURPOSES AND FACILITIES. PERMITS WILL BE ISSUED BY THE CITY THROUGH THE CITY'S ONE STOP SHOP. COPIES OF ALL PERMITS SHALL BE RETAINED ON-SITE AND SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE WORK STOPPAGE UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR SALVAGING PROTECTED NATIVE PLANTS PRIOR TO THE START OF CONSTRUCTION.
10. CONTRACTOR SHALL CONTACT AZ 811 TWO FULL WORKING DAYS PRIOR TO BEGINNING EXCAVATION.
11. ALL EXCAVATION AND GRADING WHICH IS NOT IN PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC PURPOSES MUST CONFORM TO SECTION 1803 AND APPENDIX J OF THE LATEST INTERNATIONAL CODE COUNCIL AS ADOPTED AND AMENDED BY THE CITY OF SCOTTSDALE. A PERMIT FOR THIS GRADING MUST BE SECURED FROM THE CITY.
12. THRUST RESTRAINT, WHERE REQUIRED, ON ALL CITY WATER LINES SHALL BE PROVIDED USING MEGALUG MECHANICAL JOINT RESTRAINTS OR CITY-APPROVED EQUAL.
13. ANY ASPHALT MIX DESIGN USED ON CITY PROJECTS SHALL HAVE BEEN APPROVED FOR THAT USE PER SECTION 5-10 OF THE CITY'S DS&PM AND APPEAR ON THE "APPROVED LIST OF ASPHALT MIXES" AS DISTRIBUTED BY THE EAST VALLEY ASPHALT COMMITTEE (EVAC).
14. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND REPLACE, AT NO ADDITIONAL COST TO THE CITY, ANY AND ALL PAVEMENT, SIDEWALK, CURB AND GUTTER, DRAINAGE STRUCTURES, ETC. OUTSIDE THE PAY LIMIT THAT ARE DAMAGED DUE TO THEIR ACTIVITIES ON THE PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, THE REMOVAL AND REPLACEMENT OF NEWLY CRACKED ROADWAY INFRASTRUCTURE, THE REMOVAL AND REPLACEMENT OF EXISTING CRACKED ROADWAY INFRASTRUCTURE WHERE THE CRACKS HAVE BEEN ENLARGED DUE TO THE CONTRACTOR'S OPERATIONS, THE REMOVAL AND REPLACEMENT OF DEFORMED ROADWAY INFRASTRUCTURE. ALL SAWCUTS USED FOR THE REMOVAL OF THESE ITEMS SHALL BE PERPENDICULAR AND PARALLEL TO THE CENTERLINE CONTROLLING THAT ITEM, OR AT THE DIRECTION OF THE CITY'S CAPITAL PROJECTS INSPECTOR.
15. ALL CAPITAL IMPROVEMENT PROJECTS SHALL MEET THE PROCEDURES AND STANDARDS FOR THE USE OF TEMPORARY/SECURITY FENCING AROUND THE PERIMETER OF CONSTRUCTION SITES, AS DEFINED IN THE CITY'S ZONING ORDINANCE, ARTICLE VII, SECTION 7.700.

GENERAL NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MAG UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE SUPPLEMENTAL STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE CITY'S SUPPLEMENTAL STANDARD DETAILS WILL GOVERN.
2. THE CITY ONLY APPROVES THE SCOPE, NOT THE DETAIL, OF ENGINEERING DESIGNS; THEREFORE, IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. THE APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF A RIGHT-OF-WAY PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN THIS TIME FRAME, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
4. A CITY INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE. NOTIFY INSPECTION SERVICES 72 HOURS BEFORE BEGINNING WORK.
5. WHENEVER EXCAVATION IS NECESSARY, CALL THE BLUE STAKE CENTER, 811, TWO WORKING DAYS BEFORE EXCAVATION BEGINS.
6. PERMISSION TO WORK IN THE RIGHT-OF-WAY (PWR) PERMITS ARE REQUIRED FOR ALL WORKS WITHIN THE RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. COPIES OF ALL PERMITS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.

FIRE NOTE:

1. ALL PRIVATE STREETS AND DRIVES SHALL CONFORM TO THE FIRE DEPARTMENT GUIDELINES FOR EMERGENCY VEHICLE ACCESS.

SEWER NOTE:

1. THE ONSITE SEWER SYSTEM CONSTRUCTED BY THIS PLAN SET IS A PRIVATE SYSTEM AND WILL NOT BE MAINTAINED BY THE CITY OF SCOTTSDALE.
2. MAINTENANCE OF THE ONSITE SEWER SYSTEM IS THE RESPONSIBILITY OF THE OWNER.

WATER NOTE:

1. THE WATER SYSTEM SHOWN HEREIN HAS BEEN DESIGNED TO ADEQUATELY SUPPLY WATER IN SUFFICIENT QUANTITY AND PRESSURE TO MEET LOCAL FIRE REQUIREMENTS.

PARCEL DESCRIPTION

LOCATED IN THE SOUTH HALF OF SECTION 26 AND THE NORTH HALF OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 35, MARKED BY A FOUND 3 INCH MARICOPA COUNTY BRASS CAP FLUSH;

THENCE ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 35, NORTH 89 DEGREES 58 MINUTES 25 SECONDS WEST, A DISTANCE OF 2640.93 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 35, MARKED WITH A BUREAU OF LAND MANAGEMENT BRASS CAP STAMPED "T.4N., R.4E., 1/4, S26, S 35, 1995";
THENCE NORTH 89 DEGREES 58 MINUTES 33 SECONDS WEST, ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 35, A DISTANCE OF 1320.42 FEET TO THE POINT OF BEGINNING;
THENCE NORTH 00 DEGREES 01 MINUTE 48 SECONDS WEST, A DISTANCE OF 573.93 FEET TO THE SOUTH RIGHT-OF-WAY OF LOOP 101;
THENCE ALONG SAID RIGHT-OF-WAY SOUTH 79 DEGREES 07 MINUTES 59 SECONDS EAST, A DISTANCE OF 42.49 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 1,007.00 FEET;
THENCE NORTH 13 DEGREES 57 MINUTES 56 SECONDS EAST, A DISTANCE OF 40.00 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 300.00 FEET;
THENCE SOUTH 13 DEGREES 57 MINUTES 56 SECONDS WEST, A DISTANCE OF 40.00 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 209.66 FEET TO THE TO THE POINT OF A NON-TANGENT CURVE TO THE RIGHT, OF WHICH THE RADIUS POINT LIES NORTH 72 DEGREES 01 MINUTE 31 SECONDS WEST, A RADIAL DISTANCE OF 3,730.00 FEET;
THENCE DEPARTING SAID RIGHT-OF-WAY, SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 11 DEGREES 58 MINUTES 10 SECONDS, A DISTANCE OF 779.23 FEET TO THE POINT OF A NON-TANGENT CURVE TO THE LEFT, OF WHICH THE RADIUS POINT LIES SOUTH 23 DEGREES 22 MINUTES 39 SECONDS WEST, A RADIAL DISTANCE OF 6,000.00 FEET;
THENCE WESTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 08 DEGREES 32 MINUTES 27 SECONDS, A DISTANCE OF 894.39 FEET ALONG THE CENTERLINE OF POSSIBLE PROPOSED MAYO BOULEVARD;
THENCE ALONG SAID NON-TANGENT LINE, NORTH 75 DEGREES 09 MINUTES 57 SECONDS WEST, A DISTANCE OF 645.72 FEET;
THENCE DEPARTING SAID CENTERLINE NORTH 14 DEGREES 50 MINUTES 12 SECONDS EAST, A DISTANCE OF 55.03 FEET TO THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 35;
THENCE SOUTH 89 DEGREES 58 MINUTES 33 SECONDS EAST, A DISTANCE OF 257.05 FEET TO THE POINT OF BEGINNING.

EXPECTING AND PURSUANT TO THE PROVISIONS OF ARIZONA REVISED STATUTES § 37-231, OF THE FOLLOWING SUBSTANCES NOT HERETOFORE RETAINED AND RESERVED BY A PREDECESSOR IN TITLE TO THE STATE OF ARIZONA, ALL OIL, GAS, OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF GASEOUS NATURE, GEOTHERMAL RESOURCES, COAL, METALS, MINERALS, FOSSILS, FERTILIZERS OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNTIED STATES, OR OF THIS STATE OR DECISIONS OF COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIALS, WHETHER OR NOT OF COMMERCIAL VALUE, AS SET FORTH IN PATENT RECORDED AUGUST 10, 2022 IN RECORDINGS NO. 202206326 39, RECORDS OF MARICOPA COUNTY, ARIZONA.

PAVING

4" A.C. OVER 6" A.B.C.	SY
6" VERTICAL CURB & GUTTER	LF
6" SINGLE CURB	LF
CONCRETE SIDEWALK	SF
CONCRETE APRON	SF
SAWCUT, REMOVE & REPLACE EXISTING PAVEMENT	SY

SEWER

5' DIAMETER SEWER MANHOLE	EA
SEWER CLEANOUT	EA
8" PVC SDR35 SEWER LINE	LF
6" PVC SDR35 SEWER LINE	LF
4" PVC SDR35 SEWER LINE	LF
DROP SEWER CONNECTION	LF

WATER

GATE VALVE	EA
FIRE HYDRANT COMPLETE	LF
8" DOUBLE CHECK VALVE BACKFLOW	LF
2" WATER SERVICE AND METER BOX	EA
12" POLYWRAPPED DIP CLASS 350	LF
6" POLYWRAPPED DIP CLASS 350	LF
8" POLYWRAPPED DIP CLASS 350	EA
2" PVC SCH 40	EA
10" DOUBLE CHECK VALVE BACKFLOW	EA
1.5" WATER SERVICE AND METER BOX	EA
4" POLYWRAPPED DIP CLASS 350	LF
2" REDUCED PRESSURE PRINCIPLE BACKFLOW	LF

ESTIMATED QUANTITIES NOTE

QUANTITIES ARE ESTIMATES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANITIES FOR BIDDING PURPOSES.

LEGEND

EXISTING SURVEY

- SECTION LINE
- RIGHT OF WAY
- PROPERTY LINE
- ROAD CENTERLINE
- EASEMENT
- SURVEY MARKER
- E — UG ELECTRIC (BURIED CABLE)
- E (CONDUIT) — UG ELECTRIC (CONDUIT)
- E (DUCT BANK) — UG ELECTRIC (DUCT BANK)
- OHE — OVERHEAD ELECTRIC
- OHT — OVERHEAD TELEPHONE
- T — UG TELEPHONE
- TV — CABLE TELEVISION
- OHTV — OVERHEAD CABLE TELEVISION
- T (DUCT BANK) — TELEPHONE DUCT BANK
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- BLOCK WALL
- 4"G (MATERIAL) — GAS LINE
- 8"S (MATERIAL) — SEWER LINE
- STORM DRAIN PIPE
- 4"IRR (MATERIAL) — IRRIGATION LINE
- 8"W (MATERIAL) — WATER LINE
- CURB
- SIDEWALK
- -1300- — MAJOR CONTOUR
- -1299- — MINOR CONTOUR
- VEGETATION
- BUILDING
- S — SEWER MANHOLE
- D — STORM DRAIN MANHOLE
- T — TELEPHONE MANHOLE
- P 0.00 — SPOT ELEVATION
- SIGN
- JUNCTION BOX/RISER
- FIRE HYDRANT
- WATER VALVE
- STREET/PARKING LIGHT
- UTILITY POLE
- CATCH BASIN

PROPOSED GRADING, DRAINAGE & PAVING

- 1300 — MAJOR CONTOUR
- 1299 — MINOR CONTOUR
- C 0.00 / P 0.00 — SPOT ELEVATIONS
- STORM DRAIN PIPE
- STORM DRAIN CATCH BASIN
- 1.0% — SLOPE ARROW
- GB RIDGE — GRADE BREAK/RIDGE
- RIP RAP
- TW 0.00 / TF 0.00 — WALL ELEVATION
- ROOF DRAIN/DRAIN ARROW
- DRYWELL
- OUTFALL ELEVATION EL:XX.XX — SITE ULTIMATE OUTFALL LOCATION & ELEVATION
- WALL
- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- STREET/PARKING LIGHT
- ADA PARKING SYMBOL

PROPOSED WATER & SEWER

- WATER LINE
- WATER LINE FITTINGS
- BACKFLOW PREVENTION DEVICE
- WATER VALVE
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- WATER METER
- PLUG
- REDUCER
- TAPPING SLEEVE & VALVE
- CURB STOP
- PRESSURE RELEASE VALVE
- AIR/VACUUM RELEASE VALVE
- SEWER LINE
- SEWER MANHOLE
- CLEANOUT

ABBREVIATIONS

BB	BOTTOM OF BANK
C	CONCRETE ELEVATION
COS	CITY OF SCOTTSDALE
E.S.V.A.E.	EMERGENCY VEHICLE ACCESS EASEMENT
EX	EXISTING
FG	FINISHED GROUND
FL	FLOW LINE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
INV	INVERT ELEVATION
IRR	IRRIGATION
LF	LINEAR FEET
LFF	LOWEST FINISHED FLOOR ELEVATION
MIN	MINIMUM
NG	NATURAL GROUND ELEVATION
N.T.S.	NOT TO SCALE
P	PAVEMENT ELEVATION
PL	PROPERTY LINE
RIM	RIM ELEVATION
S	SLOPE
SD	STORM DRAIN
SE	SEWER EASEMENT
SS	SEWER SERVICE
STD	STANDARD
TB	TOP OF BANK
TC	TOP OF CURB
TF	TOP OF FOOTING ELEVATION
TW	TOP OF WALL ELEVATION
U.E.	UTILITY EASEMENT
UG	UNDERGROUND
W.I.	WROUGHT IRON

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS, NOTES & QUANTITIES

REV	DESCRIPTION	DATE

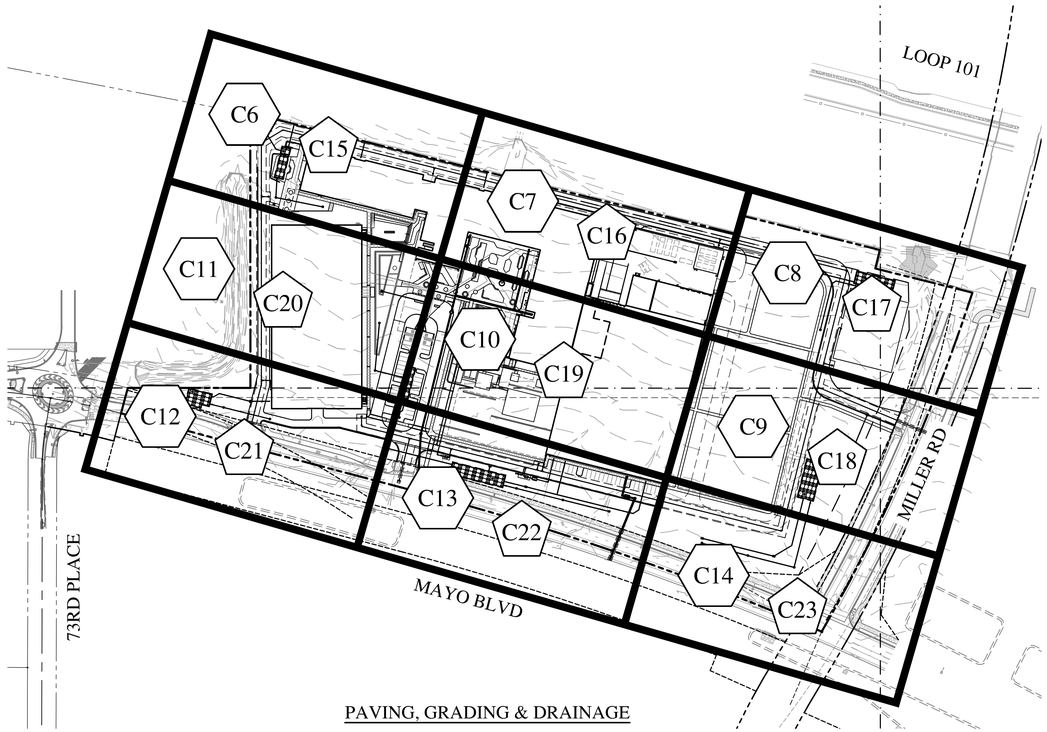
Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
State of Arizona
ARIZONA
Darin L. Moore
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C2 OF 43

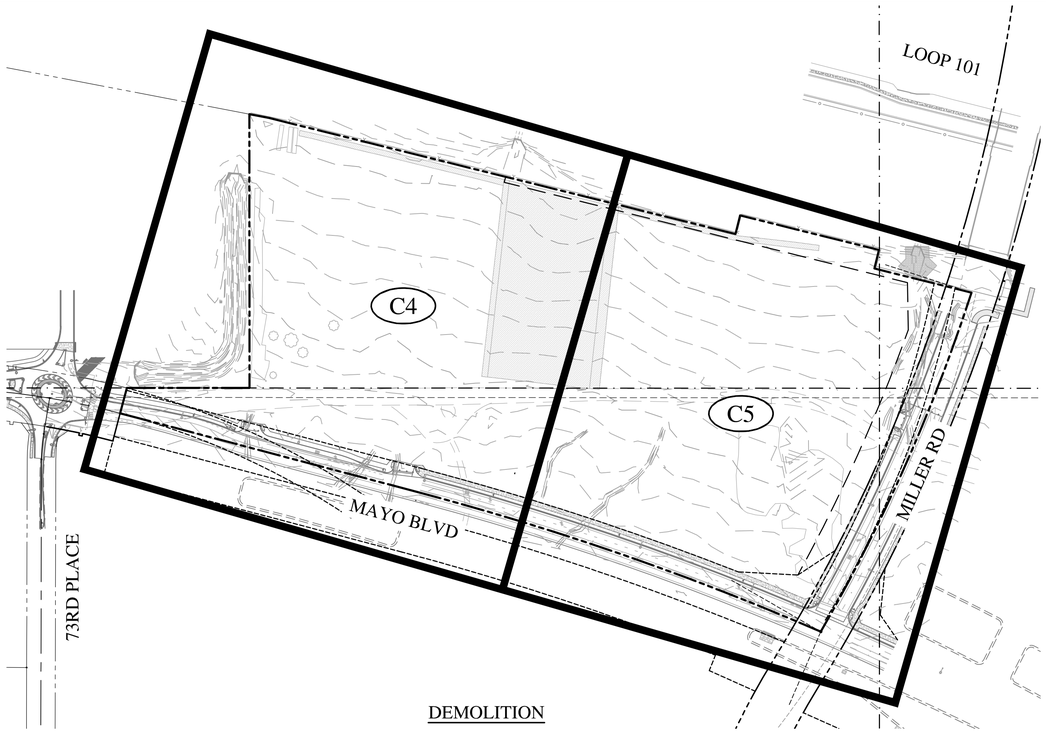
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-CV-CON.dwg

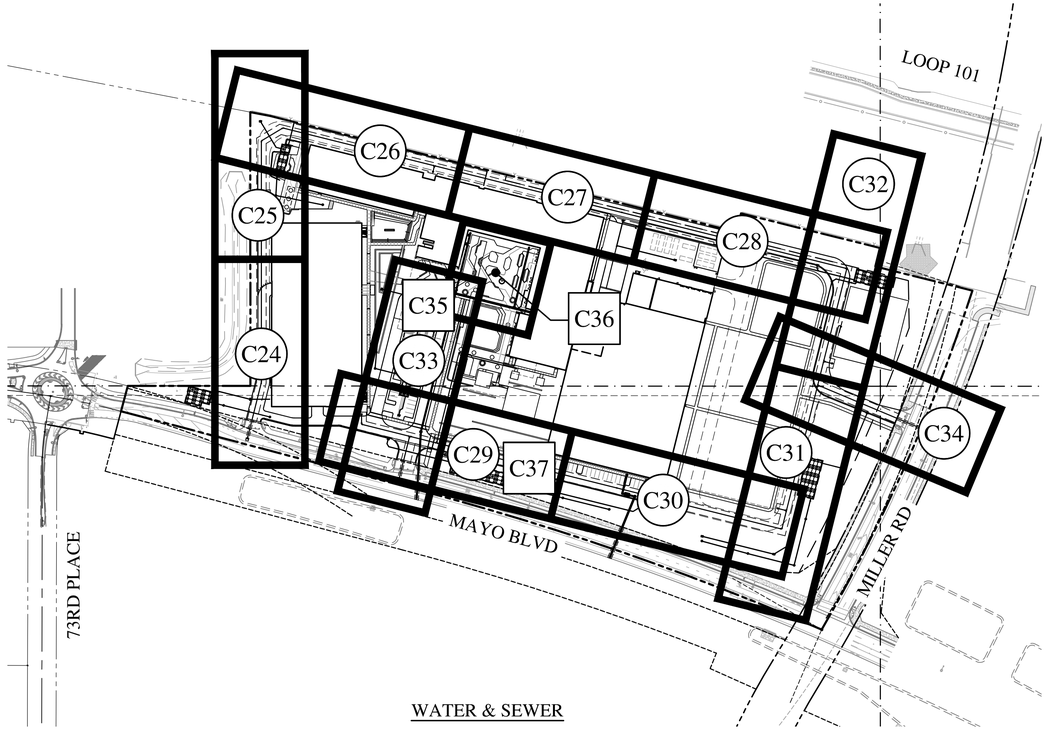
3-DR-2024



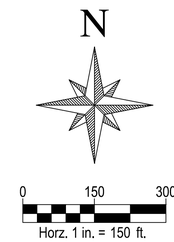
PAVING, GRADING & DRAINAGE



DEMOLITION



WATER & SEWER



INDEX MAP LEGEND

- CX — DEMOLITION
- CX — PAVING, GRADING & DRAINAGE
- CX — WATER
- CX — SEWER

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
INDEX MAP

REV	DESCRIPTION	DATE

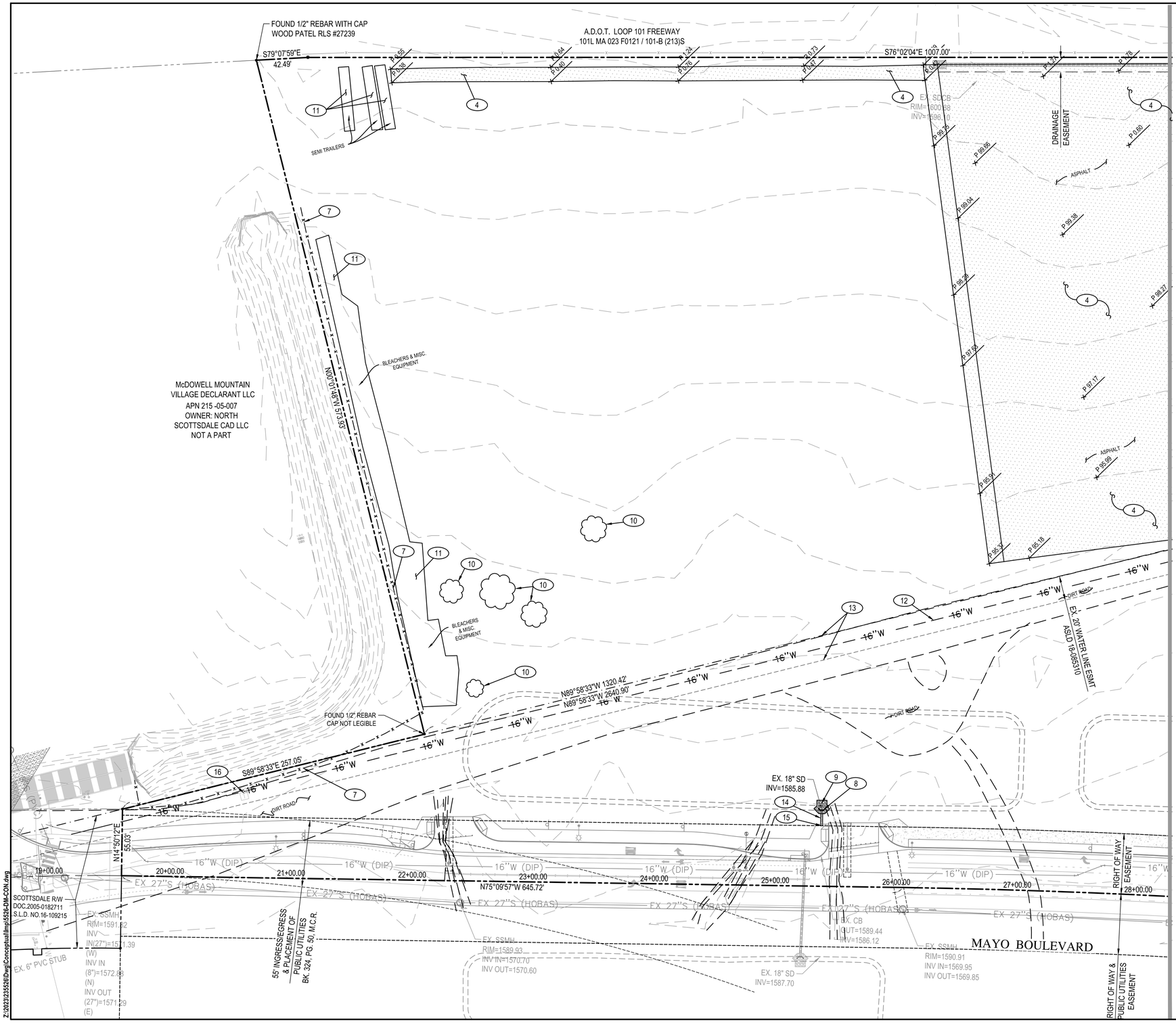
Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L.
MOORE
09/30/2025
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 150'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C3 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-NX-CON.dwg

3-DR-2024



MATCH SHEET C5

N

0 40 80

Horz. 1 in. = 40 ft.

DEMOLITION NOTES

1	REMOVE CONCRETE SINGLE CURB OR CURB AND GUTTER.
2	REMOVE CONCRETE SIDEWALK.
4	REMOVE ASPHALT PAVEMENT.
5	SAWCUT ASPHALT PAVEMENT TO LIMITS SHOWN, 2' MINIMUM FROM EXISTING OR PROPOSED LIP OF GUTTER AS APPLICABLE.
7	REMOVE BARBED WIRE FENCE.
8	REMOVE CONCRETE HEADWALL.
9	REMOVE RIPRAP.
10	REMOVE EXISTING VEGETITATION.
11	REMOVE EXISTING EQUIPMENT.
12	EXISTING 16" WATER MAIN TO BE REMOVED BY OTHERS.
13	EXISTING WATER LINE EASEMENT TO BE ABANDONED BY OTHERS.
14	REMOVE STORM DRAIN LINE TO THE LIMITS SHOWN.
15	INSTALL CAP.
16	EXISTING EQUIPMENT TO REMAIN AND PROTECTED IN PLACE.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

DEMOLITION PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 40'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C4 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DM-CON.dwg

3-DR-2024

MATCH SHEET C4

N

0 40 80

Horz. 1 in. = 40 ft.

DEMOLITION NOTES

#	
4	REMOVE ASPHALT PAVEMENT.
9	REMOVE RIPRAP.
12	EXISTING 16" WATER MAIN TO BE REMOVED BY OTHERS.
13	EXISTING WATER LINE EASEMENT TO BE ABANDONED BY OTHERS.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

DEMOLITION PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO.
36382
DAWN L.
MOORE
08/30/2024
ARIZONA, U.S.A.

