

CIVIL CONSTRUCTION DOCUMENTS FOR TRAIL STREET TOWNHOMES

San Antonio, Texas

OWNER/DEVELOPER: MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

SURVEYOR: WESTWOOD PROFESSIONAL SERVICES, INC.
1718 DRY CREEK WAY, SUITE 110
SAN ANTONIO, TX 78259
PHONE (210) 265-8300

ENGINEER: UP ENGINEERING
1270 N. LOOP 1604 E., SUITE 1310
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: NATASHA F. UHLRICH, P.E.

GEOTECHNICAL InTEC OF SAN ANTONIO, L.P.
ENGINEER: 12028 RADIUM
SAN ANTONIO, TX 78216
(210) 525-9033

ADDRESS:

335 TRAIL STREET, SAN ANTONIO, TEXAS 78212

FLOODPLAIN INFORMATION:

FIRM #48029, PANEL 0405 G 09/29/2010.

WATERSHED:

THIS SITE IS LOCATED IN THE UPPER SAN ANTONIO RIVER WATERSHED

BENCHMARKS:

CONTROL POINT 1: 1/2" IRON ROD WITH CAP STAMPED "WESTWOOD PS"
NORTHING: 13713698.983
EASTING: 2134338.184
ELEVATION: 672.57

CONTROL POINT 2: MAG NAIL IN CONCRETE CURB
NORTHING: 13713423.291
EASTING: 2133933.316
ELEVATION: 674.18

CONTROL POINT 3: MAG NAIL IN CONCRETE CURB
NORTHING: 13713665.244
EASTING: 2134226.206
ELEVATION: 674.06

ADMINISTRATIVE EXCEPTION/VARIANCES:

REFER TO PLAT NO. 19-11800095 (TRAIL STREET HOMES) FOR THE FOLLOWING APPROVED ADMINISTRATIVE EXCEPTIONS/VARIANCES

1. CURB AND GUTTER STANDARD (UNIFIED DEVELOPMENT CODE SECTION 35-605(d)(1)
2. SIDEWALK REQUIREMENTS (UNIFIED DEVELOPMENT CODE SECTION 35-506(a)(2) AND (g))

SURVEY BASIS:

BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, GRID.

LEGAL DESCRIPTION:

LOT 21, BLOCK 2, N.C.B. 6078, RECORDED IN VOLUME , PAGE , DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS.

UTILITY PROVIDERS:

GAS: CPS ENERGY
145 NAVARRO
SAN ANTONIO, TX 78205
(210) 353-2376

CABLE:

TIME WARNER CABLE	AT&T
1900 BLUE CREST LANE	1010 NORTH ST. MARY'S STREET
SAN ANTONIO, TX 78247	SAN ANTONIO, TX 78215
(210) 244-0500	(972) 742-5892

ELECTRIC: CPS ENERGY
145 NAVARRO
SAN ANTONIO, TX 78205
(210) 353-2376

WATER & WASTEWATER:

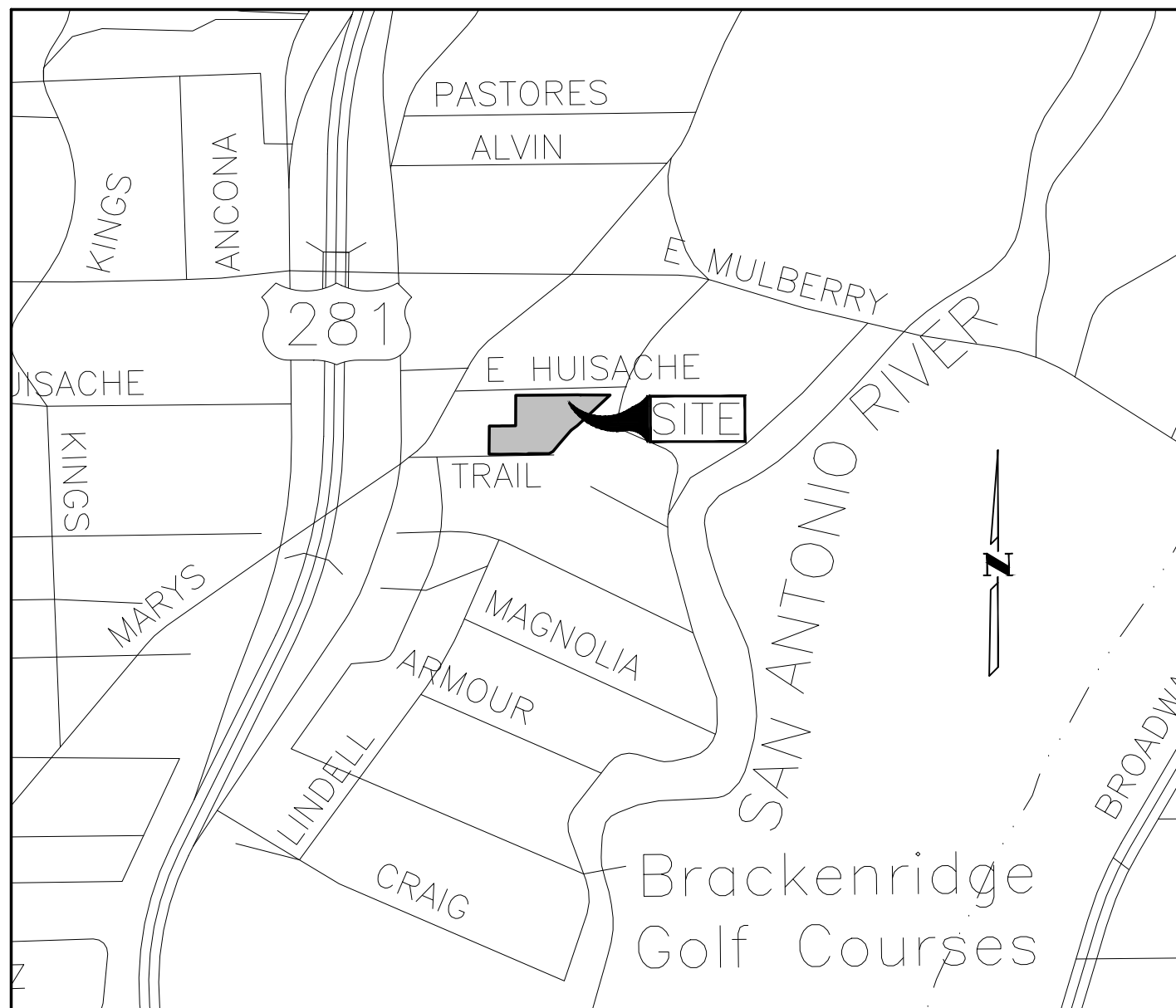
SAN ANTONIO WATER SYSTEM
2800 U.S. HWY 281 NORTH
SAN ANTONIO, TX 78212
(210) 233-2010

LAND USE SUMMARY

ZONING: MF-33
PROPOSED SITE USE: MULTI-FAMILY
LOT SIZE: 1.003 ACRES

NOTES:

1. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR COMPLIANCE BY CITY ENGINEERS.
2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND CONTRADICTIONS OR CONFLICTS. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS AND MATERIAL SUPPLIERS KNOWLEDGE ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICATIONS AND AUTHORITIES.
3. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION AND/OR A FIELD SURVEY, AND MAY NOT MATCH LOCATIONS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITY CROSSING PRIOR TO BEGINNING CONSTRUCTION.
4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION ON HOW TO ORDER REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, WASHINGTON SQUARE BLVD, SUITE 203, 800 DOLOROSA ST, SAN ANTONIO, TEXAS 78207-4559).
5. CONTRACTOR SHALL RESTORE ALL SIGNS AND PAVEMENT MARKINGS TO EXISTING CONDITIONS FOLLOWING THE COMPLETION OF EACH PHASE OF CONSTRUCTION. CONTRACTORS SHALL REFER TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SIGN AND MARKING DIMENSIONS AND COLORS.



VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:

October 18, 2019

CIVIL SHEET INDEX	
Sheet Number	Sheet Title
C1	COVER SHEET
C2	GENERAL NOTES
C3	SITE DIMENSION PLAN
C4	GRADING PLAN
C5	UTILITY AND FIRE PROTECTION PLAN
C6	DRAINAGE AREA MAP
C7	DETENTION POND AND DRAINAGE PLAN
C8	STORM WATER POLLUTION PREVENTION PLAN
C9	STORM WATER POLLUTION PREVENTION PLAN DETAILS
C10	CONSTRUCTION DETAILS
C11	SAWS DETAILS
C12	SAWS DETAILS

80% SUBMITTAL

PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES

COVER SHEET

[illegible]

PRELIMINARY
NOT FOR CONSTRUCTION
BIDDING, OR PERMIT
PURPOSES.

PREPARED UNDER THE
SUPERVISION OF
RYAN R. PLAGENS,
P.E. #1111640 ON
October 18, 2019

MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

UP
ENGINEERING

1270 N LOOP 1604 E, SUITE 1310
SAN ANTONIO, TX 78232 TEL 210-774-4100

- 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 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 CITY'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 192.181 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 NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. 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)	210-233-2009
WATER & SEWER EMERGENCIES	210-704-7297
STORM DRAINAGE (CITY OF SAN ANTONIO)	210-207-8022
SIGNAL OPERATIONS (CITY OF SAN ANTONIO)	210-207-8022
TEXAS STATE WIDE ONE CALL LOCATOR	811
CPS ENERGY (GAS & ELECTRIC)	210-353-2000
CPS ELECTRIC/GAS ISSUES OR EMERGENCIES	210-353-4357
TIME WARNER	214-244-0500
AT&T (FUNEY LUNDSY)	972-742-5892
11. 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 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.
12. 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 DROPS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.

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.

16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED ON 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 CITY C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY TO ALL APPLICABLE CITY OF SAN ANTONIO RULES AND REQUIREMENTS FOR STREETS, SIDEWALKS, ALLEYS AND ROADWAY DESIGN (LATEST EDITIONS), THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITIONS), THE SAN ANTONIO WATER SYSTEM (SAWS) SPECIFICATIONS FOR WATER WORKS CONSTRUCTION (LATEST EDITION).

2. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.

4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.

5. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.

6. ALL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE MECHANICAL AND ELECTRICAL PLANS. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

7. THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER & SEWER MAIN AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY).

8. NO WATER JETTING TO BACKFILL TRENCHES WILL BE ALLOWED ON THIS PROJECT.

9. POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL BE SDR 26. FITTINGS AND JOINTS SHALL CONFORM TO COMPATIBLE SDR 26 PIPE. SOLVENT CEMENTS JOINTS SHALL NOT BE USED.

10. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).

11. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.

12. ALL SERVICES ARE BROUGHT TO WITHIN 5 FEET OF THE BUILDING UNLESS OTHERWISE NOTED. REFERENCE MEP PLANS FOR UTILITY CONNECTIONS AT THE BUILDING.

