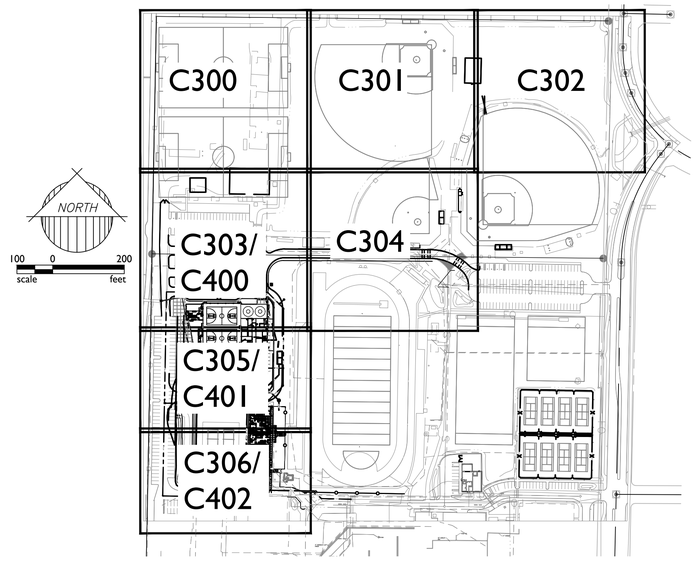
IMPROVEMENT PLANS
FOR
MILLENNIUM HIGH SCHOOL
GOODYEAR, ARIZONA

A PORTION IN THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 2 NORTH,
RANGE 1 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA



CITY OF GOODYEAR GENERAL NOTES FOR CONSTRUCTION:

A. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
B. ALL CONSTRUCTION SHALL CONFORM TO THE CITY EDS&PM, CITY STANDARD DETAILS, AND CURRENT MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION.
C. THIS SET OF PLANS HAS BEEN REVIEWED FOR COMPLIANCE WITH CITY REQUIREMENTS PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS. HOWEVER, SUCH REVIEW SHALL NOT PREVENT THE CITY FROM REQUIRING CORRECTION OF ERRORS IN PLANS FOUND TO BE IN VIOLATION OF ANY LAW OR ORDINANCE.
D. THE CITY DOES NOT WARRANT ANY QUANTITIES SHOWN ON THESE PLANS.
E. THE CITY APPROVAL IS FOR GENERAL LAYOUT IN THE RIGHT-OF-WAY ONLY. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR. CONSTRUCTION PERMITS SHALL BE OBTAINED DURING THIS PERIOD OR THE PLANS SHALL BE RESUBMITTED FOR REVIEW AND APPROVAL.
F. AN APPROVED SET OF PLANS SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES.
G. THE CITY CONSTRUCTION INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY CONSTRUCTION WORK AND INSPECTIONS (623-882-7979). CONSTRUCTION WORK CONCEALED WITHOUT INSPECTION BY THE CITY CONSTRUCTION INSPECTOR SHALL BE SUBJECT TO EXPOSURE AT THE CONTRACTOR'S EXPENSE.
H. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE CITY ENGINEER, OR DESIGNEE, AND ANY WORK/MATERIAL NOT IN CONFORMANCE WITH CITY ENGINEERING STANDARDS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
I. RIGHT-OF-WAY IMPROVEMENTS SHALL NOT BE ACCEPTED UNTIL "AS-BUILT" PLANS HAVE BEEN SUBMITTED AND APPROVED BY THE CITY. (SEE AS-BUILT REQUIREMENTS)
J. THE DEVELOPER IS RESPONSIBLE FOR THE REMOVAL OR RELOCATION OF ALL OBSTRUCTIONS WITHIN THE RIGHT-OF-WAY PRIOR TO STARTING NEW CONSTRUCTION.
K. THE DEVELOPER IS RESPONSIBLE FOR ARRANGING THE RELOCATION AND ASSOCIATED COSTS OF ALL UTILITIES. A UTILITY RELOCATION SCHEDULE SHALL BE SUBMITTED PRIOR TO THE ISSUANCE OF PERMITS.
L. THE DEVELOPER IS RESPONSIBLE FOR OBTAINING OR DEDICATING ALL REQUIRED RIGHTS-OF-WAY AND EASEMENTS TO THE CITY PRIOR TO ISSUANCE OF PERMITS.
M. THE CONTRACTOR SHALL CONTACT BLUE STAKE (602-263-1100) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL LOCATE ALL CONFLICTS PRIOR TO CONSTRUCTION.
N. THE CONTRACTOR SHALL BARRICADE CONSTRUCITON SITES AT ALL TIMES PER THE CITY OF PHOENIX TRAFFIC BARRICADE MANUAL. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL IN ADVANCE OF CONSTRUCTION.
O. POTABLE WATER IS NOT AVAILABLE FOR CONSTRUCTION USE OTHER THAN THE FILLING AND TESTING OF NEW LINES. THE UNLAWFUL REMOVAL OF WATER FROM A FIRE HYDRANT OR ANY OTHER SOURCE IS A VIOLATION OF THE MUNICIPAL CODE, PUNISHABLE BY FINE AND/OR IMPRISONMENT.
P. PRIOR TO MOVING OR DESTROYING PROTECTED NATIVE PLANT SPECIES, THE CONTRACTOR SHALL FILE A FORMAL NOTICE OF INTENT WITH THE ARIZONA DEPARTMENT OF AGRICULTURE (602-542-6408).
Q. THE CONTRACTOR SHALL COMPLY WITH THE ENVIRONMENTAL PROTECTION AGENCY NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER REQUIREMENTS ESTABLISHED FOR CONSTRUCTION SITES, ADEQ GENERAL PERMIT FOR DISCHARGE FROM CONSTRUCTION ACTIVITIES, AND THE CITY OF GOODYEAR STORM WATER MANAGEMENT PLAN.
R. NO PERSON SHALL USE ANY MECHANICAL EQUIPMENT FOR LAND LEVELING OR CLEARING, ROAD CONSTRUCTION, TRENCHING, EXCAVATING, DEMOLITION, NOR ENGAGE IN ANY EARTHMOVING ACTIVITY WITHOUT FIRST OBTAINING A PERMIT FROM THE MARICOPA COUNTY AIR QUALITY DEPARTMENT (602-506-0666), 1001 N. CENTRAL AVENUE, SUITE 150, PHOENIX, AZ 85003. (THIS NOTICE IS ISSUED PURSUANT TO A.R.S. 36-779.07, NOTICE OF BUILDING AGENCIES.)
S. THESE PLANS REFLECT CONDITONS AS THEY EXIST AT THE TIME OF DESIGN. IF EXISTING CONDITIONS HAVE CHANGED BY THE TIME OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE CITY AND THESE PLANS MAY HAVE TO BE AMENDED PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES.

ENGINEERS GENERAL CONSTRUCTION NOTES:

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES UPON HIMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO THEM WITHOUT CONFERRING WITH THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.
2. THE PLANS PREPARED FOR THIS PROJECT PRESENT A DESCRIPTION OF THE WORK TO BE ACCOMPLISHED. THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND DETERMINE, FROM HIS OWN INSPECTION, THE CONDITIONS UNDER WHICH IT IS TO BE PERFORMED. THE CONTRACTOR, BY MAKING HIS BID, REPRESENTS THAT HE HAS VISITED THE SITE AND FAMILIARIZED HIMSELF WITH LOCAL CONDITIONS, THE TYPE OF WORK TO BE PERFORMED, EVALUATED THE DIFFICULTY OF PERFORMING THE REQUIRED TASKS, AND THE LABOR, EQUIPMENT AND MATERIAL THAT ARE REQUIRED TO PROVIDE A COMPLETE PROJECT.
3. THE CONTRACTOR SHALL VERIFY WITH THE DESIGN ENGINEER THAT HE HAS THE MOST CURRENT SET OF CONSTRUCTION PLANS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND MUST KEEP THE APPROVED SET OF PLANS ON-SITE FROM START OF CONSTRUCTION TO PROJECT COMPLETION. ANY CONSTRUCTION OR INSTALLATION BASED ON OUT-OF-DATE PLANS SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
4. QUANTITIES LISTED ON THESE PLANS ARE ESTIMATES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES BEFORE SUBMITTING A BID FOR THIS WORK.
5. UNLESS NOTED OTHERWISE, THIS PROJECT WAS DESIGNED IN AN EFFORT TO BALANCE THE EARTHWORK. ANY EARTHWORK VOLUMES SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY AND SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR'S BID SHALL INCLUDE ALL COSTS ASSOCIATED WITH IMPORTING AND PLACING MATERIAL OR STOCKPILING, HAULING AND DISPOSING OF EXCESS MATERIAL IN ACCORDANCE WITH THEIR CALCULATIONS AND DETERMINATION.
6. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATIONS OF ALL UNDERGROUND OBSTRUCTIONS AND UTILITY LINES IN THE WORK AREA; HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO OBSTRUCTIONS AND UTILITY LINES ENCOUNTERED DURING CONSTRUCTION AND SHALL DETERMINE THE EXACT LOCATION OF SAID UTILITIES IN ADVANCE OF TRENCHING. THE ENGINEER WILL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDER-GROUND UTILITIES SHOWN ON THESE PLANS.
7. THE CONTRACTOR SHALL CALL BLUE STAKE PRIOR TO CONSTRUCTION AND VERIFY THE PRESENCE OF UTILITIES AND SHALL PROTECT ANY OVERHEAD OR UNDERGROUND UTILITIES DURING CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS TO LOCATE UNDERGROUND UTILITIES AND/OR STRUCTURES IF NECESSARY TO VERIFY UNDERGROUND UTILITIES. WHERE EXISTING UNDERGROUND UTILITIES ARE EXPOSED, CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY FOR INSPECTION PRIOR TO BACKFILLING.
8. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL POINTS OF CONNECTION PRIOR TO DIGGING BEYOND THE POINT OF CONNECTION.
9. CONSTRUCTION OF THE SEWER LINE SHALL COMMENCE AT THE FURTHEST DOWNSTREAM POINT OF CONNECTION AND SHALL PROGRESS UPSTREAM FROM THAT POINT.
10. ALL HANDICAP ACCESS RAMPS, PARKING STALLS, AND DELINEATED WALKWAYS SHALL BE CONSTRUCTED AND MARKED IN ACCORDANCE WITH CURRENT FEDERAL AND/OR LOCAL A.D.A. STANDARDS AND REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL AUTHORITIES PRIOR TO CONSTRUCTING AND/OR STRIPING TO CONFIRM CURRENT REQUIREMENTS.
11. ALL SLOPES HIGHER THAN ONE (1) FOOT AND STEEPER THAN 20:1, UNLESS LINED WITH TURF, SHALL BE COMPACTED AND TESTED PER MAG SPECIFICATION 215. RE-COMPACTION IS RECOMMENDED PER MAG SPECIFICATION 215 AFTER INSTALLATION OF IRRIGATION LINES, AND STABILIZATION OF DECOMPOSED GRANITE IS ALSO RECOMMENDED.
12. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS SPECIFIED IN THE GEOTECHNICAL INVESTIGATION. NO PONDING DEEPER THAN 0.05' IS PERMITTED WITHIN 10' OF ANY BUILDING.
13. THE CLIENT AND CONTRACTOR ASSUME ALL RESPONSIBILITY AND COSTS INCURRED IF THEY ELECT TO LANDSCAPE RETENTION BASINS BEFORE THE REQUIRED RETENTION VOLUMES HAVE BEEN CERTIFIED BY THE ENGINEER.
14. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE OWNER'S ENGINEER-OF-RECORD PRIOR TO BACKFILLING ANY WET OR DRY UTILITY MAIN OR SERVICE LINES TO ENSURE ALL INSPECTIONS AND TESTING HAS BEEN COMPLETED. NO UTILITY LINES SHALL BE BACKFILLED UNTIL AS-BUILT HORIZONTAL AND VERTICAL LOCATIONS HAVE BEEN OBTAINED. ANY ADDITIONAL COST REQUIRED
15. THE CONTRACTOR SHALL REGISTER ALL DRYWELLS WITH THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY AT THE CONCLUSION OF INSTALLATION AND TESTING. DRYWELL REGISTRATION NUMBERS SHALL BE PROVIDED TO THE OWNER AND ENGINEER OR RECORD.

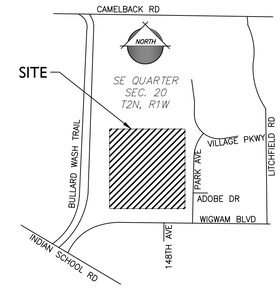
ESTIMATED QUANTITIES

QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY.
ENGINEER MAKES NO GUARANTEE OF ACCURACY.

ITEM	QUANTITY	ITEM	QUANTITY

ENGINEERS NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWING BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE QUANTITIES SHOWN ON THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.



VICINITY MAP
(Not to Scale)

CIVIL ENGINEER:

EPS GROUP, INC.
1130 N ALMA SCHOOL ROAD, SUITE 120
MESA, ARIZONA 85201
PHONE: (480) 503-2250
CONTACT: DAN AUXIER
EMAIL: dan.auxier@epsgroupinc.com

OWNER:

AGUA FRIA UNION HIGH SCHOOL DISTRICT
1481 N. ELISEO FELIX JR. WAY EAST CAMELBACK ROAD
AVONDALE, ARIZONA 85323
CONTACT: DR. DENNIS RUNYAN
PHONE: (623) 932-7000
FAX: (623) 932-7000
EMAIL: drunyan@aguafria.org

ARCHITECT:

BWS ARCHITECTS, INC.
341 E. CAMELBACK ROAD, SUITE 100
PHOENIX, ARIZONA 85012
CONTACT: SUE GRAY, AIA
PHONE: (480) 980-9054
FAX: (480) 980-9054
EMAIL: sgray@bwsarchitects.com

BASIS OF BEARING:

THE SOUTHWEST LINE OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 WEST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA, AS RECORDED IN BOOK 523, PAGE 21 OF MARICOPA COUNTY RECORDS. BEARING: **N89°21'31"W** (ASSUMED BEARING)

BENCHMARK:

CITY OF GOODYEAR BENCHMARK NO. 'G363', BEING A 3" CITY OF GOODYEAR BRASS CAP IN HANDHOLE AT THE INTERSECTION OF WEST WIGWAM BOULEVARD AND NORTH PARK AVENUE, MARKING THE SOUTHEAST CORNER SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA ELEVATION = **1031.53' (NAVD 88 DATUM)**

DESCRIPTION	SHEET TITLE	SHEET NO.
COVER SHEET	C000	1
GENERAL NOTES & DETAILS	C100 - C102	2 - 4
DEMOLITION PLAN	C200 - C201	5 - 6
GRADING & DRAINAGE PLANS	C300 - C306	7 - 13
STORM PROFILES	C307	14
GRADING SECTIONS	C308	15
UTILITY PLANS	C400 - C402	16 - 18
PAVING & HARDSCAPE PLANS	C501 - C503	18 - 20

UTILITY NO CONFLICT CERTIFICATION

UTILITY	UTILITY COMPANY	NAME OF COMPANY REPRESENTATIVE	TELEPHONE NUMBER	DATE SIGNED
WATER	LIBERTY UTILITIES	-	-	-
SEWER	LIBERTY UTILITIES	-	-	-
TELEPHONE	CENTURYLINK / COX	-	-	-
ELECTRICITY	APS	CARBY HROBER	602-493-4225	-
GAS	SOUTHWEST GAS	RIC TORRES	623-780-3350	-
CABLE TV	CENTURYLINK / COX	-	-	-

ENGINEER'S CERTIFICATION
I, being the person responsible for designing the facilities necessary to serve this development, hereby certify that all of the utility companies listed above have reviewed this project proposal and all conflicts have been resolved at this point. 'No Conflict' forms have been obtained from each utility company.

Registered Professional Engineer (Civil) CERTIFICATE NO. 50291 DANIEL B. AUXIER Date Signed 12/15/20 Arizona U.S.A.

DATA CERTIFICATION

I HEREBY CERTIFY THAT THIS DESIGN IS BASED ON ACCURATE FIELD DATA WHICH HAS BEEN CHECKED IN THE FIELD PRIOR TO SUBMISSION OF THESE PLANS TO THE CITY FOR APPROVAL.

DANIEL AUXIER, PE 12/15/2020
BY DATE

Registered Professional Engineer (Civil) CERTIFICATE NO. 50291 DANIEL B. AUXIER Date Signed 12/15/20 Arizona U.S.A.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT
THE "AS-BUILT" INFORMATION SHOWN HEREON
WAS OBTAINED UNDER MY DIRECT SUPERVISION
AND IS CORRECT AND COMPLETE TO THE BEST OF
MY KNOWLEDGE AND BELIEF.

