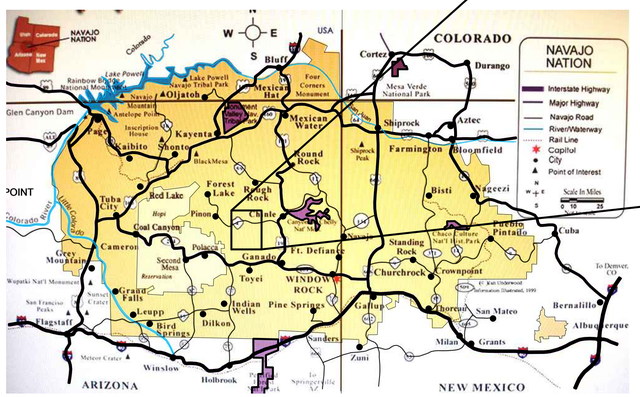
NAVAJO TECHNICAL UNIVERSITY
CHINLE MOBILE HOME PARK

NAVAJO NATION, CHINLE, ARIZONA

April 2024

PROJECT DESCRIPTION:
DEVELOPMENT OF A MOBILE HOME PARK, LOCATED AT THE NTU CAMPUS IN, CHINLE, AZ



1 OVERALL SITE PLAN - NAVAJO NATION
SCALE: NTS

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NOTE:

SURVEY AND EXISTING CONDITIONS FOR COORDINATION ONLY.

CERTIFICATION

I, FRANCISCO X. URUETA, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF ARIZONA NO. 50852, DO HEREBY CERTIFY THAT THE FOLLOWING PLANS AND DESIGNS WERE MADE UNDER MY SUPERVISION AND DIRECTION ON BEHALF OF SOUDER MILLER AND ASSOCIATES AND THAT SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

6/30/25
FRANCISCO URUETA, P.E. AZPE 50852, DATE
SENIOR ENGINEER

811 Know what's below. Call before you dig.

Registered Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO URUETA Date Signed 6/27/24 ARIZONA, U.S.A.
Expires 6/30/25

Rev #	Date	Description	By	Chk'd

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P:\9-NTU Chinle Mobile Home Park (9433231)\CAD\Civil\PLAN SET\SITE.dwg, 4/22/2024 12:21:31 PM pzr

GENERAL NOTES:

1. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE CONSTRUCTION LIMITS OF THIS PROJECT AND WILL BE RESPONSIBLE FOR ANY PRIVATE AGREEMENTS NECESSARY TO EXECUTE THIS CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS EQUIPMENT TO PUBLIC OR PRIVATE PROPERTY.
2. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
3. THIS DESIGN WAS COMPLETED WITHOUT THE BENEFIT OF GEOTECHNICAL REPORT. ALL FILL, AGGREGATES AND SUITABLE MATERIAL MUST BE OBTAINED FROM COMMERCIAL SOURCES. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING A SUITABLE SOURCE MEETING ALL REQUIREMENTS OF THIS CONTRACT.
4. CONTRACTOR SHALL COORDINATE SITE ACCESS AND STAGING AREA WITH OWNER/ARCHITECT.
5. THE CONTRACTOR SHALL USE CAUTION AT ALL EXISTING STRUCTURES INCLUDING ALL UNREINFORCED MASONRY WALLS, BUILDINGS, ETC., THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO ANY STRUCTURES, DRIVEWAYS, LIGHT FIXTURES, AND WATER METERS, ETC.. AND SHALL REPAIR THE DAMAGES AT CONTRACTORS OWN EXPENSE.
6. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ARIZONA DOT STANDARD SPECIFICATIONS. ALL UTILITY WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ARIZONA DOT AND NAVAJO TRIBAL UTILITY AUTHORITY (NTUA) STANDARD DRAWINGS AND SPECIFICATIONS AND SPECIFICATIONS IN THE PROJECT MANUAL UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL DETERMINE AND COMPLY WITH ALL APPROPRIATE LOCAL, STATE AND FEDERAL REGULATIONS AND REQUIREMENTS.
8. WHEN ABUTTING NEW CONCRETE TO EXISTING ASPHALT, SAW CUT EXISTING CONCRETE TO A NEAT STRAIGHT LINE TO MATCH NEW A CONCRETE DEPTH.
9. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR DEVELOPING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DOCUMENT FOR THE PROJECT AND PROVIDING, BUILDING, MANAGING AND MAINTAINING ALL BEST MANAGEMENT PRACTICES (BPM'S) AND TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE SWPPP DOCUMENT FOR THE ENTIRE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE NOTICE OF INTENT (NOI) WITH EPA PRIOR TO CONSTRUCTION AND THE NOTICE OF TERMINATION AFTER COMPLETION AND ACCEPTANCE OF CONSTRUCTION AND CONDITIONS FOR AN N.O.T. PERMIT HAVE BEEN MET.
10. ALL ASPHALT PAVED SURFACES SHALL HAVE A MINIMUM SLOPE OF 1.00%. THE CONTRACTOR SHALL FIELD VERIFY AND NOTIFY THE PROJECT ENGINEER IF ANY ASPHALT PAVED SURFACES SLOPES ARE LESS THAN 1.00% PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EXISTING ASPHALT PAVING. THERE SHALL BE NO PAVEMENT CUTS, UNLESS PAVEMENT CUTS ARE EXPLICITLY NEEDED. SAWCUT ASPHALT OR CURB AND GUTTER TO A CLEAN, STRAIGHT EDGE. REPLACE SECTIONS AND MATCH TO EXISTING SECTIONS OF ASPHALT, CONCRETE, BASE COURSE, AND/OR SUBGRADE PREPARATION. REMOVE AND REPLACE ANY AREAS OF DISTURBED LANDSCAPING. CONTRACTOR SHALL SUBMIT NEW SECTION TO PROJECT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE ASPHALT DUE TO CONSTRUCTION ACTIVITY WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
12. ACCESS TO ALL LOCAL BUSINESSES (INCLUDING ALL DELIVERIES) AND RESIDENCES SHALL BE KEPT OPEN AT ALL TIMES. ANY ACCESS CLOSURE MUST BE SCHEDULED WITH THE PROPERTY OWNERS AT LEAST 48 HOURS IN ADVANCE AND APPROVED BY THE OWNER/ENGINEER.
13. DURING THE CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY TEMPORARY DRAINAGE MEASURES NECESSARY TO SAFELY CONVEY STORM WATER RUNOFF. ANY DAMAGES TO PUBLIC OR PRIVATE PROPERTY OR IMPROVEMENTS CONSTRUCTED BY THE CONTRACTOR RESULTING FROM STORM WATER FLOWS IN THE PROJECT VICINITY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
14. MAINTENANCE OF DRAINAGE FACILITIES (E.G. WATER QUALITY POND, DRAINAGE SWALES) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE PROJECT IS ACCEPTED BY THE OWNER OF THE PROPERTY SERVED.
15. ALL EXISTING TOPOGRAPHIC DATA SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM A TOPOGRAPHIC SURVEY PROVIDED BY: SOUDER, MILLER & ASSOCIATES DATED 05/26/22.
16. THE CONTRACTOR SHALL PROVIDE MATERIAL SUBMITTALS ON ALL CIVIL SITE RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION,
17. THE CONTRACTOR SHALL DEVELOP THE TRAFFIC CONTROL PLAN AND SHALL PROVIDE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AND CONSTRUCTION SIGNING IN ACCORDANCE WITH THE "MUTCD" (LATEST EDITION) DURING THE CONSTRUCTION PERIOD (WORKING AND NON-WORKING HOURS). ANY NECESSARY DEVIATION FROM THE "MUTCD" SHALL HAVE PRIOR APPROVAL OF THE PROJECT ENGINEER OR CONSTRUCTION INSPECTOR. THE CONTRACTOR SHALL SUBMIT A COPY OF THE PROPOSED TRAFFIC CONTROL PLAN TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION. THIS PLAN SHALL SATISFY THE REQUIREMENTS FOR PUBLIC SAFETY AND TRAVELING PUBLIC AS WELL AS THE REQUIREMENTS OF "MUTCD" AND SHALL BE REVISED AS NECESSARY TO MEET THE REQUIREMENTS DURING THE CONSTRUCTION PERIOD. THE SECTIONS OF ROADWAY WHICH ARE OPEN TO TRAFFIC SHALL BE KEPT IN GOOD RIDING CONDITION AND CLEAR OF HAZARDS TO TRAFFIC. THE SAFETY AND COMFORT OF THE TRAVELING PUBLIC AND ACCESS TO RESIDENCES AND OTHER TURNOUTS SHALL BE OF PRIMARY CONSIDERATION.
18. THE CONTRACTOR SHALL NOTIFY THE PROJECT ARCHITECT AND PROJECT ENGINEER OF ANY CONFLICT WITH SITE UTILITIES OR FEATURES AND OBTAIN A RESOLUTION PRIOR TO PROCEEDING WITH THE WORK
19. CONTRACTOR SHALL TAKE PRECAUTIONS AS NECESSARY TO PROTECT FROM DAMAGING EXISTING UTILITY LINES, WALKS, LANDSCAPING, ETC. WHICH WILL REMAIN AS PART OF THE FINAL SYSTEM. CONTRACTOR SHALL REPAIR AND/OR RESTORE THESE ITEMS AS REQUIRED TO PRE-CONSTRUCTION CONDITION.
20. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND OBTAINING ALL NECESSARY PERMITS AS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
21. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY SPOT ELEVATIONS ON THE GRADING AND DRAINAGE PLAN WHICH APPEAR TO BE AMBIGUOUS OR DO NOT MEET THE INTENT OF THE GRADING AND DRAINAGE PLAN.
22. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DOES NOT MEET ADA ACCESSIBILITY REQUIREMENTS. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.95%, ALL SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 4.95%, AND ALL RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 12:1.
23. ALL SIDEWALKS AND CONCRETE FLATWORK SHALL HAVE A MINIMUM OF 0.5% SLOPE. CONTRACTOR SHALL CONTACT PROJECT ENGINEER IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DO NOT MEET THIS REQUIREMENT.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QC TESTING ON THE PROJECT. THE OWNER MAY CONDUCT QA TESTING ON THE PROJECT AS DEEMED NECESSARY BY THE OWNER.
25. ROUGH GRADING SHALL BE COMPLETED WITHIN 1/10 OF A FOOT OF PLAN GRADE PRIOR TO INSTALLING WATER AND WASTEWATER UTILITIES.

WATER & SEWER UTILITY GENERAL NOTES:

1. IF THERE IS A CONFLICT BETWEEN PROPOSED SEWER SERVICE AND WATER SERVICE LINES, THE CONTRACTOR SHALL ADJUST THE WATER SERVICES AS NECESSARY TO COMPLETE THE WORK. 10' MINIMUM SEPARATION BETWEEN THE WATER AND SEWER PIPES, WHEN THE 10' HORIZONTAL SEPARATION CAN'T BE ACHIEVED, THE WATER LINE AND SEWER LINE CAN BE CLOSER THAN 10' AS LONG AS THE WATER LINE IS 18" ABOVE THE SEWER LINE (O.D. TO O.D.).
2. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL IDENTIFY, LOCATE AND THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL IDENTIFY, LOCATE AND REMOVE ALL SUPERFLUOUS UTILITIES AND ASSOCIATED CONDUITS AND APPURTENANCES ACCORDING TO THE INDICATIONS OF THIS DRAWING. REFER TO LEGEND AND DRAWING TO INTERPRET EXTENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES 48 HOURS BEFORE COMMENCING WORK IN THE AREAS NEAR UNDERGROUND UTILITY LINES. CONTRACTOR SHALL NOT INTERFERE WITH UTILITY LINE OPERATION AND SHALL COORDINATE ALL WORK AFFECTING EXISTING UTILITIES WITH THE APPROPRIATE AUTHORITY FOR EACH UTILITY, AND THE OWNER SHALL BE PROMPTLY NOTIFIED OF ANY PROBLEMS OR CONFLICTS ANTICIPATED OR ENCOUNTERED.
3. DURING THE CONSTRUCTION OF THIS PROJECT, SOME OVERHEAD AND/OR UNDERGROUND UTILITY ADJUSTMENTS MAY HAVE TO BE ACCOMPLISHED DURING THE CONSTRUCTION OF THIS PROJECT, SOME OVERHEAD AND/OR UNDERGROUND UTILITY ADJUSTMENTS MAY HAVE TO BE ACCOMPLISHED CONCURRENTLY BY THE UTILITY OWNERS (PRIVATELY AND/OR TRIBALLY OWNED). THE CONTRACTOR SHALL COORDINATE AND ADVISE THE UTILITY OWNERS, ALLOWING ENOUGH TIME SO THAT THE REQUIRED UTILITY ADJUSTMENTS DO NOT IMPEDE THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS, INCONVENIENCE, OR DAMAGE SUSTAINED DUE TO ANY INTERFERENCE FROM SAID UTILITY COORDINATION.
4. ALL WATER LINE PIPE LESS THAN 4 INCHES SHALL BE 200 PSI, ASTM D2241, 1120 SDR21 AND ALL PIPES GREATER THAN OR EQUAL TO 4 INCHES SHALL BE 200 PSI, ASTM D2241, 1120 SDR21
5. ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC, ASTM-D3034
6. THE CONTRACTOR SHALL COORDINATE WITH NTUA UTILITIES DEPARTMENT FOR ALL NEW UTILITY INSTALLATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSTALL ALL UTILITIES IN ACCORDANCE WITH NTUA REQUIREMENTS.
7. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER (NTU) ON ALL NEW UTILITY INSTALLATIONS AND CONNECTIONS TO EXISTING SYSTEM PRIOR TO CONSTRUCTION.
8. ALL WATERLINES SHALL BE FLUSHED, DISINFECTED, AND TESTED IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATION. ALL FIRE LINES SHALL BE FLUSHED, DISINFECTED, AND TESTED IN ACCORDANCE WITH THE NFPA CODES AND REGULATIONS.
9. INSTALLATION OF ALL PIPE FITTINGS, ANGLES, BENDS, WYES, TEES ETC. REQUIRED TO INSTALL THE WATERLINE AND SANITARY SEWER LINE WILL BE CONSIDERED INCIDENTAL TO THE WATERLINE AND SANITARY SEWER LINE ITEM AND AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS WORK.
10. THE CONTRACTOR SHALL CONTACT THE LOCAL NTUA DISTRICT OFFICE TO REQUEST FOR UTILITY LINE LOCATES PRIOR TO CONSTRUCTION. THE UTILITY PROVIDER SHALL IDENTIFY THEIR UTILITY LINES AND MARK LOCATIONS OF THE UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM NTUA THE PERMISSION TO TAP (PTT) APPLICATION PRIOR TO TAPPING EXISTING WATER AND SEWER MAINS.
12. THE CONTRACTOR SHALL COORDINATE WITH NTUA PRESENT AT THE SITE TO VERIFY LOCATION, DEPTH, SIZE AND TYPE OF UNDERGROUND UTILITIES.
13. THE CONTRACTOR IS TO COORDINATE WITH NTUA REGARDING WATER SHUT OFF WITH AT LEAST 3 DAYS ADVANCE NOTICE TO ISOLATE LINE(S), TO NOTIFY AFFECTED CUSTOMERS AND TO MINIMIZE OUTAGE TIME PRIOR TO CONNECTION OF NEW WATER SERVICE.
14. UNLESS OTHERWISE DIRECTED, ONLY NTUA STAFF WILL BE ALLOWED TO CLOSE/OPEN WATER VALVES FOR ANY CONNECTIONS TO EXISTING LINES AND FOR THE USAGE OF WATER.
15. COORDINATE WITH LOCAL UTILITY PROVIDERS FOR ANY REMOVAL OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
16. ALL WATER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE WITH A MINIMUM OF 200 PSI PRESSURE CLASS UNLESS OTHERWISE SPECIFIED.
17. POLYETHYLENE WRAPPING (8 MILS MINIMUM THICKNESS IN ACCORDANCE WITH AWWA STANDARD C-105) SHALL BE INSTALLED AROUND DUCTILE IRON PIPES, FITTINGS, AND VALVES, FIRE HYDRANT BARRELS AND RODS AND CLAMPS.
18. DEFLECTION (VERTICAL OR HORIZONTAL) OF PIPES IS PERMITTED AND SHALL CONFORM TO AMERICAN WATER WORKS ASSOCIATION (AWWA) JOINT DEFLECTION FOR AWWA PRESSURE PIPE AND AT 80% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION, WHICHEVER IS MORE STRINGENT. A COPY OF THE MANUFACTURER'S RECOMMENDATION SHALL BE SUBMITTED TO OWNER.
19. ANY ABRUPT CHANGE IN LINE OR GRADE SHALL REQUIRE MJ FITTINGS. ALL FITTINGS AND VALVES 4" OR GREATER IN IN SIZE SHALL BE MADE FROM DUCTILE IRON FURNISHED WITH MECHANICAL JOINT ENDS AND SHALL HAVE A PRESSURE RATING OF 350 PSI. ALL MJ ENDS SHALL HAVE "MEGALUG" MECHANICAL RESTRAINTS WITH CONCRETE THRUST BLOCK PER STD DTL "MEGALUG" MECHANICAL RESTRAINTS WITH CONCRETE THRUST BLOCK PER STD DTL MECHANICAL RESTRAINTS WITH CONCRETE THRUST BLOCK PER STD DTL WS-19.
20. TRENCHES SHALL NOT BE BACKFILLED (INCLUDING BEDDING MATERIAL ABOVE SPRING LINE OF THE PIPE) UNTIL THE PIPE LAYING HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE OWNER (NTUA) REPRESENTATIVE.
21. ALL NEW WATER LINES SHALL BE TESTED. HYDROSTATIC TESTING, DISINFECTION, FLUSHING ANDBACTERIOLOGICAL TESTING (SHALL BE CONDUCTED IN ACCORDANCE WITH NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, SEPTEMBER 2008) SHALL BE COORDINATED WITH NTUA AT LEAST 3 DAYS IN ADVANCE. NTUA REPRESENTATIVE SHALL BE PRESENT TO RECORD THE INFORMATION AND TO CERTIFY THE TESTING.
22. ALL NEW SEWER MAINS SHALL BE TESTED. SEWER LINE: HYDROSTATIC OR AIR TESTING AND LAMP TEST FOR ALIGNMENT; AND MANHOLES: HYDROSTATIC OR VACUUM TESTING SHALL BE DONE IN ACCORDANCE WITH NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, SEPTEMBER 2008. NTUA REPRESENTATIVE SHALL BE PRESENT TO RECORD THE INFORMATION AND TO CERTIFY THE TESTING.
23. NTUA WILL PROVIDE THE DOMESTIC WATER METER FOR NEW SERVICES
24. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS ON ALL UTILITIES TO OWNER AND NTUA IN HARD COPY AND DIGITAL FORMAT IN FORM OF AN AUTOCAD FILE AND 4 SETS OF 24" X 36" DRAWINGS.
25. UTILITY ACCEPTANCE AND UTILITY TRANSFER: THE CONTRACTOR SHALL SCHEDULE A FINAL INSPECTION WITH NTUA HQ ENGINEERING AND LOCAL DISTRICT OFFICE, OWNER AND GENERAL CONTRACTOR AT THE END OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FOLLOWING DOCUMENTS: AS-BUILT DRAWINGS,APPROVED PTT, HYDROSTATIC TESTING RESULTS, BACTERIOLOGICAL TESTING RESULTS, APPROVED MATERIAL SUBMITTALS AND COST OF PLANT. PLEASE FOLLOW NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, SEPTEMBER 2008, SECTION TP 5.0.
26. THE CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL NEW WATER AND WASTEWATER FACILITIES AGAINST DEFECTS IN MATERIALS, WORKMANSHIP FOR THE PERIOD OF ONE AND HALF YEARS (18 MONTHS) AFTER LATEST INSPECTION, ACCEPTANCE, AND APPROVAL DATE.

Rev #	Date	Description	By	Chk'd

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CHINLEY, AZ

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
GENERAL NOTES

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50852
FRANCISCO
URIETA
Date Signed
ARIZONA, U.S.A.

Expires 6/30/25

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED.

Designed	Drawn	Checked
RJC	PZR	RJS

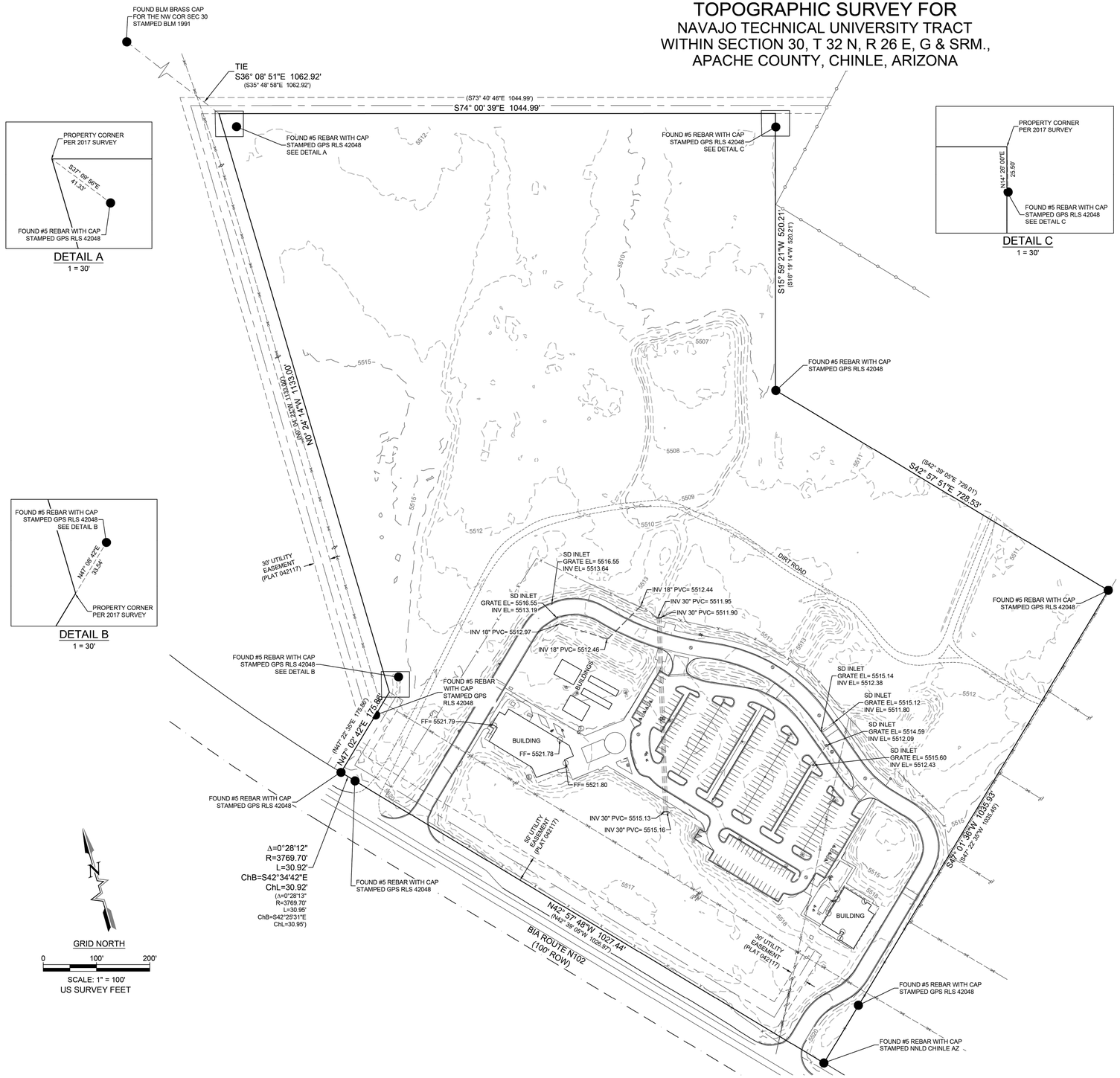
Date: 4/22/24

Scale: Horiz: N/A
Vert: N/A

Project No: 9433231

Sheet: C-002

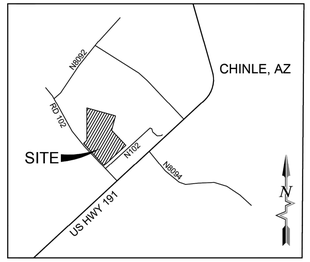
TOPOGRAPHIC SURVEY FOR
NAVAJO TECHNICAL UNIVERSITY TRACT
WITHIN SECTION 30, T 32 N, R 26 E, G & SRM.,
APACHE COUNTY, CHINLE, ARIZONA



DETAIL A
1 = 30'

DETAIL C
1 = 30'

DETAIL B
1 = 30'



VICINITY MAP
NOT TO SCALE

BASIS OF BEARING:

BASIS OF BEARING FOR THIS SURVEY SHOWN HEREON ARE ARIZONA STATE PLANE COORDINATE SYSTEM GRID BEARINGS, EAST ZONE 0201, NAD 83, NAVD 88
REFERENCE FRAME: MODIFIED NAD83(2011) (EPOCH:2010.0000)

VERTICAL DATUM: NAVD88 (COMPUTED USING GEOID18)
GRID TO GROUND SCALE FACTOR: 1.0003282762
ORIGIN OF SCALE: N=1875320.17 E=867839.43 (N36°09'09.49284" W109°35'53.27128")
ELEVATION USED FOR SCALE: 5511.91
CONVERGENCE: 0° 20' 7.47"

ALL DISTANCES ARE GROUND DISTANCES
UNITS ARE INTERNATIONAL FEET

REFERENCES:

1. SURVEY PLAT OF CHINLE NAVAJO TECHNICAL COLLEGE DATED SEPTEMBER 26, 2012 BY GOLDTOOTH PRECISION SOLUTIONS, INC.
2. RESULTS OF SURVEY, CHINLE NAVAJO TECHNICAL UNIVERSITY TRACT DATED APRIL 17, 2017 BY GOLDTOOTH PRECISION SOLUTIONS, INC.

THE PARCEL BOUNDARY SHOWN HEREON IS FOR REFERENCE ONLY, USING THE ABOVE PROVIDED PLATS. NO BOUNDARY DETERMINATIONS WERE MADE AND NO CORNERS WERE SET.

