

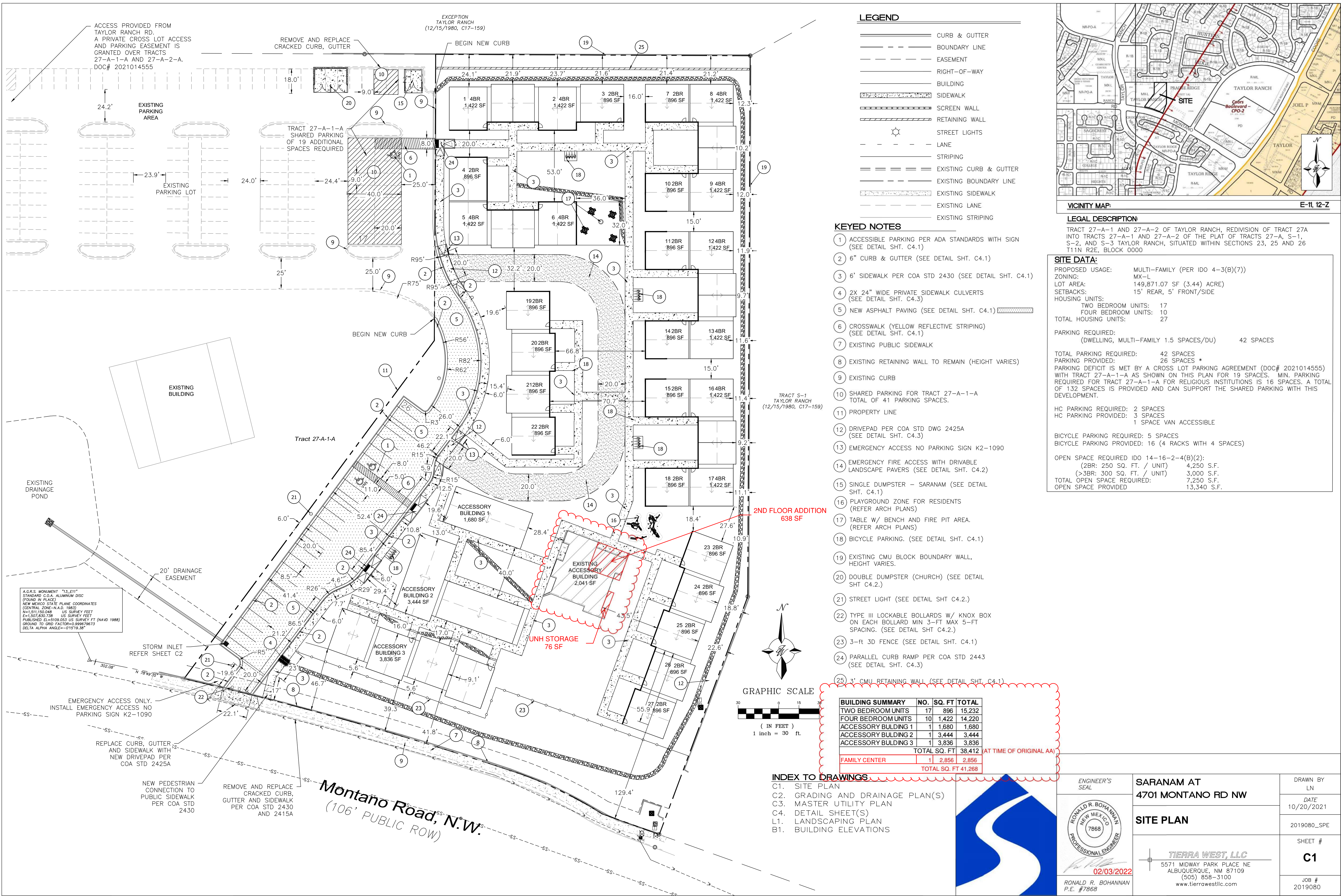
ADMINISTRATIVE AMENDMENT

FILE #: _____ PROJECT #: _____

APPROVED BY

DATE

\\TWAAS\Z_Drive\2019\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\EPIC\2019080_SPE.dwg Jan 31, 2022 - 4:51pm



\\TNAS\Z_Drive\2019\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\EPC\2019080_GRE.dwg Feb 01, 2022 - 1:57pm