BY DATE (SEAL)

EPS GROUP
1130 N Alma School Road
Suite 120
Mesa, AZ 85201
T: 480.503.2250 | F: 480.503.2258
www.epsgroupinc.com

Project:
Millennium High School
14802 W Wigwam Blvd
Goodyear, AZ
Cover Sheet

Revisions:
(12/15/20 - 50% CD SUBMITTAL

Call at least two full working days before you begin excavation.
ARIZONA 811
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil) CERTIFICATE NO. 50291 DANIEL B. AUXIER Date Signed 12/15/20 Arizona U.S.A.
Preliminary
Not For Construction
Or Recording

Job No.
20-0544
C000
Sheet No.
1
of 20

20-0544 - Millennium High School Improvements

dauxier Dec 16, 2020 8:42am S:\Projects\2020\20-0544\Civil_Construction Documents_Improvement Plans\20-0544 - C000.dwg

LIBERTY UTILITIES GENERAL NOTES

1. THIS PLAN SET SHALL AUTOMATICALLY TERMINATE IF DEVELOPER FAILS TO BEGIN CONSTRUCTION WITHIN ONE YEAR FROM THE PLAN APPROVAL DATE. UNLESS OTHERWISE AGREED TO IN WRITING BY UTILITY. IN THE EVENT THE DEVELOPER ELECTS TO CONSTRUCT THE FACILITIES IN PHASES, ANY PHASE OF CONSTRUCTION THAT HAS NOT COMMENCED CONSTRUCTION WITHIN ONE YEAR FROM THE PLAN APPROVAL DATE WILL NEED A NEW APPROVED PLAN SET PREPARED FOR UTILITY'S APPROVAL UNLESS OTHERWISE APPROVED BY UTILITY IN WRITING. EACH PHASE OF CONSTRUCTION SHALL BE RECOGNIZED AS AN INDEPENDENT CONSTRUCTION PROJECT AS IT PERTAINS TO THIS NOTE.
2. THE CONTRACTOR IS HEREBY ADVISED THAT THE PRODUCTS AND WORKMANSHIP FOR THIS PROJECT ARE WARRANTED TO THE UTILITY FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF THE SIGNED UTILITY FINAL ACCEPTANCE LETTER OR AS OUTLINED IN THE APPLICABLE AGREEMENT.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAINTAIN IN PLACE ALL EXISTING UTILITIES. DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
4. THE UTILITY SHALL BE CONTACTED AT LEAST 48 HOURS (2 BUSINESS DAYS) PRIOR TO BEGINNING ANY CONSTRUCTION. **CONTACT UTILITY AT (623.935.9367).**
5. THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. **CALL BLUE STAKE (602.236.1100) A MINIMUM OF TWO FULL WORKING DAYS PRIOR TO EXCAVATION.**
6. ALL MATERIAL, WORKMANSHIP, INSTALLATION AND CONSTRUCTION PRACTICE SHALL BE IN ACCORDANCE WITH AND SHALL MEET THE REQUIREMENTS OF THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST REVISION), THE UTILITY'S MARICOPA COUNTY DEVELOPMENT GUIDE (LATEST REVISION), THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) AND MARICOPA COUNTY. THE UTILITY'S DEVELOPMENT GUIDE AND GENERAL CONSTRUCTION GUIDES ARE AVAILABLE UPON REQUEST.
7. CONSTRUCTION WORK CONCEALED WITHOUT PRIOR INSPECTION BY THE UTILITY OR ITS DESIGNATED REPRESENTATIVE SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. A SIGNED AND APPROVED SET OF UTILITY CONSTRUCTION PLANS MUST BE ON THE JOB SITE AT ALL TIMES.
9. ALL FACILITIES TO BE OWNED BY THE UTILITY SHALL BE LOCATED IN DEDICATED EASEMENTS OR RIGHTS OF WAY.
10. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES PRIOR TO STARTING CONSTRUCTION.
11. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS (LATEST REVISIONS).
12. ALL SURVEYING AND CONSTRUCTION STAKING SHALL BE PROVIDED BY A LAND SURVEYOR/ENGINEER REGISTERED IN THE STATE OF ARIZONA AT THE CONTRACTOR/DEVELOPER'S EXPENSE.
13. THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS AND MATERIALS SUBMITTALS TO THE UTILITY FOR APPROVAL PRIOR TO CONSTRUCTION, AS REQUIRED BY THE UTILITY.
14. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND UTILITY AND MUST BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
15. DISCLAIMER: THE UTILITY IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS IN THE DEVELOPMENT GUIDE OR CONSTRUCTION GUIDE; THEY HAVE THE RIGHT TO REQUIRE CORRECTION OF ERRORS IN PLANS, WHICH ARE FOUND TO BE IN VIOLATION OF ANY FEDERAL, STATE OR LOCAL REGULATIONS AT THE ENGINEER'S AND/OR CONTRACTOR'S EXPENSE.
16. IF UNANTICIPATED CONDITIONS ARE ENCOUNTERED DURING THE COURSE OF THE CONSTRUCTION AND ARE BEYOND THE SCOPE OF THE DESIGN, THE ENGINEER SHALL PROVIDE THE UTILITY WRITTEN NOTIFICATION FOR ANY DESIGN AND CONSTRUCTION CHANGES. UPON THE UTILITY'S WRITTEN APPROVAL, THE ENGINEER SHALL SUBMIT THE NECESSARY REVISED OR SUPPLEMENTAL IMPROVEMENT PLANS FOR REVIEW AND APPROVAL BY THE UTILITY.
17. RECORD DRAWINGS (AS-BUILTS) SHALL CONFORM TO THE UTILITY'S MARICOPA COUNTY DEVELOPMENT GUIDE AND GENERAL CONSTRUCTION GUIDE (LATEST REVISIONS).
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE, MAINTENANCE, REPAIR OR REPLACEMENT OF EXISTING IMPROVEMENTS, INCLUDING PRIVATE IMPROVEMENTS, IN THE WORK AREA WHICH HAVE BEEN REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION. ALL REPAIR, REPLACEMENT, OR CLEANUP SHALL BE COMPLETED TO THE SATISFACTION OF THE UTILITY AT THE CONTRACTOR'S EXPENSE.
19. ALL PAVEMENT REPLACEMENT SHALL CONFORM TO THE UTILITY'S STANDARDS AND SPECIFICATIONS, STANDARD DETAILS (LATEST REVISIONS) AND ANY ADDITIONAL REGULATORY OR CITY, STATE OR FEDERAL AGENCY STANDARDS, WHICHEVER ARE GREATER.
20. ALL MAIN, SERVICE AND DRY UTILITY SEPARATION SHALL CONFORM TO UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE AND DEVELOPMENT GUIDE (LATEST VERSION).

LIBERTY UTILITIES WATER NOTES

1. THE CONTRACTOR SHALL NOT CONNECT TO THE EXISTING UTILITY WATER SYSTEM UNTIL ALL TESTING IS COMPLETE AND HAS PASSED LABORATORY ANALYSIS. UTILITY AUTHORIZATION FOR CONNECTION TO THE EXISTING SYSTEM SHALL BE GIVEN ONLY ON THE BASIS OF ACCEPTABLE HYDROSTATIC, DISINFECTION AND BACTERIOLOGICAL TEST RESULTS. WATER MAINS MUST ALSO HAVE AN APPROVAL OF CONSTRUCTION ("AOC") ISSUED BY MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT ("MCESD") PRIOR TO CONNECTING TO THE EXISTING UTILITY WATER SYSTEM.
2. TESTING WATER SHALL BE SUPPLIED THROUGH A METERED CONNECTION EQUIPPED WITH A BACKFLOW PREVENTION DEVICE AT THE POINT OF CONNECTION TO THE POTABLE WATER SOURCE USED. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY PIPING NEEDED TO DELIVER POTABLE WATER TO THE PIPING THAT IS TO BE TESTED. CONTRACTORS SHOULD NOTE THAT THE UNLAWFUL EXTRACTION OF WATER FROM A FIRE HYDRANT OR OTHER NON- METERED SOURCE IS A CRIMINAL OFFENSE. THE UTILITY WILL ACTIVELY AND AGGRESSIVELY PURSUE PROSECUTION OF PERSONS ILLEGALLY EXTRACTING WATER FROM THE UTILITY'S WATER SYSTEM. A HYDRANT METER CAN BE OBTAINED BY CALLING 623-935-9367. ALL CONSTRUCTION WATER (REGARDLESS OF USE) IS TO BE METERED.
3. ALL WATER MAINS SHALL BE INSTALLED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MAG SPECIFICATIONS AND DETAILS, THE UTILITY'S STANDARDS AND SPECIFICATIONS, AND THE DEVELOPMENT GUIDE (LATEST REVISIONS). ALL WATER MAINS SHALL BE DUCTILE IRON PIPE (DIP), CEMENT- LINED PRESSURE CLASS 350. ALL PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH OF THE PIPE AS REQUIRED IN ACCORDANCE WITH THE UTILITY'S STANDARDS AND SPECIFICATIONS (LATEST REVISION).
4. WATER LINE EXCAVATION, BACKFILL AND COMPACTION SHALL CONFORM TO MAG STANDARD 601 AND ANY SUBSEQUENT MAG SPECIFICATION AND DETAILS. PIPELINE BEDDING SHALL CONFORM TO MAG SPECIFICATIONS 601.4 MODIFIED TO MECHANICAL COMPACTION ONLY.
5. ALL MAINS SHALL BE CHLORINATED PER MAG SPECIFICATION SECTION 611. ALL WATER MAINS SHALL BE FLUSHED AND BACTERIOLOGICALLY TESTED AFTER DISINFECTION BY A THIRD PARTY CERTIFIED IN THE STATE OF ARIZONA AT NO COST TO THE UTILITY. SAMPLES WILL BE DELIVERED TO AN ARIZONA CERTIFIED LABORATORY FOR ANALYSIS. RESULTS SHALL BE SENT TO UTILITY AT 12725 W. INDIAN SCHOOL RD, AVONDALE, AZ 85392 ATTN. DEVELOPMENT SERVICES DEPARTMENT.
6. ALL PRESSURE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH UTILITY'S SPECIFICATIONS AS OUTLINED IN THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
7. 7.PIPELINE BLOW-OFFS, AIR RELEASE OR COMBINATION AIR/VACUUM RELEASE VALVES SHALL BE REQUIRED AS DIRECTED BY THE UTILITY.
8. IN ACCORDANCE WITH AAC R18-4-213, ALL MATERIALS WHICH COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61.
9. FIRE HYDRANTS, INCLUDING INSTALLATION, SHALL CONFORM TO THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
10. PRIVATE FIRE SYSTEMS/FIRE LINES SHALL CONFORM TO UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
11. ALL INFRASTRUCTURE/SERVICE LINES INSTALLED ON THE CUSTOMER SIDE OF THE METER IS CONSIDERED "PRIVATE" AND SHALL NOT BE OWNED, OPERATED, OR MAINTAINED BY THE UTILITY.
12. ALL WATER SERVICES, METERS, AND METER BOXES SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
13. ALL VALVES SHALL CONFORM TO THE UTILITY'S SPECIFICATIONS AS OUTLINED IN THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
14. EXISTING WATERLINE VALVES SHALL ONLY BE OPERATED BY UTILITY PERSONNEL.
15. THE CONTRACTOR SHALL SUBMIT A WATER SERVICE MANAGEMENT PLAN TO THE UTILITY FOR APPROVAL PRIOR TO CONSTRUCTION FOR ANY PORTION OF WORK THAT MAY DISRUPT WATER SERVICE. THE WATER SERVICE MANAGEMENT PLAN SHALL INCLUDE PROVISIONS FOR PROVIDING TEMPORARY SERVICE (APPROVED BY THE UTILITY) AND COORDINATION WITH THE EXISTING CUSTOMERS REGARDING SERVICE INTERRUPTIONS.
16. MARKING TAPE SHALL BE LOCATED AT A MINIMUM OF ONE (1) FOOT ABOVE WATER LINE.
17. TRACER WIRE SHALL BE #12 GAUGE COPPER WIRE. WIRE NUTS NEED TO BE DRY SPLICE WATER-PROOF GEL PACKS. TRACER WIRE IS TO BE BROUGHT UP TO GRADE AT EACH FIRE HYDRANT, VALVE BOX, ETC.

LIBERTY UTILITIES SEWER NOTES

1. CONTRACTOR SHALL FURNISH AND PLACE A WATERTIGHT PLUG IN THE EXISTING SEWER MAIN AT ALL POINTS OF CONNECTIONS TO THE EXISTING SEWER SYSTEM. THE PLUG(S) SHALL REMAIN IN PLACE UNTIL OTHERWISE AUTHORIZED BY THE UTILITY. ALL FIELD ITEMS AND REQUIRED DOCUMENTATION (OUTLINED IN THE APPLICABLE AGREEMENT) SHALL BE SUBMITTED, REVIEWED AND APPROVED BY UTILITY PRIOR TO UTILITY ACCEPTING ANY FLOWS.
2. MANHOLES SHALL BE CONSTRUCTED IN CONFORMANCE WITH, AND SHALL MEET THE REQUIREMENTS OF, ENGINEERING BULLETIN NO. 11, MAG SPECIFICATIONS AND STANDARD DETAILS, THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE AND DEVELOPMENT GUIDE (LATEST REVISIONS).
3. CLEANOUTS SHALL BE CONSTRUCTED IN CONFORMANCE WITH, AND SHALL MEET THE REQUIREMENTS OF, THE UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERISION)
4. POLYVINYL CHLORIDE (PVC) SEWER PIPE, EPOXY LINED DUCTILE IRON (DIP) PIPE AND ALL SERVICE LINES SHALL BE CONSTRUCTED IN CONFORMANCE WITH, AND SHALL MEET THE REQUIREMENTS OF, THE UTILITY'S SPECIFICATIONS AS OUTLINED IN UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE (LATEST VERSION).
5. SEWER LINE EXCAVATION, BACKFILL AND COMPACTION SHALL CONFORM TO MAG STANDARD 601 AND 615 AND ANY SUBSEQUENT MAG SPECIFICATION AND DETAILS. PIPELINE BEDDING SHALL CONFORM TO MAG SPECIFICATIONS 601.4 MODIFIED TO MECHANICAL COMPACTION ONLY.
6. THE CONTRACTOR SHALL SUBMIT A FLOW MANAGEMENT PLAN TO THE UTILITY FOR APPROVAL PIOR TO CONSTRUCTION FOR ANY PORTION OF WORK THAT MAY DISRUPT SEWER SERVICE. THE FLOW MANAGEMENT PLAN SHALL INCLUDE PROVISIONS FOR PROVIDING TEMPORARY SERVICE (PORTABLE RESTROOMS) AND COORDINATION WITH THE EXISTING CUSTOMERS REGARDING SERVICE INTERRUPTIONS.
7. THE SEWER SHALL BE CONSTRUCTED WITH A MINIMUM OF 7.5 FT FOR TRUNK LINES AND 5.0 FT. MINIMUM FOR ALL OTHER PROVIDED THAT SERVICE LINES HAVE 4.5 FT. MINIMUM COVER AT PROPERTY LINE.
8. MANDREL/DEFLECTION TESTS, LOW PSI TEST, VIDEO INSPECTIONS AND VACUUM TEST REQUIREMENTS SHALL BE IN CONFORMANCE WITH UTILITY'S MARICOPA COUNTY GENERAL CONSTRUCTION GUIDE AND DEVELOPMENT GUIDE (LATEST VERSIONS).
9. ALL INFRASTRUCTURE/SERVICES AND FACILITIES INSTALLED ON THE CUSTOMER SIDE OF THE CLEAN-OUT/MANHOLE OR PROPERTY LINE IN CONSIDERED "PRIVATE" AND SHALL NOT BE OWNED, OPERATED, OR MAINTAINED BY THE UTILITY.
10. GREASE, OIL, OR SAND INTERCEPTORS MUST BE PROVIDED FOR RESTAURANTS, FAST FOOD ESTABILISHMENTS, AUTO REPAIR SHOPS, CARWASHES AND OTHER FACILITIES, WHERE OIL AND GREASE MAY BE DISCHARGED INTO A PUBLIC SEWER AND MUST MEET ALL CITY, COUNTY, UNIFORM PLUMBING CODE (UPC) AND UTILITY REQUIREMENTS, EXCEPT THAT SUCH INTERCEPTORS SHALL NOT BE REQUIRED FOR PRIVATE LIVING QUARTERS OR DWELLING UNITS. ALL SYSTEMS MUST BE APPROVED BY THE UTILITY PRETREATMENT DEPARTMENT BEFORE RECEIVING WATER/SEWER SERVICE. ALL INDUSTRIAL FACILITIES MUST MEET UTILITY PRETREATMENT REQUIREMENTS BEFORE RECEIVING WATER/SEWER SERVICE.
11. MARKING TAPE SHALL BE LOCATED AT A MINIMUM OF ONE (1) FOOT ABOVE SEWER LINE.
12. TRACER WIRE SHALL BE #12 GAUGE COPPER WIRE. WIRE NUTS NEED TO BE DRY SPLICE WATER-PROOF GEL PACKS. TRACER WIRE IS TO BE BROUGHT UP TO GRADE AT EACH CLEANOUT., MANHOLE, ETC. THE TRACER WIRE IS TO BE PLACED INSIDE THE MANHOLE AT THE RING AND COVER.