LEGEND:

———	SUBJECT PROPERTY
———	ADJOINING PROPERTY
——OE——OE——	OVERHEAD ELECTRIC
——OT——OT——	OVERHEAD TELEPHONE
– – – – – –	EXISTING EASEMENT
◉	FOUND MONUMENT AS NOTED
○	SET NO. 4 REBAR WITH CAP STAMPED 30345
☼	LIGHT POLE
WV	WATER VALVE
W	WATER MANHOLE
SSCO	SANITARY CLEAN OUT
S	SANITARY MANHOLE
D	STORM DRAIN MANHOLE
E	ELECTRIC MANHOLE
	POWER POLE
	FIRE HYDRANT
S89°25'34"W 254.25'	MEASURED BEARING & DISTANCE
(S89°25'34"W, 254.25')	RECORD BEARING & DISTANCE

SURVEYORS CERTIFICATION

I, WILLIAM F. BREWSTER, ARIZONA PROFESSIONAL LAND SURVEYOR NO. 30345, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION BASED ON AN ACTUAL SURVEY ON THE GROUND AS DESCRIBED HEREIN; THAT I AM RESPONSIBLE FOR THIS SURVEY; AND THAT THE SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN ARIZONA.

William F. Brewster
WILLIAM F. BREWSTER, P.L.S. 30345

5/26/2022
DATE

Rev #	Date	Description	By	Chk'd

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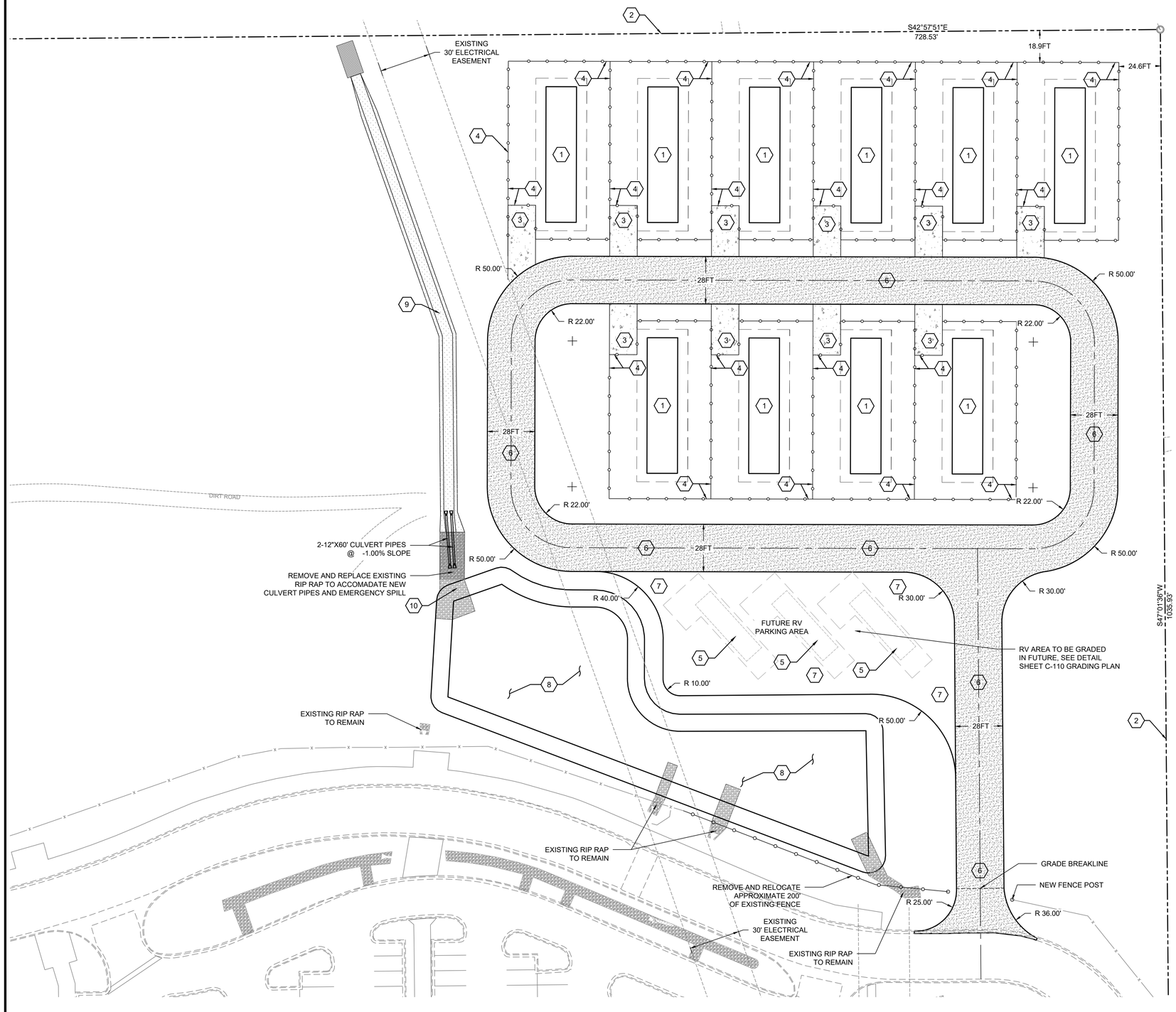
NAVAJO TECHNICAL UNIVERSITY
CHINLE, ARIZONA
TOPOGRAPHIC SURVEY FOR
NAVAJO TECHNICAL UNIVERSITY TRACT
WITHIN SECTION 30, T 32 N, R 26 E, G & SRM.,
APACHE COUNTY, CHINLE, ARIZONA

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
30345
WILLIAM F.
BREWSTER
ARIZONA, U.S.A.

Designed	Drawn	Checked
	CLW	WFB

Date: MAY 2021
Scale: Horiz: 1" = 100'
Vert: N/A
Project No: 2131304
Sheet: 1 OF 1

C:\Users\clw.SMA\Desktop\2-NTU Chinle Survey (2131304)\Survey\01-DWG\NTU CHINLE TOPO SURVEY.dwg, 5/26/2022 1:49:19 PM clw



1 SITE PLAN

KEYED NOTES: SITE

1. NEW MOBILE HOME (DRAWN @ 20' x 80') SEE DETAIL 2, SHEET C-101.
2. PROPERTY LINE.
3. FUTURE CONCRETE DRIVEWAY (TYP.)
4. INSTALL NEW CHAIN LINK FENCING.
5. FUTURE RV PARKING SPACE AND UTILITY CONNECTIONS. SEE DETAIL 3, THIS SHEET.
6. CONSTRUCT NEW BASE COURSE PAVEMENT PER TYPICAL SECTION SHEET C-150.
7. CONSTRUCT NEW GRAVEL PARKING PER TYPICAL SECTION, SEE SHEET C-150.
8. NEW RETENTION POND.
9. NEW 10' WIDE x 6" DEEP RIP RAP SWALE, SEE DETAIL SHEET C-150.
10. EMERGENCY SPILLWAY, SEE DETAIL SHEET C-150.

LEGEND

- RV PAD
- BASE COURSE ROAD
- RIP RAP HATCH
- SWALE
- FUTURE CONCRETE DRIVEWAY
- FUTURE RV PARKING AREA

STIPULATION FOR REUSE OR ALTERATION:

THESES DRAWINGS ARE THE INSTRUMENT OF SERVICE OF SOUDER MILLER & ASSOCIATES AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN THE REFERENCED PROJECT FOR WHICH THESE DRAWINGS WERE CREATED.

SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY OR A RIGHT-OF-WAY SURVEY. ANY APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES ARE SHOWN FOR ORIENTATION ONLY.
UNLESS OTHERWISE NOTED THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE *TOPOGRAPHIC SURVEY FOR NAVAJO TECHNICAL UNIVERSITY* PREPARED BY *SOUDER, MILLER & ASSOCIATES, 30345*, DATED *05/26/2022*

Rev #	Date	Description	By	Chk'd

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Phone (505) 299-0942 Fax (505) 293-3430
www.soudermiller.com

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
SITE PLAN

CHINLE, AZ

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50852
FRANCISCO
URUETA
Date Signed 04/22/24
ARIZONA, U.S.A.
Expires 6/30/25

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed	Drawn	Checked
RJC	PZR	RJS

Date: 4/22/24
Scale: Horiz: N/A Vert: N/A
Project No: 9433231
Sheet: C-100

KEYED NOTES: SITE

1. NEW MOBILE HOME (DRAWN @ 20' x 80') SEE DETAIL THIS SHEET.
2. INSTALL NEW CHAIN LINK FENCING.
3. FUTURE RV PARKING SPACE AND UTILITY CONNECTIONS. SEE DETAIL 3, THIS SHEET.
4. CONSTRUCT NEW BASE COURSE PAVEMENT PER TYPICAL SECTION SHEET C-150.
5. CONSTRUCT NEW GRAVEL PARKING PER TYPICAL SECTION, SEE SHEET C-150.
6. NEW RETENTION POND.
7. NEW 10' WIDE x 6" DEEP RIP RAP SWALE, SEE DETAIL SHEET C-150.

EXIST 30' ELECTRICAL EASEMENT

DIRT ROAD

EP: 13+50.00

PI: 15+60.11

PC: 15+03.56

PT: 12+31.70

PC: 16+46.12

PI: 17+31.01

PT: 17+76.26

PC: 10+55.32

PT: 11+75.21

PT: 10+89.21

BP: 10+00.00

PT: 11+27.59

BP: 10+00.00

ENTRANCE ROAD
EP STATION=12+54.04. 0.0' RT
LOOP RD
BP STATION=10+00.00, 0.00' RT
LOOP RD
EP STATION=19+41.83
NORTHING=1874772.02
EASTING=868626.58

RV AREA TO BE GRADED IN FUTURE, SEE DETAIL 3, SHEET C-110.

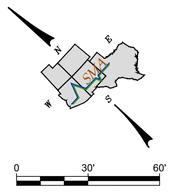
ALIGNMENT=ENTRANCE ROAD
STATION=10+29.03
OFFSET=0.00
NORTHING=1874618.70
EASTING=868461.89

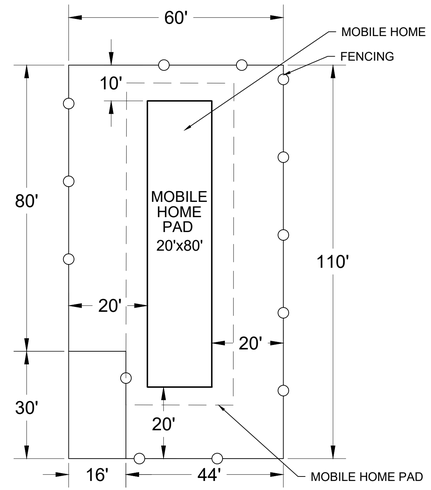
CP 802 4RWC 1.5" ALC
SMA CONTROL POINT
N:1874499.87
E:868480.16
EL 5517.99

FOUND #5 REBAR
WITH CAP STAMPED
GPS RLS 42048
N:1874279.68
E: 868259.34
EL: 5518.01
SEE SURVEY
SHEET 1 OF 1

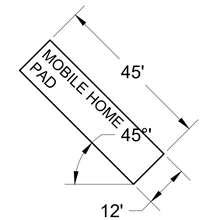
N21°44'59.68"W
106.644
N29°35'24.83"E
367.134'

1 HORIZONTAL CONTROL PLAN





3 MOBILE HOME TYP. LAYOUT DETAIL
SCALE: 1" = 20'



2 RV PARKING TYPICAL DETAIL
SCALE: 1" = 20'

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Rev #	Date	Description	By	Chk'd

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CHINLE, AZ

NTU MOBILE HOME
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HORIZONTAL CONTROL PLAN

Registered Professional Engineer (Civil) CERTIFICATE NO 50852 FRANCISCO URUETA Date Signed 4/22/25 ARIZONA, U.S.A.
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Date: 4/22/24
Scale: Horiz: N/A Vert: N/A
Project No: 9433231
Sheet: C-101

P:\9-NTU Chinle Mobile Home Park (9433231)\CAD\Civil\PLAN SET\HORIZONTAL CONTROL.dwg 4/22/2024 12:22 PM PZR

Point Table				
Point #	Elevation	Northing	Easting	Description
1	5519.19	1874193.36	868167.24	PROP CORNER
2	5517.71	1874279.67	868259.36	PROP CORNER
3	0.00	1874899.50	868925.20	PROP CORNER
4	0.00	1875432.63	868428.67	PROP CORNER
5	0.00	1875932.97	868571.36	PROP CORNER
6	0.00	1876220.82	867566.80	PROP CORNER
7	0.00	1875087.84	867574.78	PROP CORNER
8	0.00	1874968.01	867446.07	PROP CORNER
9	0.00	1874945.23	867467.00	PROP CORNER
10	5516.92	1874590.78	868480.74	ROAD
11	5513.69	1874646.98	868434.88	ROAD
12	5516.73	1874625.16	868489.37	ROAD
13	5516.73	1874645.65	868470.29	ROAD
14	5516.16	1874669.51	868537.01	ROAD
15	5516.16	1874690.00	868517.93	ROAD
16	5515.24	1874732.09	868604.23	ROAD
17	5515.24	1874752.59	868585.16	ROAD
18	5515.31	1874733.40	868643.60	ROAD
19	5515.30	1874757.36	868658.90	ROAD
20	5515.43	1874735.25	868708.86	ROAD

Point Table				
Point #	Elevation	Northing	Easting	Description
21	5515.43	1874755.93	868689.98	ROAD
22	5515.46	1874793.21	868772.39	ROAD
23	5515.45	1874813.89	868753.52	ROAD
24	5515.18	1874863.84	868775.63	ROAD
25	5515.18	1874844.97	868754.95	ROAD
26	5512.52	1875064.65	868592.45	ROAD
27	5512.52	1875045.78	868571.76	ROAD
28	5512.65	1875067.89	868521.81	ROAD
29	5512.65	1875047.20	868540.68	ROAD
30	5513.51	1875009.93	868458.28	ROAD
31	5513.53	1874989.24	868477.15	ROAD
32	5514.35	1874939.29	868455.04	ROAD
33	5514.34	1874958.16	868475.72	ROAD
34	5515.52	1874794.77	868586.88	ROAD
35	5515.52	1874813.64	868607.56	ROAD
36	5514.55	1874929.02	868464.41	RV AREA
37	5513.01	1874872.51	868461.82	RV AREA
38	5513.01	1874856.88	868444.68	RV AREA
39	5513.10	1874842.68	868444.10	RV AREA
40	5515.25	1874760.67	868520.45	RV AREA

Point Table				
Point #	Elevation	Northing	Easting	Description
41	5512.00	1874754.70	868510.24	POND TOP
42	5512.00	1874740.69	868509.79	POND TOP
43	5510.00	1874747.92	868502.88	POND BOTT
44	5510.00	1874696.78	868449.36	POND BOTT
45	5512.00	1874689.55	868456.27	POND TOP
46	5512.00	1874693.07	868440.07	POND TOP
47	5510.00	1874943.15	868351.07	POND BOTT
48	5512.00	1874939.45	868341.78	POND TOP
49	5512.00	1874950.91	868344.76	POND TOP
50	5510.00	1874978.88	868394.99	POND BOTT
51	5512.00	1874986.64	868388.68	POND TOP
52	5512.00	1874987.70	868399.71	POND TOP
53	5510.00	1874964.66	868421.52	POND BOTT
54	5512.00	1874973.48	868426.25	POND TOP
55	5512.00	1874965.78	868431.46	POND TOP
56	5510.00	1874914.89	868448.87	POND BOTT
57	5512.00	1874921.62	868456.27	POND TOP
58	5512.00	1874880.63	868454.40	POND TOP
59	5510.00	1874888.01	868447.65	POND BOTT
60	5512.00	1874865.00	868437.27	POND TOP

Point Table				
Point #	Elevation	Northing	Easting	Description
61	5510.00	1874872.39	868430.53	POND BOTT
62	5512.00	1874835.18	868436.05	POND TOP
63	5510.00	1874828.38	868428.72	POND BOTT
64	5515.73	1874747.37	868560.12	RV AREA
65	5515.73	1874817.07	868566.53	RV AREA
66	5515.73	1874819.64	868538.65	RV AREA
67	5515.73	1874799.72	868536.82	RV AREA
68	5515.73	1874798.62	868548.77	RV AREA
69	5515.73	1874748.83	868544.19	RV AREA
70	5515.85	1874780.89	868528.91	RV AREA
71	5515.85	1874850.60	868535.32	RV AREA
72	5515.85	1874853.16	868507.44	RV AREA
73	5515.85	1874833.24	868505.61	RV AREA
74	5515.85	1874832.15	868517.56	RV AREA
75	5515.85	1874782.36	868512.98	RV AREA
76	5515.70	1874813.86	868498.22	RV AREA
77	5515.70	1874883.56	868504.63	RV AREA
78	0.00	1874886.13	868476.75	RV AREA
79	5515.70	1874866.21	868474.92	RV AREA
80	5515.70	1874865.11	868486.86	RV AREA

Point Table				
Point #	Elevation	Northing	Easting	Description
81	5515.70	1874815.32	868482.28	RV AREA
82	5515.50	1874791.70	868661.42	MOBILE PAD
83	5515.50	1874813.86	868641.20	MOBILE PAD
84	5515.50	1874874.52	868707.69	MOBILE PAD
85	5515.50	1874852.35	868727.91	MOBILE PAD
86	5515.00	1874836.02	868620.98	MOBILE PAD
87	5515.00	1874858.19	868600.77	MOBILE PAD
88	5515.00	1874918.84	868667.26	MOBILE PAD
89	5515.00	1874896.68	868687.47	MOBILE PAD
90	5514.50	1874880.35	868580.55	MOBILE PAD
91	5514.50	1874902.51	868560.33	MOBILE PAD
92	5514.50	1874963.17	868626.82	MOBILE PAD
93	5514.50	1874941.01	868647.04	MOBILE PAD
94	5513.50	1874924.68	868540.11	MOBILE PAD
95	5513.50	1874946.84	868519.89	MOBILE PAD
96	5513.50	1875007.50	868586.38	MOBILE PAD
97	5513.50	1874985.33	868606.60	MOBILE PAD
98	5516.00	1874847.11	868811.20	MOBILE PAD
99	5516.00	1874869.28	868790.98	MOBILE PAD
100	5516.00	1874929.93	868857.47	MOBILE PAD

Point Table				
Point #	Elevation	Northing	Easting	Description
101	5516.00	1874907.77	868877.69	MOBILE PAD
102	5515.50	1874891.44	868770.76	MOBILE PAD
103	5515.50	1874913.60	868750.54	MOBILE PAD
104	5515.50	1874974.26	868817.03	MOBILE PAD
105	5515.50	1874952.10	868837.25	MOBILE PAD
106	5515.00	1874935.77	868730.32	MOBILE PAD
107	5515.00	1874957.93	868710.11	MOBILE PAD
108	5515.00	1875018.59	868776.60	MOBILE PAD
109	5515.00	1874996.42	868796.81	MOBILE PAD
110	5514.50	1874980.09	868689.89	MOBILE PAD
111	5514.50	1875002.26	868669.67	MOBILE PAD
112	5514.50	1875062.91	868736.16	MOBILE PAD
113	5514.50	1875040.75	868756.38	MOBILE PAD
114	5513.50	1875024.42	868649.45	MOBILE PAD
115	5513.50	1875046.59	868629.23	MOBILE PAD
116	5513.50	1875107.24	868695.72	MOBILE PAD
117	5513.50	1875085.08	868715.94	MOBILE PAD
118	5513.00	1875068.75	868609.01	MOBILE PAD
119	5513.00	1875090.91	868588.80	MOBILE PAD
120	5513.00	1875151.57	868655.29	MOBILE PAD

Point Table				
Point #	Elevation	Northing	Easting	Description
121	5513.00	1875129.40	868675.50	MOBILE PAD
122	5512.72	1875099.56	868574.14	FENCE
123	5513.20	1875170.32	868651.71	FENCE
124	5511.13	1875126.00	868692.15	FENCE
125	5513.00	1875055.23	868614.58	FENCE
126	5513.20	1875043.10	868625.41	FENCE
127	5513.62	1875010.85	868655.06	FENCE
128	5511.46	1875081.67	868732.58	FENCE
129	5514.05	1874998.89	868665.98	FENCE
130	5514.39	1874966.58	868695.45	FENCE
131	5512.23	1875037.36	868773.01	FENCE
132	5514.64	1874954.57	868706.40	FENCE
133	5514.99	1874922.27	868735.87	FENCE
134	5512.73	1874993.03	868813.45	FENCE
135	5515.23	1874910.25	868746.84	FENCE
136	5515.52	1874877.94	868776.31	FENCE
137	5515.15	1874948.70	868853.88	FENCE
138	5515.74	1874865.92	868787.27	FENCE
139	5516.50	1874833.61	868816.75	FENCE
140	5516.25	1874904.38	868894.32	FENCE

Point Table				
Point #	Elevation	Northing	Easting	Description
141	5515.38	1874845.59	868740.85	FENCE
142	5515.41	1874774.83	868663.28	FENCE
143	5515.32	1874819.15	868622.84	FENCE
144	5515.23	1874877.90	868711.38	FENCE
145	5514.99	1874889.92	868700.41	FENCE
146	5514.64	1874922.23	868670.94	FENCE
147	5514.39	1874934.22	868660.00	FENCE
148	5515.15	1874863.47	868582.42	FENCE
149	5514.57	1874907.79	868541.98	FENCE
150	5514.05	1874966.54	868630.51	FENCE
151	5513.61	1874978.56	868619.55	FENCE
152	5513.88	1874952.12	868501.54	FENCE
153	5513.48	1875009.41	868564.34	FENCE
154	5513.21	1875010.87	868590.08	FENCE
155	5513.50	1875001.55	868418.54	SWALE FL
156	5511.21	1875015.79	868431.27	SWALE FL
157	5510.96	1875087.61	868508.35	SWALE FL
158	5510.60	1875231.15	868584.75	SWALE FL
159	5513.00	1875101.07	868599.93	FENCE
160	5512.67	1875113.04	868588.91	FENCE

Point Table				
Point #	Elevation	Northing	Easting	Description
161	5513.23	1875068.76	868629.40	FENCE
162	5513.50	1875056.74	868640.37	FENCE
163	5513.96	1875024.43	868669.84	FENCE
164	5514.50	1875012.42	868680.80	FENCE
165	5514.73	1874980.11	868710.28	FENCE
166	5515.00	1874968.09	868721.24	FENCE
167	5515.23	1874935.78	868750.71	FENCE
168	5515.50	1874923.76	868761.68	FENCE
169	5515.73	1874891.45	868791.15	FENCE
170	5516.00	1874879.43	868802.11	FENCE
171	5513.50	1874997.44	868575.35	FENCE
172	5513.96	1874965.13	868604.83	FENCE
173	5514.50	1874953.11	868615.79	FENCE
174	5514.73	1874920.80	868645.26	FENCE
175	5515.00	1874908.78	868656.23	FENCE
176	5515.23	1874876.47	868685.70	FENCE
177	5515.50	1874864.45	868696.66	FENCE
178	5513.00	1874890.91	868476.69	RV AREA
179	5513.00	1874854.03	868447.50	RV AREA
180	5512.00	1874979.80	868380.27	RIP RAP

Point Table				
Point #	Elevation	Northing	Easting	Description
181	5510.00	1874965.60	868399.18	RIP RAP
182	5510.00	1874821.45	868410.39	RIP RAP
183	5510.00	1874815.89	868412.60	RIP RAP
184	5510.00	1874787.57	868423.91	RIP RAP
185	5510.00	1874778.96	868427.34	RIP RAP
186	5510.00	1874711.01	868449.78	RIP RAP
187	5510.00	1874707.23	868459.03	RIP RAP

1 HORIZONTAL CONTROL TABLES

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Sheet: C-102

GOOD HOUSE KEEPING PRACTICES:

1. THE CONTRACTOR SHALL ESTABLISH A CONCRETE WASHOUT PIT BEFORE THE START OF CONSTRUCTION AND MARK ITS LOCATION ON THE SITE MAP.
2. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED AT THE SITE ENTRANCE AS DETERMINED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL ESTABLISH A COMPREHENSIVE DUST CONTROL PLAN TO LIMIT OFF-SITE SEDIMENTATION BY CONTROLLING THE SITES POTENTIAL FOR PRODUCING AIRBORNE FUGITIVE DUST AND TRACK-OUT OF SEDIMENTS.
4. SANITARY FACILITIES ARE REQUIRED FOR ALL WORK SITES OR CONSTRUCTION AREAS.
5. SOLID WASTE MATERIALS SHALL BE STORED AND DISPOSED OF WITHIN DUMPSTER RENTED FROM AND COLLECTED BY A PRIVATE WASTE DISPOSAL CONTRACTOR. NO CONSTRUCTION WASTE MATERIALS SHALL BE DISPOSED OF OR BURIED ON-SITE.
6. THE CONTRACTOR SHALL ESTABLISH AN EQUIPMENT MAINTENANCE PLAN TO REDUCE CONTAMINATION OF ON-SITE SOILS.
7. CONSTRUCTION MATERIALS AND CHEMICALS SHALL BE SHELTERED IN COVERED STORAGE AREAS THAT HAVE A SPILL PROOF PERIMETER AROUND IT. LOCATE CHEMICAL STORAGE AREAS AWAY FROM LOW-LYING AREAS AND DRAINAGE PATHS.
8. THE CONTRACTOR SHALL ESTABLISH A SPILL PREVENTION PLAN THAT INCLUDES MEASURES TO LIMIT THE SCOPE OF A SPILL AND MINIMIZE ENVIRONMENTAL DAMAGE. IN THE EVENT OF A SPILL OF A HAZARDOUS SUBSTANCE, THE RESPONSIBLE PARTY SHALL IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER (800-424-8802 OR 202-426-2675), THE NEW MEXICO ENVIRONMENT DEPARTMENT (EMERGENCY LINE: 505-827-9329, NON-EMERGENCY LINE: 866-428-6535), AND THE LOCAL FIRE DEPARTMENT (575-437-0071).

MAINTENANCE:

ALL STORM WATER CONTROLS STATED ON THIS SITE MAP SHALL BE MAINTAINED IN FULL FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL STORM WATER CONTROLS SHALL BE CHECKED AND REPAIRED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE NPDES/EPA PERMIT REQUIREMENTS.