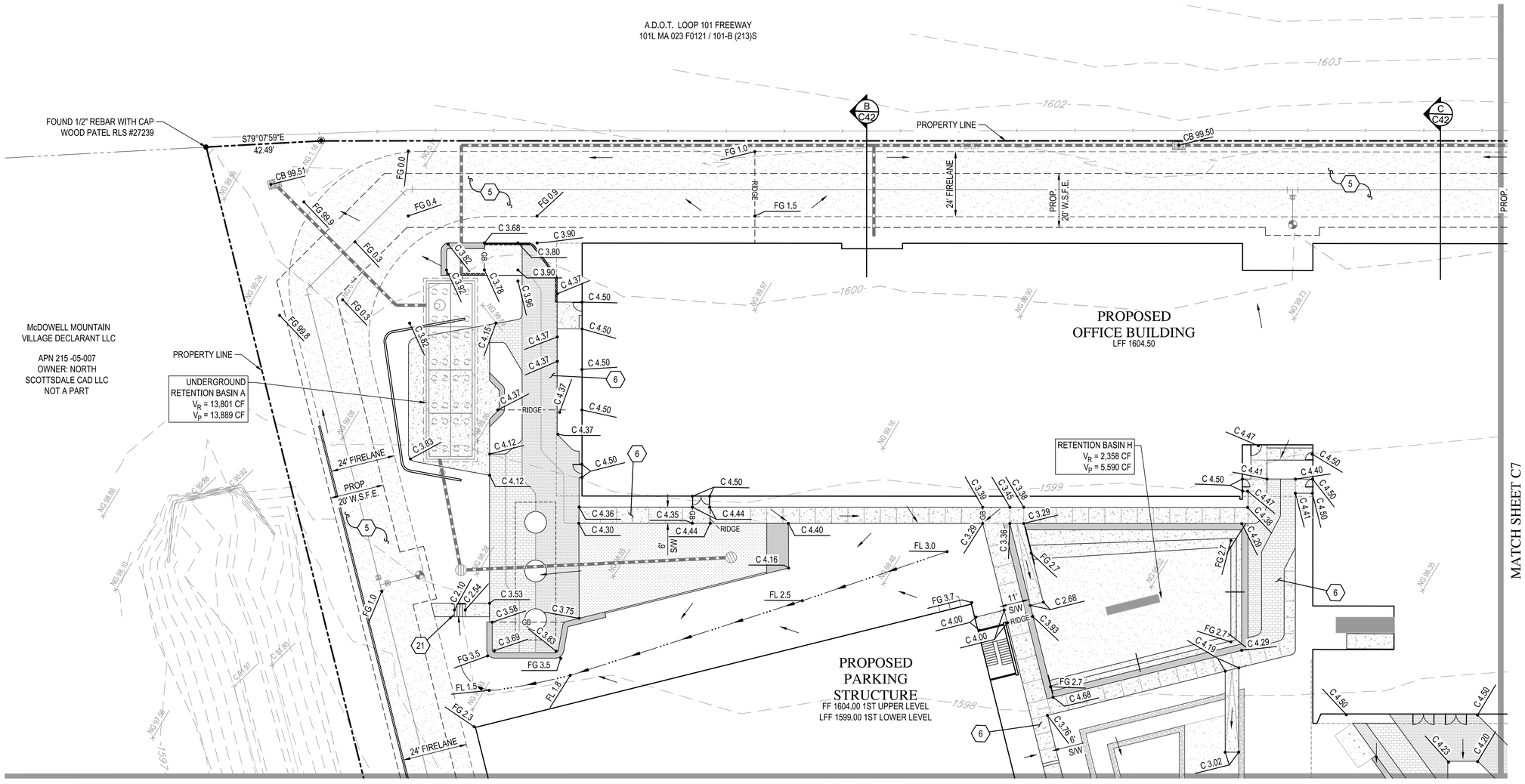
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 40'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C5 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5528-OM-CON.dwg

3-DR-2024



PAVING NOTES

#	
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
21	CONSTRUCT STAIRS. SEE STRUCTURAL PLANS FOR DETAILS.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
DATE SIGNED 08/30/2024
ARIZONA U.S.A.

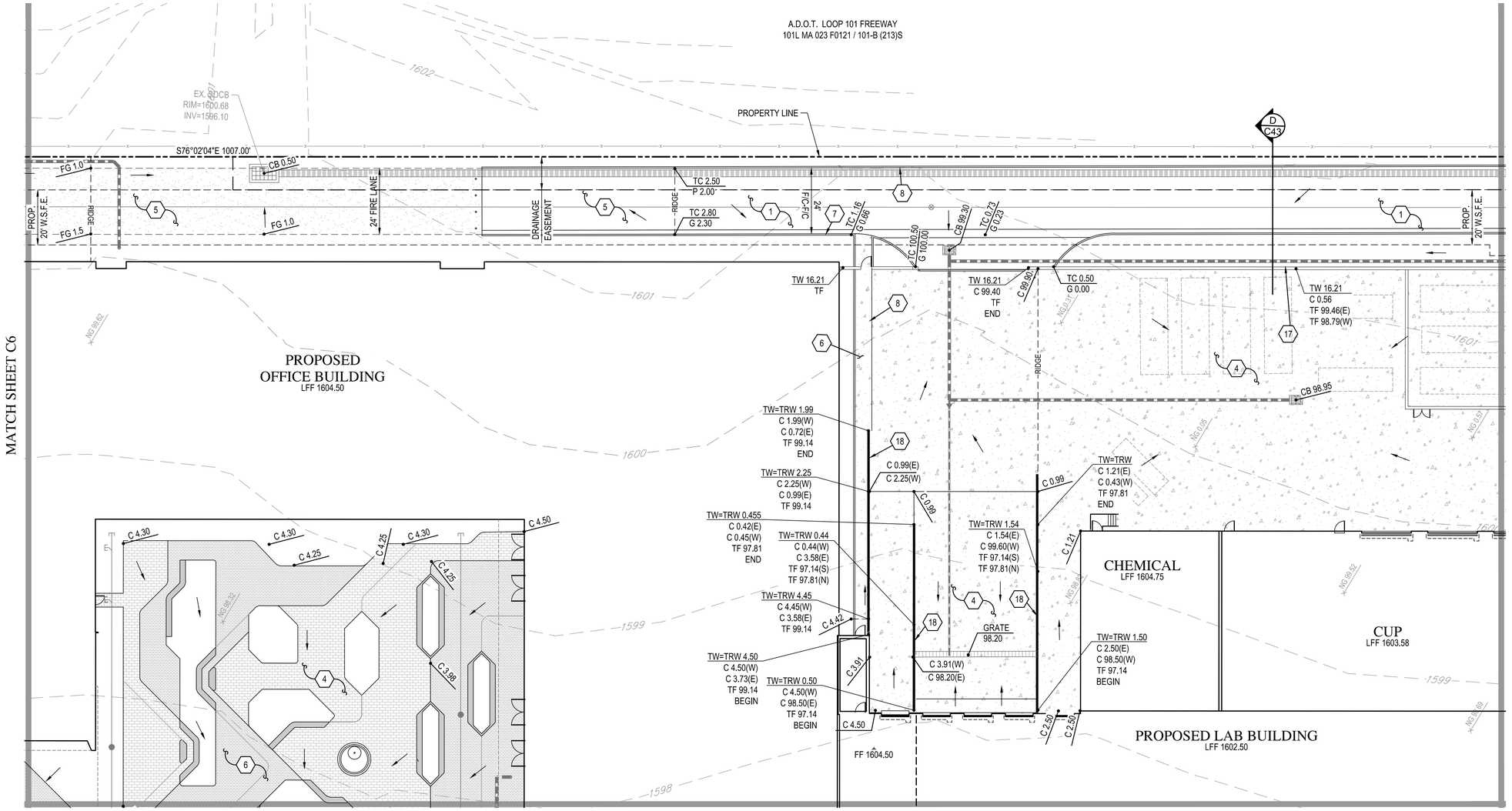
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C6 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-GD-CON.dwg

3-DR-2024



MATCH SHEET C10

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
4	CONSTRUCT CONCRETE PAVEMENT, 7" PCC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
17	CONSTRUCT SCREEN WALL PER HARDSCAPE AND STRUCTURAL PLANS.
18	CONSTRUCT RETAINING WALL PER HARDSCAPE AND STRUCTURAL PLANS. WALL ELEVATIONS PER GRADING PLAN.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
State of Arizona
ARIZONA, U.S.A.

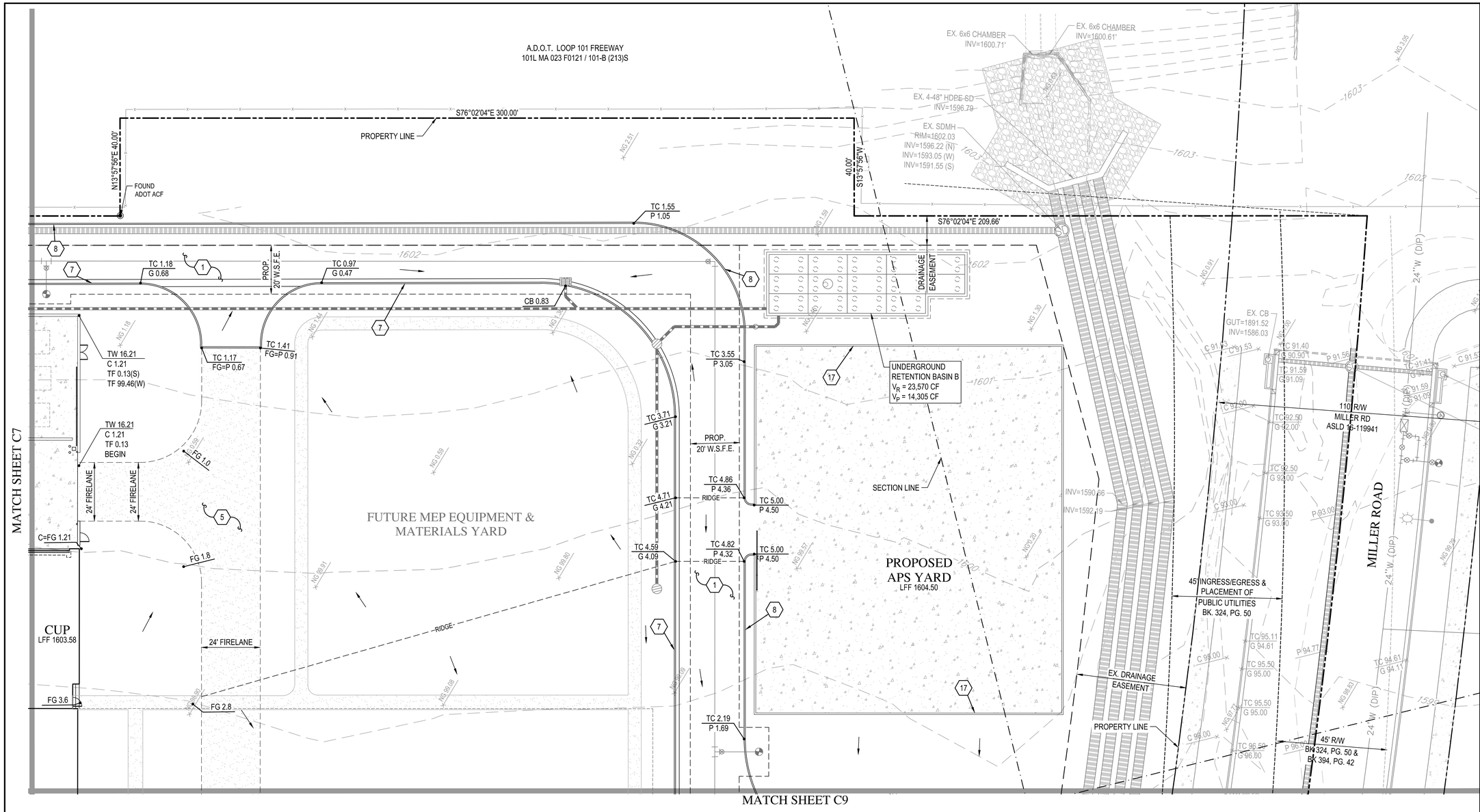
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C7 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-GD-CON.dwg

3-DR-2024



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
17	CONSTRUCT SCREEN WALL PER HARDSCAPE AND STRUCTURAL PLANS.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C8 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\mp5526-GD-CON.dwg

3-DR-2024

MATCH SHEET C8

MATCH SHEET C10

MATCH SHEET C14

SECTION LINE

24' FIRELANE

24' FIRELANE

24' FIRELANE

FUTURE
LAB BUILDING

PROP. 20' W.S.F.E.

PROP. 20' W.S.F.E.

FG 1.3

FG 98.1

FG 97.7

TC 100.32
G 99.82

TC 99.98
G 99.48

TC 97.45
P 96.95

TC 99.71
G 99.24

CO 96.70

TC 98.60
G 98.10

TC 98.47
G 97.97

TC 96.50
G 98.00

S.1/4, SEC. 26, T4N, R4E,
N.1/4, SEC. 35, T4N, R4E
FOUND BLM BCF
STAMPED "T4N R4E 1/4
S26 S35 1995"

MILLER ROAD

L=779.23' R=3730.00' Δ=11°58'10"

PROPERTY LINE

45' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50

45' R/W
BK 324, PG. 50 &
BK 394, PG. 42

GRATE
95.00

EX. DRAINAGE EASEMENT

UNDERGROUND
RETENTION BASIN C
V_R = 33,309 CF
V_P = 34,722 CF

TC 97.15
G 96.65

TC 97.50
G 97.00

TC 97.19
G 96.69

TC 96.50
G 96.00

TC 97.72
G 97.22

EX SDMH
RIM=1597.32
INV=1583.43 (NE)
INV=1583.33 (SW)

HAYDEN LOOP 101 IN

A
C41

24" W (DIP)

12" W (DIP)

1598

1597

1596

1595

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
10	CONSTRUCT CURB OPENING PER DETAIL ON DETAIL SHEET.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

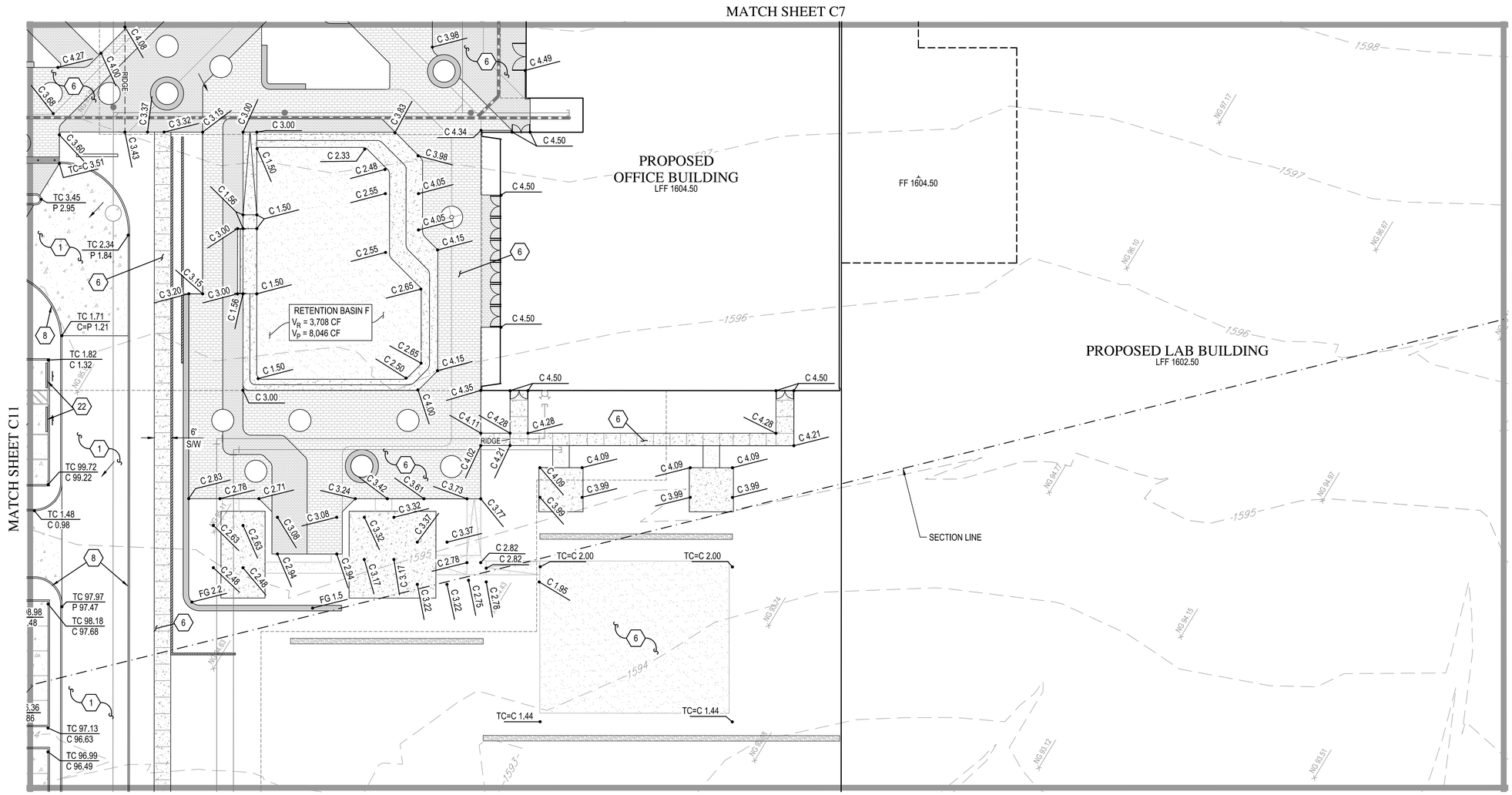
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C9 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\mp\5526-GD-CON.dwg

3-DR-2024



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
22	INSTALL SAFETY CURB PER MAG STD DETAIL 150.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
ARIZONA
EXPIRES 06-30-25

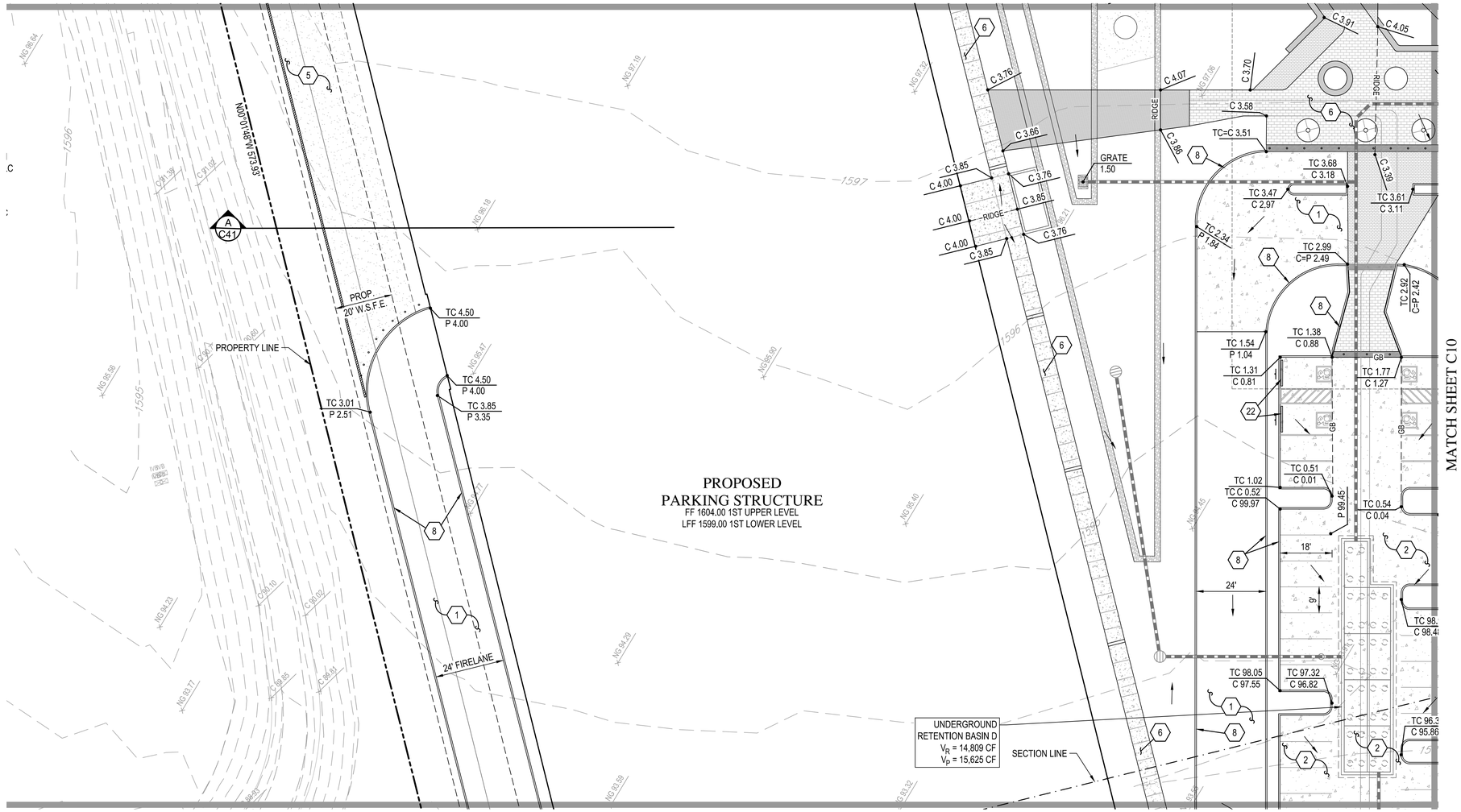
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C10 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-GD-CON.dwg

3-DR-2024

MATCH SHEET C6



MATCH SHEET C12

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
22	INSTALL SAFETY GUARD PER MAG STD DETAIL 150.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/30/24
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C11 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-GD-CON.dwg

3-DR-2024

MATCH SHEET C11

MATCH SHEET C13

PROPERTY LINE

FOUND 1/2" REBAR CAP NOT LEGIBLE

SECTION LINE

N89°58'33"W 1320.42'
N89°58'33"W 2640.90'

24' FIRELANE

TC 96.10
P 95.60

TC 96.46
P 95.96

UNDERGROUND RETENTION BASIN E
V_R = 17,455 CF
V_P = 19,097 CF

McDOWELL MOUNTAIN VILLAGE DECLARANT LLC
APN 215 -05-007
OWNER: NORTH SCOTTSDALE CAD LLC
NOT A PART

S89°58'33"E 257.05'

PROPERTY LINE

PROPOSED
PARKING STRUCTURE
FF 1604.00 1ST UPPER LEVEL
LFF 1599.00 1ST LOWER LEVEL

PROP. 20' W.S.F.E.

TC 93.44
P 92.94

TC 91.62
P 91.12

TC 92.21
G 91.71

TC 98.50
P 98.00

TC 98.50
P 98.00

TC 98.83
P 98.33

P 98.61

TC 98.83
P 98.33

TC 99.11
G 98.61

TC 95.66
C 95.16
P 95.09

TC 95.26
C 94.76

CB 93.44

C 96.81

C 96.74

C 96.96

C 96.96

C 95.52

TC 95.86
P 95.46

P 94.57

P 93.85

TC 94.52
C 94.02

TC 94.98
C 94.48

C 95.45

C 94.97

C 94.97

C 94.11

C 93.97

TC 94.72
P 94.22

C 96.99

TC 95.99
P 95.49

TC 94.65
P 94.15

C 94.63

5' S/W

C 93.90

TC 93.78
P 93.28

PROP. 20' W.S.F.E.

TC 91.68
G 91.18

TC 91.94
G 91.44

TC 92.07
G 91.57

PROPERTY LINE

55.03' R.O.W.

RIGHT OF WAY EASEMENT

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

55' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50, M.C.R.

16"W (DIP)

EX 27"S (HOBAS)

N75°09'57"W 645.72'

MAYO BOULEVARD

EX. SSMH
RIM=1589.93
INV IN=1570.70
INV OUT=1570.60

EX. 18" SD
INV=1587.70

DRAINAGE EASEMENT

ARIZONA STATE LAND DEPT
APN 215 -07-004F
OWNER: ARIZONA LAND DEPT
NOT A PART

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

Z:\2023\235526\Dwg\Conceptual\mp\5526-GD-CON.dwg

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
DATE SIGNED
ARIZONA, U.S.A.

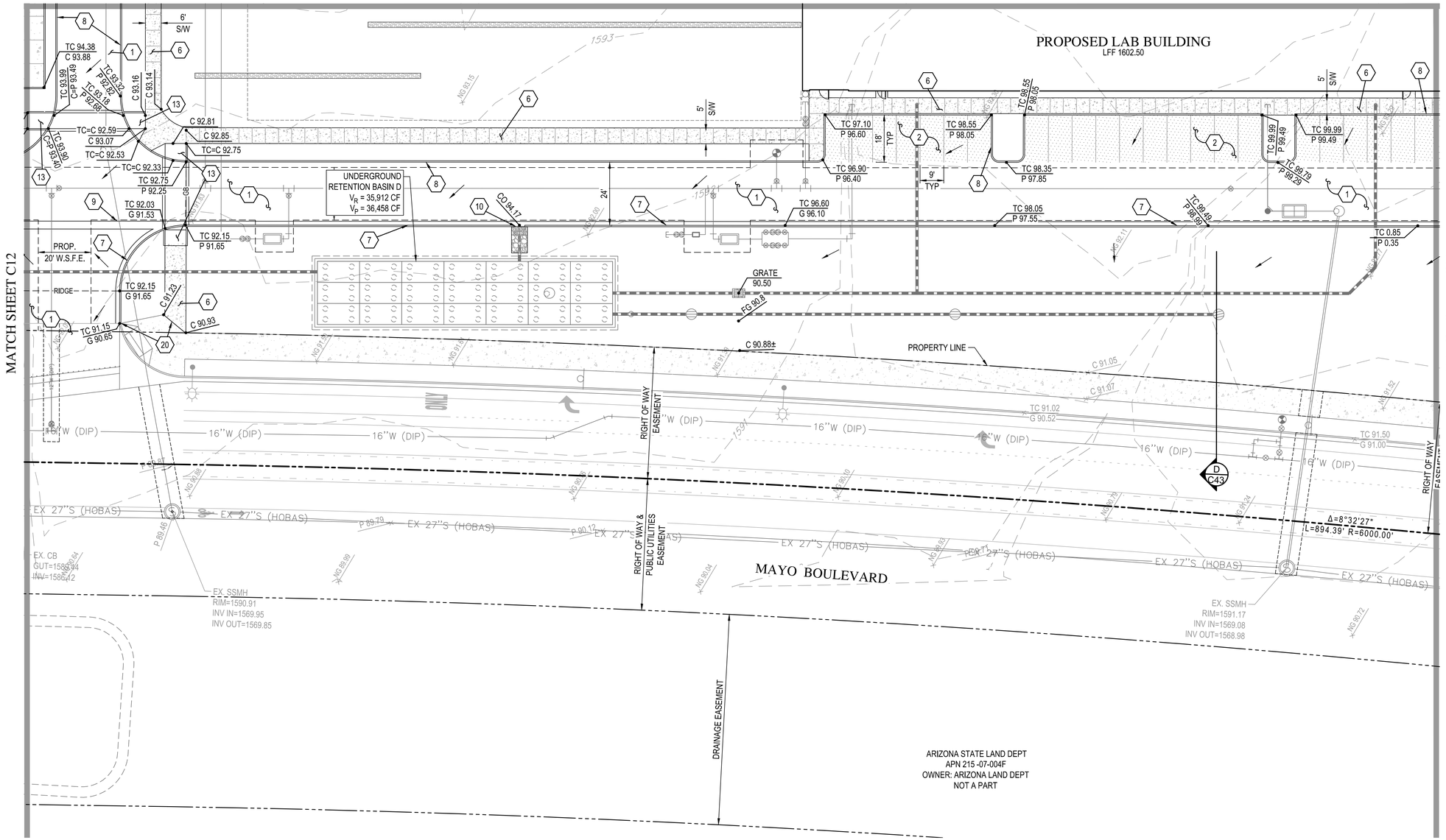
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C12 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

3-DR-2024

MATCH SHEET C10



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
9	CONSTRUCT VALLEY GUTTER PER MAG STD DETAIL 240, MODIFIED TO 3' WIDTH.
10	CONSTRUCT CURB OPENING PER DETAIL ON DETAIL SHEET.
13	CONSTRUCT CURB RAMP PER DETAIL ON DETAIL SHEET. ALL RAMPS MUST MEET ADA ACCESSIBILITY GUIDELINES (ADAAG). 2% MAX CROSS SLOPE AND 12:1 MAX LONGITUDINAL SLOPE.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2025
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C13 OF 43

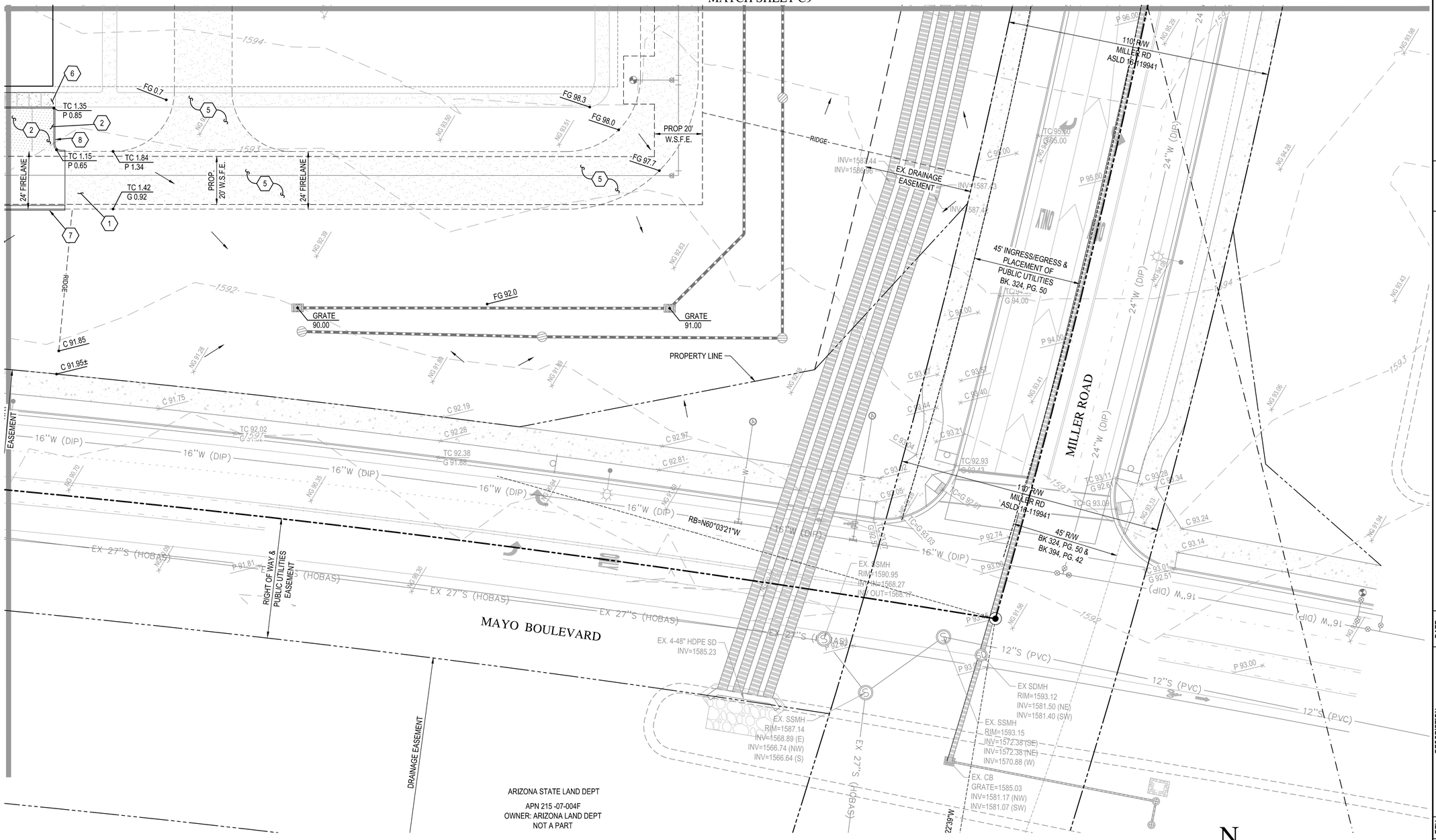
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-GD-CON.dwg

3-DR-2024

MATCH SHEET C9

MATCH SHEET C13



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
ARIZONA, U.S.A.