13. WHETHER SHOWN ON THE PLANS OR NOT ALL CLEANOUT TOPS AND MANHOLES SHALL BE INSTALLED AT LEAST 3" ABOVE FINISHED GRADE OUTSIDE PAVEMENT AND FLUSH WITH FINISHED GRADE WITHIN THE PAVEMENT AREAS. TOPS WITHIN PAVEMENT SHALL BE TRAFFIC RATED.

14. SANITARY SEWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND THE SAN ANTONIO WATER SYSTEM PLUMBING SPECIFICATIONS, AND AS DIRECTED BY THE PLUMBING INSPECTOR.

15. THRU BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM SPECIFICATIONS.

16. UTILITY CONTRACTOR SHALL COORDINATE WITH CPS ENERGY FOR THE GAS AND ELECTRICAL SERVICE.

17. FIRE LINE SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR.

18. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES ≥ 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS STANDARD SPECIFICATIONS - ITEM #824.

19. CLEANOUTS SHALL BE TWO-WAYS AND INSTALLED IN ACCORDANCE WITH COSA PLUMBING CODE (EVERY 100') & AS DIRECTED BY PLUMBING INSPECTOR.

20. FIRE LINE SHALL BE PVC C900, CLASS 200 AND SHALL COMPLY WITH AWWA STANDARDS AND SHALL WITHSTAND A WORKING PRESSURE OF NOT LESS THAN 200 P.S.I.

21. CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION & SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE BY OWNER.

GRADING AND DRAINAGE NOTES

1. CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION. EXISTING CONTOURS BASED ON 2010 BEXAR COUNTY DATA.

2. ALL GRADES AND CONTOURS SHOWN ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS, CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOPSOIL, MULCH, ...ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.

3. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NO TO ALLOW ANY PONDING OF WATER. MINIMUM SLOPE 0.50%.

4. NO ABRUPT CHANGE OF GRADE SHALL OCCUR.

5. ALL DISTURBED AREAS SHALL BE REVEGETATED, BY THE CONTRACTOR, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, AND ARCHITECTURAL LANDSCAPING PLANS.

6. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE CITY OF SAN ANTONIO SPECIFICATIONS FOR CONSTRUCTION, TxDOT STANDARD SPECIFICATIONS, AND BEXAR COUNTY PUBLIC WORKS STANDARD SPECIFICATIONS.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL, OR BETTER CONDITION ANY DAMAGES DONE TO EXISTING SIGNS, UTILITIES, PAVEMENT, CURBS, SIDEWALKS OR DRIVEWAYS (NO SEPARATE ITEM).

9. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVE THAT ARE IN THE PROJECT AREA.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION.

11. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS FOR UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.

12. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS, OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.

13. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS IN PAVEMENT WILL BE ACCEPTED.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.

15. ALL EXCAVATION IN UNCLASSIFIED.

16. ALL ON-SITE CURBS ARE 6" HIGH UNLESS OTHERWISE SPECIFIED.

17. SEE CIVIL COVER SHEET FOR PROJECT BENCHMARK.

18. CONTRACTOR TO RAZE/LOWER ALL UTILITY BOXES, COVERS, GRATES, VALVES BOXES, MANHOLES, CLEANOUTS, ETC., TO MATCH PROPOSED FINISHED GRADE ELEVATIONS.

19. ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED SHALL BE COVERED WITH 6" MIN. CLEAN TOPSOIL UNLESS OTHERWISE NOTED. CUT OR FILL SHALL BE ADJUSTED TO ALLOW FOR TOPSOIL IN ORDER TO MAINTAIN PROPOSED ELEVATIONS. AREAS FOR LANDSCAPING SHOULD BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTS PLANS.

20. PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER (GEOTECH AND CIVIL).

21. A TESTING LABORATORY SHALL BE EMPLOYED BY THE OWNER TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED IS BEING OBTAINED, AND TO TEST COMPACTION OF EXPOSED SUBGRADES, WHEN COMPACTION TESTS DOES NOT MEET GEOTECH REQUIREMENTS. FILL AND BACKFILL SHALL BE DRIED OUT OR MOISTENED AS NECESSARY, SCARIFIED, AND RECOMPACTED AT NO ADDITIONAL COSTS TO OWNER.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATIONS SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATIONS SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S 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.

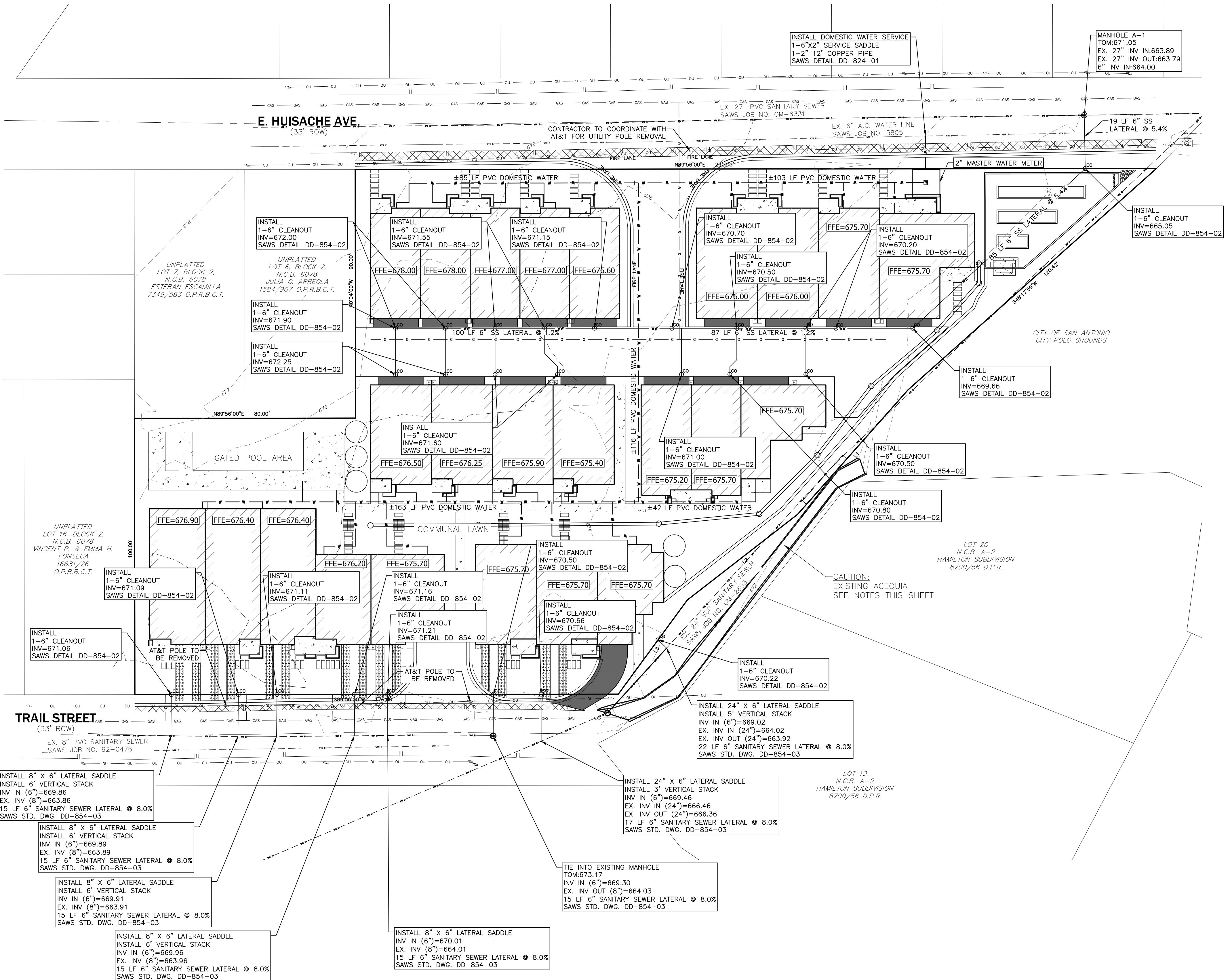
1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
2. ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D-698).
3. CURB RAMPS ARE TO BE CONSTRUCTED ON ALL PERMANENT CURB RETURNS AT THE INTERSECTION OF ALL STREETS OR AS DIRECTED BY THE CITY OF SAN ANTONIO INSPECTOR.
4. ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG TEST" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.
6. DISPOSAL OF ALL DEMOLISHED MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS.
7. WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL, AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.
8. ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN. ANY ITEM TO REMAIN WHICH IS REMOVED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. (NO SEPARATE PAY).
9. CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY DEMOLITION PERMITS FOR THE PROJECT AND COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES FOR REMOVAL OF THEIR INDIVIDUAL SERVICES.
10. CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER REGARDING QUESTIONS ON THE DEMOLITION PLAN.
11. DEMOLITION CONTRACTOR SHALL CLEARLY MARK ALL EXISTING UTILITY SERVICES WHERE THEY CROSS PROPERTY LINES. THIS INFORMATION WILL BE USED BY UTILITY COMPANIES AND CONTRACTORS TO THE INFO FOR THE PROPOSED UTILITY SERVICES.
12. CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED & PROTECTED PRIOR TO COMMENCING CONSTRUCTION, DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREES TRUNKS. (IF APPLICABLE)
13. CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED. (IF APPLICABLE)
14. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE OF TREES THAT WERE TO REMAIN. (IF APPLICABLE)

1270 N LOOP 1004 E, SUITE 1010
SAN ANTONIO, TX 78232 TEL 210-774-5504
WWW.UPENGINEERING.COM TEXAS REG. NO. F-17992

LINE TABLE		
LINE	BEARING	LENGTH
L1	S41°34'01"W	60.21'
L2	S52°09'28"W	50.61'
L3	S36°15'37"W	42.20'

ACEQUIA NOTES:

1. NO SUBSURFACE WORK (UTILITIES, GRADING, ETC.) SHALL BE ALLOWED WITHIN THREE FEET OF THE EXISTING ACEQUIA.
2. CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING AND SILT FENCING AT A BUFFER DISTANCE OF 3 FEET FROM THE FEATURE.
3. NO CONSTRUCTION ACTIVITIES WILL OCCUR WITHIN THE BUFFER AREA.
4. THIS CONSTRUCTION AND SILT FENCING SHALL BE PRESENT ON-SITE UNTIL CONSTRUCTION IS COMPLETED.
5. THE ACEQUIA SHALL NOT BE USED FOR STORM WATER DRAINAGE. FURTHERMORE, THE ACEQUIA SHALL NOT BE USED FOR STORAGE, EQUIPMENT CLEANING OF ANY OTHER USE THAT COULD IMPACT THE FEATURE.