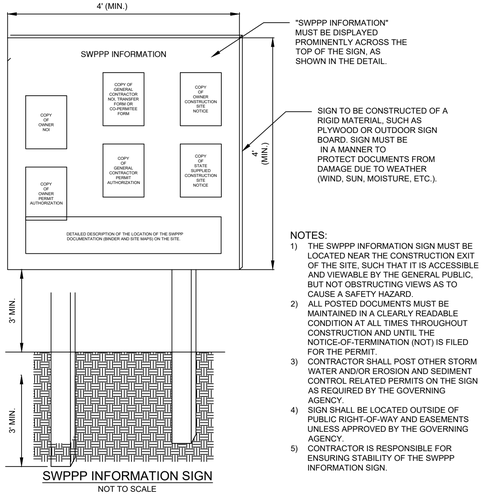
1. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCES AND WADDLES WHEN IT REACHES ½ THE HEIGHT, OR AS NECESSARY FOR MAINTENANCE. IF FABRIC BECOMES CLOGGED, IT SHOULD BE CLEANED, OR REPLACED, IF NECESSARY.
2. HARDENED CONCRETE SHALL BE REMOVED FROM CONCRETE WASHOUT AREA ON A REGULAR BASIS.
3. THE CONSTRUCTION ENTRANCE/EXIT SHALL BE PERIODICALLY RE-GRADED AND/OR TOP DRESSED WITH ADDITIONAL STONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING. WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MUST BE WASHED DOWN AND/OR REPLACED.
4. CONSTRUCTION ENTRANCE/EXIT AREA SHALL BE INSPECTED FOR OFF-SITE TRACKING AND SWEPT AS NECESSARY.
5. SANITARY WASTES SHALL BE COLLECTED FROM PORTABLE SANITARY FACILITIES NOT LESS THAN ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY STATE AND LOCAL REGULATIONS.
6. SOLID WASTE COLLECTION SHALL NOT BE LESS THAN BI-WEEKLY OR MORE OFTEN IF NECESSARY.
7. THE STORAGE/STAGING AND MASONYS AREAS SHALL BE CLEARED OF DEBRIS, ANY DEBRIS AND/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEARED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

SEQUENCE OF CONSTRUCTION:

DESCRIBED BELOW ARE THE MAJOR CONSTRUCTION ACTIVITIES THAT ARE THE SUBJECT TO THIS PLAN. ALSO INCLUDED IN THE SEQUENCE ARE STORM WATER CONTROLS INSTALLATION ACTIVITIES THAT MUST TAKE PLACE PRIOR TO CONSTRUCTION ACTIVITIES. **NOTE: DOWN SLOPE PROTECTIVE MEASURES MUST ALWAYS BE IN PLACE BEFORE SOIL IS DISTURBED.** ACTIVITIES ARE PRESENTED IN THE SEQUENCE THEY ARE EXPECTED TO BE COMPLETED. CONTRACTOR TO IMMEDIATELY DENOTE ON THIS PLAN ANY CHANGES IN STORM WATER CONTROLS LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. THE SEQUENCE OF CONSTRUCTION IS AS FOLLOWS:

1. INSTALL SWPPP INFORMATION SIGN.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT.
3. PREPARE STORAGE/STAGING AND MASON'S AREAS. UPON IMPLEMENTATION AND INSTALLATION, DENOTE THE FOLLOWING AREAS ON THIS PLAN: TRAILER PARKING, PORTABLE SANITARY FACILITIES, WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, AND SOLID WASTE CONTAINERS.
4. INSTALL RETENTION PONDS.
5. INSTALL STRAW WATTLES.
6. INSTALL SILT FENCE.
7. CLEAR AND GRUB THE SITE.
8. BEGIN GRADING THE SITE.
9. TEMPORARY STABILIZE STOCKPILE AREAS.
10. APPLY PERMANENT STABILIZATION.
11. INSPECT AND CLEAN-UP SITE.
12. REMOVE TEMPORARY STORM WATER CONTROLS (ONLY IF SITE IS "FINAL STABILIZED" AS PER 2022 CGP).
13. FILE OWNER AND OPERATOR NOTICE OF TERMINATION (NOT).

THE ACTUAL SCHEDULE FOR IMPLEMENTING STORM WATER CONTROLS WILL BE DETERMINED BY PROJECT CONSTRUCTION PROGRESS AND RECORDED BY THE CONTRACTOR ON THE SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE ON THIS PLAN.



NOTES:

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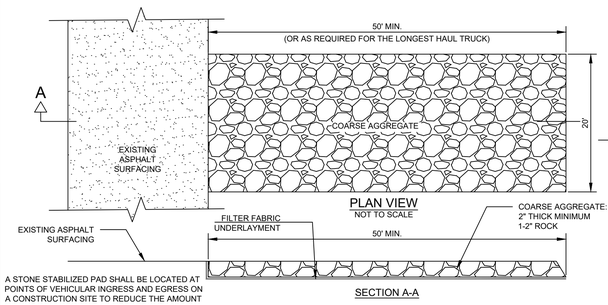
3) CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.
4) SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
5) CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SWPPP INFORMATION SIGN
NOT TO SCALE



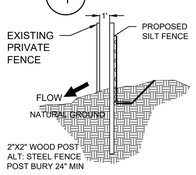
PLAN VIEW
NOT TO SCALE

SECTION A-A

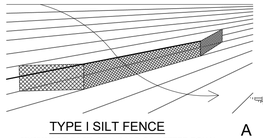
A STONE STABILIZED PAD SHALL BE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

STABILIZED CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE

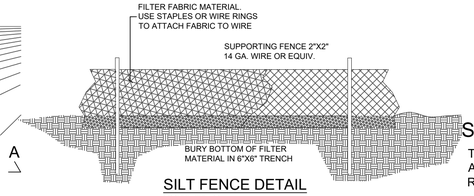
1 EROSION CONTROL PLAN PHASE I



SILT FENCE SECTION
NOT TO SCALE



TYPE I SILT FENCE
2"X2" WOOD POST. STANDARD OR BETTER EQUAL
ALTERNATE: STEEL FENCE POST



SILT FENCE DETAIL
SCALE: NTS

LEGEND

3890	= EXISTING MAJOR CONTOUR
3891	= EXISTING MINOR CONTOUR
	= PROJECT LIMITS
	= STABILIZED CONSTRUCTION ENTRANCE
X X X	= PROPOSED SILT FENCE
	= PROPOSED STRAW WATTLE
	= ACTION AREA
	= DEMOLITION AREA
	= DISCHARGE POINT
	= CONCRETE WASHOUT

0 30' 60'

SCALE: 1" = 30'

NOTE:

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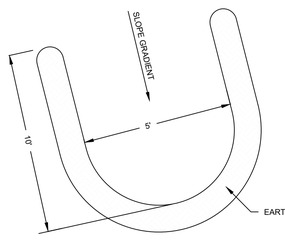
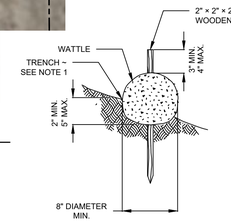


CONCRETE WASHOUT
NOT TO SCALE



STRAW WATTLE DETAIL
NOT TO SCALE

NOTES:
1. INSTALL WATTLES ALONG CONTOURS.
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3. COMPACT EXCAVATED SOIL AND TRENCHES TO PREVENT UNDERCUTTING. ADDITIONAL STAKING MAY BE NECESSARY TO PREVENT UNDERCUTTING.
4. INSTALL WATTLE PERPENDICULAR TO FLOW ALONG CONTOURS.
5. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF. TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.

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PROJECT AREA:

TOTAL SITE AREA	= 39.29 AC.
PHASE I DISTURBED AREA	= 1.78 AC.
PHASE II DISTURBED AREA	= 3.51 AC.
TOTAL DISTURBED AREA	= 5.29 AC.

Rev #	Date	Description	By	Chk'd

SOUDER, MILLER & ASSOCIATES
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Albuquerque, NM 87113
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www.soudermiller.com

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
EROSION CONTROL PLAN PHASE I

CHINLE, AZ

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50852
FRANCISCO URUETA
Date Signed 4/22/24
ARIZONA, U.S.A.
Expires 6/30/25

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed	Drawn	Checked
RJC	PZR	RJS

Date: 4/22/24
Scale: Horiz: N/A Vert: N/A
Project No: 9433231
Sheet: C-103

P:\9-NTU Chinle Mobile Home Park (9433231)/CAD/Civil/PLAN SET\SITE.dwg 4/22/2024 12:22 PM PZR

GOOD HOUSE KEEPING PRACTICES:

1. THE CONTRACTOR SHALL ESTABLISH A CONCRETE WASHOUT PIT BEFORE THE START OF CONSTRUCTION AND MARK ITS LOCATION ON THE SITE MAP.
2. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED AT THE SITE ENTRANCE AS DETERMINED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL ESTABLISH A COMPREHENSIVE DUST CONTROL PLAN TO LIMIT OFF-SITE SEDIMENTATION BY CONTROLLING THE SITES POTENTIAL FOR PRODUCING AIRBORNE FUGITIVE DUST AND TRACK-OUT OF SEDIMENTS.
4. SANITARY FACILITIES ARE REQUIRED FOR ALL WORK SITES OR CONSTRUCTION AREAS.
5. SOLID WASTE MATERIALS SHALL BE STORED AND DISPOSED OF WITHIN DUMPSTER RENTED FROM AND COLLECTED BY A PRIVATE WASTE DISPOSAL CONTRACTOR. NO CONSTRUCTION WASTE MATERIALS SHALL BE DISPOSED OF OR BURIED ON-SITE.
6. THE CONTRACTOR SHALL ESTABLISH AN EQUIPMENT MAINTENANCE PLAN TO REDUCE CONTAMINATION OF ON-SITE SOILS.
7. CONSTRUCTION MATERIALS AND CHEMICALS SHALL BE SHELTERED IN COVERED STORAGE AREAS THAT HAVE A SPILL PROOF PERIMETER AROUND IT. LOCATE CHEMICAL STORAGE AREAS AWAY FROM LOW-LYING AREAS AND DRAINAGE PATHS.
8. THE CONTRACTOR SHALL ESTABLISH A SPILL PREVENTION PLAN THAT INCLUDES MEASURES TO LIMIT THE SCOPE OF A SPILL AND MINIMIZE ENVIRONMENTAL DAMAGE. IN THE EVENT OF A SPILL OF A HAZARDOUS SUBSTANCE, THE RESPONSIBLE PARTY SHALL IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER (800-424-8802 OR 202-426-2675), THE NEW MEXICO ENVIRONMENT DEPARTMENT (EMERGENCY LINE: 505-827-9329, NON-EMERGENCY LINE: 866-428-6535), AND THE LOCAL FIRE DEPARTMENT (575-437-0071).

MAINTENANCE:

ALL STORM WATER CONTROLS STATED ON THIS SITE MAP SHALL BE MAINTAINED IN FULL FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL STORM WATER CONTROLS SHALL BE CHECKED AND REPAIRED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE NPDES/EPA PERMIT REQUIREMENTS.

1. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCES AND WADDLES WHEN IT REACHES ½ THE HEIGHT, OR AS NECESSARY FOR MAINTENANCE. IF FABRIC BECOMES CLOGGED, IT SHOULD BE CLEANED, OR REPLACED, IF NECESSARY.
2. HARDENED CONCRETE SHALL BE REMOVED FROM CONCRETE WASHOUT AREA ON A REGULAR BASIS.
3. THE CONSTRUCTION ENTRANCE/EXIT SHALL BE PERIODICALLY RE-GRADED AND/OR TOP DRESSED WITH ADDITIONAL STONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING. WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MUST BE WASHED DOWN AND/OR REPLACED.
4. CONSTRUCTION ENTRANCE/EXIT AREA SHALL BE INSPECTED FOR OFF-SITE TRACKING AND SWEPT AS NECESSARY.
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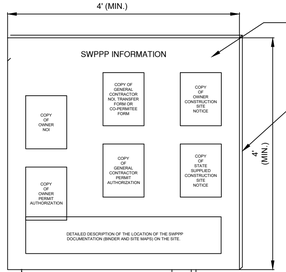

"SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.

SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.).

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SWPPP INFORMATION SIGN
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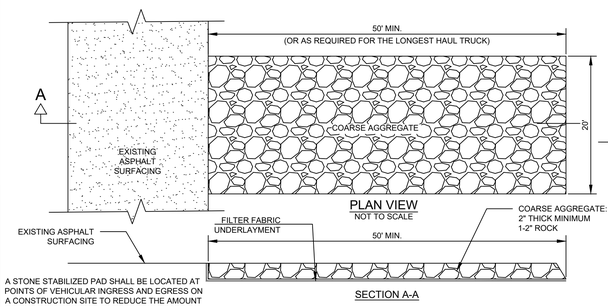

PLAN VIEW
NOT TO SCALE

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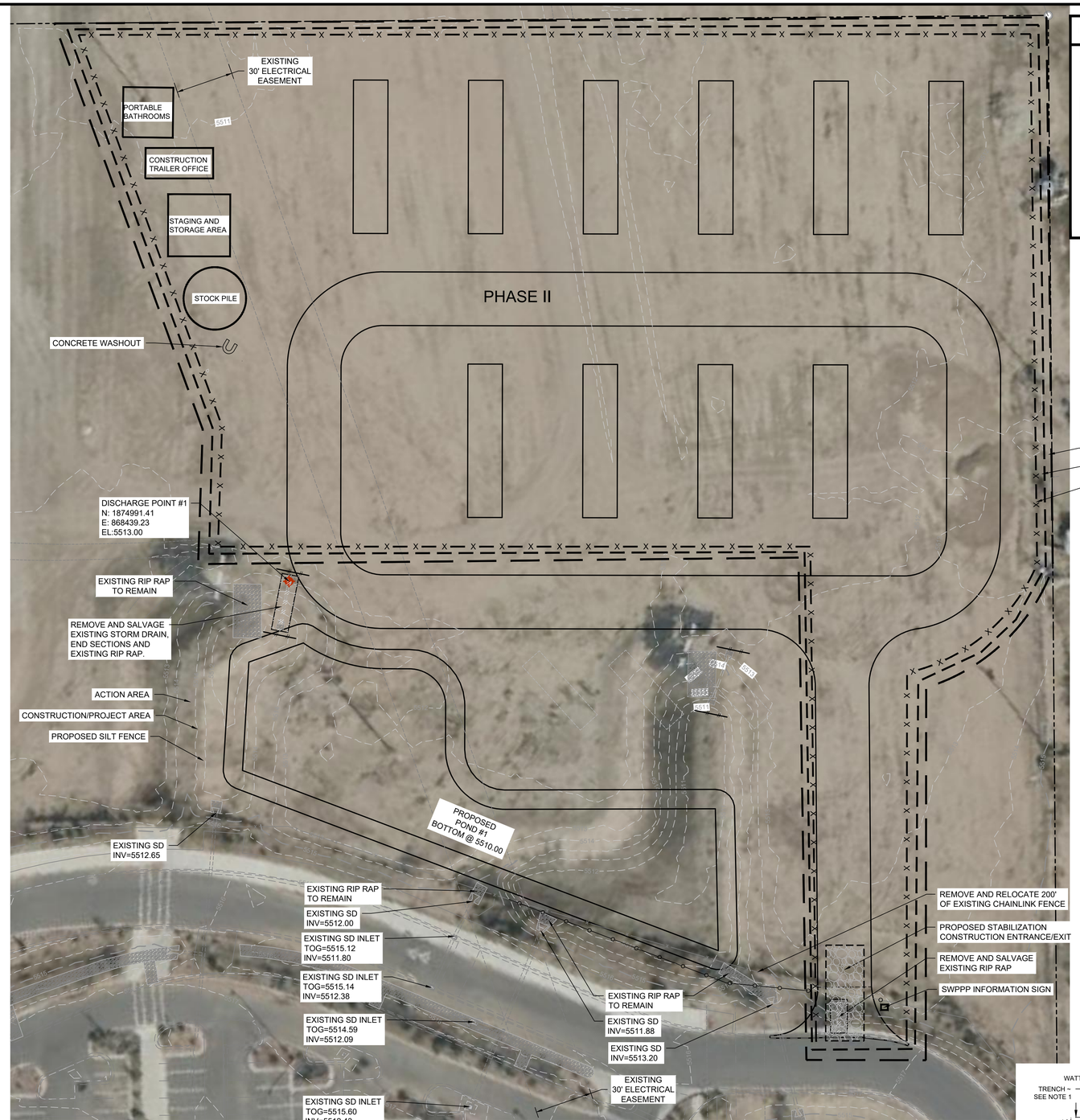
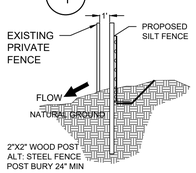
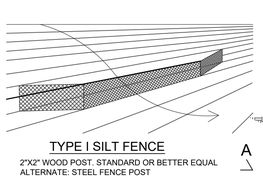


1 EROSION CONTROL PLAN PHASE II



SILT FENCE SECTION
NOT TO SCALE



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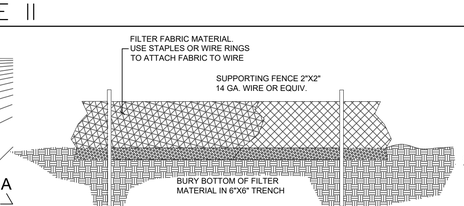
ALTERNATE: STEEL FENCE POST



SILT FENCE DETAIL
SCALE: NTS

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LEGEND

3890	= EXISTING MAJOR CONTOUR
3891	= EXISTING MINOR CONTOUR
	= PROJECT LIMITS
	= STABILIZED CONSTRUCTION ENTRANCE
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	= PROPOSED STRAW WATTLE
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	= DEMOLITION AREA
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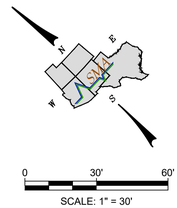

SCALE: 1" = 30'

ACTION AREA
CONSTRUCTION/PROJECT AREA
PROPOSED SILT FENCE

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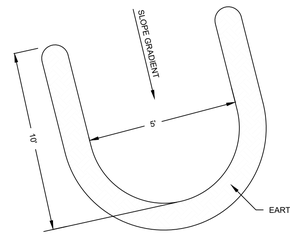
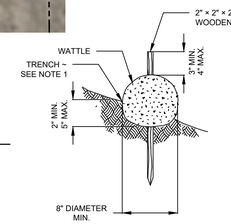


CONCRETE WASHOUT
NOT TO SCALE



NOTES:
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STRAW WATTLE DETAIL
NOT TO SCALE

PROJECT AREA:

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PHASE I DISTURBED AREA	= 1.78 AC.
PHASE II DISTURBED AREA	= 3.51 AC.
TOTAL DISTURBED AREA	= 5.29 AC.

Rev #	Date	Description	By	Chk'd

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NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
EROSION CONTROL PLAN PHASE II

CHINLE, AZ

Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO R. ZAMORA Date Signed 4/22/24 ARIZONA, U.S.A.
Expires 6/30/25

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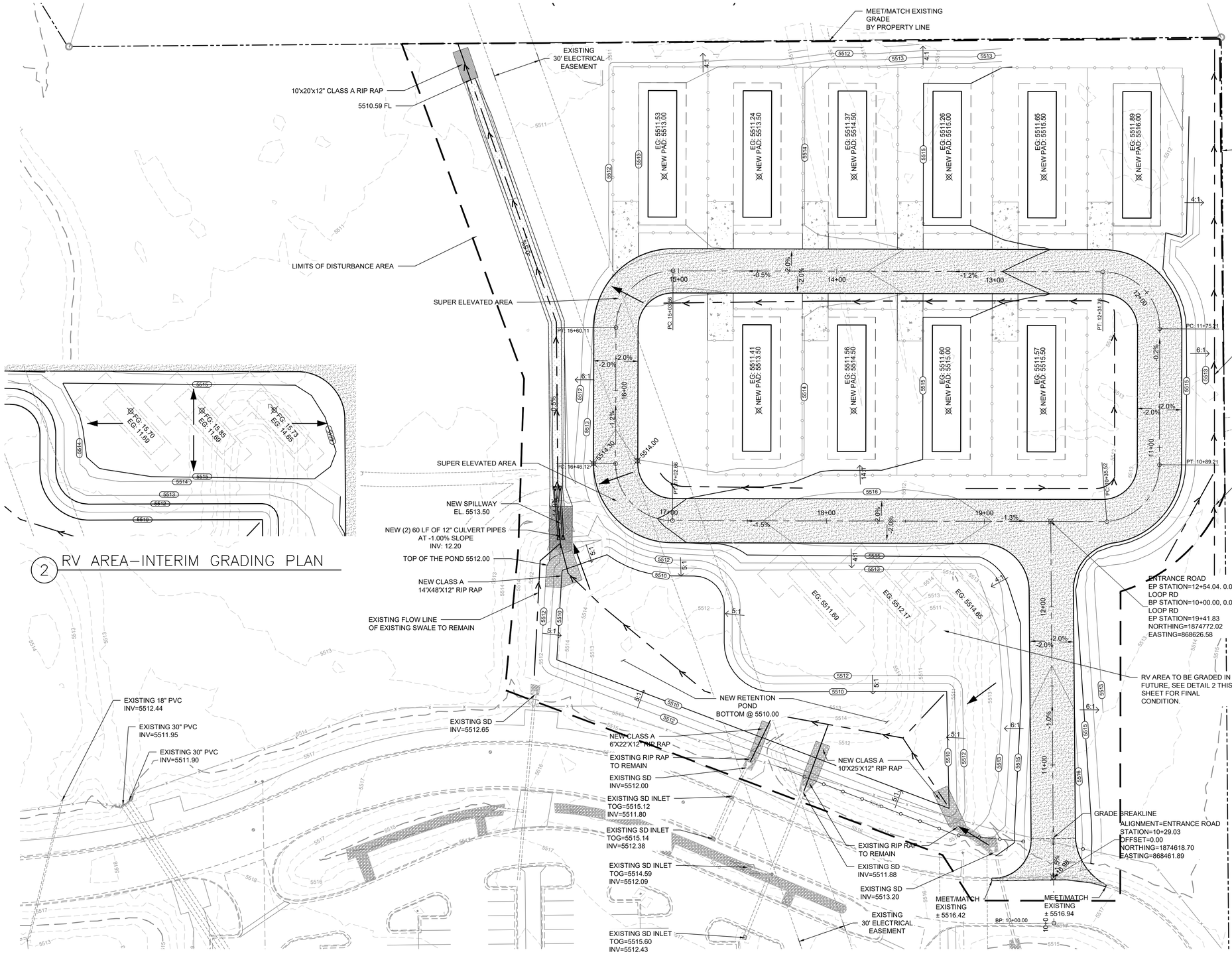
Designed	Drawn	Checked
RJC	PZR	RJS

Date: 4/22/24
Scale: Horiz: N/A Vert: N/A
Project No: 9433231
Sheet: C-104

P:\9-NTU Chinle Mobile Home Park (9433231)\CAD\Civil\PLAN SET\SITE.dwg 4/22/2024 12:23 PM PZR



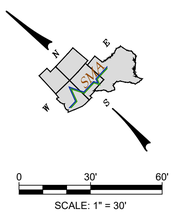
LEGEND

NEW SWALE @ FL

FLOW DIRECTION

TOTAL DISTURBANCE AREA

LIMITS OF DISTURBANCE AREA



NOTE:

WHICHEVER DIRT, ROCK OR OTHER MATERIALS ARE IMPORTED TO THE CONSTRUCTION SITE OR EXPORTED FOR PLACEMENT IN AREAS OFF OF THE LIMITS OF THIS PRIMARY CONSTRUCTION SITE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING THAT ALL STORM WATER PERMITTING AND POLLUTION CONTROL REQUIREMENTS ARE MET FOR EACH AND EVERY SITE WHICH RECEIVES SUCH MATERIALS OR FROM WHICH SUCH MATERIALS ARE TAKEN. PRIOR TO THE DISTURBANCE OF ANY SUCH SITE, THE GENERAL CONTRACTOR WILL FURNISH THE OWNER (NTU) WITH A COPY OF THE STORM WATER PERMIT ISSUED FOR EACH SUCH SITE, AS WELL AS THE COPY OF THE OFF-SITE OWNERS CERTIFICATION STATEMENT AGREEING TO IMPLEMENT NECESSARY STORM WATER POLLUTION PREVENTION MEASURES. THE GENERAL CONTRACTOR WILL FURNISH A COPY OF THE SWPPP FOR EACH SITE, INCLUDING A DESCRIPTION OF THE EROSION CONTROL MEASURES, WHICH WILL BE APPLIED.

THE PROJECT AREA IS LOCATED WITHIN FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD ZONE DESIGNATION D, WHICH IS AN AREA IN WHICH FLOOD HAZARD ARE UNDETERMINDED, BUT POSSIBLE. A SMA FLOOD STUDY REPORT DATED 10-18-23 SHOWS THIS AREA OF THE SITE LIES WITHIN A 100-YEAR FLOODPLAIN AND EXPERIENCES FLOOD DEPTHS OF LESS THAN 1'.

2 RV AREA-INTERIM GRADING PLAN

1 SITE GRADING PLAN

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME FG	**1.000**	1.200	187046.29 Sq. Ft.	1875.69 Cu. Yd.	16972.90 Cu. Yd.	15097.22 Cu. Yd.<Fill>
RV AREA	**1.000**	1.200	19859.92 Sq. Ft.	140.04 Cu. Yd.	1928.12 Cu. Yd.	1788.07 Cu. Yd.<Fill>
Totals			206906.21 Sq. Ft.	2015.73 Cu. Yd.	18901.02 Cu. Yd.	16885.29 Cu. Yd.<Fill>

STIPULATION FOR REUSE OR ALTERATION:

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CHINLE, AZ

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME CHINLE, ARIZONA GRADING PLAN

Registered Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO URUETA Date Signed 4/22/24 ARIZONA, U.S.A.

