

# THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II

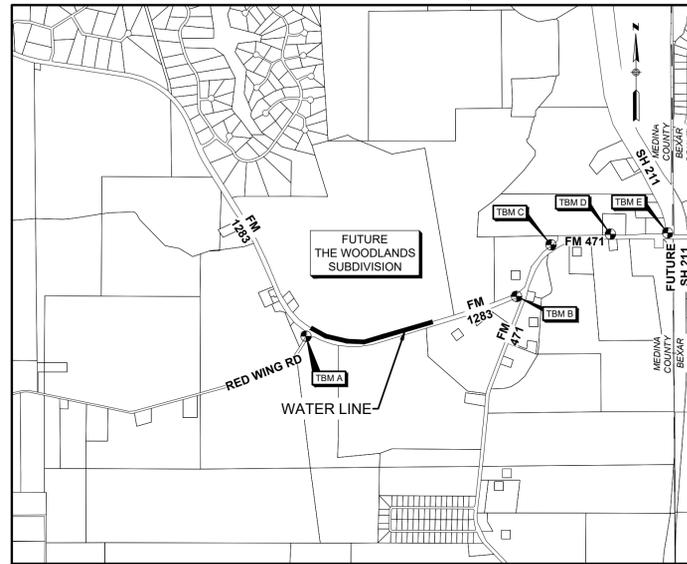
## BEXAR COUNTY, TEXAS & MEDINA COUNTY, TEXAS SAWS JOB # 22-7009

REVISED JANUARY 2022

### SAWS CONSTRUCTION NOTES COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
  - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM, TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND PUBLIC DRINKING WATER, TAC TITLE 30 PART 1 CHAPTER 280
  - CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE
  - CURRENT SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION
  - CURRENT CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
  - CURRENT CITY OF SAN ANTONIO UTILITY EXCAVATION CRITERIA MANUAL (UECM)
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE: [HTTP://WWW.SAWS.ORG/BUSINESS\\_CENTERS/SPECS](http://www.saws.org/business_centers/specs). UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
  - SAWS UTILITY LOCATES: [HTTP://WWW.SAWS.ORG/SERVICES/LOCATES](http://www.saws.org/services/locates)
  - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
  - COSA TRAFFIC SIGNAL OPERATIONS (210) 207-6440
  - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3901
  - TEXAS STATE WIRE ONE CALL LOCATOR: 1-800-545-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN PERMIT.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO [CONSTRWORKREQ@SAWS.ORG](mailto:CONSTRWORKREQ@SAWS.ORG).
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO [CONSTRWORKREQ@SAWS.ORG](mailto:CONSTRWORKREQ@SAWS.ORG).
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- COMPACTION NOTE (ITEM 884): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALEED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

- #### WATER SECTION
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORKS RELATED TO THE TIE-INS. THIS IS AT AN ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
    - FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
  - ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
  - VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG (SNR).
  - SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-309 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
  - ALL VALVES SHALL READ "OPEN RIGHT".
  - PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 985 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 985 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOTS IF PRV IS/ARE REQUIRED FOR SUCH LOTS. ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
  - PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THE METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
  - BACKFLOW PREVENTION DEVICES:
    - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
    - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
  - FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
  - DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY OR PERMITS IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES. DIRECT OR CONSEQUENTIAL DAMAGES THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE ID LABEL, DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.



SUBMITTAL DATE: DECEMBER 2023

#### Sheet Number Sheet Title

-	COVER SHEET		
1	GENERAL NOTES		
2	OVERALL LAYOUT		
3	PHASE II W.L. P&P 1+00 TO 12+00		
4	PHASE II W.L. P&P 12+00 TO 23+00		
5	PHASE II W.L. P&P 23+00 TO 33+50		
6	PHASE II - WPF TIE-IN P&P		
7	PHASE II SWPPP SH1		
8	PHASE II SWPPP SH2		
9	PHASE II SWPPP NOTES & DETAILS		
10	TREE PRESERVATION (SHEET 1 OF 2)		
11	TREE PRESERVATION (SHEET 2 OF 2)		
12	TREE PRESERVATION CALCULATIONS		
13	TREE PRESERVATION DETAILS		
		24" Water Improvements	
		550 Trench Excavation Safety Protection	LF 2081
		103 Revegetation	SY 11623
		841 Water Main-Hydrostatic Testing	LF 2081
		818 24" PVC Water Main C900 Class 235 DR18	LF 1352
		818 24" D.I. Water Main	LF 729
		830 24" Butterfly Valve	EA 2
		834 Fire Hydrant, Complete	EA 2
		844 2" Temporary Blowoff	EA 1
		836 30"x24" Reducer	EA 1
		836 DI Pipe Fittings	TON 1.5
		846 Air Release Valve Assembly	EA 1
		856 Jack, Boring, or Tunneling	LF 30
		856 42" Steel Casing	LF 30
		903 SWPPP	LS 1
		845 Remove & Replace Fence	LF 2078
		845 Temporary Fence	LF 2078
		818 Tie-in, Complete 24"	EA 1
		18" Water Improvements	
		550 Trench Excavation Safety Protection	LF 853
		103 Revegetation	SY 4980
		818 16" PVC Water Main C900 Class 235 DR18	LF 532
		818 16" D.I. Water Main	LF 321
		828 16" Gate Valve	EA 2
		834 Fire Hydrant, Complete	EA 2
		818 Tie-in, Complete 24"	EA 1
		836 DI Pipe Fittings	TON 1
		858 Concrete Encasement	CY 128
		836 30"x16" Reducer	EA 1
		844 2" Temporary Blowoff	EA 1
		903 SWPPP	LS 1
		845 Remove & Replace Fence	LF 882
		845 Temporary Fence	LF 882
		307 Driveway Repair	EA 1
		WPF TIE-IN 30" Water Improvements	
		550 Trench Excavation Safety Protection	LF 310
		103 Revegetation	SY 598
		841 Water Main-Hydrostatic Testing	LF 310
		818 30" D.I. Water Main	LF 310
		830 30" Butterfly Valve	EA 2
		844 2" Temporary Blowoff	EA 1
		836 DI Pipe Fittings	TON 1
		846 Air Release Valve Assembly	EA 1
		856 Jack, Boring, or Tunneling	LF 96
		856 48" Steel Casing	LF 96
		903 SWPPP	LS 1
		818 Tie-in, Complete 24"	EA 1

REVISIONS			
NO.	DESCRIPTION	BY	DATE

#### BENCHMARK INFORMATION:

- TBM A: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 987.66
- TBM B: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 997.18
- TBM C: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1001.38
- TBM D: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1004.00
- TBM E: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1002.66
- TBM F: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.31
- TBM G: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.32
- TBM H: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1040.45

VERTICAL DATUM:  
THIS INFORMATION PROVIDED BY: LJA SURVEYING

**DEVELOPER:** LUCRA TERRA, LLC  
CONTACT PERSON: LEE BAKER  
6575 FM 306  
NEW BRAUNFELS, TX, 78132  
PHONE: (830) 837-2349

**ENGINEER:** LJA ENGINEERING, INC.  
9830 COLONNADE BOULEVARD  
SAN ANTONIO, TEXAS 78230  
CONTACT PERSON: TORRY HURT, PE  
PHONE # (210) 503-2700

**SURVEYOR:** LJA SURVEYING, INC.  
9830 COLONNADE BOULEVARD  
SAN ANTONIO, TEXAS 78230  
CONTACT PERSON: GORDAN ANDERSON, RPLS  
PHONE # (210) 503-2700

**CONTOUR DATA:** LJA SURVEYING, INC.

LJA JOB NO. SA190-0405.426

WATER:  
SAWS PRESSURE ZONE: 1170

DEVELOPER'S NAME: LUCRA TERRA, LLC			
DEVELOPER'S ADDRESS: 6975 FM 306			
CITY: NEW BRAUNFELS	STATE: TEXAS	ZIP: 78132	
PHONE #: 830-837-2349	FAX #		
SAWS BLOCK MAP # : N/A	TOTAL EDUS : N/A	TOTAL ACREAGE : N/A	
TOTAL LINEAR FOOTAGE OF PIPE: 307,330 LF		PLAT NO. : N/A	
NUMBER OF LOTS: N/A	SAWS JOB NO. : 22-7009		



### LJA Engineering, Inc.

9830 Colonnade Boulevard  
Suite 300  
San Antonio, Texas 78230

Phone 210.503.2700  
LJA.COM  
FRN-F-1386

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES, EXISTING WOODEN FENCES, ORNAMENTAL STONE PLANTERS, OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE 'TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'. THE COUNTY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR AVOIDED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS) 210-227-1373
YANCEY WATER SUPPLY CORPORATION 830-741-5264
MEDINA COUNTY PUBLIC WORKS 830-741-6000
TEXAS STATE WIDE ONE CALL LOCATOR 1-800-344-8377
CITY PUBLIC SERVICE ENERGY SPECTRUM (TIME WARNER) AT&T MCI

- 10. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
11. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOTS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
12. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN DEVELOPMENT PERMIT.
13. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND /OR TRACKED CONSTRUCTION MATERIALS AND /OR DEBRIS.
14. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE COUNTY INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE COUNTY. IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT. IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
15. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, MEDINA COUNTY SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND /OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND /OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR BEXAR COUNTY APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE BEXAR COUNTY INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE COUNTY.
16. CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.
17. CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2155 OR (210) 362-2096). THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.
18. CONTRACTOR SHALL DOCUMENT ALL CONSTRUCTION TESTING AND SEND COPY OF ACCEPTED DOCUMENTATION TO MEDINA COUNTY COMMISSIONER.

