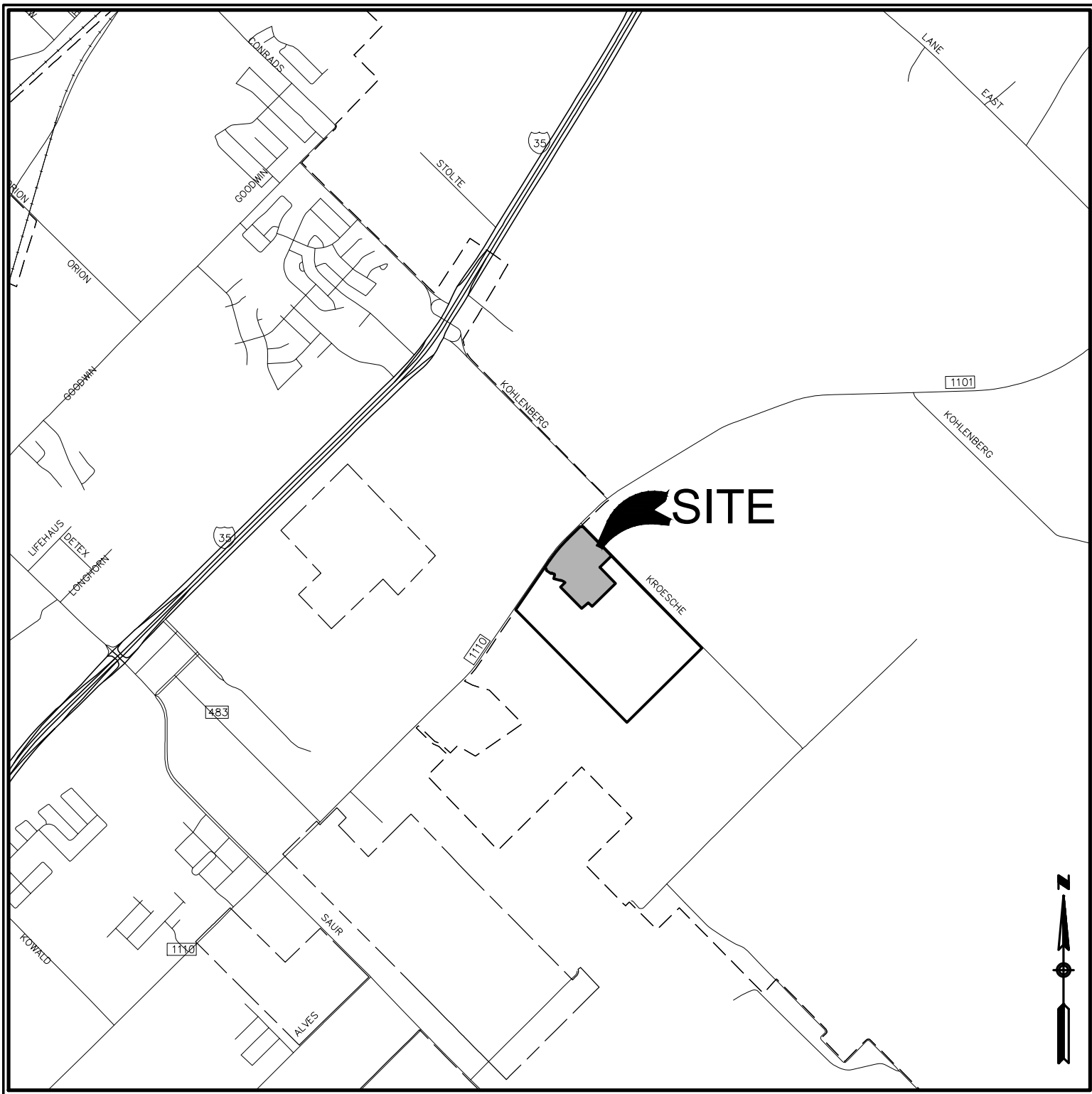


HEATHERFIELD
UNIT 2
NEW BRAUNFELS, TEXAS
CIVIL SITE CONSTRUCTION PLANS



PROJECT LOCATION MAP

SCALE: N.T.S.

PROJECT BENCHMARK

SITE TBM #1
SET SET 1/2" IRON ROD
N: 13816093.7333
E: 2269847.3552
ELEV: 681.71

SITE TBM #2
SET SET 1/2" IRON ROD
N: 13814200.6966
E: 2272169.8524
ELEV: 656.55

LEGAL DESCRIPTION

BEING 23.56 ACRES OF LAND OUT OF THE ANTONIO M. ESNAURIZAR ELEVEN LEAUGUE GRANT, ABSTRACT NO. 1, COMAL COUNTY, TEXAS, BEING A PORTION OF A CALLED 62.585 ACRE TRACT, RECORDED IN DOCUMENT NO. 201806029959, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.

PLEASE NOTE: NBU REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION.

GPS POINTS SHALL BE REQUIRED FROM THE DEVELOPER'S CONTRACTOR OR ENGINEER. A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE. THE ELECTRIC GPS POINTS SHALL BE TO MAP GRADE.