LEGEND	
---	BOUNDARY / RIGHT OF WAY LINE
---	CONCRETE CURB
---	EASEMENT / SETBACK LINE
---	ACCESSIBLE ROUTE
---	FIRE LANE
OU	EXISTING OVERHEAD UTILITIES
GAS	EXISTING GAS MAIN
WW	EXISTING WASTEWATER MAIN
WTR	EXISTING WATER MAIN
G	PROPOSED GAS MAIN
WW	PROPOSED WASTEWATER MAIN
W	PROPOSED WATER MAIN
□ □ □	LIGHT POLES
○	UTILITY POLE
●	WATER VALVE
■	WATER VAULT
⊗	EXISTING FIRE HYDRANT
⊙	WASTEWATER CLEAN-OUT
⊕	UTILITY MANHOLE
⊗	ELECTRIC PULL BOX
⊕	ELECTRIC TRANSFORMER
G	GAS METER

- NOTES:
1. ALL WASTEWATER PIPE TO BE PVC SDR 26.
 2. ALL GRAVITY LINES ARE TO BE INSTALLED FROM DOWNSTREAM TO UPSTREAM.
 3. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES ≥ 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS SPECIFICATIONS.
 4. ALL WATER LINE JOINTS ARE TO BE RESTRAINED PER MANUFACTURERS RECOMMENDATIONS.
 5. REPAIR ASPHALT AS REQUIRED FOR INSTALLATION OF WATER & WASTEWATER LINES.
 6. CONTRACTOR SHALL FURNISH & INSTALL ALL MATERIALS AND APPURTENANCES AS CALLED OUT ON PLANS.
 7. REFERENCE GENERAL NOTES SHEETS FOR ADDITIONAL UTILITY NOTES.
 8. LIMITS OF CONSTRUCTION ARE SHOWN ON THE EROSION & SEDIMENTATION CONTROL PLAN.
 9. CONTRACTOR TO COORDINATE WITH CPS ELECTRIC AND GAS ON ELECTRICAL SERVICE CONNECTION AND INSTALLATION OF RISER POLES AND TRANSFORMER PADS.
 10. INSTALL CLEANOUTS EVERY 100 FEET ALONG SANITARY SEWER LINES, OR PER SAWS SPECIFICATIONS. CLEANOUTS IN PAVEMENT SHALL HAVE TRAFFIC RATED COVERS. MATCH TOP TO PROPOSED GRADES.
 11. CONTRACTOR SHALL COORDINATE WITH THE CITY FIRE INSPECTOR PRIOR TO INSTALLING FIRE LANE STRIPING AND EXACT LOCATION OF FIRE LANE SIGNS.
 12. REFERENCE MEP PLANS FOR GAS AND ELECTRICAL LAYOUT AND DIRECT CONNECTIONS TO BUILDINGS.
 13. REFERENCE MEP PLANS FOR INTERNAL WATER SERVICE LINE SIZING AND SUB-METERING.
 14. REFERENCE MEP PLANS FOR LOCATIONS OF DIRECT CONNECTIONS OF SANITARY SEWER LATERALS TO BUILDINGS.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

NOTE:
REFER TO GENERAL NOTE SHEET FOR ADDITIONAL UTILITY NOTES.

80% SUBMITTAL

PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES

UTILITY AND FIRE
PROTECTION PLAN

REV	DATE	DESCRIPTION	BY
1	10/18/19	HDRC APPENDUM	
DESIGNED BY:	WPF		
DRAFTED BY:	JWH		
CHECKED BY:	NFU		

SHEET
C5
OF C12

PROPERTY ADDRESS:
335 TRAIL STREET
LOT 1, BLOCK 2, N.C.B. 6078

PRELIMINARY
NOT FOR CONSTRUCTION,
BIDDING, OR PERMIT
PURPOSES.

PREPARED UNDER THE
SUPERVISION OF
RAN KATZ, P.E.
P.E. #111640
October 18, 2019

MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES

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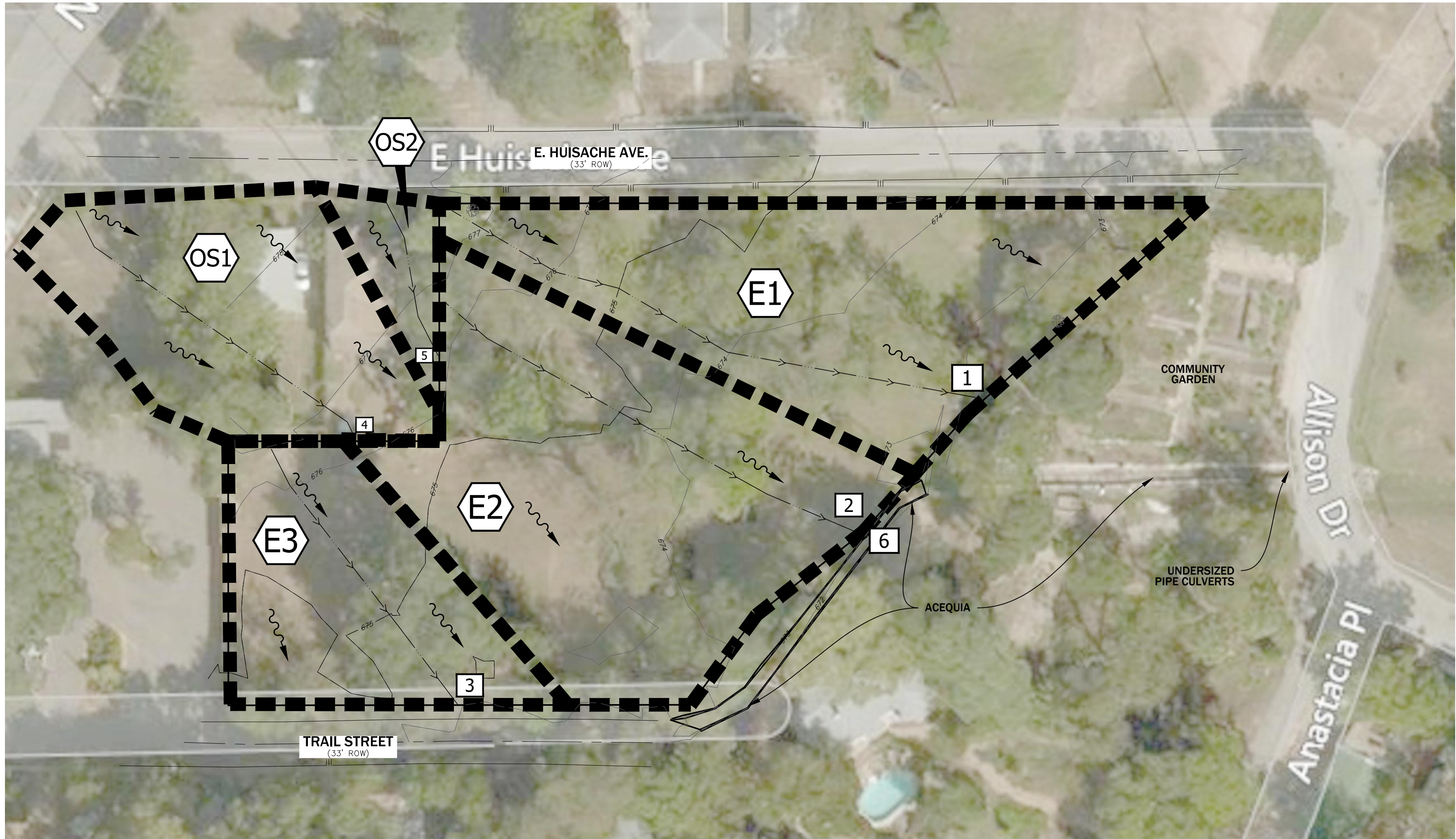
PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES

UTILITY AND FIRE
PROTECTION PLAN

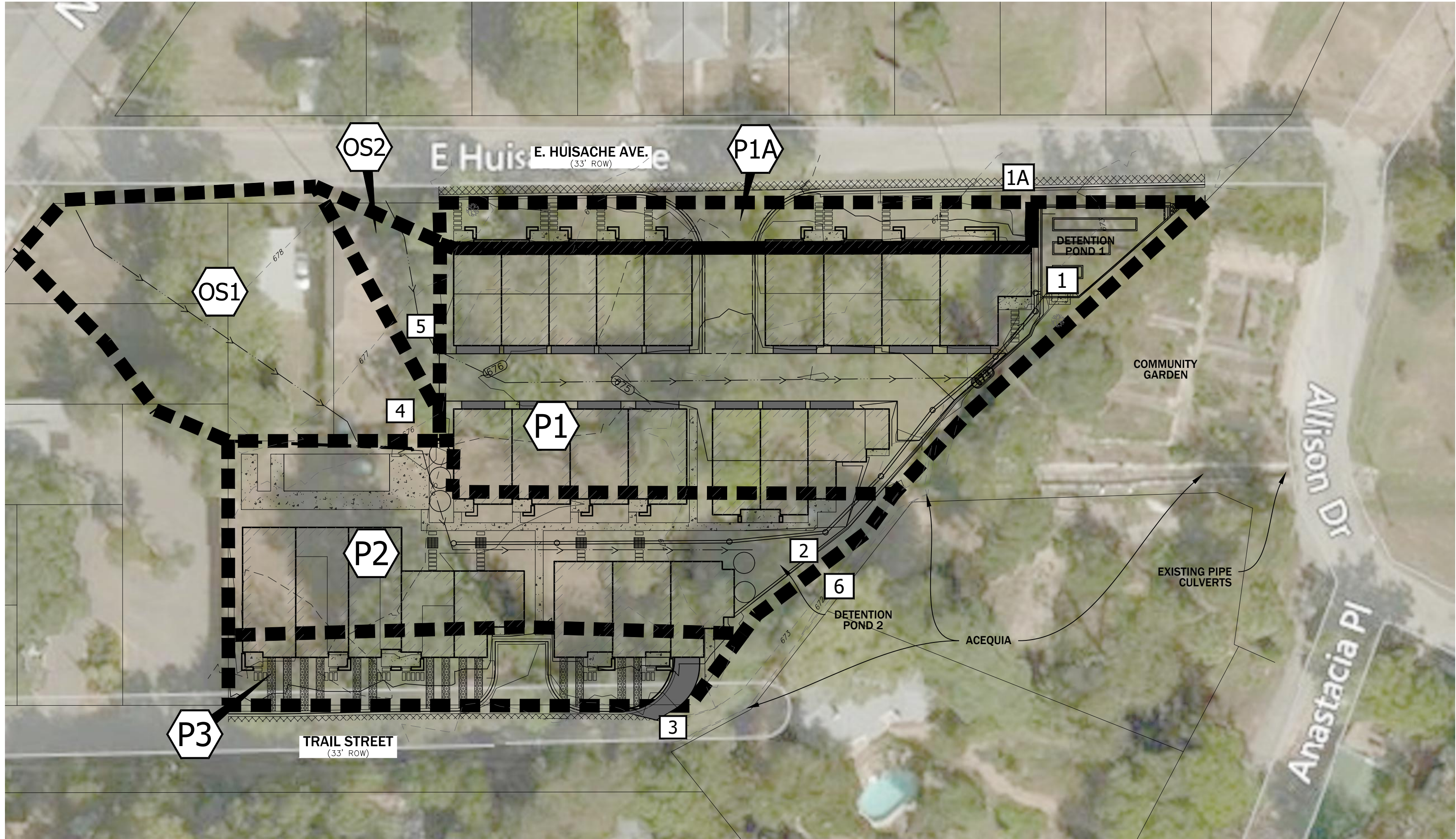
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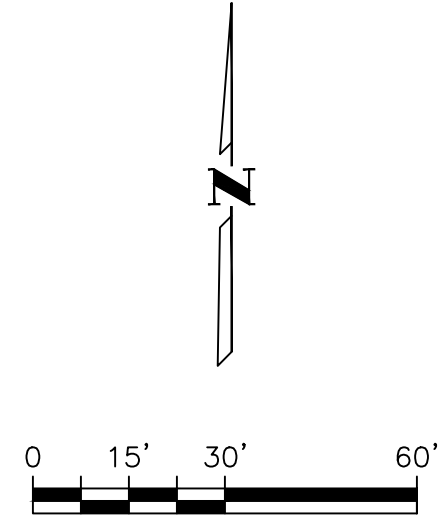
PROPERTY ADDRESS:
335 TRAIL STREET
LOT 1, BLOCK 2, N.C.B. 6078