TREE PROTECTION AND PRESERVATION GENERAL NOTES

- 1. NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
2. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.
4. ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
5. ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
6. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
7. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
8. SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
9. NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
10. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.
11. NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
12. ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND /OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).
13. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
14. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (210) 207-0278
15. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
16. TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES.

ACCESSIBILITY REQUIREMENTS

- 1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
2. WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
3. PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
4. FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

REVISED JANUARY 2022

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

GENERAL SECTION

- 1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) 'DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM', TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND 'PUBLIC DRINKING WATER', TAC TITLE 30 PART 1 CHAPTER 290.
B. CURRENT TXDOT 'STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE'.
C. CURRENT 'SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION'.
D. CURRENT CITY OF SAN ANTONIO 'STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION'.
E. CURRENT CITY OF SAN ANTONIO 'UTILITY EXCAVATION CRITERIA MANUAL' (UECM).
2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
5. LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
• SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
• COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
• COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
• COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
• TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN PERMIT.
11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWKRREQ@SAWS.ORG. WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWKRREQ@SAWS.ORG. ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

WATER SECTION

- 1. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS: THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
• FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
2. ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
3. VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED IN THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)
4. SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. ALL VALVES SHALL READ "OPEN RIGHT".
6. PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 985 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 985 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF PRV IS/ARE REQUIRED FOR SUCH LOT(S). ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
7. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3) MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURES TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
8. BACKFLOW PREVENTION DEVICES:
• ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
• ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
9. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II GENERAL NOTES

Table with columns: NO, DESCRIPTION, REVISIONS, DATE, BY

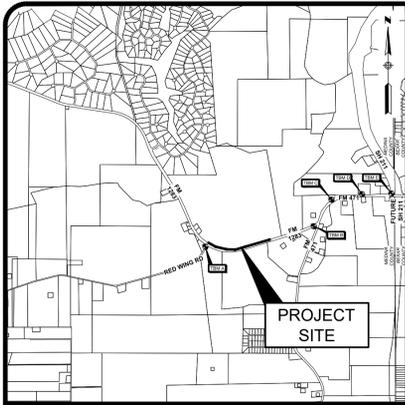
DATE: 09/30/2024
DESIGNED BY: NB
DRAWN BY: NB
CHECKED BY: TH
ISSUING ENGINEER: [Signature]



LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78220
Phone 210-503-2700
LJA.COM
TYPE NO. F-1986

JOB NUMBER: SA190-405-426
SHEET NO. 1 OF 13 SHEETS

K:\SA190\_LJA\05\_Terms\_LJA\0405\_Woodlands\_OffSite\_Water\_V05\_01a\_Development\_Plan\DWG-Sheets\Phase II\Sub\_General\_Notes\_LJA.dwg
User: rbenamer
Last Modified: May 11, 2022 10:52:10 AM
Plot Date/Time: Sep 30, 2024 11:12:19 AM



LOCATION MAP  
N.T.S.

**BENCHMARK INFORMATION:**

TBM A: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 987.66

TBM B: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 997.18

TBM C: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1001.38

TBM D: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1004.00

TBM E: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1002.66

TBM F: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1044.31

TBM G: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1044.32

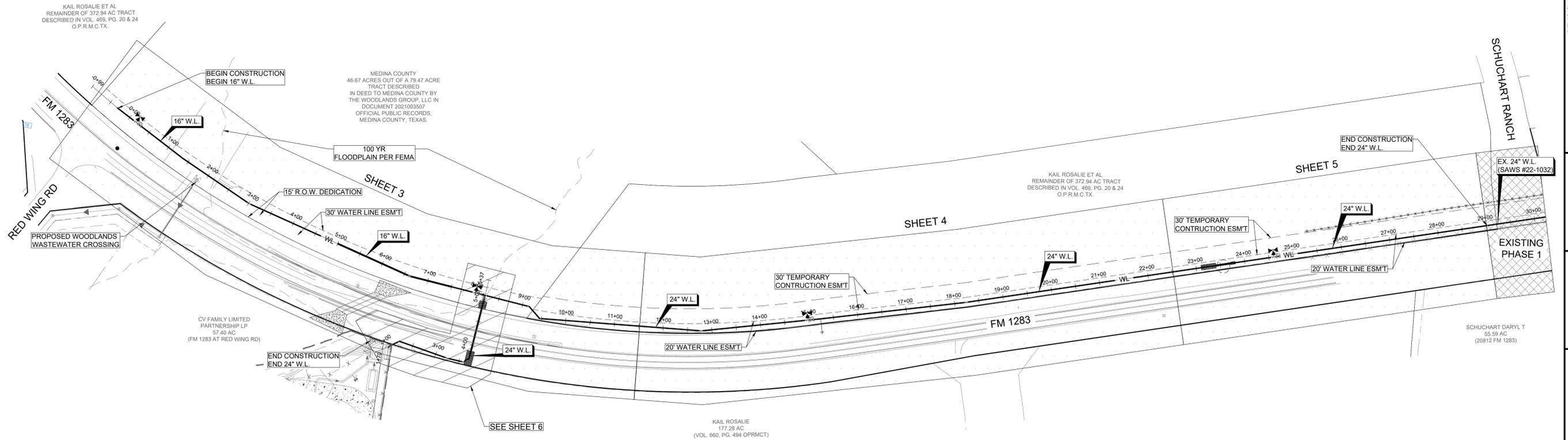
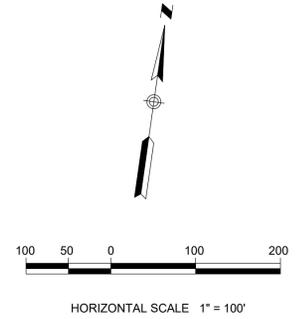
TBM H: CONCRETE MONUMENT WITH ALUMINUM CAP  
ELEVATION = 1040.45

VERTICAL DATUM:  
THIS INFORMATION PROVIDED BY: LJA SURVEYING

**TRENCH EXCAVATION SAFETY PROTECTION**

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**CAUTION:** CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II  
OVERALL PROJECT LAYOUT

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 09/30/2024  
 DESIGNED BY: NB  
 DRAWN BY: NB  
 CHECKED BY: TH  
 PLANING: NAMEsh\_Overall Layout Pkg.dwg  
 09/30/2024



**LJA Engineering, Inc.**  
 Phone 210-503-2700  
 9830 Colonnade Blvd  
 Suite 300  
 San Antonio, Texas 78230

JOB NUMBER:  
SA190-405-426

SHEET NO.  
**2**

OF 13 SHEETS

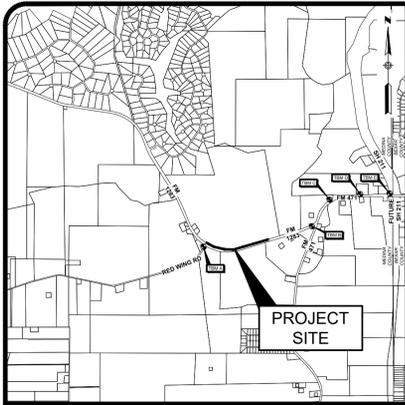
WATER:  
SAWS PRESSURE ZONE: 1170

DEVELOPER'S NAME: LUCRA TERRA, LLC	STATE: TEXAS	ZIP: 78132
DEVELOPER'S ADDRESS: 6675 FM 306	CITY: NEW BRAUNFELS	PHONE # 830-837-2349
SAWS BLOCK MAP # N/A	TOTAL LOTS N/A	TOTAL ACREAGE N/A
TOTAL LINEAR FOOTAGE OF PIPE: 20'-310 LF	PLAT NO. N/A	NUMBER OF LOTS: N/A
SAWS JOB NO. 22-7009		

K:\SA190\_Lucas\_Terra\_LLC\0405\_Woodlands\_Offsite\_Water\03\_2024\_Development\_Plans\DWG-Sheets\Phase II\Overall\_Layout\_Pkg.dwg  
 User: nbwerner  
 Last Modified: Sun, 09/24/24 11:07:01 AM  
 Plot Date/Time: Sep 30, 24 11:02:28







LOCATION MAP  
N.T.S.