WATER
VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE) PRIOR TO BACKFILL
HORIZONTAL BENDS PRIOR TO BACKFILL
TEES PRIOR TO BACKFILL
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL
FIRE HYDRANTS (TOP OF FLANGE)
VALVES
METERS (TOP CENTER OF BOX)
BLOW OFF ASSEMBLY
CORNER SLAB OF WATER TANK & GATE VALVE ON WATER TANK

WASTEWATER
MANHOLES
CLEANOUTS
CORNER SLAB OF LIFT STATION

ELECTRIC
POLES
TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)
PULL BOXES
STREET LIGHTS

COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR

GENERAL NOTES:

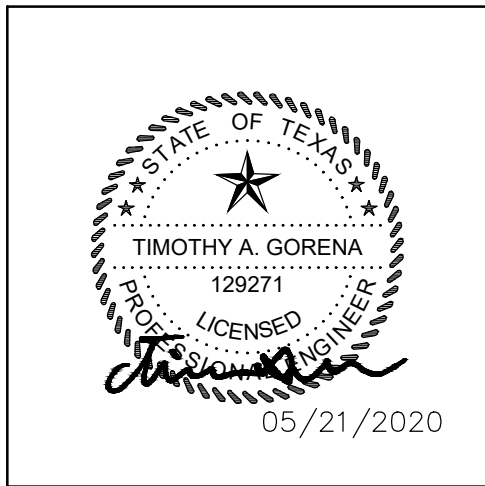
- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
- PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION REQUESTS.

4.1 ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,

4.2 FAXED IN AT 830-608-2117 OR,

4.3 E-MAILED AT INSPECTIONS@NBTEXAS.ORG.

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE..
- THIS DEVELOPMENT IS A TYPE 3 RESIDENTIAL DEVELOPMENT.
- NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE COMAL COUNTY, TEXAS, FIRM PANEL NUMBER 48091C0460F EFFECTIVE DATE 09/02/2009, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THIS
- PROJECT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK IN THE RIGHT OF WAY.



ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

Timothy A. Gorena
Timothy A. Gorena
P.E. Registration No. 129271

PREPARED BY:



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TBPE FIRM F-10961
TBPLS FIRM 10153600

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE ENGINEER IS NOT RESPONSIBLE FOR ITS ACCURACY OR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DATE: 05/21/2020

BY:

Timothy A. Gorena

HMT ENGINEERING AND SURVEYING

Heatherfield Unit 2 Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C0.1	CONSTRUCTION NOTES
C0.2	PLAT (1 OF 2)
C0.3	PLAT (2 OF 2)
C1.0	EXISTING DRAINAGE AREA MAP
C1.1	PROPOSED DRAINAGE AREA MAP
C1.2	ULTIMATE DRAINAGE AREA MAP
C2.0	EROSION CONTROL PLAN
C2.1	EROSION CONTROL DETAILS
C3.0	GRADING PLAN
C3.1	GRADING DETAILS
C4.0	WINDFLOWER PLAN & PROFILE
C4.1	WILD IRIS PLAN & PROFILE
C4.2	PRAIRIE ROSE PLAN & PROFILE
C4.3	FIRE WHEEL & BLUE VIOLET PLAN & PROFILE
C4.4	STARFLOWER PLAN & PROFILE
C4.5	BLUE LOBELLA PLAN & PROFILE
C4.6	WILD IRIS KNUCKLE PLAN & PROFILE
C4.7	PRAIRIE ROSE KNUCKLE PLAN & PROFILE
C4.8	STARFLOWER KNUCKLE PLAN & PROFILE
C4.9	SIGNAGE PLAN
C4.10	STREET DETAILS (1 OF 4)
C4.11	STREET DETAILS (2 OF 4)
C4.12	STREET DETAILS (3 OF 4)
C4.13	STREET DETAILS (4 OF 4)
C5.0	OVERALL STORM PLAN
C5.1	DETENTION POND A
C5.2	POND A DETAILS
C5.3	DETENTION POND B
C5.4	POND B DETAILS
C5.5	CHANNEL A PLAN AND PROFILE
C5.6	CHANNEL B PLAN AND PROFILE
C5.7	STORM DETAILS (1 OF 2)
C5.8	STORM DETAILS (2 OF 2)
C6.0	OVERALL WATER PLAN
C6.1	WATER DETAILS
C7.0	OVERALL WASTEWATER PLAN
C7.1	WASTEWATER LINE E PLAN & PROFILE
C7.2	WASTEWATER LINE I PLAN & PROFILE
C7.3	WASTEWATER LINE H PLAN & PROFILE
C7.4	WASTEWATER LINE G PLAN & PROFILE
C7.5	WASTEWATER LINE F PLAN & PROFILE
C7.6	WASTEWATER LINE A PLAN & PROFILE (1 OF 2)
C7.7	WASTEWATER LINE A PLAN & PROFILE (2 OF 2)
C7.8	WASTEWATER DETAILS (1 OF 2)
C7.9	WASTEWATER DETAILS (2 OF 2)

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS 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, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. 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 APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

HEATHERFIELD UNIT 2
CIVIL SITE CONSTRUCTION PLANS

HMT # 305.001

Drawing Name: W:\Projects\305 - HEC NB, LLC\001 - Heatherfield Unit 2\CDR\305.001_C0.0 - COVER SHEET.dwg User: andrew May 26, 2020 10:38am

CITY OF NEW BRAUNFELS GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

A. CURRENT CITY OF NEW BRAUNFELS CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT

B. THE MOST CURRENT EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES," ALONG WITH CURRENT CITY OF NEW BRAUNFELS AND COMAL COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AREA AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100YR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN TO LAY DOWN CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 1 OR 2, ACCORDING TO TxDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TxDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TxDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TxDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TxDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING,

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICES, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "N" VALUE OF 0.024, UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF NEW BRAUNFELS REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3 FEET BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE-CONSTRUCTION CONFERENCE IS REQUIRED. ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF NEW BRAUNFELS STREET INSPECTOR & NEW BRAUNFELS UTILITIES INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

CONTRACTOR SHALL COORDINATE WITH DRY UTILITY INSTALLERS AND SHARED TRENCHING SHALL BE UTILIZED. CUTTING THE STREETS AFTER COMPLETION BY DRY UTILITIES SHALL NOT BE ACCEPTABLE.