Expires 6/30/25

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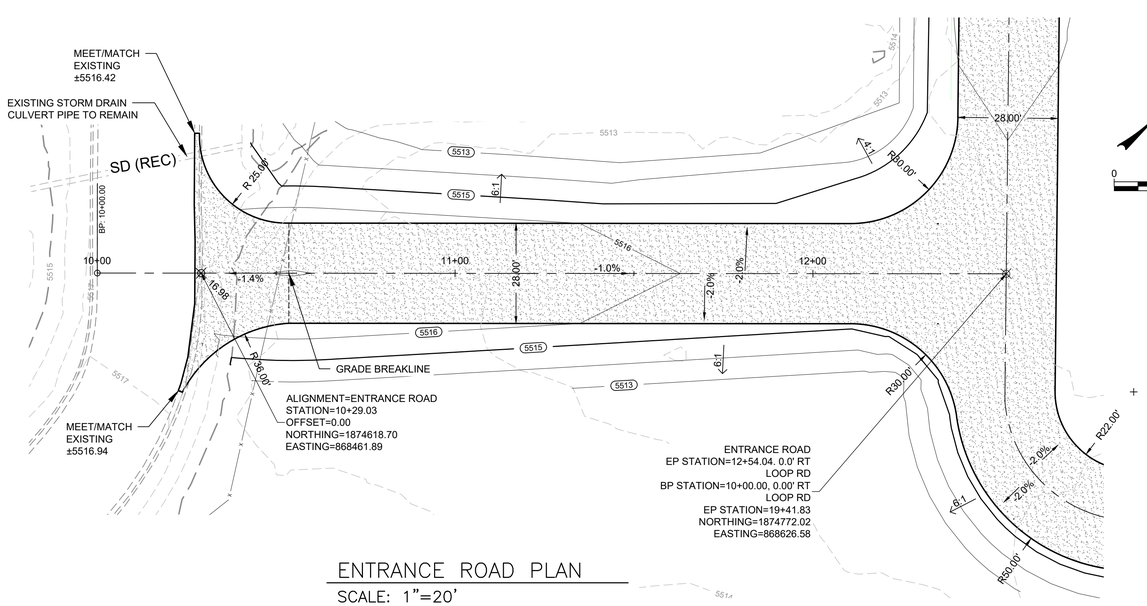
Designed	Drawn	Checked
RJC	PZR	RJS

Date: 4/22/24

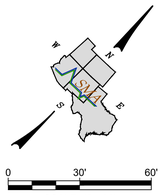
Scale: Horiz: N/A Vert: N/A

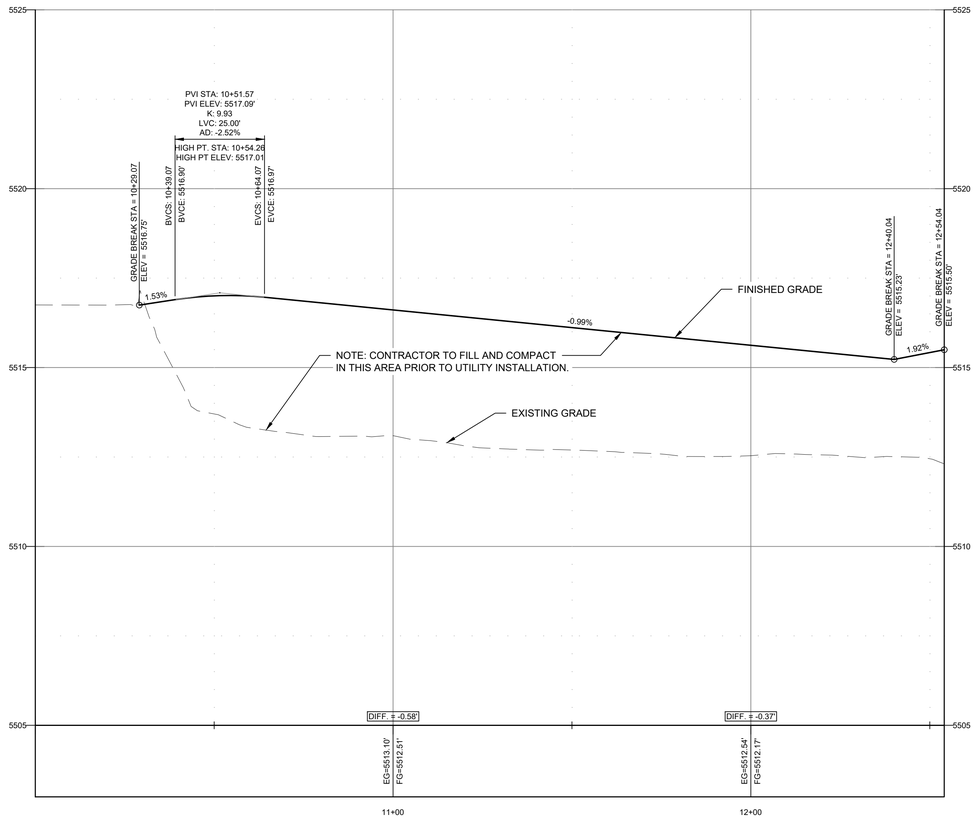
Project No: 9433231

Sheet: C-110



ENTRANCE ROAD PLAN
SCALE: 1"=20'





ENTRANCE ROAD PROFILE
SCALE: 1"=20'

NOTE:
CONTRACTOR TO FILL AND COMPACT IN THIS AREA PRIOR TO UTILITY INSTALLATION.

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CHINLE, AZ

NTU MOBILE HOME
CHINLE, ARIZONA
PLAN AND PROFILE - ENTRANCE ROAD
BOP STA: 10+00 TO EOP 12+52.04

Registered Professional Engineer (Utah)
CERTIFICATE NO.
50852
FRANCISCO
ARRIAGA
Date Signed 4/22/24
ARIZONA, U.S.A.
Expires 6/30/25

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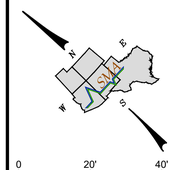
RJC	PZR	RJS

Date: 4/22/24
Scale: Horiz: N/A
Vert: N/A
Project No: 9433231
Sheet: C-111

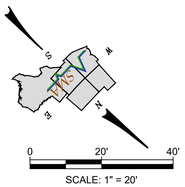


0 20' 40'

SCALE: 1" = 20'

LOOP ROAD PLAN

SCALE: 1"=20'



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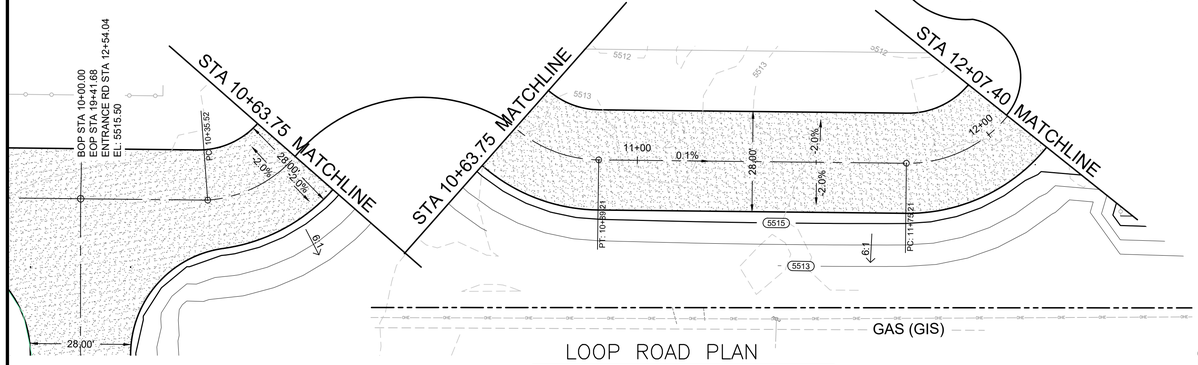
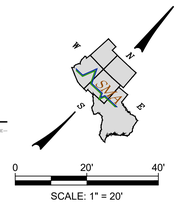


LOOP ROAD PLAN

SCALE: 1"=20'



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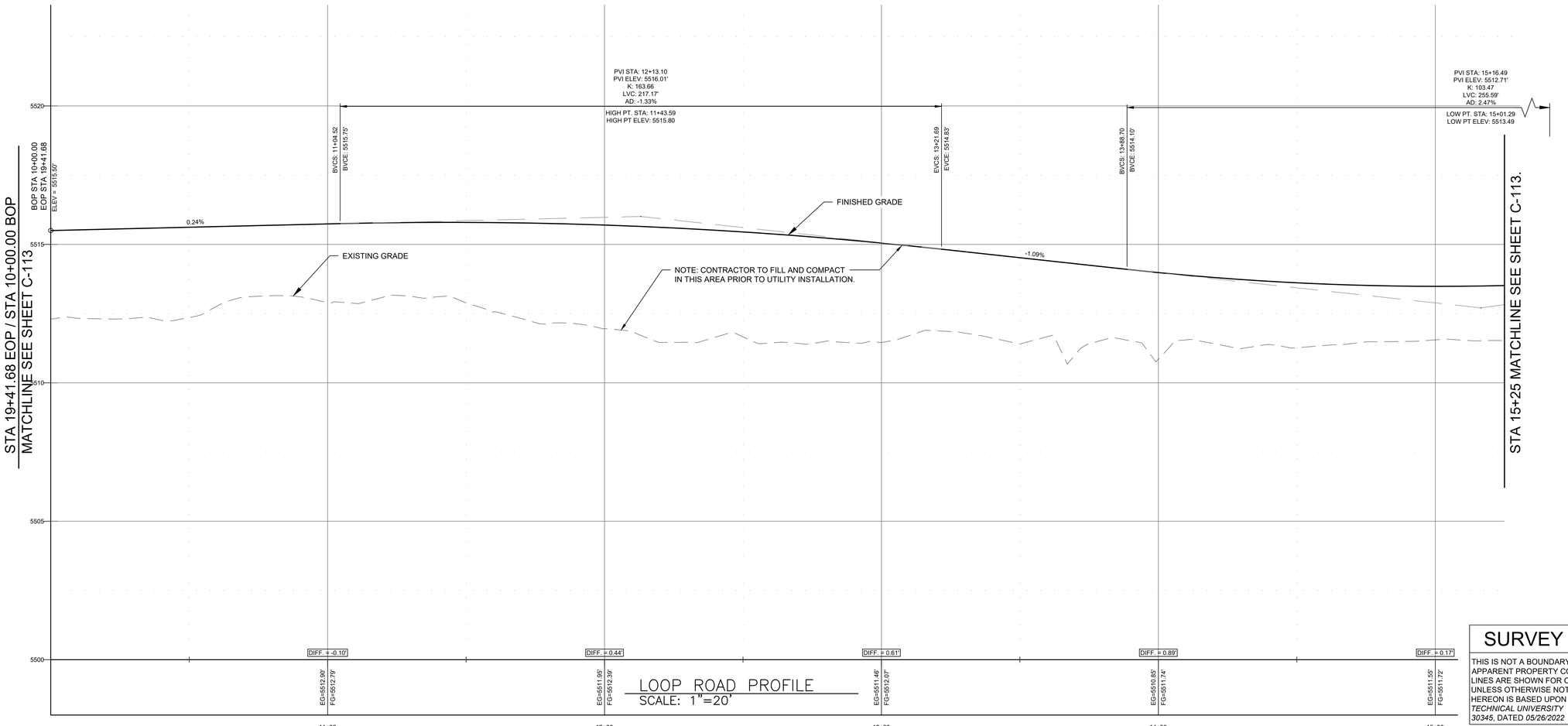
SCALE: 1" = 20'



LOOP ROAD PROFILE

SCALE: 1"=20'

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CHINLE, ARIZONA
PLAN AND PROFILE - LOOP ROAD
STA: BOP 10+00 TO STA 15+25

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50852
FRANCISCO
URQUIETA
Date Signed 4/22/24
ARIZONA, U.S.A.

Expires 6/30/25

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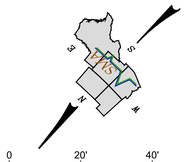
Vert: N/A

Project No: 9433231

Sheet: C-112



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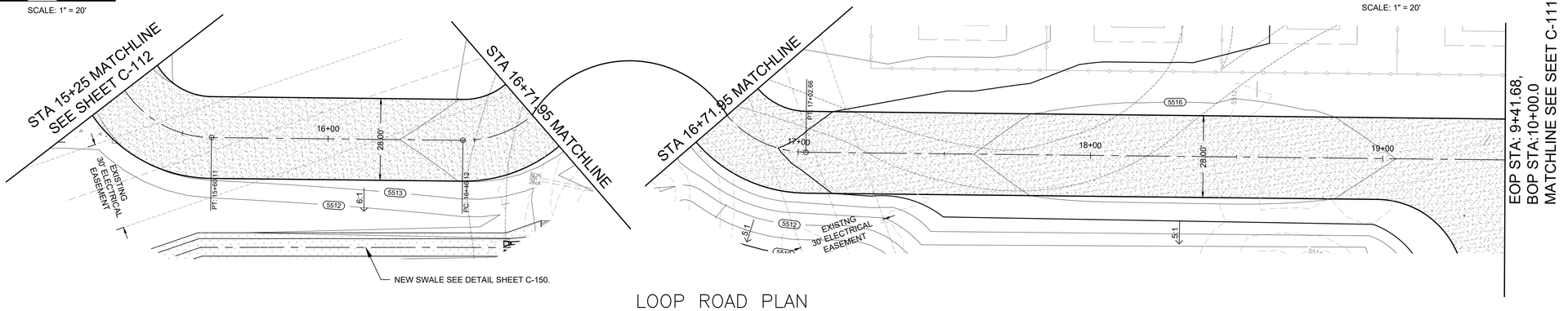
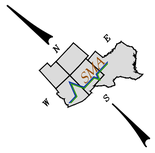
SCALE: 1" = 20'



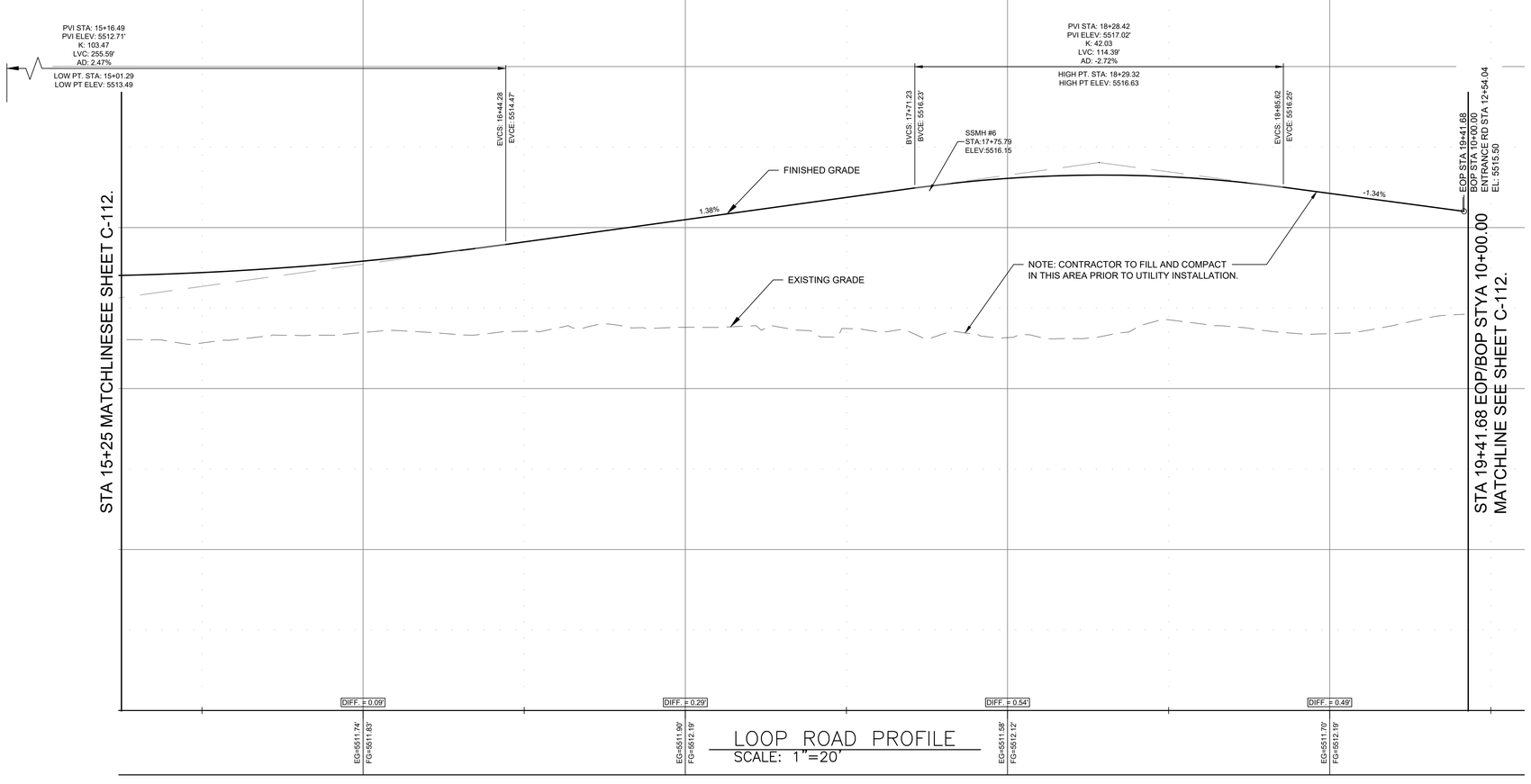


0 20' 40'

SCALE: 1" = 20'

LOOP ROAD PLAN

SCALE: 1"=20'



LOOP ROAD PROFILE

SCALE: 1"=20'

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PLAN AND PROFILE - LOOP ROAD
STA: 15+25 TO EOP 19+42

Expires 6/30/25

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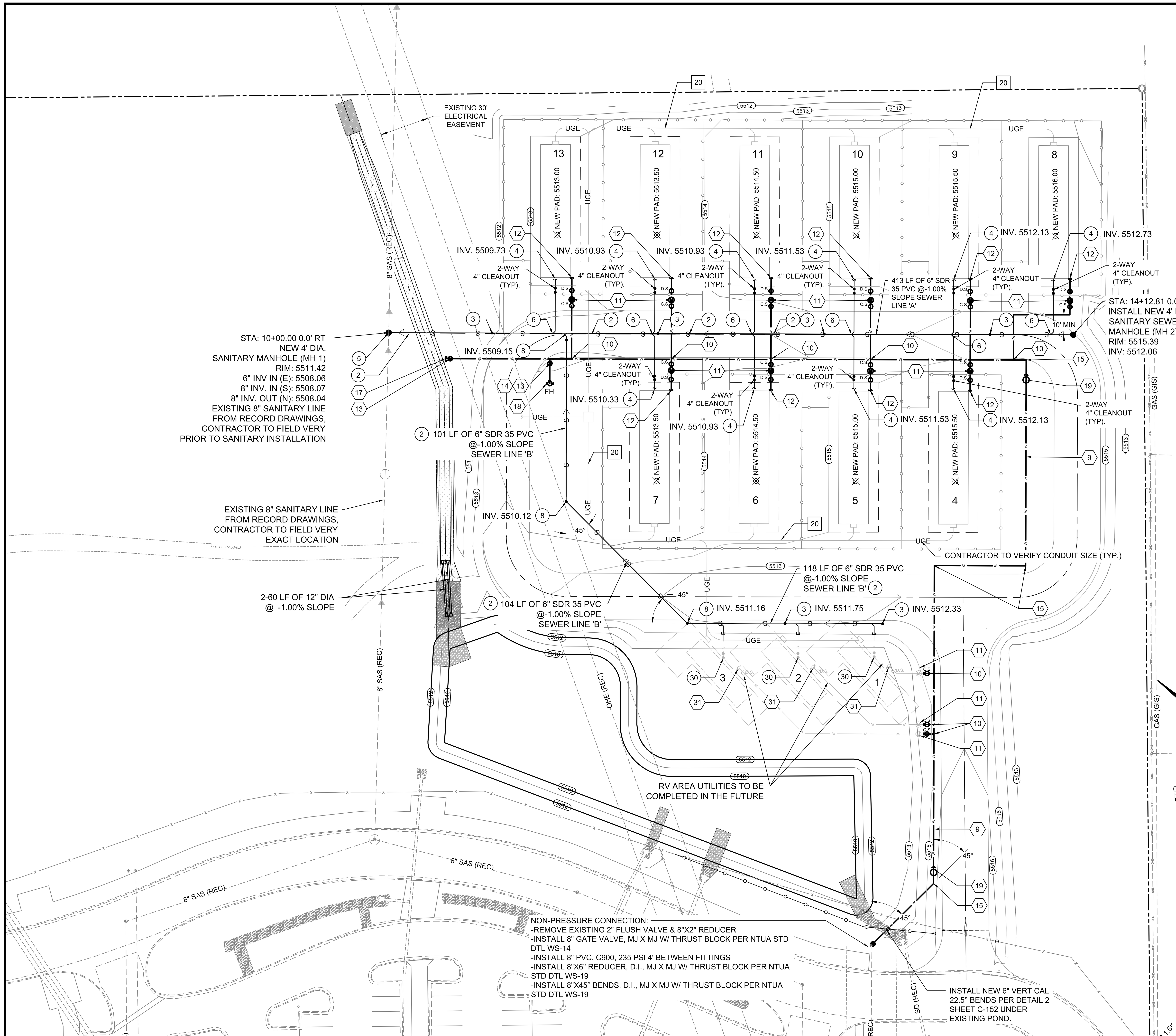
Scale: Horiz: N/A
Vert: N/A

Project No: 9433231

Sheet: C-113



A1 ENLARGED WATER AND SEWER PLAN

KEYED NOTES: UTILITIES

SEWER - ○ GENERAL - □
WATER - ⬡

1. EXISTING SAS MAIN FROM RECORD DRAWINGS. FIELD VERIFY LOCATION PRIOR TO CONNECTION.
2. NEW 6" SAS LINE. SLOPE = 1% MIN. SDR-35 PVC GASKETED PIPE PER NTUA ST. DETAIL WWS-10. CONTRACTOR SHALL COORDINATE WITH PROJECT ENGINEER FOR LOCATION AND DEPTHS PRIOR TO CONSTRUCTION.
3. INSTALL SINGLE CLEANOUT PER NTUA STANDARD DETAILS WWS-13. 100' MAX DOWNSTREAM OF UPSTREAM CLEANOUT.
4. POINT OF SAS CONNECTION TO PROPOSED MOBILE HOME: INSTALL BUILDING CONNECTION AND CLEANOUT PER NTUA STANDARD DRAWINGS WWS-1 AND WWS-1A, SHEET C-152.
5. CONNECT 6" SEWER TO EXISTING SAS MAIN LINE (INV. 5508.05) AND CONSTRUCT NEW 4' DIA SAS MH PER WWS-2. FIELD VERIFY EXISTING INVERT. SEE DETAIL SHEET C-152.
6. INSTALL NEW 4" BEND/WYE COMBINATION, 6" X 4" CONNECTION.
7. INSTALL NEW 4" LOCKABLE CAPPED RV SAS CONNECTION W/ CONCRETE PAD, ENVIRO DESIGN MAKE AND FOOTLOOSE MODEL OR APPROVED SUBSTITUTE.
8. INSTALL NEW 6"X 6" WYE WITH CLEANOUT.
9. INSTALL NEW 6" C-900 PVC, 235 PSI WATER MAIN (MIN. 4' BURY) PER NTUA STANDARD DRAWINGS AND SPECIFICATIONS. MECHANICALLY RESTRAIN NEW LINE W/ HARNESSES AT NEW FITTINGS AND VALVES, SEE DETAIL WS-15. SHEET C-150.
10. CONNECT AND INSTALL NEW 1" DOMESTIC WATER SERVICE LINE (MIN. 4' BURY) PER NTUA STANDARD DRAWINGS AND SPECIFICATION WS-1. SEE DETAIL SHEET C-151.
11. INSTALL NEW 5/8" X3/4" WATER METER , PER NTUA STANDARD DRAWING WS-1. SEE DETAIL SHEET C-151.
12. POINT OF WATER LINE CONNECTION TO PROPOSED MOBILE HOME. VERIFY EXACT LOCATION IN FIELD.
13. INSTALL NEW 6" GATE VALVE MJ X MJ WITH RESTRAINT AND CONCRETE THRUST BLOCK PER NTUA STANDARD DRAWINGS WS-14, SEE SHEET C-152.
14. INSTALL NEW 6" RESTRAINED TEE (D.I., MJ) AND THRUST BLOCK PER NTUA STD DWG WS-16, SHEET C-151.
15. INSTALL NEW 6" RESTRAINED BEND (D.I., MJ X MJ) AND THRUST BLOCK.
16. INSTALL NEW POTABLE YARD HYDRANT, PER NTUA STANDARD DRAWING WS-21, SEE SHEET C-152.
17. INSTALL NEW 6" WATER MAIN STUB OUT WITH RESTRAINED CAP AND THRUST BLOCK FOR FUTURE WATER TANK CONNECTION.
18. INSTALL NEW FIRE HYDRANT W/ STEEL BOLLARDS, PER NTUA STANDARD DRAWING WS-12, SEE SHEET C-151.
19. INSTALL NEW AIR RELIEF VALVE PER NTUA WS-10, SHEET C-152.
20. NEW ELECTRICAL LINE, METERS AND TRANSFORMER. ALIGNMENT SHOWN IS AN APPROXIMATE HORIZONTAL ALIGNMENT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST FINALIZE ALIGNMENT AND DESIGN FOR OWNER AND NTUA APPROVAL, CONTRACTOR TO VERIFY CONDUIT SIZE.

RV AREA - FUTURE UTILITIES :

30. FUTURE - POINT OF SAS CONNECTION TO PROPOSED RV PAD: INSTALL BUILDING CONNECTION AND CLEANOUT.
31. FUTURE - INSTALL NEW POTABLE YARD HYDRANT, PER NTUA STANDARD DRAWING WS-21, SEE SHEET C-152.