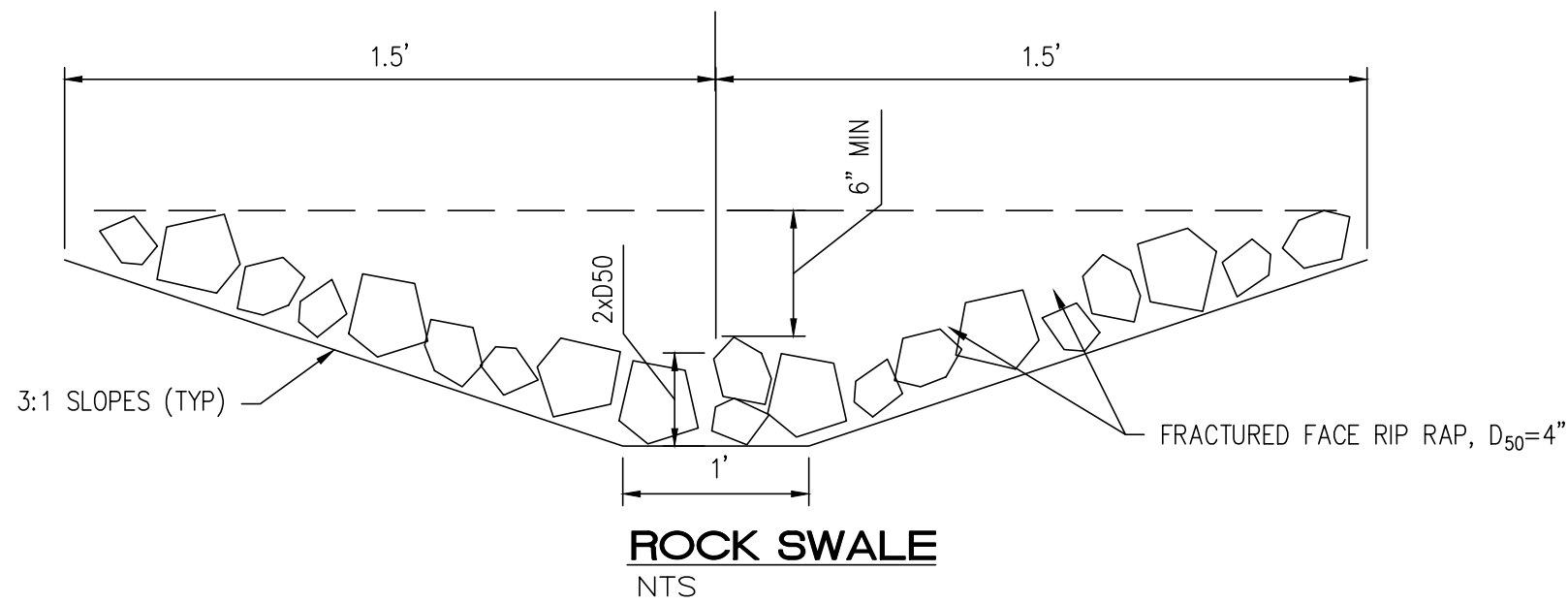
EXCEPTION
TAYLOR RANCH
(12/15/1980, C17-159)

LEGEND

	CURB & GUTTER		CONTOUR MAJOR
	BOUNDARY LINE		CONTOUR MINOR
	EASEMENT		SPOT ELEVATION
	CENTERLINE		FLOW ARROW
	RIGHT-OF-WAY		EXISTING CURB & GUTTER
	BUILDING		EXISTING BOUNDARY LINE
	SIDEWALK		EXISTING CONTOUR MAJOR
	SCREEN WALL		EXISTING CONTOUR MINOR
	FENCE LINE		EXISTING SPOT ELEVATION
	GRADE BREAK		

NOTICE TO CONTRACTORS

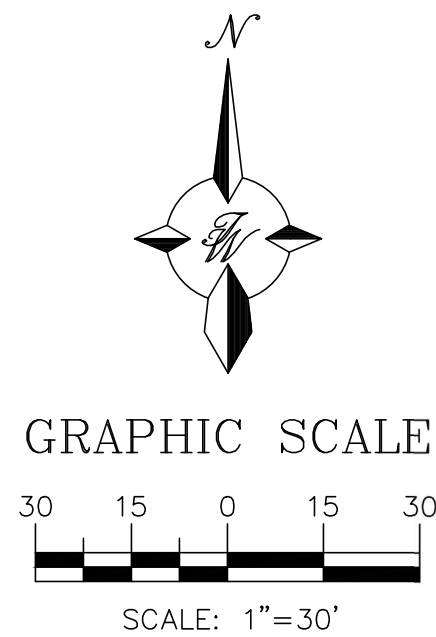
- CONTACT STORM DRAIN MAINTENANCE AT (505) 857-8033 TO SCHEDULE A MEETING PRIOR TO FORMING.
- AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT **NEW MEXICO ONE CALL, DIAL "811"** [OR (505) 260-1990] FOR THE LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED.
- WORK ON ARTERIAL STREETS MAY BE REQUIRED ON A 24-HOUR BASIS. CONTRACTOR MUST CONTACT STORM DRAIN MAINTENANCE AT (505) 857-8033 TO SCHEDULE A CONSTRUCTION INSPECTION. FOR EXCAVATING AND BARRICADING INSPECTIONS, CONTACT CONSTRUCTION COORDINATION AT (505) 924-3416.



2ND FLOOR ADDITION
638 SF

UNH STORAGE
76 SF

CAUTION
ALL EXISTING UTILITIES/TOPOGRAPHY SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.



	ENGINEER'S SEAL	SARANAM AT 4701 MONTANO RD NW	DRAWN BY LN
		GRADING PLAN (OVER ALL)	DATE 10/20/2021
			SHEET # C2.2
			JOB # 2019080

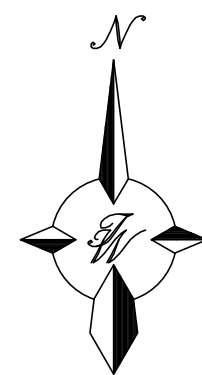
\\TNAS\Z_Drive\2019\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\PC\2019080_GRE.dwg Feb 01, 2022 - 1:57pm

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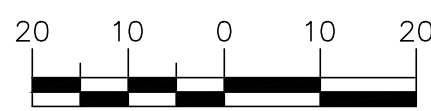
EXISTING
BUILDING

Tract 27-A-1-A

TRACT S-1
TAYLOR RANCH
(12/15/1980, C17-159)



GRAPHIC SCALE



SCALE: 1"=20'

