TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES 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 EXCAVATION 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.

UTILITY TRENCH COMPACTION:

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12') LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

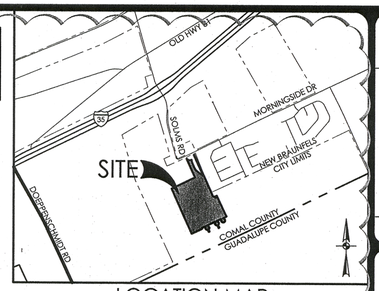
THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

NOTES:
1. CONTRACTOR IS REQUIRED TO REVEGETATE ANY DISTURBED GROUND.
2. ANY STRUCTURES THAT THE CONTRACTOR REMOVES SHALL BE REPLACED AT THE SAME, OR BETTER, CONDITION AT THE CONTRACTOR'S EXPENSE.
3. PRIOR TO CONSTRUCTION COMMENCING, A PRE-CONSTRUCTION MEETING SHALL OCCUR IN THE FIELD BETWEEN THE ENGINEER, LAND OWNER, AND CONTRACTOR.
4. SURVEY DATA MAY NOT BE UP TO DATE DUE TO ONGOING CIP PROJECT. NOTIFY ENGINEER IF CONFLICTS EXIST WITH POWER POLES.

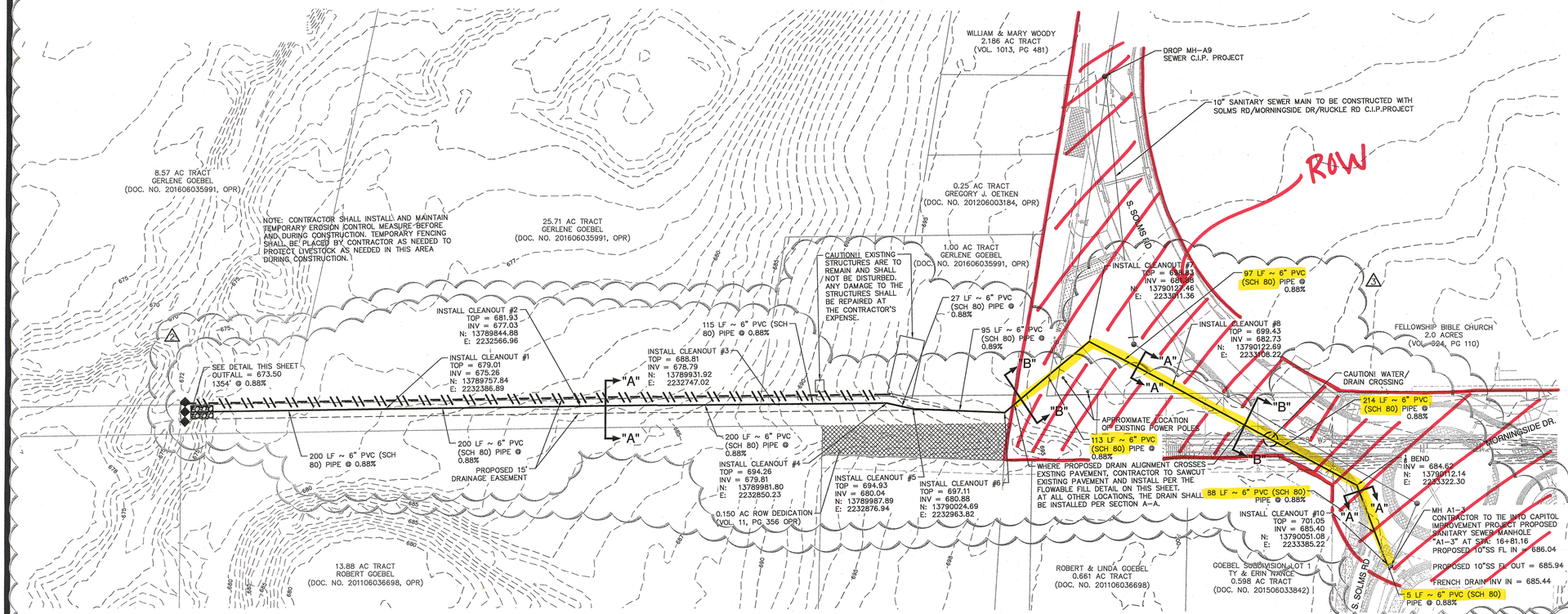
3

CAUTION!!!:

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. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.



LOCATION MAP
SCALE: 1" = 2000'

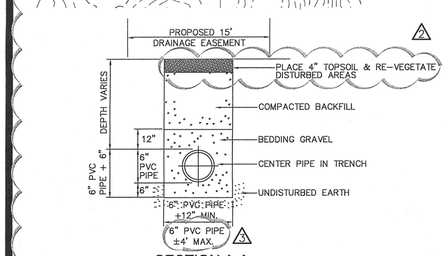


Portion of drain that requires the license agreement

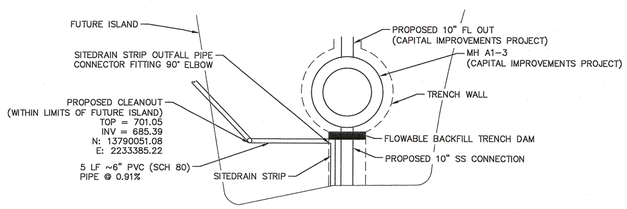
LEGEND

	PROPERTY BOUNDARY
901	EXISTING MINOR CONTOUR
900	EXISTING MAJOR CONTOUR
	PROPOSED 6" FRENCH DRAIN
	PROPOSED 15' DRAINAGE EASEMENT
	SILT FENCE (TEMP)
	ROCK BERM (TEMP)