MINIMUM COVER :

MINIMUM COVER ON ALL NEW UTILITIES SHALL BE MEASURED FROM THE FINISHED GRADES ON THE PROPOSED GRADING AND DRAINAGE PLAN. PLEASE REFER TO SHEET C-110 OF THIS SET

NTUA STANDARD LEGEND

- EXISTING WATER MAIN W/ LINE SIZE, TYPE, & PSI RATING INDICATED
- PROPOSED WATERLINE W/ SIZE TYPE, & PSI RATING INDICATED
- EXISTING SEWER MAIN W/ SIZE, TYPE, SLOPE & LENGTH INDICATED
- PROPOSED SEWER MAIN W/ SIZE, TYPE, SLOPE, & LENGTH INDICATED
- EXISTING OVERHEAD ELECTRIC POWER LINE
- UNDERGROUND ELECTRIC POWER LINE
- EXISTING UNDERGROUND GAS LINE
- EXISTING TELECOMMUNICATIONS LINE
- FIRE HYDRANT & VALVE
- NEW GATE VALVE
- EX. GATE VALVE
- WATER METER
- METER W/ INDIVIDUAL PRV
- C.S. CURB STOP
- D.S. DOMESTIC STOP
- FLUSH VALVE
- AIR RELEASE VALVE
- SANITARY YARD HYDRANT
- REDUCER
- PRESSURE REDUCING VALVE (VAULT)
- BF BACKFLOW PREVENTION ASSEMBLY
- M MASTER METER VAULT
- SEPTIC TANK
- PROPOSED SEWERLINE & MANHOLE W/ FLOW DIRECTION
- EXISTING SEWER LINE & MANHOLE W/ FLOW DIRECTION
- C.O. SEWER CLEANOUT
- SEPTIC INFILTRATORS W/ INSPECTION PORT
- FENCELINE
- PAVED OR GRADED ROAD
- UNIMPROVED ROAD (DIRT)
- UTILITY LINE CROSSING
- HOUSE W/ CUSTOMER NAME AND/OR HOUSE NUMBER
- ARCHAEOLOGICAL SITE
- WASH OR ARROYO
- UTILITY MARKER, TEE POST OR CARSONITE MARKER

DESIGNED BY:	NTUA
SURVEYED BY:	–
DRAFTED BY:	NTUA
APPROVED BY:	NTUA
DATE:	08/2017
PROJECT NO.	–
SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS–0

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
NTUA STANDARD LEGEND
NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS

No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
03			
04			
05			
06			

NTUA 3

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CHINLE, AZ

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME CHINLE, ARIZONA UTILITY PLAN

Registered Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO URUETA Date Signed 5/22/24 ARIZONA, U.S.A.
Expires 6/30/25

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RJC	PZR	RJS

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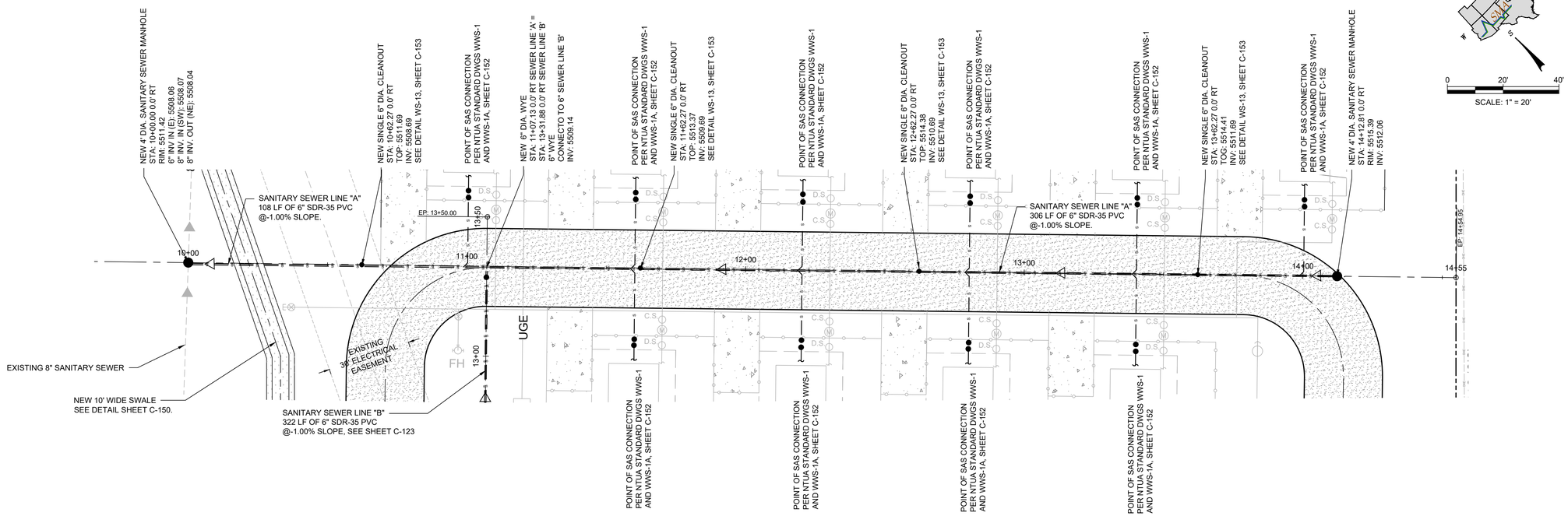
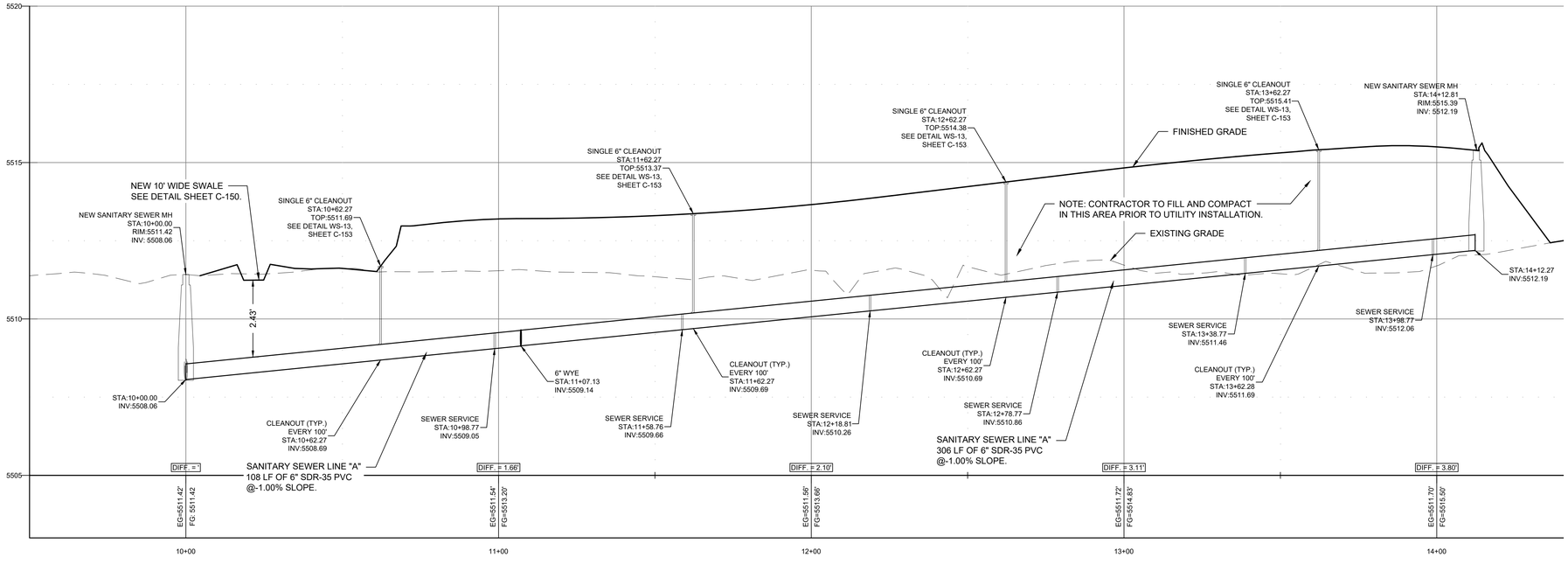
Project No: 9433231
Sheet: C-121



6" SANITARY SEWERLINE 'A'–NORTH LOOP RD PLAN

SCALE: 1"=20' HOR.



6" SANITARY SEWERLINE 'A' – NORTH LOOP RD PROFILE

SCALE: 1"=20' HOR.
1"=2' VERT.

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NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
6" SANITARY SEWERLINE - NORTH LOOP

CHINLE, AZ

Registered Professional Engineer (Civil)
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ARIZONA, U.S.A.
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Vert: N/A
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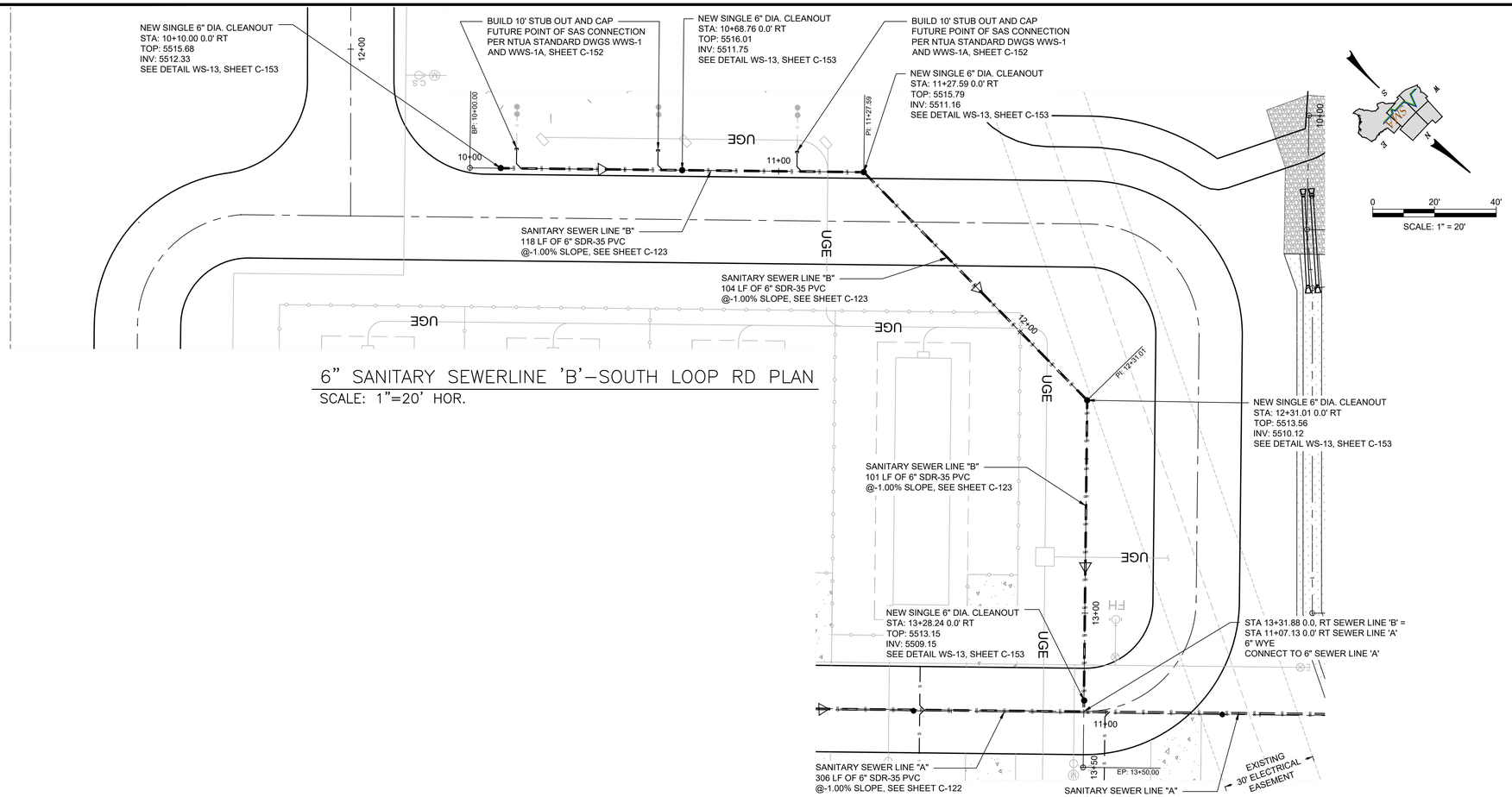
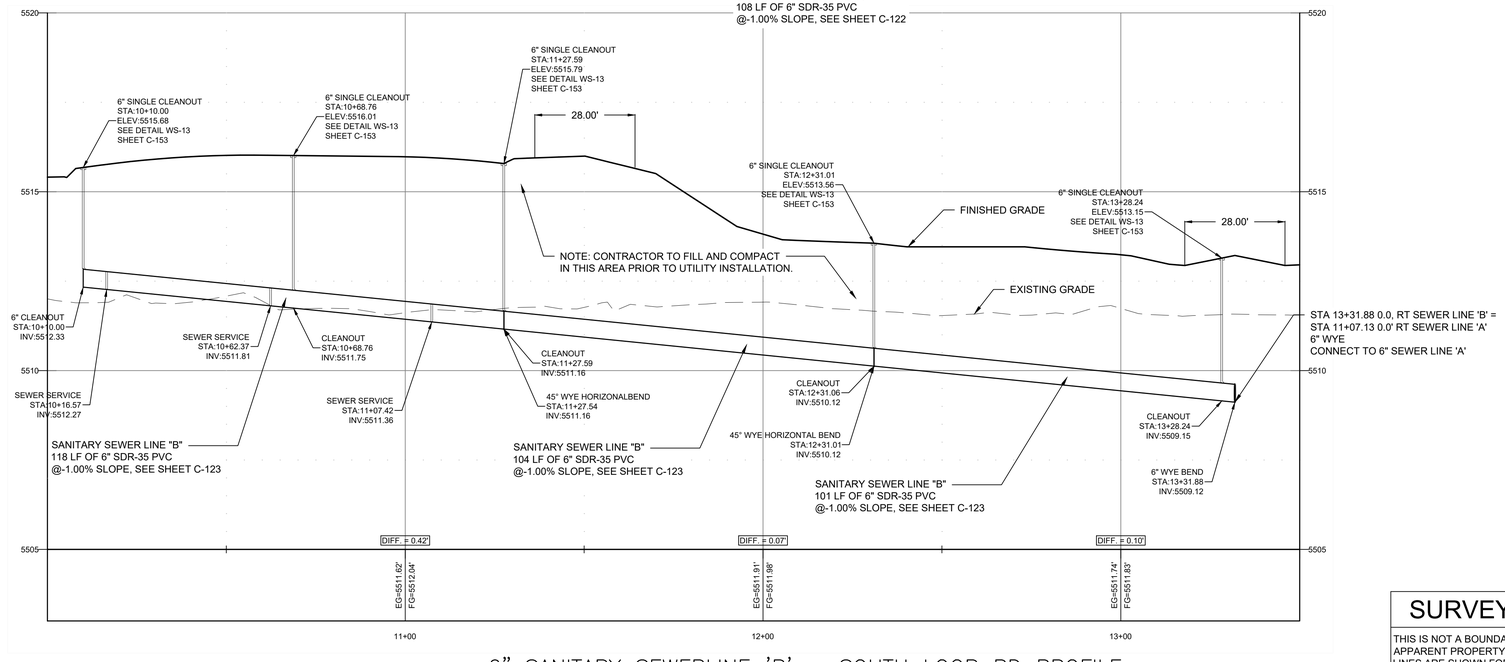
Sheet: C-122



6" SANITARY SEWERLINE 'B'–SOUTH LOOP RD PLAN

SCALE: 1"=20' HOR.



6" SANITARY SEWERLINE 'B' – SOUTH LOOP RD PROFILE

SCALE: 1"=20' HOR.
SCALE: 1"=2' VERT.

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CHINLE, AZ

NTU MOBILE HOME
CHINLE, ARIZONA
6" SANITARY SEWERLINE - NORTH LOOP

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50852
FRANCISCO
URIETA
Date Signed 5/20/24
ARIZONA, U.S.A.
Expires 6/30/25

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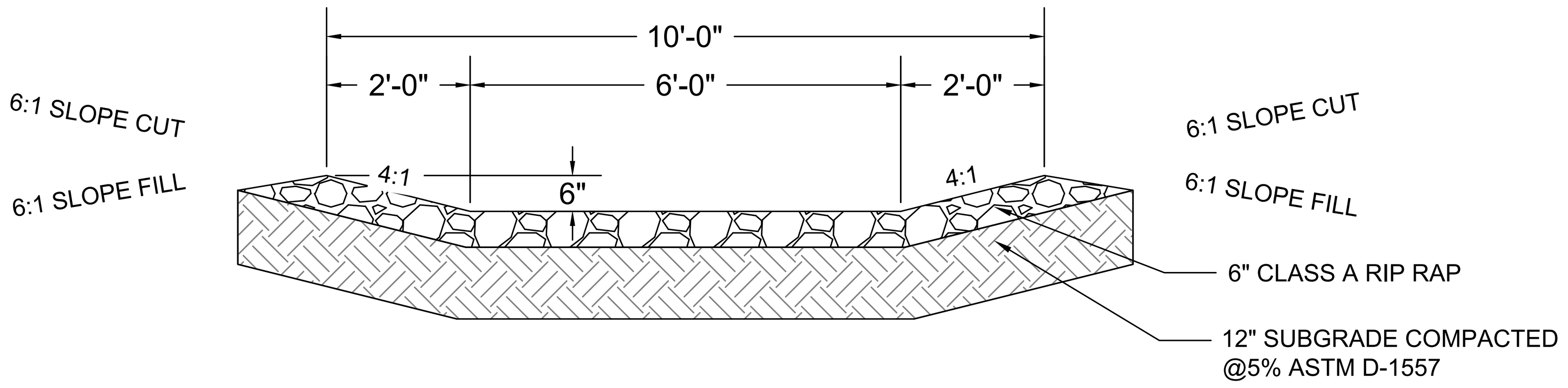
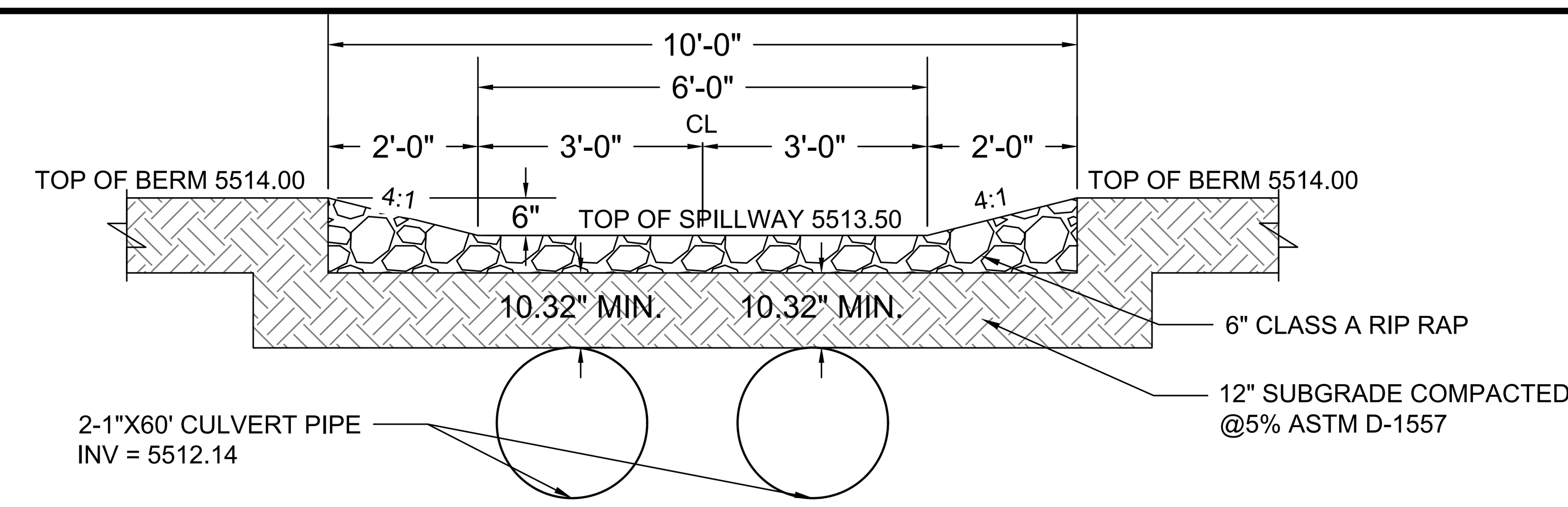
Designed	Drawn	Checked
RJC	PZR	RJS

Date: 5/20/24
Scale: Horiz: N/A
Vert: N/A
Project No: 9433231
Sheet: C-123



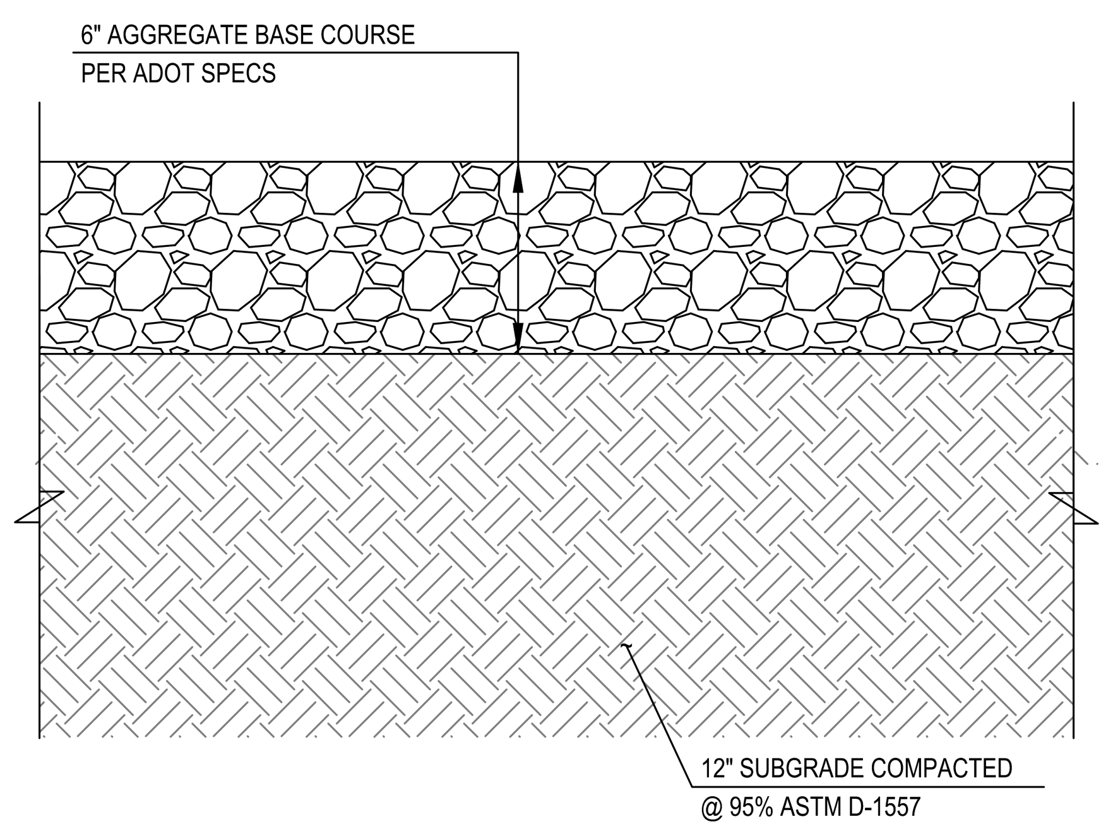
1 TYPICAL RIP RAP SWALE SECTION

SCALE: NTS



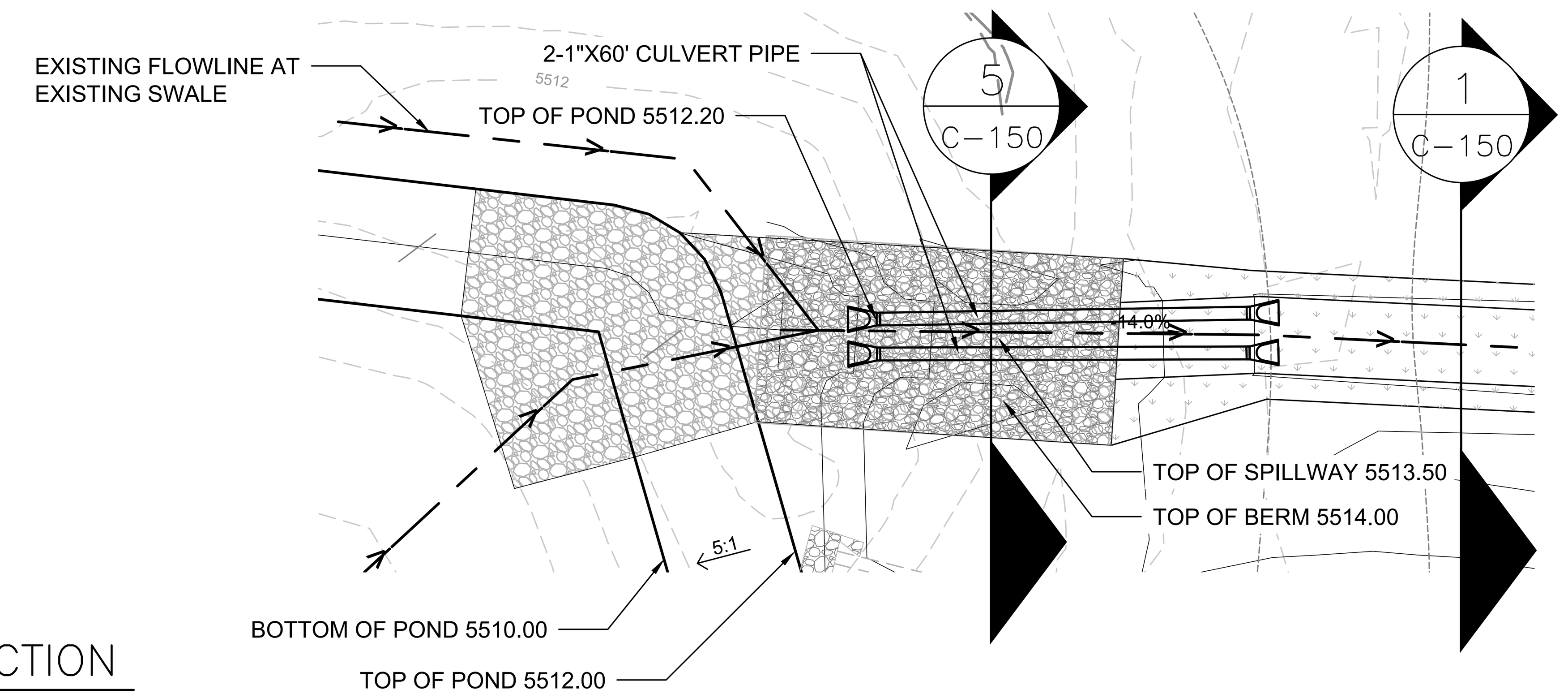
5 EMERGENCY SPILLWAY SECTION

SCALE: NTS



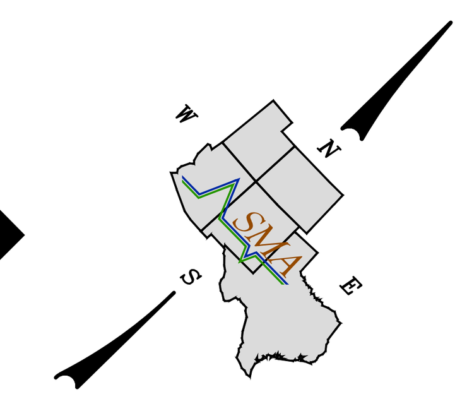
2 TYPICAL 6" GRAVE BASE COURSE SECTION

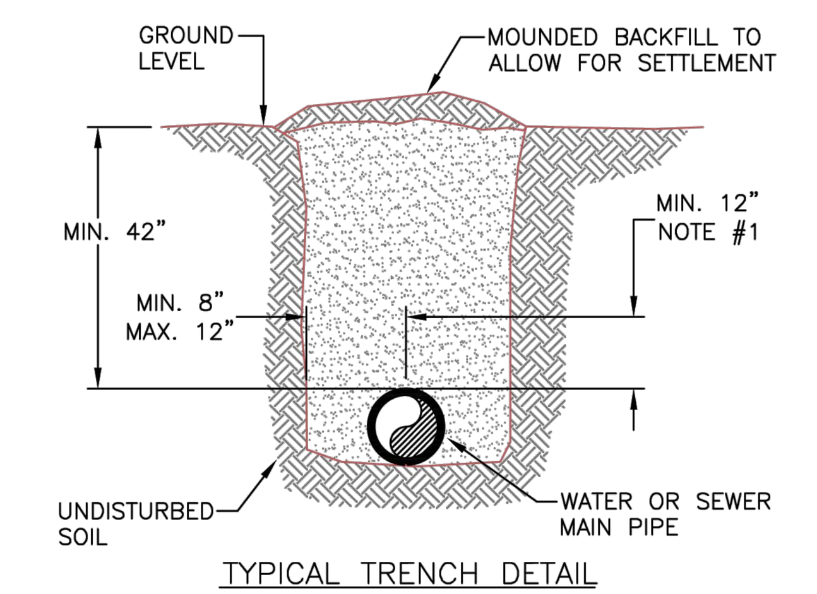
SCALE: 1" = 0'-6"