LEGEND

	CURB & GUTTER		CONTOUR MAJOR
	BOUNDARY LINE		CONTOUR MINOR
	EASEMENT		SPOT ELEVATION
	CENTERLINE		FLOW ARROW
	RIGHT-OF-WAY		EXISTING CURB & GUTTER
	BUILDING		EXISTING BOUNDARY LINE
	SIDEWALK		EXISTING CONTOUR MAJOR
	SCREEN WALL		EXISTING CONTOUR MINOR
	FENCE LINE		EXISTING SPOT ELEVATION
	GRADE BREAK		

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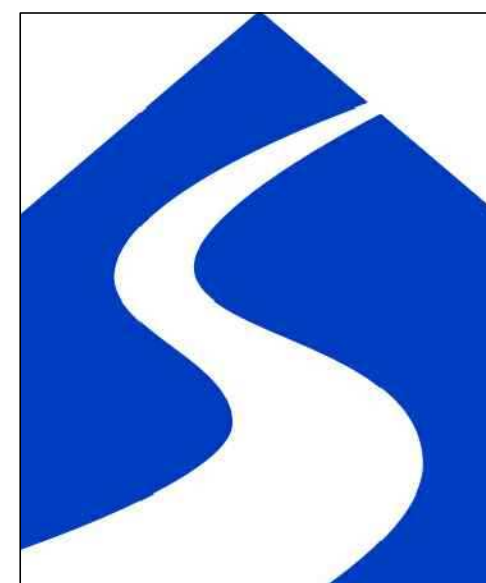
SPOT ELEVATION LEGEND

SW=SIDEWALK ELEVATION
FL=FLOW LINE ELEVATION
TC=TOP OF CURB ELEVATION
FF=FINISHED FLOOR ELEVATION

SPOT ELEVATION NOTE:

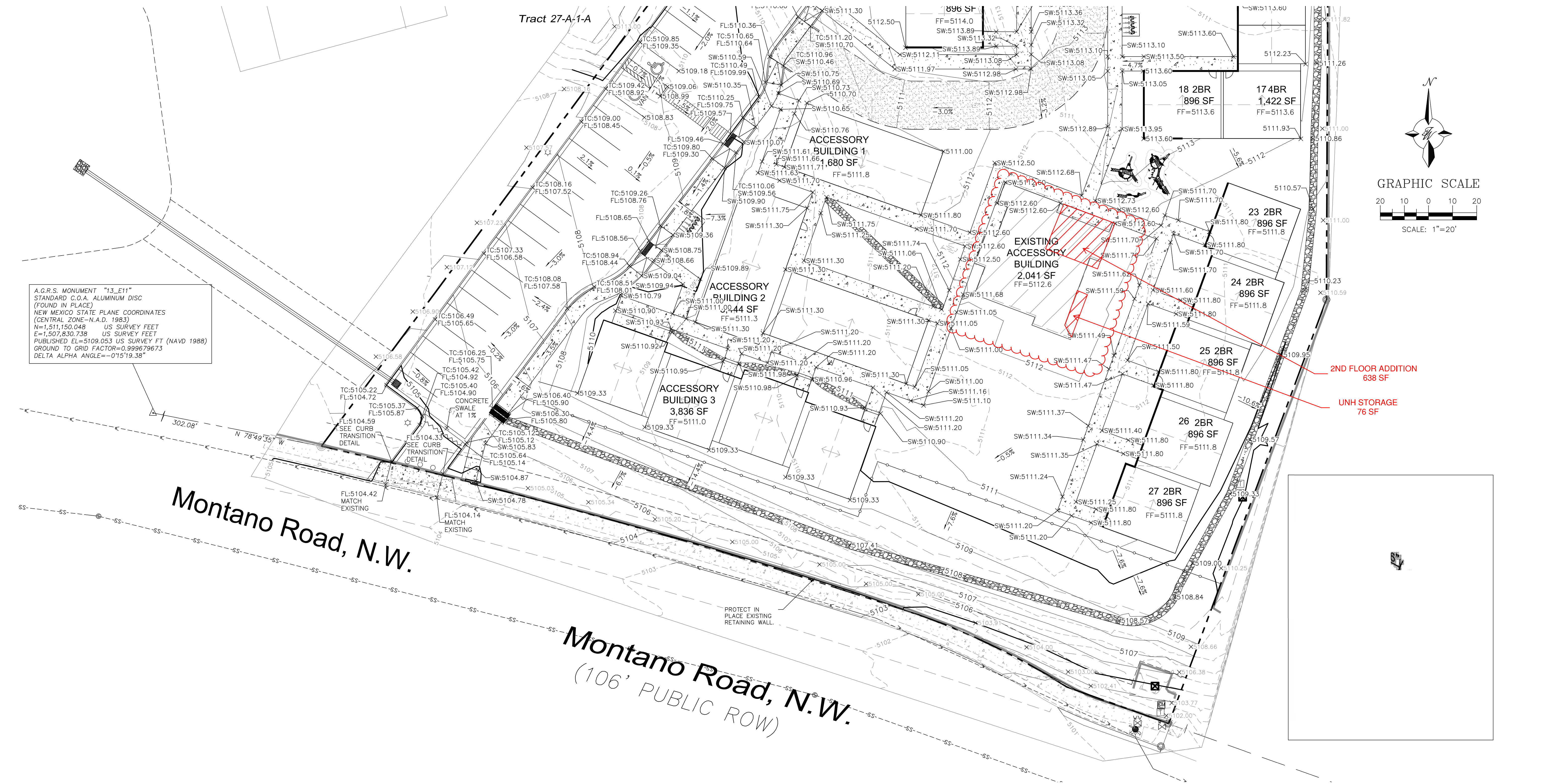
ALL SPOT ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE NOTED.