EXISTING ON-SITE CONDITIONS



PROPOSED/ULTIMATE ON-SITE CONDITIONS



1	DRAINAGE POINT
1	DRAINAGE AREA
5.2	ACREAGE
0.47	ULTIMATE C-VALUE
-920	EXIST. CONTOUR
---	Tc PATH

PROJECT SITE FALLS WITHIN PRECIPITATION AREA										BEXAR 2014 PA3			
Runoff and Tc Calculations - SITE										BEXAR			
REFERENCE POINT	Drainage Areas	C	Drainage Area (ac)	Tc (min)	I(5) (in/hr)	I(10) (in/hr)	I(25) (in/hr)	I(100) (in/hr)	Q(5) (cfs)	Q(10) (cfs)	Q(25) (cfs)	Q(100) (cfs)	
1	SITE	0.47	1.00	14.5	5.38	6.24	7.46	9.30	2.5	2.9	3.5	4.4	
Existing Runoff Flow Rates													
REFERENCE POINT	Drainage Areas	C	Drainage Area (ac)	Tc (min)	I(5) (in/hr)	I(10) (in/hr)	I(25) (in/hr)	I(100) (in/hr)	Q(5) (cfs)	Q(10) (cfs)	Q(25) (cfs)	Q(100) (cfs)	
1	E1	0.47	0.36	14.5	5.38	6.24	7.46	9.30	0.9	1.1	1.3	1.6	
2	E2	0.47	0.44	14.4	5.39	6.26	7.49	9.34	1.1	1.3	1.5	1.9	
3	E3	0.47	0.20	11.7	5.93	6.93	8.28	10.36	0.6	0.7	0.8	1.0	
4	OS1	0.67	0.24	14.1	5.45	6.34	7.57	9.44	0.9	1.0	1.2	1.5	
5	OS2	0.58	0.03	10.1	6.28	7.35	8.79	11.01	0.1	0.1	0.2	0.2	
6	E2-E3, OS1-OS2	0.50	0.91	15.8	5.14	5.95	7.12	8.86	2.3	2.7	3.2	4.0	
Proposed Runoff Flow Rates													
REFERENCE POINT	Drainage Areas	C	Drainage Area (ac)	Tc (min)	I(5) (in/hr)	I(10) (in/hr)	I(25) (in/hr)	I(100) (in/hr)	Q(5) (cfs)	Q(10) (cfs)	Q(25) (cfs)	Q(100) (cfs)	
1	P1, OS2	0.75	0.52	11.9	5.88	6.88	8.22	10.28	2.3	2.7	3.2	4.0	
1A	P1A	0.60	0.09	5.0	7.88	9.20	11.00	13.79	0.4	0.5	0.6	0.7	
2	P2, OS1	0.69	0.55	15.8	5.14	5.95	7.12	8.86	1.9	2.3	2.7	3.3	
3	P3	0.72	0.12	6.8	7.18	8.41	10.05	12.61	0.6	0.7	0.9	1.1	
4	OS1	0.67	0.24	14.1	5.45	6.34	7.57	9.44	0.9	1.0	1.2	1.5	
5	OS2	0.58	0.03	10.1	6.28	7.35	8.79	11.01	0.1	0.1	0.2	0.2	
6	P2-P3, OS1	0.69	0.55	16.3	5.05	5.85	7.00	8.70	1.9	2.2	2.7	3.3	

FLOW RELEASE SUMMARY					
REFERENCE POINT	Drainage Areas	Discharge Area	Q(5) (cfs)	Q(25) (cfs)	Q(100) (cfs)
1	P1, OS2	Proposed Outfall Rate Pond 1	0.7	1.2	1.6
2	P2, OS1	Proposed Outfall Rate Pond 2	1.4	1.8	2.2
1A	P1A	Bypass Flow (Huisache Ave)	0.4	0.6	0.7
3	P3	Bypass Flow (Trail Street)	0.6	0.9	1.1
COMBINED FLOWS LEAVING SITE			3.1	4.5	5.5
EXISTING FLOWS LEAVING SITE			3.3	4.5	5.6

80% SUBMITTAL

PLAT NO. 19-11800095

TRAIL STREET TOWNHOMES

DRAINAGE AREA MAP

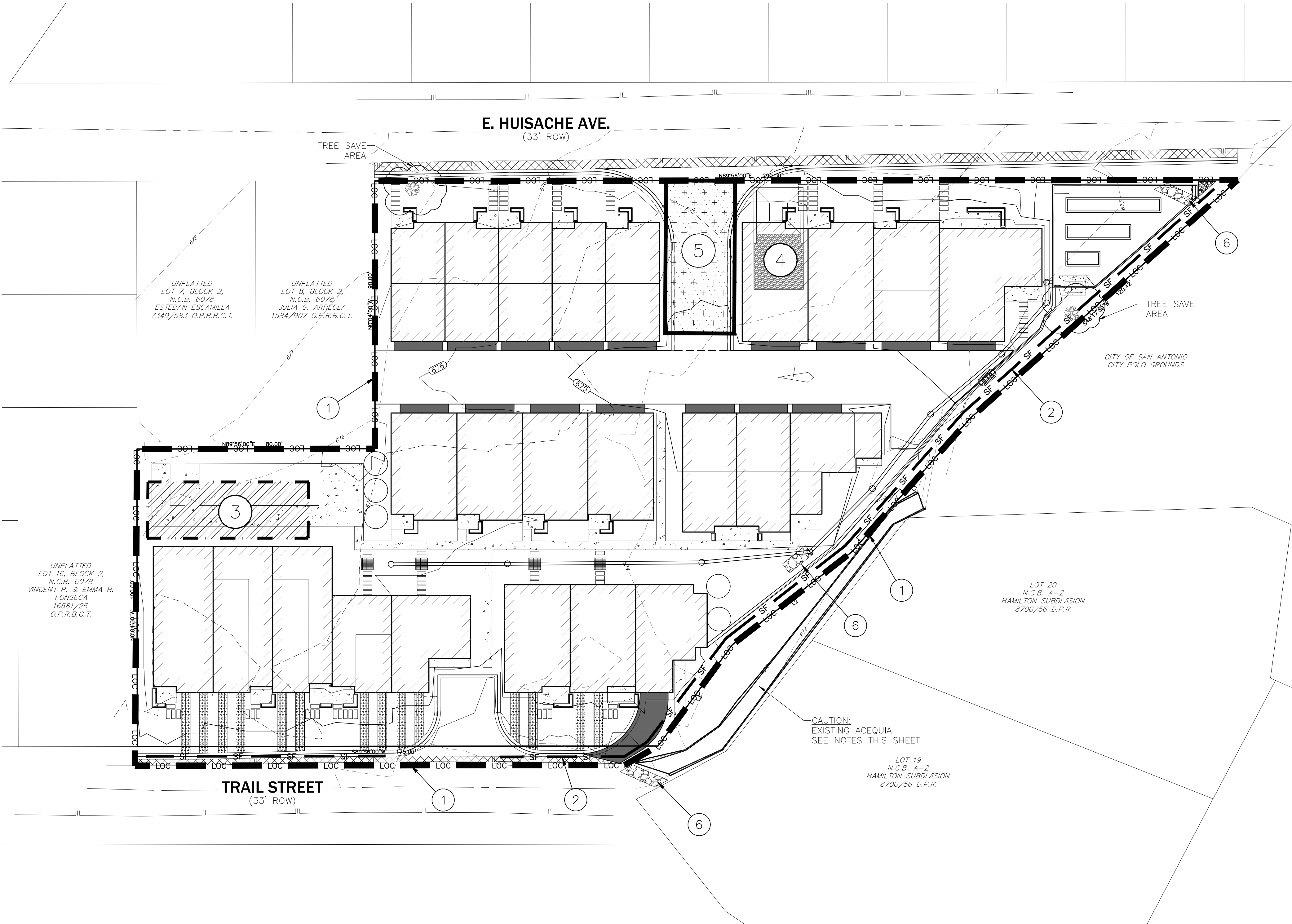
REV	DATE	DESCRIPTION	BY
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DESIGNED BY: WPF			
DRAFTED BY: JWH			
CHECKED BY: NFU			
SHEET			
C6			
OF C12			

PROPERTY ADDRESS:
335 TRAIL STREET
LOT 1, BLOCK 2, N.C.B. 6078

LINE TABLE		
LINE	BEARING	LENGTH
L1	S41°34'01"W	60.21'
L2	S52°09'28"W	50.61'
L3	S36°15'37"W	42.20'

ACEQUIA NOTES:

1. NO SUBSURFACE WORK (UTILITIES, GRADING, ETC.) SHALL BE ALLOWED WITHIN THREE FEET OF THE EXISTING ACEQUIA.
2. CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING AND SILT FENCING AT A BUFFER DISTANCE OF 3 FEET FROM THE FEATURE.
3. NO CONSTRUCTION ACTIVITIES WILL OCCUR WITHIN THE BUFFER AREA.
4. THIS CONSTRUCTION AND SILT FENCING SHALL BE PRESENT ON-SITE UNTIL CONSTRUCTION IS COMPLETED.
5. THE ACEQUIA SHALL NOT BE USED FOR STORM WATER DRAINAGE. FURTHERMORE, THE ACEQUIA SHALL NOT BE USED FOR STORAGE, EQUIPMENT CLEANING OF ANY OTHER USE THAT COULD IMPACT THE FEATURE.