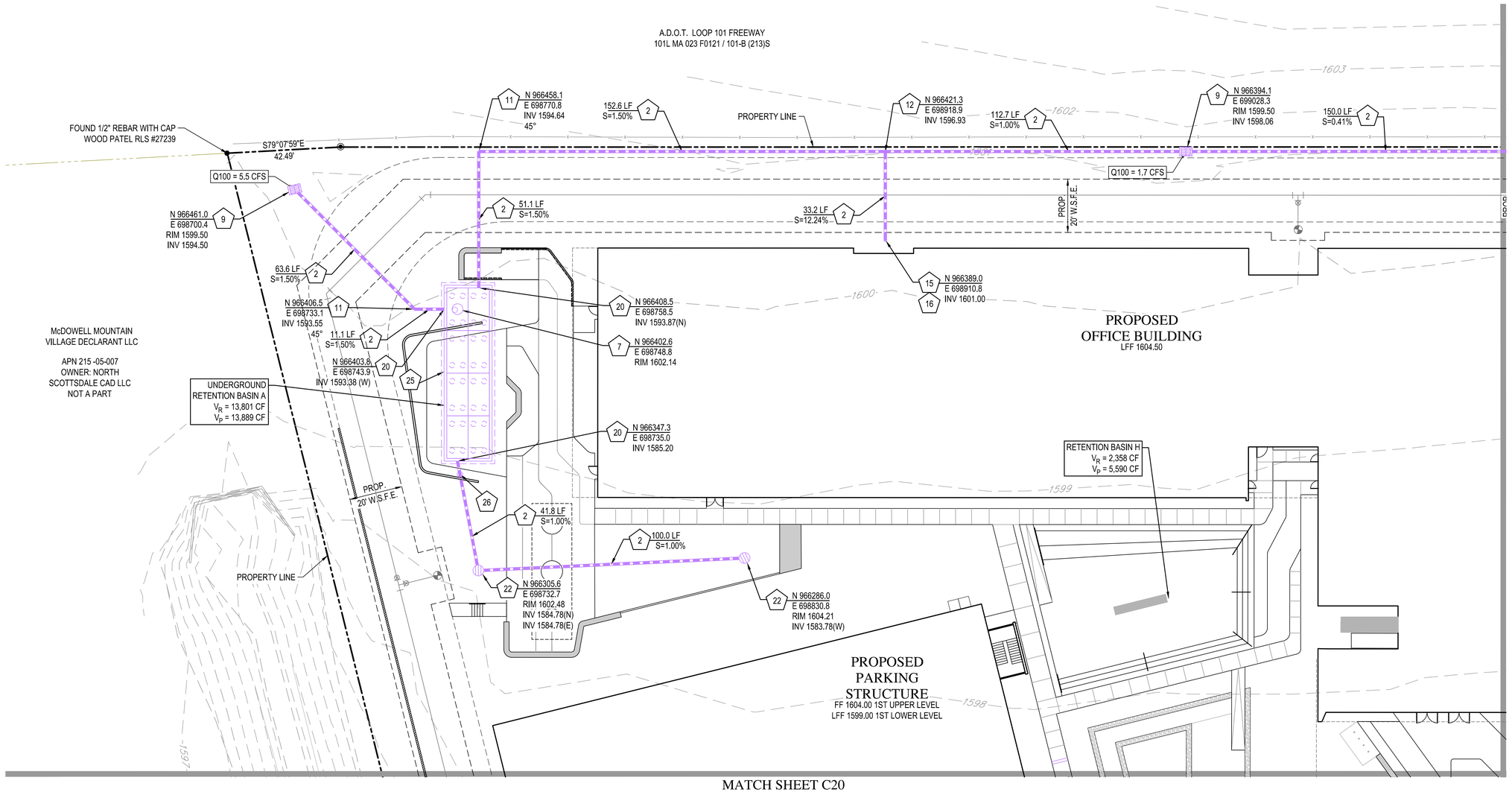
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C14 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\526-GD-CON.dwg

3-DR-2024



STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/30/2025
ARIZONA

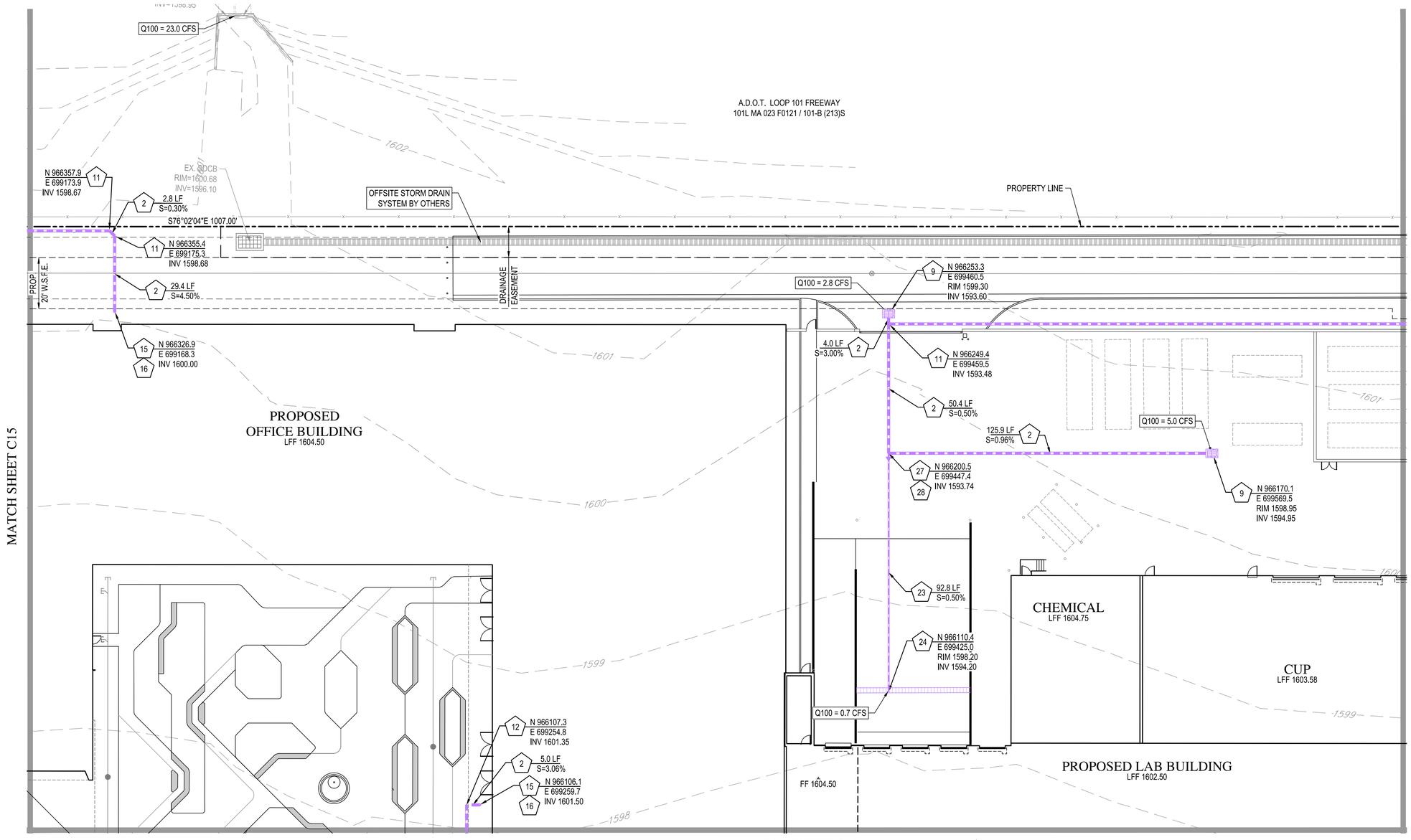
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C15 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024



STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
23	INSTALL 8" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
24	INSTALL JAY R. SMITH 9879 TRENCH DRAIN SYSTEM WITH MATCHING POWERLOK SLOTTED DUCTILE IRON GRATE.
27	INSTALL REDUCER, SIZE PER ADJOINING PIPE DIAMETER.
28	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.

N

0 20 40

Horz. 1 in. = 20 ft.

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

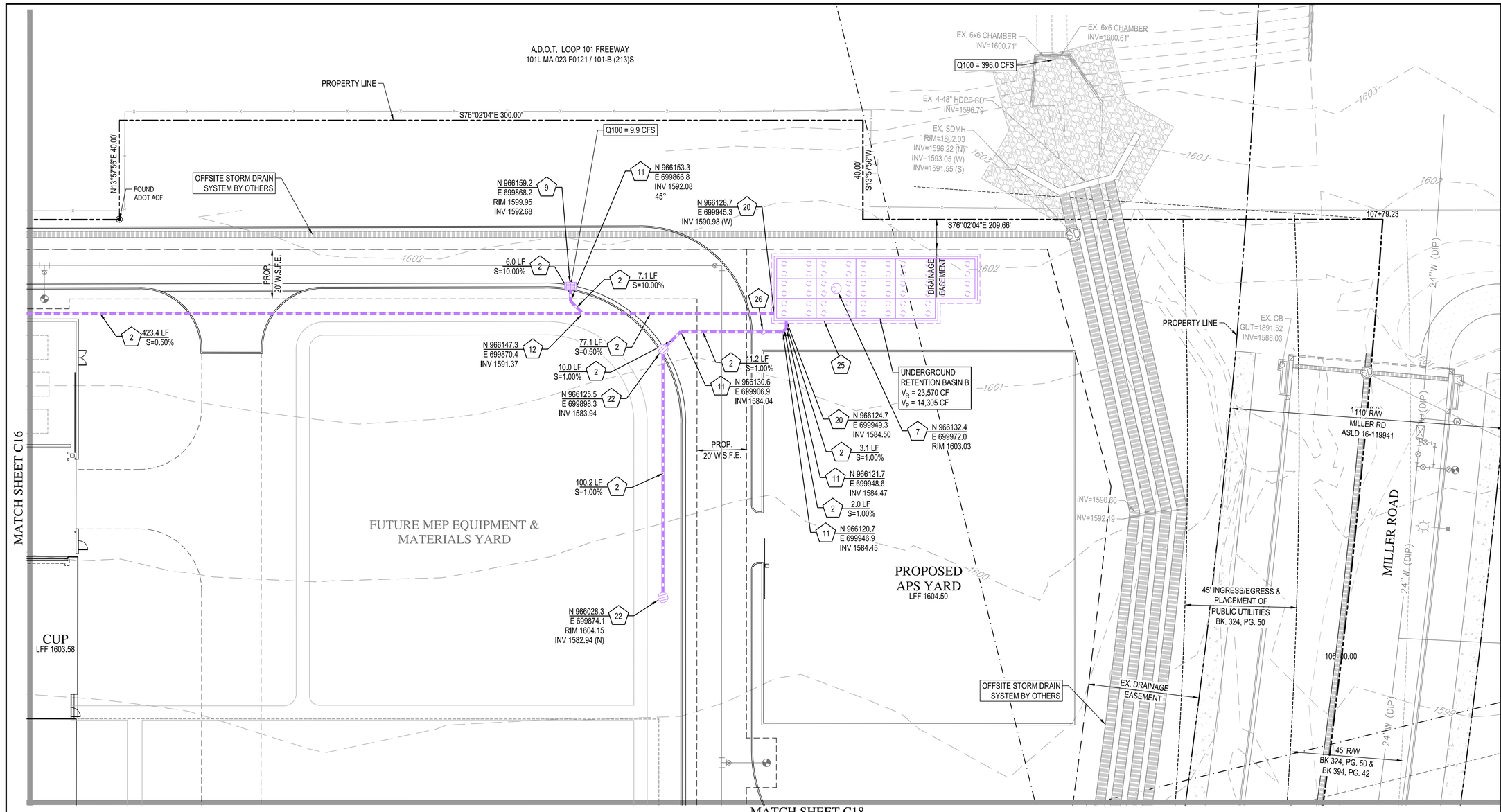
Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/2024
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C16 OF 43

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024



STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

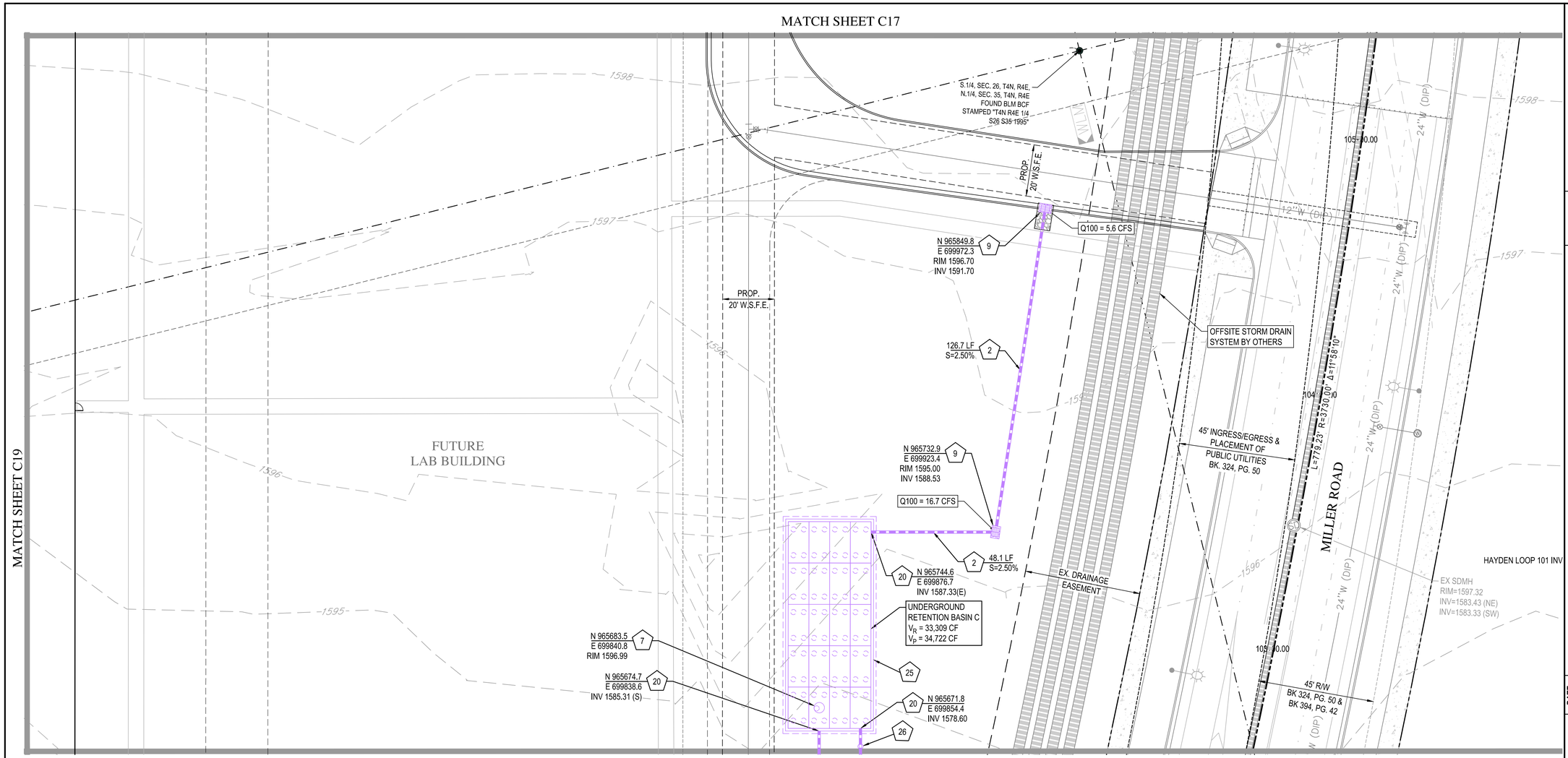
Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C17 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024



STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/24
ARIZONA, U.S.A.

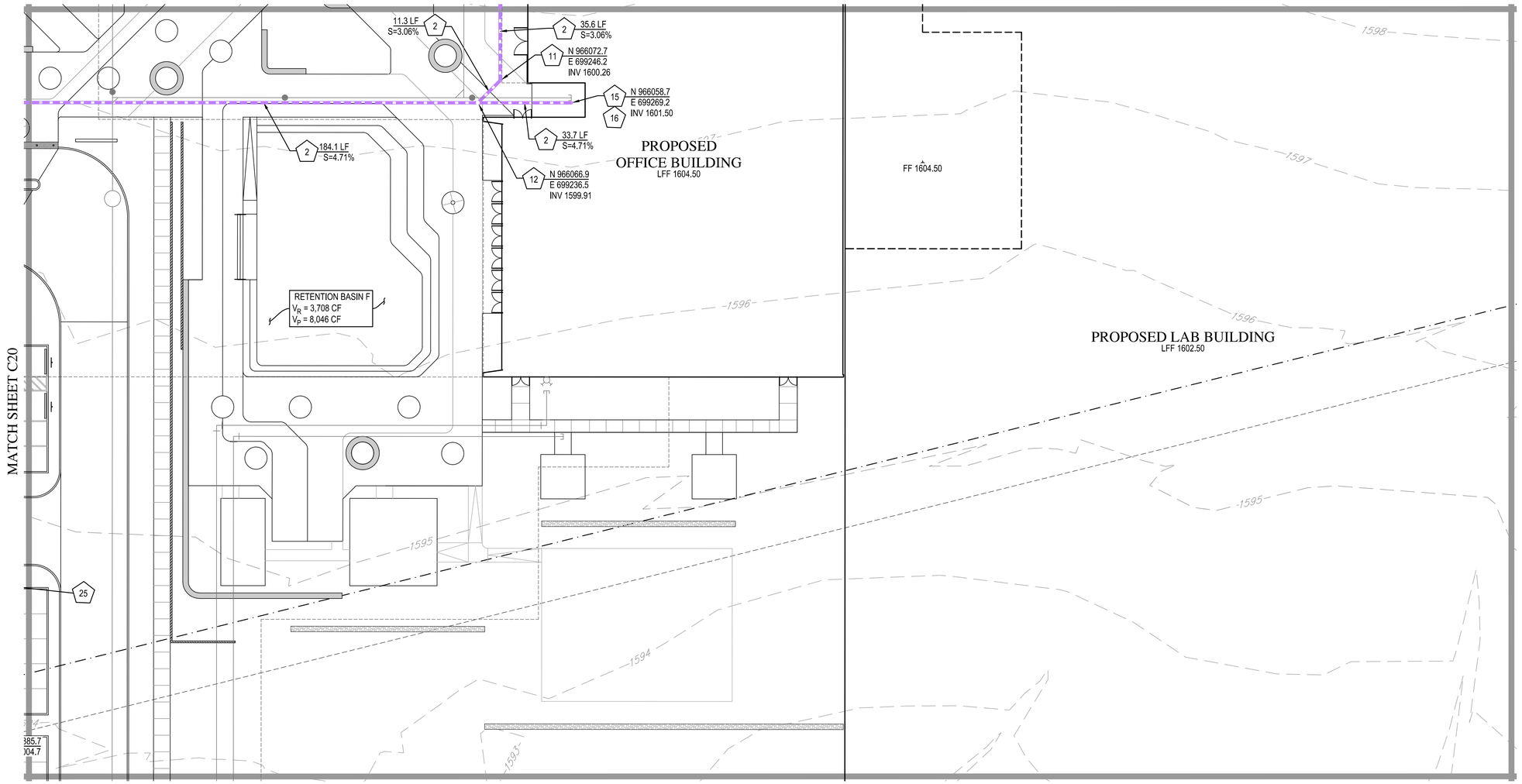
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C18 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024



STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
State of Arizona

EXPIRES 06-30-25

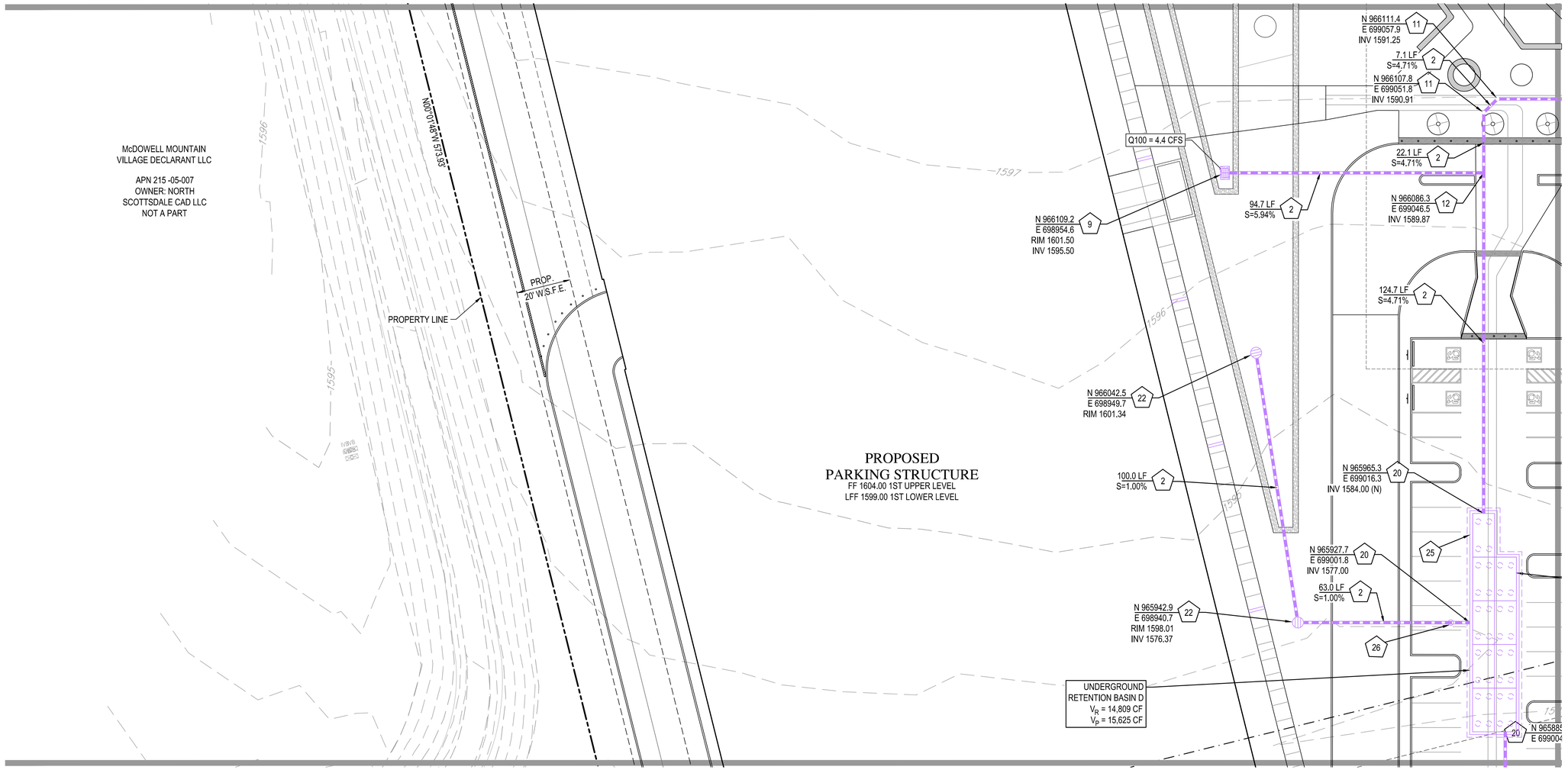
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C19 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\mp\5526-SD-CON.dwg

3-DR-2024

MATCH SHEET C15



MATCH SHEET C21

STORM DRAIN NOTES

2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L. MOORE
OREGON
ARIZONA
EXPIRES 06-30-25

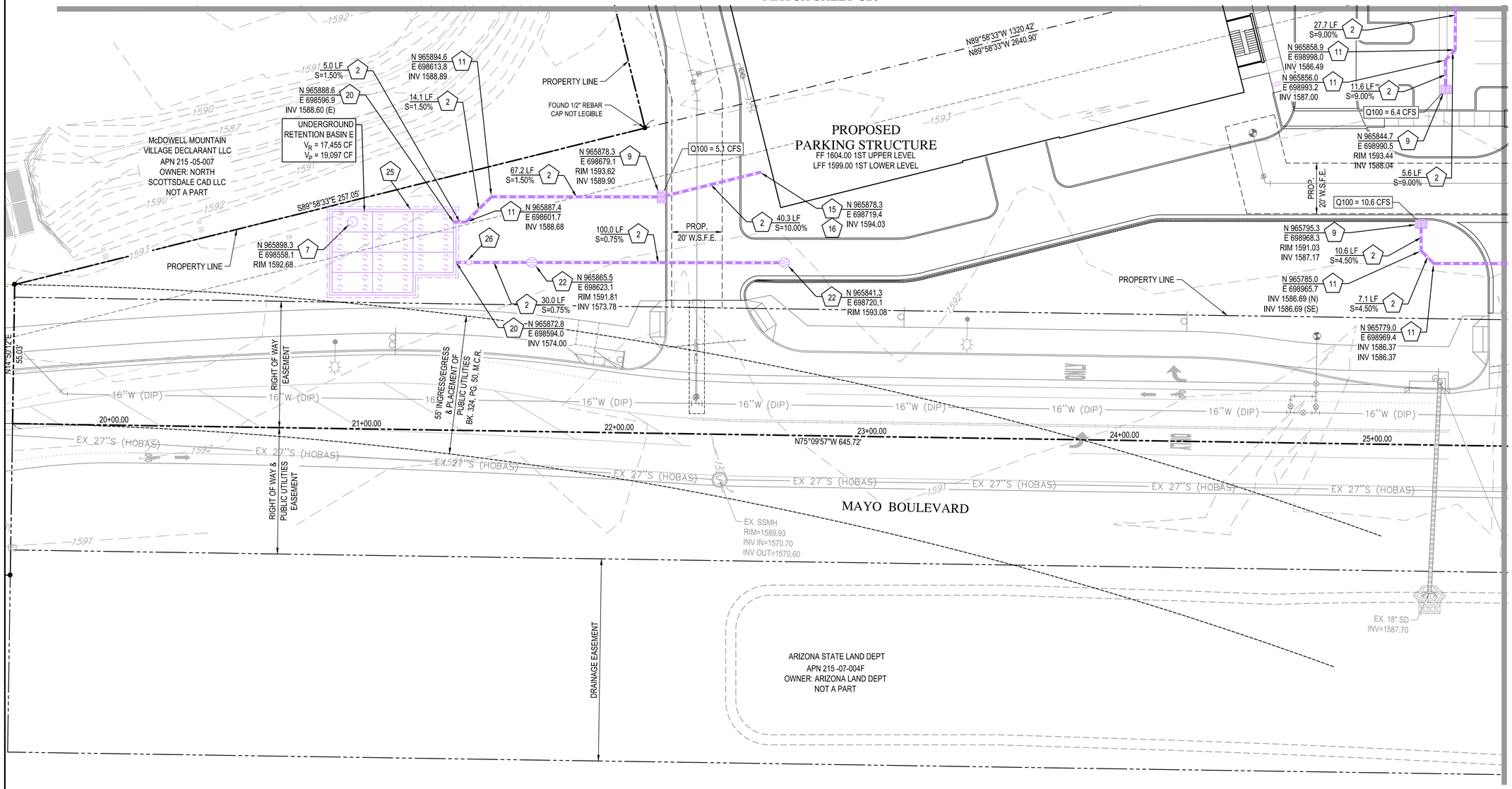
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C20 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024

MATCH SHEET C20



MATCH SHEET C22

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (AZ)
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/30/2025
REGISTERED
ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C21 OF 43

Z:\2023\235526\Dwg\Conceptual\Imp\526-SD-CON.dwg

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

MATCH SHEET C19

MATCH SHEET C21

MATCH SHEET C23

PROPOSED LAB BUILDING
LFF 1602.50

N 965752.4
E 699339.4
INV 1600.50

N 965710.3
E 699508.2
INV 1600.50

N 965742.2
E 699181.4
RIM 1594.15
INV 1581.32

UNDERGROUND RETENTION BASIN D
V_R = 35,912 CF
V_P = 36,458 CF

Q100 = 6.0 CFS

47.8 LF S=4.75%

11.5 LF S=10.02%

N 965710.8
E 699210.0
INV 1581.16 (E)

N 965731.0
E 699178.6
INV 1580.16 (N)

61.7 LF S=8.00%

71.7 LF S=19.34%

PROP. 20' W.S.F.E.