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	ENGINEER'S SEAL	SARANAM AT 4701 MONTANO RD NW	DRAWN BY LN
			DATE 10/20/2021
		DETAILED GRADING PLAN (NORTH)	2019080_GRE
		 TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # C2.3
RONALD R. BOHANNAN P.E. #7868			JOB # 2019080

\\TNAS\Z_Drive\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\PC\2019080_GRE.dwg 01. 2022 - 1:58pm



LEGEND

—	CURB & GUTTER	—5010—	CONTOUR MAJOR
- - -	BOUNDARY LINE	—5011—	CONTOUR MINOR
- - -	EASEMENT	x 5048.25	SPOT ELEVATION
- - -	CENTERLINE	→	FLOW ARROW
—	RIGHT-OF-WAY	—	EXISTING CURB & GUTTER
—	BUILDING	—	EXISTING BOUNDARY LINE
—	SIDEWALK	—5010—	EXISTING CONTOUR MAJOR
—	SCREEN WALL	—5011—	EXISTING CONTOUR MINOR
—	FENCE LINE	x 5048.25	EXISTING SPOT ELEVATION
—	GRADE BREAK		

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SPOT ELEVATION LEGEND

SW=SIDEWALK ELEVATION
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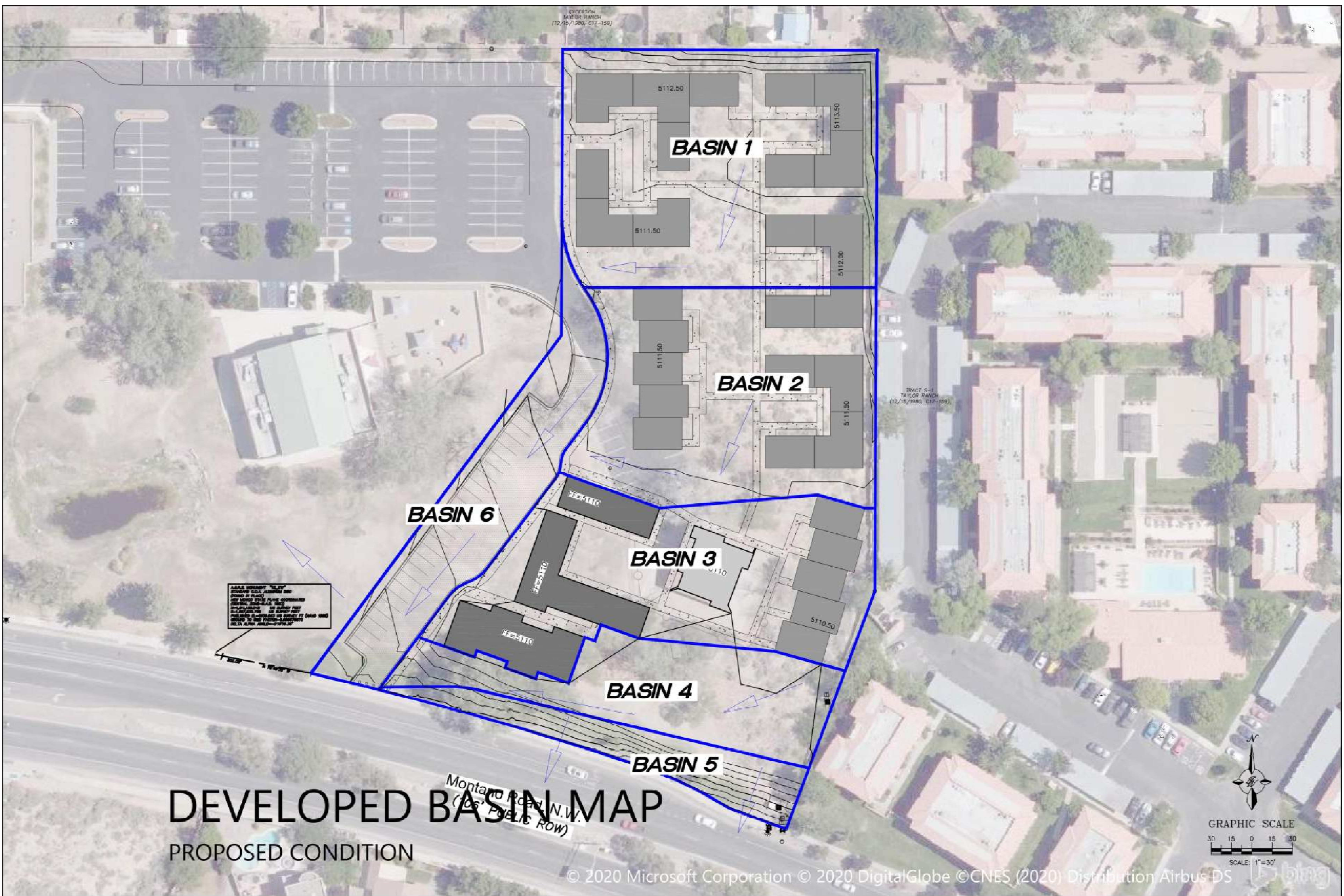
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 RONALD R. BOHANNAN P.E. #7868	ENGINEER'S SEAL	SARANAM AT 4701 MONTANO RD NW DETAILED GRADING PLAN (SOUTH)	DRAWN BY LN
			DATE 10/20/2021
			2019080_GRE
			SHEET # C2.4 JOB # 2019080

\\TNAS\Z_Drive\2019\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\EPG\2019080_GRE.dwg Feb 01, 2022 - 1:56pm