LEGEND

- BOUNDARY / RIGHT OF WAY
- EXIST. GRADE ELEVATIONS
- TEMPORARY SILT FENCE
- LIMITS OF CONSTRUCTION / DISTURBANCE
- LIMITS OF TEMPORARY PARKING, STORAGE, SPOILS, AND STAGING AREA.
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK FILTER DAM
- CONCRETE WASHOUT

NOTES:

1. FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED (SEE NOTE #6).
2. INSPECTOR HAS THE AUTHORITY TO ADD AND OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH CITY RULES AND REGULATIONS.
3. THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REDIRECT PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS THAT ARE REQUIRED TO COMPLY WITH THE CITY CODE REGARDING EXCAVATION IN PUBLIC RIGHT-OF-WAY.
5. CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE INTO EXISTING RIGHT-OF-WAY A MINIMUM OF ONCE PER DAY.
6. CONTRACTOR TO INSTALL CHAIN LINK FENCE AT ALL POINTS WHERE LIMITS OF CONSTRUCTION IS SHOWN.
7. ALL STORM WATER LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES MUST PASS THROUGH THE SILT FENCE OR ROCK BERMS.
8. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.

EROSION CONTROL MEASURES

1	LIMITS OF CONSTRUCTION
2	INSTALL SILT FENCE (2' FROM PROPERTY LINE) - SEE DETAIL SHEET C9
3	STAGING AREA
4	CONCRETE WASHOUT PIT - SEE DETAIL SHEET C9
5	STABILIZED CONSTRUCTION ENTRANCE - SEE DETAIL SHEET C9
6	ROCK FILTER DAM - SEE DETAIL SHEET C9
7	INLET PROTECTION - SEE DETAIL SHEET C9

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PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES
STORM WATER POLLUTION
PREVENTION PLAN

PRELIMINARY
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MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

PREPARED UNDER THE
SUPERVISION OF
RAN L. MCKEE, P.E.
REGISTERED PROFESSIONAL ENGINEER
October 18, 2019
TELS 210-774-5504
WWW.UPEENGINEERING.COM

UP
ENGINEERING
1270 N. LOOP W. SUITE 1310
SAN ANTONIO, TX 78232
TEL 210-774-5504
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DESIGNED BY: WPF
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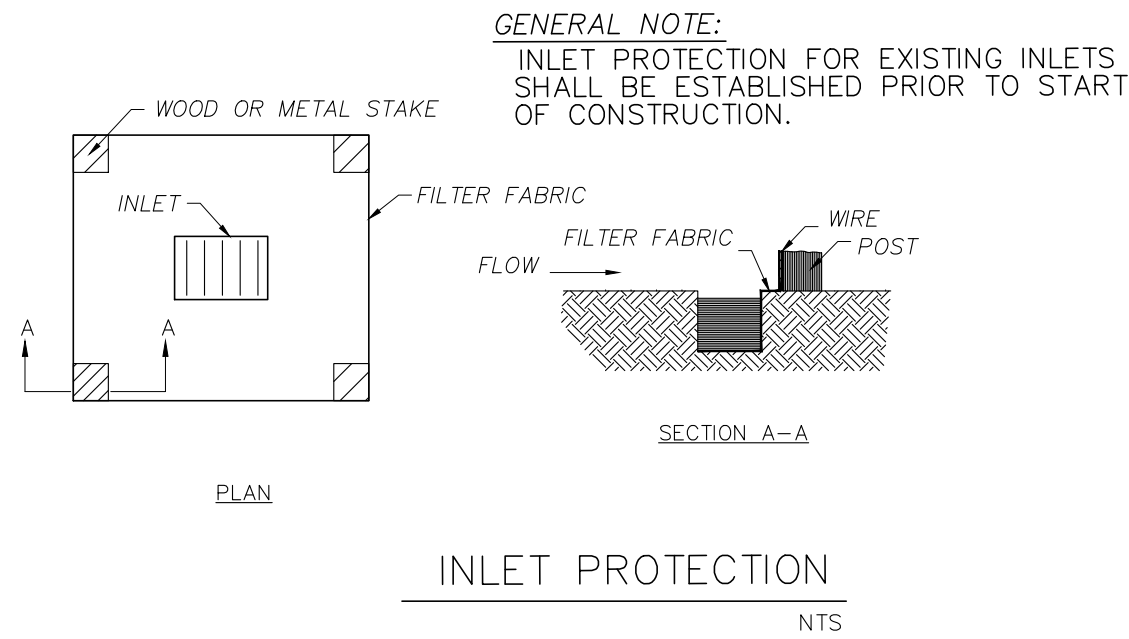
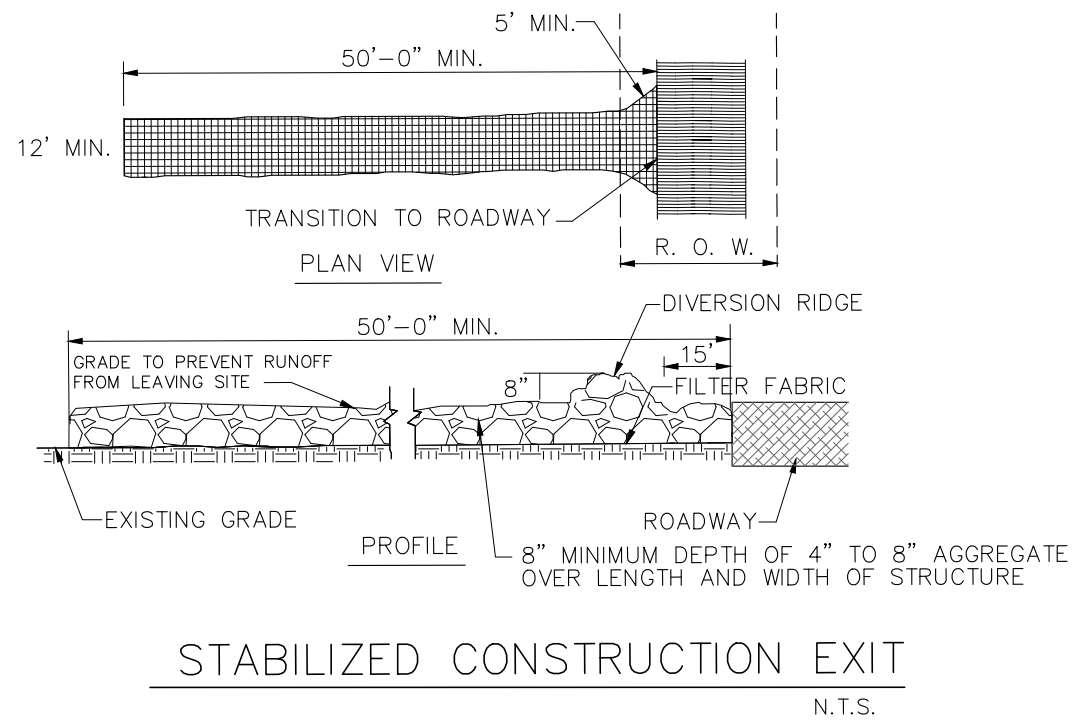
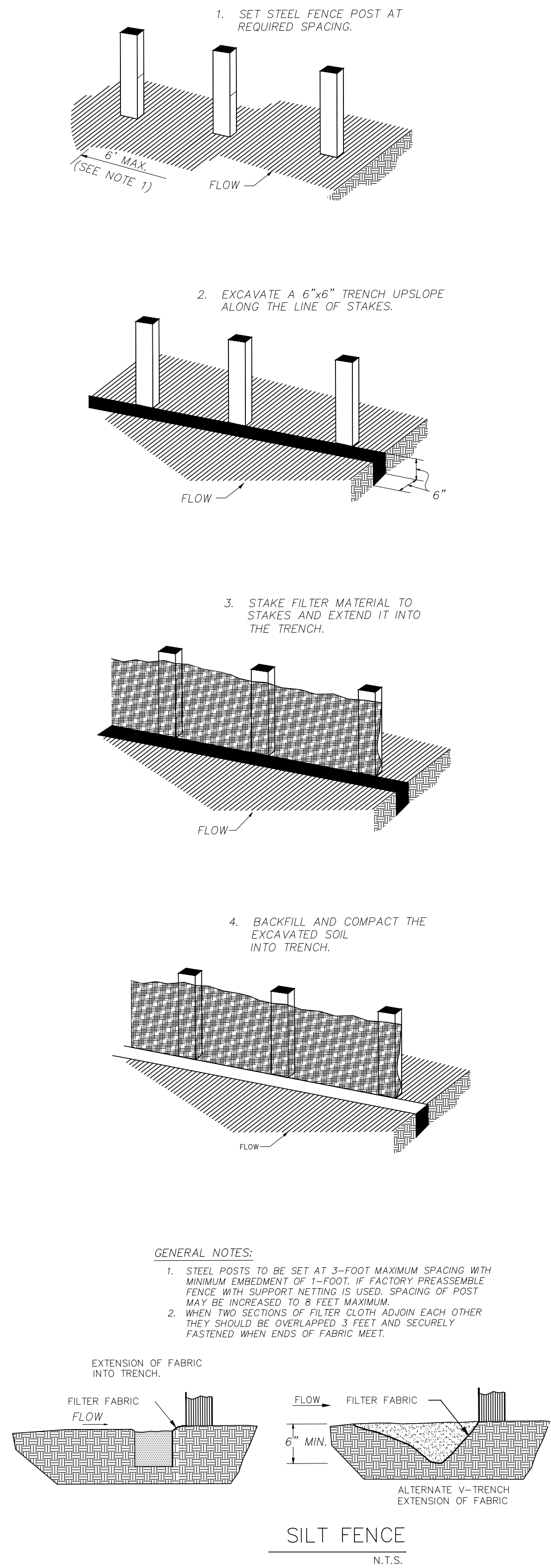
SHEET