138.0 LF S=4.50%

N 965745.6
E 699103.3
INV 1580.16 (W)

N 965716.6
E 699186.8
RIM 1592.16

N 965699.2
E 699256.4
RIM 1590.50
INV 1583.43

67.7 LF S=4.75%

Q100 = 3.3 CFS

N 965682.8
E 699322.1
INV 1586.64

163.9 LF S=4.75%

N 965650.4
E 699493.3
INV 1595.57

14.1 LF S=8.00%

N 965643.2
E 699481.2
INV 1594.43

N 965703.0
E 699208.1
INV 1573.65

N 965695.8
E 699237.2
RIM 1591.50
INV 1573.35

30.0 LF S=1.00%

100.0 LF S=1.00%

N 965671.6
E 699334.2
RIM 1593.54
INV 1572.35

100.0 LF S=1.00%

N 965647.4
E 699431.2
RIM 1595.07

PROPERTY LINE

RIGHT OF WAY EASEMENT

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

DRAINAGE EASEMENT

16"W (DIP)

EX 27"S (HOBAS)

26+00.00
27+00.00
28+00.00
29+00.00
30+00.00

Δ=8°32'27"
L=894.39' R=6000.00'

MAYO BOULEVARD

EX. CB
GUT=1589.44
INV=1586.12

EX. SSMH
RIM=1590.91
INV IN=1569.95
INV OUT=1569.85

EX. SSMH
RIM=1591.17
INV IN=1569.08
INV OUT=1568.98

ARIZONA STATE LAND DEPT
APN 215 -07-004F
OWNER: ARIZONA LAND DEPT
NOT A PART

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40
Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 06/30/24
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C22 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024

MATCH SHEET C18

MATCH SHEET C22

PROP. 20' W.S.F.E.

2 46.0 LF S=1.00%

22 N 965627.2 E 699843.2 RIM 1595.90 INV 1578.14

101.7 LF S=1.25% 2

2 100.0 LF S=1.00%

N 965576.1 E 699813.9 INV 1586.58 11

43.7 LF S=1.25% 2

9 N 965591.1 E 699626.2 RIM 1590.66 INV 1589.06

154.8 LF S=1.25% 2

N 965553.6 E 699776.4 RIM 1591.00 INV 1587.12 9

Q100 = 4.6 CFS

Q100 = 4.4 CFS

22 N 965530.2 E 699818.9 RIM 1592.08 INV 1577.14

22 N 965581.1 E 699625.6 RIM 1590.60 INV 1575.14 (E)

100.0 LF S=1.00% 2

N 965554.9 E 699722.0 RIM 1592.04 INV 1576.14 22

100.0 LF S=1.00% 2

PROPERTY LINE

EASEMENT

16"W (DIP)

31+00.00

32+00.00

33+00.00

34+00.00

RB=N60°03'21"W

EX 27"S (HOBAS)

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

MAYO BOULEVARD

DRAINAGE EASEMENT

ARIZONA STATE LAND DEPT

APN 215 -07-004F
OWNER: ARIZONA LAND DEPT
NOT A PART

EX. 4-48" HDPE SD INV=1585.23

Q100 = 419.0 CFS

EX. SSMH RIM=1587.14 INV=1568.89 (E) INV=1566.74 (NW) INV=1566.64 (S)

EX. SSMH RIM=1590.95 INV IN=1568.27 INV OUT=1568.17

EX. SSMH RIM=1593.15 INV=1572.38 (SE) INV=1572.38 (NE) INV=1570.88 (W)

EX. CB GRATE=1585.03 INV=1581.17 (NW) INV=1581.07 (SW)

EX SDMH RIM=1593.12 INV=1581.50 (NE) INV=1581.40 (SW)

S23°22'39"W

12"S (PVC)

EX. DRAINAGE EASEMENT

OFFSITE STORM DRAIN SYSTEM BY OTHERS

110' R/W MILLER RD ASLD 16-119941

45' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50

45' R/W BK 324, PG. 50 & BK 394, PG. 42

MILLER ROAD

24"W (DIP)

102+00.00

101+00.00

36+00.00

1591 1592 1593 1594

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.

N

0 20 40

Horz. 1 in. = 20 ft.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
ARIZONA

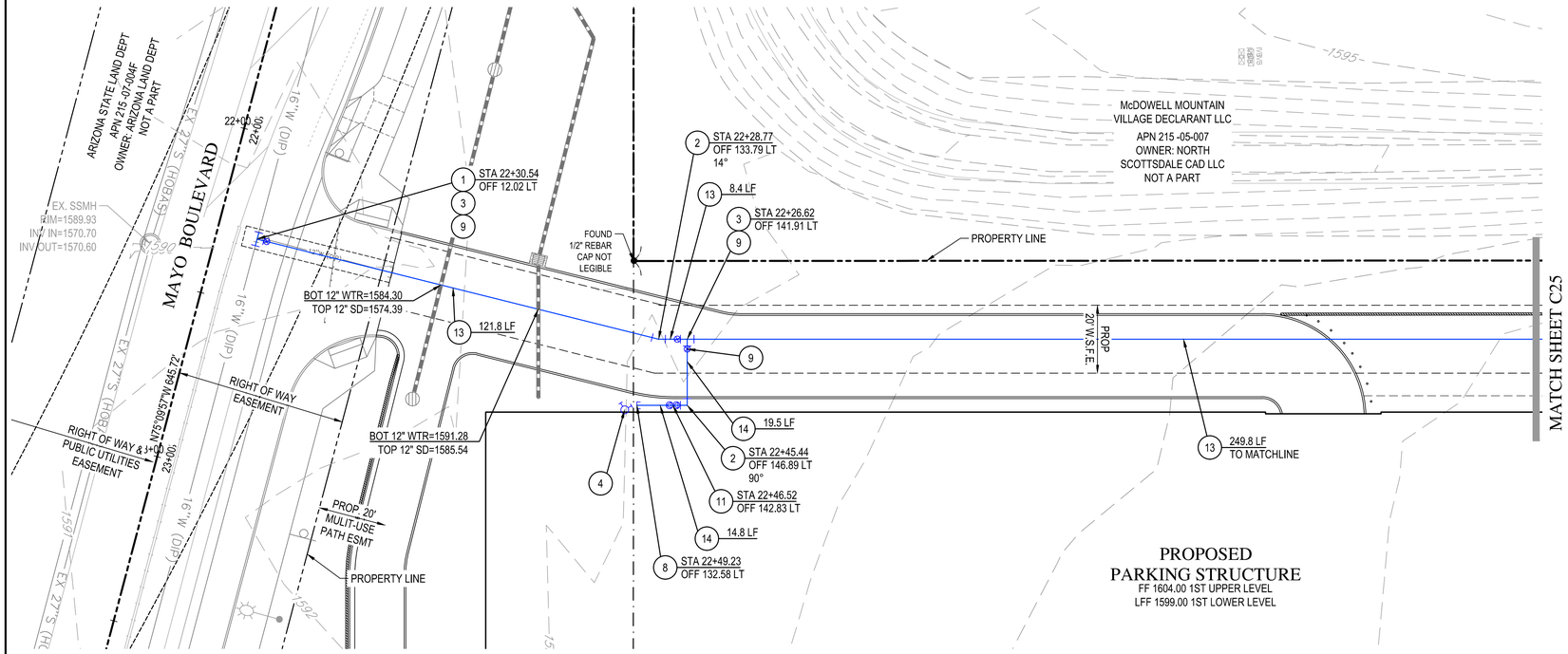
EXPIRES 06-30-25

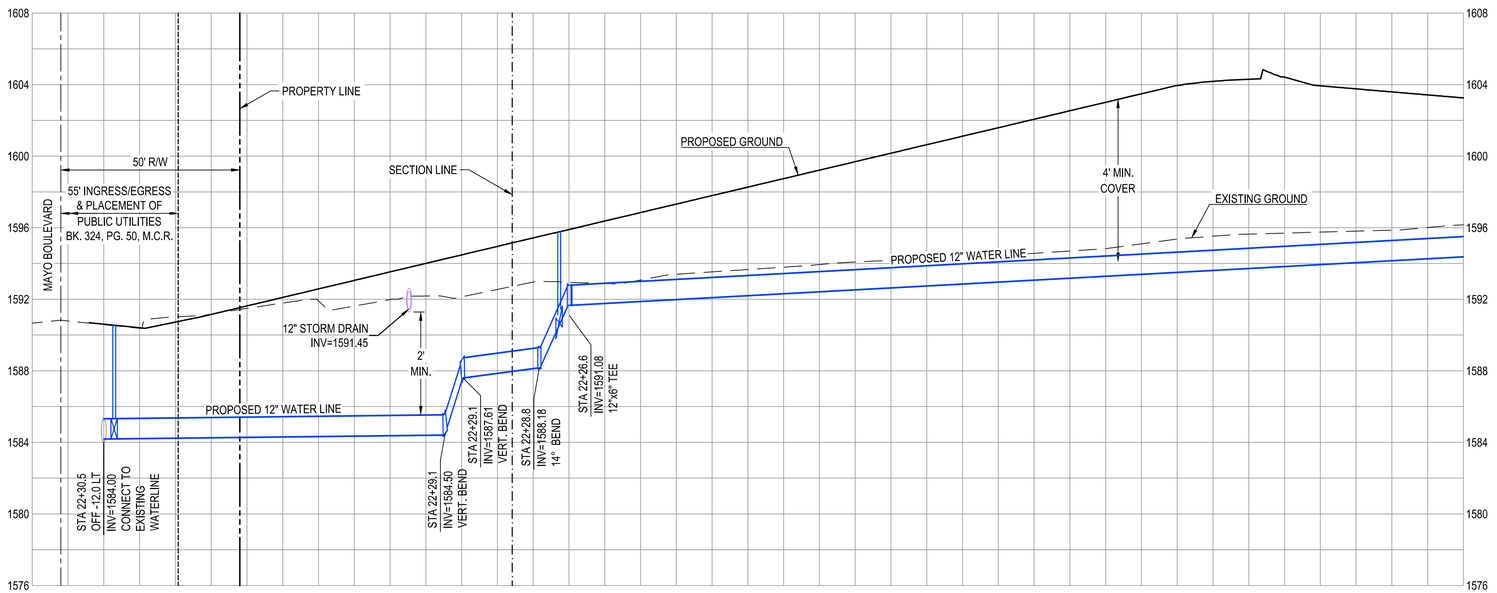
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C23 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SD-CON.dwg

3-DR-2024





WATER NOTES

#	
1	CUT AND CONNECT TO EXISTING WATER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE, SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
11	INSTALL 6" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2351.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

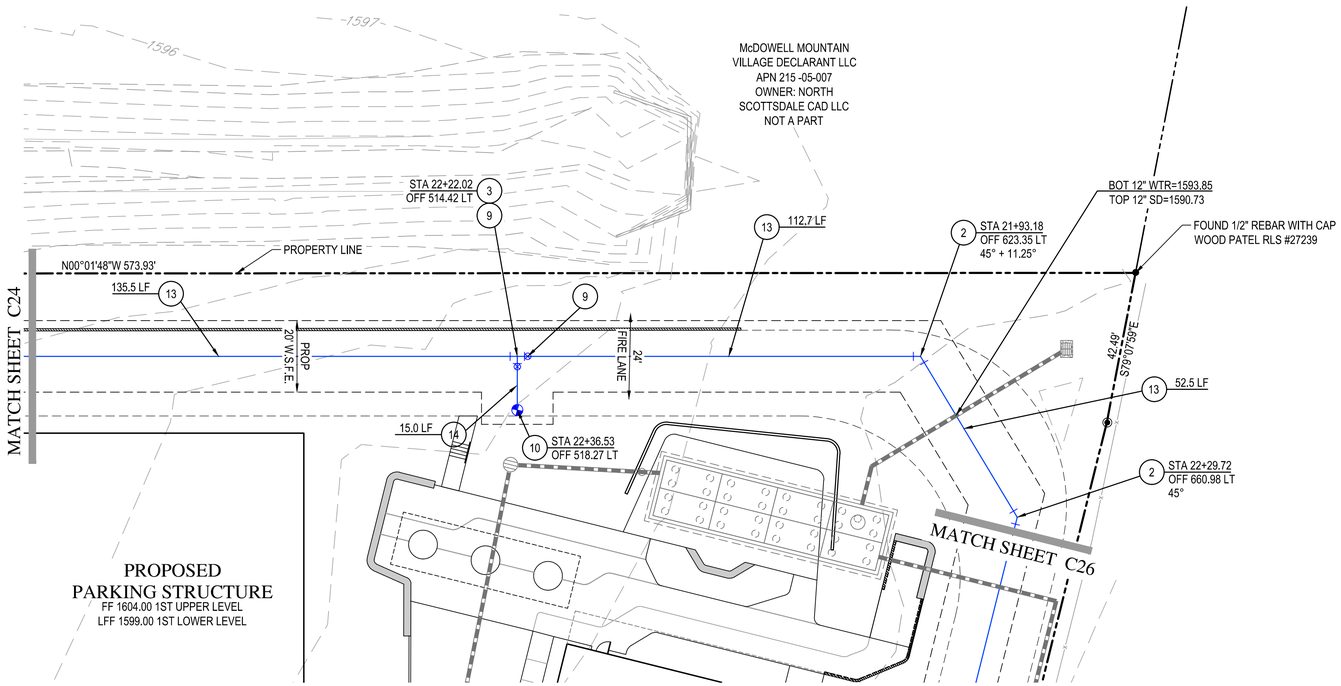
Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 08/30/2024
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C24 OF 43

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

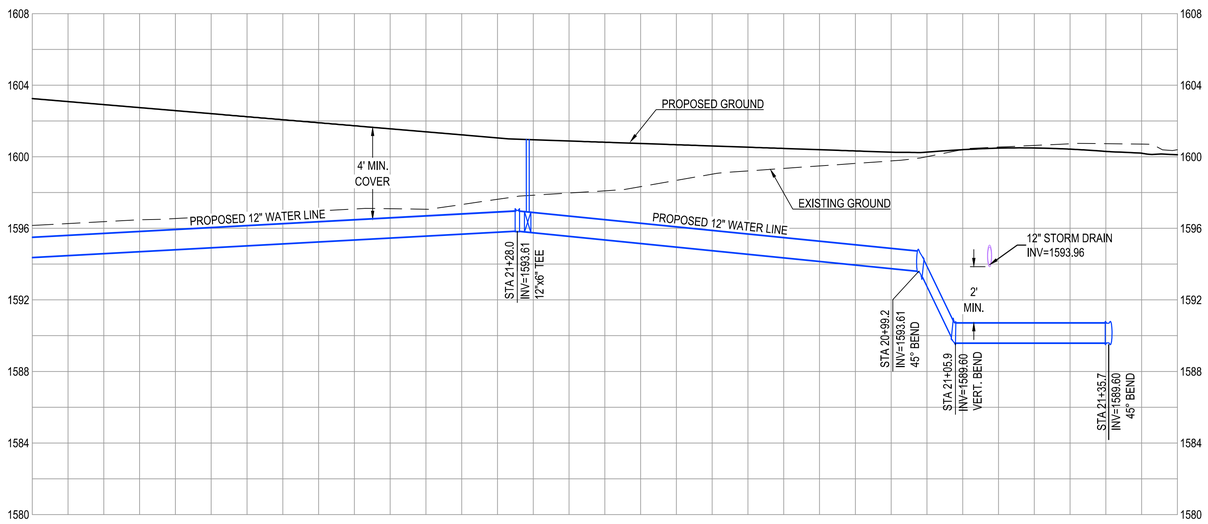
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS



A.D.O.T. LOOP 101 FREEWAY
101L MA 023 F0121 / 101-B (213)S

WATER NOTES

#	
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.



WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L.
MOORE
EXPIRES 06-30-25
ARIZONA, U.S.A.

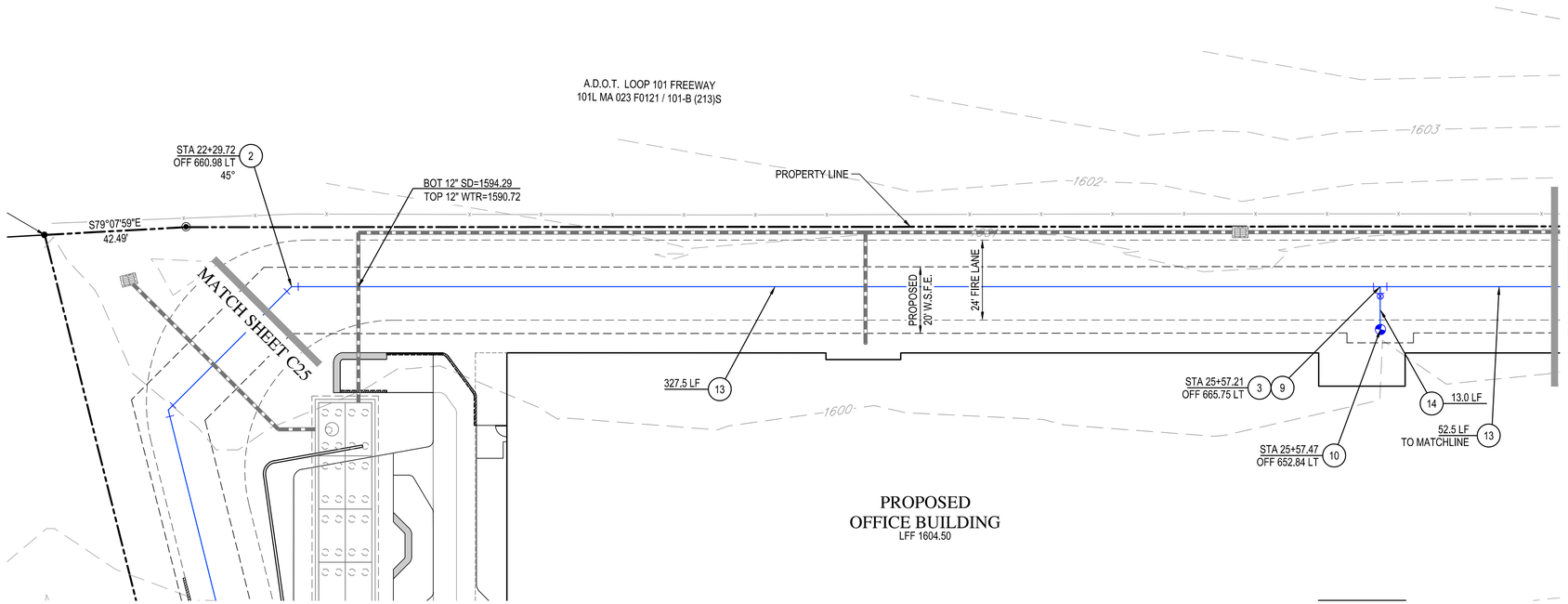
EXPIRES 06-30-25

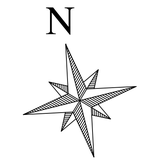
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C25 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

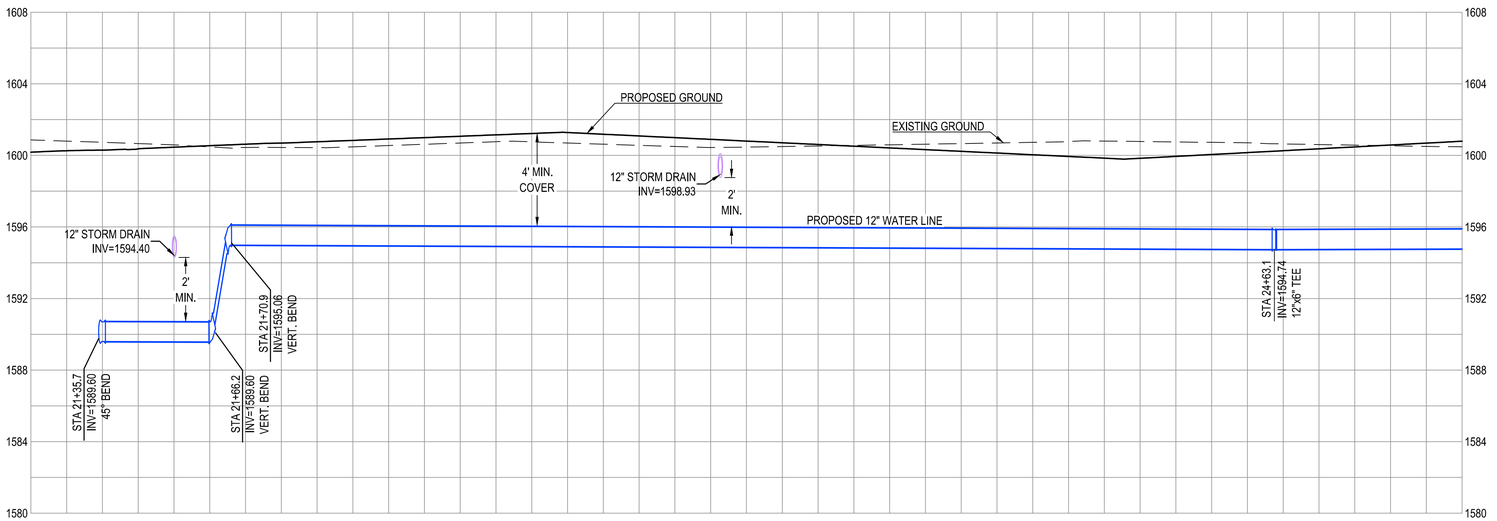
3-DR-2024





WATER NOTES

#	
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER, INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.



WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/24
ARIZONA, U.S.A.

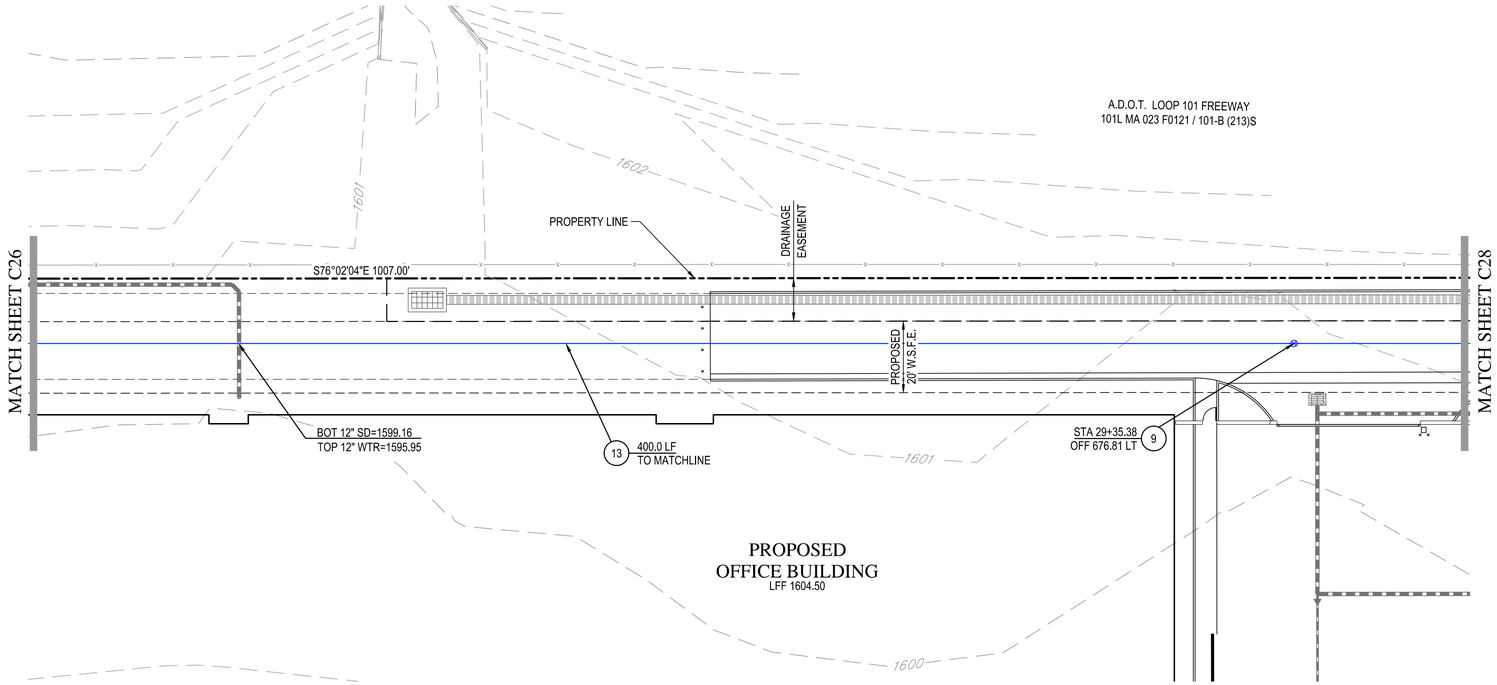
EXPIRES 06-30-25

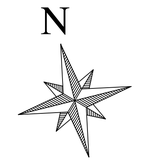
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C26 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

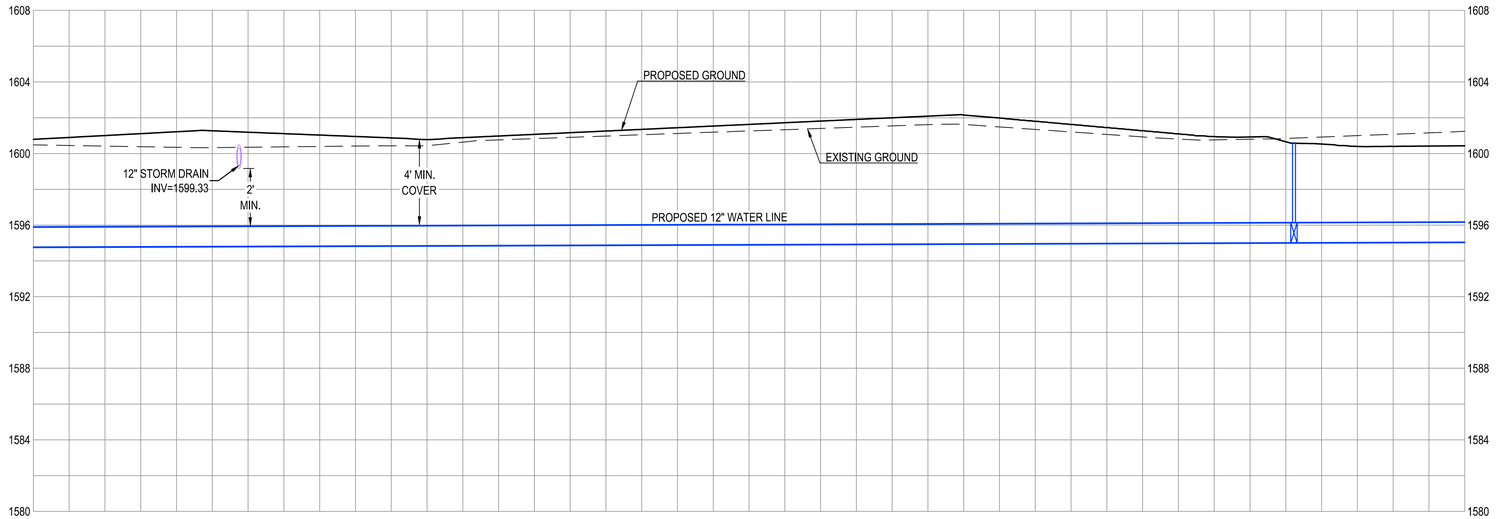
3-DR-2024





0 20 40

Horz. 1 in. = 20 ft.
Vert. 1 in. = 4 ft.



(#) WATER NOTES

9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA U.S.A.