JOINT RESTRAINT TABLE				
JOINT (TYPE)	PIPE MATERIAL	PIPE SIZE	RESTRAINT DISTANCE	LENGTH ALONG RUN
11.25° BEND	PVC	16"	5'	NA
22.5° BEND	PVC	16"	9'	NA
45° BEND	PVC	16"	19'	NA
DEAD END	PVC	16"	12'	NA
VERTICAL OFFSET SYSTEM RETURN	PVC/D.I.	16"	11' (LOWER BENDS) & 75' UPPER BENDS	NA
11.25° BEND	PVC/D.I.	24"	7' / 6'	NA
22.5° BEND	PVC/D.I.	24"	13' / 11'	NA
45° BEND	PVC/D.I.	24"	27' / 22'	NA
DEAD END	PVC/D.I.	24"	185' / 100'	NA
VERTICAL OFFSET SYSTEM RETURN	PVC/D.I.	24"	16' (LOWER BENDS) & 109' UPPER BENDS / 13' (LOWER BENDS) & 57' (UPPER BEND)	NA

RESTRAINT LENGTH VALUES:

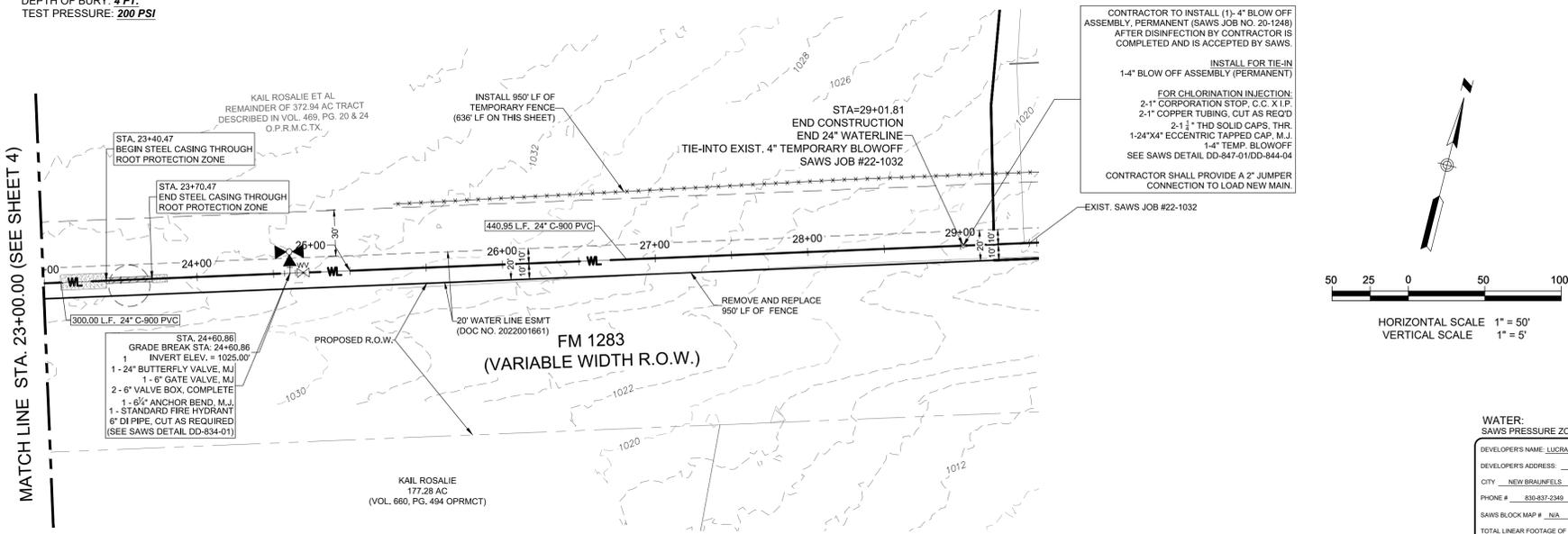
PROGRAM: **EBAA IRON SALES INC.**  
 SOIL TYPE: **CL**  
 SAFETY FACTOR: **1.5**  
 TRENCH TYPE: **5**  
 DEPTH OF BURY: **4 FT.**  
 TEST PRESSURE: **200 PSI**

**BENCHMARK INFORMATION:**  
 TBM A: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 997.86  
 TBM B: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 997.18  
 TBM C: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1001.38  
 TBM D: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1004.00  
 TBM E: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1002.66  
 TBM F: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.31  
 TBM G: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.32  
 TBM H: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1049.45  
 VERTICAL DATUM:  
 THIS INFORMATION PROVIDED BY: **LJA SURVEYING**

24" Water Improvements		
550	Trench Excavation Safety Protection	LF 602
103	Vegetation	SY 3,754
841	Water Main-Hydrostatic Testing	LF 602
818	24" PVC Water Main C900 Class 235 DR18	LF 602
830	24" Butterfly Valve	EA 1
834	Fire Hydrant, Complete	EA 1
844	4" Temporary Blowoff	EA 1
836	DI Pipe Fittings	TON 0.50
856	Jack, Boring, or Tunneling	LF 30
856	42" Steel Casing	LF 30
845	Remove & Replace Fence	LF 676
845	Temporary Fence	LF 676
818	Tie-in, Complete 24"	EA 1

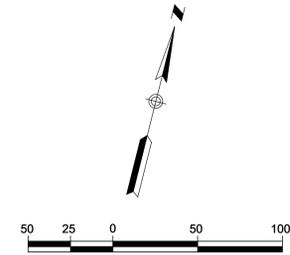
**LEGEND**

PROPOSED	EXISTING	DESCRIPTION
		SANITARY SEWER MANHOLE
		SANITARY SEWER LINE
		WATER LINE
		AIR RELEASE VALVE
		GATE VALVE
		WATER VALVE
		WATERLINE ECCENTRIC REDUCER
		WATER METER
		FIRE HYDRANT
		WATERLINE CONCRETE ENCASUREMENT
		STEEL WATERLINE CASING
		WATER METER
		GAS VALVE
		GAS LINE
		STORM SEWER MANHOLE
		DRAINAGE STRUCTURE
		POWER POLE
		TELECOM
		GUY WIRE
		OVERHEAD ELECTRIC
		SIGNAGE
		BENCHMARK
		TOP OF MANHOLE
		EXISTING GAS, ELEC, TELE & CABLE TV ESMT.
		G.E.T.C.A.
		ESMT.
		VOL LUME PAGE
		CLEARANCE
		EDGE OF PAVEMENT
		GUARD RAIL



WATER LINE PLAN AND PROFILE STA. 29+50.00 TO STA. 33+50.00

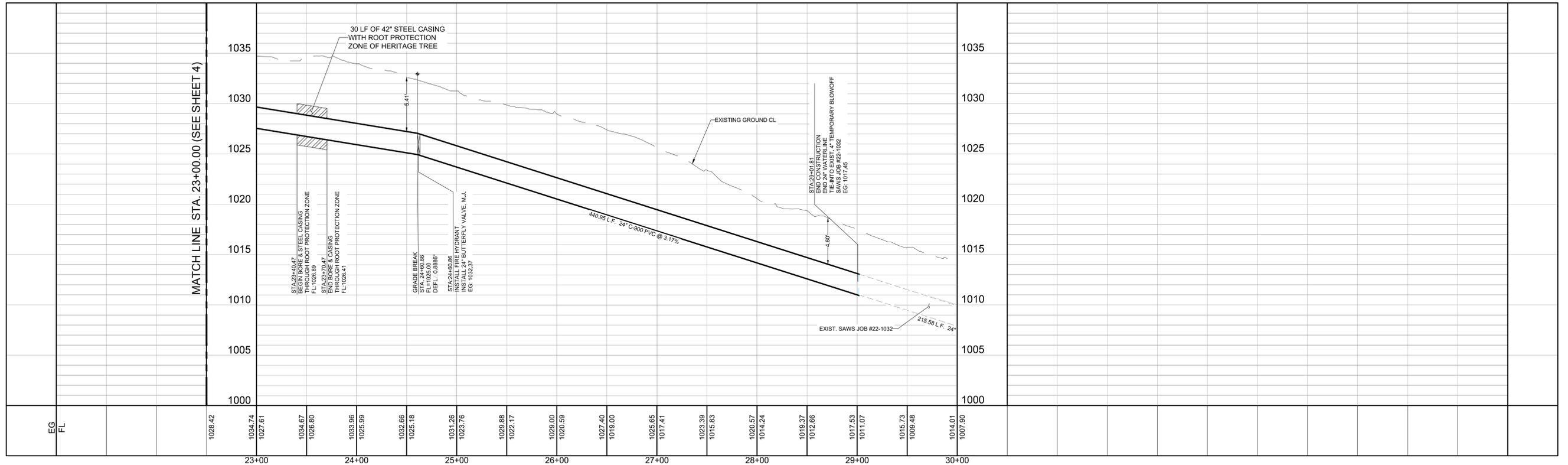
CONTRACTOR TO INSTALL (1)-4" BLOW OFF ASSEMBLY, PERMANENT (SAWS JOB NO. 20-1248) AFTER DISINFECTION BY CONTRACTOR IS COMPLETED AND IS ACCEPTED BY SAWS.  
 INSTALL FOR TIE-IN 1-4" BLOW OFF ASSEMBLY (PERMANENT)  
 FOR CHLORINATION INJECTION: 2-1" CORPORATION STOP, C.C. X I.P. 2-1" COPPER TUBING, CUT AS REQ'D 2-1 1/2" THD SOLID CAPS, THR. 1-24"x4" ECCENTRIC TAPPED CAP, M.J. 1-4" TEMP. BLOWOFF SEE SAWS DETAIL DD-847-01/DD-844-04  
 CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN.