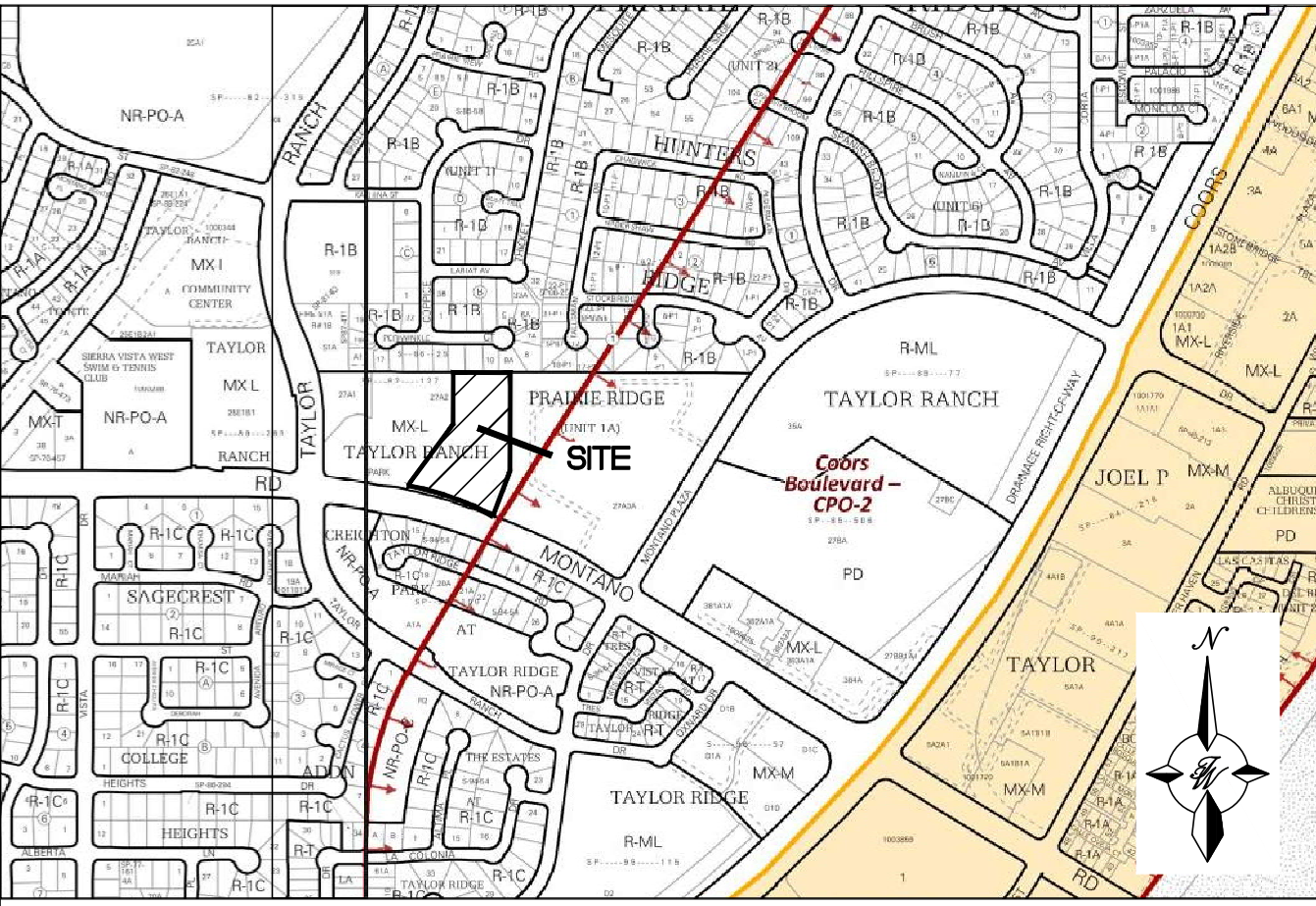
INTRODUCTION & REFERENCE FILES
FILE #: E11D013 & E11D013B

FLOOD PLAIN
THE PROJECT AREA IS INCLUDED ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL 35001C0114H DATED AUGUST 16, 2012 AND IS SHOWN ON THIS PAGE. THE MAP INDICATES THE SITE LIES WITHIN FLOOD ZONE X, AN AREA OF MINIMAL FLOOD HAZARD.

HISTORIC DRAINAGE:
THERE IS NO OFFSITE FLOWS INTO THE PARCEL. THE HISTORIC DRAINAGE RUNOFF IS RETAINED ONSITE WITH THE PARCEL DRAINING TO THE EXISTING LAKE AT THE SOUTHWEST CORNER. IT APPEARS FROM A CURSORY REVIEW OF THE AVAILABLE DOCUMENTS THE LAKE WAS SIZED TO ACCOMMODATE THE ENTIRE PARCEL IN A DEVELOPED STATE, AS DETAILED ON THE SITE DEVELOPMENT PLAN. THE LAKE IS AT LEAST 6 FEET DEEP AND THERE IS AN EXISTING MARSH/WETLAND AREA THAT WAS PLANTED AND IS IN GOOD HEALTH FOR ALBUQUERQUE. A SMALL PORTION OF THE EMBANKMENT ALONG THE FRONTAGE DRAINS DIRECTLY INTO MONTANO RD. THIS SLOPED LANDSCAPED AREA WILL REMAIN IN THE DEVELOPED CONDITION AND FREELY DISCHARGE.