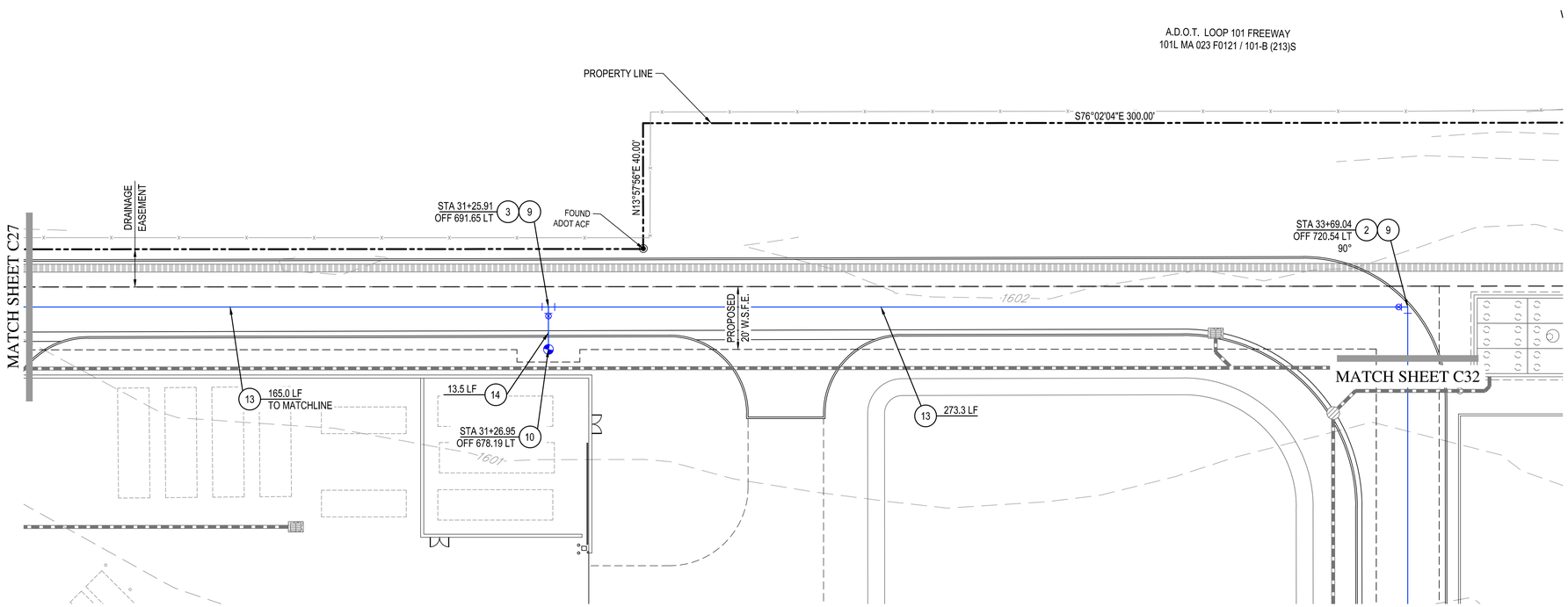
EXPIRES 06-30-25

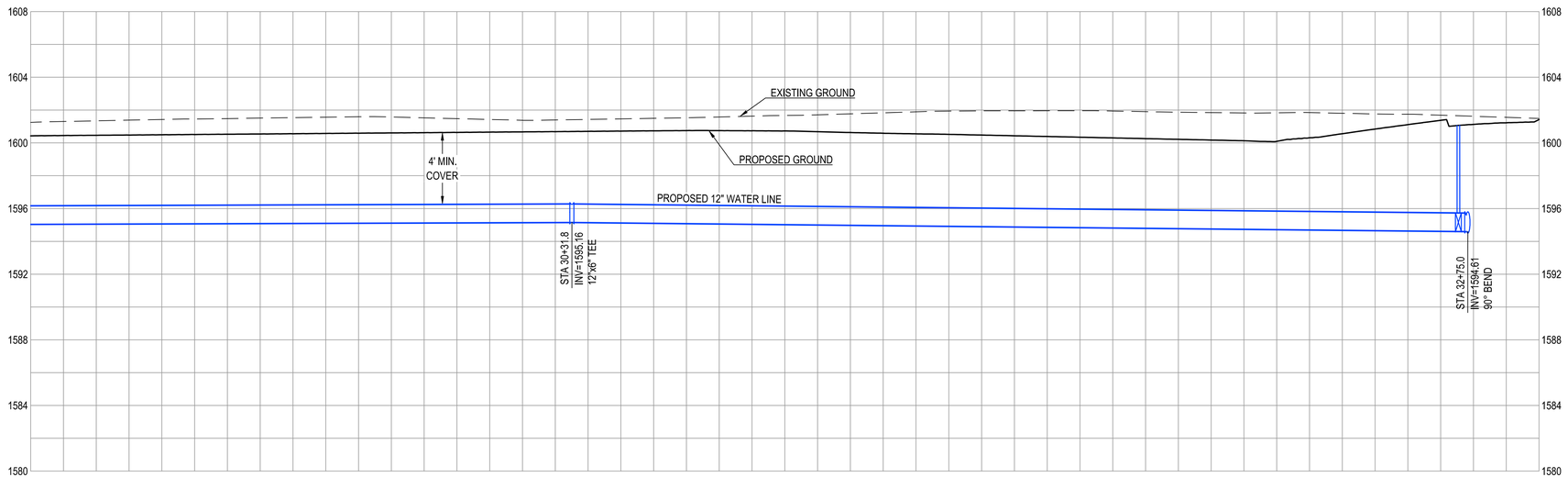
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C27 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024





N

0 20 40

Horz. 1 in. = 20 ft.
Vert. 1 in. = 4 ft.

(#) WATER NOTES

2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER, INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L. MOORE
08/30/2024
ARIZONA, U.S.A.

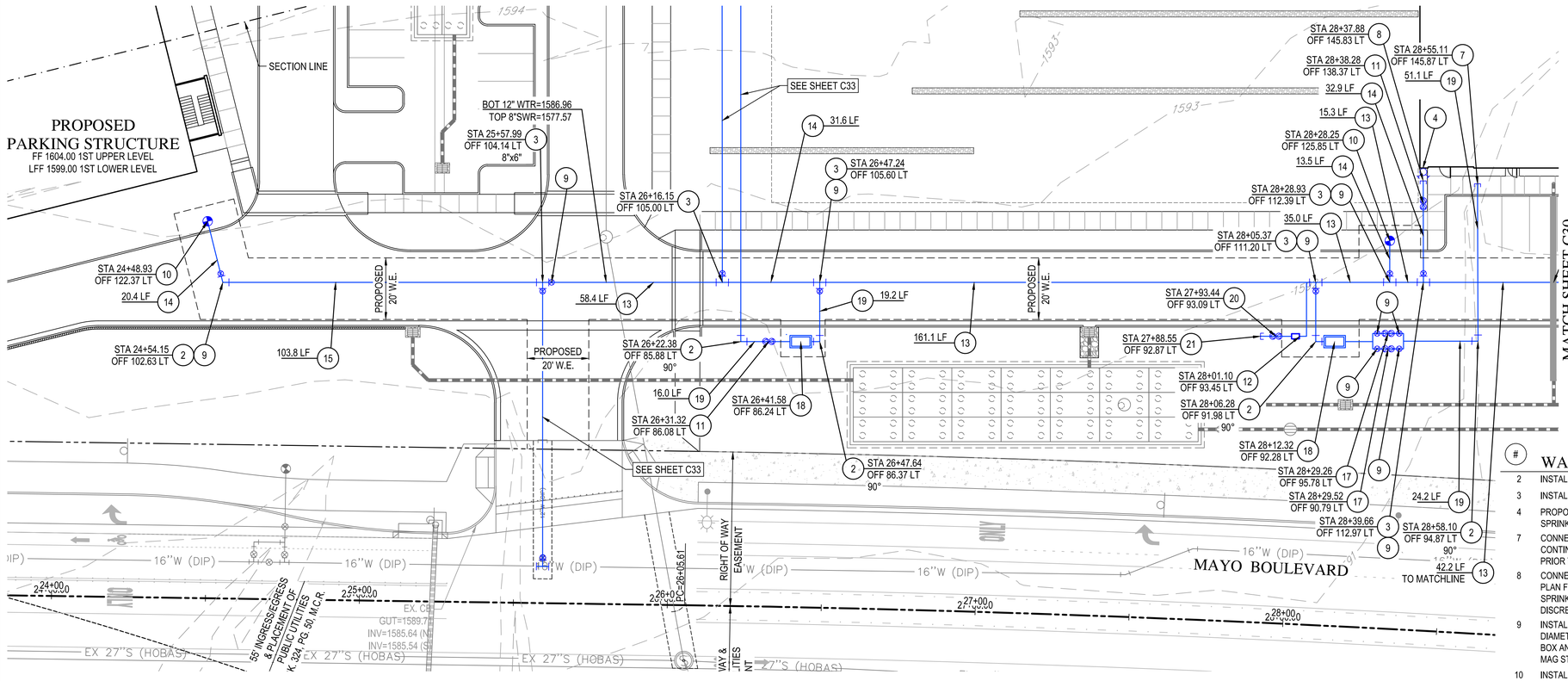
EXPIRES 06-30-25

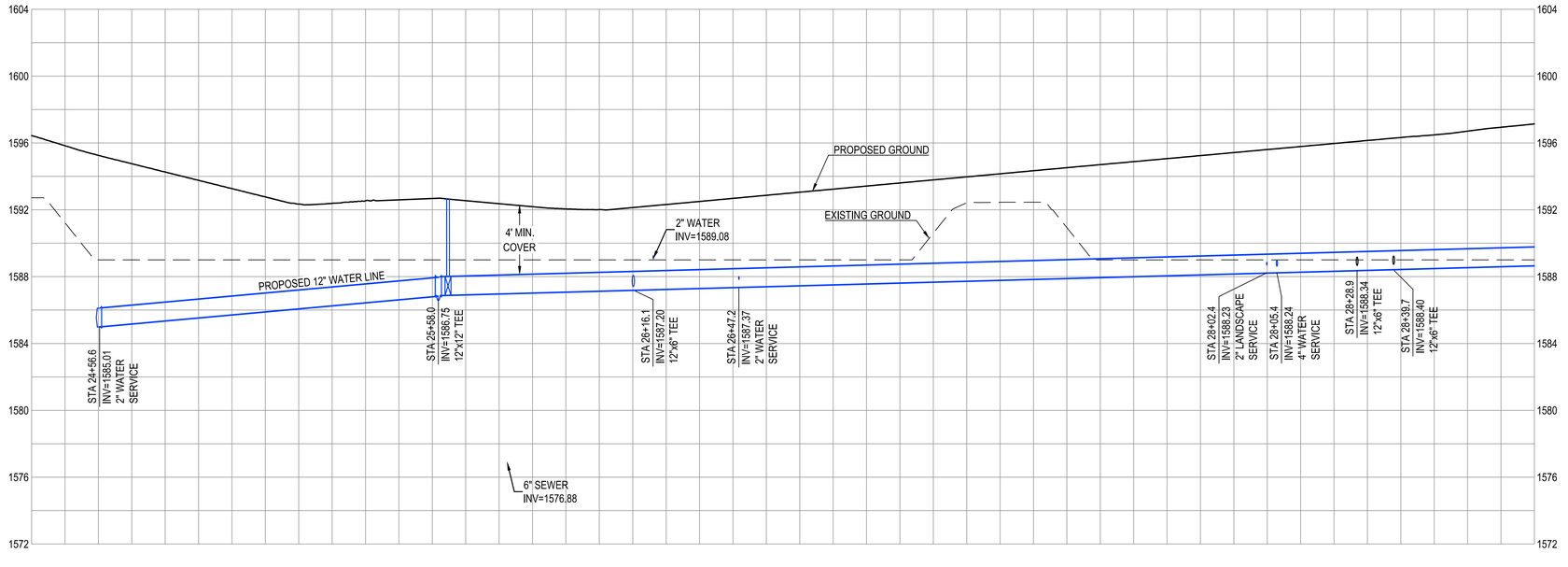
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C28 OF 43

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

3-DR-2024





WATER NOTES

#	
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
7	CONNECT TO BUILDING WATER SERVICE. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE. SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
11	INSTALL 6" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2351.
12	INSTALL 2" WATER SERVICE AND METER BOX PER COS STD DETAIL 2345. METER TO BE INSTALLED BY COS AFTER PAYMENT OF APPLICABLE FEES.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
15	INSTALL 8" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
17	INSTALL 4" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2353.
18	INSTALL 4" WATER SERVICE, VAULT, AND METER BOX PER COS STD DETAIL 2345. METER TO BE INSTALLED BY COS AFTER PAYMENT OF APPLICABLE FEES.
19	INSTALL 4" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
20	INSTALL 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2354.
21	INSTALL CAP, SIZE PER ADJOINING PIPE DIAMETER.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36382
DARIN L. MOORE
09/30/2025
ARIZONA, U.S.A.

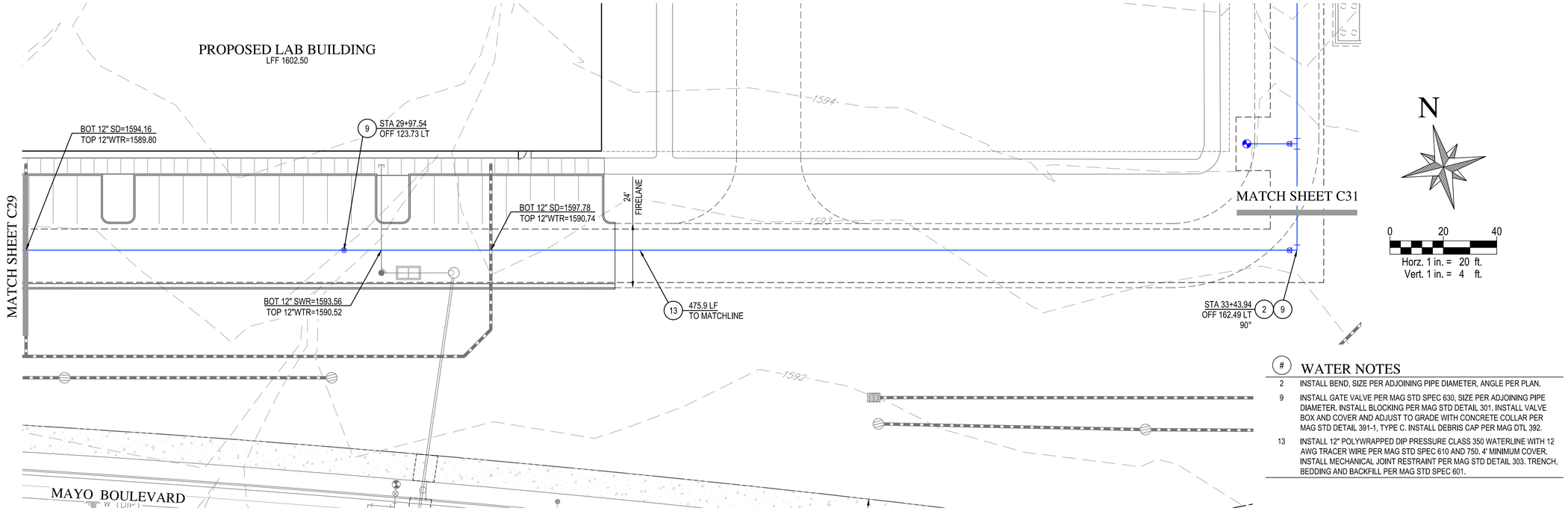
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C29 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

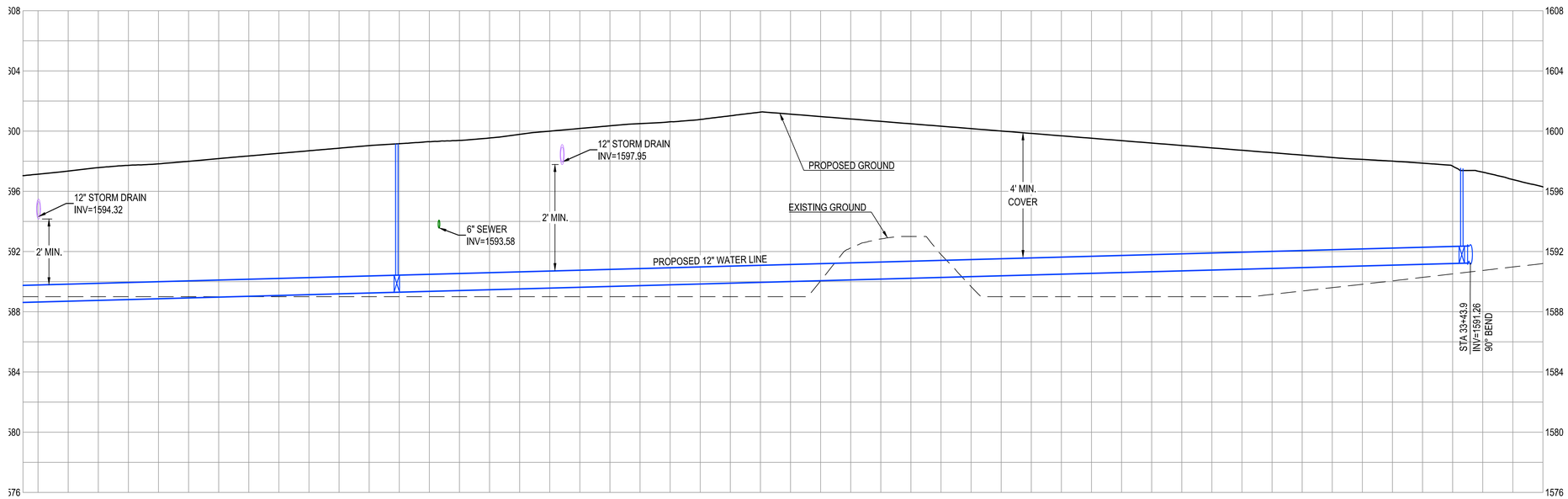
Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024



WATER NOTES

#	
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301, INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.



WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
ARIZONA, U.S.A.

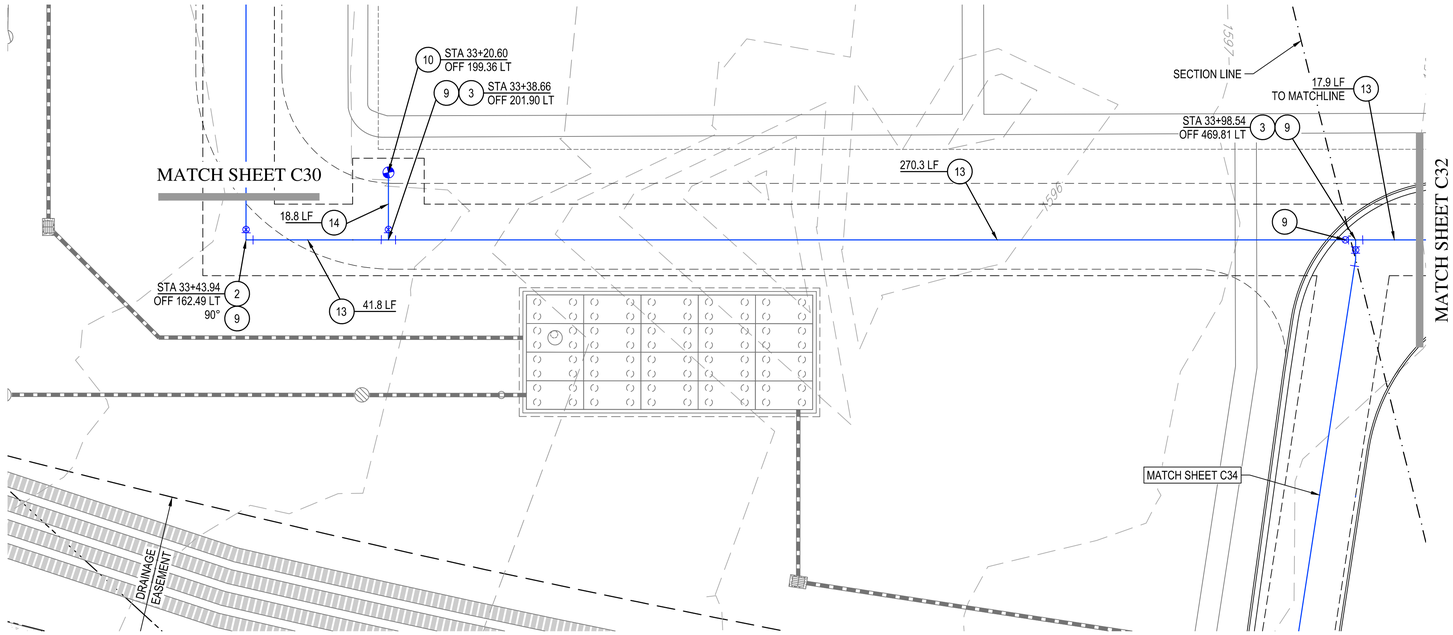
EXPIRES 06-30-25

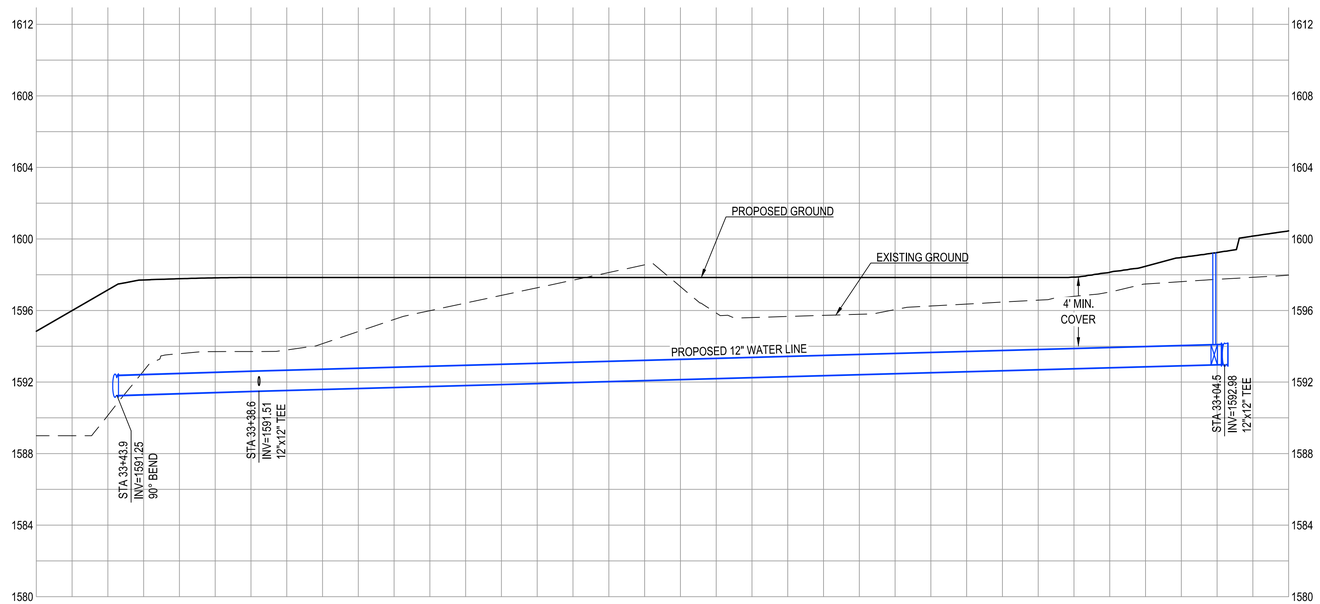
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C30 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024





N

0 20 40

Horz. 1 in. = 20 ft.
Vert. 1 in. = 4 ft.

#	WATER NOTES
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 08/30/2024
ARIZONA U.S.A.

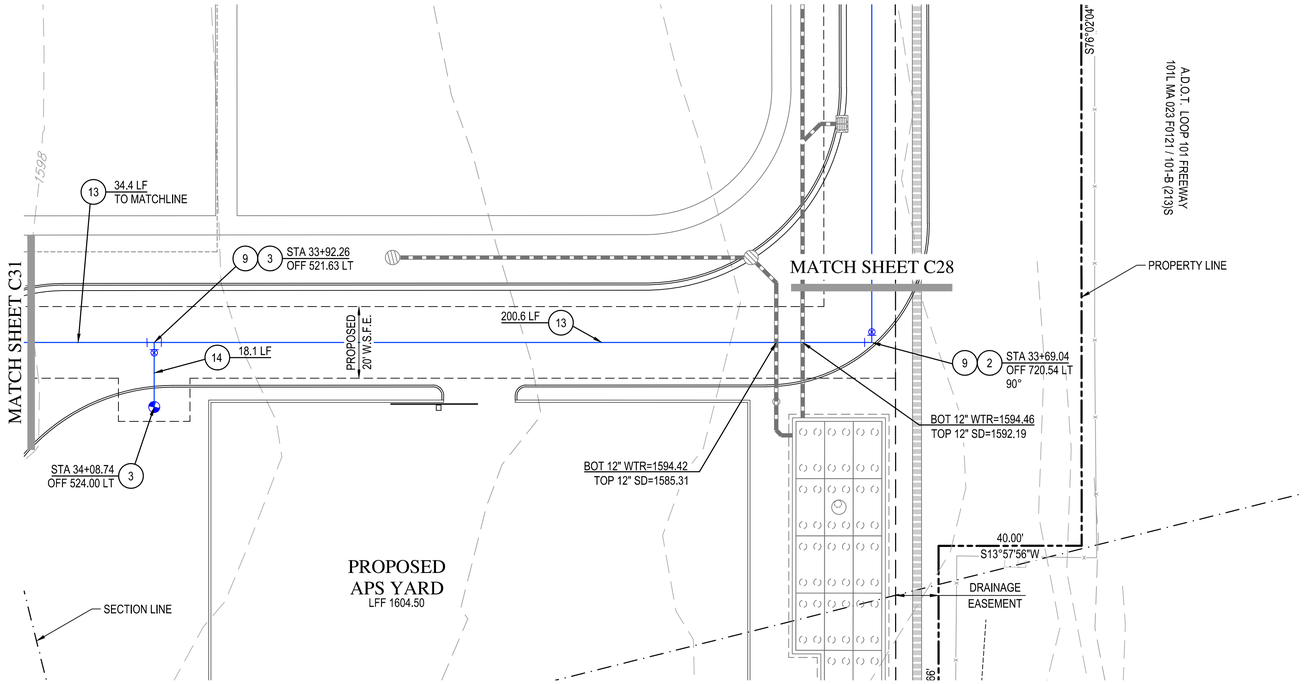
EXPIRES 06-30-25

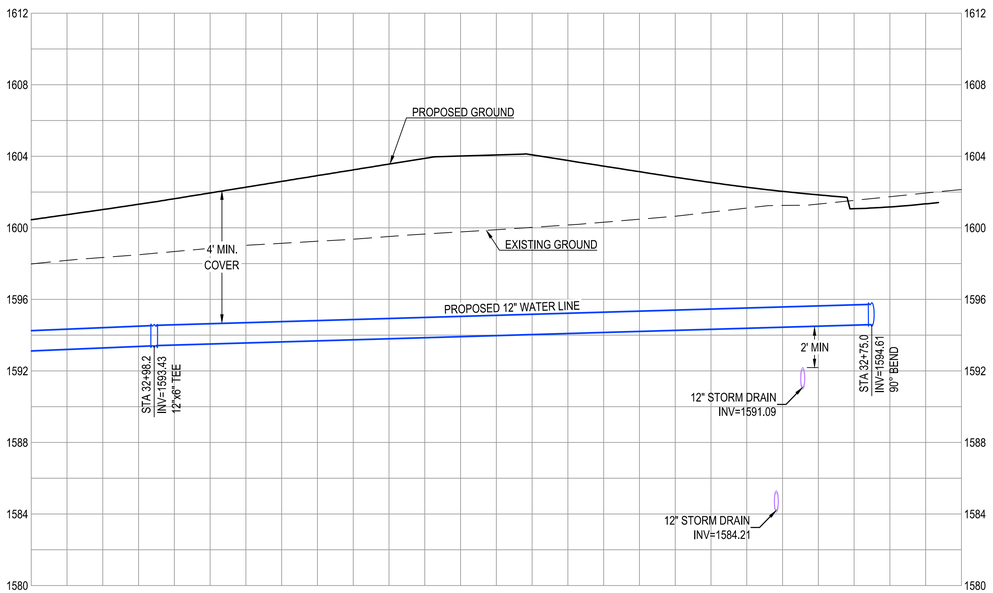
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C31 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024





N

0 20 40

Horz. 1 in. = 20 ft.
Vert. 1 in. = 4 ft.