**WATER:**  
 SAWS PRESSURE ZONE: 1170

DEVELOPERS NAME: LUCRA TERRA, LLC  
 DEVELOPERS ADDRESS: 6575 FM 306  
 CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78132  
 PHONE #: 830-837-2349 FAX #  
 SAWS BLOCK MAP # N/A TOTAL EDUS N/A TOTAL ACREAGE N/A  
 TOTAL LINEAR FOOTAGE OF PIPE: 20,310 LF FLAT NO. N/A  
 NUMBER OF LOTS: N/A SAWS JOB NO. 22-7059

**CAUTION:** CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



**THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II**  
 24" WATER LINE  
 STA. 23+00 TO STA. 29+50

NO.	DATE	BY	REVISIONS	DESCRIPTION

DATE: 9/30/2024  
 DESIGNED BY: NSB/MP  
 DRAWN BY: JFIN/IMP  
 CHECKED BY: TH  
 PLANING NAME: Phase II Off-Site Water P&P.dwg

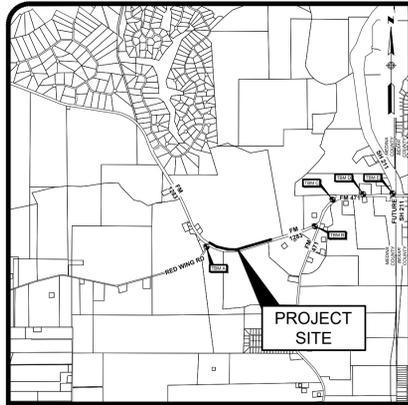
**STATE OF TEXAS**  
**RICHARD W. GRAY III**  
 75617  
 REGISTERED PROFESSIONAL ENGINEER  
 09/30/2024

**LJA Engineering, Inc.**  
 Phone 210-503-2700  
 9830 Colomade Blvd  
 Suite 300 LJA.COM  
 San Antonio, Texas 78230  
 TYPE NO. F-1986

JOB NUMBER:  
 SA190-405-426

SHEET NO.  
**5**  
 OF 13 SHEETS

K:\SAPD Lucas Terra LJA\0405 Woodlands OffSite Water P&P.dwg  
 User: rbrown  
 Last Modified: Sep 30, 24 - 12:15  
 Plot Date/Time: Sep 30, 24 - 12:24:00



**LOCATION MAP**  
N.T.S.

**BENCHMARK INFORMATION:**

- TBM A: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 987.66
- TBM B: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 987.18
- TBM C: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1001.38
- TBM D: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1004.00
- TBM E: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1002.68
- TBM F: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.31
- TBM G: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1044.32
- TBM H: CONCRETE MONUMENT WITH ALUMINUM CAP ELEVATION = 1040.45

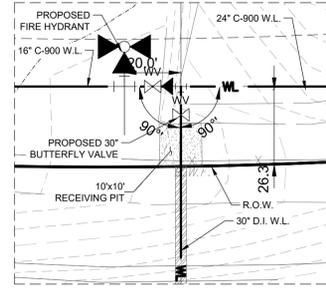
VERTICAL DATUM:  
THIS INFORMATION PROVIDED BY: LJA SURVEYING

JOINT RESTRAINT TABLE				
JOINT (TYPE)	PIPE MATERIAL	PIPE SIZE	RESTRAINT DISTANCE	LENGTH ALONG RUN
11.25° BEND	D.I.	30"	7'	NA
22.5° BEND	D.I.	30"	13'	NA
45° BEND	D.I.	30"	26'	NA
DEAD END	D.I.	30"	122'	NA
VERTICAL OFFSET SYSTEM RETURN	D.I.	30"	15' (LOWER BENDS) & 69' UPPER BENDS	NA

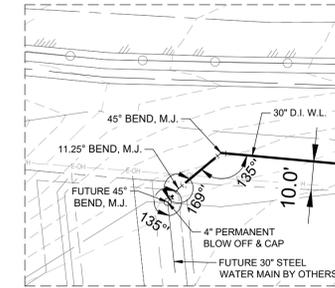
**RESTRAINT LENGTH VALUES:**

PROGRAM: **EBAA IRON SALES INC.**  
SOIL TYPE: **CL**  
SAFETY FACTOR: **1.5**  
TRENCH TYPE: **5**  
DEPTH OF BURY: **4 FT.**  
TEST PRESSURE: **200 PSI**

MEDINA COUNTY  
46.67 ACRES OUT OF A 79.47 ACRE  
TRACT DESCRIBED  
IN DEED TO MEDINA COUNTY BY  
THE WOODLANDS GROUP, LLC IN  
DOCUMENT 2021003507  
OFFICIAL PUBLIC RECORDS,  
MEDINA COUNTY, TEXAS.



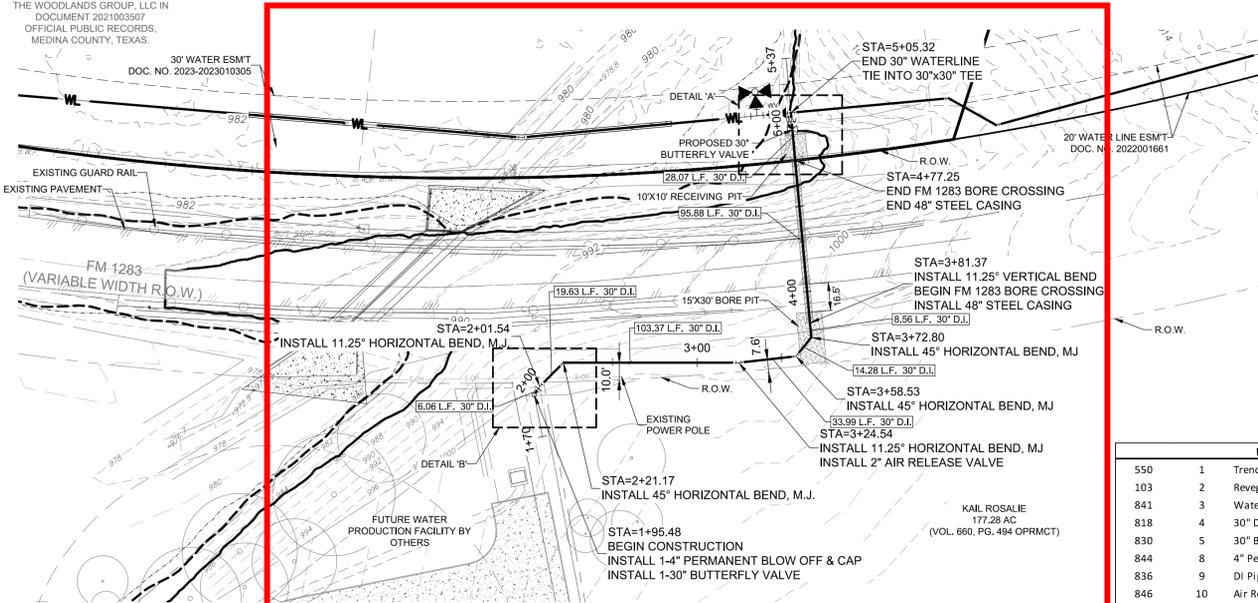
**WATER CONNECTION DETAIL 'A'**  
SCALE: 1" = 30'



**WATER CONNECTION DETAIL 'B'**  
SCALE: 1" = 30'

**LEGEND**

PROPOSED	EXISTING	DESCRIPTION
		SANITARY SEWER MANHOLE
		SANITARY SEWER LINE
		WATER LINE
		AIR RELEASE VALVE
		GATE VALVE
		WATER VALVE
		WATERLINE ECCENTRIC REDUCER
		WATER METER
		FIRE HYDRANT
		WATERLINE CONCRETE ENCASUREMENT
		STEEL WATERLINE CASING
		WATER METER
		GAS VALVE
		GAS LINE
		STORM SEWER MANHOLE
		DRAINAGE STRUCTURE
		POWER POLE
		TELECOM
		GUY WIRE
		OVERHEAD ELECTRIC
		SIGNAGE
		BENCHMARK
		TMH
		EXISTING GAS, ELEC, TELE & CABLE TV ESMT.
		G.E.T.C.A.
		ESMT.
		VOL
		PG
		CLEARANCE
		EDGE OF PAVEMENT
		GUARD RAIL