CITY OF GOODYEAR GENERAL NOTES FOR SEWER MAIN CONSTRUCTION

A. ALL GENERAL CONSTRUCTION NOTES SHALL APPLY.
B. CONTRACTOR WILL EXPOSE ANY LINES BEING TIED INTO, TO VERIFY LOCATION.
C. THE CITY IS NOT LIABLE FOR DELAYS OR DAMAGES TO UTILITIES RELATED TO THIS CONSTRUCITON.
D. AS-BUILT DRAWINGS (ONE SET OF PRINTS FOR EACH REVIEW AND A FINAL SET OF MYLARS), CERTIFIED BY THE DEVELOPER'S ENGINEER, SHALL BE SUBMITTED TO AND ACCEPTED BY THE CITY ENGINEER BEFORE FINAL ACCEPTANCE OF THE WORK. SEE AS-BUILT REQUIREMENTS.
E. BACKFILLING SHALL NOT BE DONE UNTIL LINES ARE INSPECTED AND APPROVED BY THE CITY CONSTRUCTION INSPECTOR.
F. PAVEMENT REPLACEMENTS SHALL BE MADE PER THE CITY EDS&PM, CITY STANDARD DETAILS, AND MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION.
G. PVC SEWER PIPE MAY BE USED AS AN ALTERNATIVE FOR VITRIFIED CLAY SEWER PIPE IN ACCORDANCE WITH MAG SPECIFICATION SECTION 745 FOR SIZES THROUGH 15-INCH WITH THE FOLLOWING ADDITION: 745.8 INSTALLATION AND TESTING: INSTALLATION MUST ALSO COMPLY WITH STANDARD SPECIFICATION (ASTM D 2321). SHORT TERM DEFLECTION TESTING SHALL BE PERFORMED ON THE TOTAL FOOTAGE, AFTER COMPLETE BACKFILL AND COMPACTION, BUT PRIOR TO THE INSTALLATION OF FINISHED SURFACE MATERIAL. ADDITIONAL TESTING MAY BE REQUIRED. A SHORT TERM DEFLECTION IN EXCESS OF FIVE PERCENT SHALL BE CONSIDERED UNSERVICEABLE AND SHALL BE REPAIRED OR REPLACED AND RETESTED.
H. A VISUAL INSPECTION OF THE INTERIOR OF THE SEWER LINE USING A TELEVISION CAMERA WILL BE PERFORMED ON THE TOTAL FOOTAGE OF ALL SEWER LINES, AFTER COMPLETE BACKFILL AND COMPACTION, BUT PRIOR TO THE INSTALLATION OF FINISHED SURFACE MATERIAL. ANY PORTION CONSIDERED UNSERVICEABLE BY THE CITY SHALL BE REPAIRED OR REPLACED AND RETESTED AT NO ADDITIONAL COST TO THE CITY AND RETESTED. TWO (2) COPIES OF THE DVD OF THE SEWER LINE AND REPORT OF OBSERVATINS SHALL BE PROVIDED TO THE CITY FOR INSPECTION AND PERMANENT RECORD. ALL EXPENSES FOR VISUAL INSPECTION USING TELEVISION CAMERA IS THE RESPONSIBILITY OF THE CONTRACTOR.
I. ALL MANHOLE RINGS AND LIDS SHALL BE CAST IRON, LIDS SHALL BE IMPRINTED "CITY OF GOODYEAR SANITARY SEWER."
J. ALL TAPS SHALL BE WYE TYPE.
K. SEWER TAPS MUST BE A MINIMUM OF 4.5 FEET DEEP AT PROPERTY LINES.
L. ALL SEWER SERVICE CONNECTIONS SHALL BE EXTENDED A SUFFICIENT DISTANCE ACROSS RIGHT-OF-WAY TO CLEAR ALL FACILITIES TO BE INSTALLED IN PUBLIC UTILITY EASEMENTS PARALLELING THE RIGHT-OF-WAY.
M. TRACER WIRE SHALL BE INSTALLED ON ALL PRIVATE PVC SEWER LINES.
N. ALL SANITARY SEWER MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C-1244-93 (PER ARIZONA REVISED STATUTE A.R.S. R18-9-E301.D.3.f.ii).
O. ALL SANITARY SEWER MANHOLES SHALL BE COATED WITH A CORROSION RESISTANT COATING AND TREATED WITH AN INSECTICIDE THAT ARE LISTED IN THE CITY'S SEWER APPROVED MATERIALS LIST. RE-APPLICATION OF CORROSION RESISTANT COATING AND INSECTICIDE MUST BE PERFORMED AFTER MODIFICATION TO EXISTING MANHOLES SUCH AS NEW STUBS OR MANHOLE EXTENSIONS ARE DONE.
P. PRIOR TO THE ISSUANCE OF SEWER PERMITS, STREET SUBGRADE ELEVATIONS SHALL BE GRADED TO WITHIN 0.5 FEET OF THE APPROVED PAVING PLANS; OPEN SPACES, TRACTS, AND RIGHTS-OR-WAYS ELEVATIONS GRADED TO WITHIN 0.3 FEET OF APPROVED GRADING PLAN ELEVATIONS OR SUBGRADE BULE-TOP STAKES ARE SET AT MINIMUM 100 FOOT INTERVALS BY A SURVEYOR; AND PADS CERTIFIED TO BE AT OR +0.1 FEET ABOVE THE PAD ELEVATIONS AS SHOWN ON THE APPROVED GRADING PLANS.
Q. PRIVATE ON-SITE WATER AND SEWER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE CITY STANDARDS.

CITY OF GOODYEAR GENERAL NOTES FOR WATER MAIN CONSTRUCTION

A. ALL GENERAL CONSTRUCTION NOTES SHALL APPLY.
B. ALL CONSTRUCTION SHALL CONFORM TO THE CITY EDS&PM, CITY STANDARD DETAILS, AND CURRENT MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION.
C. CITY OF GOODYEAR INSPECTORS SHALL BE NOTIFIED 48-HOURS PRIOR TO STARTING EACH PHASE OF CONSTRUCTION, AND EACH INSPECTION REQUESTED (623-882-7979).
D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF ANY UTILITY LINES BEFORE STARTING CONSTRUCTION. IF THE EXISTING LINE IS FOUND TO BE IN A SUBSTANTIALLY DIFFERENT LOCATION, OR WILL ADVERSELY AFFECT THE OPERATION OF THE UTILITY, THE CONTRACTOR SHALL NOTIFY THE CITY OF GOODYEAR PRIOR TO MAKING THE CONNECTIONS. AMENDMENTS TO THE PLANS MAY BE REQUIRED PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES.
E. THE CITY OF GOODYEAR IS NOT LIABLE FOR DELAYS OR DAMAGES TO UTILITIES RELATED TO THIS CONSTRUCTION.
F. AS-BUILT DRAWINGS (ONE SET OF PRINTS FOR EACH REVIEW AND A FINAL SET OF MYLARS), CERTIFIED BY THE DEVELOPER'S ENGINEER, SHALL BE SUBMITTED TO AND ACCEPTED BY THE CITY ENGINEER BEFORE FINAL ACCEPTANCE OF THE WORK. SEE AS-BUILT REQIREMENTS.
G. BACKFILLING SHALL NOT BE DONE UNTIL LINES ARE INSPECTED AND APPROVED BY THE CITY CONSTRUCTION INSPECTOR.
H. MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR ACCORDING TO THE CITY'S APPROVED MATERIALS LIST, EDS&PM CITY STANDARD DETAILS AND MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION. THE APPROVED MATERIALS LIST IS AVAILABLE ON THE CITY WEBSITE OR FROM THE CITY ENGINEERING DEPARTMENT.
I. ALL SERVICE LINES SHALL BE TYPE K COPPER PIPE OR TUBING. THE MINIMUM SIZE SERVICE SHALL BE ONE-INCH. SERVICE LINES SHALL BE CONTINUOUS UNDER PAVEMENT WITHOUT A CONNECTION OR EXTENSION.
J. ALL TAPS SHALL USE ALL BRONZE DOUBLE STRAP SERVICE SADDLES.
K. THE DEVELOPER IS TO INSTALL ALL TAPS AND METER BOXES. THE TAP SHALL TERMINATE WITH AN ANGLE METER VALVE WITHIN THE METER BOX PER CITY STANDARDS.
L. METERS SHALL BE FURNISHED AND INSTALLED BY THE UTILITY AGENCY AFTER PAYMENT OF ALL PREVAILING FEES.
M. METERS WILL ONLY BE INSTALLED IF:
   1. ALL BACTERIOLOGICAL TESTS AND A COUNTY APPROVAL OF CONSTRUCTION (AOC) LETTER HAVE BEEN RECEIVED.
   2. CURB AND GUTTER HAS BEEN CONSTRUCTED AND THE METER BOX IS INSTALLED TO THE SPECIFIED GRADE PER PLANS.
   3. THE LOT NUMBER AND ADDRESS ARE CLEARLY POSTED.
   4. THE METER BOX IS VISIBLE AND FREE OF OBSTRUCTION AND DAMAGE.
   5. THE METER BOX AND LID ARE PER THE CITY APPROVED MATERIALS LIST.
   6. THE METER BOX AND LID ARE OF THE CORRECT SIZE.
   7. THE SERVICE LINES AND CONNECTIONS ARE FREE OF LEAKS.
N. PAVEMENT REPLACEMENTS SHALL BE MADE PER THE CITY EDS&PM, CITY STANDARD DETAILS, AND MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION.
O. ALL WATER SERVICE CONNECTIONS SHALL BE EXTENDED A SUFFICIENT DISTANCE ACROSS THE RIGHT-OF-WAY TO CLEAR ALL FACILITIES TO BE INSTALLED IN PUBLIC UTILITY EASEMENTS PARALLELING STREET RIGHT-OF-WAY.
P. TRACER WIRE SHALL BE INSTALLED ON ALL PRIVATE PVC WATER LINES LARGER THAN 6 INCHES.
Q. ALL WATER LINES 12 INCHES AND LARGER AND RECLAIMED WATER LINES SHALL BE MARKED WITH LOCATING TAPE ONE FOOT ABOVE THE MAIN.
R. ALL CHANGES IN DIRECTION OF WATER LINES 6 INCHES AND LARGER SHALL BE MARKED WITH AN ELECTRONIC MARKER. ELECTRONIC MARKER SHALL BE A SELF-LEVELING TYPE AND OPERATE ON A FREQUENCY OF 145.7 KHZ UP TO A DEPTH OF 4 FEET.
S. PRIOR TO THE ISSUANCE OF WATER PERMITS, STREET SUBGRADE ELEVATIONS SHALL BE GRADED TO WITHIN 0.5 FEET OF THE APPROVED PAVING PLANS; OPEN SPACES, TRACTS, AND RIGHTS-OR-WAYS ELEVATIONS GRADED TO WITHIN 0.3 FEET OF APPROVED GRADING PLAN ELEVATIONS; AND PADS CERTIFIED TO BE AT OR +0.1 FEET ABOVE THE PAD ELEVATIONS AS SHOWN ON THE APPROVED GRADING PLANS.
T. PRIVATE ON-SITE WATER AND SEWER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE CITY STANDARDS.
U. ALL DUCTILE IRON WATER LINES LARGER THAN 12 INCHES IN DIAMETER SHALL BE ENCASED IN POLYETHYLENE WRAP PER MAG STANDARD AND MANUFACTURER SPECIFICATIONS.
V. THE CONTRACTOR MUST REQUEST A METER FOR FILLING AND TESTING OF NEW WATER LINES FROM THEIR ASSIGNED CITY CONSTRUCTION INSPECTOR. THIS METER SHOULD BE ORDERED TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
0.4.7 General Notes for Sewer Main Construction

CITY OF GOODYEAR GENERAL NOTES FOR GRADING AND DRAINAGE CONSTRUCTION

A. ALL GENERAL CONSTRUCTION NOTES SHALL APPLY.
B. FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 18 INCHES ABOVE POINT OF OUTFALL. LOTS SHALL BE DESIGNED TO FALL TOWARDS THE STREET AT A GRADE NO LESS THAN ONE PERCENT.
C. A PERMIT IS REQUIRED FOR ANY ON-SITE GRADING.
D. A SEPARATE PERMIT IS REQUIRED FOR ANY GRADING RELATED TO OFF-SITE CONSTRUCTION.
E. STAKING PAD AND/OR FINISHED FLOOR ELEVATIONS ARE THE RESPONSIBILITY OF THE DEVELOPER OR HIS ENGINEER. IN A CRITICAL DRAINAGE AREA (FEMA ZONES A, AO, AH, A1-A33, AND A99), CERTIFICATION OF THE FINISHED BUILDING FLOOR OR STEM WALL ELEVATION SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY VERTICAL CONSTRUCTION. IN NON-CRITICAL AREAS, THE DEVELOPER'S ENGINEER SHALL SUBMIT CERTIFICATIONS OF CONSTRUCTED BUILDING PAD ELEVATIONS PRIOR TO THE CITY'S ACCEPTANCE OF THE PROJECT.
F. THE CONTRACTOR SHALL COMPLY WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN PREPARED IN ACCORDANCE WITH THE CITY'S GENERAL AZPDES STORM WATER PERMIT REQUIREMENTS.
G. THE GRADING CONTRACTOR SHALL DESIGNATE THE LOCATION FOR WASTING SPOIL MATERIALS AND OBTAIN A LETTER FROM THE OWNER GIVING PERMISSION FOR SAID DISPOSAL PRIOR TO STARTING ON-SITE CONSTRUCTION.
H. GRADING AND DRAINAGE PLAN APPROVAL INCLUDES RETENTION AND DETENTION AREAS, OTHER DRAINAGE FACILITIES AND CHANGES TOSURFACE GRADING AFFECTING DRAINAGE STRUCTURES, CURBS, ASPHALT PAVEMENT, AND BUILDING FLOOR ELEVATIONS.
I. THE CONTRACTOR SHALL PROVIDE ALL RETENTION AND DETENTION BASINS AT ELEVATIONS AS SHOWN ON THE PLANS. RETENTION BASINS SIDE SLOPES SHALL NOT EXCEED 4:1 ON PRIVATE PROPERTY OR 6:1 ADJACENT TO WALKWAYS OR AREAS DESIGNATED FOR PEDESTRIAN ACCESS AND PUBLIC RIGHTS-OF-WAY. RETENTION BASIN HIGH WATER ELEVATIONS SHALL NOT EXCEED 3-FOOT DEPTH ON PRIVATE PROPERTY OR 1.5-FOOT DEPTH WITHIN 10-FEET OF PUBLIC RIGHTS-OF-WAY. RETENTION IS NOT PERMITTED WITHIN PUBLIC RIGHTS-OF-WAY OR PUBLIC UTILITY EASEMENTS.
J. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL THE EXISTING UTILITY LINES WITHIN PROPOSED RETENTION BASIN AREAS. IF THE BASIN CANNOT BE CONSTRUCTED PER PLAN AS A RESULT OF CONFLICT WITH UNDERGROUND UTILITIES, THE CONTRACTOR SHOULD CONTACT THE CITY AND DESIGNER AND REQUEST MODIFICATION OF THE BASIN DESIGN.
K. "AS-BUILT" DRAWINGS (ONE SET OF PRINTS FOR EACH REVIEW AND A FINAL SET OF MYLARS), CERTIFIED BY THE DEVELOPER'S ENGINEER, SHALL BE SUBMITTED AND APPROVED PRIOR TO ISSUANCE OF A BUILDING "CERTIFICATE OF OCCUPANCY."
L. DEVELOPERS OF NEW PROJECTS SHALL PROVIDE FINANCIAL ASSURANCE IN A FORM AND AMOUNT ACCEPTABLE TO THE CITY TO COVER THE COST TO CORRECT ANY STORM WATER DRAINAGE OR DISPOSAL PROBLEMS THAT MAY ARISE DURING THE FIRST 5 YEARS FOLLOWING THE COMPLETION OF THE INITIAL PROJECT CONSTRUCTION. DURING THE 5-YEAR PERIOD, IF DISPOSAL METHODS IN USE ARE FOUND TO BE INSUFFICIENT TO DISPOSE OF RETAINED STORM WATER WITHIN A 36-HOUR PERIOD FOLLOWING A RAIN EVENT, THE DEVELOPER'S ENGINEER SHALL SUBMIT A CORRECTIVE ACTION PLAN TO THE CITY FOR REVIEW AND APPROVAL. THE SUBMITTED INFORMATION SHALL DEMONSTRATE MEASURES THAT WILL BE IMPLEMENTED TO CORRECT DEFICIENCIES IN THE SYSTEM. THE PLAN SHALL CONFORM TO THE REQUIREMENTS OF THESE GENERAL NOTES.
M. PRIOR TO THE ISSUANCE OF STORM DRAIN PERMITS, STREET SUBGRADE ELEVATIONS SHALL BE GRADED TO WITHIN 0.5 FEET OF THE APPROVED PAVING PLANS; OPEN SPACES, TRACTS, AND RIGHTS-OF-WAY ELEVATIONS GRADED TO WITHIN 0.3 FEET OF APPROVED GRADING PLAN ELEVATIONS; AND PADS CERTIFIED TO BE AT OR +0.1 FOOT ABOVE THE PAD ELEVATIONS AS SHOWN ON THE APPROVED GRADING PLANS.

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1130 N Alma School Road
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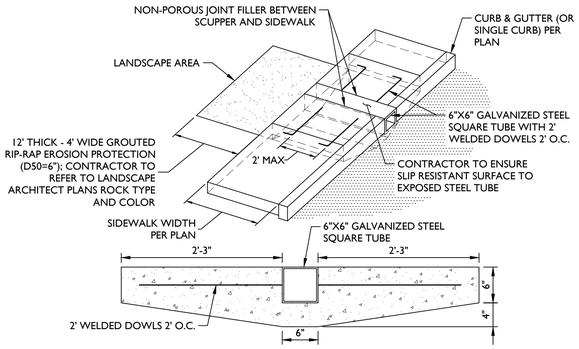
Project: Millennium High School
14802 W Wigwam Blvd
Goodyear, AZ

General Notes Sheet

Revisions:

12/15/20 - 50% CD SUBMITTAL

Call at least two full working days before you begin excavation.
ARIZONA 811
Blue Stake, Inc.
Dial 8-1-1 or 1-800-ST



SIDEWALK DRAIN DETAIL

NTS

PAVEMENT HATCH LEGEND

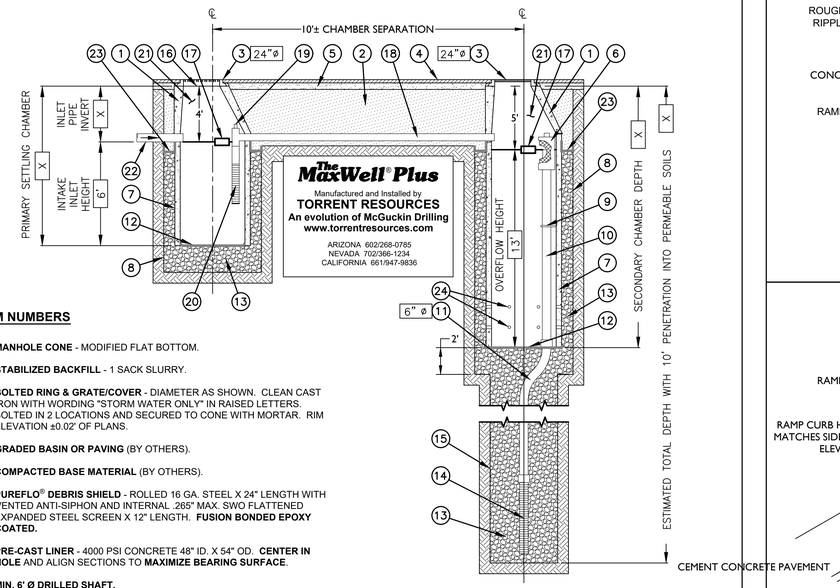
NTS

- 2" AC OVER 6" ABC PAVEMENT (PARKING)
- 3" AC OVER 8" ABC PAVEMENT (DRIVE)
- 2.5" 1/4" MINUS STABILIZED DG OVER 6" ABC (FIRE ACCESS)
- SIDEWALK (PER ARCHITECTURAL PLANS)
- AC PAVEMENT RESTORATION