AS PER PLATTING ORDINANCE SECTION 118--38M.: WHEN ALL IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARD AND UPON RECEIPT OF ONE SET OF "RECORD DRAWINGS" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

EROSION / SEDIMENTATION CONTROL

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. FILL BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED {31 TAC 313.5 (C)(12)}. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT NO EROSION CONTROL MEASURES BLOCK THE DRAINAGE SYSTEM FROM WORKING AS DESIGNED.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.

ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

NEW BRAUNFELS UTILITIES (WATER AND SEWER) (830) 608-8971

NEW BRAUNFELS UTILITIES (ELECTRIC) (830) 608-8951

TIME WARNER CABLE (830) 625-3408

CENTERPOINT ENERGY (GAS) (830) 643-6434

AT&T (830) 303-1333

TEXAS ONE CALL SYSTEM (800) 245-4545

ENERGY TRANSFER (PETROLEUM PIPELINE) (210) 262-2486

CONTRACTOR SHALL REFERENCE NEW BRAUNFELS UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

WASTEWATER NOTES

REVISION DATE: 3/31/11

1. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WASTEWATER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
2. A MINIMUM OF 8" WASTEWATER PIPE AND FITTING (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) ARE REQUIRED FOR NEW INSTALLATION. MAXIMUM MANHOLES SHALL BE USED.
3. ALL RESIDENTIAL WASTEWATER SERVICE LATERALS SHALL BE EXTENDED TO THE PROPERTY LINE AND A CLEANOUT SHALL BE INSTALLED AT THE PROPERTY LINE. SERVICES TO LOTS WILL EXTEND FOUR (4) FEET PAST THE UNDERGROUND ELECTRIC CONDUIT IF ELECTRIC IS INSTALLED IN THE FRONT EASEMENT.
4. PIPE BEDDING OF WASTEWATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SPECIFICATIONS.
5. SECONDARY BACKFILL OF WASTEWATER LINES SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
6. ALL WASTEWATER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS AS PER 30 TAC #217.53 (C) (2).
7. FOR WASTEWATER LINES LESS THAN 24" IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.
 - 7.1. THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID POINT OR SPRING LINE OF THE PIPE.
 - 7.2. 8-12" THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL. FOR PIPES LARGER THAN 24" 12" MANHOLES SHALL BE USED.
8. ALL MANHOLES MUST BE WATER TIGHT, EITHER MONOLITHIC, CAST-IN-PLACE CONCRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY NBU. THE MANHOLES SHALL HAVE WATER-TIGHT RINGS AND COVERS. WHEREVER THEY ARE WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE COVERS SHALL BE BOLTED. EVERY THIRD MANHOLE IN SEQUENCE SHALL HAVE AN ALTERNATE MEANS OF VENTING. 30 TAC #217.53 (C)(3)(A) AND 30 TAC #217.55 (C).
9. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS TWO INCHES (2") ABOVE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREA. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
10. ALL NEW MANHOLES, UNLESS APPROVED BY NBU ENGINEERING, ARE TO HAVE COVERS WITH 32" OPENINGS.
11. WASTEWATER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OR MECHANICAL "BOOT" TYPE JOINT AS APPROVED BY NBU.
12. WASTEWATER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
13. IN AREAS WHERE A NEW WASTEWATER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING WASTEWATER SYSTEM, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. CONTROL AS NOTED ON THE PROJECT'S PLAN AND PROFILE SHEETS. ALL TEMPORARY EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR. (NO SEPARATE PAY ITEM).
14. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES / MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING THE ASTM SPECIFICATION FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC #217.53 (D) (3) (A) (1).
15. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE WASTEWATER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
 - 15.1. PULL MANDREL
 - 15.2. PERFORM AIR TEST
 - 15.3. CLEANING OF ANY DEBRIS
 - 15.4. FLUSHING OF SYSTEM
 - 15.5. TV INSPECTION (WITHIN 72 HOURS OF FLUSHING)
16. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE WASTEWATER MAIN AND LATERALS AT SUBGRADE. EXCESSIVE DEBRIS WILL BE REMOVED.
17. WASTEWATER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLE IN ACCORDANCE WITH NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
18. TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF WASTEWATER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT'S PLAN AND PROFILE SHEETS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY NBU WATER SYSTEMS.
19. ALL MANHOLES NOT WITHIN PAVED STREETS SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329.
20. ALL MANHOLES OVER THE EDWARDS AQUIFER RECHARGE ZONE SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329.

WATER NOTES

REVISED 9/12/14

7. ALL WATER MAINS SHALL BE AWWA C900 (CLASS 150 OR GREATER).
8. WATER SERVICES SHALL BE SINGLE 1" COPPER TUBING.
9. WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
10. WATER MAIN SHALL HAVE A MINIMUM OF 42 INCHES OF COVER, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
11. EACH UNIT IN A DUPLEX, TRIPLEX, FOURPLEX, OR CONDOMINIUM SHALL BE PROVIDED WITH AN INDIVIDUAL WATER METER. A MASTER METER CAN BE CONSIDERED FOR SEPARATE BUILDINGS, HOWEVER, THOSE BUILDINGS MUST BE PLUMBED TO ALLOW SEPARATE METERS FOR FUTURE CONSIDERATION.
12. CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
13. INITIAL BACKFILL OF WATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
14. SECONDARY BACKFILL OF WATER LINES SHALL GENERALLY CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH OR STONES HAVING ANY DIMENSION LARGER THAN 6" INCHES AT THE LARGEST DIMENSION.
15. HYDROSTATIC TESTING IS DONE FROM VALVE TO VALVE.
16. NO METER BOXES TO BE SET IN DRIVEWAYS OR SIDEWALKS. ANY METER BOXES SET IN DRIVEWAYS OR SIDEWALKS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
17. METER BOXES MUST BE SET AT THE PROPOSED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
18. ACCEPTABLE METER BOXES ARE D15-BAMR AND D15-BAMR. NEW RESIDENTIAL LOTS ARE REQUIRED TO USE THE D15-BAMR METER BOXES (DOUBLE AMR). COMMERCIAL LOTS SHOULD CHOOSE WHICH BOX APPLIES TO THE DOMESTIC AND/OR IRRIGATION METER LAYOUT.
19. THRUST BLOCKS WILL NOT BE ALLOWED ON THE SYSTEM WITHOUT SPECIAL APPROVAL. JOINTS WILL BE RESTRAINED WITH RESTRAINING SYSTEMS APPROVED BY NBU AND RESTRAINT LENGTH SHALL BE SUBMITTED TO NBU AT THE TIME OF PLAN SUBMITTAL.
20. CONTRACTOR SHALL PLACE TRACER WIRE ON TOP OF THE WATER MAINS. TRACER WIRE SHOULD RUN FROM VALVE TO VALVE AND EXIT AT THE VALVE BOX. THE TRACER WIRE SHOULD BE ATTACHED TO THE TOP OF THE PIPE USING TAPE. EXCESS WIRE SHOULD BE LEFT WITHIN VALVE BOXES TO BE PLACED WITHIN LID OF COVER.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE ENGINEER IS NOT RESPONSIBLE FOR ITS ACCURACY OR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DATE: 05/21/2020 BY: *Tim*