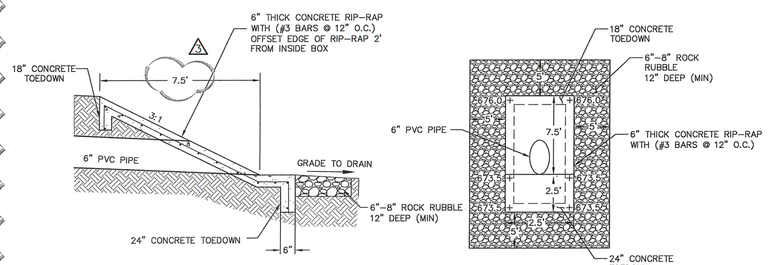
SCALE: 1" = 60'
0' 60' 120' 180'



SECTION A-A
NOT-TO-SCALE



SITEDRAIN STRIP / CLEANOUT LAYOUT
NOT-TO-SCALE



SIDE VIEW
NOT-TO-SCALE

PLAN VIEW
NOT-TO-SCALE

DRAINAGE CONCRETE RIP RAP DETAIL
NOT-TO-SCALE

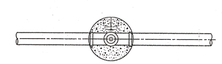
FRENCH DRAIN MAINTENANCE SCHEDULE

INSPECTIONS
DRAINS SHOULD BE INSPECTED TO ASSURE PROPER OPERATION AT LEAST 2 TIMES ANNUALLY. ONE OF THESE INSPECTIONS SHOULD OCCUR DURING OR IMMEDIATELY FOLLOWING WET WEATHER.

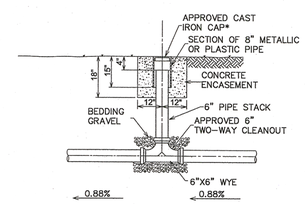
SEDIMENT REMOVAL
SEDIMENT BUILD UP IN ANY DRAIN SHALL BE REMOVED AT LEAST ONCE ANNUALLY, OR WHEN DEPTH REACHES 3 INCHES. REMOVED SEDIMENT MUST BE DISPOSED OF PROPERLY.

DEBRIS AND LITTER REMOVAL
DEBRIS/LITTER MAY ACCUMULATE NEAR THE DRAIN. DURING SEDIMENT REMOVAL AND/OR REGULAR MOWING OPERATIONS AND INSPECTIONS, ALL ITEMS CAUSING RESTRICTIONS ON REGULAR WATER FLOW SHOULD BE REMOVED.

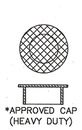
NUISANCE CONTROL
STANDING WATER OR SOGGY CONDITIONS IN THE DRAIN CAN CREATE NUISANCE CONDITIONS FOR NEARBY RESIDENTS. ODORS, MOSQUITOES, WEEDS, AND LITTER ARE ALL OCCASIONALLY PERCEIVED TO BE PROBLEMS. MOST OF THESE PROBLEMS ARE GENERALLY A SIGN THAT REGULAR INSPECTIONS AND MAINTENANCE ARE NOT BEING PERFORMED (e.g., MOWING AND DEBRIS REMOVAL).



PLAN

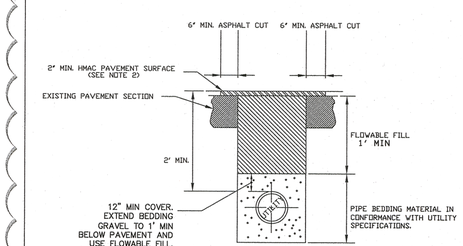


PROFILE



TYPICAL CLEANOUT DETAIL
NOT-TO-SCALE

FLOWABLE FILL SECTION B-B



NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE AT A MINIMUM OF 12' WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
2. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   A) MIN. 2" HMAC TYPE "D" FOR TRENCH REPAIRS IN LOCAL/RESIDENTIAL STREETS.
   B) MIN. 3" HMAC TYPE "C" FOR TRENCH REPAIRS IN COLLECTOR/ARTERIAL STREETS.
3. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED
4. PRIME AND TACK COAT ALL EXPOSED EDGES AND SURFACES.
5. HOT LAY BLACK BASE LAYED IN 8" LIFTS @ 95% COMPACTION.
6. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
7. CALICHE OR EXISTING MATERIAL SHALL NOT BE USED TO BACKFILL THE UTILITY EXCAVATION.

TRENCH REPAIR DETAIL FLOWABLE FILL		CITY OF NEW BRAUNFELS ENGINEERING DIVISION 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PHONE: 830 221 4020 FAX: 830 626 3630
ISSUE DATE: APRIL 2015	SCALE: N.T.S	
DRAWN BY: AMF	CONTACT: GF	

NO.	REVISION	DATE
1	ADDITION OF FRENCH DRAIN	12/03/18
2	FRENCH DRAIN REVISIONS	01/03/19
3	ENGINEERING DIVISION COMMENTS	02/06/19

STATE OF TEXAS
JON D. ADAME
82567
LICENSED PROFESSIONAL ENGINEER
2/6/19

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800

MORNINGSIDE TRAILS UNIT 1
NEW BRAUNFELS, TEXAS
FRENCH DRAIN PLAN

PLAT NO. 17-076
JOB NO. 11451-01
DATE FEBRUARY 2019
DESIGNER ML
CHECKED JW DRAWN KF
SHEET C1.21

Date: Feb 06, 2019, 11:40am User ID: AGaston
File: P:\11451\01\Design\Civil\Unit 1\CD-11451-01.dwg

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