LEGEND

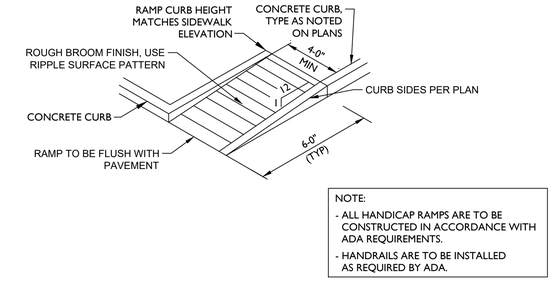
XX	LOT NUMBER
FF = X.XX / PAD=X.XX	PROPOSED FINISHED FLOOR ELEVATION / PROPOSED PAD ELEVATION
XX.X	PROPOSED PROPERTY CORNER ELEVATION
TC=XX.XX / G=XX.XX	PROPOSED TOP OF CURB & GUTTER GRADE
SW=X.XX	PROPOSED SIDEWALK ELEVATION
FG=X.XX	PROPOSED FINISHED GRADE ELEVATION
C=X.XX	PROPOSED CONCRETE ELEVATION
	PROPOSED STORM DRAIN LINE
XX.XX	PROPOSED TOP OF CURB ELEV. AT P/L
	GRADE BREAK
	GRADE CHANGE
	DRYWELL
	PROPOSED STRUCTURAL RETAINING WALL
	PROPOSED VERTICAL CURB
	PROPOSED ROLL CURB
	PROPOSED CENTERLINE
	PROPOSED MULTI USE EASEMENT
	PROPOSED SWALE
T	EXISTING TELEPHONE
OHE	EXISTING OVERHEAD ELECTRIC
	EXISTING GAS
FO	EXISTING FIBER OPTIC
UGE	EXISTING UNDERGROUND ELECTRIC
8" W	EXISTING WATER
8" S	EXISTING SEWER
SL	EXISTING STREET LIGHT
JB	EXISTING JUNCTION BOX
	EXISTING GUY WIRE
	EXISTING SEWER MANHOLE
W	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED SIDEWALK RAMP
	PROPOSED SURVEY MONUMENT
WS	PROPOSED WATER SERVICE
	PROPOSED WATERLINE
	PROPOSED WATER CAP W/FLUSHING PIPE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	ULTIMATE OUTFALL
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED SEWERLINE
HC	PROPOSED SEWER SERVICE
	PROPOSED SEWER MANHOLE
	PROPOSED SCUPPER
	PROPOSED RIPRAP
	PROPOSED STREETLIGHT
	DRAINAGE FLOW ARROW
FF =X.XX / PAD=X.XX	EXISTING FINISHED FLOOR ELEVATION / EXISTING PAD ELEVATION
	EXISTING FIRE HYDRANT
	EXISTING VERTICAL CURB
	EXISTING ROLL CURB
	EXISTING STREET SIGN
EX TC	EXISTING TOP OF CURB
EX G	EXISTING GROUND
NG	EXISTING NATURAL GRADE
TW	TOP OF CMU WALL
TRW	TOP OF RETAINING WALL
TF	TOP OF FOOTING
	PROPERTY LINE
SDL	SIGHT DISTANCE LINE

The MaxWell® Plus Drainage System Detail And Specifications



ITEM NUMBERS

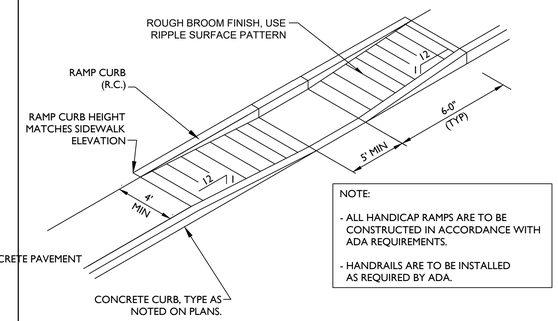
1. **MANHOLE CONE** - MODIFIED FLAT BOTTOM.
2. **STABILIZED BACKFILL** - 1 SACK SLURRY.
3. **BOLTED RING & GRATE/COVER** - DIAMETER AS SHOWN. CLEAN CAST IRON WITH WORDING "STORM WATER ONLY" IN RAISED LETTERS. BOLTED IN 2 LOCATIONS AND SECURED TO CONE WITH MORTAR. RIM ELEVATION ±0.02' OF PLANS.
4. **GRADED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



NOTE:
- ALL HANDICAP RAMPS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS.
- HANDRAILS ARE TO BE INSTALLED AS REQUIRED BY ADA.

HANDICAP RAMP TYPE 1

NTS



NOTE:
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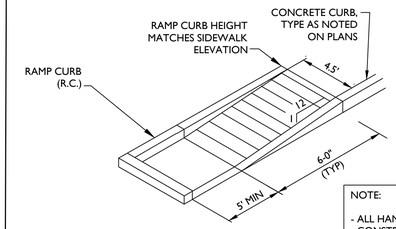
- HANDRAILS ARE TO BE INSTALLED AS REQUIRED BY ADA.

HANDICAP RAMP TYPE 2

NTS



NOTE:
- ALL HANDICAP RAMPS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS.
- HANDRAILS ARE TO BE INSTALLED AS REQUIRED BY ADA.

HANDICAP RAMP TYPE 3

NTS

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Project: Millennium High School
14801 W Wigwam Blvd
Goodyear, AZ

Detail Sheet

Revisions:
12/15/20 - 50% CD SUBMITTAL

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Designer: EPS
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Registered Professional Engineer (Civil) CERTIFICATE NO. 32679 Not For Construction Or Recording ARIZONA U.S.A.

Job No. 20-0544

C101

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20-0544 - Millennium High School Improvements

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dauxier

LIFT STATION SPECIFICATIONS

N 3085.060/070 SPECIFICATION

REQUIREMENTS:
FURNISH AND INSTALL ___ SUBMERSIBLE NON-CLOG WASTEWATER PUMP(S). EACH PUMP SHALL BE EQUIPPED WITH A _3_ HP, SUBMERSIBLE ELECTRIC MOTOR CONNECTED FOR OPERATION ON _460____ VOLTS, ___ PHASE, 60 HERTZ, _3___ WIRE SERVICE, WITH _50___ FEET OF SUBMERSIBLE CABLE (SUBCAB) SUITABLE FOR SUBMERSIBLE PUMP APPLICATIONS. THE POWER CABLE SHALL BE SIZED ACCORDING TO NEC AND ICEA STANDARDS AND ALSO MEET WITH P-MSHA APPROVAL.

PUMP DESIGN CONFIGURATION (WET PIT INSTALLATION):
THE PUMP SHALL BE SUPPLIED WITH A MATING CAST IRON ___3____ INCH DISCHARGE CONNECTION AND BE CAPABLE OF DELIVERING __130_____ GPM AT __10.63_____ FT. TDH. SHUT OFF HEAD SHALL BE _29____ FEET (MINIMUM). THE PUMP(S) SHALL BE AUTOMATICALLY AND FIRMLY CONNECTED TO THE DISCHARGE CONNECTION, GUIDED BY NO LESS THAN TWO GUIDE BARS EXTENDING FROM THE TOP OF THE STATION TO THE DISCHARGE CONNECTION. THERE SHALL BE NO NEED FOR PERSONNEL TO ENTER THE WET-WELL. SEALING OF THE PUMPING UNIT TO THE DISCHARGE CONNECTION SHALL BE ACCOMPLISHED BY A MACHINED METAL TO METAL WATERTIGHT CONTACT. SEALING OF THE DISCHARGE INTERFACE WITH A DIAPHRAGM, O-RING OR PROFILE GASKET WILL NOT BE ACCEPTABLE. NO PORTION OF THE PUMP SHALL BEAR DIRECTLY ON THE SUMP FLOOR. EACH PUMP SHALL BE FITTED WITH __13_____ FEET OF ___316SS____ LIFTING CHAIN OR STAINLESS STEEL CABLE. THE WORKING LOAD OF THE LIFTING SYSTEM SHALL BE 50% GREATER THAN THE PUMP UNIT WEIGHT.

PUMP CONSTRUCTION:
MAJOR PUMP COMPONENTS SHALL BE OF GREY CAST IRON, ASTM A-48, CLASS 35B, WITH SMOOTH SURFACES DEVOID OF BLOW HOLES OR OTHER IRREGULARITIES. THE LIFTING HANDLE SHALL BE OF STAINLESS STEEL. ALL EXPOSED NUTS OR BOLTS SHALL BE AISI TYPE 316 STAINLESS STEEL CONSTRUCTION. ALL METAL SURFACES COMING INTO CONTACT WITH THE PUMPAGE, OTHER THAN STAINLESS STEEL OR BRASS, SHALL BE PROTECTED BY A FACTORY APPLIED SPRAY COATING OF ACRYLIC DISPERSION ZINC PHOSPHATE PRIMER WITH A POLYESTER RESIN PAINT FINISH ON THE EXTERIOR OF THE PUMP.

SEALING DESIGN SHALL INCORPORATE METAL-TO-METAL CONTACT BETWEEN MACHINED SURFACES. CRITICAL MATING SURFACES WHERE WATERTIGHT SEALING IS REQUIRED SHALL BE MACHINED AND FITTED WITH NITRILE OR OPTIONAL VITON RUBBER O-RINGS. FITTINGS WILL BE THE RESULT OF CONTROLLED COMPRESSION OF RUBBER O-RINGS IN TWO PLANES AND O-RING CONTACT OF FOUR SIDES WITHOUT THE REQUIREMENT OF A SPECIFIC TORQUE LIMIT.

RECTANGULAR CROSS SECTIONED GASKETS REQUIRING SPECIFIC TORQUE LIMITS TO ACHIEVE COMPRESSION SHALL NOT BE CONSIDERED AS ADEQUATE OR EQUAL. NO SECONDARY SEALING COMPOUNDS, ELLIPTICAL O-RINGS, GREASE OR OTHER DEVICES SHALL BE USED.

COOLING SYSTEM:
MOTORS ARE SUFFICIENTLY COOLED BY THE SURROUNDING ENVIRONMENT OR PUMPED MEDIA. A WATER COOLING JACKET IS NOT REQUIRED.

CABLE ENTRY SEAL:
THE CABLE ENTRY SEAL DESIGN SHALL PRECLUDE SPECIFIC TORQUE REQUIREMENTS TO INSURE A WATERTIGHT AND SUBMERSIBLE SEAL. THE CABLE ENTRY SHALL CONSIST OF A SINGLE CYLINDRICAL ELASTOMER GROMMET, FLANKED BY WASHERS, ALL HAVING A CLOSE TOLERANCE FIT AGAINST THE CABLE OUTSIDE DIAMETER AND THE ENTRY INSIDE DIAMETER AND COMPRESSED BY THE BODY CONTAINING A STRAIN RELIEF FUNCTION, SEPARATE FROM THE FUNCTION OF SEALING THE CABLE. THE ASSEMBLY SHALL PROVIDE EASE OF CHANGING THE CABLE WHEN NECESSARY USING THE SAME ENTRY SEAL.

MOTOR:
THE PUMP MOTOR SHALL BE A NEMA B DESIGN, INDUCTION TYPE WITH A SQUIRREL CAGE ROTOR, SHELL TYPE DESIGN, HOUSED IN AN AIR FILLED, WATERTIGHT CHAMBER. THE STATOR WINDINGS SHALL BE INSULATED WITH MOISTURE RESISTANT CLASS H INSULATION RATED FOR 180°C (356°F). THE STATOR SHALL BE INSULATED BY THE TRICKLE IMPREGNATION METHOD USING CLASS H MONOMER-FREE POLYESTER RESIN RESULTING IN A WINDING FILL FACTOR OF AT LEAST 95%. THE MOTOR SHALL BE INVERTER DUTY RATED IN ACCORDANCE WITH NEMA MG1, PART 31.THE STATOR SHALL BE HEAT-SHRINK FITTED INTO THE CAST IRON STATOR HOUSING. THE USE OF MULTIPLE STEP DIP AND BAKE-TYPE STATOR INSULATION PROCESS IS NOT ACCEPTABLE. THE USE OF BOLTS, PINS OR OTHER FASTENING DEVICES REQUIRING PENETRATION OF THE STATOR HOUSING IS NOT ACCEPTABLE. THE MOTOR SHALL BE DESIGNED FOR CONTINUOUS DUTY HANDLING PUMPED MEDIA OF 40°C (104°F) AND CAPABLE OF NO LESS THAN 30 EVENLY SPACED STARTS PER HOUR. THE ROTOR BARS AND SHORT CIRCUIT RINGS SHALL BE MADE OF CAST ALUMINUM. THERMAL SWITCHES SET TO OPEN AT 125°C (260°F) SHALL BE EMBEDDED IN THE STATOR END COILS TO MONITOR THE TEMPERATURE OF EACH PHASE WINDING. THESE THERMAL SWITCHES SHALL BE USED IN CONJUNCTION WITH AND SUPPLEMENTAL TO EXTERNAL MOTOR OVERLOAD PROTECTION AND SHALL BE CONNECTED TO THE CONTROL PANEL. THE MOTOR AND THE PUMP SHALL BE PRODUCED BY THE SAME MANUFACTURER.

THE COMBINED SERVICE FACTOR (COMBINED EFFECT OF VOLTAGE, FREQUENCY AND SPECIFIC GRAVITY) SHALL BE A MINIMUM OF 1.15. THE MOTOR SHALL HAVE A VOLTAGE TOLERANCE OF PLUS OR MINUS 10%. THE MOTOR SHALL BE DESIGNED FOR OPERATION UP TO 40°C (104°F) AMBIENT AND WITH A TEMPERATURE RISE NOT TO EXCEED 80°C. A PERFORMANCE CHART SHALL BE PROVIDED UPON REQUEST SHOWING CURVES FOR TORQUE, CURRENT, POWER FACTOR, INPUT/OUTPUT KW AND EFFICIENCY. THIS CHART SHALL ALSO INCLUDE DATA ON STARTING AND NO-LOAD CHARACTERISTICS. THE MOTOR HORSEPOWER SHALL BE ADEQUATE SO THAT THE PUMP IS NON-OVERLOADING THROUGHOUT THE ENTIRE PUMP PERFORMANCE CURVE FROM SHUT-OFF THROUGH RUN-OUT.
THE MOTOR SHALL BE CAPABLE OF CONTINUOUS SUBMERGENCE UNDERWATER WITHOUT LOSS OF WATERTIGHT INTEGRITY TO A DEPTH OF 65 FEET OR GREATER.

THE POWER CABLE SHALL BE SIZED ACCORDING TO THE NEC AND ICEA STANDARDS AND SHALL BE OF SUFFICIENT LENGTH TO REACH THE JUNCTION BOX WITHOUT THE NEED OF ANY SPLICES. THE OUTER JACKET OF THE CABLE SHALL BE OIL RESISTANT CHLORINATED POLYETHYLENE RUBBER. THE CABLE SHALL BE CAPABLE OF CONTINUOUS SUBMERGENCE UNDERWATER WITHOUT LOSS OF WATERTIGHT INTEGRITY TO A DEPTH OF 65 FEET OR GREATER.

BEARINGS:
THE PUMP SHAFT SHALL ROTATE ON TWO BEARINGS. MOTOR BEARINGS SHALL BE PERMANENTLY GREASE LUBRICATED. THE UPPER BEARING SHALL BE A SINGLE DEEP GROOVE BALL BEARING. THE LOWER BEARING SHALL BE A TWO ROW ANGULAR CONTACT BEARING TO COMPENSATE FOR AXIAL THRUST AND RADIAL FORCES. SINGLE ROW LOWER BEARINGS ARE NOT ACCEPTABLE. THE MINIMUM L10 BEARING LIFE SHALL BE 50,000 HOURS AT ANY USABLE PORTION OF THE PUMP CURVE.

MECHANICAL SEAL:
EACH PUMP SHALL BE PROVIDED WITH A TANDEM MECHANICAL SHAFT SEAL SYSTEM CONSISTING OF TWO TOTALLY INDEPENDENT SEAL ASSEMBLIES. THE SEALS SHALL OPERATE IN A LUBRICANT RESERVOIR THAT HYDRO-DYNAMICALLY LUBRICATES THE LAPPED SEAL FACES AT A CONSTANT RATE. THE LOWER, PRIMARY SEAL UNIT, LOCATED BETWEEN THE PUMP AND THE LUBRICANT CHAMBER, SHALL CONTAIN ONE STATIONARY AND ONE POSITIVELY DRIVEN ROTATING, CORROSION AND ABRASION RESISTANT TUNGSTEN-CARBIDE RING. THE UPPER, SECONDARY SEAL UNIT, LOCATED BETWEEN THE LUBRICANT CHAMBER AND THE MOTOR HOUSING, SHALL CONTAIN ONE STATIONARY AND ONE POSITIVELY DRIVEN ROTATING, CORROSION AND ABRASION RESISTANT TUNGSTEN-CARBIDE SEAL RING.

EACH SEAL INTERFACE SHALL BE HELD IN CONTACT BY ITS OWN SPRING SYSTEM. THE SEALS SHALL REQUIRE NEITHER MAINTENANCE NOR ADJUSTMENT NOR DEPEND ON DIRECTION OF ROTATION FOR SEALING. THE POSITION OF BOTH MECHANICAL SEALS SHALL DEPEND ON THE SHAFT. MOUNTING OF THE LOWER MECHANICAL SEAL ON THE IMPELLER HUB WILL NOT BE ACCEPTABLE. FOR SPECIAL APPLICATIONS, OTHER SEAL FACE MATERIALS SHALL BE AVAILABLE.

THE FOLLOWING SEAL TYPES SHALL NOT BE CONSIDERED ACCEPTABLE OR EQUAL TO THE DUAL INDEPENDENT SEAL SPECIFIED: SHAFT SEALS WITHOUT POSITIVELY DRIVEN ROTATING MEMBERS, OR CONVENTIONAL DOUBLE MECHANICAL SEALS CONTAINING EITHER A COMMON SINGLE OR DOUBLE SPRING ACTING BETWEEN THE UPPER AND LOWER SEAL FACES. NO SYSTEM REQUIRING A PRESSURE DIFFERENTIAL TO OFFSET PRESSURE AND TO EFFECT SEALING SHALL BE USED.