**WPF WATER LINE PLAN AND PROFILE STA. 1+00 TO END**

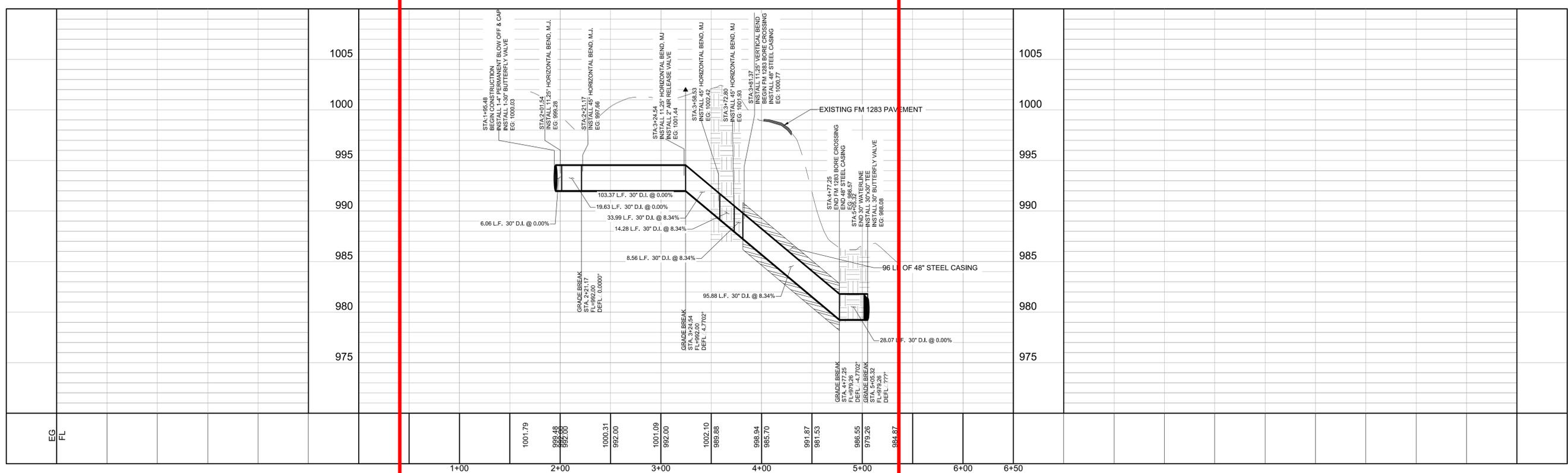
**WPF TIE-IN 24" Water Improvements**

NO.	DESCRIPTION	LF	EA
550	1 Trench Excavation Safety Protection	310	1
103	2 Revegetation	598	1
841	3 Water Main-Hydrostatic Testing	310	1
818	4 30" D.I. Water Main	310	1
830	5 30" Butterfly Valve	2	1
844	8 4" Permanent Blowoff	1	1
836	9 Di Pipe Fittings	1.00	1
846	10 Air Release Valve Assembly	1	1
856	11 Jack, Boring, or Tunneling	96	1
856	12 48" Steel Casing	96	1
903	13 SWPPP	1	1
818	14 Tie-In, Complete 24"	1	1

**WATER:**  
SAWS PRESSURE ZONE: 1170

DEVELOPER'S NAME: LUCRA TERRA, LLC  
DEVELOPER'S ADDRESS: 6575 FM 306  
CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78132  
PHONE #: 833-837-2349 FAX #: \_\_\_\_\_  
SAWS BLOCK MAP # N/A TOTAL EDUS N/A TOTAL ACRES N/A  
TOTAL LINEAR FOOTAGE OF PIPE: 30" 310 LF PLAT NO. N/A  
NUMBER OF LOTS: N/A SAWS JOB NO. 22-7059

**CAUTION:** CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



**THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II**  
WPF 24" WATER LINE  
STA. 1+00 TO END

NO.	DATE	BY	REVISIONS	DESCRIPTION

DATE: 09/30/2024  
DESIGNED BY: NSB/MP  
DRAWN BY: JFIN/IMP  
CHECKED BY: TH  
PLANNING NAME: Phase II Off-Site Water P&P.dwg

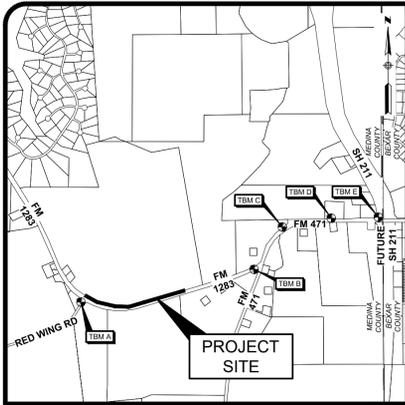
**RICHARD W. GRAY III**  
75617  
REGISTERED PROFESSIONAL ENGINEER  
09/30/2024

**LJA Engineering, Inc.**  
Phone 210-503-2700  
9830 Colomade Blvd  
Suite 300  
San Antonio, Texas 78230  
TYPE NO. F-1986

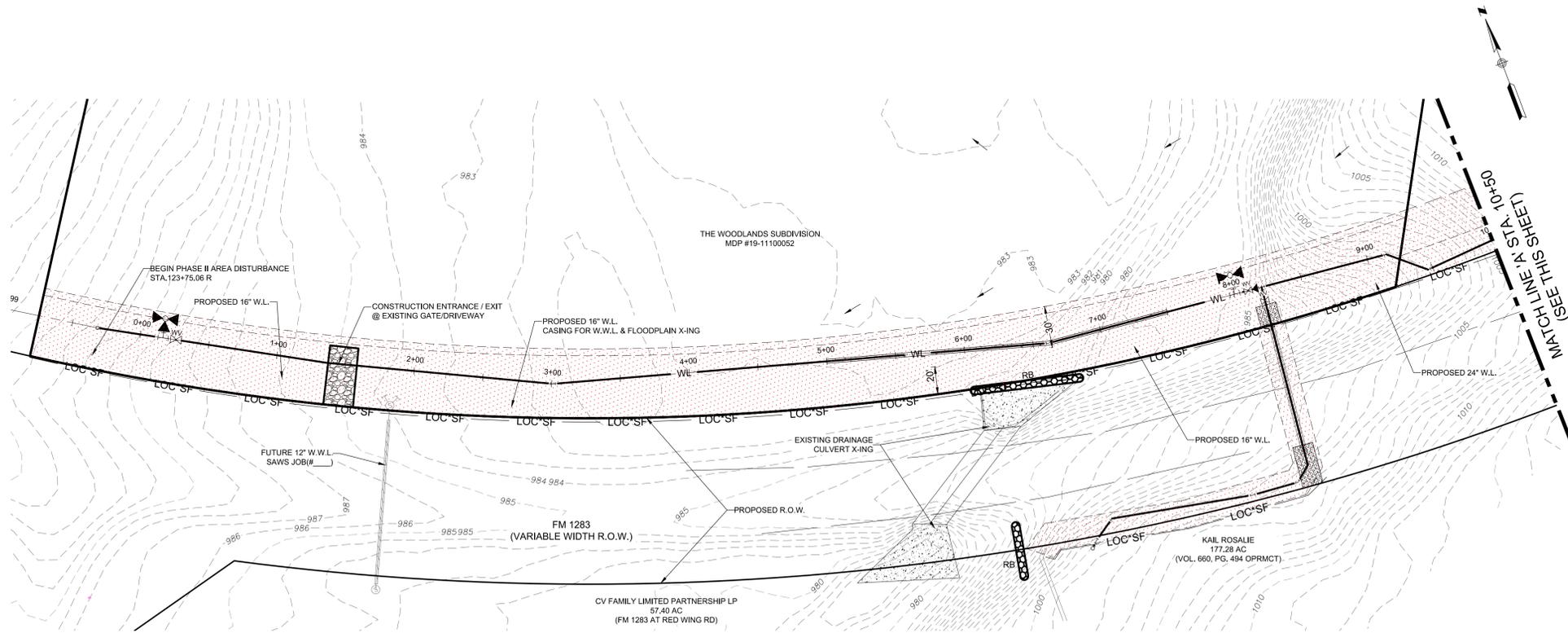
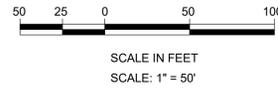
JOB NUMBER:  
SA190-405-426