C8

OF C12

PROPERTY ADDRESS:
535 TRAIL STREET
LOT 1, BLOCK 2, N.C.B. 6078

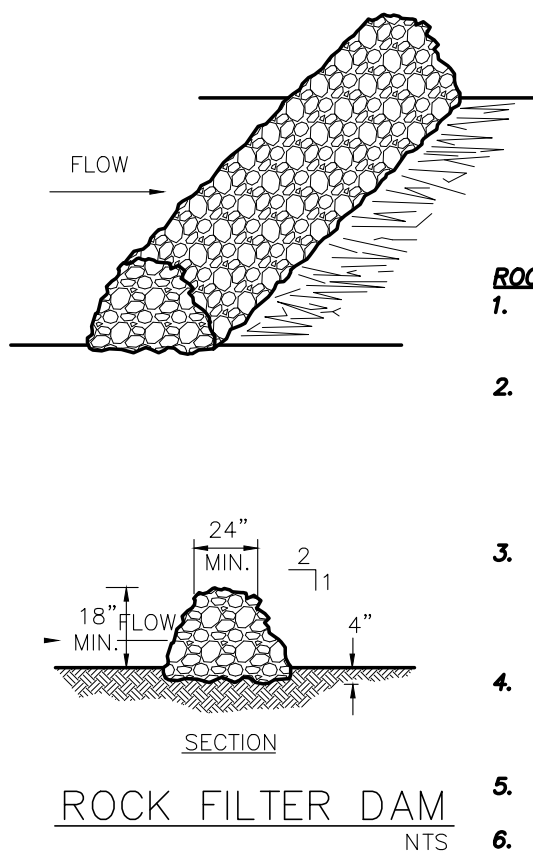
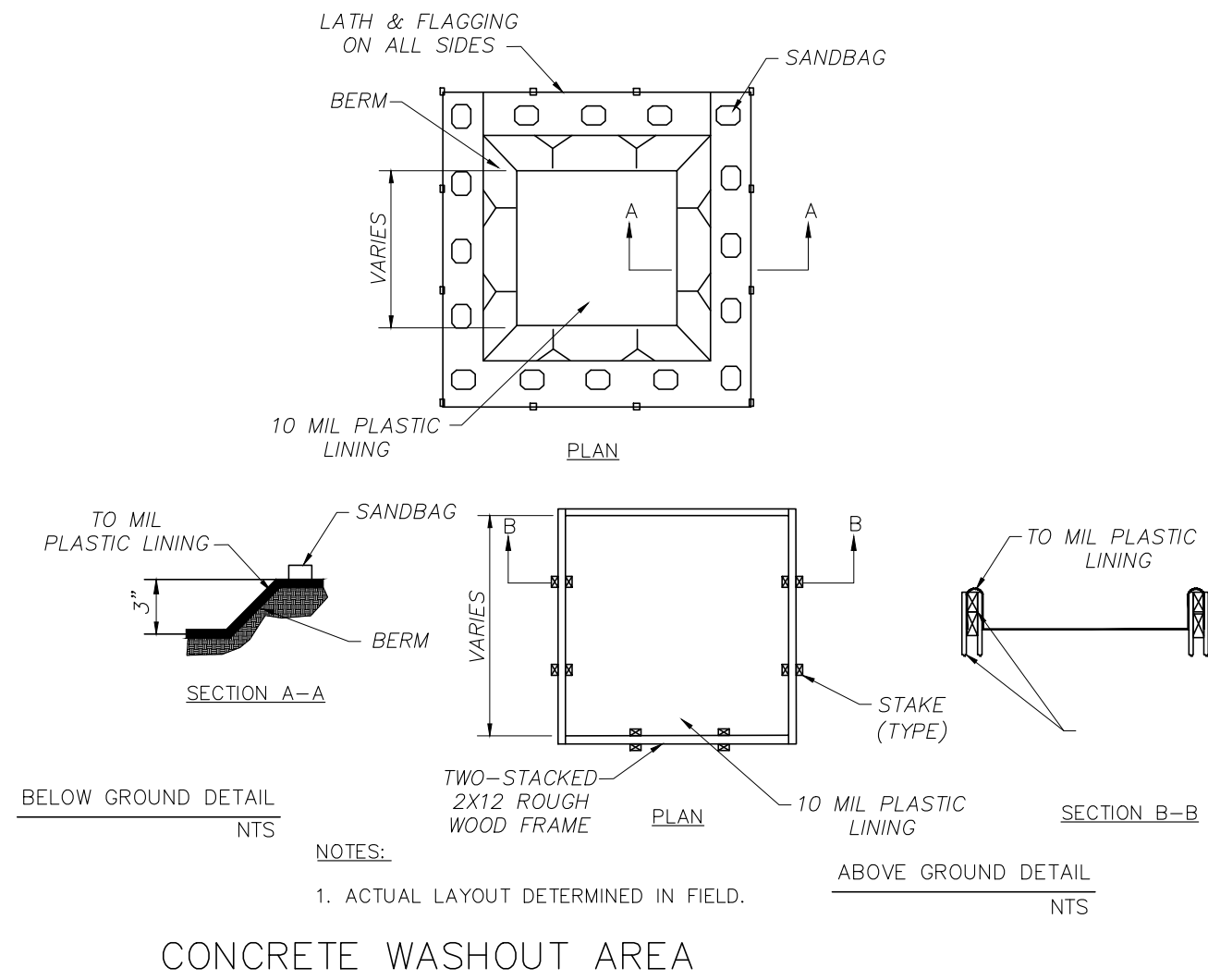
Drawn: Oct 16, 2019, 2:02pm, User: JD, Project: 135 Trail Street V4-040, Sheet: 127.01, Separator: 01.01 - 135 Trail Street V4-040, Sheet: 127.01, Separator: 01.01



SEDIMENTATION AND EROSION CONTROLS

- A. DESIGN CRITERIA**
- Fences are to be constructed along level contours.
 - The ends of the fence shall be turned upstream to prevent bypass of stormwater.
 - Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of one foot.
 - The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement), weight fabric flap with washed gravel on uphill side to prevent flow 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 shall be a 6" double overlap, securely fastened where ends of fabric meet.
 - Inspection shall be made weekly or after each rainfall. Repair or replacement shall be made promptly as needed.
 - Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to the additional siltation.
- B. TEMPORARY DIVERSION DIKE**
- Maximum depth of flow at the dike shall be 1 foot.
 - Side slopes of the diversion dike shall be 3:1 or flatter.
 - Minimum width of the embankment at the top shall be 2 feet.
 - Minimum embankment height shall be 18 inches as measured from the toe of slope on the upgrade side of the berm.
 - The dikes shall remain in place until all disturbed areas which are protected by the dike are permanently stabilized unless other controls are put into place to protect the site.
 - Compacted earth dikes require stabilization immediately upon placement so as not to contribute to the problem they are addressing.
 - All diversion dikes shall have positive drainage to an outlet.
 - Dikes must be inspected on a regular basis to determine if silt is building up behind the dike, or if erosion is occurring on the face of the dike. Silt shall be removed in a timely manner. If erosion is occurring on the face of the dike, the slopes of the face shall be stabilized.
- C. 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 interfere with the proper functioning of the swale.
 - All earth removed and not needed in construction shall be disposed of in an approved spoils site.
 - Inspection must be made after each rain event to locate and repair any damage to the channel or to clear debris or other obstructions so as not to diminish flow capacity. Damages which result from normal construction activities shall be repaired at the end of each work day.
- D. HAY BALE DIKE**
- Each hay bale shall be placed into an excavated trench having a depth of 4 inches and a width just wide enough to accommodate the bales themselves.
 - Hay bales shall be installed in such a way that there is no space between to allow for any kind of seepage.
 - Individual bales shall be held in place by no less than two wood or steel stakes driven a minimum distance of 6 inches into undisturbed ground, with the first stake driven at an angle toward the previously installed bale.
 - The ends of the dike shall be turned upgrade to prevent bypass of stormwater.
 - Inspection shall be weekly or after each rainfall event and repair or replacement shall be made promptly as needed by the contractor.
 - When silt reaches a depth of 6 inches, it shall be removed and disposed of in an approved site.
 - Hay bales shall be replaced if there are signs of degradation such as straw located downstream from the bales, structural deficiencies due to rotting straw in the bale or other signs of deterioration. Sediment should be removed from behind the bales when it reaches a depth of approximately 6 inches. If the bales become clogged, they should be replaced immediately.
- E. SANDBAG BERM**
- Minimum height shall be 18 inches.
 - Minimum width of the berm shall be 18 inches at the top and 48 inches measured at the bottom.
 - Maximum side slopes shall be 2:1.
 - The ends of the berm shall be turned upgrade or shall tie into natural grades to prevent bypass of stormwater.
 - Sandbags should be stacked in at least three rows abutting each other, and in staggered arrangement.
 - Inspections should be made on a daily basis and after each rain event. The sandbags shall be reshaped or replaced as needed during the inspection. Silt should be removed when it reaches a depth of six (6) inches.
- F. STONE OUTLET SEDIMENT TRAP**
- Minimum width of the embankment at the top shall be 3 feet perpendicular to the flow.
 - Minimum embankment slope shall be 3:1.
 - Maximum embankment height shall be 2 feet as measured from the toe of slope to the crest of the stone outlet. The height of the compacted earth embankment shall be one foot higher than the crest of the outlet.
 - Sediment shall be removed and the area directly behind the berm shall be regraded to its original dimensions at such point when the capacity of impoundment has been reduced to one-half of its original storage capacity.
 - The stone outlet structure should be inspected frequently and after each major rain event to check for clogging of the void spaces between stones. If the aggregate appears to be silted in such that efficiency is diminished, the stone should be replaced.
- G. SEDIMENT BASIN**
- Maximum drainage area contributing to the basin shall be 100 acres.
 - Deposited sediment shall be removed when the storage capacity of the basin has been depleted by one-half.
 - Minimum width of the embankment at the top shall be 8 feet.
 - Minimum embankment slope shall be 3:1.
 - Sediment shall be removed and the basin shall be regraded to its original dimensions. The removed sediment shall be stockpiled or redistributed in areas which are protected from erosion.
 - The basin outlet structure and emergency spillway (if present) should be checked frequently and after each major rain event to check for damage.
- H. STABILIZED CONSTRUCTION EXIT**
- Stone size - 3 to 5 inches crushed rock.
 - Length - as effective, but not less than 50 feet, unless depth of lot is less than 150 feet from edge of pavement where length must only be 30 feet.
 - Thickness - not less than 8 inches.
 - Width - not less than full width of all points of ingress or egress.
 - Washing - when necessary, wheels shall be cleaned to remove sediment prior to entrance onto public roadway. When washing is required, it shall be done on an area stabilized with crushed stone 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 cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway, must be removed immediately.
 - Drainage - entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.

- 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 project will not use any off-site material, waste/borrow/fill, or equipment storage areas.
 - 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.