WATER NOTES

#	
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 08/30/2024
ARIZONA U.S.A.

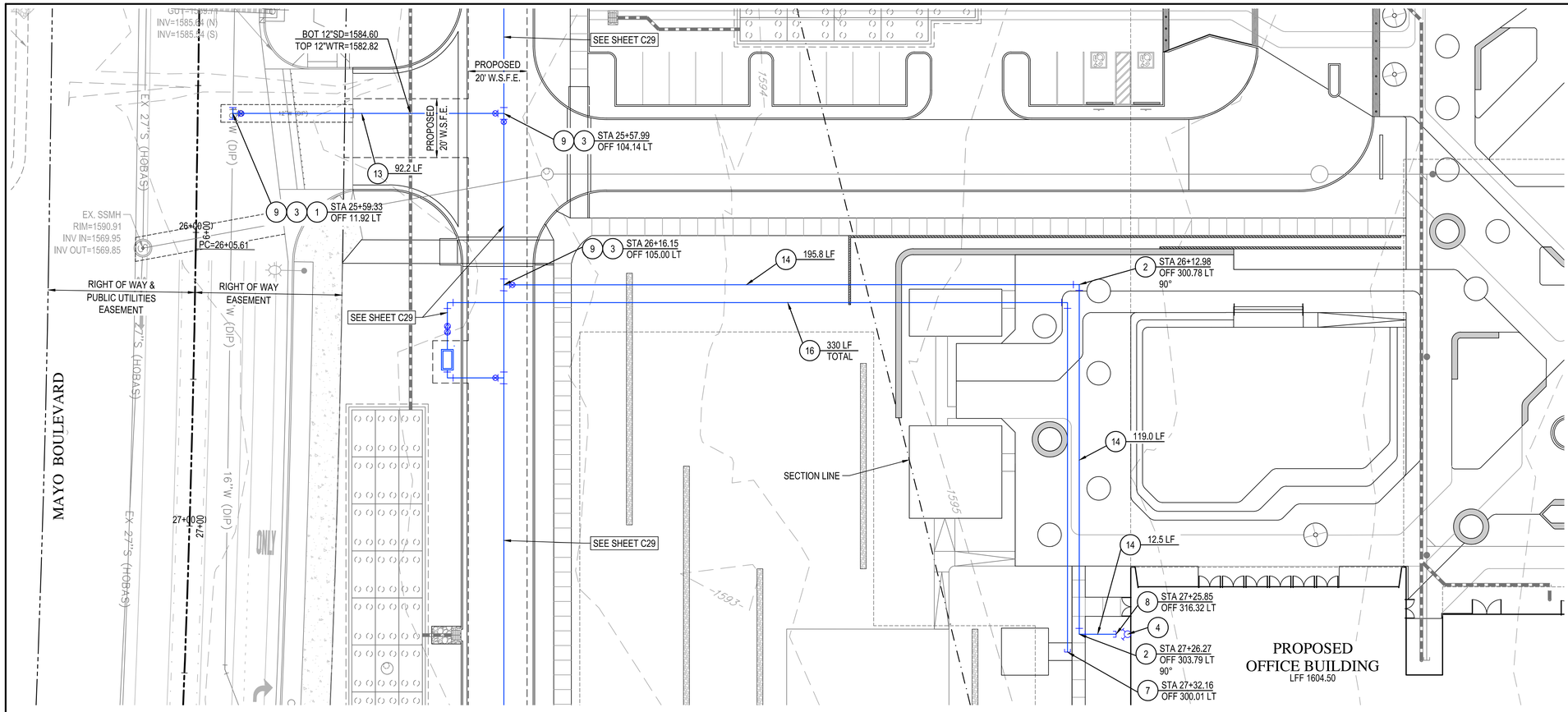
EXPIRES 06-30-25

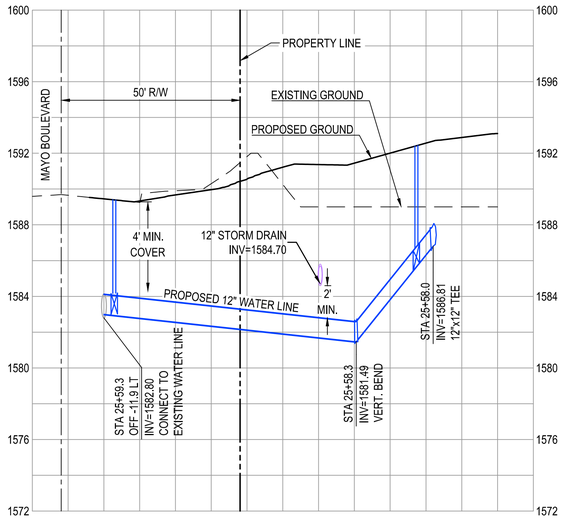
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C32 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024





WATER NOTES

#	
1	CUT AND CONNECT TO EXISTING WATER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
7	CONNECT TO BUILDING WATER SERVICE. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE. SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
16	INSTALL 2" PVC SCH 80 WATERLINE WITH 12 AWG TRACER WIRE. 3' MINIMUM COVER.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L. MOORE
08/30/2024
ARIZONA, U.S.A.

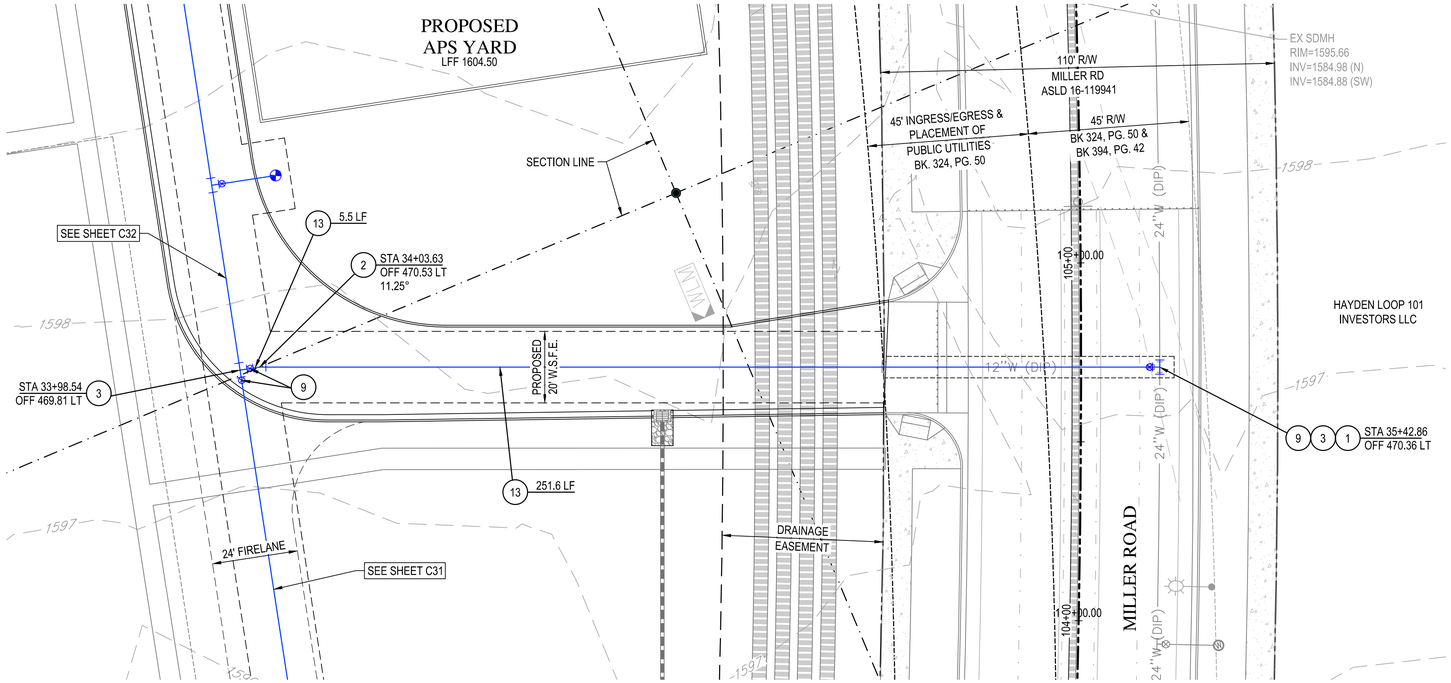
EXPIRES 06-30-25

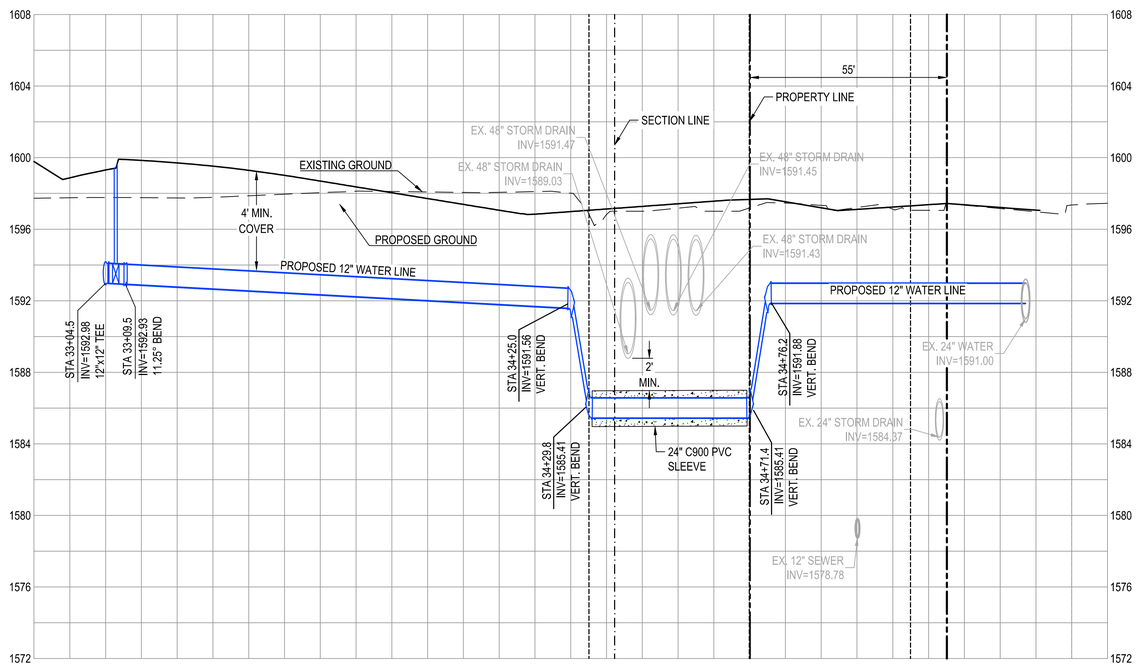
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C33 OF 43

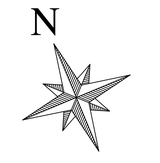
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-IMT-CON.dwg

3-DR-2024







(#) WATER NOTES

1	CUT AND CONNECT TO EXISTING WATER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
DATE SIGNED
ARIZONA, U.S.A.

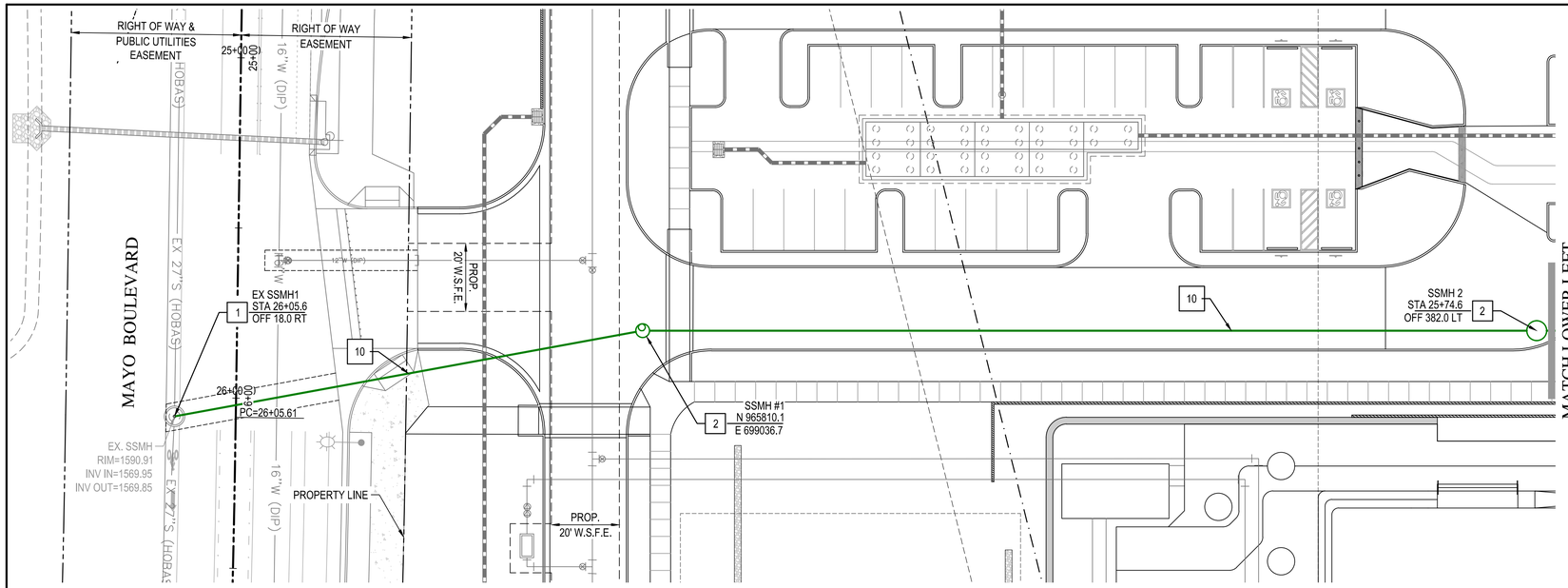
EXPIRES 06-30-25

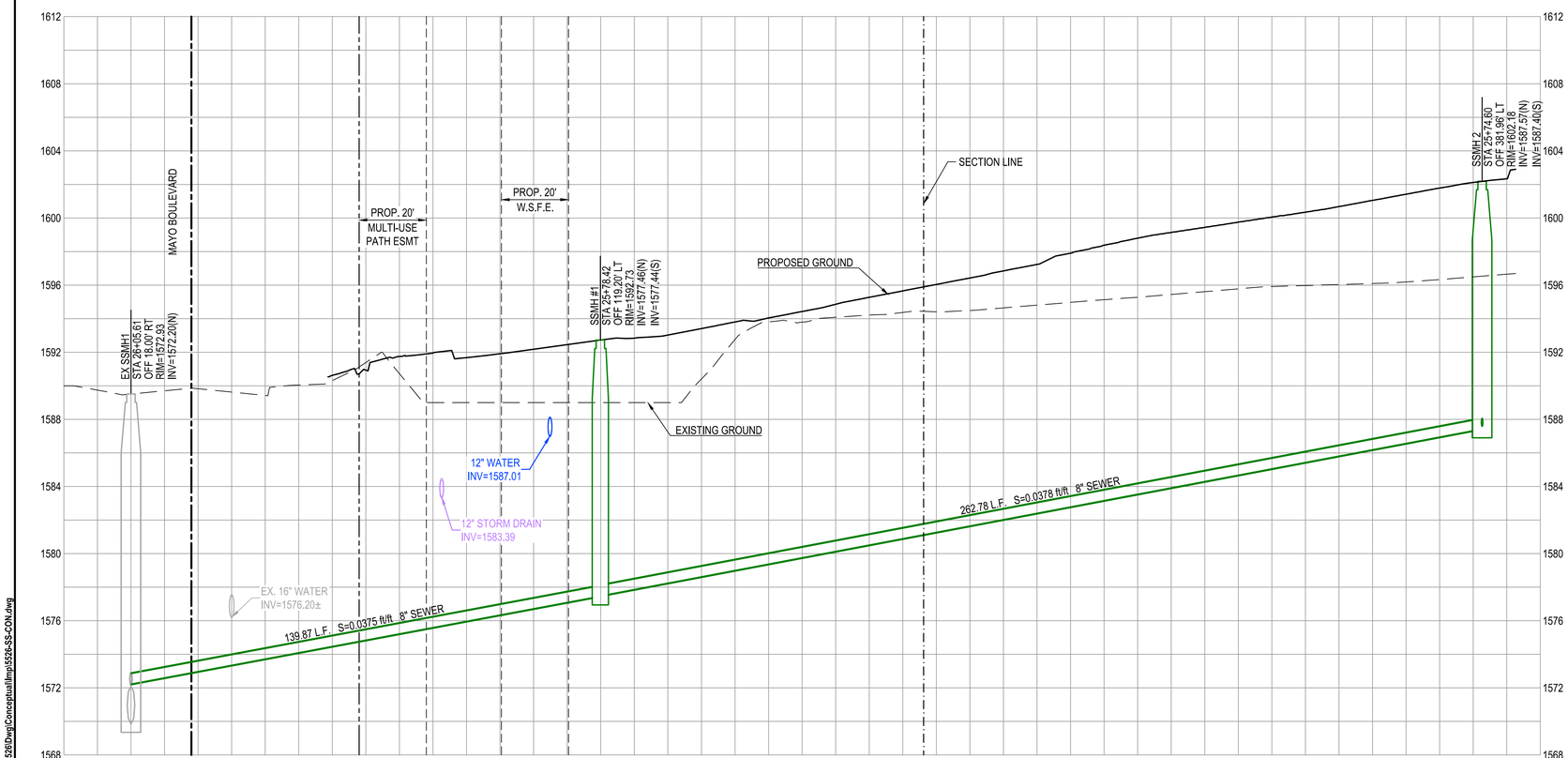
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C34 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-WT-CON.dwg

3-DR-2024





SEWER NOTES

#	
1	CUT AND CONNECT TO EXISTING SEWER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	CONSTRUCT 5' DIAMETER SEWER MANHOLE PER MAG STD DETAIL 420. INSTALL 30" WATERTIGHT MANHOLE FRAME AND COVER PER MAG STD DETAIL 424-2. ADJUST FRAME AND COVER TO GRADE AND CONSTRUCT CONCRETE COLLAR AROUND FRAME PER MAG STD DETAIL 422-1. APPLY AGENCY APPROVED MANHOLE COATING.
10	INSTALL 8" VCP SEWER LINE PER MAG STD SPEC 615 AND 625. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

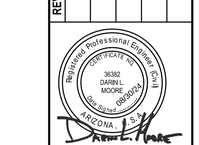
ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SEWER PLAN & PROFILE

REV	DESCRIPTION	DATE



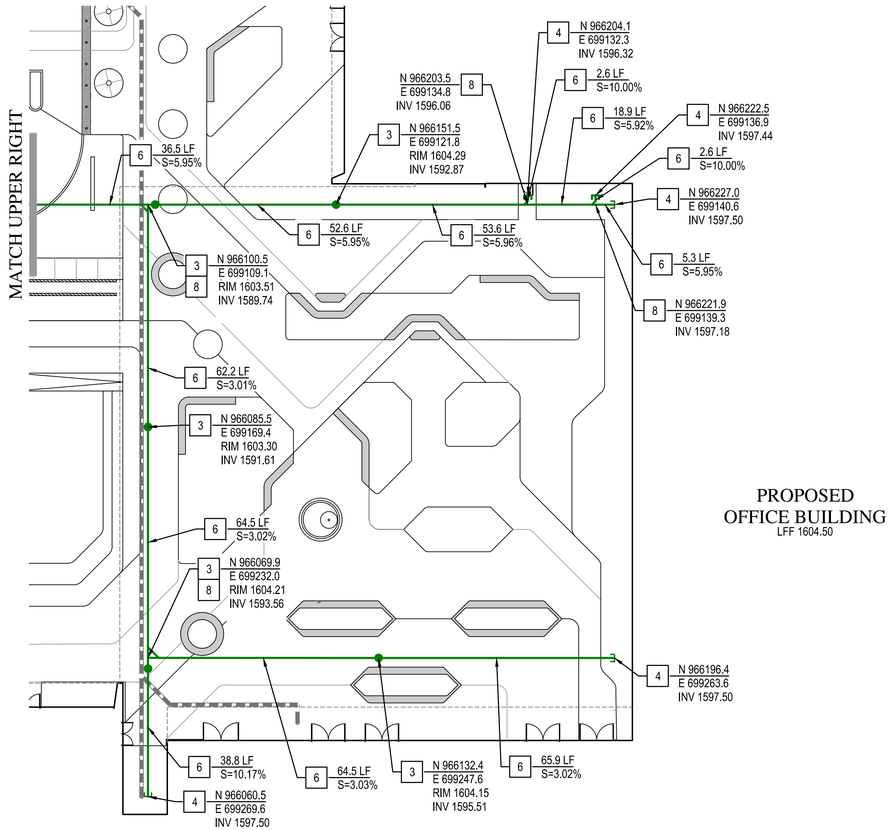
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C35 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SS-CON.dwg

3-DR-2024



N

0 20 40

Horz. 1 in. = 20 ft.
Vert. 1 in. = 4 ft.

SEWER NOTES

#	
3	INSTALL SEWER CLEANOUT PER MAG STD DETAIL 441, SIZE PER ADJOINING PIPE DIAMETER.
4	CONNECT TO BUILDING SEWER. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
6	INSTALL 6" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
8	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SEWER PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	#########
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C36 OF 43

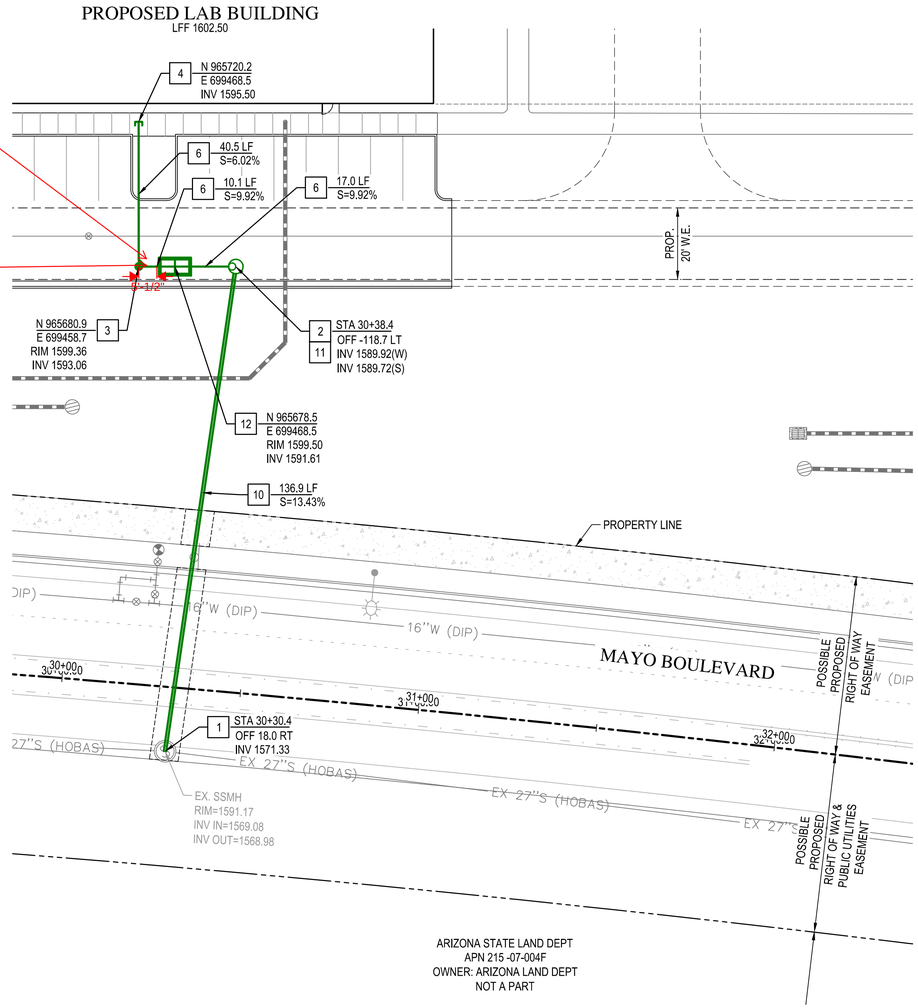
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

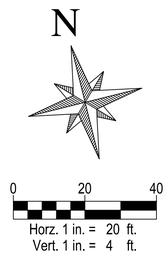
Z:\2023\235526\Dwg\Conceptual\Imp\5526-SS-CON.dwg

3-DR-2024

At a slope of 0.0992 ft/ft and 261 gpm peak flow (Table 3 of BOD), the velocity exceeds the 3 ft/s maximum velocity required upstream of the monitoring flume. COS Std. Det 2460.

Flow upstream of the monitoring flume shall be wave free, non-turbulent, and symmetrical having a uniform velocity (1fps minimum to 3 fps maximum) at least 10 times the diameter of the upstream sewer pipe in length in the approach channel. Bends upstream in the flume will NOT be allowed for a distance of 25 pipe diameters. COS Std Det 2460.

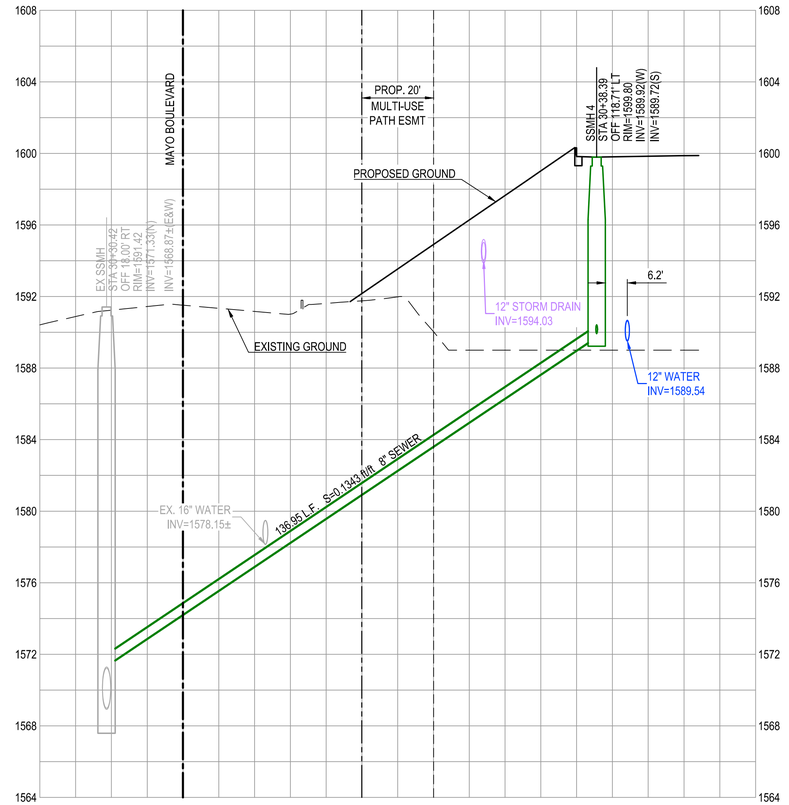




SEWER NOTES

#	
1	CUT AND CONNECT TO EXISTING SEWER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	CONSTRUCT 5' DIAMETER SEWER MANHOLE PER MAG STD DETAIL 420. INSTALL 30" WATERTIGHT MANHOLE FRAME AND COVER PER MAG STD DETAIL 424-2. ADJUST FRAME AND COVER TO GRADE AND CONSTRUCT CONCRETE COLLAR AROUND FRAME PER MAG STD DETAIL 422-1. APPLY AGENCY APPROVED MANHOLE COATING.
4	CONNECT TO BUILDING SEWER. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5	INSTALL 8" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
6	INSTALL 6" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
10	INSTALL 8" VCP SEWER LINE PER MAG STD SPEC 615 AND 625. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
11	CONSTRUCT DROP SEWER CONNECTION PER MAG STD DETAIL 426, TYPE 'B' OR APPROVED EQUAL.
12	INSTALL SAMPLING VAULT PER COS STD. DETAIL 2460.

and flume



WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

Call at least two full working days before you begin excavation.
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SEWER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

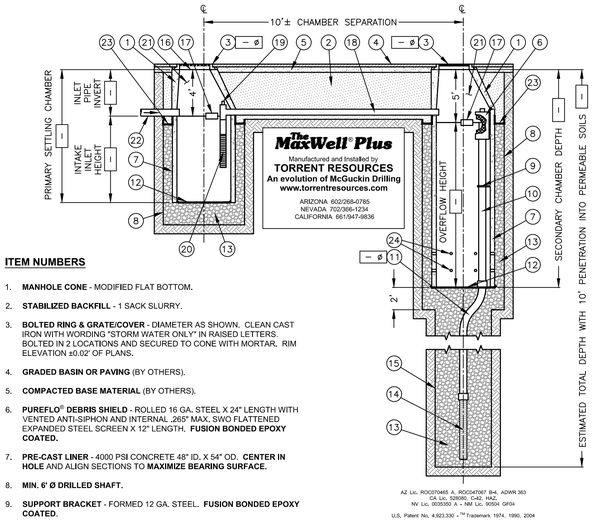
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C37 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-SS-CON.dwg

The MaxWell® Plus Drainage System Detail And Specifications

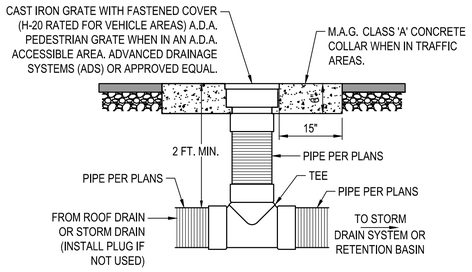


AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 383
CA Lic. 526080, C-42, HAZ
NV Lic. 0035350 A + NM Lic. 90504 GF04

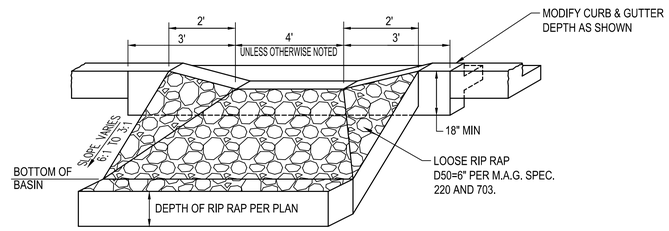
U.S. Patent No. 4,923,330 - ™ Trademark 1974, 1990, 2004

ITEM NUMBERS

1. **MANHOLE CONE** - MODIFIED FLAT BOTTOM.
2. **STABILIZED BACKFILL** - 1 SACK SLURRY.
3. **BOLTED RING & GRATE/COVER** - DIAMETER AS SHOWN. CLEAN CAST IRON WITH WORDING "STORM WATER ONLY" IN RAISED LETTERS. BOLTED IN 2 LOCATIONS AND SECURED TO CONE WITH MORTAR. RIM ELEVATION ±0.02' OF PLANS.
4. **GRADED BASIN OR PAVING** (BY OTHERS).
5. **COMPACTED BASE MATERIAL** (BY OTHERS).
6. **PUREFLO® DEBRIS SHIELD** - ROLLED 16 GA. STEEL X 24" LENGTH WITH VENTED ANTI-SIPHON AND INTERNAL .265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN X 12" LENGTH. **FUSION BONDED EPOXY COATED.**
7. **PRE-CAST LINER** - 4000 PSI CONCRETE 48" ID, X 54" OD. **CENTER IN HOLE** AND ALIGN SECTIONS TO **MAXIMIZE BEARING SURFACE.**
8. **MIN. 6' Ø DRILLED SHAFT.**
9. **SUPPORT BRACKET** - FORMED 12 GA. STEEL. **FUSION BONDED EPOXY COATED.**
10. **OVERFLOW PIPE** - SCH, 40 PVC MATED TO DRAINAGE PIPE AT BASE SEAL.
11. **DRAINAGE PIPE** - ADS HIGHWAY GRADE WITH TRI-A COUPLER. **SUSPEND PIPE** DURING BACKFILL OPERATIONS TO PREVENT BUCKLING OR BREAKAGE. DIAMETER AS NOTED.
12. **BASE SEAL** - GEOTEXTILE OR CONCRETE SLURRY.
13. **ROCK** - WASHED, SIZED BETWEEN 3/8" AND 1-1/2" TO **BEST COMPLEMENT SOIL CONDITIONS.**
14. **FLOFAST® DRAINAGE SCREEN** - SCH, 40 PVC 0,120" SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. DIAMETER VARIES 120" OVERALL LENGTH WITH TRI-B COUPLER.
15. **MIN. 4' Ø SHAFT** - DRILLED TO **MAINTAIN PERMEABILITY** OF DRAINAGE SOILS.
16. **FABRIC SEAL** - U.V. RESISTANT GEOTEXTILE - **TO BE REMOVED BY CUSTOMER** AT PROJECT COMPLETION.
17. **ABSORBENT** - HYDROPHOBIC PETROCHEMICAL SPONGE. MIN. 128 OZ. CAPACITY.
18. **CONNECTOR PIPE** - 4" Ø SCH, 40 PVC .
19. **ANTI-SIPHON VENT** WITH FLOW REGULATOR.
20. **INTAKE SCREEN** - SCH. 40 PVC 0.120" MODIFIED SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. 48" OVERALL LENGTH WITH TRI-C END CAP.
21. **FREEBOARD DEPTH VARIES** WITH INLET PIPE ELEVATION. INCREASE PRIMARY/SECONDARY SETTLING CHAMBER DEPTHS AS NEEDED TO MAINTAIN ALL INLET PIPE ELEVATIONS ABOVE CONNECTOR PIPE OVERFLOW.
22. **OPTIONAL INLET PIPE** (BY OTHERS).
23. **MOISTURE MEMBRANE** - 6 MIL. PLASTIC. PLACE SECURELY AGAINST ECCENTRIC CONE AND HOLE SIDEWALL. USED IN LIEU OF SLURRY IN LANDSCAPED AREAS.
24. **EIGHT (8) PERFORATIONS PER FOOT**, 2 ROWS MIN.