EACH PUMP SHALL BE PROVIDED WITH A LUBRICANT CHAMBER FOR THE SHAFT SEALING SYSTEM. THE LUBRICANT CHAMBER SHALL BE DESIGNED TO PREVENT OVERFILLING AND TO PROVIDE LUBRICANT EXPANSION CAPACITY. THE DRAIN AND INSPECTION PLUG, WITH POSITIVE ANTI-LEAK SEAL SHALL BE EASILY ACCESSIBLE FROM THE OUTSIDE. THE SEAL SYSTEM SHALL NOT RELY UPON THE PUMPED MEDIA FOR LUBRICATION. THE MOTOR SHALL BE ABLE TO OPERATE DRY WITHOUT DAMAGE WHILE PUMPING UNDER LOAD.

WHERE A SEAL CAVITY IS PRESENT IN THE SEAL CHAMBER, THE AREA ABOUT THE EXTERIOR OF THE LOWER MECHANICAL SEAL IN THE CAST IRON HOUSING SHALL HAVE CAST IN AN INTEGRAL CONCENTRIC SPIRAL GROOVE. THIS GROOVE SHALL PROTECT THE SEALS BY CAUSING ABRASIVE PARTICULATE ENTERING THE SEAL CAVITY TO BE FORCED OUT AWAY FROM THE SEAL DUE TO CENTRIFUGAL ACTION.

SEAL LUBRICANT SHALL BE NON-HAZARDOUS.

PUMP SHAFT:
PUMP AND MOTOR SHAFT SHALL BE THE SAME UNIT. THE PUMP SHAFT IS AN EXTENSION OF THE MOTOR SHAFT. COUPLINGS SHALL NOT BE ACCEPTABLE. THE PUMP SHAFT SHALL BE STAINLESS STEEL - ASTM A479 S43100-T.

IF A SHAFT MATERIAL OF LOWER QUALITY THAN STAINLESS STEEL - ASTM A479 S43100-T IS USED, A SHAFT SLEEVE OF STAINLESS STEEL - ASTM A479 S43100-T IS USED TO PROTECT THE SHAFT MATERIAL. HOWEVER, SHAFT SLEEVES ONLY PROTECT THE SHAFT AROUND THE LOWER MECHANICAL SEAL. NO PROTECTION IS PROVIDED IN THE LUBRICANT HOUSING AND ABOVE. THEREFORE, THE USE OF STAINLESS STEEL SLEEVES WILL NOT BE CONSIDERED EQUAL TO STAINLESS STEEL SHAFTS.

IMPELLER (ADAPTIVE):
THE IMPELLER SHALL BE OF HARD-IRONTM (ASTM A-532 (ALLOY III A) 25% CHROME CAST IRON), DYNAMICALLY BALANCED, SEMI-OPEN, MULTI-VANE, BACK-SWEPT, NON-CLOG DESIGN. THE IMPELLER VANE LEADING EDGES SHALL BE MECHANICALLY SELF-CLEANED UPON EACH ROTATION AS THEY PASS ACROSS A SPIRAL GROOVE LOCATED ON A REPLACEABLE INSERT RING.

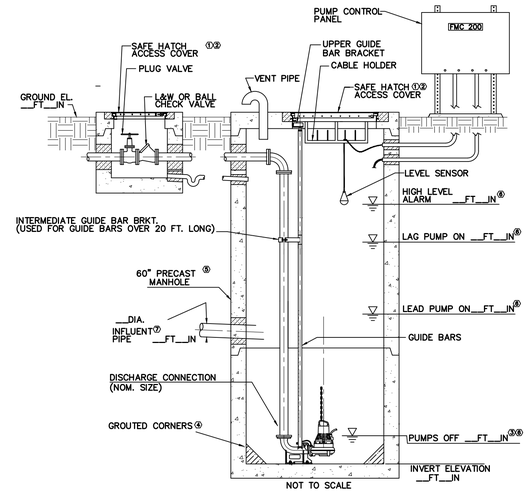
THE IMPELLER SHALL HAVE VANES HARDENED TO RC 45 AND SHALL BE CAPABLE OF HANDLING SOLIDS, FIBROUS MATERIALS, HEAVY SLUDGE AND OTHER MATTER FOUND IN WASTE WATER. THE SCREW SHAPE OF THE IMPELLER INLET SHALL PROVIDE AN INDUCING EFFECT FOR THE HANDLING OF SLUDGE AND RAG-LADEN WASTEWATER. THE IMPELLER SHALL BE CAPABLE OF MOMENTARILY MOVING AXIALLY UPWARDS A DISTANCE OF 15MM/0.6-IN. TO ALLOW LARGER DEBRIS TO PASS THROUGH AND IMMEDIATELY RETURN TO NORMAL OPERATING POSITION.

VOLUTE / SUCTION COVER:
THE PUMP VOLUTE SHALL BE A SINGLE PIECE GREY CAST IRON, ASTM A-48, CLASS 35B, NON-CONCENTRIC DESIGN WITH SMOOTH PASSAGES OF SUFFICIENT SIZE TO PASS ANY SOLIDS THAT MAY ENTER THE IMPELLER. MINIMUM INLET AND DISCHARGE SIZE SHALL BE AS SPECIFIED. THE VOLUTE SHALL HAVE A REPLACEABLE SUCTION COVER INSERT RING IN WHICH ARE CAST SPIRAL-SHAPED, SHARP-EDGED GROOVE(S). THE SPIRAL GROOVE(S) SHALL PROVIDE TRASH RELEASE PATHWAYS AND SHARP EDGE(S) ACROSS WHICH EACH IMPELLER VANE LEADING EDGE SHALL CROSS DURING ROTATION SO TO REMAIN UNOBSTRUCTED. THE INSERT RING SHALL BE CAST OF HARD-IRONTM (ASTM A-532 (ALLOY III A) 25% CHROME CAST IRON) AND PROVIDE EFFECTIVE SEALING BETWEEN THE MULTI-VANE SEMI-OPEN IMPELLER AND THE VOLUTE HOUSING.

PROTECTION:
ALL STATORS SHALL INCORPORATE THERMAL SWITCHES IN SERIES TO MONITOR THE TEMPERATURE OF EACH PHASE WINDING. THE THERMAL SWITCHES SHALL OPEN AT 125°C (260°F), STOP THE MOTOR AND ACTIVATE AN ALARM.

A LEAKAGE SENSOR SHALL BE AVAILABLE AS AN OPTION TO DETECT WATER IN THE STATOR CHAMBER. THE FLOAT LEAKAGE SENSOR (FLS) IS A SMALL FLOAT SWITCH USED TO DETECT THE PRESENCE OF WATER IN THE STATOR CHAMBER. WHEN ACTIVATED, THE FLS WILL STOP THE MOTOR AND SEND AN ALARM BOTH LOCAL AND/OR REMOTE. USE OF VOLTAGE SENSITIVE SOLID STATE SENSORS AND TRIP TEMPERATURE ABOVE 125°C (260°F) SHALL NOT BE ALLOWED.

THE THERMAL SWITCHES AND FLS SHALL BE CONNECTED TO A MINI CAS (CONTROL AND STATUS) MONITORING UNIT. THE MINI CAS SHALL BE DESIGNED TO BE MOUNTED IN ANY CONTROL PANEL.



NOTES:

1. COVER SHOWN IS A PEDESTRIAN RATED SAFE HATCH WITH ANGLE FRAME. FOR HEAVIER DUTY HATCHES AND DIMENSIONS PLEASE CONSULT JCH SALES ENGINEERS AT 602.243.0585
2. INSTALL ACCESS COVERS PER MANUFACTURER'S INSTRUCTIONS.
3. MIN. LIQUID LEVEL MUST NOT FALL BELOW TOP OF VOLUTE.
4. 45° TO 60° RECOMMENDED.
5. US COMPOSITE PIPE POLYMER CONCRETE, FLYGT FIBERGLASS TOP STATION, OR EPOXY COATED PRECAST ARE OTHER COMMON WET WELL MATERIALS.
6. FLOAT LIQUID LEVEL CONTROL MONITIORING SYSTEM.
7. GOOD DESIGN PRACTICE DICTATES THAT INFLUENT PIPE ELEVATIONS HIGHER THAN LAG FLOAT IN SEWAGE APPLICATIONS.

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Mesa, AZ 85201
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www.epsgroupinc.com

Project:
Millennium High School
14801 W Wigwam Blvd
Goodyear, AZ

Lift Station Specification & Detail Sheet

Revisions:
12/15/20 - 50% CD SUBMITTAL

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Drawn by: EPS

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DAVID E. AUXIER
Date Signed 12-15-20
Arizona U.S.A.

Job No.
20-0544

C102

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20-0544 - Millennium High School Improvements

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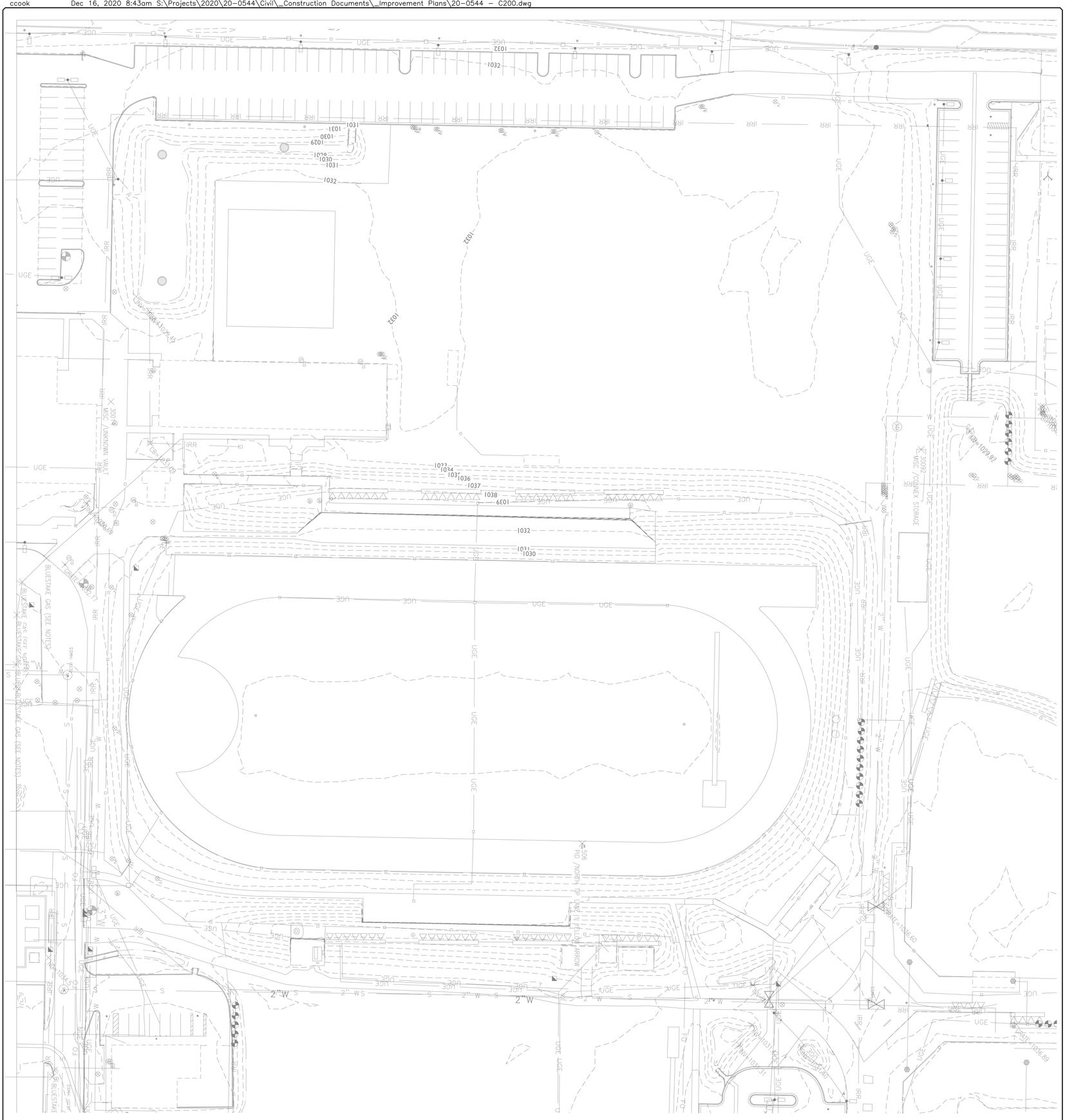

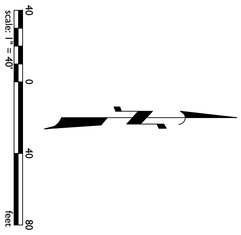

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Demolition Plan

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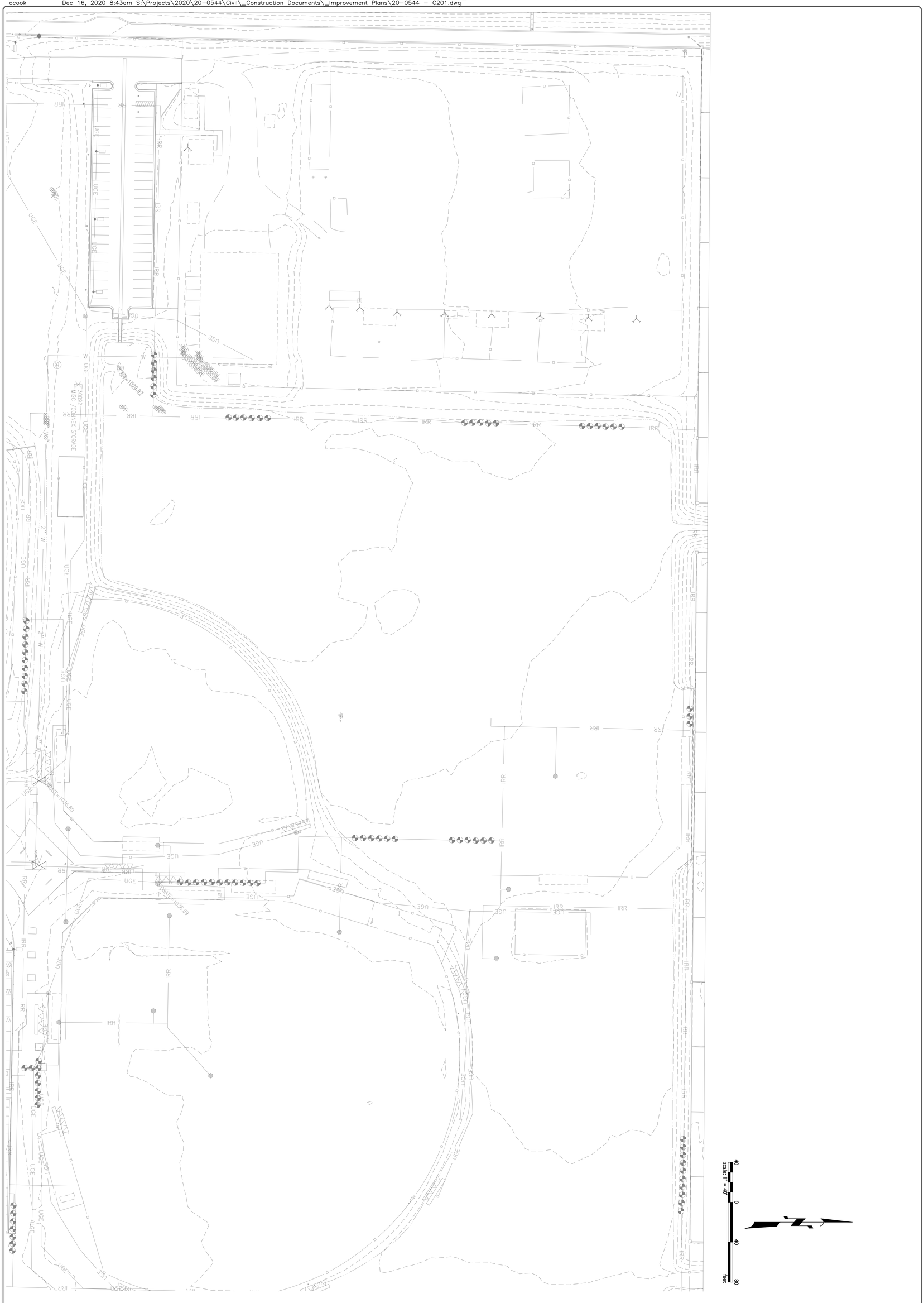
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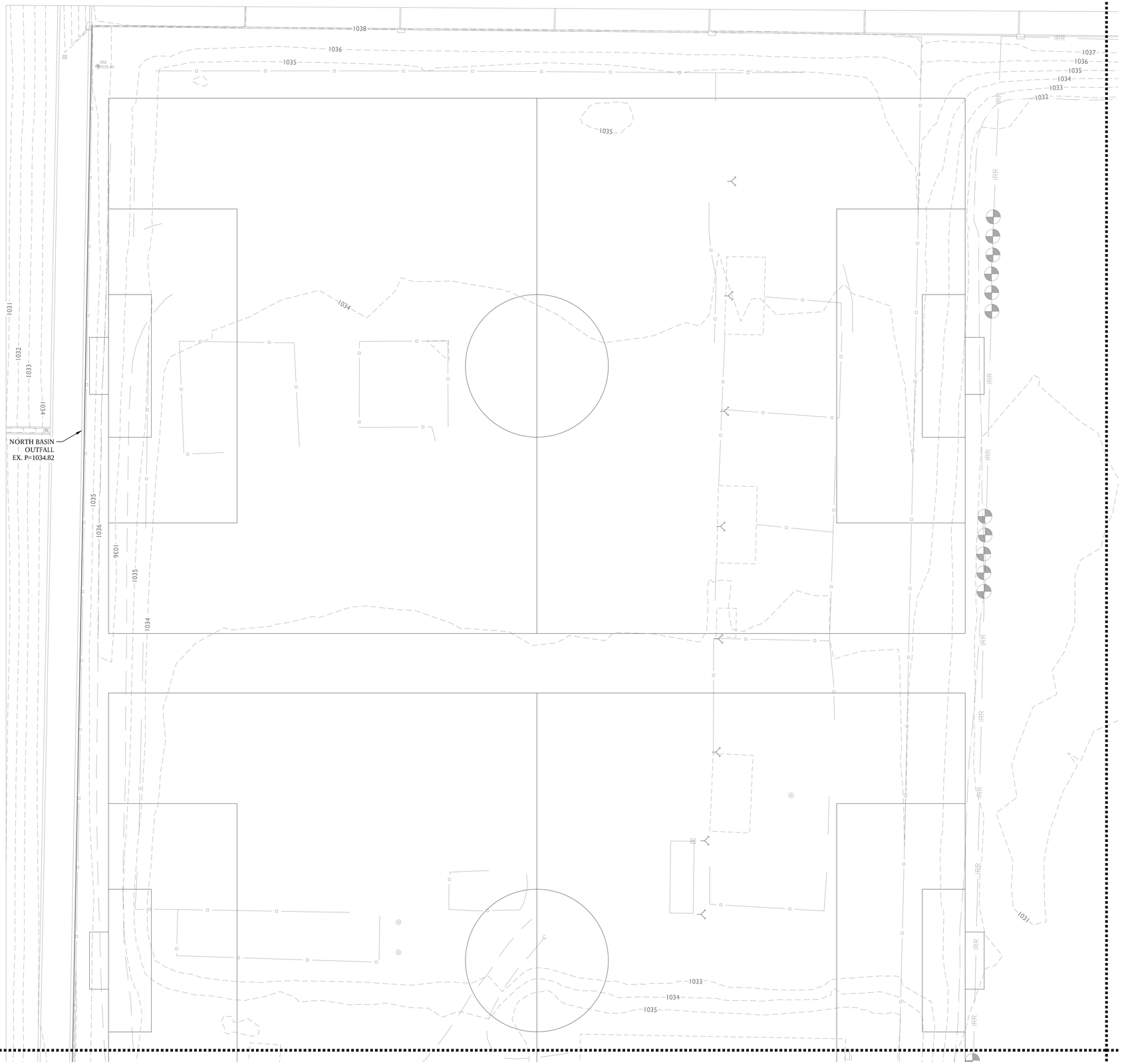