HMT ENGINEERING AND SURVEYING

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES

REVISED 11/2016

IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRECONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.

- ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
- FAXED IN AT 830-608-2117 OR,
- E-MAILED AT INSPECTIONS@NEWBRAUNFELS.TX.GOV.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE 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 PROJECT ENGINEER SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

A TxDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TxDOT MATERIAL, EPOXY AND ADHESIVE SPECIFICATIONS.

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS

AS PER PLATTING ORDINANCE SECTION 118--38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM AND PDF) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE

ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE

DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOOD ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

SOILS TESTING

PROCTORS SHALL BE SAMPLED FROM ON SITE MATERIAL (ON SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FLEXIBLE BASE OR FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED SIX-INCHES (6") COMPACTED. EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED 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 WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

ITEM 340

ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX ASPHALT AS DEFINED IN TxDOT'S STANDARD SPECIFICATIONS FOR TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.

THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.

THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TxDOT ITEM 340. THE MIX SHALL BE DESIGNED FOR A STABILITY OF AT LEAST 35 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TxDOT TEST METHOD TEX-227-F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN. UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).

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 GEOTECHNICAL 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.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION

- (INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).
1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
 2. SAWCUT EXISTING CURB TO THE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE. STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3X5" ROCK TO BE PLACED A MINIMUM LENGTH OF 25'-FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)

ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.

NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1-3) - 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS D & OM (1 - 5) - 10.

MATERIALS

SIGN MATERIALS INCLUDING ALUMINUM SIGN BLANKS AND SIGN FACE MATERIALS SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS TSR (1 - 5) - 08 AND DEPARTMENTAL MATERIAL SPECIFICATIONS DMS-7110 AND DMS-8300.

THE CITY OF NEW BRAUNFELS WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS. AND AFTER RAINFALL EVENTS, AS NEEDED, CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETScape AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
10. TPDES REQUIREMENTS - DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY WILL BEGIN AGAIN WITHIN 21 DAYS

GENERAL NBU NOTES

REV. DATE 3/31/11

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL BE APPROVED BY NEW BRAUNFELS UTILITIES AND COMPLY WITH THE CURRENT "NEW BRAUNFELS UTILITIES WATER SYSTEMS CONNECTION/CONSTRUCTION POLICY".
2. CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE PLANS FROM THE CONSULTANT OR ENGINEER AND NOTIFY NBU WATER SYSTEMS ENGINEERING AT 830-608-8971 WITH AT LEAST TWO (2) WORKING DAYS (48 NOTICE. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE DEVELOPER DEDICATES THE WATER / WASTEWATER MAINS UPON COMPLETION BY THE CONTRACTOR AND ACCEPTANCE BY THE NEW BRAUNFELS UTILITIES WATER SYSTEM. NBU WILL OWN AND MAINTAIN SAID WATER / WASTEWATER MAINS WHICH ARE LOCATED WITHIN PLATTED UTILITY EASEMENTS OR PUBLIC ROW OF PROPOSED DEVELOPMENTS. (AS APPLICABLE).
4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
5. CONTRACTOR TO CONTACT THE ENGINEER-OF-RECORD (EOR) FOR ANY FIELD CHANGES, ANY REVISIONS OR CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL REQUIRE ADDITIONAL APPROVAL BY NBU IN WRITING.
6. CONTRACTOR AND / OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESEN

PLAT NOTES:

- ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER, SEWER AND ELECTRIC SERVICE BY NEW BRAUNFELS UTILITIES. TELEPHONE AND CABLE SERVICES FOR THE SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR SPECTRUM.
- ALL BEARINGS AND COORDINATES SHOWN HEREON ARE BASED UPON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM 1983, GRID. DISTANCES SHOWN HEREON ARE BASED UPON SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.00015.
- MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP STAMPED "HMT" IMMEDIATELY AFTER COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
- THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- THIS SUBDIVISION IS WITHIN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF NEW BRAUNFELS, TEXAS.
- THIS SUBDIVISION IS WITHIN THE COMAL INDEPENDENT SCHOOL DISTRICT.
- NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE COMAL COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 4809IC0460, EFFECTIVE DATE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
- FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
- SIX (6) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ALONGSIDE AND ADJACENT TO THE PROPERTY LINE BY THE DEVELOPER AT THE TIME OF UNIT STREET CONSTRUCTION ALONG:
 - FM 1101 AND KROESCHE LN.
- FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION ALONG:
 - WINDFLOWER - LOT 804, BLOCK 6, OPPOSITE LOT 172 AND 173, BLOCK 7
 - WILD IRIS AND FIRE WHEEL - LOT 904, BLOCK 6
 - STARFLOWER - LOT 904, BLOCK 6
- FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE HOME BUILDER AT THE TIME OF BUILDING CONSTRUCTION ALONG:
 - WINDFLOWER, WILD IRIS, FIRE WHEEL, PRAIRIE ROSE, STARFLOWER AND BLUE LOBELIA
- THE ELEVATION OF THE LOWEST FLOOR OF A STRUCTURE SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTING DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
- THIS SUBDIVISION IS SUBJECT TO THE 2006 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS PLAT IS APPROVED FOR ONE (1) DWELLING UNIT PER BUILDABLE LOT WHERE FEES ARE DUE AT THE TIME OF RECORDATION. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT(S) SHALL NOTIFY THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
- THIS UNIT CONTAINS 128 BUILDABLE RESIDENTIAL LOTS.
- ALL DRAINAGE EASEMENTS WITHIN THE LOTS WILL BE OWNED AND MAINTAINED BY PROPERTY OWNER.
- PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION PLAT IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
- A PORTION OF THIS SUBDIVISION IS IN THE AIRPORT OVERLAY DISTRICT APPROACH 3 ZONE AND IS SUBJECT TO AIRPORT HAZARD ZONING DISTRICT STANDARDS AND REGULATIONS.
- LOT 904, BLOCK 6 (DRAINAGE) WILL BE OWNED AND MAINTAINED BY THE SUBDIVISION PROPERTY OWNER, ITS SUCCESSOR AND/OR ASSIGNS.

NEW BRAUNFELS UTILITIES NOTES:

- MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
- UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE DWELLING ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
- UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
- EACH LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER'S/DEVELOPER'S EXPENSE.
- DO NOT COMBINE ANY NEW UTILITY EASEMENTS (U.E.) WITH DRAINAGE EASEMENTS (D.E.) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (U.E.) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED DOROTHY J. TAYLOR, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

DOROTHY J. TAYLOR
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6295
290 S. CASTELL AVE, SUITE 100, NEW BRAUNFELS, TEXAS 78130

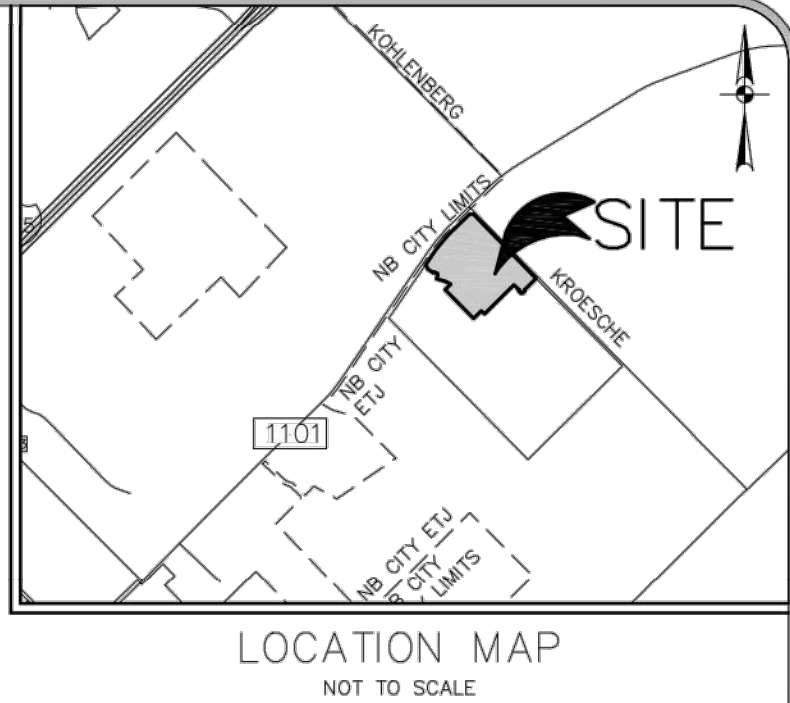
PLAT REVISED AUGUST 5, 2019
PLAT REVISED JUNE 18, 2019
PLAT PREPARED MAY 20, 2019



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 10153600

FINAL PLAT ESTABLISHING
HEATHERFIELD, UNIT 2

BEING 28.30 ACRE TRACT LOCATED IN THE ANTONIO M. ESNOURIZAR SURVEY, ABSTRACT NO. 1, COMAL COUNTY, TEXAS. BEING A PORTION OF A CALLED 76.620 ACRE TRACT, RECORDED IN DOCUMENT NO. 201806029957 AND A PORTION OF A CALLED 1.592 ACRE TRACT, RECORDED IN DOCUMENT NO. 201806029959, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.



TXDOT NOTES:

- FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
- OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY. FOR PROJECTS IN THE EDWARDS AQUIFER RECHARGE OR CONTRIBUTING ZONES, OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT, WILL NOT ENCR OACH BY STRUCTURE OR GRADING INTO STATE R.O.W. PLACEMENT OF PERMANENT STRUCTURAL BEST MANAGEMENT PRACTICE DEVICES OR VEGETATIVE FILTER STRIPS WITHIN STATE R.O.W. WILL NOT BE ALLOWED.
- MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TXDOT'S "ACCESS MANAGEMENT MANUAL". THIS PROPERTY IS ELIGIBLE FOR ZERO (0) POINT OF ACCESS TO FM 1101 BASED ON AN APPROXIMATE OVERALL FRONTAGE OF 1,066.71 FEET, WHERE TOPOGRAPHY OR OTHER EXISTING CONDITIONS MAKE IT INAPPROPRIATE OR NOT FEASIBLE TO CONFORM TO THE CONNECTION SPACING INTERVALS. THE LOCATION OF REASONABLE ACCESS WILL BE DETERMINED WITH CONSIDERATION GIVEN TO TOPOGRAPHY, ESTABLISHED PROPERTY OWNERSHIPS, UNIQUE PHYSICAL LIMITATIONS, AND/OR PHYSICAL DESIGN CONSTRAINTS. THE SELECTED LOCATION SHOULD SERVE AS MANY PROPERTIES AND INTERESTS AS POSSIBLE TO REDUCE THE NEED FOR ADDITIONAL DIRECT ACCESS TO THE HIGHWAY. IN SELECTING LOCATIONS FOR FULL MOVEMENT INTERSECTIONS, PREFERENCE WILL BE GIVEN TO PUBLIC ROADWAYS THAT ARE ON LOCAL THOROUGHFARE PLANS.
- IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT, PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE AS DIRECTED BY TXDOT.
- ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LANE, RIGHT-TURN LANE, SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

APPROVED THIS THE _____ DAY OF _____, 20____,
BY THE PLANNING COMMISSION OF THE CITY OF NEW
BRAUNFELS, TEXAS.

CHAIRMAN _____

APPROVED FOR ACCEPTANCE

DATE _____ PLANNING DIRECTOR _____
DATE _____ CITY ENGINEER _____
DATE _____ NEW BRAUNFELS UTILITIES _____

STATE OF TEXAS
COUNTY OF COMAL

I, _____ DO HEREBY CERTIFY THAT THE FOREGOING
INSTRUMENT WAS FILED FOR RECORD IN THE MAP AND PLAT RECORDS,
DOC# _____ OF COMAL COUNTY ON THE _____ DAY
OF _____, 20____, AT
_____ M.

WITNESS MY HAND AND OFFICIAL SEAL, THIS THE _____ DAY OF
_____, 20____.

COUNTY CLERK, COMAL COUNTY, TEXAS

DEPUTY _____

STATE OF TEXAS
COUNTY OF COMAL

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT,
AND DESIGNATED HEREIN AS THE HEATHERFIELD, UNIT 2 A SUBDIVISION
TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE
NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY
AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS,
DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE
PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

HDC NB, LLC
BY: SCOTT TEETER - MANAGER
45 NE LOOP 410, SUITE 225
SAN ANTONIO, TEXAS 78216

STATE OF TEXAS
COUNTY OF _____

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS
_____ DAY OF _____, 20____,
BY _____

NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: _____

STATE OF TEXAS
COUNTY OF COMAL

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT,
AND DESIGNATED HEREIN AS THE HEATHERFIELD, UNIT 2 A SUBDIVISION
TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE
NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY
AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS,
DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE
PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

PULTE GROUP
BY: SEAN MILLER - DIVISION DIRECTOR OF LAND ACQUISITION
1718 DRY CREEK WAY, SUITE 120
SAN ANTONIO, TEXAS 78259

STATE OF TEXAS
COUNTY OF _____

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS
_____ DAY OF _____, 20____,
BY _____

NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: _____

PAGE 1 OF 2

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE ENGINEER IS NOT RESPONSIBLE FOR ITS ACCURACY OR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DATE: 05/21/2020

BY: *Timson*

HMT ENGINEERING AND SURVEYING

PLAT (1 OF 2)

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

SHEET

C0.2

8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
HMTNB.COM
P12101562-3844 • F(210)862-3236
TBPE FIRM F-10961
TBPLS FIRM 10153600



CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD LENGTH
C1	550.50'	2824.61'	011°10'00"	276.12'	549.63'
C2	102.15'	170.00'	034°25'38"	52.67'	100.62'
C3	30.89'	15.00'	117°58'40"	24.95'	25.71'
C4	21.77'	15.00'	083°09'54"	13.31'	19.91'
C5	20.28'	170.00'	006°50'06"	10.15'	20.27'
C6	539.73'	2789.54'	011°05'09"	270.71'	538.89'
C7	516.55'	2669.54'	011°05'12"	259.08'	515.75'
C8	10.16'	15.00'	038°48'23"	5.28'	9.97'
C9	145.84'	50.00'	167°06'55"	442.80'	99.37'
C10	10.16'	15.00'	038°48'23"	5.28'	9.97'
C11	10.19'	15.00'	038°56'08"	5.30'	10.00'
C12	146.93'	50.00'	168°22'06"	490.89'	99.49'
C13	10.19'	15.00'	038°56'08"	5.30'	10.00'
C14	450.76'	2329.54'	018°37'55"	382.15'	450.06'
C15	20.73'	15.00'	079°10'34"	12.40'	19.12'
C16	23.53'	15.00'	089°53'19"	14.97'	21.19'
C17	90.66'	474.95'	010°56'09"	45.46'	90.52'
C18	384.31'	1945.00'	011°19'16"	192.78'	383.69'
C19	10.16'	15.00'	038°48'23"	5.28'	9.97'
C20	145.84'	50.00'	167°06'55"	442.80'	99.37'
C21	10.16'	15.00'	038°48'23"	5.28'	9.97'
C22	23.43'	15.00'	089°30'10"	14.87'	21.12'
C23	374.43'	1895.00'	011°19'16"	187.83'	373.83'
C24	100.20'	525.00'	010°56'07"	50.25'	100.05'
C25	23.59'	15.00'	090°06'41"	15.03'	21.23'
C26	23.53'	15.00'	089°53'19"	14.97'	21.19'
C27	23.59'	15.00'	090°06'41"	15.03'	21.23'
C28	23.53'	15.00'	089°53'19"	14.97'	21.19'
C29	23.59'	15.00'	090°06'41"	15.03'	21.23'
C30	115.13'	170.00'	038°48'06"	59.87'	112.94'
C31	104.74'	230.00'	026°05'34"	53.30'	103.84'
C32	23.07'	15.00'	088°06'54"	14.51'	20.86'
C33	460.44'	2379.54'	011°05'12"	230.94'	459.72'
C34	23.69'	15.00'	090°29'50"	15.13'	21.31'
C35	23.43'	15.00'	089°30'10"	14.87'	21.12'
C36	506.88'	2619.54'	011°05'12"	254.23'	506.09'
C37	2.19'	15.00'	008°21'48"	1.10'	2.19'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	56.50'	S89°19'56"E
L2	104.97'	N44°43'29"W
L3	50.00'	N45°16'31"E
L4	10.13'	N44°43'29"W
L5	120.00'	S45°23'12"W
L6	119.50'	N45°23'12"E
L7	97.82'	S83°31'35"E
L8	60.00'	S06°28'25"W
L9	34.91'	S83°31'35"E
L10	50.00'	S55°32'55"E
L11	49.50'	N10°32'55"W
L12	35.00'	N55°32'19"W
L13	56.52'	S89°20'55"E
L14	27.89'	N45°46'30"E