6 EMERGENCY SPILLWAY PLAN

SCALE: NTS

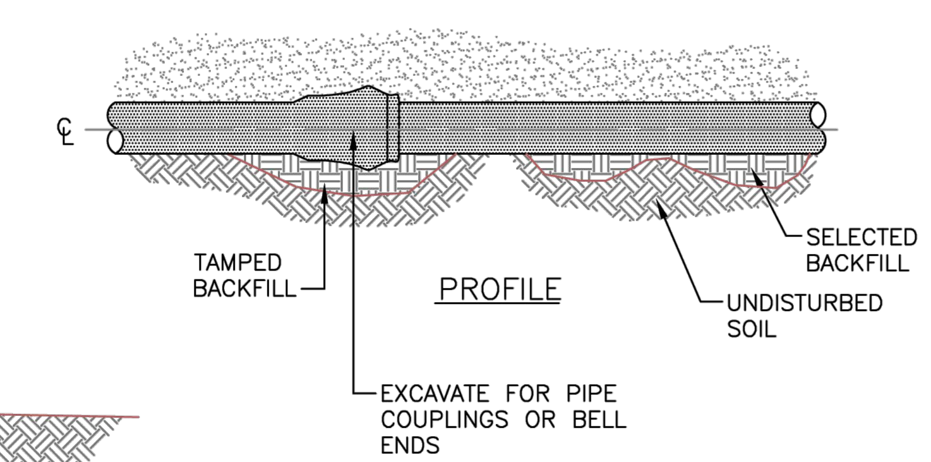




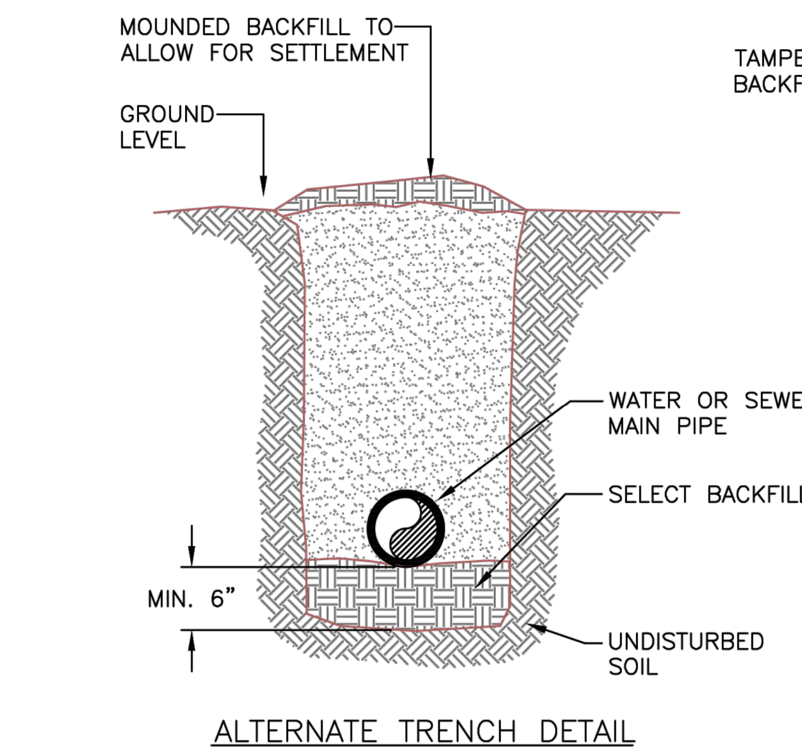
TYPICAL TRENCH DETAIL

GENERAL NOTES:

1. HAND COMPACTED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 12" ABOVE PIPE CROWN.
2. OPEN-CUT OF PAVED OR GRAVEL ROADS WILL REQUIRE BACK FILL AT MINIMUM COMPACTION OF 95% OPTIMUM DENSITY IN LIFTS.
3. REPAVING AND REGRAVELING WILL BE DONE TO ROAD OWNER'S REQUIREMENTS.
4. KEEP LOWER 5' OF TRENCH WALL VERTICAL, IF POSSIBLE. UPPER PART OF THE TRENCH WILL VARY IN WIDTH TO COMPENSATE FOR UNSTABLE SOIL. APPLICABLE O.S.H.A. REQUIREMENTS SHALL BE MET.



PROFILE



ALTERNATE TRENCH DETAIL

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SURVEYED BY:	–
DRAFTED BY:	NTUA
APPROVED BY:	NTUA
DATE:	08/2017
PROJECT NO.	–
SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-15

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION

STANDARD TRENCH DETAIL

NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS

No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
03			
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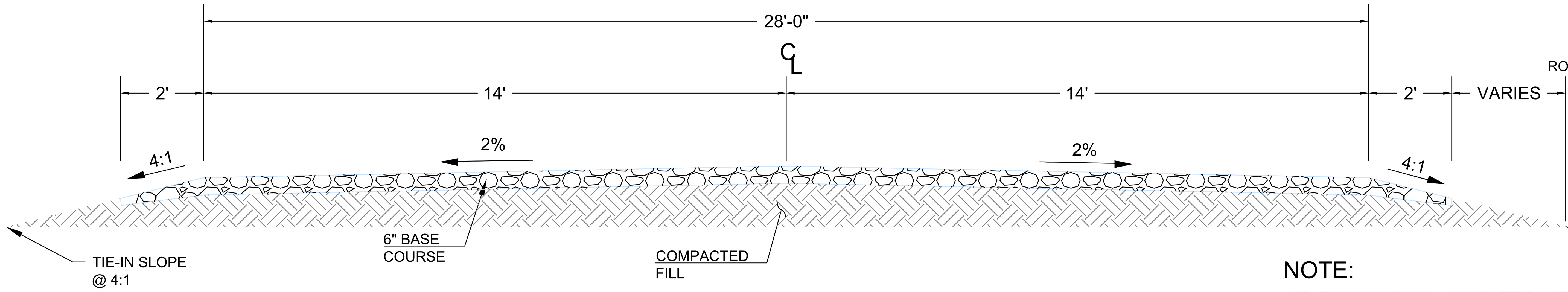
NTUA 39

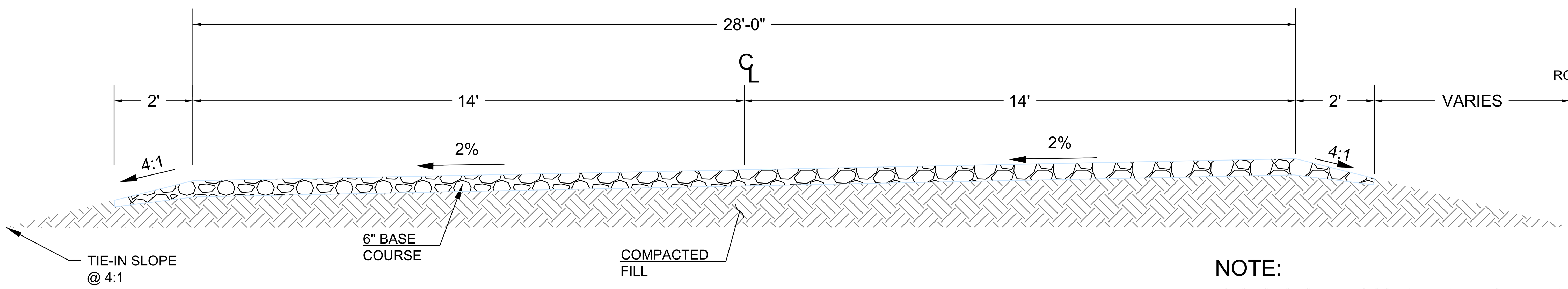


NOTE:

SECTION SHOWN WAS COMPLETED WITHOUT THE BENEFIT OF A GEOTECHNICAL REPORT

3 PROPOSED CHINLE MOBILE ROADWAY (CROWN SECTION)

SCALE: 1" = 2'



NOTE:

SECTION SHOWN WAS COMPLETED WITHOUT THE BENEFIT OF A GEOTECHNICAL REPORT

4 PROPOSED CHINLE MOBILE ROADWAY (SUPERELEVATED SECTION)

SCALE: 1" = 2'

SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY OR A RIGHT-OF-WAY SURVEY. ANY APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES ARE SHOWN FOR ORIENTATION ONLY.
UNLESS OTHERWISE NOTED THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE *TOPOGRAPHIC SURVEY FOR NAVAJO TECHNICAL UNIVERSITY* PREPARED BY *SOUDER, MILLER & ASSOCIATES, 30345*, DATED *05/26/2022*

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Serving the Southwest & Rocky Mountains
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NAVAJO TECHNICAL UNIVERSITY

CHINLE, AZ

NTU MOBILE HOME
CHINLE, ARIZONA
MISCELLANEOUS DETAILS - ROAD
ROAD AND TYPICAL SECTIONS

Registered Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO ... Date Signed 4/22/24 ARIZONA, U.S.A. Expires 6/30/25

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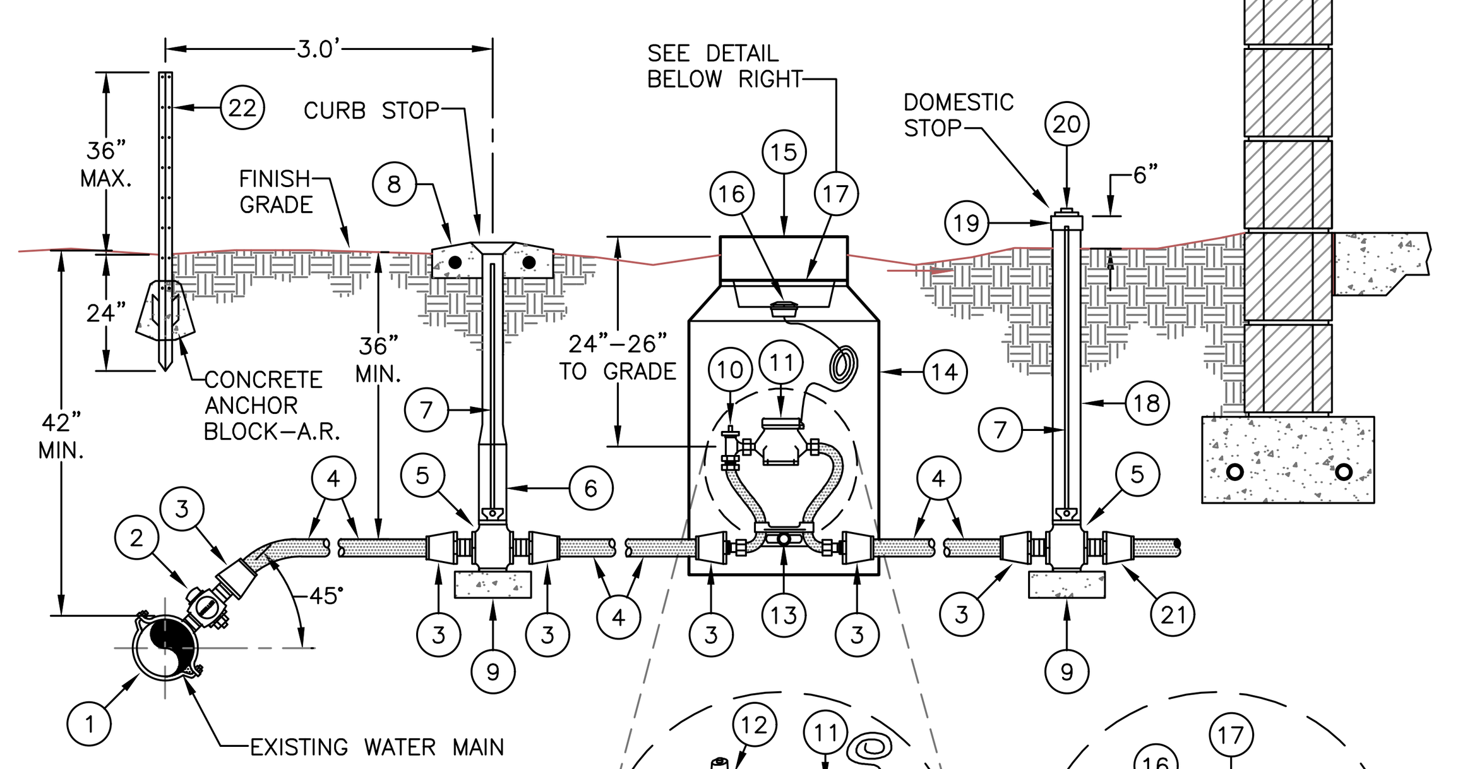
Designed	Drawn	Checked
RJC	PZR	RJS

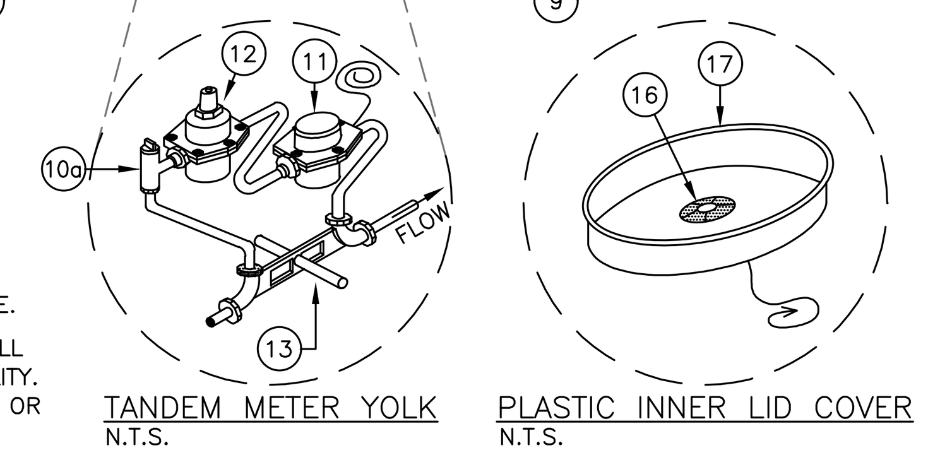
Date: 4/22/24

Scale: Horiz: N/A Vert: N/A

Project No: 9433231

Sheet: C-150





NOTES:

1. FOR MATERIAL LIST, SELECT EITHER DETAIL WS-1b OR WS-1c, BASED ON METER SIZE & FLOW RATE.
2. FACILITIES AFTER THE METER CAN WILL BE THE HOME OWNER'S RESPONSIBILITY. THE NTUA WILL HAVE NO OPERATION OR MAINTENANCE BEYOND THIS POINT.

BACTERIOLOGICAL LAB SAMPLE NO.: __________
DATE PERFORMED: ___________. LAB SAMPLE NO.: _______. INITIALED (NTUA): ______.

WS-1 SHEET INDEX	SHEET
1" WATER SERVICE (RURAL AREA)	1 of 8
1" WATER SERVICE (URBAN AREA)	2 of 8
MATERIAL LIST: 5/8" x 3/4" METER	3 of 8
MATERIAL LIST: 1" METER	4 of 8
GENERAL NOTES FOR WATER SERVICE	5 of 8
PROPOSED INDIVIDUAL INSTALLATION	6 of 8
INDIVIDUAL AS-BUILT	7 of 8
VICINITY LOCATION OF NEW SERVICE	8 of 8

AS-BUILT LOCATION OF TAP	
SYSTEM NAME	
PROJECT NO.	
SHEET NO.	
LINE NO.	
STATION NO.	

SHEET 1 OF 8

DESIGNED BY:	NTUA
SURVEYED BY:	–
DRAFTED BY:	NTUA
APPROVED BY:	NTUA
DATE:	08/2017
PROJECT NO.	–
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ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-1

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
1" WATER SERVICE FOR A 5/8" x 3/4" OR 1" METER (RURAL AREA)
NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
03			
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05			
06			

4

1" WATER SERVICE FOR A 5/8" x 3/4" METER		
#	MATERIAL LIST	
ITEM	QTY	DESCRIPTION
1	1	SADDLE, BRASS, 1" FIPT TAP x APPROPRIATE LINE SIZE, TYPE, AND PRESSURE RATING
2	1	1" CORPORATION STOP, MIPT x FIPT
3	6	1" INSTA-TITE FITTING, MIPT x STAB, FOR SIDR 7 P.E. PIPE
4	A.R.	1" PIPE, P.E., ASTM D-2239, SIDR 7, 250 PSI RATED, 200' MAX. LENGTH
5	1	1" CURB STOP, FIPT x FIPT, MINNEAPOLIS PATTERN
6	1	CURB STOP BOX, EXTENSION TYPE, W/ 2" x 1-1/2" BUSHING
7	2	STATIONARY ROD, 36" LONG FOR CURB STOP & 36" LONG FOR DOMESTIC STOP, SECURED TO THE CURB & DOMESTIC STOPS W/ COTTER PIN
8	A.R.	CONCRETE COLLAR FOR CURB STOP, 12" x 12" x 4" THICK, W/ #4 REBARS, E.W.O.C., SLOPE @ 2%
9	A.R.	CONCRETE BLOCK OR BRICK, OVER COMPACTED BACKFILL
10	1	COPPERSETTER W/ VALVED 12" RISER FOR 5/8" x 3/4" WATER METER, W/ 1" I.P. UNION NUT/ SWIVEL ASSEMBLY CONNECTION ON INLET & OUTLET AND BRACING EYE
10a	1	TANDEM COPPERSETTER W/ VALVED 12" RISER, FOR 5/8" X 3/4" WATER METER, W/ TWO REGULATOR ADAPTERS FOR THE INDIVIDUAL P.R.V.
11	1	5/8" x 3/4" METER, ELSTER AMCO C700, POSITIVE DISPLACEMENT, GALLONS, COMPLETE W/ EA. MODULE FOR A.MI. METERING TECHNOLOGY
12	1	3/4" P.R.V., FIPT x FIPT
13	1	1/2" DIA. STABILIZER BRACE, 18" LONG, PVC PIPE, SCH. 40
14	1	METER PIT, PLASTIC, 20" DIA. x 30" HT.
15	1	METER PIT COVER W/ FROST LID, FOR 20" DIA. METER CAN, 11-1/2" MINIMUM LID OPENING
16	1	E.A. MODULE FOR A.M.I. METERING TECHNOLOGY
17	1	PLASTIC INNER COVER LID & HOUSING UNIT FOR E.A. MODULE. (#W3BPD STYLE)
18	1	3" RISER, 36" LONG, PVC, SCH. 40
19	1	3" ADAPTER, HUB x FIPT, PVC, SCH. 40
20	1	3" CLEANOUT PLUG, MIPT, PVC, SCH. 40
21	1	1" CONNECTOR/ADAPTER, MIPT x APPROPRIATE LINE SIZE, TYPE, AND PRESSURE RATING
22	A.R.	5' STEEL TEE POST, PAINTED BLUE OR BLUE CARSONITE MARKER POST W/ PROPER WARNING DECAL

GENERAL NOTES:

1. NORMAL FLOW RATE = 1-20 GPM.
2. A.R. = AS REQUIRED
3. NTUA WILL NOT PROVIDE WATER METERS FOR SUBDIVISIONS AND DEVELOPERS. METERS TO BE PURCHASED FROM THE NTUA FOR PROPER A.M.I. PROGRAMMING.
4. WATER METER SERIAL NUMBER:____________________
5. SADDLE SIZE:____________________

SHEET 3 OF 8

DESIGNED BY:	NTUA
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ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-1b

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
MATERIAL LIST: 1" WATER SERVICE WITH 5/8" x 3/4" METER
NTUA HEADQUARTERS FT.DEFIANCE, AZ

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01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
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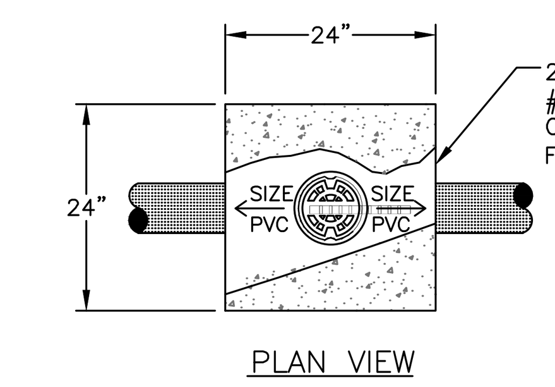

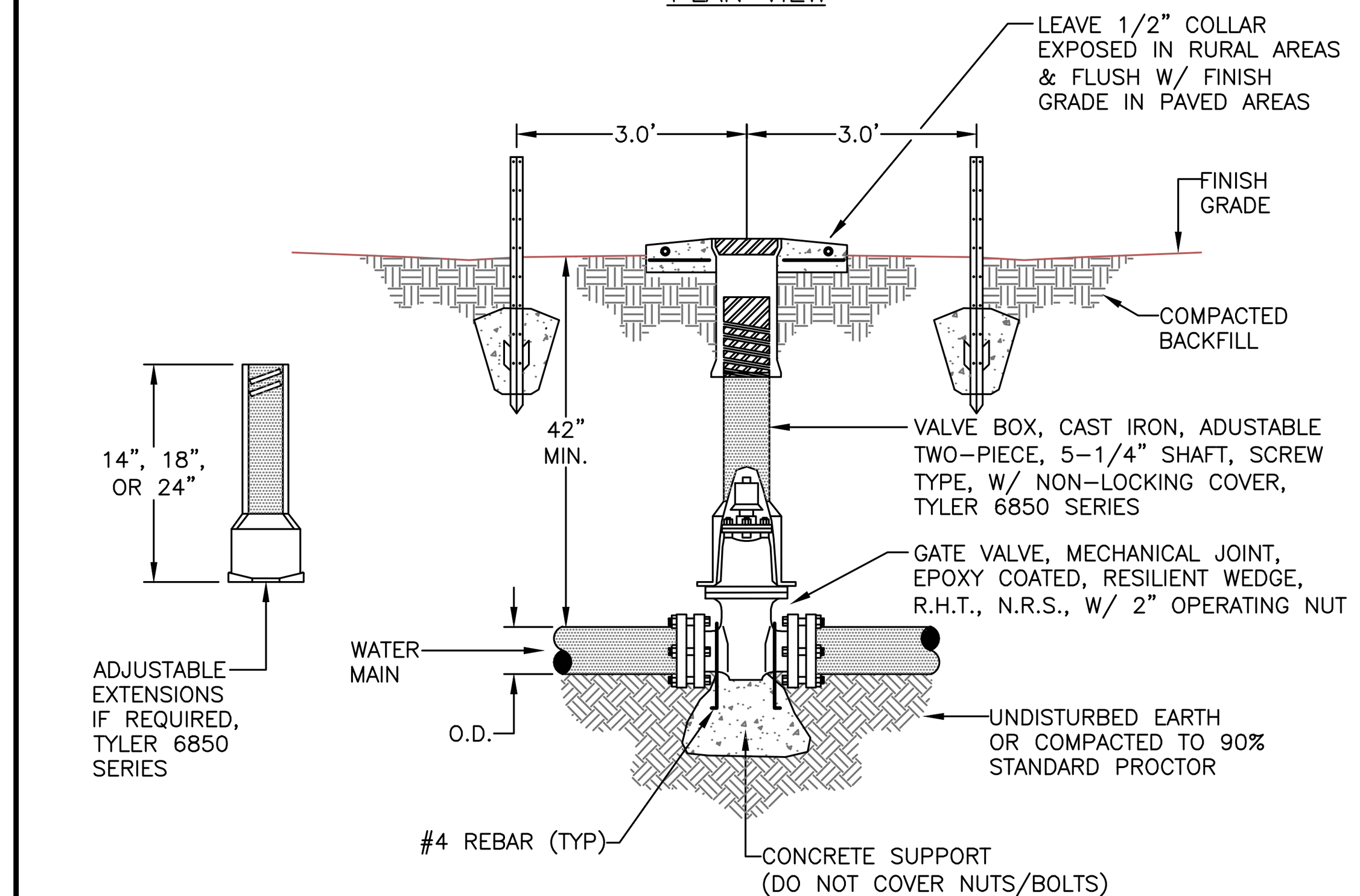

GENERAL NOTES:

1. USE SERIES 2000, PV MEGALUG GLANDS TO SECURE GATE VALVE(S) TO SDR-21, PVC PIPE.
2. USE SERIES 1100 MEGALUG GLANDS TO SECURE GATE VALVE(S) TO DUCTILE IRON PIPE.
3. DO NOT COVER JOINTS AND BOLTS WITH CONCRETE.
4. SEE WS-13 FOR APPROPRIATE LOCATIONS OF MARKER POST.
5. INSTALL #4 REBARS TO THE GATE VALVE & CONCRETE ANCHOR BLOCK.