SHEET NO.  
**6**  
OF 13 SHEETS

K:\SAPD Lucas Terra, LLC\0405 Woodlands OffSite Water\03 24a Development Plans\0405-Site\Phase II\WIP\Phase II-OffSite Water P&P.dwg  
User: rbenemer  
Last Modified: Sep 30, 24 - 12:15  
Plot Date/Time: Sep 30, 24 - 12:23:13

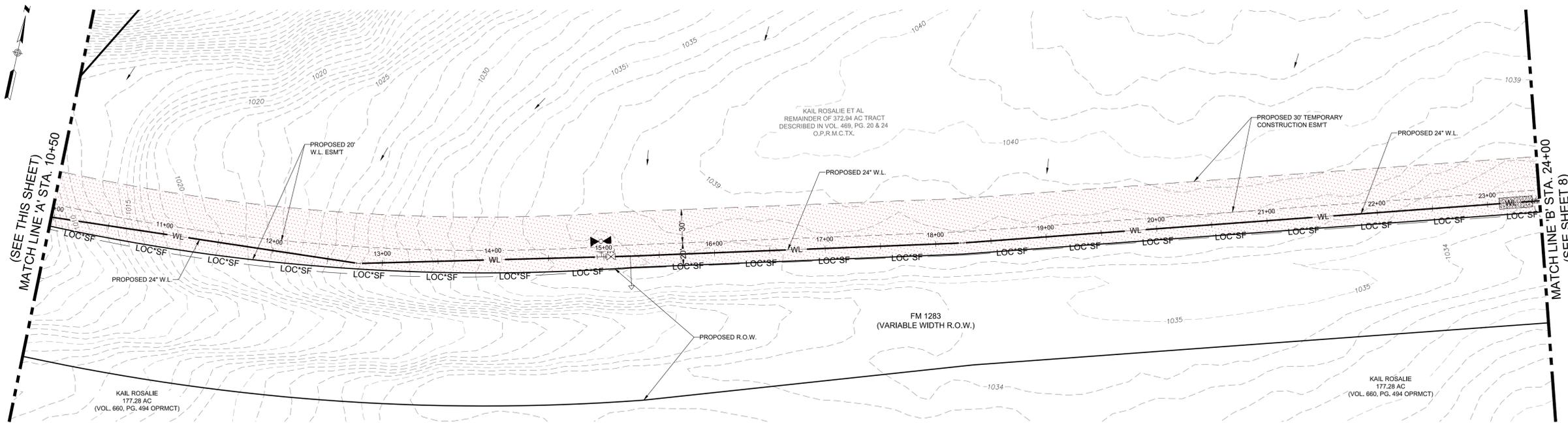


LOCATION MAP  
N.T.S.



**LEGEND**

- GRASSED DRAIN FLOW
- PAVEMENT DRAIN FLOW
- EXISTING CONTOUR
- PROPOSED CONTOUR
- CONCRETE WASHOUT PIT
- STABILIZED CONSTRUCTION EXIT
- AREA OF DISTURBANCE
- TREE PROTECTION FENCING
- SILT FENCE
- LIMITS OF CONSTRUCTION
- ROCK BERM
- INLET PROTECTION  
SEE DETAIL C25.09, SHEET C25
- TREE



(SEE THIS SHEET)  
MATCH LINE 'A' STA. 10+50

MATCH LINE 'B' STA. 24+00  
(SEE SHEET 8)

**THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II**  
STORM WATER POLLUTION PREVENTION PLAN  
STA. 1+00 TO STA. 24+00

NO.	REVISIONS	DESCRIPTION	DATE	BY

DATE:	9/30/2024
DESIGNED BY:	NBJ/JF
DRAWN BY:	JF/NB/MAP
CHECKED BY:	TH
CREATING NAME:	th_Phase II SWPPP.dwg



**LJA Engineering, Inc.**  
9830 Colonnade Blvd  
Suite 300  
San Antonio, Texas 78230  
Phone 210-503-2700  
LJA.COM  
TYPE No. F-1986

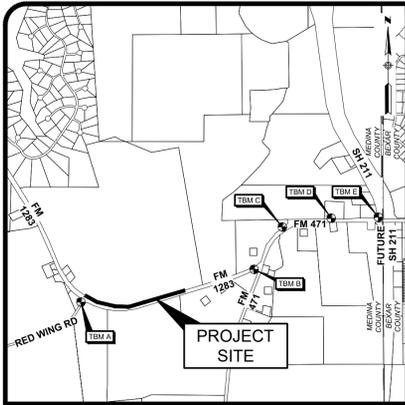
JOB NUMBER:  
SA190-405-426

SHEET NO.  
**7**  
OF 13 SHEETS

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.



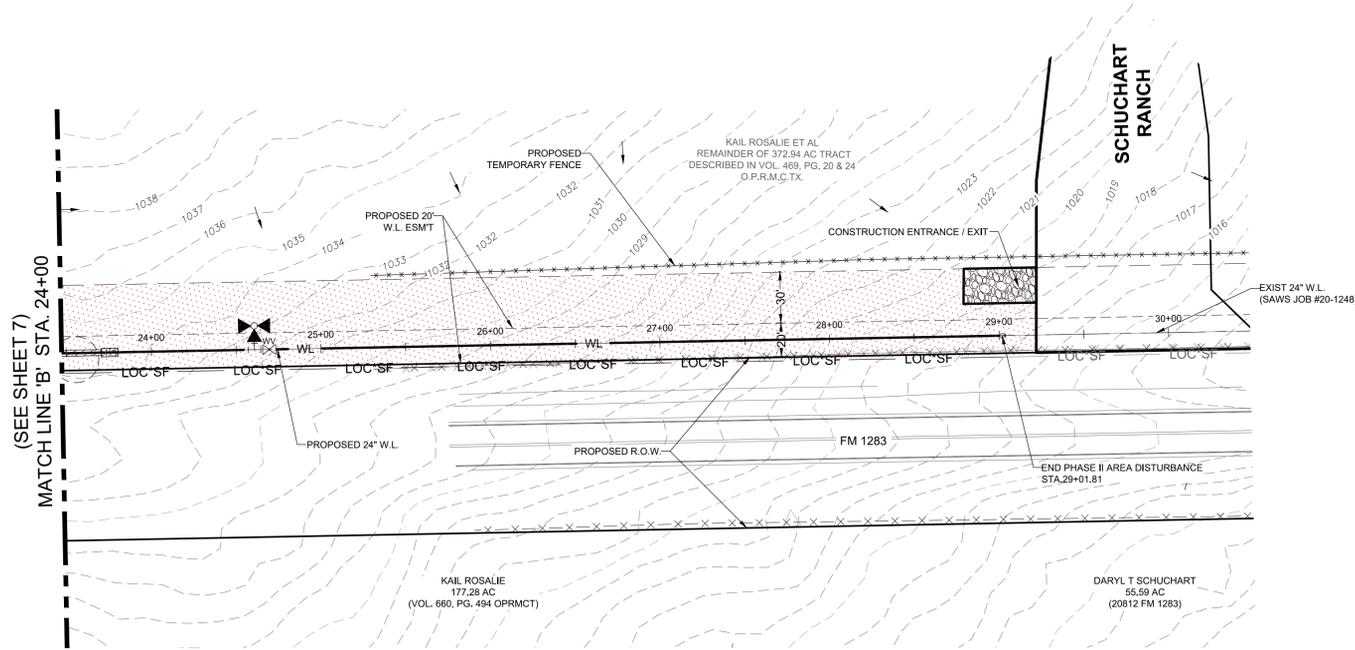
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User: nbj  
Last Modified: 9/30/2024 1:32:24 PM  
Plot Date/Time: 9/30/24 1:32:24 PM



LOCATION MAP  
N.T.S.



SCALE IN FEET  
SCALE: 1" = 50'



**LEGEND**

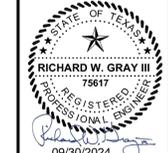
	GRASSED DRAIN FLOW
	PAVEMENT DRAIN FLOW
	EXISTING CONTOUR
	PROPOSED CONTOUR
	CONCRETE WASHOUT PIT
	STABILIZED CONSTRUCTION EXIT
	AREA OF DISTURBANCE
	TREE PROTECTION FENCING
	SILT FENCE
	LIMITS OF CONSTRUCTION
	ROCK BERM
	INLET PROTECTION SEE DETAIL C25.09, SHEET C25
	TREE

(SEE SHEET 7)  
MATCH LINE 'B' STA. 24+00

**THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II**  
STORM WATER POLLUTION PREVENTION PLAN  
STA. 24+00 TO END

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:	09/30/2024
DESIGNED BY:	NBJ/JF
DRAWN BY:	JJF/NBMAP
CHECKED BY:	TH
DRAWING NAME:	SA_190-405-426_Phase II SWPPP.dwg



**LJA Engineering, Inc.**  
 Phone 210-503-2700  
 9830 Colomade Blvd  
 Suite 300  
 San Antonio, Texas 78230  
 TBPE No. F-1986

JOB NUMBER:  
SA190-405-426

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.