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Project:

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Goodyear, AZ

Grading & Drainage Plan

Revisions:

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Date Signed 12-15-20
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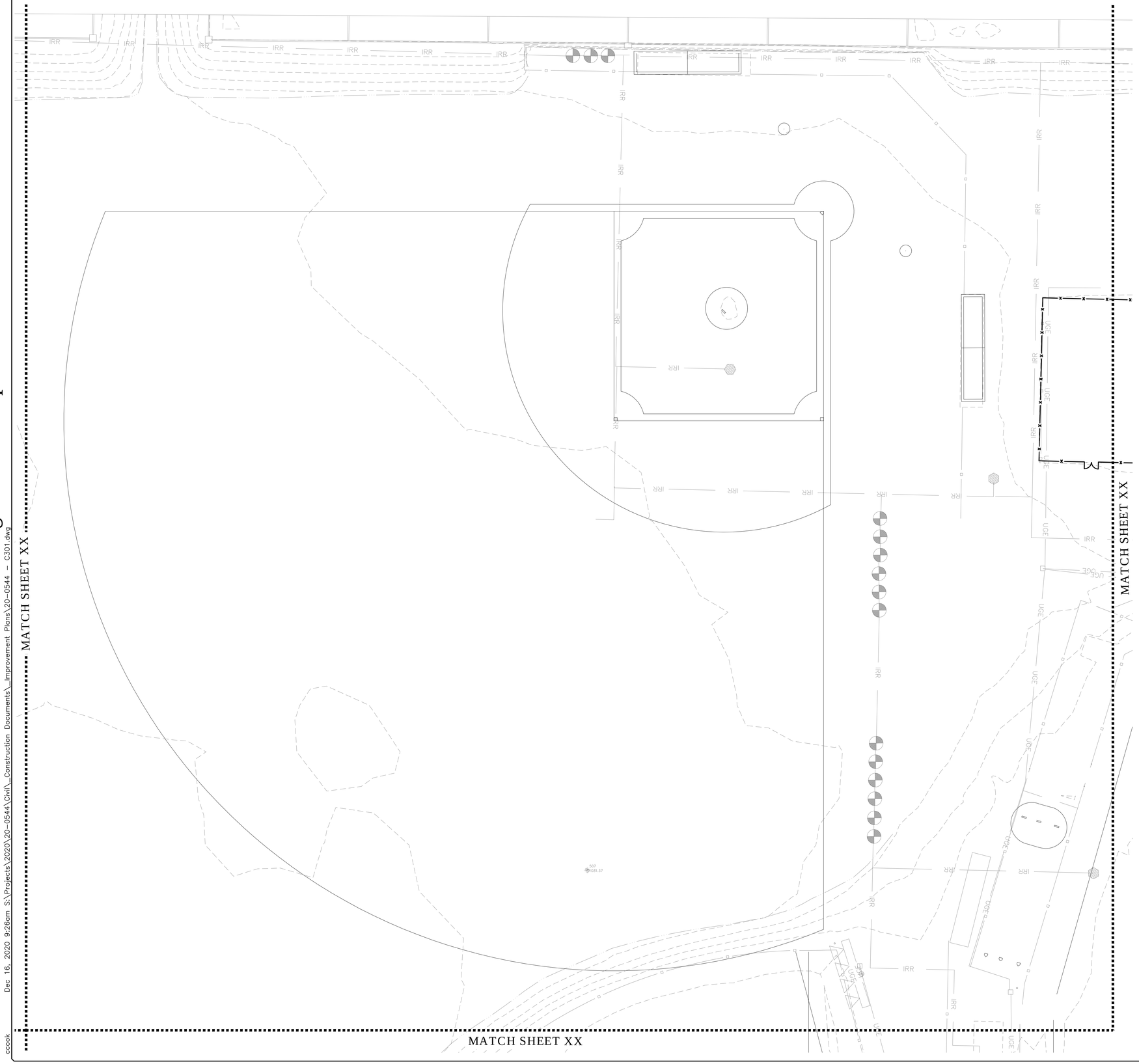

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Date signed 12/15/20
Arizona, U.S.A.

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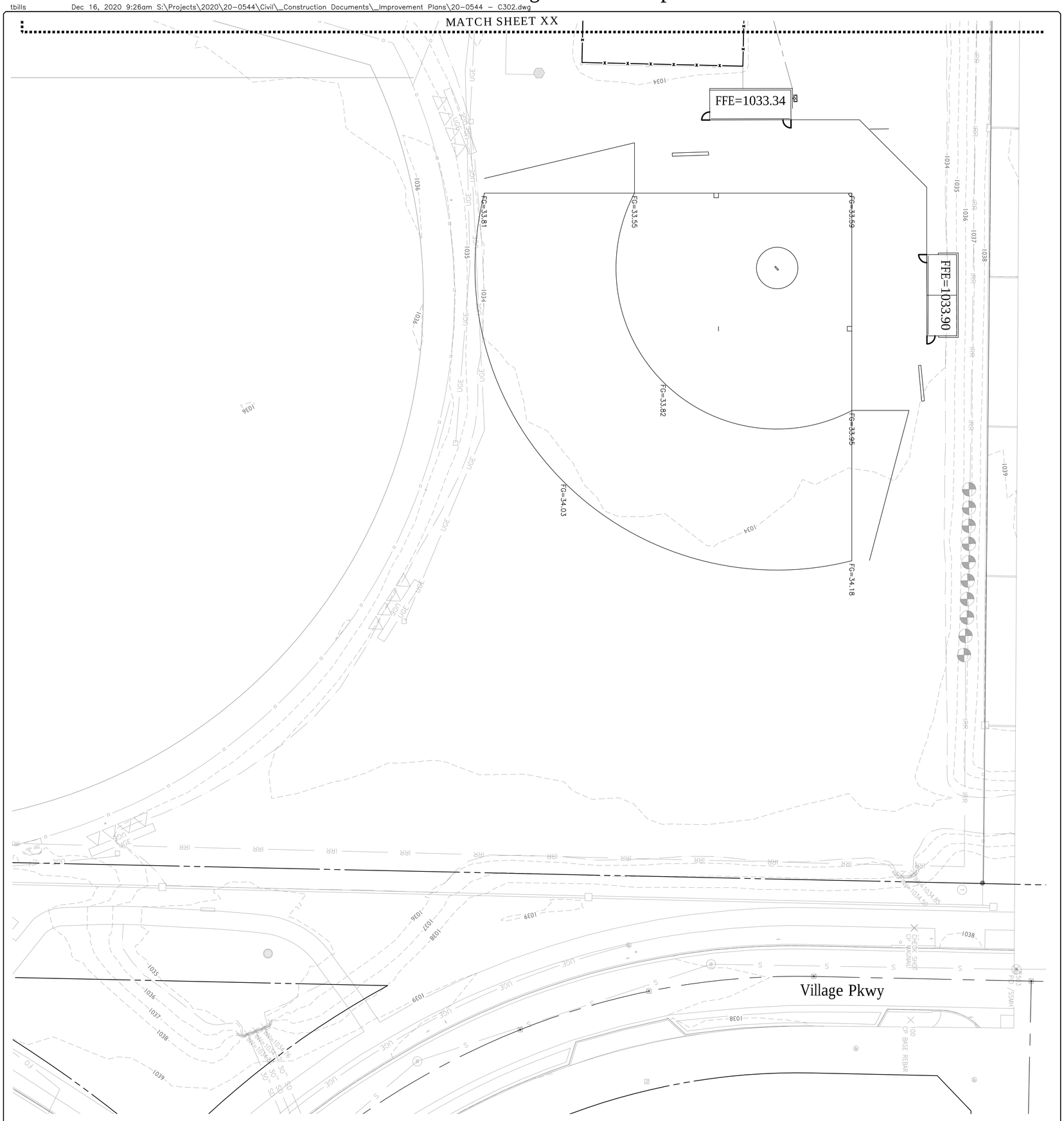

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C302

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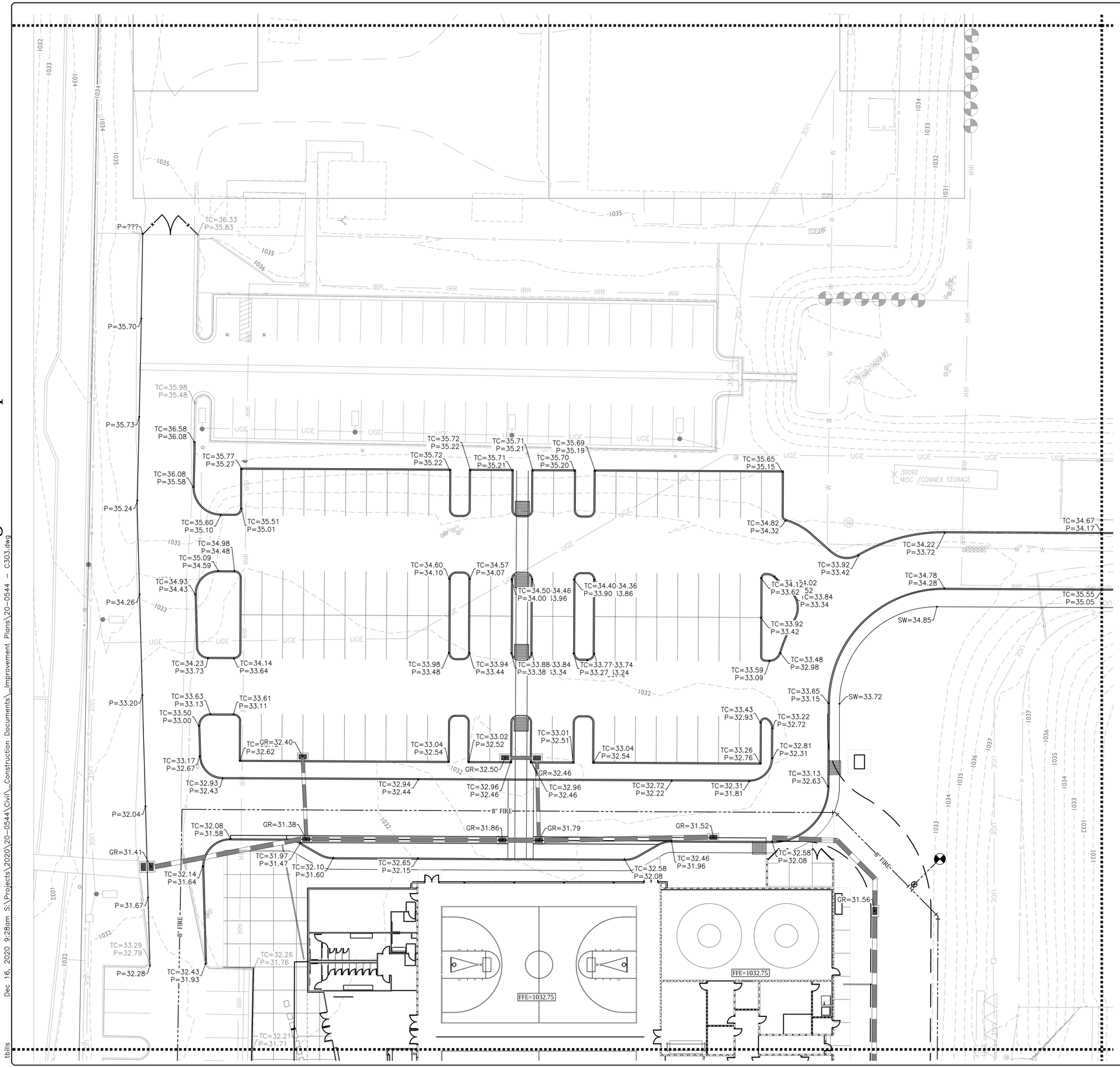

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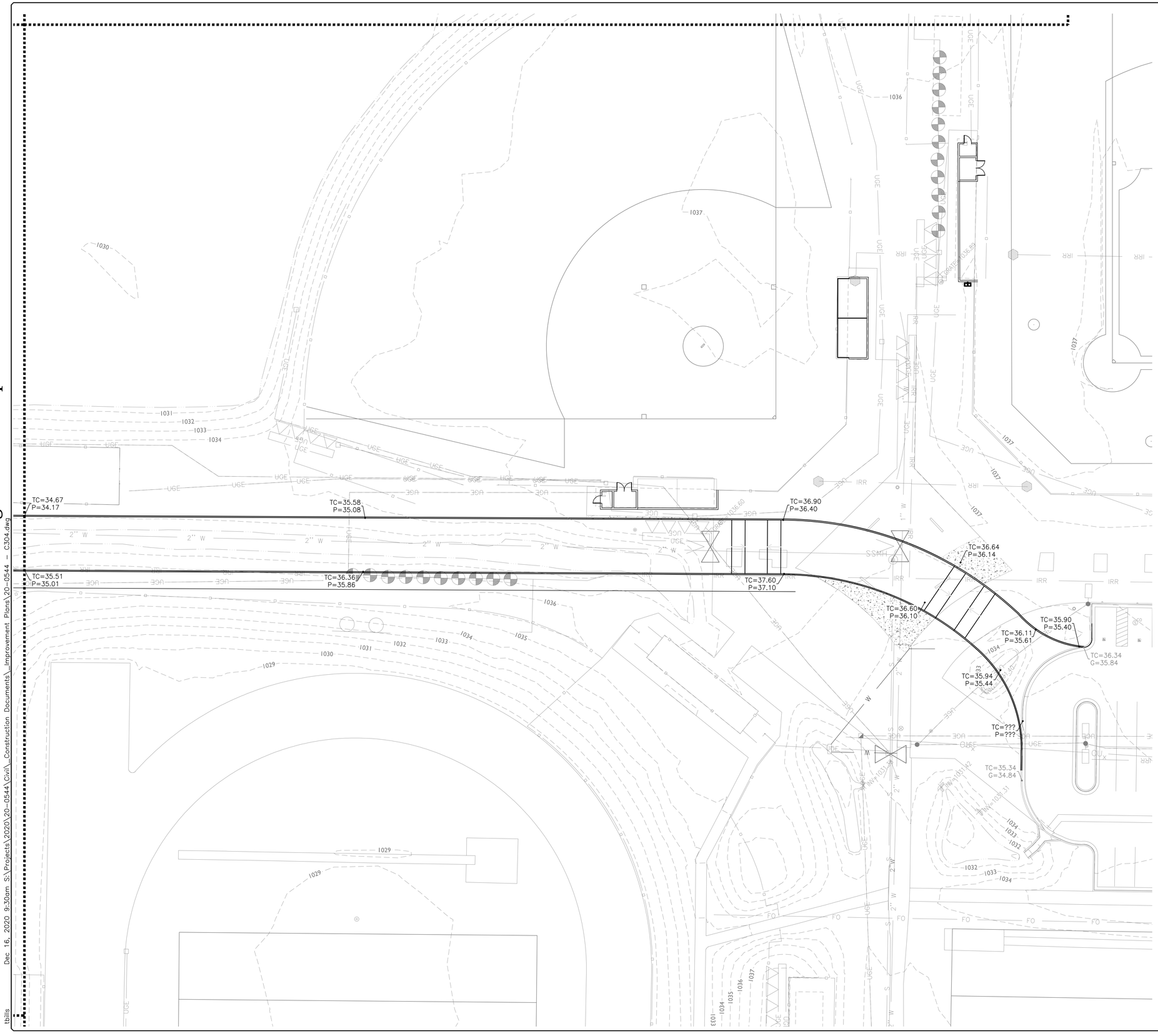

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Job No.
20-0544

C304

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20-0544 - Millennium High School Improvements