PROPOSED DRAINAGE:
THE WEIGHTED E METHOD FROM THE "CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME I - DESIGN CRITERIA, 2006 REVISION" WAS USED TO CALCULATE THE RUNOFF AND VOLUME FOR THE SITE. THE HYDROLOGY TABLES ARE SHOWN ON THIS PAGE. THE SITE WAS DIVIDED INTO 6 BASINS WITH THE APPROPRIATE LAND TREATMENT DETERMINED AS SHOWN IN THE DRAINAGE TABLE. THE MAJORITY OF THE SITE WILL SHEET FLOW AND BE DIRECTED BY CURB AND GUTTER TO A 3'X3' GRATE INLET IN THE PARKING LOT IN THE SOUTH WEST CORNER OF THE SITE WHICH HAS THE INLET CAPACITY FOR THE EXPECTED FLOW. ROOF DRAINS FROM THE RESIDENTIAL BUILDINGS SHALL BE DIRECTED INTO THE PARKING LOT AREA AND SHEET FLOW ACROSS THE PROPERTY. THE RUNOFF SHALL THEN BE DISCHARGED DIRECTLY TO THE LAKE VIA AN 18-INCH HDPE PIPE THAT HAS THE CAPACITY TO CONVEY THE DESIGN FLOWS. THE LANDSCAPED EMBANKMENT ALONG MONTANO WILL FREELY DISCHARGE INTO THE STREET AND DOES NOT CONTRIBUTE SIGNIFICANT FLOWS. A SMALL PORTION OF THE DRIVEWAY ENTRANCE SHALL ALSO FLOW INTO MONTANO RD. NEW DEVELOPMENT SITES ARE REQUIRED TO CAPTURE AND INFILTRATE THE "STORMWATER QUALITY VOLUME" FROM THE 90TH PERCENTILE STORM. THE METHODOLOGY USED IN THE EPA REPORT "ESTIMATING PREDEVELOPMENT HYDROLOGY IN THE MIDDLE RIO GRANDE WATERSHED" APRIL 2014, YIELDS A RUNOFF VALUE OF 0.42 INCHES FOR THE 90TH PERCENTILE STORM. THEREFORE THE REQUIRED STORMWATER QUALITY VOLUME TO BE CAPTURED AND INFILTRATED IS THE PRODUCT OF THE IMPERVIOUS AREA MULTIPLIED BY 0.42 INCHES FOR NEW DEVELOPMENT SITES.

THE PEAK DISCHARGE FOR THE ENTIRE SITE IS 9.3 CFS WHICH IS MORE THAN THE HISTORIC FLOWS DUE TO THE IMPERVIOUS AREAS BEING PROPOSED BUT THE LAKE WILL HAVE THE CAPACITY TO RETAIN THE ADDITIONAL VOLUME GENERATED FROM THIS DEVELOPMENT AND WILL THEREFORE MEET THE FIRST FLUSH REQUIREMENTS. THE 10 DAY VOLUME WAS CALCULATED AND THE CAPACITY OF THE LAKE WILL BE VERIFIED TO CONFIRM THERE IS EXCESS CAPACITY.



DPM Weighted E Method

Precipitation Zone 1
East of Mesa View United Methodist Church
4701 Montano Rd NW, Albuquerque, NM 87120
TWLLC Date 2/24/2020

Existing Conditions											100-Year, 6-Hr			10-Year, 6-Hr			
Basin Descriptions											Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Flow cfs	
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)								
1	126,434	2.90	0.00454	88%	2.554	0%	0.000	0%	0.000	12%	0.348	0.624	0.151	4.82	0.219	0.053	1.62
2	23,437	0.54	0.00084	100%	0.538	0%	0.000	0%	0.000	0%	0.000	Total On Site Retention pond					
												0.440	0.020	0.69	0.080	0.004	0.13
												Total Montano Rd					
Total	149,871	3.44	0.00538		3.092		0.000		0.000		0.348		0.171	5.51		0.057	1.75

Proposed Conditions				Basin Descriptions								100-Year, 6-Hr			10-Year, 6-Hr			100-Year, 10-day			SWQV	
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Volume (cf)	Required (cf)	Provided (cf)
				%	(acres)	%	(acres)	%	(acres)	%	(acres)											
1	40,617	0.93	0.00146	0%	0.000	65%	0.606	0%	0.000	35%	0.326	1.125	0.087	2.66	0.577	0.045	1.40	1.125	0.130	5,676	498	
2	33,156	0.76	0.00119	0%	0.000	67%	0.510	0%	0.000	33%	0.251	1.099	0.070	2.13	0.557	0.035	1.11	1.099	0.110	4,797	383	
3	33,504	0.77	0.00120	0%	0.000	55%	0.423	0%	0.000	45%	0.346	1.255	0.080	2.37	0.679	0.044	1.32	1.255	0.136	5,905	528	
4	16,888	0.39	0.00061	100%	0.388	0%	0.000	0%	0.000	0%	0.000	0.440	0.014	0.50	0.080	0.003	0.09	0.440	0.014	619	0	
5	8,212	0.19	0.00029	100%	0.189	0%	0.000	0%	0.000	0%	0.000	0.440	0.007	0.24	0.080	0.001	0.05	0.440	0.007	301	0	
6	17,494	0.40	0.00063	0%	0.000	20%	0.080	0%	0.000	70%	0.281	1.513	0.051	1.39	0.912	0.031	0.87	1.513	0.136	5,941	429	
Total	149,871	3.44	0.00538		0.576		1.619		0.000		1.205		0.309	9.296		0.158	4.851		0.534	23,239	1,837	-

Excess Precipitation, E (in.)			
Zone 1	100-Year	10-Year	
Ea	0.44	0.08	
Eb	0.67	0.22	
Ec	0.99	0.44	
Ed	1.97	1.24	