SHEET NO.  
**8**  
OF 13 SHEETS

K:\SA190\_LJA05\_Terra\_LUC\0405\_Woodlands\_Offsite\_Water\05\_204\_Development\_Plans\0405-Sheets\Phase II\SWPPP.dwg  
 User: nbwerner  
 Last Modified: May 20, 24 - 10:32:23  
 Plot Date/Time: Sep 30, 24 - 12:27:16

## SEDIMENTATION AND EROSION CONTROLS

### A. SILT FENCE

- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL AT LEAST 4 FEET LONG WITH TEE OR BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT, AND BRINELL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.
- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES THE MAXIMUM SPACING SHOULD BE 6 FEET.
- LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.
- THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW, WHERE FENCING IS NOT TRENCHED IN (E.G. PAVEMENT OR ROCK OUTCROPS), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL, REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

### B. TRIANGULAR SEDIMENT FILTER DIKE

- THE DIKE STRUCTURE SHALL BE CONSTRUCTED OF 6" X 6" 6 GAUGE WELDED WIRE MESH, 18 INCHES PER SIDE, AND WRAPPED WITH GEOTEXTILE FABRIC THE SAME COMPOSITION AS THAT USED FOR SILT FENCES.
- FILTER FABRIC SHOULD LAP OVER ENDS SIX (6) INCHES TO COVER DIKE TO DIKE JUNCTION; EACH JUNCTION SHOULD BE SECURED BY SHOAT RINGS.
- POSITION DIKE PARALLEL TO THE CONTOURS, WITH THE END OF EACH SECTION CLOSELY ABUTTING THE ADJACENT SECTIONS.
- FASTENING - THE FABRIC SKIRT MAY BE TOED-IN WITH 6 INCHES OF COMPACTED MATERIAL OR 12 INCHES OF THE FABRIC SKIRT SHOULD EXTEND UPHILL AND BE SECURED WITH A MINIMUM OF 3 INCHES OF OPEN GRADED ROCK, OR WITH STAPLES OR NAILS. IF THESE TWO OPTIONS ARE NOT FEASIBLE THE DIKE STRUCTURE MAY BE TRENCHED IN 4 INCHES.
- TRIANGULAR SEDIMENT FILTER DIKES SHOULD BE INSTALLED ACROSS EXPOSED SLOPES DURING CONSTRUCTION WITH ENDS OF THE DIKE TIED INTO EXISTING GRADES TO PREVENT FAILURE AND SHOULD INTERCEPT NO MORE THAN ONE ACRE OF RUNOFF.
- WHEN MOVED TO ALLOW VEHICULAR ACCESS, THE DIKES SHOULD BE REINSTALLED AS SOON AS POSSIBLE, BUT ALWAYS AT THE END OF THE WORKDAY.
- INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. INSPECT AND REALIGN DIKES AS NEEDED TO PREVENT GAPS BETWEEN SECTIONS.
- ACCUMULATED SILT SHOULD BE REMOVED AFTER EACH RAINFALL, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.

### C. TEMPORARY CONSTRUCTION ENTRANCE/EXIT

- AGGREGATE SIZE - 4 TO 8 INCHES WASHED, COARSE STONE.
- LENGTH - AT LEAST 50 FEET.
- THICKNESS - MINIMUM 8 INCHES.
- WIDTH - MINIMUM WIDTH SHALL BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- WASHING - WHEN NECESSARY, IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHALL BE INSTALLED WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS, THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
- DRAINAGE - IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPE ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
- FABRIC - PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

### D. INTERCEPTOR SWALE

- MAXIMUM DEPTH OF FLOW IN THE SWALE SHALL BE 1 FOOT.
- THE MINIMUM BOTTOM WIDTH OF THE SWALE SHALL BE 2 FEET.
- SIDE SLOPES OF THE SWALE SHALL BE 3:1 OR FLATTER.
- MINIMUM DESIGN CHANNEL FREEBOARD SHALL BE 6 INCHES.
- SWALES MUST MAINTAIN POSITIVE GRADE TO AN ACCEPTABLE OUTLET.
- INTERCEPTOR SWALES MUST BE STABILIZED IMMEDIATELY UPON EXCAVATION SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM THEY ARE ADDRESSING.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM. THE SWALE SHOULD BE BUILT IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
- REPAIR ANY LOOSE WIRE SHEATHING. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

### E. ROCK BERMS

- LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
- BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM (FIGURE 1-28), TO A HEIGHT NOT LESS THAN 18".
- WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
- BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BUILT IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
- REPAIR ANY LOOSE WIRE SHEATHING. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

### F. SANDBAG BERMS

- THE BAG LENGTH SHOULD BE 24 TO 30 INCHES, WIDTH SHOULD BE 16 TO 18 INCHES AND THICKNESS SHOULD BE 6 TO 8 INCHES. (3) SANDBAGS SHOULD BE FILLED WITH COARSE GRADE SAND, FREE FROM DEBRIS MATERIAL, AND SHOULD PASS THROUGH A NO. 10 SIEVE. THE FILLED BAG SHOULD HAVE AN APPROXIMATE WEIGHT OF 40 POUNDS.
- THE BERM SHOULD BE A MINIMUM HEIGHT OF 18 INCHES, MEASURED FROM THE TOP OF THE EXISTING GROUND AT THE UPSLOPE TOE TO THE TOP OF THE BERM.
- THE BERM SHOULD BE SIZED AS SHOWN IN THE PLANS BUT SHOULD HAVE A MINIMUM WIDTH OF 48 INCHES MEASURED AT THE BOTTOM OF THE BERM AND 16 INCHES MEASURED AT THE TOP OF THE BERM.
- RUNOFF WATER SHOULD FLOW OVER THE TOPS OF THE SANDBAGS OR THROUGH 4-INCH DIAMETER PVC PIPES EMBEDDED BELOW THE TOP LAYER OF BAGS AS SHOWN IN THE PLANS.
- SANDBAGS SHOULD BE STACKED IN AT LEAST THREE ROWS ABUTTING EACH OTHER, AND IN STAGGERED ARRANGEMENT.
- THE BASE OF THE BERM SHOULD HAVE AT LEAST 3 SANDBAGS. THESE CAN BE REDUCED TO 2, AND 1 BAG IN THE SECOND AND THIRD ROWS RESPECTIVELY, FOR EACH ADDITIONAL 6 INCHES OF HEIGHT. AN ADDITIONAL SANDBAG MUST BE ADDED TO EACH ROW WIDTH.
- THE SAND BAG BERM SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN. THE SANDBAGS SHOULD BE RESHAPED OR REPLACED AS NEEDED DURING INSPECTION.
- WHEN THE SILT REACHES 6 INCHES, THE ACCUMULATED SILT SHOULD BE REMOVED AND DISPOSED OF AT AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

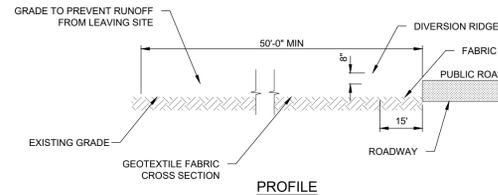
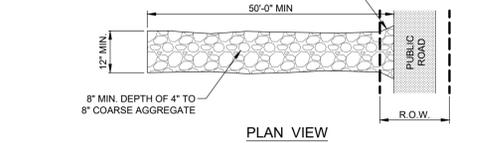
- G. STONE OUTLET SEDIMENT TRAP
- ALL AGGREGATE SHOULD BE AT LEAST 3 INCHES IN DIAMETER AND SHOULD NOT EXCEED A VOLUME OF 0.5 CUBIC FOOT.
  - EARTH EMBANKMENT: PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH BEFORE COMPACTION. MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT ARE TO BE 3:1. THE MINIMUM WIDTH OF THE EMBANKMENT SHOULD BE 3 FEET.
  - A GAP IS TO BE LEFT IN THE EMBANKMENT IN THE LOCATION WHERE THE NATURAL CONFLUENCE OF RUNOFF CROSSES THE EMBANKMENT LINE. THE GAP IS TO HAVE A WIDTH IN FEET EQUAL TO 6 TIMES THE DRAINAGE AREA IN ACRES.
  - GEOTEXTILE COVERED ROCK CORE: A CORE OF FILTER STONE HAVING A MINIMUM HEIGHT OF 1.5 FEET AND A MINIMUM WIDTH AT THE BASE OF 3 FEET SHOULD BE PLACED ACROSS THE OPENINGS OF THE EARTH EMBANKMENT AND SHOULD BE COVERED BY GEOTEXTILE FABRIC WHICH SHOULD EXTEND A MINIMUM DISTANCE OF 2 FEET EITHER DIRECTION FROM THE BASE OF THE FILTER STONE.
  - FILTER STONE EMBANKMENT: FILTER STONE SHOULD BE PLACED OVER THE GEOTEXTILE AND IS TO HAVE A SIDE SLOPE WHICH MATCHES THAT OF THE EARTH EMBANKMENT OF 3:1 AND SHOULD COVER THE GEOTEXTILE/ROCK CORE A MINIMUM OF 8 INCHES WHEN INSTALLATION IS COMPLETE. THE CREST OF THE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW THE TOP OF THE EMBANKMENT.
  - INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
  - TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE. SEDIMENT SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.