LINE TABLE		
LINE #	LENGTH	DIRECTION
L15	28.81'	S45°46'50"W
L16	36.78'	S45°23'12"W
L17	56.71'	S34°27'05"W
L18	36.45'	N45°46'21"E
L19	11.24'	N44°43'29"W
L20	48.09'	N45°46'21"E
L21	56.71'	S34°27'05"W
L22	36.63'	S45°23'12"W
L23	30.68'	N34°27'05"E
L24	39.33'	N45°46'29"E
L25	40.17'	N45°46'39"E
L26	71.55'	N55°32'55"W
L27	14.62'	S84°31'35"W
L28	50.00'	S45°44'07"W

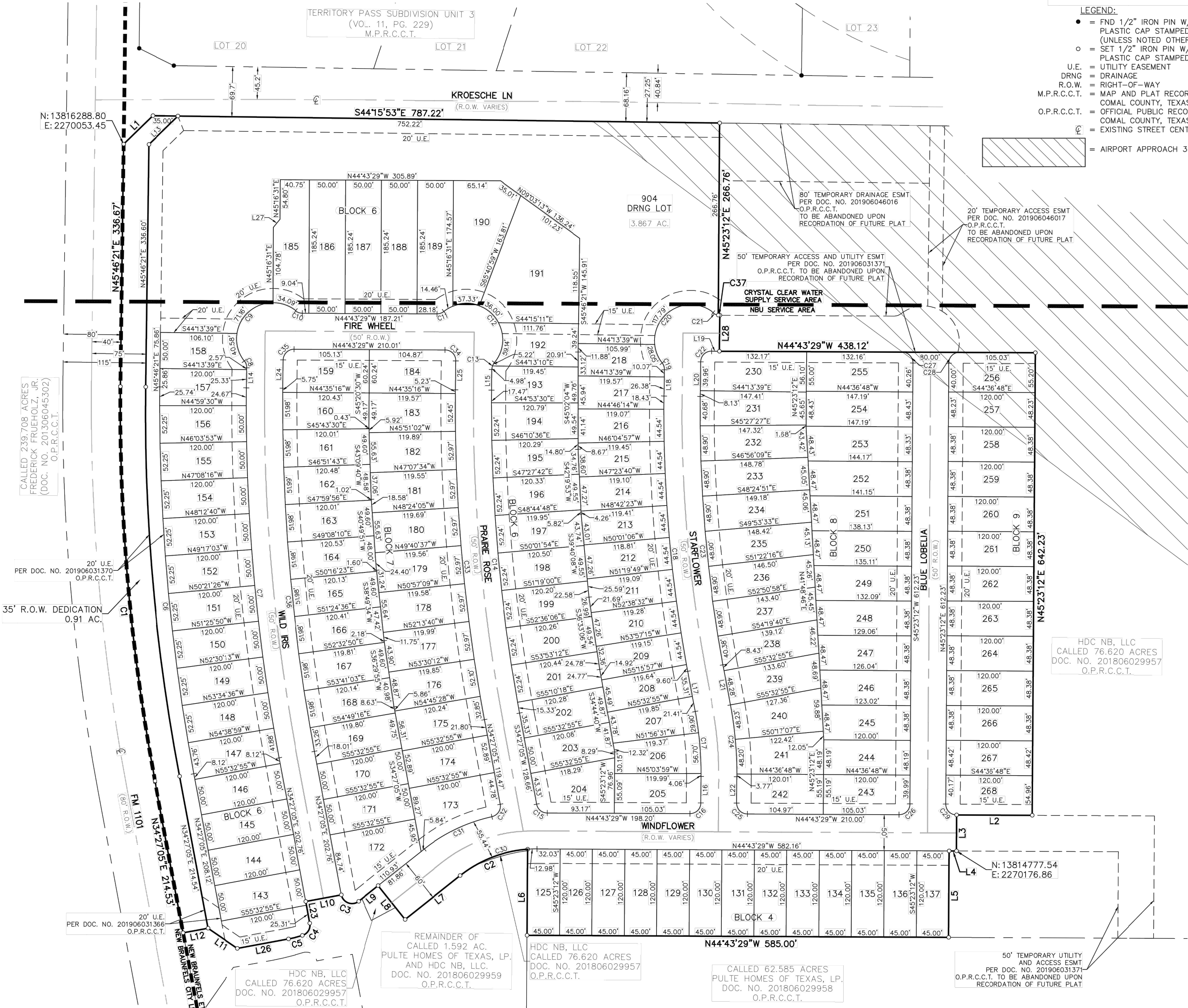
PLAT REVISED AUGUST 5, 2019
PLAT REVISED JUNE 18, 2019
PLAT PREPARED MAY 20, 2019