Peak Discharge (cfs/acre)			
Zone 1	100-Year	10-Year	
Qa	1.29	0.24	
Qb	2.03	0.76	
Qc	2.87	1.49	
Qd	4.37	2.89	

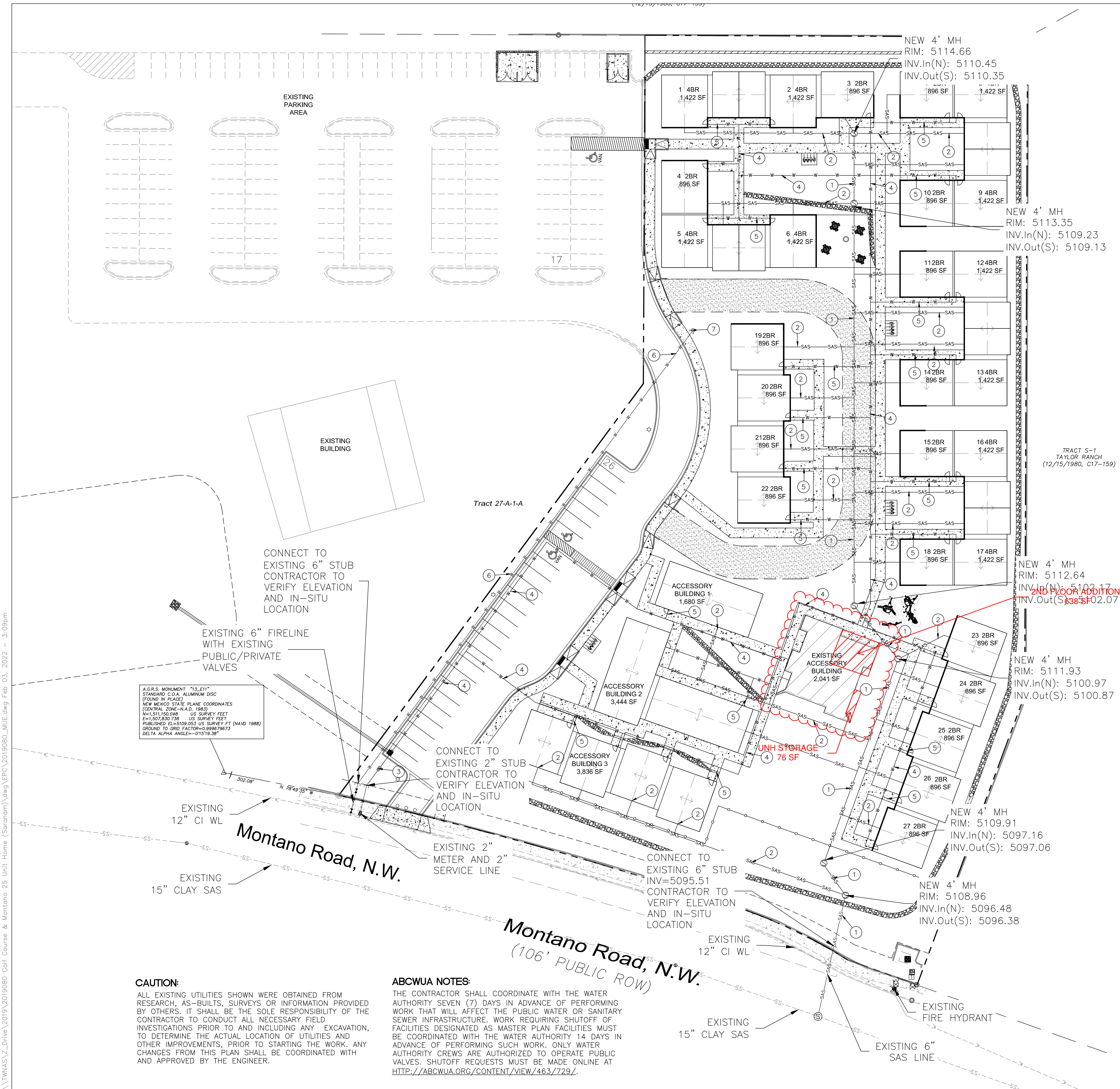
Equations:
Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)
Volume = Weighted E * Total Area
Flow = Qa*Aa + Qb*Ab + Qc*Ac + Qd*Ad

Stormwater Quality Volume
Total Impervious Area =
Retainage depth = 0.42" Per DPM Pg. 272 0.035
Retention Volume =
= 0.035 x area
Foot
Cubic Feet



	ENGINEER'S SEAL	SARANAM AT 4701 MONTANO RD NW BASIN MAP PLAN	DRAWN BY LN
			DATE 10/20/2021
			2019080_GRE
			SHEET # C2.1 JOB # 2019080

\\TWAS\Z_Drive\2019\2019080 Golf Course & Montano 25 Unit Home (Saranam)\dwg\EPIC\2019080_MUE.dwg Feb 03, 2022 - 3:05pm



LEGEND

	CURB & GUTTER
	BOUNDARY LINE
	BUILDING
	EXISTING SIDEWALK
	RETAINING WALL
	EXISTING CURB & GUTTER
	SANITARY SEWER LINE
	WATERLINE
	EXISTING SAS MANHOLE
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING WATER METER
	EXISTING POWER POLE
	EXISTING GAS VALVE
	EXISTING OVERHEAD UTILITIES
	EXISTING UNDERGROUND UTILITIES
	EXISTING GAS
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING STORM SEWER LINE