### H. SEDIMENT BASINS

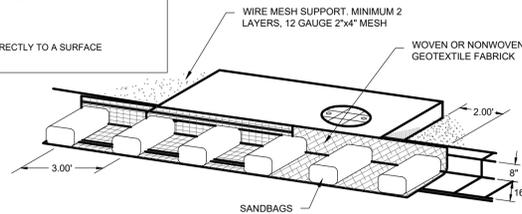
- THE DRAINAGE AREA FOR A SEDIMENT BASIN SHALL BE LESS THAN 100 ACRES.
- THE BASIN SHOULD INCLUDE A PERMANENT STAKE TO INDICATE THE SEDIMENT LEVEL IN THE POOL AND MARKED TO INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME (NOT THE TOP OF THE STAKE). SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES 50% STORAGE CAPACITY.
- PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH, BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT SHOULD BE 3:1 (H:V). MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 8 FEET.
- AN EMERGENCY SPILLWAY SHOULD BE INSTALLED ADJACENT TO THE EMBANKMENT ON UNDISTURBED SOIL AND SHOULD BE SIZED TO CARRY THE FULL AMOUNT OF FLOW GENERATED BY A 10-YEAR, 24-HOUR STORM WITH 1 FOOT OF FREEBOARD, LESS THE AMOUNT WHICH CAN BE CARRIED BY THE PRINCIPAL OUTLET CONTROL DEVICE. THE EMERGENCY SPILLWAY SHOULD BE LINED WITH RIPRAP AS SHOULD THE SWALE LEADING FROM THE SPILLWAY TO THE NORMAL WATERCOURSE AT THE BASE OF THE EMBANKMENT.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 75% OF ITS ORIGINAL STORAGE CAPACITY.

### ADDITIONAL NOTES:

- UPON COMPLETION OF CONSTRUCTION ALL DISTURBED AREAS SHALL BE REVEGETATED TO 70% OF EXISTING CONDITIONS IN ACCORDANCE WITH THE SWPPP AND TPDES REQUIREMENTS.
- THIS SITE IS NOT LOCATED ADJACENT TO ANY SURFACE WATERS.
- THIS SITE WILL NOT HAVE ANY LOCATIONS WHERE STORM WATER DISCHARGES DIRECTLY TO A SURFACE WATER BODY.



31.01 STABILIZED CONSTRUCTION EXIT  
N.T.S.

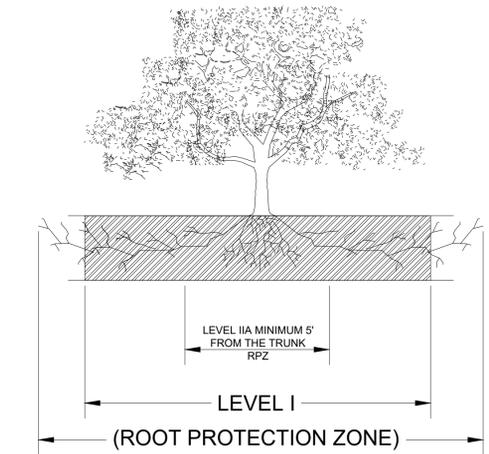


CURB INLET PROTECTION

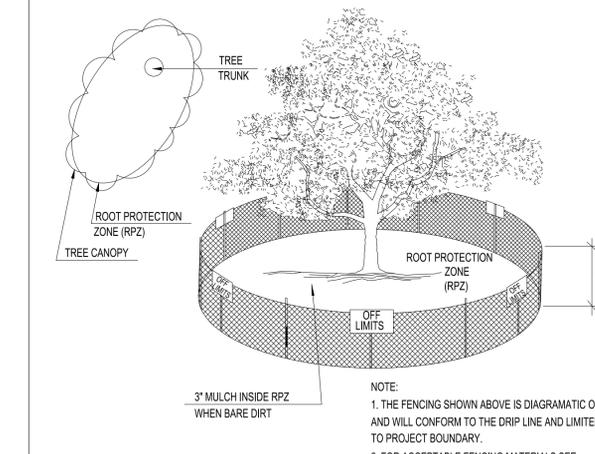
### NOTES:

- WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
- INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON EITHER SIDE.
- THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
- THE SKIRT SHALL BE WEIGHTED WITH ONE 18"x24"x6" SANDBAG EVERY 3 FEET.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
- AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

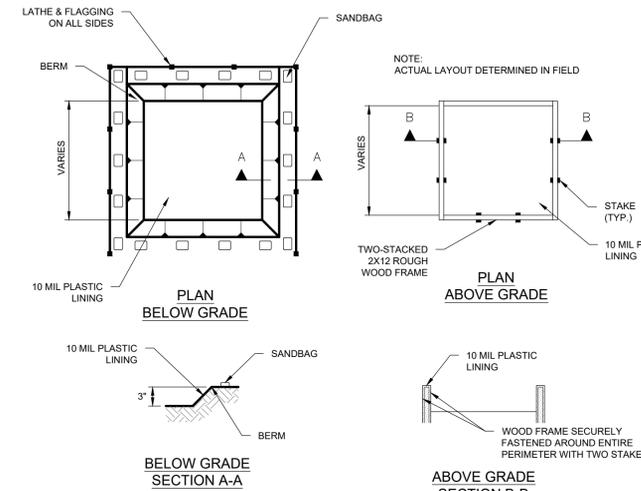
31.04 INLET PROTECTION  
N.T.S.



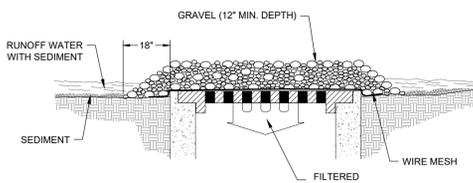
1.1.1 ELEVATION  
N. T. S.



1.1.2 LEVEL I & FENCE PROTECTION  
N. T. S.



31.02 CONCRETE WASHOUT AREA  
N.T.S.

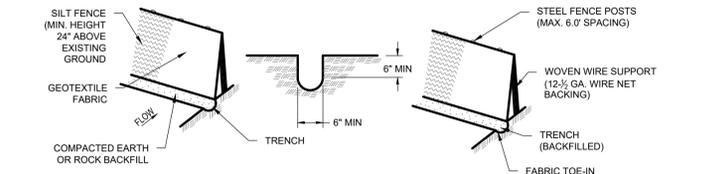


GRATE INLET PROTECTION

### NOTES:

- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. WIRE MESH WITH 1/2 INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
- COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

31.04 INLET PROTECTION  
N.T.S.

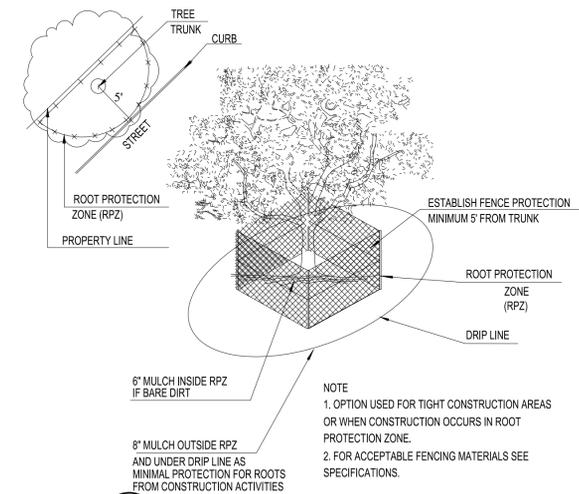


31.03 SILT FENCE  
N.T.S.

### NOTES:

- USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION. USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
- THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
- THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN. AND THE STONE AND/OR FABRIC CORE, WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED. DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
- DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS. SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
- WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

31.05 ROCK BERM  
N.T.S.



1.1.3 LEVEL II A FENCE PROTECTION  
N. T. S.

THE WOODLANDS OFF-SITE WATER IMPROVEMENTS PHASE II  
STORM WATER PREVENTION PLAN  
NOTES AND DETAILS

NO.	DATE	BY	REVISIONS	DESCRIPTION

DATE	DESIGNED BY	DRAWN BY	CHECKED BY	ISSUING NAME
09/30/2024	NB	NB	TH	Phase II/SWPPP.dwg



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JOB NUMBER: SA190-405-426

SHEET NO. 9

OF 13 SHEETS