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APPROVED BY:	NTUA
DATE:	08/2017
PROJECT NO.	–
SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-14

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
WATER MAINLINE GATE VALVE INSTALLATION
NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
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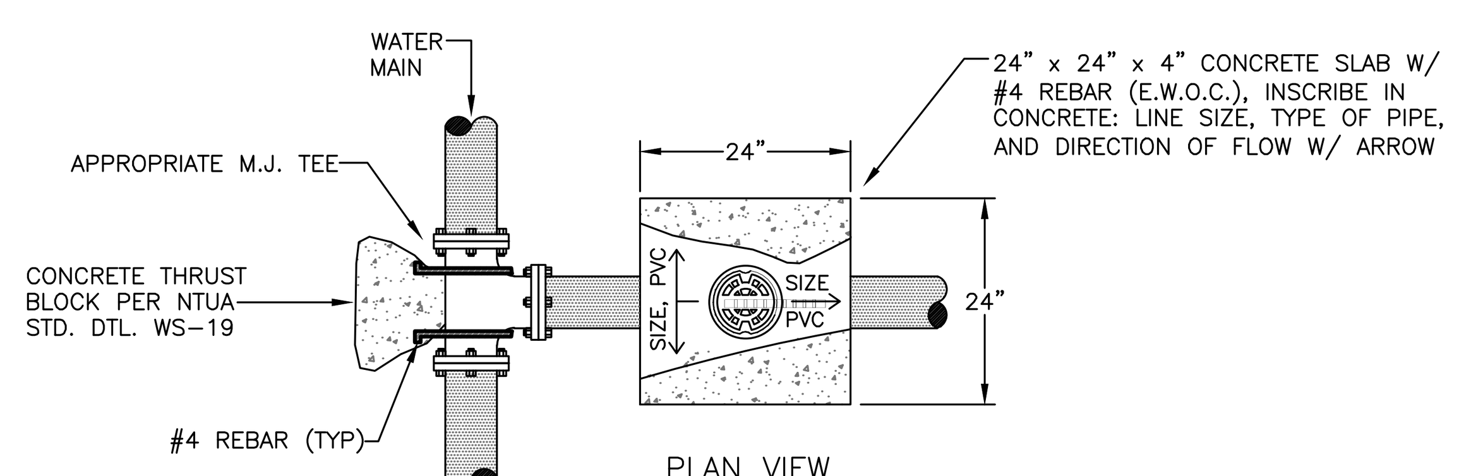

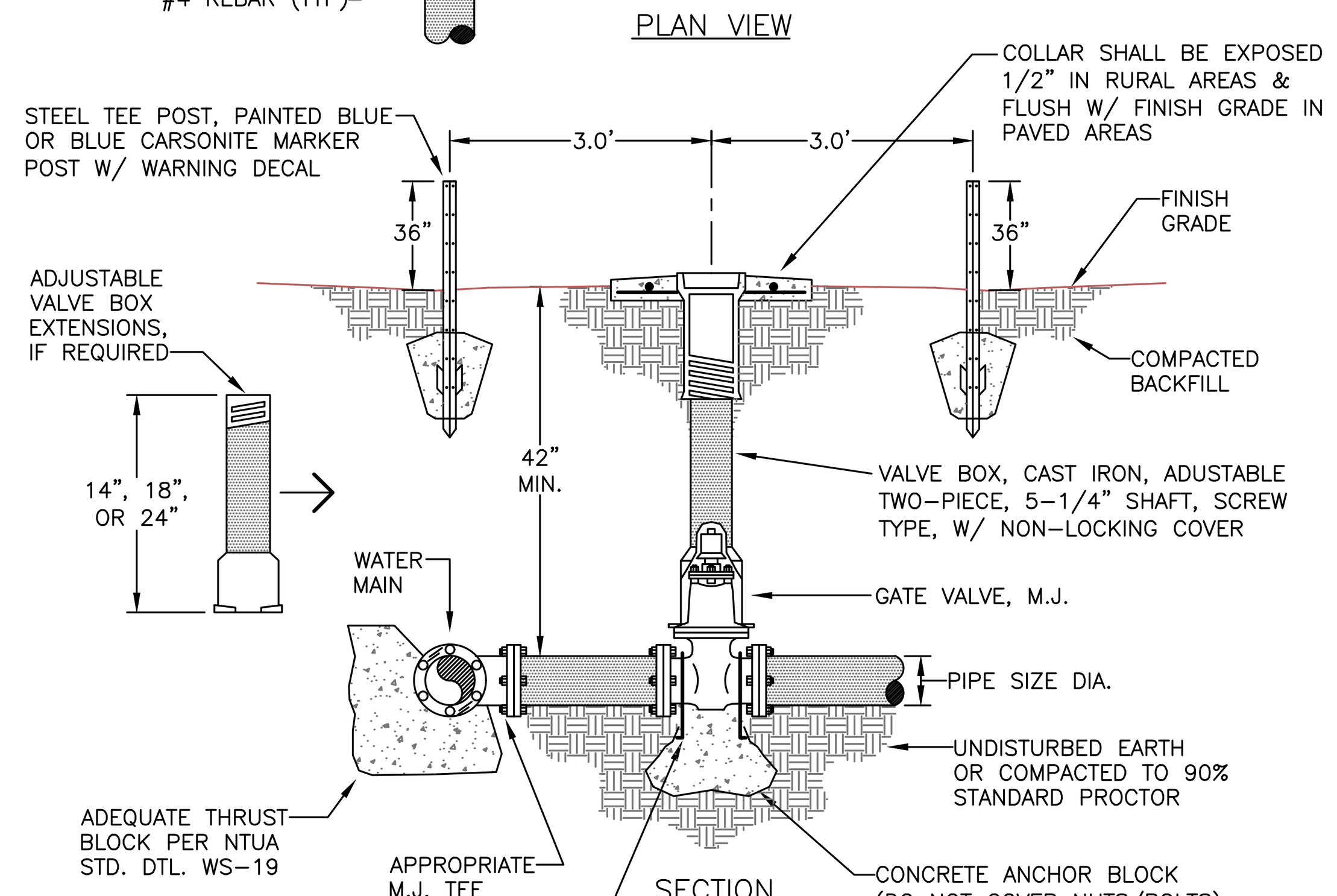

GENERAL NOTES:

1. USE SERIES 2000, PV MEGALUG GLANDS TO SECURE GATE VALVE(S) TO SDR-21, PVC PIPE.
2. USE SERIES 1100 MEGALUG GLANDS TO SECURE GATE VALVE(S) TO DUCTILE IRON PIPE.
3. DO NOT COVER JOINTS AND BOLTS WITH CONCRETE.
4. SEE WS-13 FOR APPROPRIATE LOCATIONS OF MARKER POST.
5. INSTALL #4 REBARS TO THE GATE VALVE & CONCRETE ANCHOR BLOCK.

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DATE:	08/2017
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SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-16

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
WATER MAINLINE TAP W/ GATE VALVE
NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
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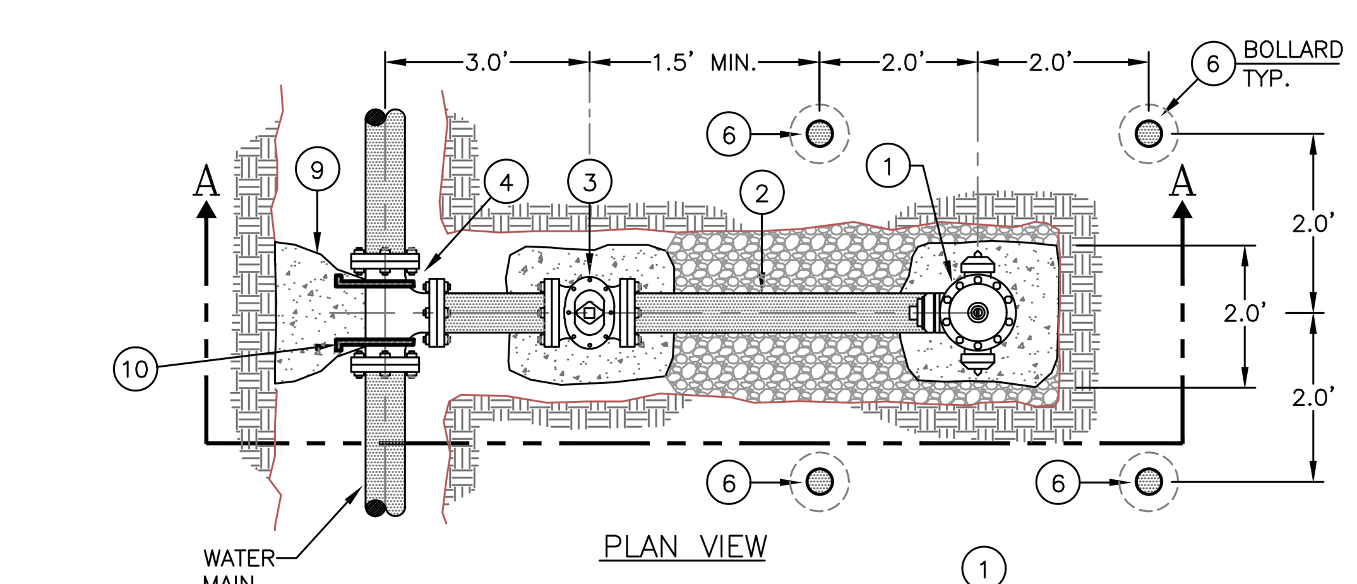

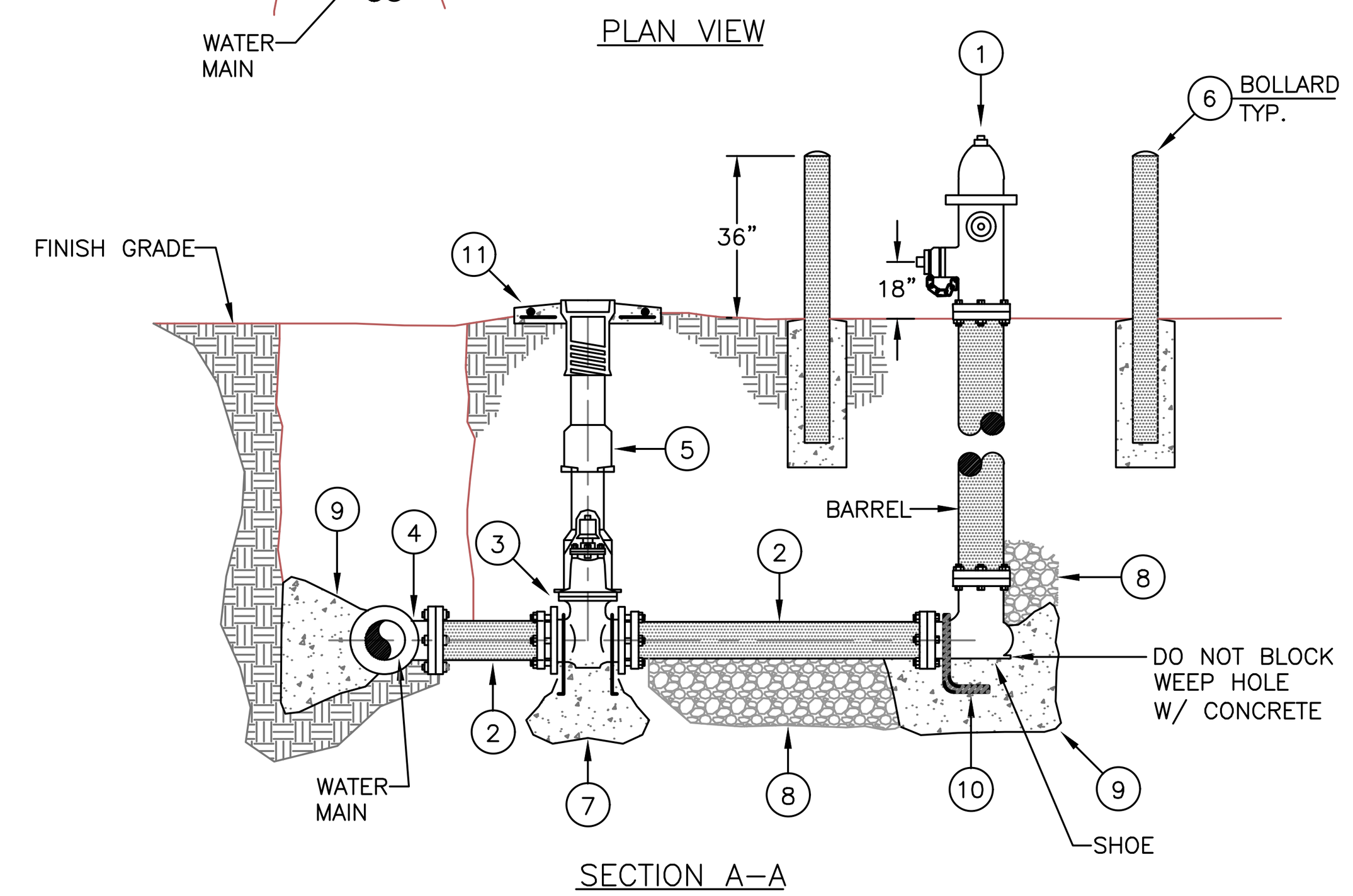

NOTES:

1. CONTRACTOR MAY SUBSTITUTE A COMBINATION OF SERIES 2000 PV MEGALUG GLANDS AND SERIES 6500 JOINTS RETAINERS (EBAA IRON) FOR FIRE HYDRANT CONCRETE BLOCKING.
2. FIRE HYDRANT GUARD BOLLARD TO BE SCHEDULE 40 STEEL, MIN.
3. PAINT GUARD BOLLARDS WITH RED EXTERIOR ENAMEL AND FILL HYDRANT GUARD POSTS WITH CONCRETE PER MAG STD. DTL. 140.
4. HYDRANT PUMPER NOZZLE TO BE FACING WATER MAIN AND/OR STREET.
5. THE NTUA DOES NOT PROVIDE FIRE FLOW.

SHEET 1 OF 2

DESIGNED BY:	NTUA
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SCALE:	NTS
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DETAIL NO.	WS-12

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
FIRE HYDRANT, VALVE, AND BOLLARD DETAIL
NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
03			
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FIRE HYDRANT, VALVE, AND BOLLARD		
#	MATERIAL LIST	
ITEM	QTY	DESCRIPTION
1	1	HYDRANT, 4-FT BURY W/ TRAFFIC FLANGE & 1 - 4 1/2" PUMPER CONNECTION (A) 2 - 2 1/2" HOSE CONNECTION (B) MUELLER A423 OR KENNEDY K81A W/ 5 1/4" VALVE M.J.
2	2	6" PVC PIPE, LENGTH AS NEEDED, 200 PSI, SDR-21
3	1	6" M.J. GATE VALVE, NRS, RSW, RHT, 2" OPERATION NUT
4	1	M.J. TEE AS REQUIRED, M.J. 6" BRANCH
5	1	GATE VALVE BOX, 5 1/4" W/ CAST IRON LID, LID TYLER 6850
6	4	6" DIA. BOLLARD PER MAG. STD. 140, TYPE 1
7	A.R.	CONCRETE ANCHOR BLOCK, 1.5 CUBIC FEET MIN. (DON'T COVER JOINTS AND BOLTS)
8	A.R.	CRUSHED ROCK 1" TO 2" DIAMETER
9	A.R.	CONCRETE THRUST BLOCK, (SEE NTUA STANDARDS FOR TEE)
10	1	#4 REBAR TIE HOOP
11	1	CONCRETE COLLAR, 24" SQUARE x 4" THICK, W/ #4 REBAR, E.W.O.C., INSCRIBED W/ LINE SIZE, TYPE OF PIPE, AND DIRECTION OF FLOW W/ ARROW

NOTES:
1. A.R. = AS REQUIRED

SHEET 2 OF 2

DESIGNED BY:	NTUA
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APPROVED BY:	NTUA
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SCALE:	NTS
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DETAIL NO.	WS-12a

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
MATERIAL LIST: FIRE HYDRANT, VALVE, AND BOLLARD
NTUA HEADQUARTERS FT.DEFIANCE, AZ

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02	08/17	2017 Update	A.S.
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CHINLE, AZ

NAVAJO TECHNICAL UNIVERSITY

NTU MOBILE HOME
CHINLE, ARIZONA
MISCELLANEOUS DETAILS - WATER

Registered Professional Engineer (Civil)
CERTIFICATE NO. 50852
FRANCISCO URUETA
Date Signed 4/22/24
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Expires 6/30/25

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RJC	PZR	RJS

Date: 4/22/24
Scale: Horiz: N/A
Vert: N/A
Project No: 9433231
Sheet: C-151

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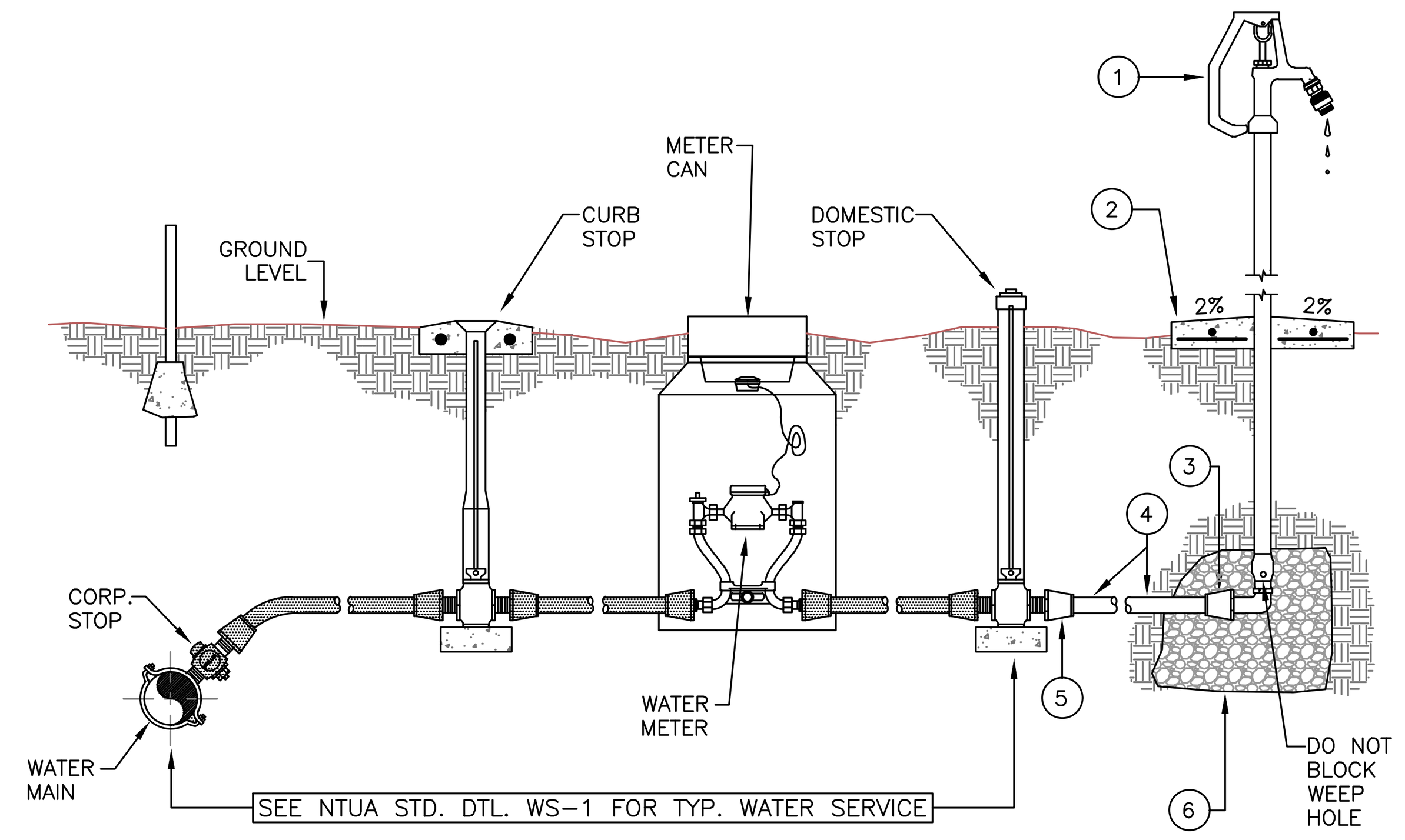

SANITARY YARD HYDRANT		
#	MATERIAL LIST	
ITEM	QTY	DESCRIPTION
1	1	SANITARY YARD HYDRANT, FREEZELESS, BACKFLOW PROTECTED, AUTOMATIC DRAINING
2	1	CONCRETE COLLAR, 24" x 24" x 4" THICK, W/ #4 REBAR, E.W.O.C.
3	1	CONNECTOR/ADAPTER, 1" MIPT x APPROPRIATE PIPE TYPE AND O.D.
4	A.R.	PIPE, 1" P.E., ASTM D-2239, SIDR 7, 200 PSI, 200' MAX.
5	1	INSTA-TITE FITTING, 1" MIPT x 1" STAB FOR SIDR 7 P.E. PIPE
6	1	CLEAN GRAVEL, ONE CUBIC YARD, MIN.

GENERAL NOTES:

1. A.R. = AS REQUIRED
2 NORMAL FLOW RATE = 1-20 GPM.
3. NTUA WILL NOT PROVIDE WATER METERS FOR SUBDIVISIONS AND DEVELOPERS.

SHEET 1 OF 1

DESIGNED BY:	–
SURVEYED BY:	–
DRAFTED BY:	NTUA
APPROVED BY:	NTUA
DATE:	08/2017
PROJECT NO.	–
SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-21

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION

SANITARY YARD HYDRANT

NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	08/17	2017 Update/Addition	A.S.
02			
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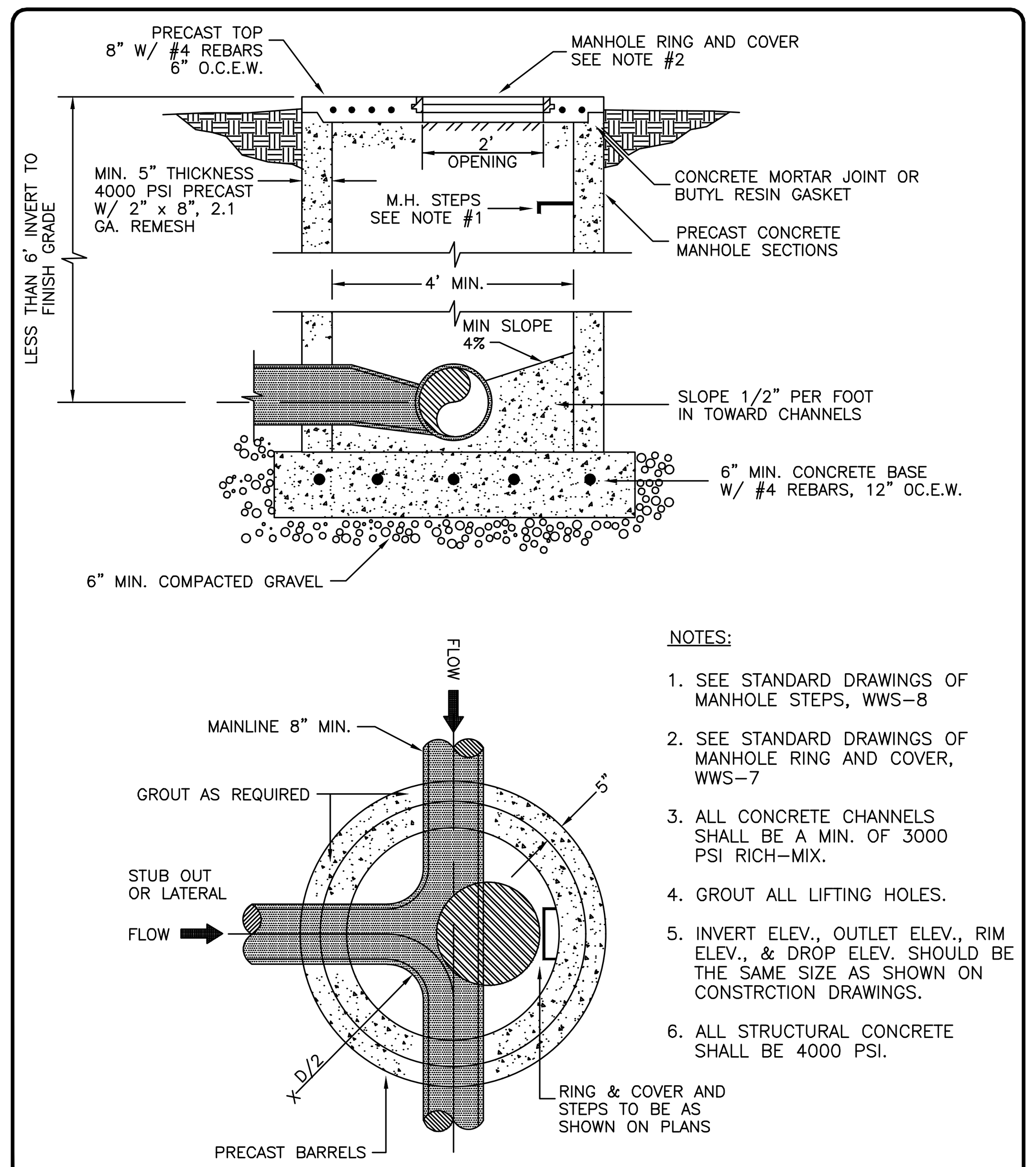


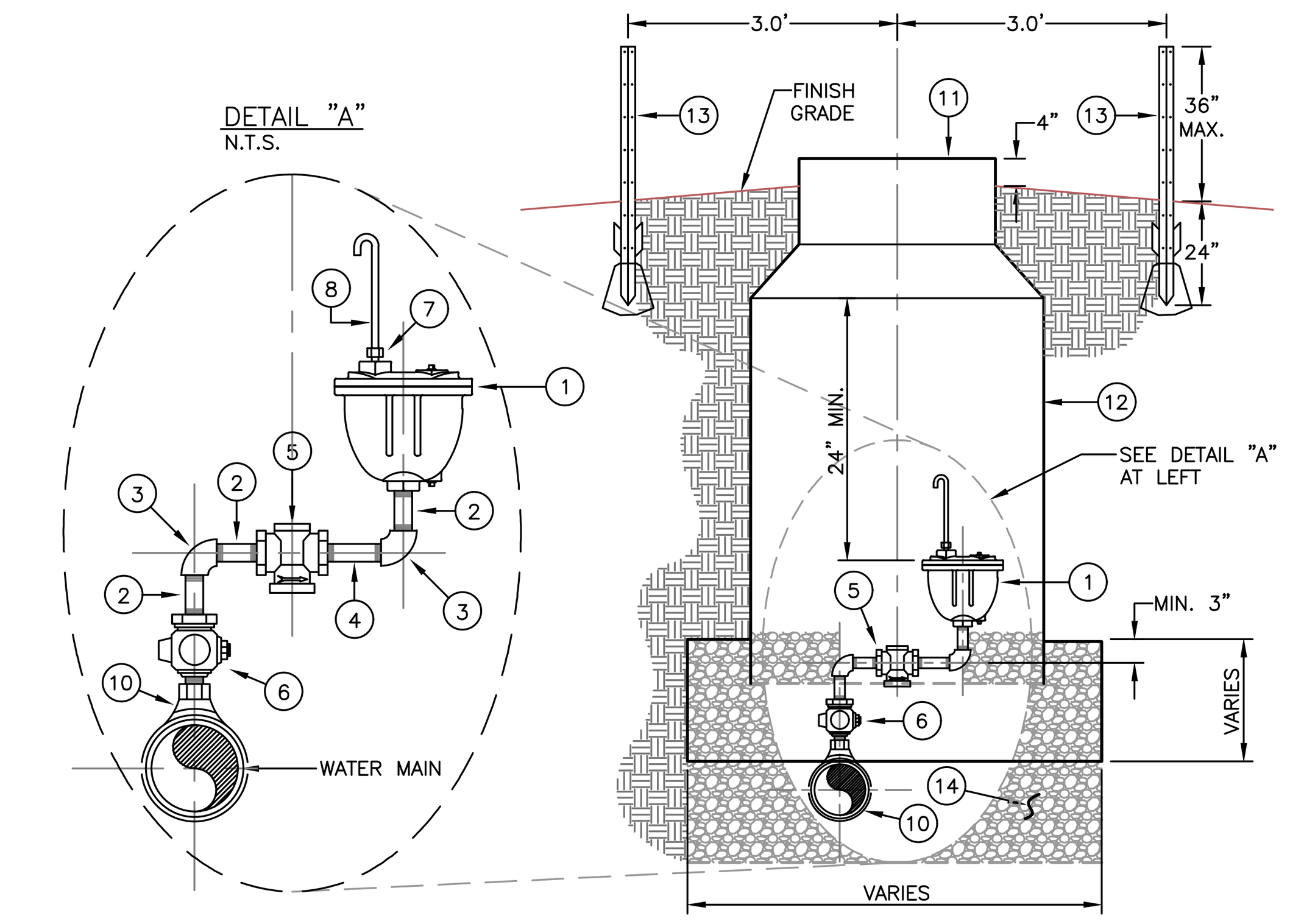
NOTES:

1. SEE STANDARD DRAWINGS OF MANHOLE STEPS, WWS-8
2. SEE STANDARD DRAWINGS OF MANHOLE RING AND COVER, WWS-7
3. ALL CONCRETE CHANNELS SHALL BE A MIN. OF 3000 PSI RICH-MIX.
4. GROUT ALL LIFTING HOLES.
5. INVERT ELEV., OUTLET ELEV., RIM ELEV., & DROP ELEV. SHOULD BE THE SAME SIZE AS SHOWN ON CONSTRCTION DRAWINGS.
6. ALL STRUCTURAL CONCRETE SHALL BE 4000 PSI.