STORM DRAIN AIR BREAK
(N.T.S.)



CURB OPENING AND SPILLWAY DETAIL AT EXTRUDED CURB
N.T.S.

PLAN VIEW
INTERNALS NOT SHOWN

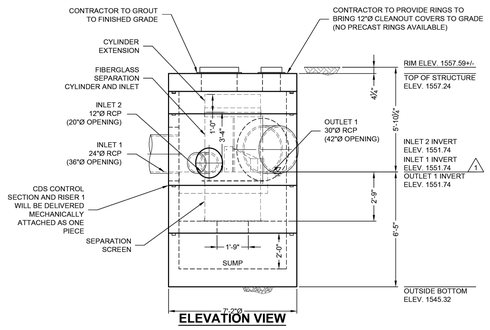
PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	3020-6 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	3020, 2400 micron, 3.1" O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	24"Ø X 4" FRAME AND COVER, EJ #41600389, OR EQUIV.	CONTRACTOR
2	12"Ø X 4" FRAME AND COVER, EJ #41610201, OR EQUIV.	CONTRACTOR

SITE DESIGN DATA

	MAX
WATER QUALITY FLOW RATE	0.52 CFS	2 CFS
PEAK FLOW RATE	22.39 CFS	25 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS	



ELEVATION VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE, www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 13500 LBS.
STRUCTURE IS DELIVERED IN 4 PIECES

MAX FOOTPRINT = 7.17'Ø

CONTECH
PROPOSAL
DRAWING

PRECS
LAYOUT 4A

Not for this project.

CDS3020-6-C - 742047-20
FAIRMONT SCOTTSDALE PRINCESS – SUNSET VILLAS & BUNGALOWS
SCOTTSDALE, AZ
SITE DESIGNATION: OPTION 4

CONTECH ENGINEERED SOLUTIONS LLC
1411 W. 190th Street, Suite 700, Gardena, CA 90248
800.338.1122 | www.ContechES.com

REV	DESCRIPTION	DATE
1	04/28/23	LAYOUT REVISED TO ORIGINAL
2	06/02/23	QTREAT AND PEAK FLOW REV

DATE: 04/27/23
DESIGNED: DAH | DRAWN: DAH
CHECKED: DAH | APPROVED: DAH
PROJECT No.: 742047 | SEQUENCE No.: 20
SHEET: 1 OF 1

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36382
DARIN L. MOORE
DATE SIGNED 08/30/2024
ARIZONA
EXPIRES 06-30-25

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

Call at least two full working days before you begin excavation.
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS

SCALE (HORIZ.) N/A
SCALE (VERT.) N/A
DATE 08/30/2024
JOB NUMBER 235526
SHEET C38 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

3-DR-2024

DESIGN NOTES:

MATERIALS
Materials used in this work shall conform to ACI (American Concrete Institute)

CONCRETE
For SPEQ units and walls:
28 Day Compressive 6,000 psi (Minimum)
Lifting Strength 2000 psi (Minimum)

REINFORCING STEEL
Reinforcing Bars shall conform to: ASTM A615, Grade 60
Reinforcing Mesh shall conform to: ASTM A1064, Grade 70
Reinforcing Cover: 1.5" minimum

DESIGN PARAMETERS
1. Design per ACI 350, ASTM C857 and C857 HS-20 live load.
2. Bar cover = 1 1/2" u.n.o.
3. Earth cover = 2'-10' max.
4. Equivalent fluid pressure = 60 pcf
5. Unit weight of soil = 120 pcf
6. f'c @ 28 days = 6,000 psi
7. Reinforcement = bar per ASTM A615, Grade 60
8. Provide replacement-reinforcing equal to half amount of interrupted bars at each side of opening.
9. Equivalent mesh can be used in lieu of grade 60 rebar.
10. Assumed water table below structure. No surcharge from adjacent buildings or structures. min soil bearing pressure 2000 psf

FABRICATION
Fabrication shall meet the requirements of the following:
Fabrication Tolerances
1. Width: +1/4", -1/4"
2. Length: +1/4", -1/4"
3. Height: +1/4", -1/4"
4. Deviation from square: 1/4"
5. Member Thickness: +1/4", -1/4"

SHIPPING AND HANDLING
The Precast Supplier and Contractor shall verify that the method of lifting does not overstress the precast concrete pieces in any way.

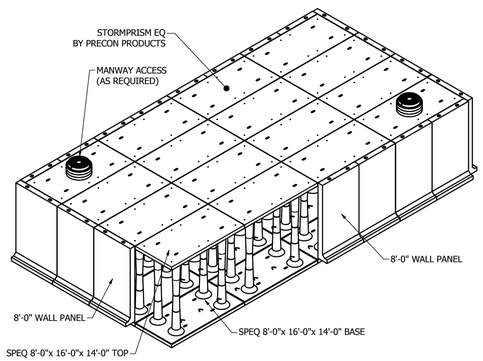
INSTALLATION SPECIFICATIONS
Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ½" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877, C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL
Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts, per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

STORMPRISM SPEQ

DETENTION

SHEET INFORMATION	
SHEET No.	DESCRIPTION
1	COVER SHEET / GENERAL NOTES
2	STORMPRISM 14'-0" DETENTION UNIT DETAIL
3	STORMPRISM 14'-0" DETENTION BASE
4	STORMPRISM 14'-0" DETENTION TOP
5	STORMPRISM 15'-4" WALL DETAIL
6	UNIT MANWAY OPENING AND LADDER INFORMATION
7	DETENTION JOINT SEALING INFORMATION
8	ELEVATION INFORMATION



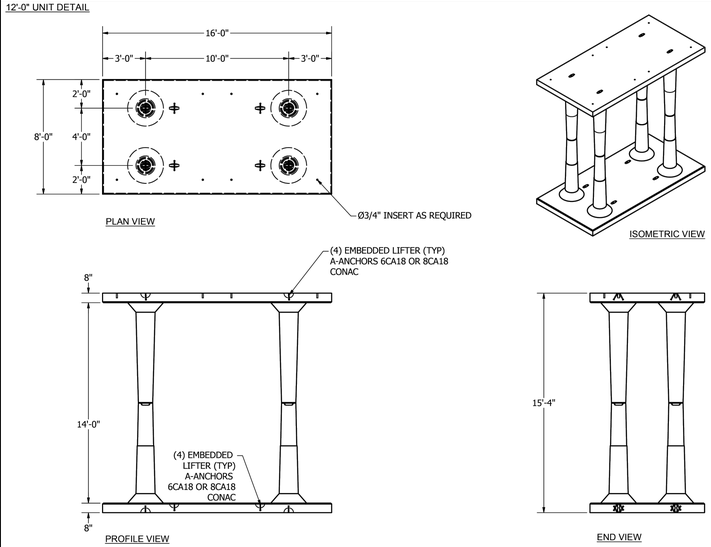
NOTE:
THIS VIEW IS FOR ILLUSTRATION PURPOSES ONLY. CONTACT US FOR SITE SPECIFIC DRAWINGS.

DO NOT SCALE

PRECON
3440 N. LOS ANGELES AVE.
VISALIA, CA 93291-9744
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

TITLE: STORMPRISM 14'-0" DETENTION SYSTEM GENERAL INFORMATION
DRAWN BY: K.STRADER
DATE: 8/25/2021
SHEET: 1 OF 8

12'-0" UNIT DETAIL

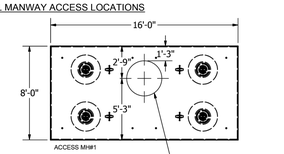


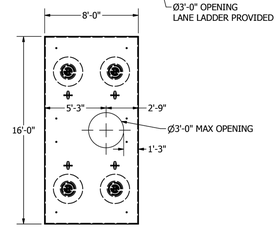
DO NOT SCALE

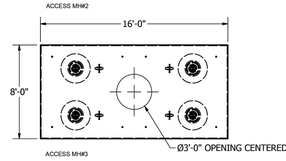
PRECON
3440 N. LOS ANGELES AVE.
VISALIA, CA 93291-9744
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

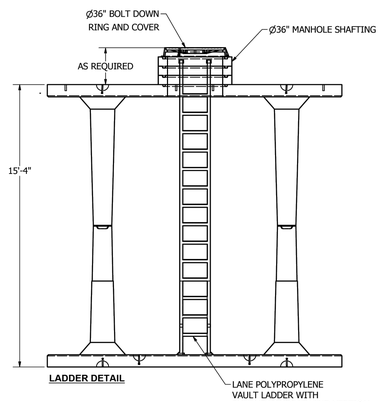
TITLE: STORMPRISM 14'-0" DETENTION UNIT
DRAWN BY: K.STRADER
DATE: 8/25/2021
SHEET: 2 OF 8

OPTIONAL MANWAY ACCESS LOCATIONS









DO NOT SCALE

PRECON
3440 N. LOS ANGELES AVE.
VISALIA, CA 93291-9744
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM MANWAY ACCESS LOCATIONS AND LADDER INFORMATION
DRAWN BY: K.STRADER
DATE: 8/25/2021
SHEET: 6 OF 8

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

EXPIRES 06-30-25

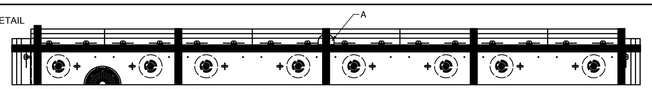
SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C38 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

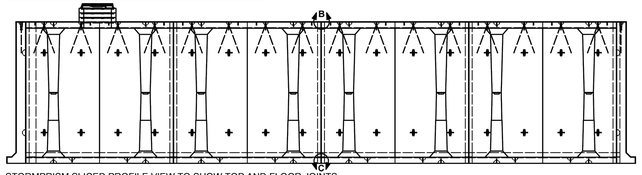
Z:\2023\235526\Dwg\Conceptual\Impl\5526-DT-CON.dwg

3-DR-2024

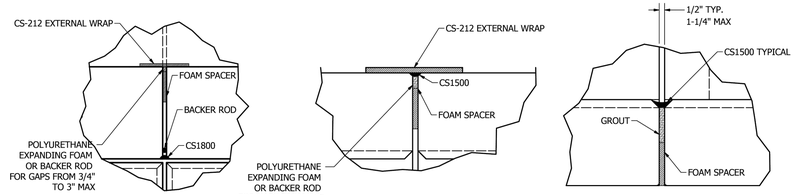
JOINT SEALANT DETAIL



STORMPRISM SLICED PLAN VIEW TO SHOW WALL JOINT



STORMPRISM SLICED PROFILE VIEW TO SHOW TOP AND FLOOR JOINTS



DETAIL A
WALL JOINT
ONLY VERTICAL PART OF WALL IS DETAILED FOR CLARITY

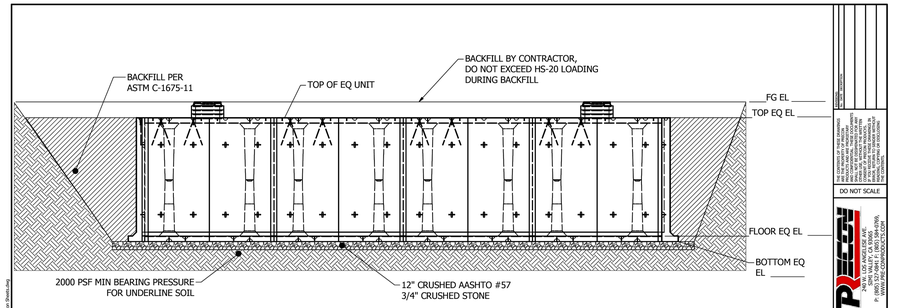
DETAIL B
TOP JOINT
WALL JOINT SEALANT NOT SHOWN FOR CLARITY

DETAIL C
BOTTOM JOINT

DO NOT SCALE

PESCO
LOS ANGELES AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0290
WWW.PRECONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM JOINT DETAIL
DRAWN: K.STRADER
DATE: 8/25/2021
SHEET: 7 OF 8



INSTALLATION SPECIFICATIONS

Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ¼" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877,
C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL

Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts,
per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not
to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

DO NOT SCALE

PESCO
LOS ANGELES AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0290
WWW.PRECONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM BACKFILL AND ELEVATION INFORMATION
DRAWN: K.STRADER
DATE: 8/25/2021
SHEET: 8 OF 8

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

DETAILS

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
Date Signed
ARIZONA

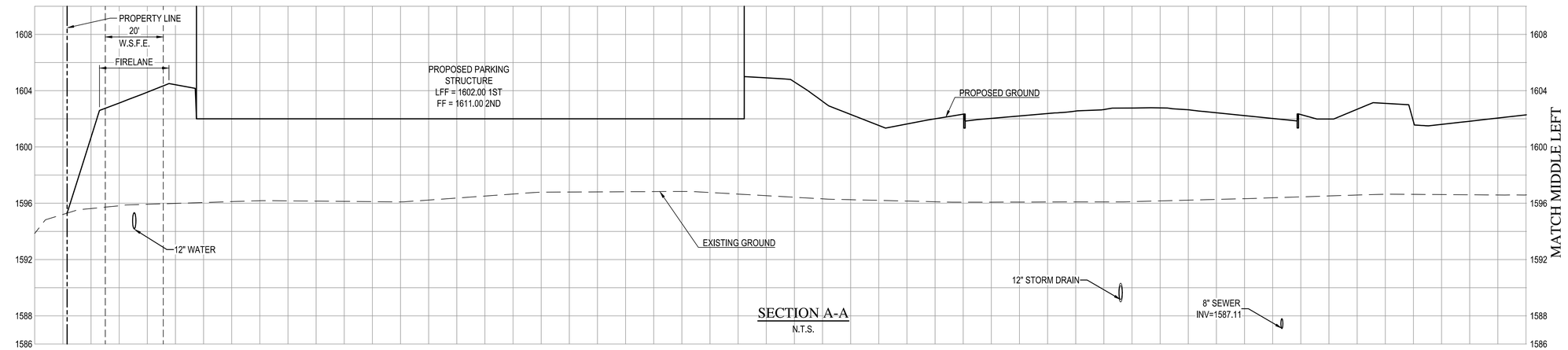
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C38 OF 43

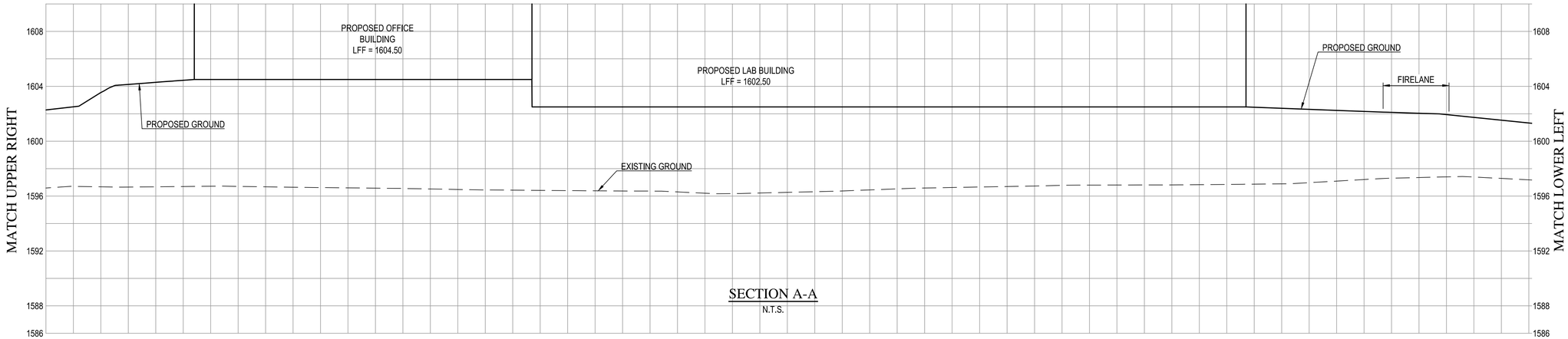
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

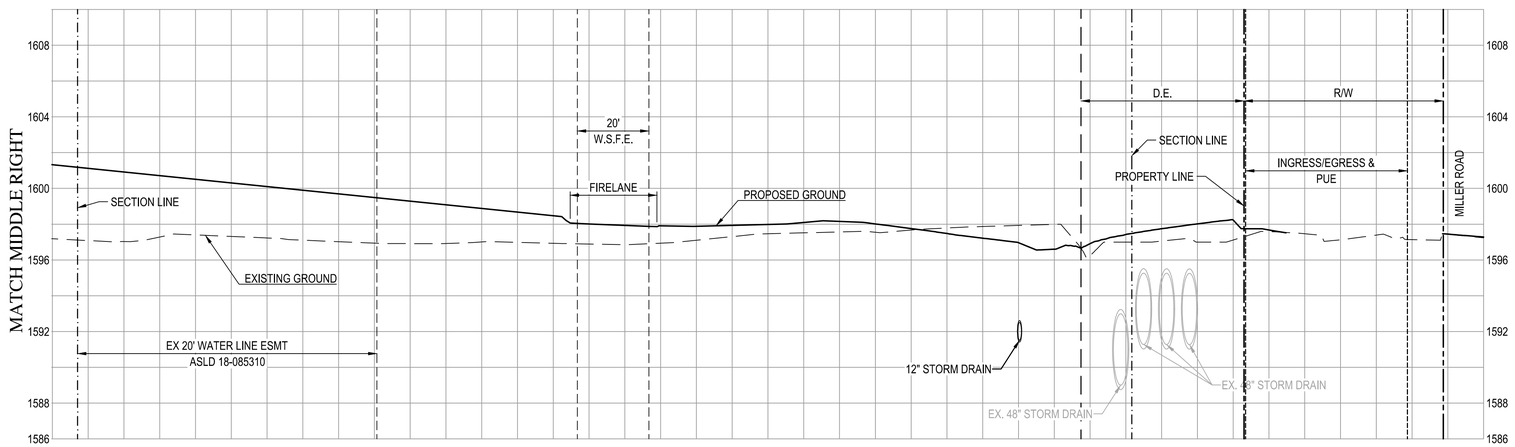
3-DR-2024



SECTION A-A
N.T.S.



SECTION A-A
N.T.S.



SECTION A-A
N.T.S.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SECTIONS

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/24
STATE OF ARIZONA

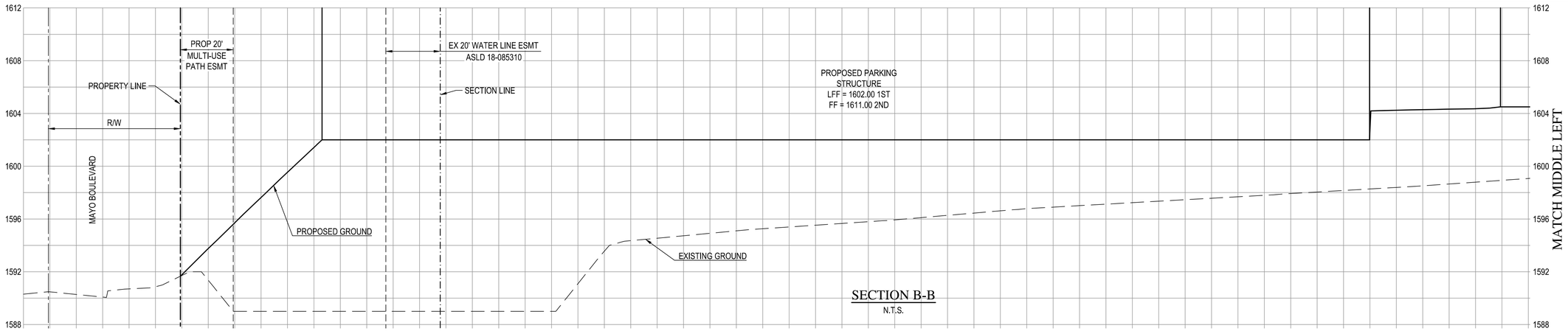
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C41 OF 43

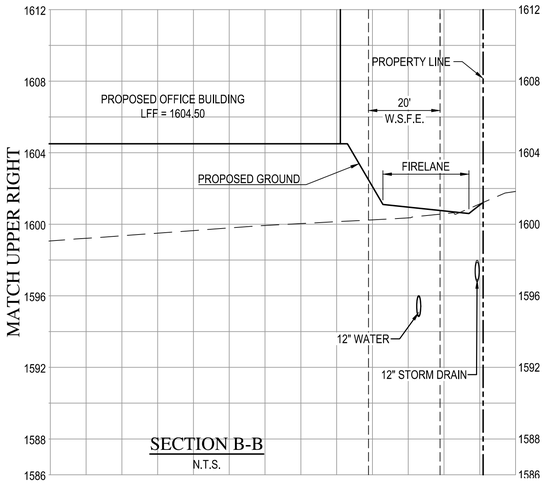
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

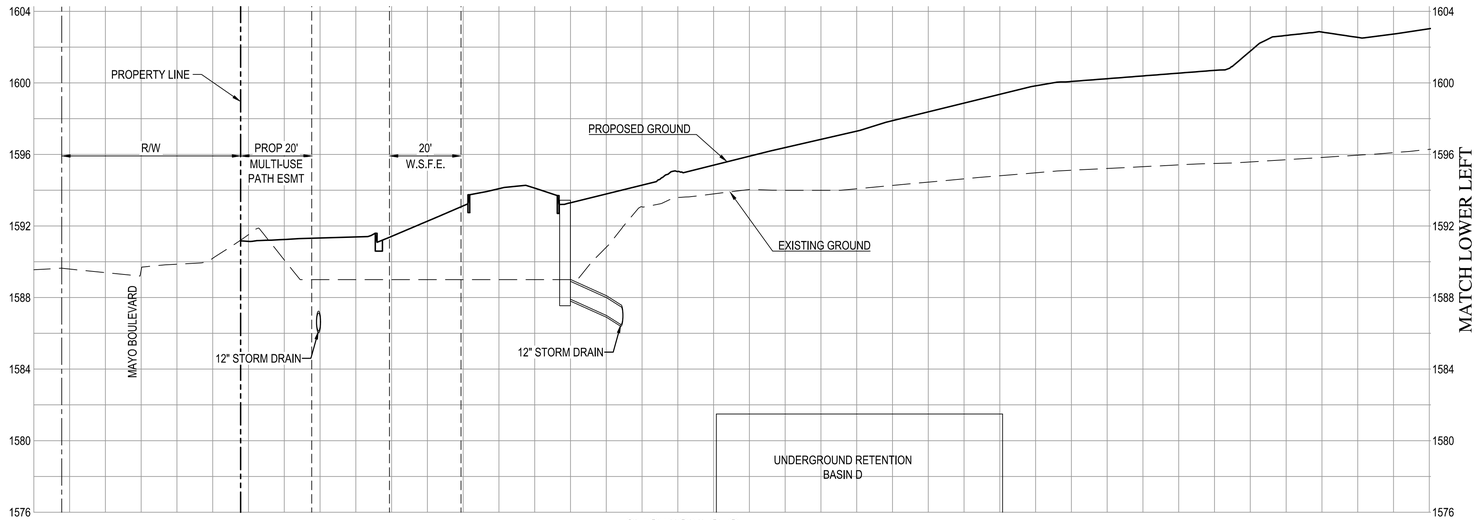
3-DR-2024



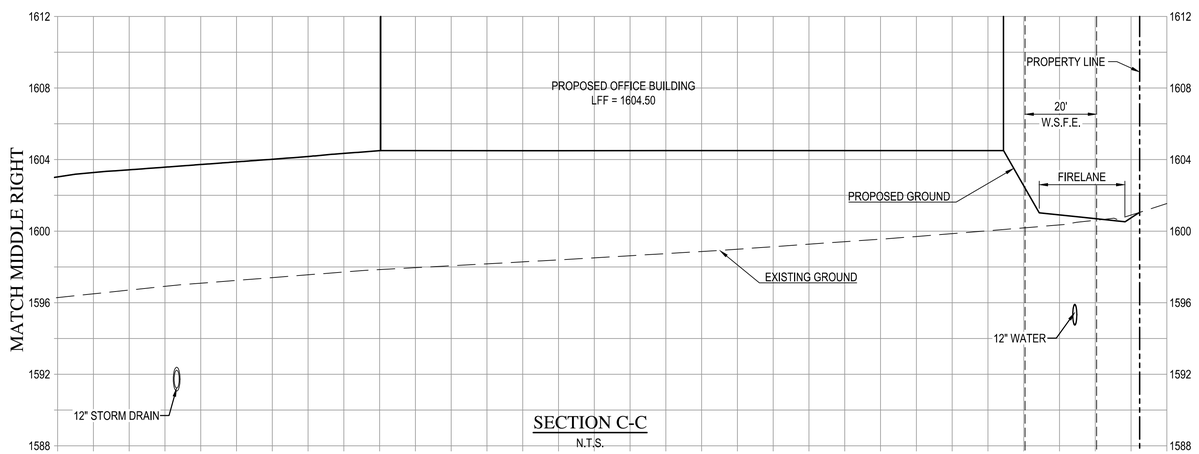
SECTION B-B
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.



SECTION C-C
N.T.S.