80% SUBMITTAL

PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES
STORM WATER POLLUTION
PREVENTION PLAN DETAILS

MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

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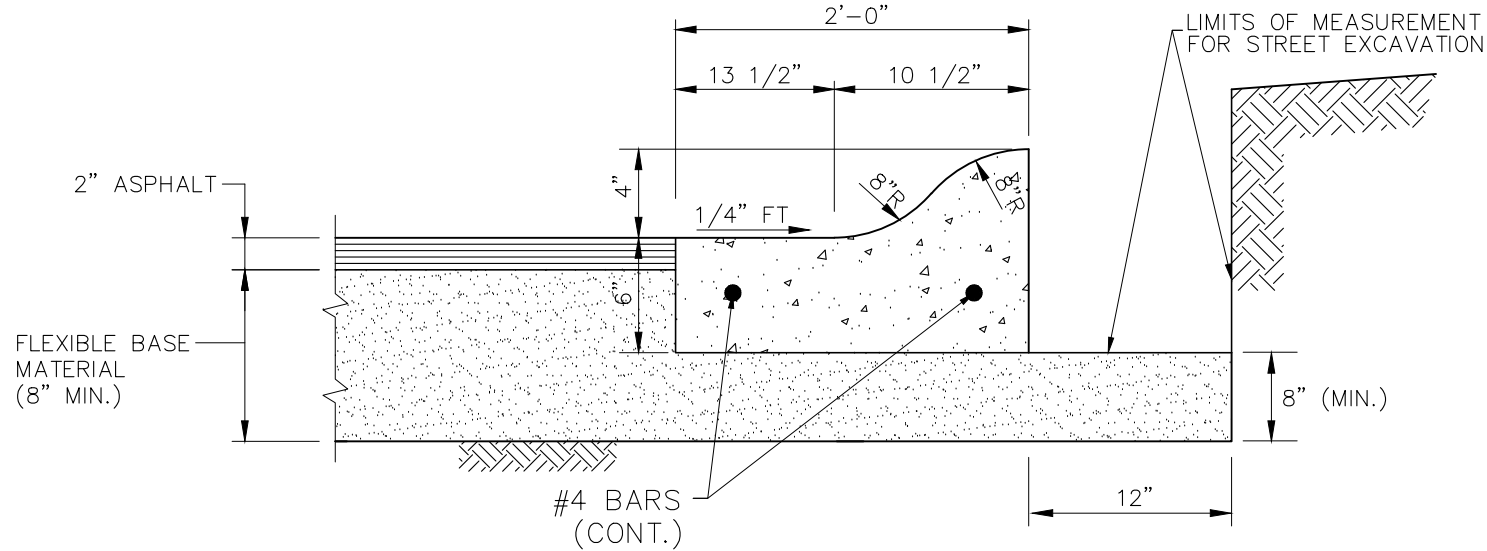
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R. E. #111640
October 18, 2019

UP
ENGINEERING
1070 N. LOOP 1804 E. SUITE 1310
SAN ANTONIO, TX 78232 TEL 210-774-5504
WWW.UPEENGINEERING.COM TEXAS REG. NO. F-7992

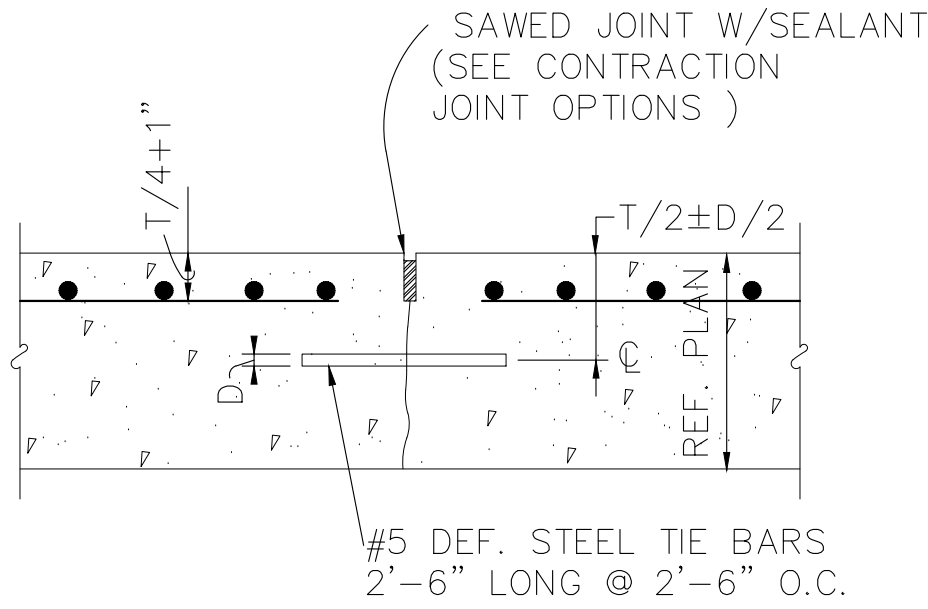
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1	10/18/19	HDRC ADDENDUM	
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SHEET			
C9			
OF			
C12			

PROPERTY ADDRESS:
335 TRAIL STREET
LOT 1, BLOCK 2, N.C.B. 6078

Drawn: Oct 16, 2018 10:02am User: JG, JWS
Title: City of San Antonio - Capital Improvements Management Services Department - 135 Trail Street - Local Sheet 127.01 CONSTRUCTION DETAIL S.DWG

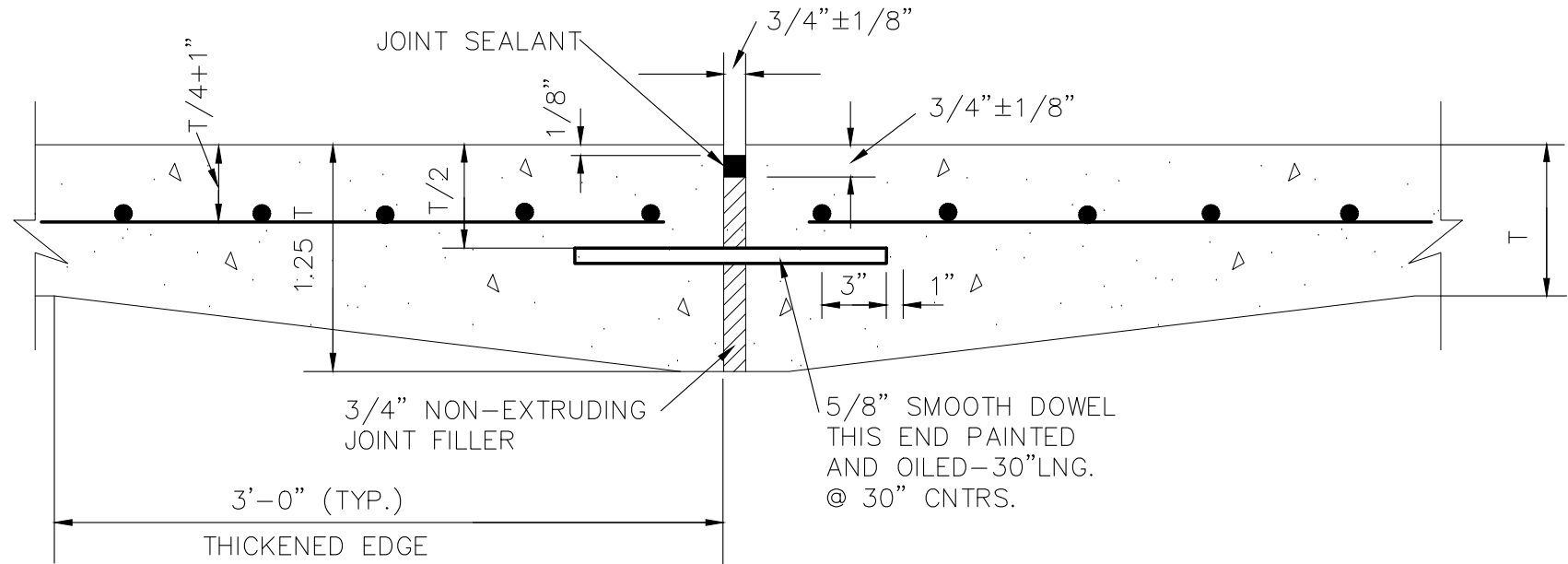


TYPICAL ROLLOVER CURB
NTS

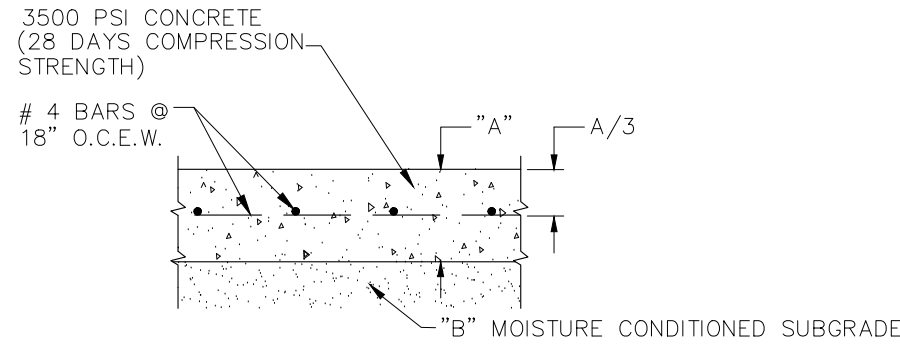


LONGITUDINAL
OPTIONAL

PVMT. CONTRACTION JOINT
N.T.S.