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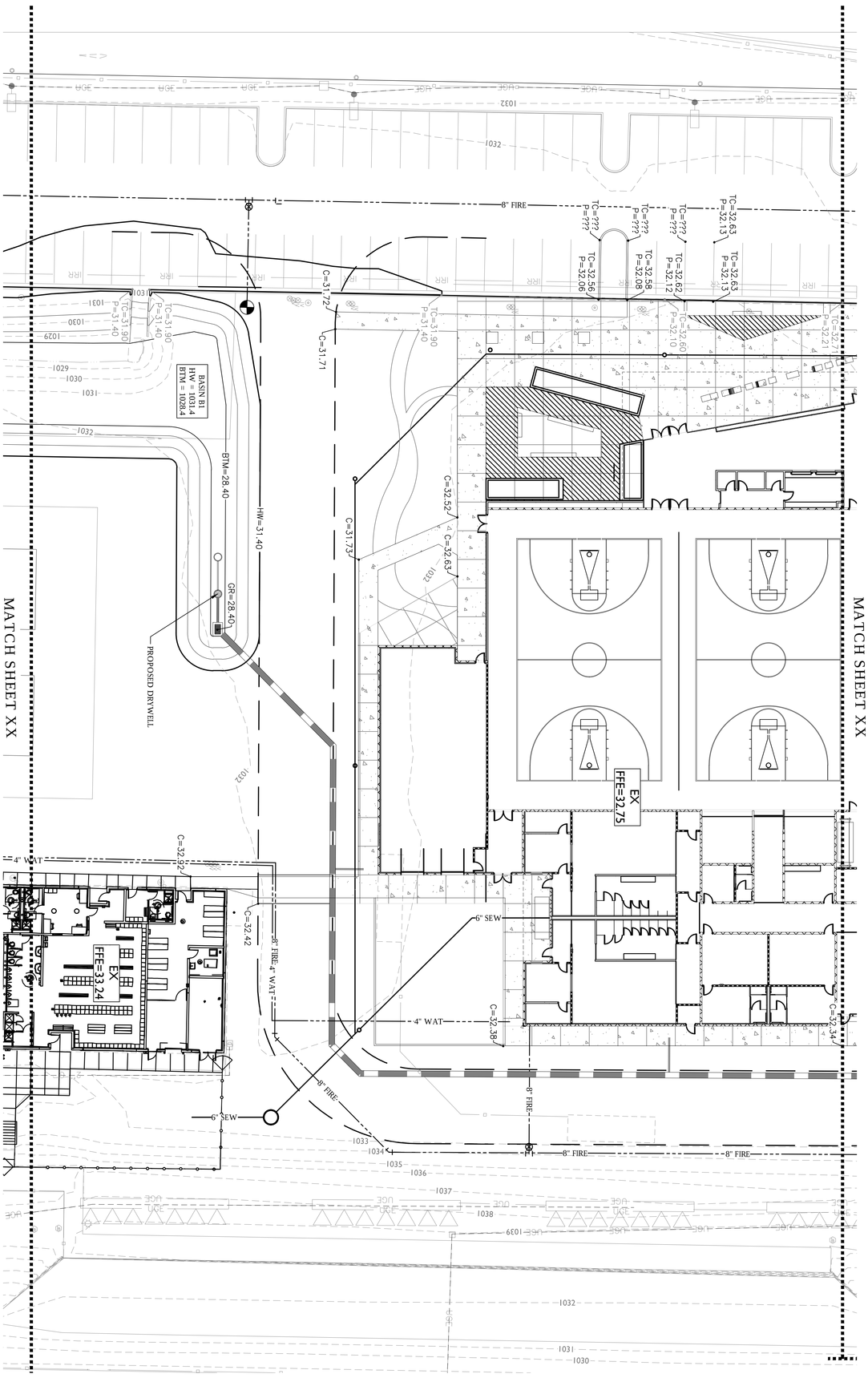

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Job No. 20-0544

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Registered Professional Engineer (Civil) CERTIFICATE NO. 32192 Expires 12/31/20

Designer: EPS
Drawn by: EPS

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Revisions:

Project:

Millennium High School
14802 W Wigwam Blvd
Goodyear, AZ

Grading & Drainage Plan

EPS GROUP
1130 N Alma School Road
Suite 120
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T:480.503.2250 | F:480.503.2258
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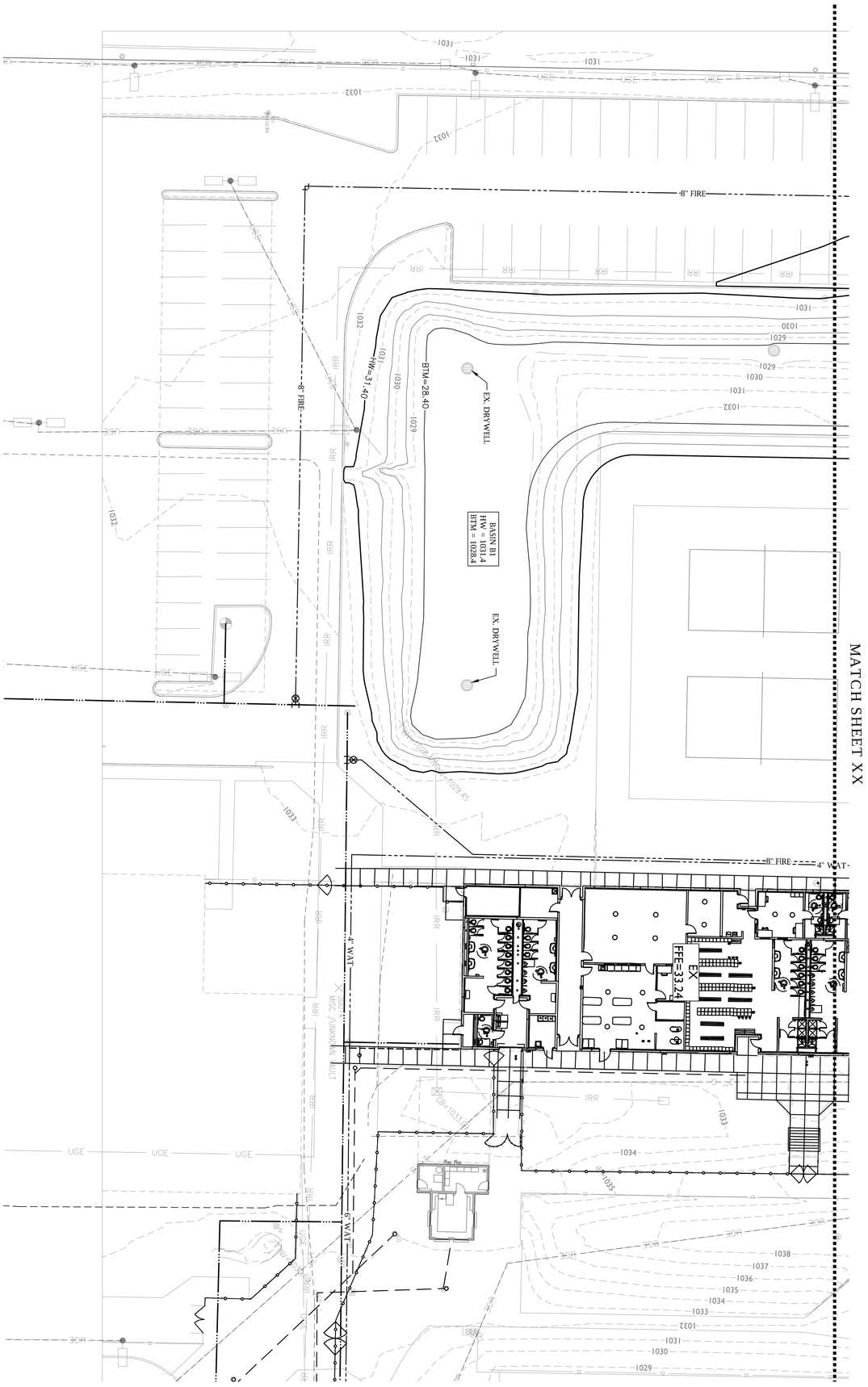

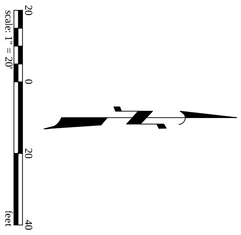

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C306

Job No. 20-0544

Designer: EPS
Drawn by: EPS

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Revisions:

Project:
Millennium High School
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Goodyear, AZ

Grading & Drainage Plan

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20-0544 - Millennium High School Improvements

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Project:
Millennium High School
14801 W Wigwam Blvd
Goodyear, AZ
Storm Drain Profiles

Revisions:
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ARIZONA 811
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In Maricopa County: (602)263-1100

Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil)
CERTIFICATE NO.
DAVID E. AUXIER
Date Signed 12-15-20
Arizona U.S.A.
Not For Construction
Or
Operation

Job No.
20-0544
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20-0544 - Millennium High School Improvements

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Project:
Millennium High School
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Goodyear, AZ

Grading Sections

Revisions:
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In Maricopa County: (602)263-1100

Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36400
DANIEL E. AUXIER
Date Signed 12-16-20
Arizona U.S.A.
Not For Construction Or Operation

Job No.
20-0544

C308

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20-0544 - Millennium High School Improvements

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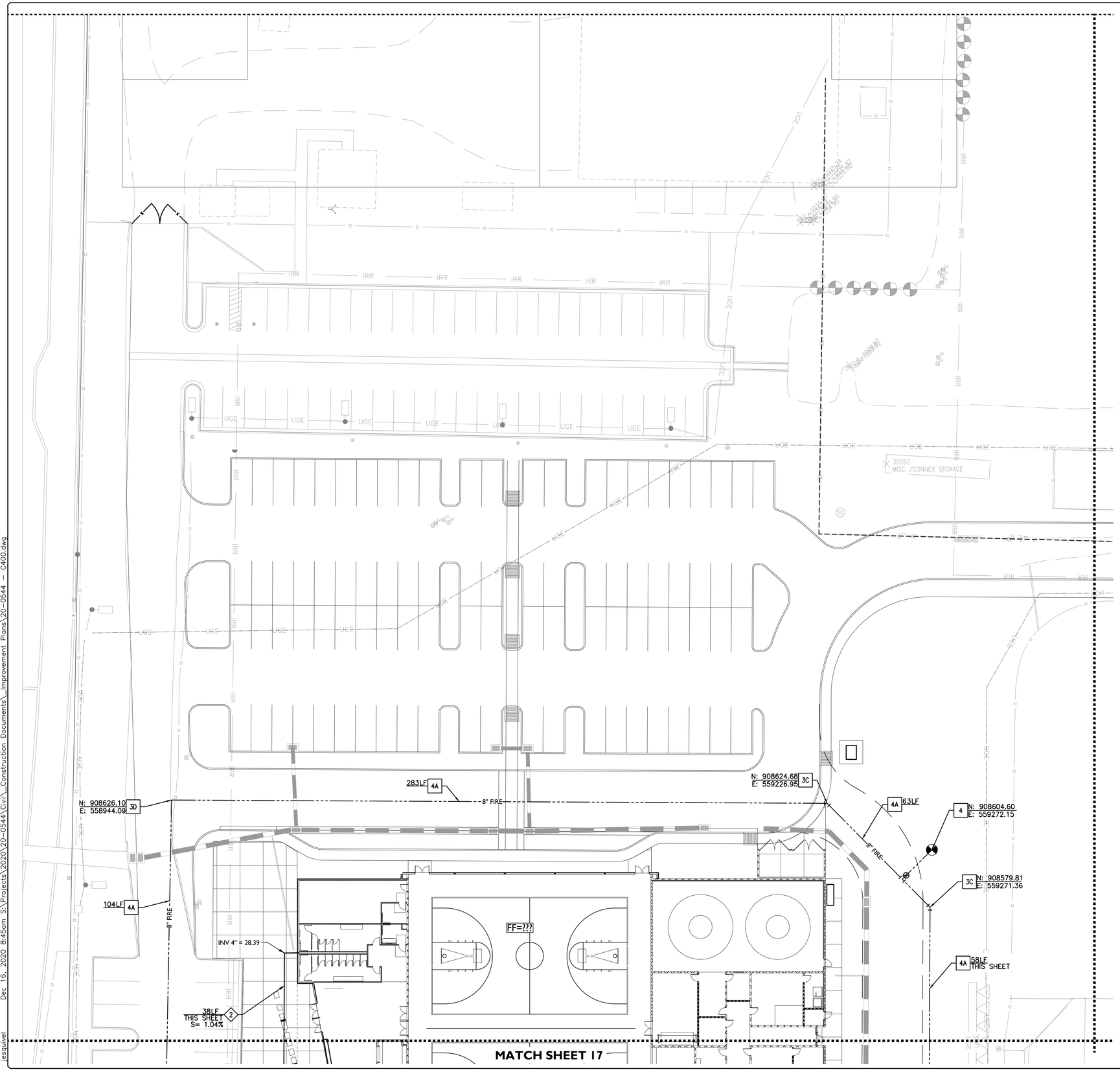

WATER NOTES

3C	8" – 45° BEND PER MAG STD DTLS 303–1, 303–2, & MAG SPEC. 619	2 EA
3D	8" – 90° BEND PER MAG STD DTLS 303–1, 303–2, & MAG SPEC. 620	1 EA
4	FIRE HYDRANT ASSEMBLY PER COG STD DTL G–3330	1 EA
4A	8" DIP (PRESSURE CLASS 350) FIRELINE	508 LF

SEWER NOTES

2	4" PVC SEWER LINE, SDR–35 PER MAG 440	38 LF

20 0 20 40
scale: 1" = 20' feet

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Project:

Millennium High School
14801 W Wigwam Blvd
Goodyear, AZ

Utility Plan

Revisions:

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In Maricopa County: (602)263-1100

Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil)
C. CAMERON ADKIER
Date Signed 12-15-20
Arizona U.S.A.
Preliminary
Not For Construction
Or
Recordation

Job No.
20-0544

C400

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of 20

20-0544 - Millennium High School Improvements

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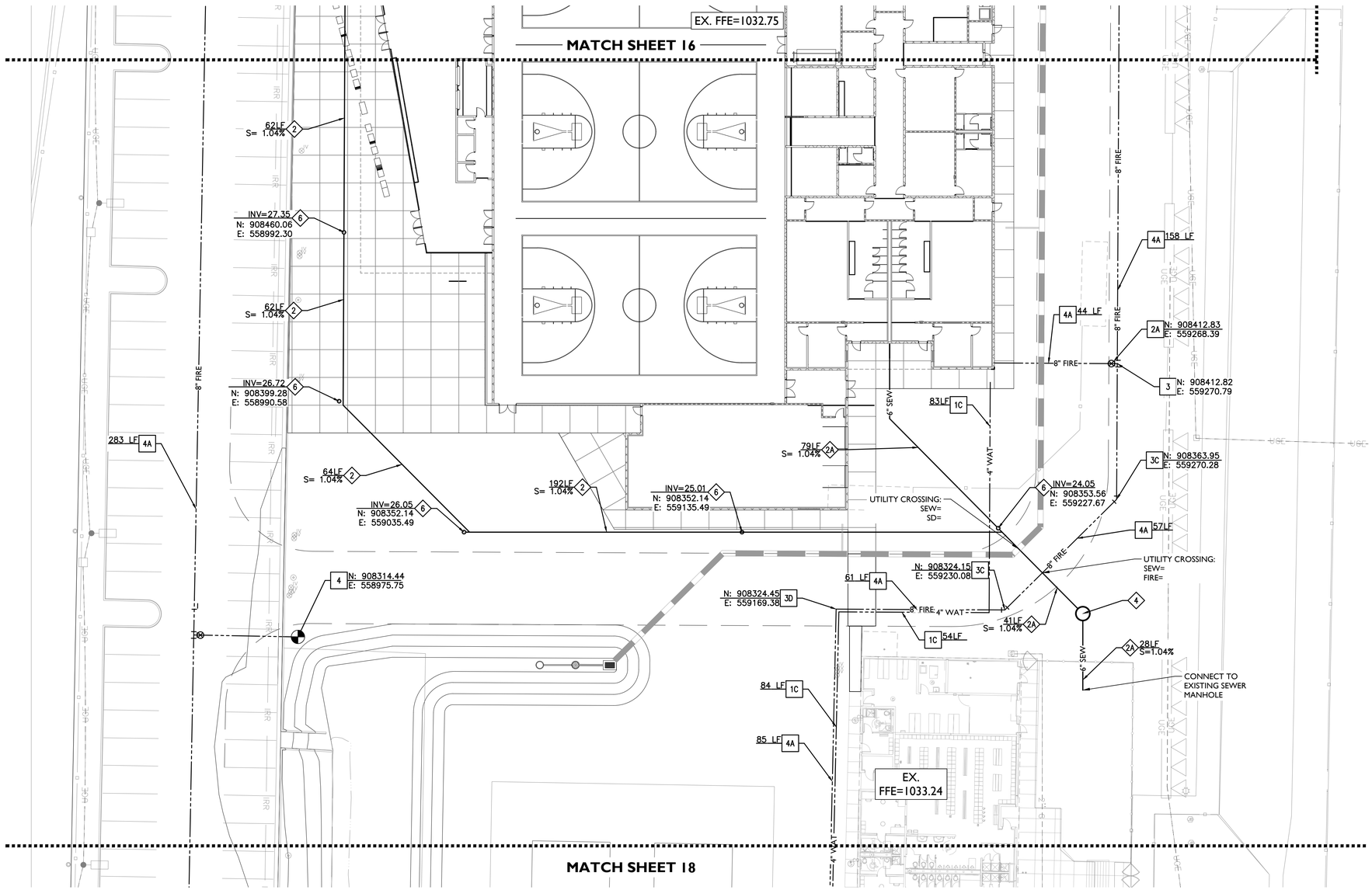
dauxier

	WATER NOTES	
1C	4" SCHEDULE 40 PVC DOMESTIC WATERLINE	221 LF
2A	8" WATER VALVE PER MAG SSTD DTL 391-1 TYPE 'A' WITH DEBRIS CAP PER COG STD DTL G-332	1 EA
3	8"X8" TEE PER MAG STD DTLS 303-1, 303-2, & MAG SPEC. 616	1 EA
3C	8" - 45° BEND PER MAG STD DTLS 303-1, 303-2, & MAG SPEC. 619	2 EA
3D	8" - 90° BEND PER MAG STD DTLS 303-1, 303-2, & MAG SPEC. 620	1 EA
4	FIRE HYDRANT ASSEMBLY PER COG STD DTL G-3330	1 EA
4A	8" DIP (PRESSURE CLASS 350) FIRELINE	688 LF
	SEWER NOTES	
2	4" PVC SEWER LINE, SDR-35 PER MAG 440	380 LF
2A	6" PVC SEWER LINE, SDR-35 PER MAG 440	148 LF
4	5' DIA LIFT STATION WET WELL, VALVE VAULT AND DUAL 3 HP SUBMERSIBLE PUMPS. SEE SHEET C102 FOR ADDITIONAL SPECS AND DETAILS	1 EA
6	SEWER CLEANOUT MAG 441	5 EA



scale: 1" = 20'

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Project:
Millennium High School
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Goodyear, AZ
Utility Plan

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Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil)
CERTIFICATE NO. 32257
Not For Construction
AMBER DAUXIER
Date Signed 12-16-20
Arizona U.S.A.