WOOD PATEL

Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SECTIONS

REV	DESCRIPTION	DATE

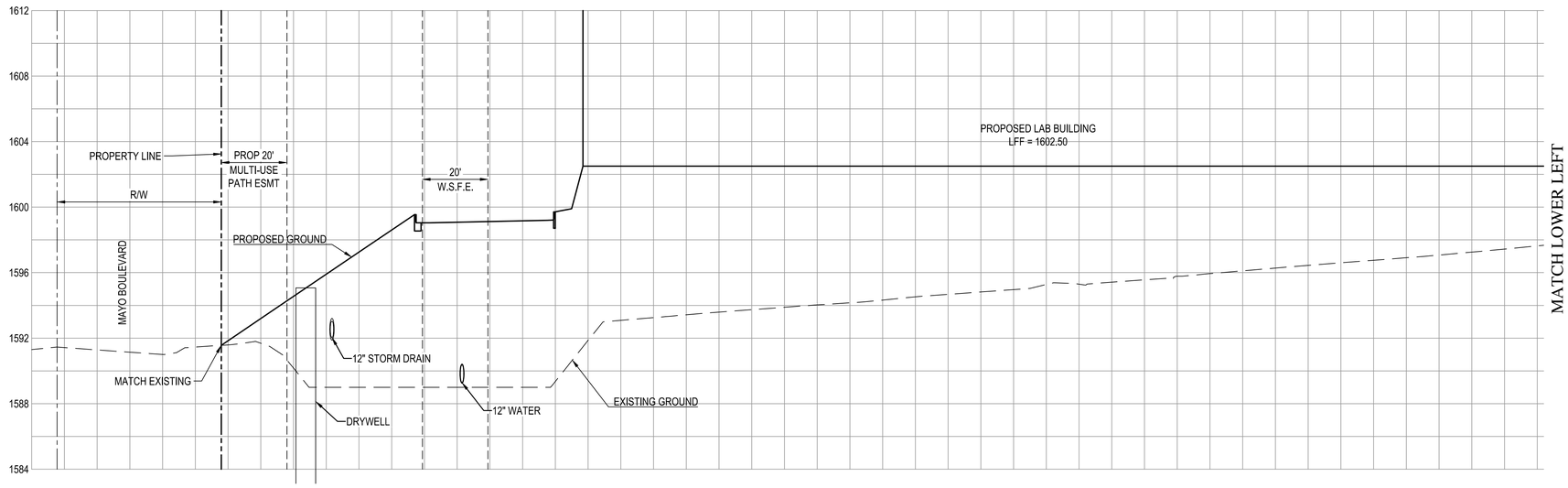
Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C42 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

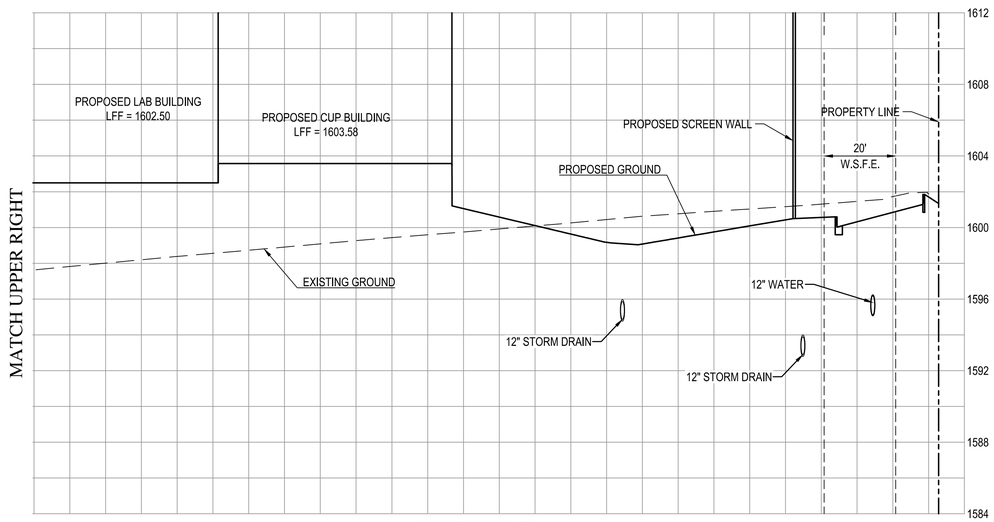
Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

3-DR-2024



SECTION D-D

N.T.S.



SECTION D-D

N.T.S.

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SECTIONS

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C43 OF 43

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

3-DR-2024

APPENDIX D – WATER RESOURCES WATER/SEWER DEMAND ACCEPTANCE EMAIL

From: Pritchard, Anita <APritchard@Scottsdaleaz.gov>
Sent: Tuesday, August 27, 2024 11:51 AM
To: Robert Saunders; Yoomi Taylor; Biesemeyer, Brian K; Baumgardner, Gretchen; Mars, Scott; Rose, Kevin M
Cc: Baird Fullerton; Jeffrey Maas; Glenn Kubricky; Darin Moore; Andrew Sanchez; Andre Bighorse; Odette Bakker; Jones, Traver; Ahmad Mohandes; 235526 ASM Arizona; Bloemberg, Greg; Posler, Kathryn
Subject: RE: ASM water and sewer demands
Attachments: 5526-WP-Sewer Demands-DSPM-8.26.2024.pdf; 5526-WP-Water Demands-DSPM-8.26.2024.pdf; 5526-WP-Water Demands-Fixtures-8.26.2024.pdf

Hello Robert and Traver,

Thank you for updating these demands, Robert.

Please proceed with these values for your respective water resources submittal documents (3-DR-2024, 37-SA-2023).

Traver: The Fixture count page would not be included with the Master Plan you are preparing for the master development (37-SA-2023).

Sincerely,
Anita

From: Robert Saunders <rsaunders@WoodPatel.com>
Sent: Monday, August 26, 2024 2:22 PM
To: Pritchard, Anita <APritchard@Scottsdaleaz.gov>; Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>; Rose, Kevin M <KRose@Scottsdaleaz.gov>
Cc: Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>; 235526 ASM Arizona <235526ASMArizona@WoodPatelCE.onmicrosoft.com>
Subject: RE: ASM water and sewer demands

Hi Anita,

Please find attached for your review/approval the revised water and sewer demands.

In response to your comment about the flowmeters, ASM does plan to have flowmeters on their systems internally and the results of same can be made available to the City. In addition, ASM will continue to coordinate with Brian on the specifics about the system and the monitoring of same.

It is not anticipated that anything extra external to the building will be required beyond the monitoring vault provided for the Lab and the CUP.

If you have any questions, please let me know.

Thank you,

ROBERT SAUNDERS, EIT | Assistant Project Manager

D: 602.335.8566 rsaunders@woodpatel.com
woodpatel.com

From: Pritchard, Anita <APritchard@Scottsdaleaz.gov>
Sent: Monday, August 26, 2024 10:26 AM
To: Robert Saunders <rsaunders@WoodPatel.com>; Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>; Rose, Kevin M <KRose@Scottsdaleaz.gov>
Cc: Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>; 235526 ASM Arizona <235526ASMArizona@WoodPatelCE.onmicrosoft.com>
Subject: RE: ASM water and sewer demands

Good morning Robert,

Please see the responses to your questions below:

1. Why are you having us change the Lab and the CUP gpm values when those are 24/7 operations and not 12-hour operations like the Office or Cafeteria?

   Per DSPM Figure 6-1.2, Footnote 2, water demand values used in hydraulic modeling scenarios distribute the GPD water demand over a 12-hour use period to obtain the modeling values in GPM.

   Not all processes will be occurring on a 24-hour basis, nor will personnel be onsite to perform all water-using processes regularly on a 24-7 hour basis, per previous meeting conversations with ASM. The 12-hour use period is consistent with what other developments are required to use in their modeling.

2. Similarly, why are the Office and Cafeteria sewer demands being changed from 12-hour to 24-hour for the same reasons?

   There is no requirement in DSPM Chapter 6 to apply the daily wastewater demand in GPD over a shorter active water use period.

Sincerely,
Anita

From: Robert Saunders <rsaunders@WoodPatel.com>
Sent: Friday, August 23, 2024 8:11 AM
To: Pritchard, Anita <APritchard@Scottsdaleaz.gov>; Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>
Cc: Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>; 235526 ASM Arizona <235526ASMArizona@WoodPatelCE.onmicrosoft.com>
Subject: RE: ASM water and sewer demands

Hi Anita,

Your assumptions are correct…#1 is for water and #2 is for sewer.

Regards,

ROBERT SAUNDERS, EIT | Assistant Project Manager

D: 602.335.8566 rsaunders@woodpatel.com
woodpatel.com

From: Pritchard, Anita <APritchard@Scottsdaleaz.gov>
Sent: Friday, August 23, 2024 8:07 AM
To: Robert Saunders <rsaunders@WoodPatel.com>; Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>
Cc: Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>; 235526 ASM Arizona <235526ASMArizona@WoodPatelCE.onmicrosoft.com>
Subject: RE: ASM water and sewer demands

Can you please clarify whether you are referring to water or sewer for each of your questions below? I am assuming that question 1 is for water and 2 is for sewer but I would like you to clarify.

Thanks,
Anita

From: Robert Saunders <rsaunders@WoodPatel.com>
Sent: Friday, August 23, 2024 7:53 AM
To: Pritchard, Anita <APritchard@Scottsdaleaz.gov>; Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>
Cc: Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>; 235526 ASM Arizona <235526ASMArizona@WoodPatelCE.onmicrosoft.com>
Subject: RE: ASM water and sewer demands

Good morning Anita,

I have reviewed your comments and have a few questions:

1. Why are you having us change the Lab and the CUP gpm values when those are 24/7 operations and not 12-hour operations like the Office or Cafeteria?
2. Similarly, why are the Office and Cafeteria sewer demands being changed from 12-hour to 24-hour for the same reasons?

Thank you,

ROBERT SAUNDERS, EIT | Assistant Project Manager

D: 602.335.8566 rsaunders@woodpatel.com
woodpatel.com

From: Pritchard, Anita <APritchard@Scottsdaleaz.gov>
Sent: Thursday, August 22, 2024 2:29 PM
To: Yoomi Taylor <Yoomi.Taylor@asm.com>; Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>; Mars, Scott <SMars@Scottsdaleaz.gov>
Cc: Robert Saunders <rsaunders@WoodPatel.com>; Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>
Subject: RE: ASM water and sewer demands

Good afternoon all,

Please see my attached redlines. Additional explanation is included below.

FILE: 240822 5526-WP-Water Demands-DSPM-8.21.2024 AP Edits.pdf <FOR BOD AND MASTER PLAN USE>

The GPD values are all correct. For water, the GPD demand values are applied over a 12-hour period to get the values in GPM. DSPM Figure 6-1.2 has the correct demand multipliers for those demands that are in the table if this is confusing:

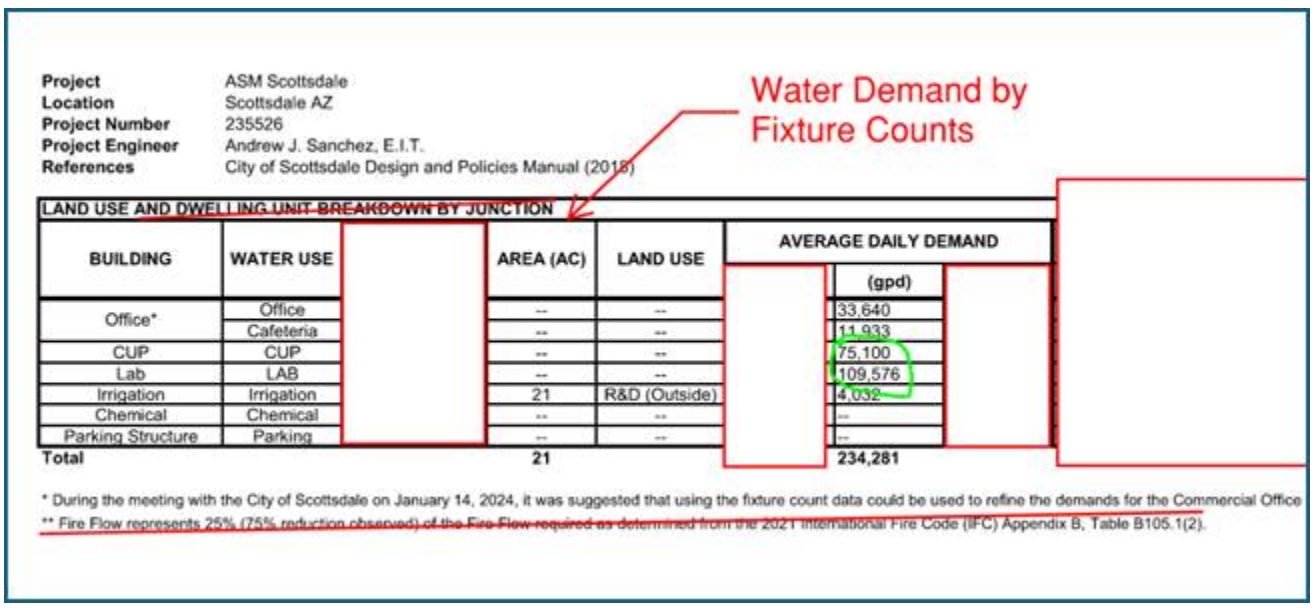
AVERAGE DAY WATER DEMANDS [1]							
IN GALLONS PER DAY (GPD) [2]				IN GALLONS PER MINUTE (GPM) [2][3]			
Land Use	Inside Use	Outside Use	Total Use	Inside Use	Outside Use	Total Use	Units
Residential Demand per Dwelling Unit							
< 2 dwelling unit per acre (DU/ac)	208.9	276.7	485.6	0.30	0.39	0.69	per unit
2 – 2.9 DU/ac	193.7	276.7	470.4	0.27	0.39	0.66	per unit
3 – 7.9 DU/ac	175.9	72.3	248.2	0.25	0.11	0.36	per unit
8 – 11.9 DU/ac	155.3	72.3	227.6	0.22	0.11	0.33	per unit
12 – 22 DU/ac	155.3	72.3	227.6	0.22	0.11	0.33	per unit
High Density Condominium (condo)	155.3	30	185.3	0.22	0.05	0.27	per unit
Resort Hotel (includes site amenities)	401.7	44.6	446.3	0.56	0.07	0.63	per room
Service and Employment							
Restaurant	1.2	0.1	1.3	1.67E-03	1.39E-04	1.81E-03	per square foot (sq.ft.)
Commercial/ Retail	0.7	0.1	0.8	9.73E-04	1.39E-04	1.11E-03	per sq.ft.
Commercial High Rise	0.5	0.1	0.6	6.95E-04	1.39E-04	8.34E-04	per sq.ft.

AVERAGE DAY WATER DEMANDS [1]							
IN GALLONS PER DAY (GPD) [2]				IN GALLONS PER MINUTE (GPM) [2][3]			
Office	0.5	0.1	0.6	6.95E-04	1.39E-04	8.34E-04	per sq.ft.
Institutional	670	670	1340	0.94	0.94	1.88	per acre
Industrial	873	154	1027	1.22	0.22	1.44	per acre
Research and Development	1092	192	1284	1.52	0.27	1.79	per acre
Special Use Areas							
Natural Area Open Space	0	0	0	0.0	0.0	0.0	per acre
Developed Open Space – Parks	0	1786	1786	0.0	2.49	2.49	per acre
Developed Open Space – Golf Course	0	4285	4285	0.0	5.96	5.96	per acre

Notes:
(1) These values shall not be used directly for service line or water meter sizing.
(2) Gallon per day values are provided for reference only. The instantaneous gallon per minute flow rates presented are intended for use in the required hydraulic modeling scenarios. The gpm values assume a 12-hour active water use period per 24-hour day. In large or specialty developments or master plans the hydraulic analysis criteria and parameters should be discussed with the Water Resources Department. Seasonal peaking should also be considered. Upon review, the Water Resources Department reserves the right to designate flows to be used in hydraulic modeling scenarios that may be different from those presented here.
(3) The hydraulic modeling peaking factors used in select modeling scenarios are to be applied to the gpm values shown here. Max day and peak hour peaking factors can be found in Section 6-1.404.

FIGURE 6-1.2 AVERAGE DAY WATER DEMANDS

For the industrial demands, you need to take the GPD values for the Lab and CUP from the Water Resource table (circled in green) and divide by 720



Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew J. Sanchez, E.I.T.
References City of Scottsdale Design and Policies Manual (2018)

Water Demand by Fixture Counts

LAND USE AND DWELLING UNIT BREAKDOWN BY JUNCTION

BUILDING	WATER USE	AREA (AC)	LAND USE	AVERAGE DAILY DEMAND (gpd)
Office*	Office	--	--	33,640
	Cafeteria	--	--	11,933
CUP	CUP	--	--	75,100
Lab	LAB	--	--	109,576
Irrigation	Irrigation	21	R&D (Outside)	4,032
Chemical	Chemical	--	--	--
Parking Structure	Parking	--	--	--
Total		21		234,281

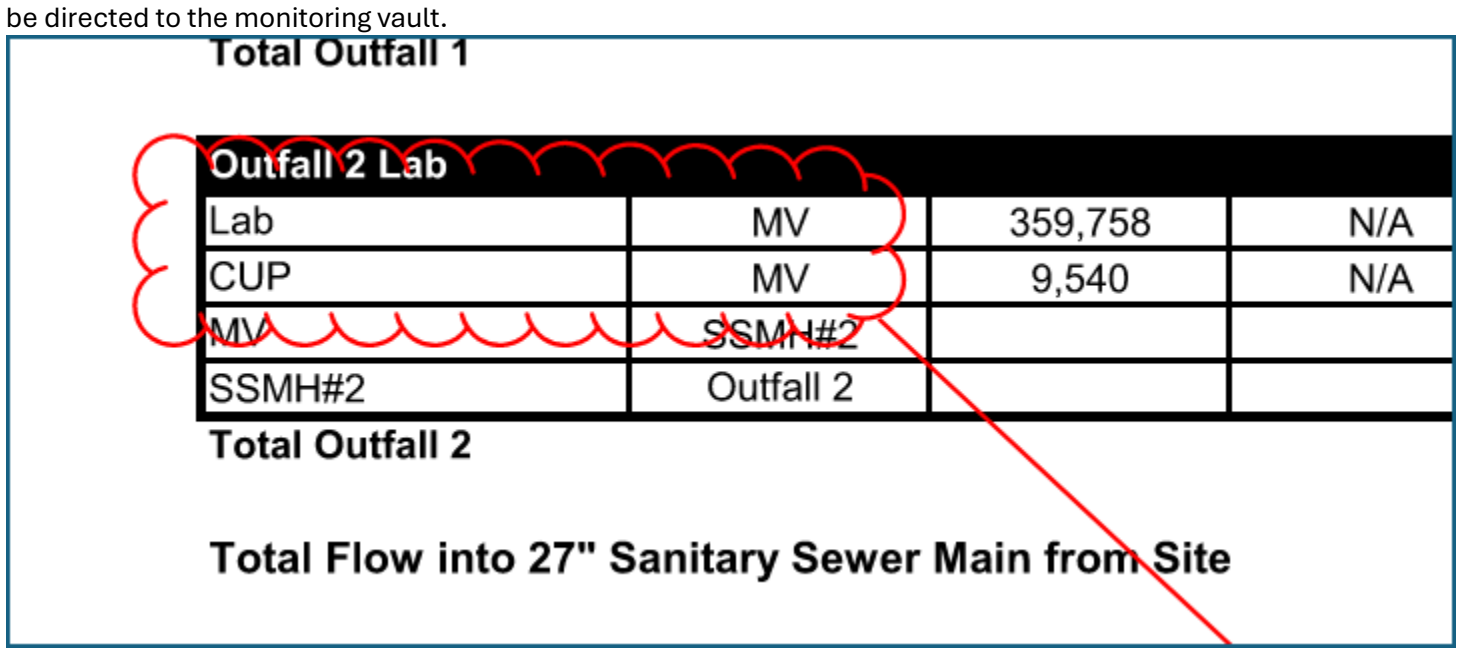
* During the meeting with the City of Scottsdale on January 14, 2024, it was suggested that using the fixture count data could be used to refine the demands for the Commercial Office
** Fire Flow represents 25% (75% reduction observed) of the Fire Flow required as determined from the 2021 International Fire Code (IFC) Appendix B, Table B105.1(2).

Here is an example dimensional analysis applying GPD over 12 hours for the CUP:

$$75{,}100\ \frac{\text{gallons}}{\text{day}} \times \frac{1\ \text{day}}{12\ \text{hours}} \times \frac{1\ \text{hour}}{60\ \text{minutes}} = 104.3\ \frac{g}{m}$$

FILE: 240822 5526-WP-Sewer Demands-DSPM-8.21.2024 AP Edits.pdf <FOR BOD AND MASTER PLAN USE>
For sewer, the flow in GPM is applied over 24 hours. The total average day flow values in gpm are not correct. Please see the formula included on the redline. Please confirm with Brian if it is acceptable that the flow data that will be collected to demonstrate the 70% return flow of laboratory water use

to the sewer metric will include flows from both the Lab and CUP. Table 2 seems to indicate that that is what is proposed because both flow streams will be directed to the monitoring vault.



Total Outfall 1			
Outfall 2 Lab			
Lab	MV	359,758	N/A
CUP	MV	9,540	N/A
MV	SSMH#2		
SSMH#2	Outfall 2		
Total Outfall 2			
Total Flow into 27" Sanitary Sewer Main from Site			

FILE: 240822 5526-WP-Water Demands-Fixtures-8.21.2024 AP Edits.pdf <FOR WATER RESOURCE USE >

Please only include the average day in GPD in the table. Remove other columns as shown on attached PDF. I have confirmed with Gretchen that the GPD used in the Fixture table is consistent with her data.

Please reach out with any further questions.

Sincerely,
Anita

From: Yoomi Taylor <Yoomi.Taylor@asm.com>
Sent: Thursday, August 22, 2024 9:01 AM
To: Biesemeyer, Brian K <BBiesemeyer@Scottsdaleaz.gov>; Pritchard, Anita <APritchard@Scottsdaleaz.gov>; Baumgardner, Gretchen <GBaumgardner@Scottsdaleaz.gov>
Cc: Robert Saunders <rsaunders@WoodPatel.com>; Baird Fullerton <baird.fullerton@asm.com>; Jeffrey Maas <jeffrey_maas@gensler.com>; Glenn Kubricky <Glenn.Kubricky@okland.com>; Darin Moore <dmoore@WoodPatel.com>; Andrew Sanchez <asanchez@woodpatel.com>; Andre Bighorse <Andre_Bighorse@gensler.com>; Odette Bakker <odette.bakker@asm.com>; Jones, Traver <traver.jones@kimley-horn.com>; Ahmad Mohandes <Ahmad.Mohandes@asm.com>
Subject: ASM water and sewer demands

⚠ External Email: Please use caution if opening links or attachments!

Hello Anita, Brian and Gretchen,

Thank you for meeting with us and getting us aligned to the information you are looking for.

Please see the attached.

1. Sewer Demands
2. Water Demands per DSPM.
3. Water Demands per fixture count which was aligned with water resources team.

Please review and advise if any further changes are needed.

Thank you and I look forward to hearing from you.

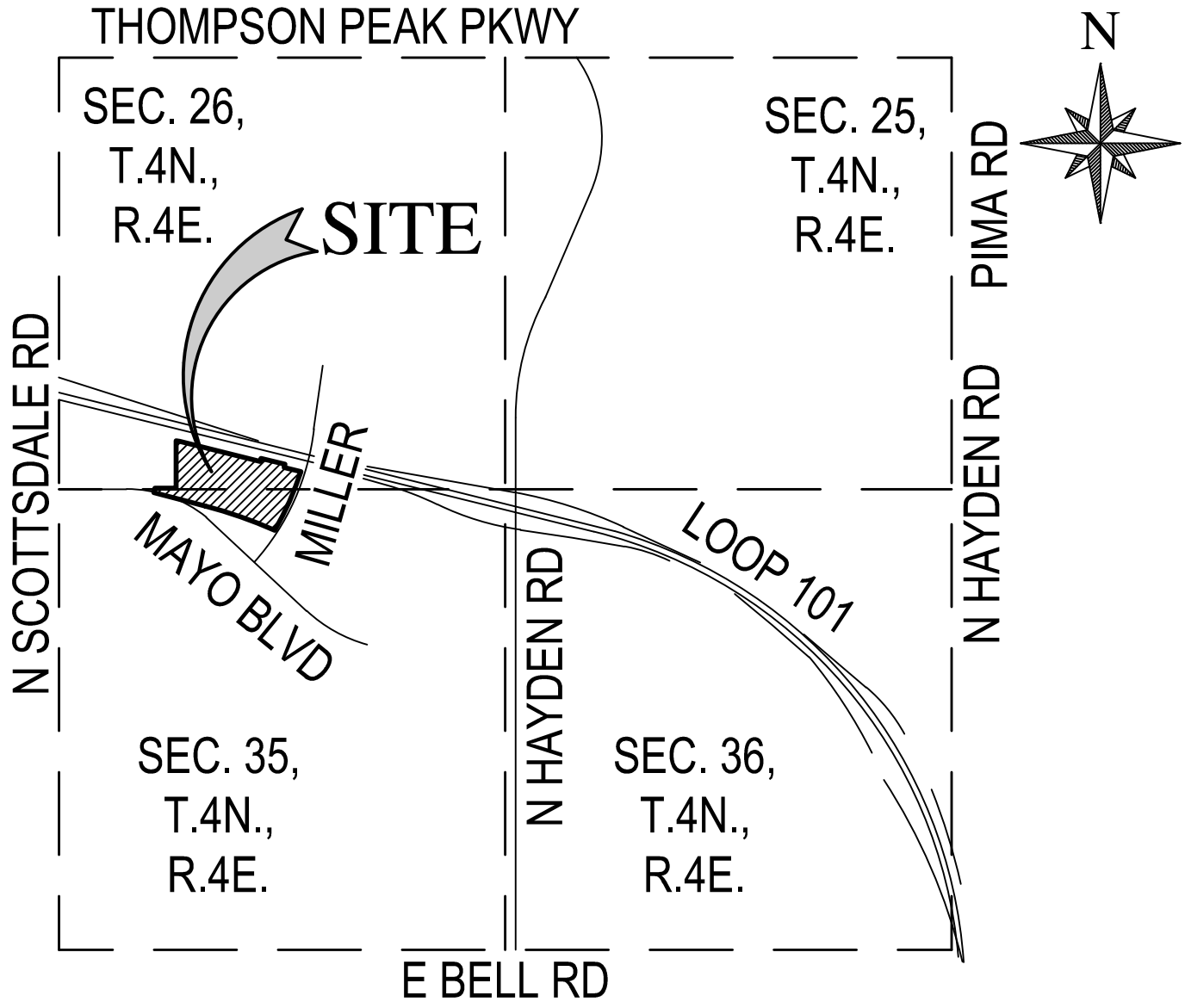
Yoomi Taylor
Head of Global Facilities

Working from: Arizona, USA
O : 602-470-6328
M : 480-280-9390

ASM

Follow us on social media

EXHIBIT 1 – VICINITY MAP



VICINITY MAP

N.T.S.

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

EXHIBIT 1 - VICINITY MAP

DATE	08/30/2024	SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	CHECK	RGS
		DRAWN	BCT	RFI #	-

Z:\2023\235526\Project Support\Reports\Drainage\Exhibits\5526-EXH1-VM.dwg 3-DR-2024

EXHIBIT 2 – WASTEWATER EXHIBIT

Show how the sewers from the CUP facility (page xx of BOD)are connected to the Outfall 2.

LOOP 101 FREEWAY

PROP. 20' W.S.F.E.

DRAINAGE EASEMENT

CHEMICAL STORAGE 1,600 SF

OFFICE 230,000 SF

CENTRAL UTILITY PLANT (CUP) 7,500 SF

PARKING GARAGE 370,000 SF

LAB 180,000 SF

FUTURE LAB 174,000 SF

FUTURE OFFICE 65,000 SF

SSMH#2

MV

SSMH#3

OUTFALL 2

OUTFALL 1

MILLER RD.

110' R/W MILLER RD ASLD 16-119941

45' R/W BK 324, PG. 50 & BK 394, PG. 42

45' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50

MAYO BLVD.

55' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50, M.C.R.

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

RIGHT OF WAY EASEMENT

DRAINAGE EASEMENT

N

0 75 150

Horz. 1 in. = 150 ft.

Private

LEGEND

- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED MONITORING VAULT
- EXISTING 18" SEWER
- EXISTING 27" SEWER
- PROPOSED 6" SEWER
- PROPOSED 8" SEWER
- PROPERTY BOUNDARY

All service line connections shall be installed perpendicular to the sanitary sewer main in accordance with MAG Standard Detail 440-3. No bends in the service line will be allowed within the right of way or easement. DSPM 7-1.409

Provide minimum 20' easement extending from the monitoring vault to the existing public wastewater system. Assure the vault is designed for access at all times to city crews. DSPM 7.1.406. Any required adjustments to the private sewer associated with the monitoring vault shall be per the direction of City of Scottsdale Water Quality Services.

OT
OR
RUCTION
CORDING

WOOD PATEL

ASM SCOTTSDALE

EXHIBIT 2 - WASTEWATER SYSTEM LAYOUT

DATE	08/30/2024	SCALE	1" = 150'	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	DRAWN	BCT

3-DR-2024

Z:\2023\235526\Project Support\Reports\Sewer BOD\Exhibits\5526-Wastewater Layout.dwg