NAVAJO TRIBAL UTILITY AUTHORITY

SHALLOW PRECAST MANHOLE DETAIL

DWG. NO. WWS-2



COMBINATION AIR VALVE		
#	MATERIAL LIST	
ITEM	QTY	DESCRIPTION
1	1	COMBINATION AIR VALVE, 1" INLET AND 1/2" OUTLET, VAL-MATIC, SERIES 200, OAE
2	3	1" x 3" NIPPLE, BRASS
3	2	1" x 90° ELBOW, BRASS
4	1	1" x 6" NIPPLE, BRASS
5	1	1" CURB STOP, FIPT x FIPT
6	1	1" CORPORATION STOP, MIPT x FIPT
7	1	ADAPTER, 1/2" MIPT x 1/2" COMPRESSION, BRASS
8	1	3/8" PIPE, COPPER, 12" MIN., FIELD SHAPE AS SHOWN
9	–	NOT USED
10	1	SADDLE, BRASS, 1" TAP x APPROPRIATE LINE SIZE
11	1	METER PIT COVER W/ FROST LID, FOR 20" DIA. METER CAN, 11.5" MINIMUM LID OPENING
12	1	METER PIT, PLASTIC, 20" DIA. x 30" HT.
13	2	5' STEEL TEE POST, PAINTED BLUE OR BLUE CARSONITE MARKER POST W/ PROPER WARNING DECAL
14	3 CF	1" TO 2" FILTER ROCK/CLEAN GRAVEL

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DRAFTED BY:	NTUA
APPROVED BY:	NTUA
DATE:	08/2017
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SCALE:	NTS
ACAD FILENAME:	2017 NTUA Std. Dtls. for Water.dwg
DETAIL NO.	WS-10

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION

COMBINATION AIR VALVE DETAIL

NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	06/09	Revised	L.H.
02	08/17	2017 Update	A.S.
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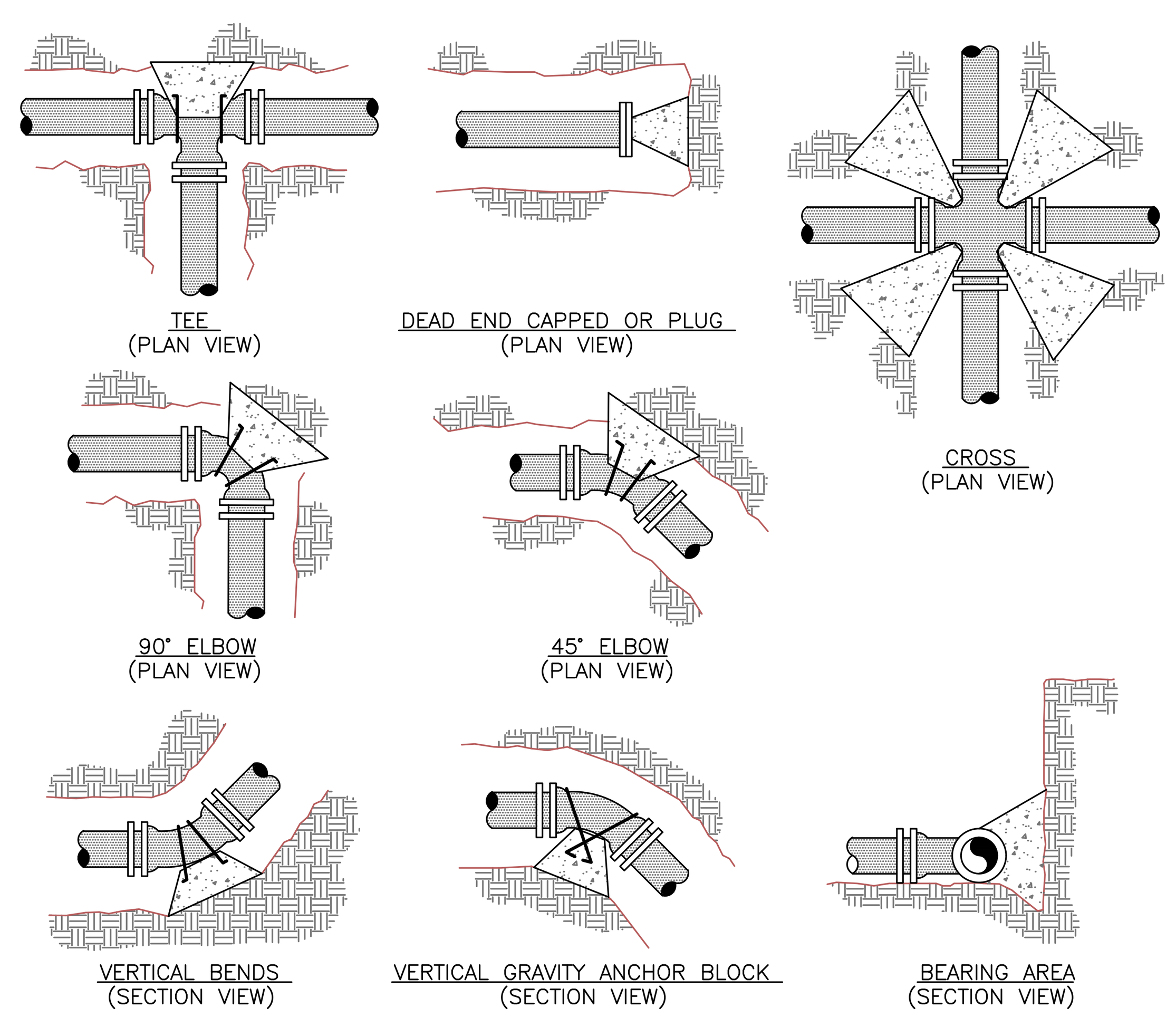

MINIMUM BEARING AREAS IN SQUARE FEET				
PIPE SIZE	TEE & PLUG	90° ELBOW	45° OR 22 1/2° ELBOW	CROSS
2"	0.5	0.5	0.5	0.5
4"	1.5	2.0	1.5	1.0
6"	3.0	4.5	2.5	2.0
8"	5.0	7.5	4.0	4.0
10"	8.0	11.0	6.5	5.5
12"	11.0	15.5	9.0	8.0
14"	15.0	21.0	12.0	10.5
16"	19.0	27.0	15.5	13.5
18"	24.0	34.0	19.0	17.0

NOTES:

1. DO NOT COVER GASKETED JOINTS AND NUTS/BOLTS.
2. PRESSURE TESTING SHALL NOT COMMENCE UNTIL THE CONCRETE HAS SET A MINIMUM OF 48 HRS., UNLESS OTHERWISE SPECIFIED.
3. #4 REBARS AS SHOWN.

SHEET 1 OF 2

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DETAIL NO.	WS-19

NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION

CONCRETE THRUST BLOCK DETAILS

NTUA HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
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01	04/08	Revised	L.H.
02	08/17	2017 Update	A.S.
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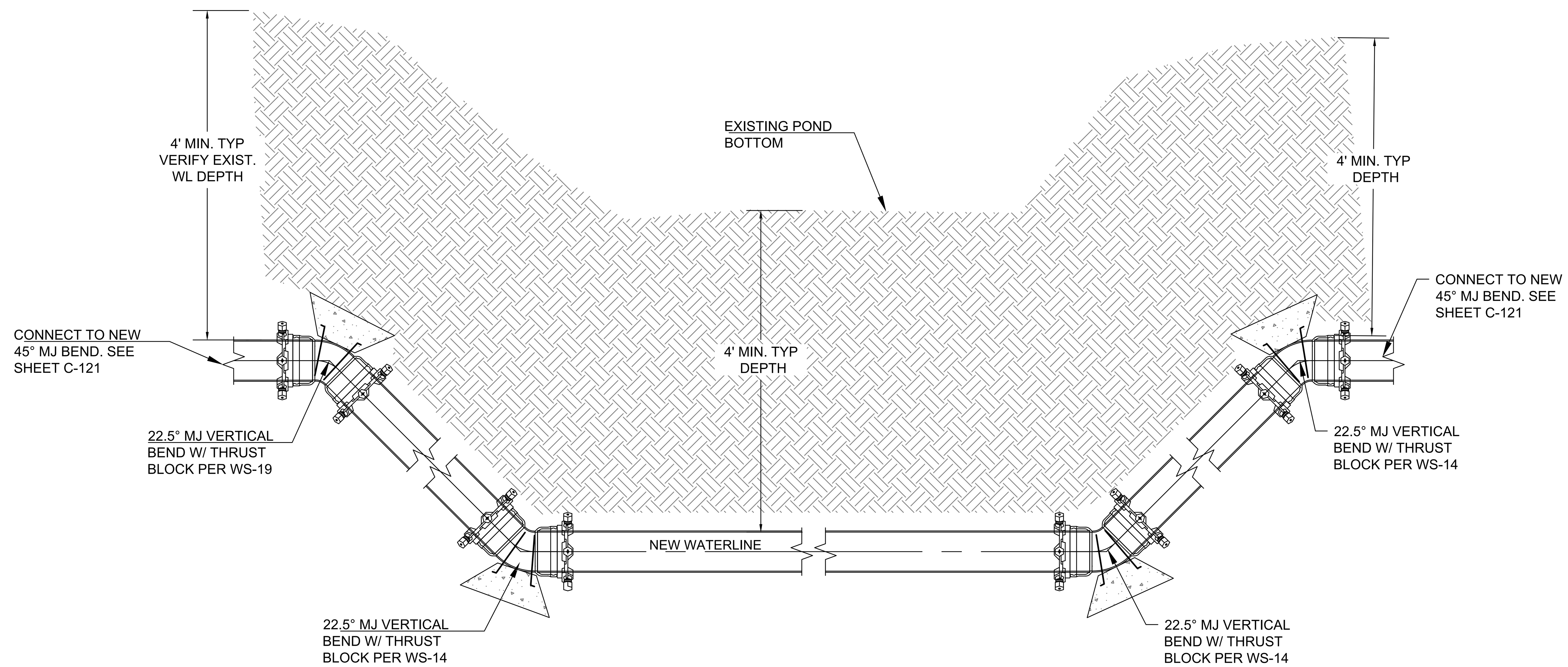

2 EXISTING POND BOTTOM CROSSING

SCALE: N.T.S.

NOTE:

SEE UTILITY PLAN, SHEET C-121 FOR DETAILS.

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NAVAJO TECHNICAL UNIVERSITY
CHINLE, AZ

NTU MOBILE HOME
CHINLE, ARIZONA
MISCELLANEOUS DETAILS - WATER AND SEWER

Registered Professional Engineer (Civil), Certificate No. 50852, FRANCISCO, Date Signed 4/22/24, ARIZONA, U.S.A., Expires 6/30/25

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Designed	Drawn	Checked
RJC	PZR	RJS

Date: 4/22/24

Scale: Horiz: N/A Vert: N/A

Project No: 9433231

Sheet: C-152

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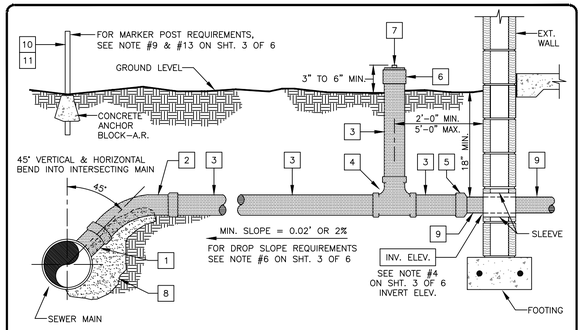

NOTE: NTUA DOES NOT MAINTAIN SEWER SERVICE LINES. MAINTENANCE WILL BE THE CUSTOMER'S RESPONSIBILITY.

AS–BUILT LOCATION OF TAP	
PROJECT NAME	
PROJECT NO.	
SHEET NO.	
LINE NO.	
STATION NO.	
INV. ELEVATION	
RELATED W.O. NO'S.	

DETAIL INDEX	SHEET
4" STANDARD SEWER SERVICE LINE	1 of 6
MATERIAL LIST	2 of 6
GENERAL NOTES FOR SEWER SERVICE	3 of 6
PROPOSED INDIVIDUAL INSTALLATION	4 of 6
INDIVIDUAL AS–BUILT	5 of 6
VICINITY LOCATION OF NEW SERVICE	6 of 6

TESTED IN ACCORDANCE WITH THE NTUA TECHNICAL SPECIFICATIONS TP–4.08 THRU 4.10; DATED MARCH 2003.

BY:_____

NAME/TITLE:_____

DATE:_____

SHEET 1 OF 6

DESIGNED BY:	NTUA
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DRAWN BY:	NTUA
APPROVED BY:	NTUA
DATE:	3/98
PROJECT NO.	–
SCALE:	NTS
ACAD FILENAME:	VistaWater Standards\dwg
DETAIL NO.	WWS-1

NAVAJO TRIBAL UTILITY AUTHORITY
CIVIL ENGINEERING DEPARTMENT
4" STANDARD SEWER SERVICE LINE
R&TS HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	03/08	Revised	LJL
02	03/11	2011 Update	A.S.
03			
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3

4" STANDARD SEWER SERVICE LINE		
#	MATERIAL LIST	
ITEM	QTY	DESCRIPTION
1	1	45° WYE OR SADDLE, 4" SDR–35, PVC x APPROPRIATE PIPE TYPE & O.D.
2	1	4" x 45° ELBOW, SDR–35, PVC, GASKET x GASKET
3	A.R.	4" PIPE, SDR–35, PVC, INTEGRAL BELL W/ ELASTOMERIC GASKET (FT.)
4	1	4" TEE, PVC–DWV, HUB x HUB, ASTM D–2665 W/ SINGLE RISER
5	1	ADAPTER, REDUCING, 4" SDR–35, PVC, ASTM D–3034 x 3" PVC–DWV, ASTM D–2665
6	1	4" ADAPTER, HUB x FIPT, PVC–DWV, ASTM D–2665
7	1	4" PLUG, CLEAN OUT, MIPT, PVC–DWV, ASTM D–2665
8	A.R.	CONCRETE, PRE–MIX, (FIELD DETERMINE AS REQUIRED FOR PIPE SUPPORT)
9	1	HOUSE STUB–OUT, APPROPRIATE PIPE TYPE & O.D. (INSTALLED BY OTHERS)
10	A.R.	GREEN CARSONITE MARKER POST
11	A.R.	"NTUA SEWERLINE WARNING" DECAL (FOR ITEM #13)
12	1	CEMENT, SOLVENT, PVC (QUART CAN)
13	1	CLEANER, PVC PIPE (QUART CAN)

GENERAL NOTES:

1. A.R. = AS REQUIRED
2. ITEM #9 IS DONE BY THE HOME OWNER.
3. DECAL TO BE AFFIXED TO ITEM #10.
4. FOR ITEM #10 SEE GENERAL NOTES FOR SEWER SERVICE #9 & #13 ON SHEET 3 OF 6.
5. USE ITEMS #12 & #13 WHEN THE CLEANOUT RISER CONNECTION IS A SOLVENT WELD.

SHEET 2 OF 6

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DETAIL NO.	WWS-1b

NAVAJO TRIBAL UTILITY AUTHORITY
CIVIL ENGINEERING DEPARTMENT
MATERIAL LIST: 4" STANDARD SEWER SERVICE LINE
R&TS HEADQUARTERS FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	03/08	Revised	LJL
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03			
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GENERAL NOTES:

1. PROVIDE 10 FT. MINIMUM HORIZONTAL SEPARATION IN SEPARATE TRENCHES BETWEEN THE WATER AND SEWER SERVICES. PROVIDE 5 FT. MIN. HORIZONTAL SEPARATION BETWEEN THE SEWER SERVICE AND OTHER UTILITIES. IF SEWER SERVICE CROSSES OTHER SERVICES, SEE N.T.U.A CROSSING POLICY OR CONTACT N.T.U.A. HEADQUARTERS ENGINEERING.
2. SEWER CLEANOUTS ARE REQUIRED ON ALL BENDS IN EXCESS OF 45° AS PER PLUMBING CODE ADOPTED BY THE NAVAJO NATION. MODIFY MATERIAL LIST ACCORDINGLY AFTER CONSULTING WITH N.T.U.A. HEADQUARTERS ENGINEERING.
3. ADDITIONAL SEWER CLEANOUTS ARE REQUIRED ON SEWER SERVICES LONGER THAN 50 FT. AS PER UNIFORM PLUMBING CODE ADOPTED BY THE NAVAJO NATION. MODIFY MATERIAL LIST ACCORDINGLY AFTER CONSULTING WITH N.T.U.A. HEADQUARTERS ENGINEERING. EACH ADDITIONAL CLEANOUT IS AT THE CUSTOMERS EXPENSE INSTALL AT LEAST ONE CLEANOUT AS REQUIRED BY NOTE 2. IF CUSTOMER REQUEST FEWER AND REALIZES THIS VIOLATES NAVAJO TRIBAL CODE, THEN INSTALL PER THE CUSTOMER'S REQUEST AND SO NOTE ON THE INDIVIDUAL AS–BUILT, N.T.U.A. RECOMMENDS THAT CLEANOUTS BE SPACED NO MORE THAN 100'.
4. PROVIDE PROPOSED ELEVATION AT WALL. PROVIDE 6 IN. DIAMETER SLEEVE IF PIPING PENETRATES WALL OR 4 IN. DEPTH OF SAND BETWEEN FOOTING AND TOP OF PIPING IS BELOW THE FOOTING. ORDER ASTM D–1785 SCH. 40 PIPE WITH LENGTH AS NEEDED FOR THE SLEEVE. CONTACT N.T.U.A. HEADQUARTERS ENGINEERING ON PIPING SMALLER THAN 2 IN. IN SIZE.
5. STATE THE EXISTING PIPE TYPE AND O.D. (e.g. ASTM D–3034, SDR 35, PVC, 8. 40"). SADDLE IS TO HAVE A GASKET SEAL OR O–RING AND NON–CORRODIBLE STRAP SECURING SYSTEM.
6. MINIMUM SLOPE OF 1/4 INCH PER FOOT (2%) OR CONTACT N.T.U.A. HEADQUARTERS ENGINEERING.
7. BACKFILL IS TO BE HAND TAMPED (NO–MECHANICAL) AND COMPACTED IN 6 INCH LAYERS FOR AT LEAST 12 IN. ABOVE PVC PIPE. INSTALL PER ASTM D–2321 AND UNIFORM PLUMBING CODE ADOPTED BY THE NAVAJO NATION.
8. PROVIDE THE AS–BUILT AND SWING TIES FOR THE TAP POINT.
9. THE MATERIAL LIST SHALL BE MODIFIED IF A FIELD MARKER OF THE TAP POINT IS TO BE INSTALLED. UNDER THE AS–BUILT TIE INFORMATION. PROVIDE THE SURFACE DESCRIPTION OF THE TAP POINT (e.g. OPEN FIELD, PAVED ROAD, etc)
10. ITEM 12 IS USUALLY DONE BY THE HOME OWNER. ITEM 7 MUST BE COMPATIBLE WITH ITEM 12. ITEM 7 AS LISTED IS FOR A CONNECTION BETWEEN TWO LENGTHS OF 3 IN. PVC–DWV ASTM D–2665. IN THE MATERIALS LIST, ITEM 12 NEEDS TO BE COMPLETED AND ITEM 7 MODIFIED AS REQUIRED.
11. ORDER CONCRETE AS NEEDED. THE CONCRETE MAY BE ELIMINATED IF N.T.U.A. DISTRICT WATER FOREMAN AND ENGINEER DETERMINE FIELD CONDITIONS DO NOT REQUIRE THIS FOR ADEQUATE COMPACTION AND 4 IN. PIPE STRUCTURAL SUPPORT. MARK THE AS–BUILT DRAWING TO SHOW WHEN THE CONCRETE IS NOT USED.
12. FOR MULTIPLE BENDS, A CLEANOUT IS REQUIRED UPSTREAM FROM THE FIRST BEND THAT CAUSED THE CUMULATIVE ANGLE TO EXCEED 45°.

SHEET 3 OF 6

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DWG. NO.	WWS-1b

NAVAJO TRIBAL UTILITY AUTHORITY
GENERAL NOTES SEWER SERVICE
DG–ENGINEERING FT.DEFIANCE, AZ

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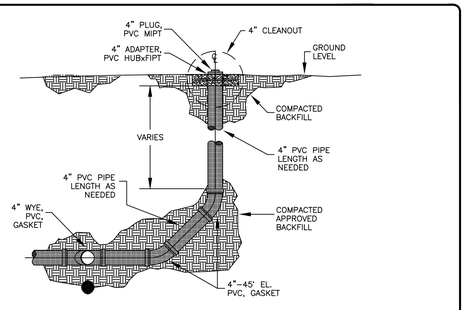
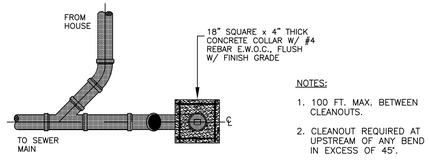


PROFILE VIEW



PLAN VIEW

NOTES:

1. 100 FT. MAX. BETWEEN CLEANOUTS.
2. CLEANOUT REQUIRED AT UPSTREAM OF ANY BEND IN EXCESS OF 45°.

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DWG. NO.	WWS-10

NAVAJO TRIBAL UTILITY AUTHORITY
4" SEWER CLEANOUT DETAIL
DG–ENGINEERING FT.DEFIANCE, AZ

REVISIONS			
No.	Date	Brief	By
01	3/98	Revised	LJL
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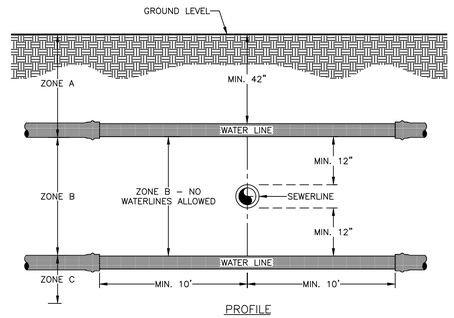

PROFILE

ZONE A – THE BOTTOM OF THE WATER LINE SHALL BE 12" OR MORE ABOVE THE TOP OF THE WASTEWATER LINE. THE TOP OF THE WATERLINE SHALL HAVE A MINIMUM COVER OF 42" – NO SPECIAL PRECAUTIONS REQUIRED.

ZONE B – NO WATER LINES ALLOWED, 12" ABOVE AND 12" BELOW THE WASTEWATER LINE, PIPE O.D. TO PIPE O.D., UNLESS OTHERWISE SPECIFIED.

ZONE C – THE TOP OF THE WATER LINE SHALL BE 12" OR MORE BELOW THE BOTTOM OF THE WASTEWATER LINE.

IF THE WASTEWATER LINE IS NEW CONSTRUCTION, AN 18–FOOT LENGTH OF DUCTILE IRON WASTEWATER GRADE PIPE WITH GASKETED JOINTS SHALL BE CENTERED OVER THE WATER LINE, WITH NO JOINTS CLOSER THAN 9' TO THE WATER LINE IN EACH DIRECTION.

IF THE WATER LINE IS NEW CONSTRUCTION, A 20–FOOT LENGTH OF PVC WATER PIPE SHALL BE CENTERED UNDER THE WASTEWATER LINE.

GENERAL NOTES:

1. WATER LINES SHALL BE INSTALLED ABOVE WASTEWATER LINES AND CROSSINGS SHALL BE SHALL BE AT 90° ANGLE(S), UNLESS OTHERWISE SPECIFIED.
2. WHEN WATER AND WASTEWATER LINES ARE INSTALLED PARALLEL TO EACH OTHER, THE MINIMUM HORIZONTAL SEPARATION SHALL BE 10'.

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NAVAJO TRIBAL UTILITY AUTHORITY
ENGINEERING & CONSTRUCTION OPERATIONS DIVISION
WATER AND SEWER LINE CROSSING SEPERATION
NTUA HEADQUARTERS FT.DEFIANCE, AZ

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No.	Date	Brief	By
01	04/08	Revised	LJL
02	08/17	2017 Update	A.S.
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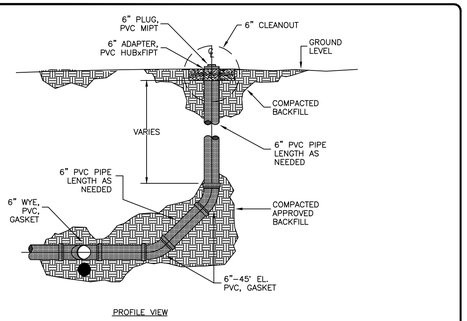
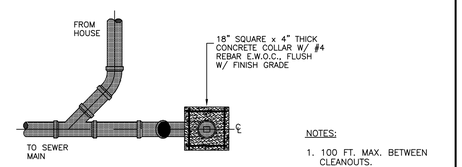


PROFILE VIEW



PLAN VIEW

NOTES:

1. 100 FT. MAX. BETWEEN CLEANOUTS.
2. CLEANOUT REQUIRED AT UPSTREAM OF ANY BEND IN EXCESS OF 45°.

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DWG. NO.	WWS-13

NAVAJO TRIBAL UTILITY AUTHORITY
6" SEWER CLEANOUT DETAIL
DG–ENGINEERING FT.DEFIANCE, AZ

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NTU MOBILE HOME
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MISCELLANEOUS DETAILS
SEWER

CHINLE, AZ

Registered Professional Engineer (Civil) CERTIFICATE NO. 50852 FRANCISCO ZAMORA Date Signed 4/22/24 ARIZONA, U.S.A.
Expires 6/30/25

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