Job No.
20-0544

C401

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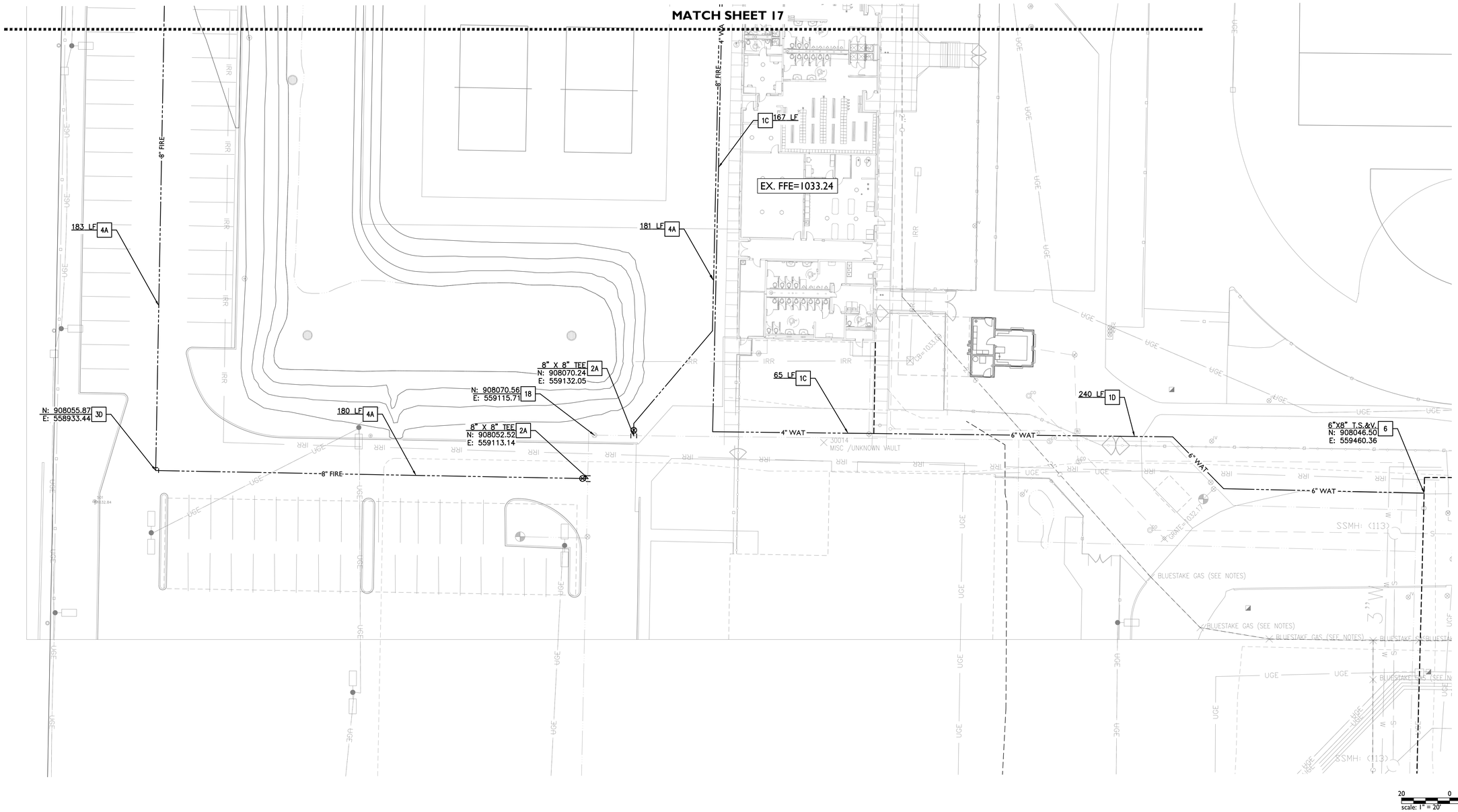
WATER NOTES

1C	4" SCHEDULE 40 PVC DOMESTIC WATERLINE	232 LF
1D	6" CLASS 200 PVC DOMESTIC WATERLINE	240 LF
2A	8" WATER VALVE PER MAG SSTD DTL 391-1 TYPE 'A' WITH DEBRIS CAP PER COG STD DTL G-332	2 EA
3D	8" - 90° BEND PER MAG STD DTLS 303-1, 303-2, & MAG SPEC. 620	1 EA
4A	8" DIP (PRESSURE CLASS 350) FIRELINE	544 LF
6	STAINLESS STEEL TAPPING SLEEVE & VALVE PER MAG STD DTL 340, 391 TYPE C & 392	1 EA
18	EXISTING FIRE LINE STUB. CONTRACTOR TO VERIFY EXACT LOCATION.	1 EA



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Project:

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14802 W Wigwam Blvd
Goodyear, AZ

Utility Plan

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In Maricopa County: (602)263-1100

Designer: EPS
Drawn by: EPS

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36 24 0 0
Not For Construction
DANIEL B. ADKIER
Date Signed 12-15-20
ARIZONA U.S.A.

Job No.
20-0544

C402

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of 20

20-0544 - Millennium High School Improvements

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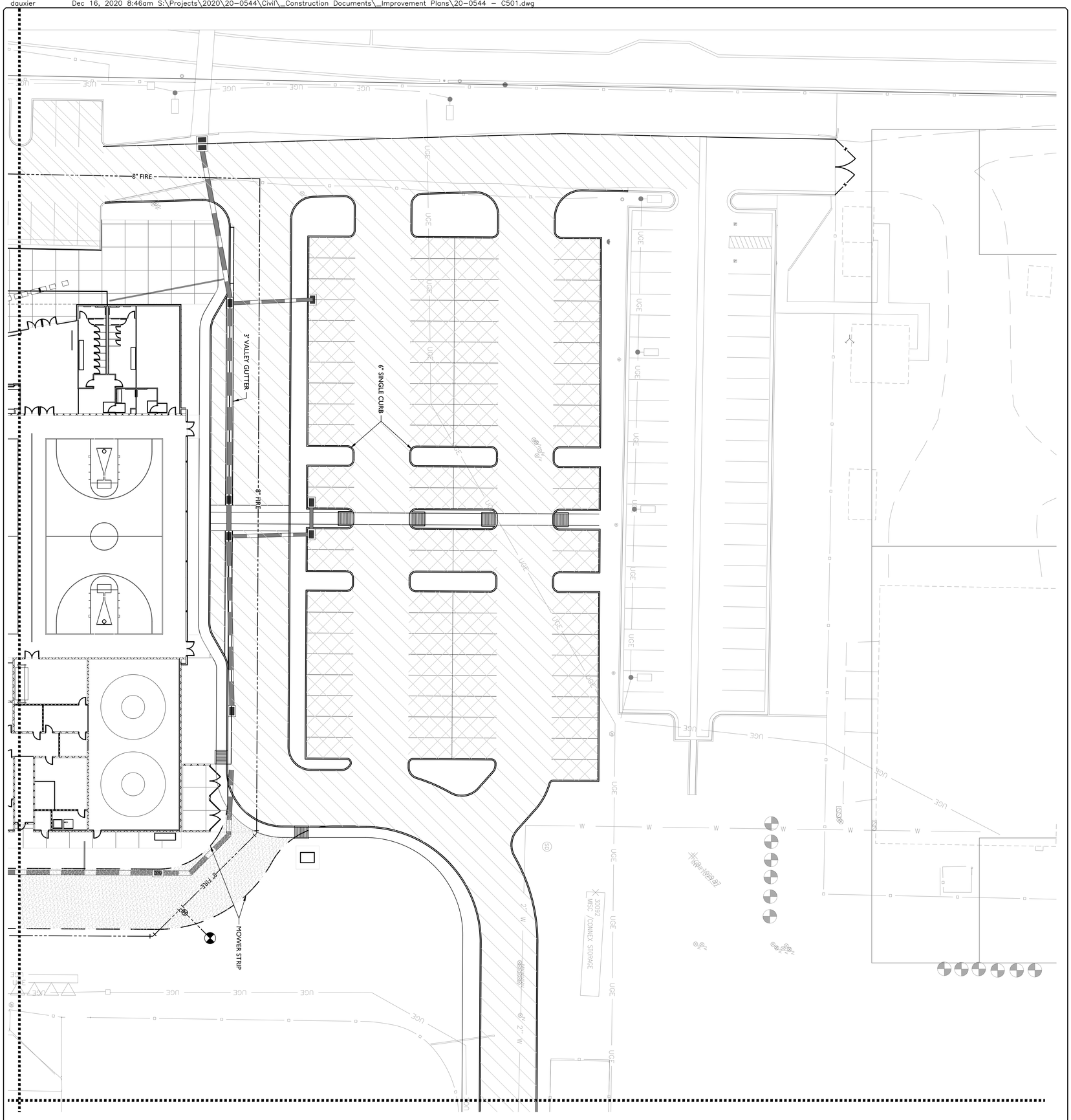

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Sheet No. C501

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Registered Professional Engineer (Civil) CERTIFICATE NO. 36 Date Signed 12/15/20

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Project:

Millennium High School
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Paving & Hardscape Plan

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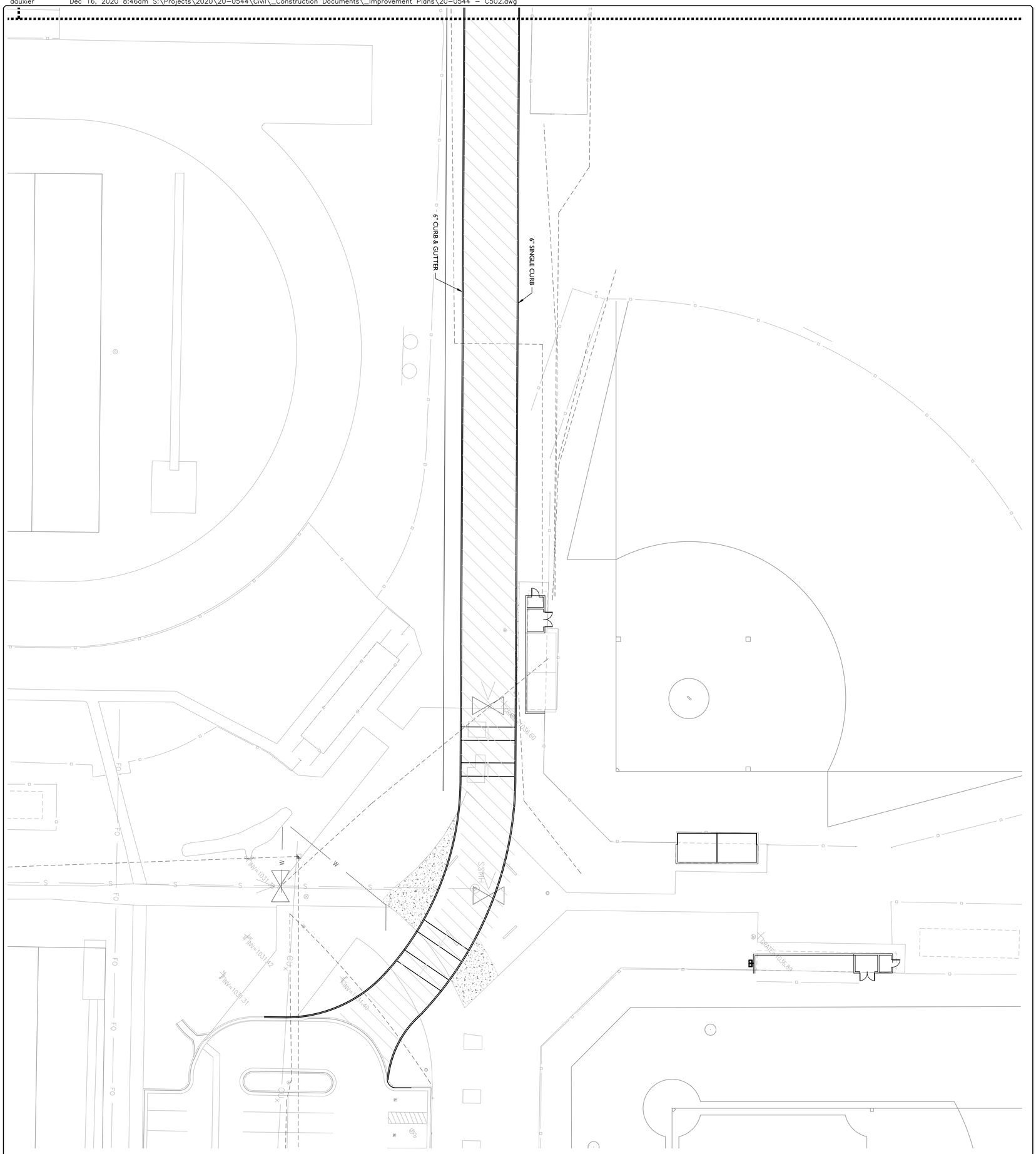

scale: 1" = 20'

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Job No. 20-0544	Sheet No. 19 of 20	C502	Registered Professional Engineer (Civil) CERTIFICATE NO. 36 Not For Construction Date Signed 12/15/20	Designer: EPS Drawn by: EPS	ARIZONA811 Blue Stake, Inc. Call 811 or 1-800-782-5348 (Outside Maricopa County) 48 hours prior to you begin excavation Visit www.azbluestake.com for additional information

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Millennium High School
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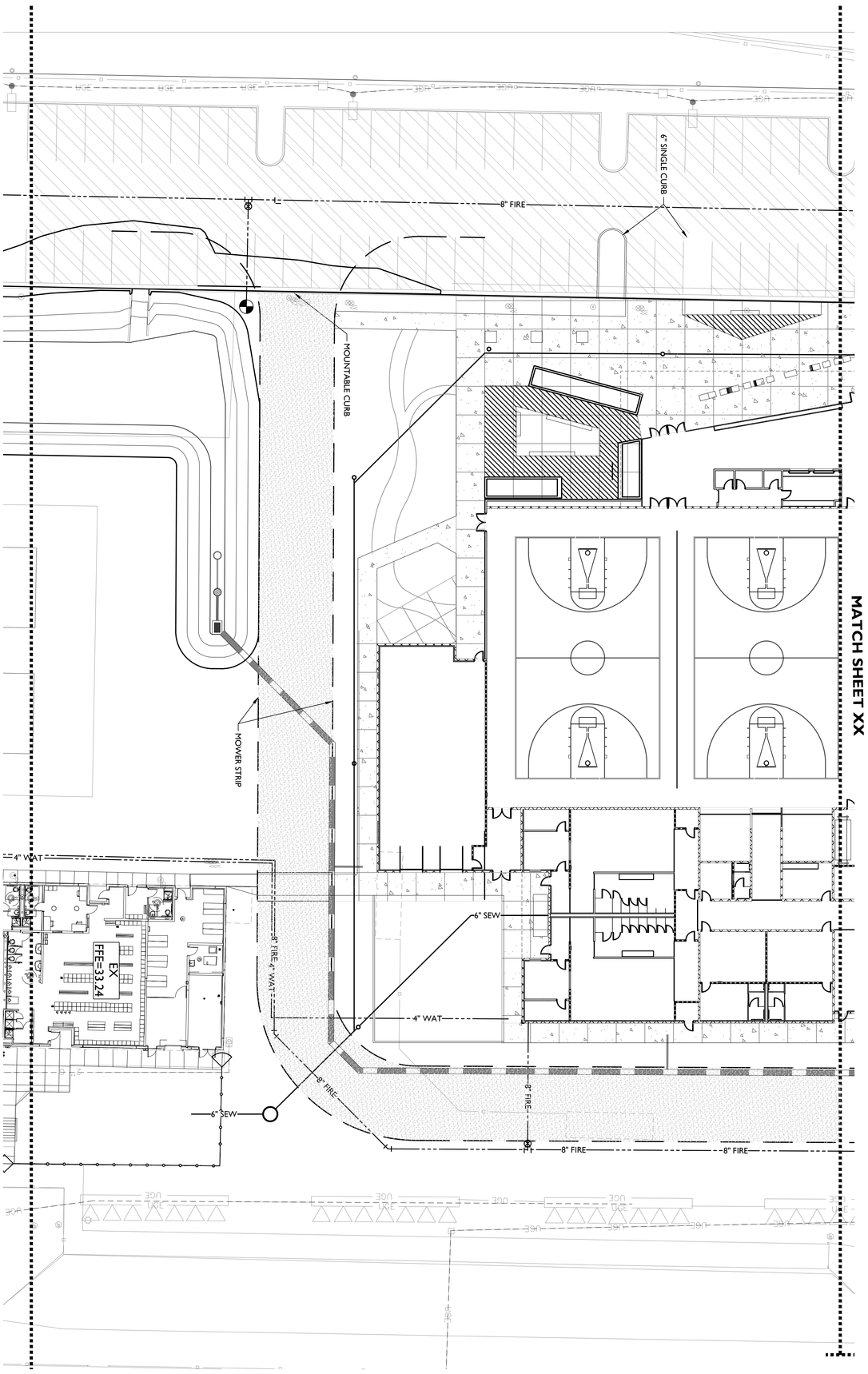

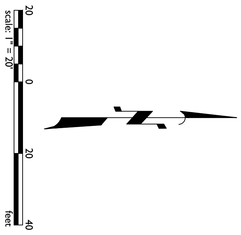

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Sheet No. 20 of 20

C503

Registered Professional Engineer (Civil) CERTIFICATE NO. 36 Expires 12/31/20

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Project:

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Paving & Hardscape Plan

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