KEYED NOTES

- 1 6" SANITARY SEWER LINE @ 2.9% SLOPE
- 2 4" SAS SERVICE LINE (CONTRACTOR TO VERIFY EXACT BUILDING CONNECTION POINTS WITH BUILDING PLUMBING PLANS) (INSTALL CLEAN OUTS PER UPC)
- 3 DOMESTIC WATERLINE BACK FLOW PREVENTOR WITH HOT BOX
- 4 2" DOMESTIC WATERLINE
- 5 3/4" WATER SERVICE LINE (CONTRACTOR TO VERIFY EXACT BUILDING CONNECTION POINTS WITH BUILDING PLUMBING PLANS)
- 6 6" FIRE LINE
- 7 PRIVATE FIRE HYDRANT (PAINTED ORANGE)

NOTE:

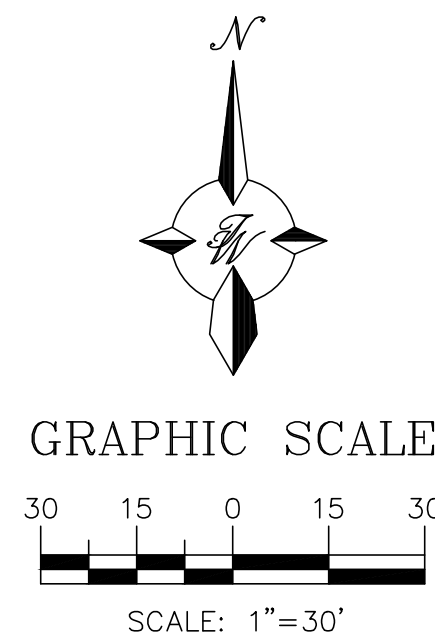
1. ALL WATERLINES ARE C900 PVC (DR18) UNLESS OTHERWISE NOTED. (USE DUCTILE IRON AS SUBSTITUTE)
2. ALL SANITARY SEWER LINES ARE TO BE SDR-35 PVC UNLESS OTHERWISE NOTED.
3. ALL MANHOLES <6" SHALL USE TYPE "C" MANHOLE PER ABCWUA DWG. 2101.
4. ALL MANHOLES >6" SHALL USE TYPE "E" MANHOLE PER ABCWUA DWG. 2102.

GENERAL UTILITY NOTES:

1. ALL WATER AND SEWER UTILITY WORK TO BE DONE IN ACCORDANCE WITH CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC UTILITY CONSTRUCTION, 1986 EDITION (UPDATE NO 8) INCLUDING AMENDMENT NO 1.
2. REFERENCE ARCHITECTURAL PLANS FOR WATER LINE RISER LOCATIONS.
3. CLEAN OUTS ARE TO BE BUILT PER UNIFORM PLUMBING CODE STANDARDS.
4. ALL PLUMBING PIPE MATERIAL TO BE USED PER UPC.
5. IRRIGATION AND DOMESTIC WATERLINE MUST HAVE BACKFLOW PREVENTORS PER UPC. IF BACKFLOW PREVENTOR IS INSTALLED EXTERIOR OF BUILDING A HOT BOX SHALL BE INSTALLED AND USED.
6. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.
7. ALL UTILITY DISTANCES SHOWN ARE FOR REFERENCE ONLY. CALL 811 FOR PUBLIC UTILITIES LOCATES.
9. PNM WILL REVIEW ALL TECHNICAL NEEDS, ISSUES AND SAFETY CLEARANCES FOR ITS ELECTRIC POWER SYSTEMS. ANY EXISTING AND PROPOSED PUBLIC UTILITY EASEMENTS SHALL BE INDICATED ON THE SITE PLAN UTILITY SHEET PRIOR TO DRB REVIEW. PNM'S STANDARD FOR PUBLIC UTILITY EASEMENTS IS 10 FEET IN WIDTH TO ENSURE ADEQUATE, SAFE CLEARANCES.

GENERAL UTILITY NOTES:

1. CONTRACTOR MUST COORDINATE WATER SYSTEM WITH SEWER SYSTEM TO PREVENT ANY CONFLICTS WHERE THESE LINES INTERSECT ONE ANOTHER.
2. PROVIDE 3 FEET OF COVER MINIMUM FOR ALL PROPOSED WATER LINES.
3. AREAS WHERE WATER PIPES CROSS OVER SEWER PIPES SHALL NOT HAVE ANY JOINTS.
4. NO FENCES, SIGNS, TREES OR ROCKWALLS TO BE PLACED WITHIN UTILITY EASEMENTS.
5. CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
6. INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
7. PROVIDE ADEQUATE CONCRETE THRUST BLOCKING AT THE FOLLOWING: TAPPING SLEEVES, TEES, BENDS, PLUGS AND ALL FITTINGS. REFER TO ABCWUA STANDARD DETAIL DRAWING 2320
8. P.V.C. PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.
9. CAUTION: VERIFY LOCATION & DEPTH OF EXISTING GAS MAIN IN THE AREA OF CONSTRUCTION, BEFORE INSTALLING WATER LINE.
10. CONTRACTOR TO ADJUST WATER VALVES TO FINAL GRADE WHERE NECESSARY.



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ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

ABCWUA NOTES:

THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT [HTTP://ABCWUA.ORG/CONTENT/VIEW/463/729/](http://abcwua.org/content/view/full/463/729/).



	ENGINEER'S SEAL	SARANAM AT 4701 MONTANO RD NW	DRAWN BY LN
		MASTER UTILITY PLAN	DATE 10/20/2021
			2019080_MUE
			SHEET # C3
		TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	JOB # 2019080