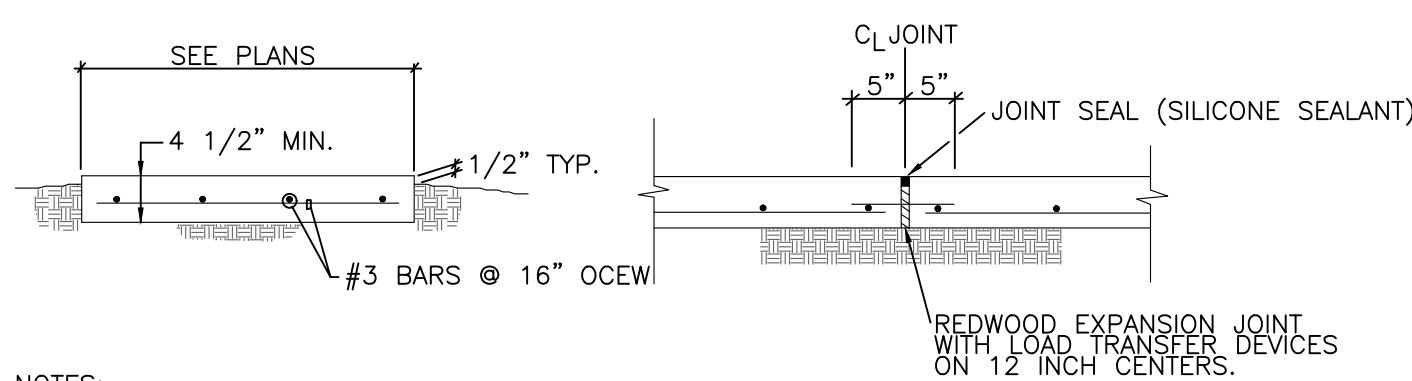
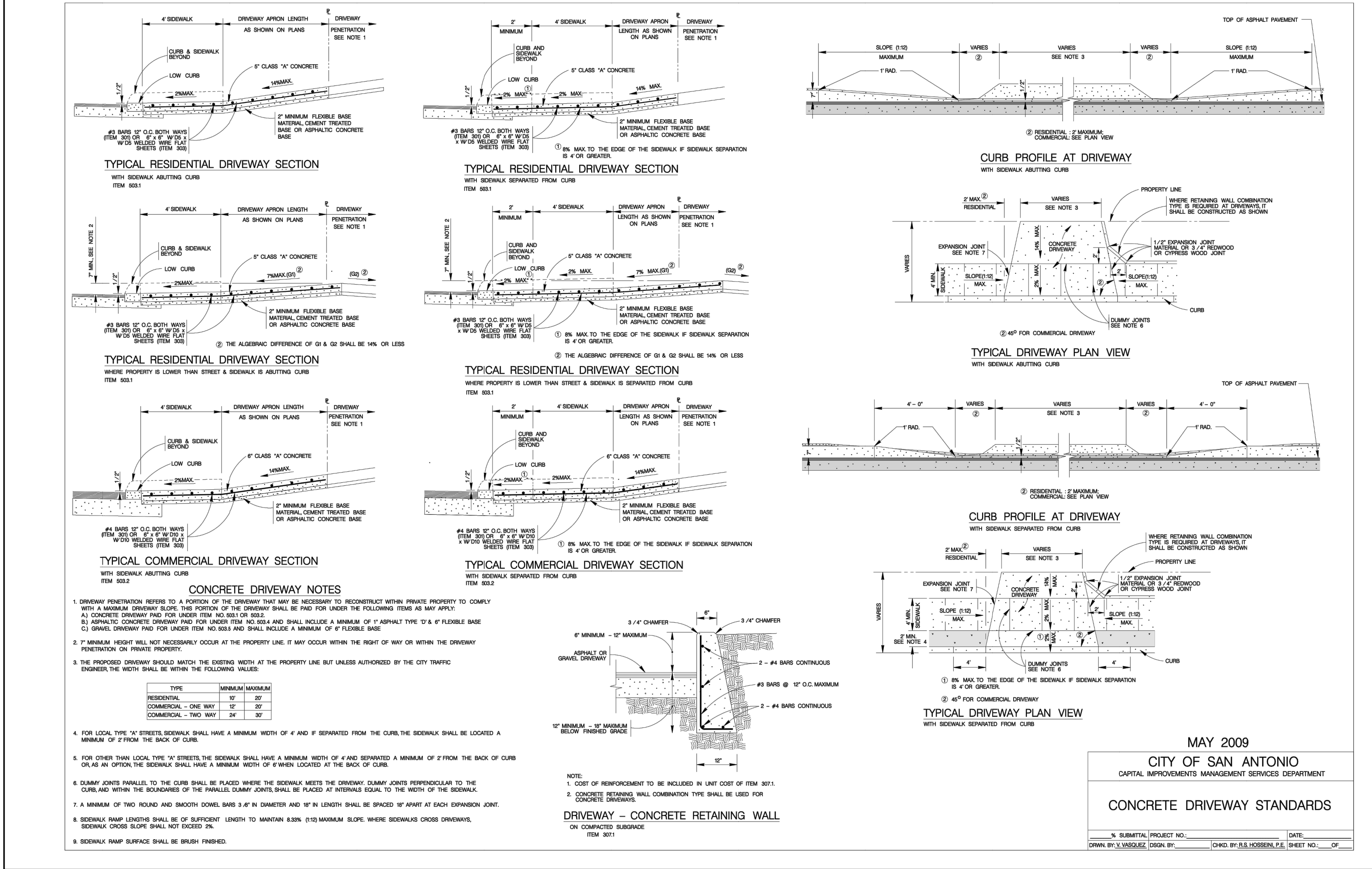
PVMT. EXPANSION JOINT
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CONCRETE PAVEMENT SECTION
NTS

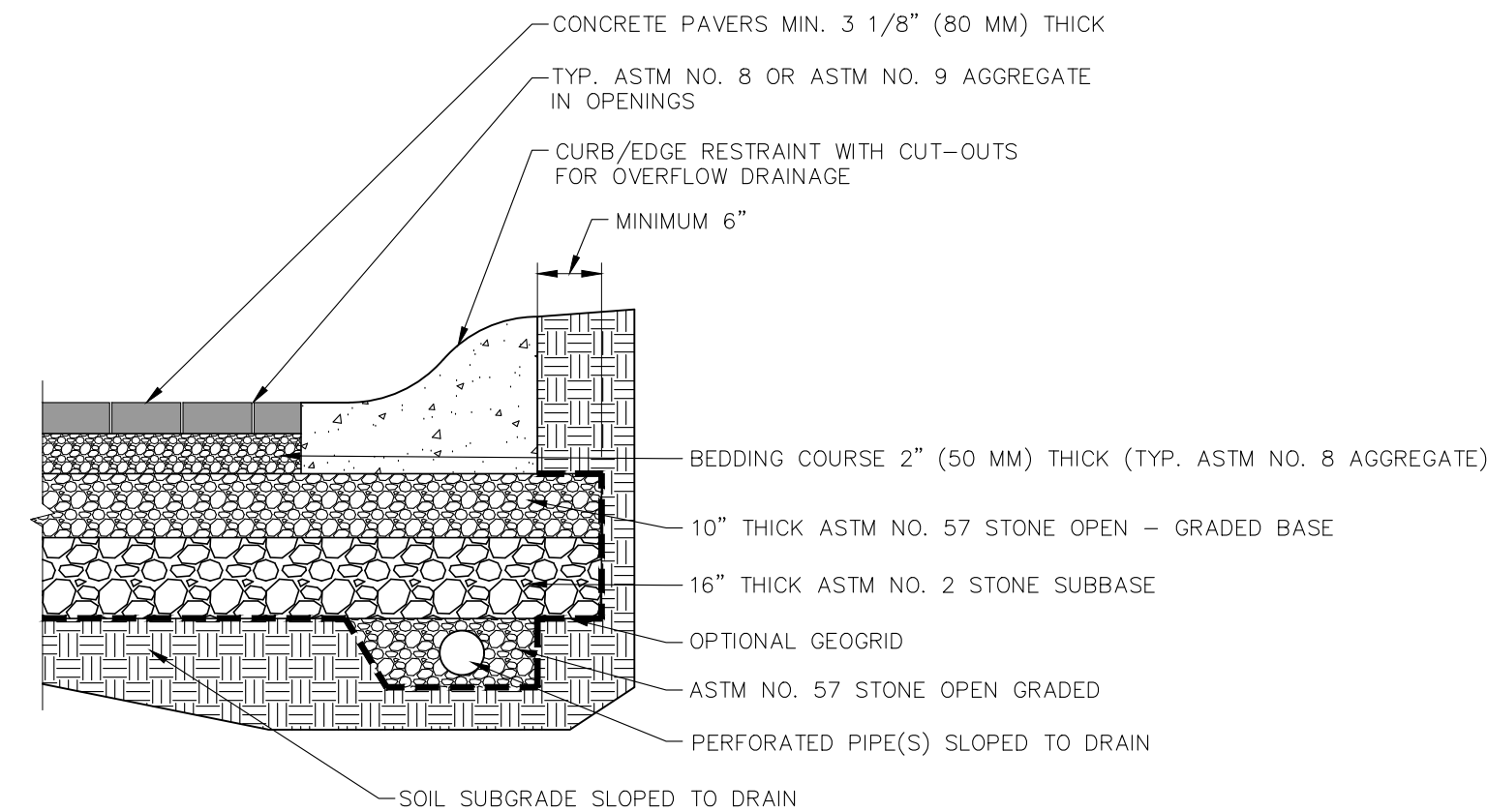
		PARKING AREAS	DRIVE AREAS
"A"	REINFORCED CONCRETE	5"	6"
"B"	MOISTURE CONDITIONED SUBGRADE	6"	6"

NOTE: REFER TO GEOTECHNICAL ENGINEERING STUDY BY INTEC, PROJECT NO. S181369, DATED AUGUST 24, 2018 FOR ADDITIONAL INFORMATION.



- NOTES:
1. SLOPE TRANSVERSE SURFACE 1/4" PER FOOT IN DIRECTION OF GENERAL SITE AREA DRAINAGE.
 2. FLOAT EDGES 1/4" MAXIMUM AT CONTROL JOINTS.
 3. USE REDWOOD BOARD EXPANSION JOINT W/ #4 SMOOTH BAR W/ LOAD KEY (10" LONG).
 4. REDWOOD BOARD EXPANSION JOINTS ON 15 FOOT CENTERS MAXIMUM.
 5. CONTROL JOINT SPACING NOT TO EXCEED FIVE (5) FEET. SCORED, TOOLED OR SAWN JOINTS SHALL BE 1/4 THE PAVEMENT THICKNESS BUT NOT LESS THAN ONE (1) INCH.

CONCRETE SIDEWALK
NTS



PERMEABLE PAVERS
STORAGE & DETENTION WITH CURB
NTS

80% SUBMITTAL

PLAT NO. 19-11800095
TRAIL STREET TOWNHOMES

CONSTRUCTION DETAILS

REV	DESCRIPTION	DATE	BY
1	10/18/19 HDRC APPENDUM		
DESIGNED BY:	WPF		
DRAFTED BY:	JWH		
CHECKED BY:	NFU		
SHEET	C10		
OF	C12		

PRELIMINARY
NOT FOR CONSTRUCTION,
BIDDING, OR PERMIT
PURPOSES.

PREPARED UNDER THE
SUPERVISION OF
RAN HALL, P.E.
October 18, 2019

MNO INVESTMENTS, LLC
4010 GREYSTONE DRIVE
AUSTIN, TX 78731

UP
ENGINEERING
1970 N. LOOP 1504 E. SUITE 1310
SAN ANTONIO, TX 78232 TEL 210-774-5504
WWW.UPENGINEERING.COM TEXAS REG. NO. F-17992

Date: Oct 18, 2019, 2:03pm User ID: just
File: U:_Projects\27 - MNO Partners\27.01 - 335 Tran Street\ACAD\Sheets\27.01 CONSTRUCTION DETAILS.dwg

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 the 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:

7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, driveways, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.

- 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 constworkreq@saws.org.

12. Compaction note item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and 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.

- WATER SECTION
1. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with 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.

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".

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.

6. **PRVs Required:** Contractor to verify that no portion of the tract is below ground elevation of 745 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 745 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).

8. Backflow Prevention Devices:

All commercial backflow prevention devices must be approved by SAWS prior to installation.

Note:
For direct tap to main, see Tapping Schedule

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL SERVICE ARRANGEMENT	APPROVED	REVISED
		March 2008	
		DD-824-05	
			SHEET 1 OF 3



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL SERVICE ARRANGEMENT	APPROVED	REVISED
		March 2008	
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PREPARED UNDER THE
SUPERVISION OF
RYAN R. PLAGENS,
P.E. #111640 ON
October 18, 2019

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