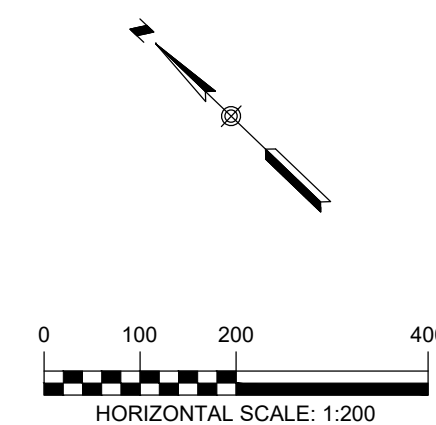


290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 10153600




FINAL PLAT ESTABLISHING HEATHERFIELD, UNIT 2

BEING 28.30 ACRE TRACT LOCATED IN THE ANTONIO M. ESNURIZAR SURVEY,
ABSTRACT NO. 1, COMAL COUNTY, TEXAS. BEING A PORTION OF A CALLED 76.620
ACRE TRACT, RECORDED IN DOCUMENT NO. 201806029957 AND A PORTION OF A
CALLED 1.592 ACRE TRACT, RECORDED IN DOCUMENT NO. 201806029959, OFFICIAL
PUBLIC RECORDS, COMAL COUNTY, TEXAS.





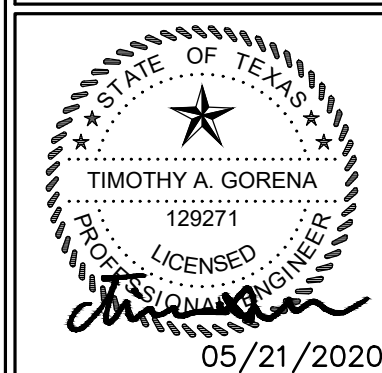
LEGEND

— 700 —	EXISTING CONTOURS
— 700 —	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— — — — —	DRAINAGE AREA
— TC — TC —	TIME OF CONCENTRATION
 (A)	POINT OF CONCENTRATION
	DRAINAGE FLOW DIRECTION
	DRAINAGE AREA LABEL

8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
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HMT
ENGINEERING & SURVEYING



05/21/2020

EXISTING DRAINAGE AREA MAP

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	MANHOLE AND WAS/TEWATER REV	03/29/2019
2	FIRE ACCESS REV	04/23/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND DESIGN	06/19/2019
5	ADDED WATER LATERAL LINE D STATION 10+56.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJECT NO.

SHEET

C1.0

Table 1 - Existing Heatherfield Hydrology Calculations

Point of Concentration	Area ID	Area (ac)	T _c (min)	CN	P ₂ (in)	P ₁₀ (in)	P ₂₅ (in)	P ₁₀₀ (in)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A	EX-A	12.20	17.70	81	3.34	6.06	8.06	12.30	15.77	39.30	57.26	95.26
B	EX-B	21.20	22.00	81	3.34	6.06	8.06	12.30	27.40	68.29	99.51	165.54
C	EX-C	76.61	36.20	81	3.34	6.06	8.06	12.30	75.54	189.16	275.62	458.66
D	EX-D	25.32	27.90	81	3.34	6.06	8.06	12.30	27.58	69.04	100.51	167.07
E	EX-E	16.90	17.90	81	3.34	6.06	8.06	12.30	21.84	54.44	79.33	131.96

¹Existing hydrology calculations are in accordance to the City of New Braunfels Drainage and Erosion Control Design Manual 2016, Revised 2018.

RECORD DRAWING

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DATE: 05/21/2020

BY: Chin

HMT ENGINEERING AND SURVEYING

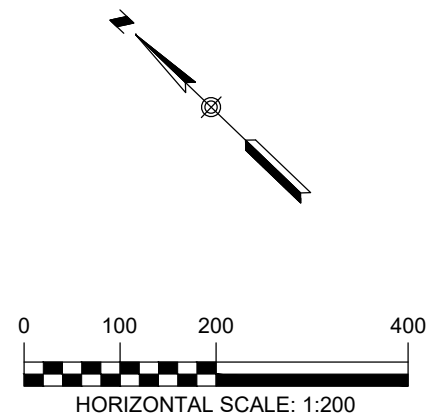
Table 17 - Proposed Detention/Water Quality Basin Summary			
	Basin A	Basin B	Basin E.2*
Watershed Area (acres)	14.38	20.15	19.82
Impervious Cover (sf)	375,836	526,640	518,016
Required WQ Volume (cuft) = Impervious Cover * (1/2" * 1.20)	18,792	26,332	25,901
Provided Water Quality Volume (cuft)	21,357	34,560	32,940
Orifice Outlet Size (in)	3	4	3.5
Average Flowrate (cfs)	0.18	0.31	0.28
Time to Empty SWQ Pond (hrs)	33.0	31.0	32.7
1/2 Provided Water Quality Volume (cuft)	10,679	17,280	16,470
Average Flowrate of First 1/2 of SWQ POND (cfs)	0.23	0.40	0.36
Time to Empty First 1/2 of SWQ Pond (hrs)	12.9	12.0	12.7
Water Quality Depth (ft)	1.5	1.5	1.9
Detention Pond Length (ft)	250	275	1,076
Detention Pond Width (ft)	121	123	146
Length to Width Ratio	2.1	2.2	7.4

*Basin E.2 is treating the stormwater quality runoff for both drainage areas E.1 and E.2.

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DATE: 05/21/2020 BY: *timothy a. goren*
HMT ENGINEERING AND SURVEYING



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- DRAINAGE AREA
- TC TIME OF CONCENTRATION
- POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA ACRES
- DRAINAGE AREA LABEL

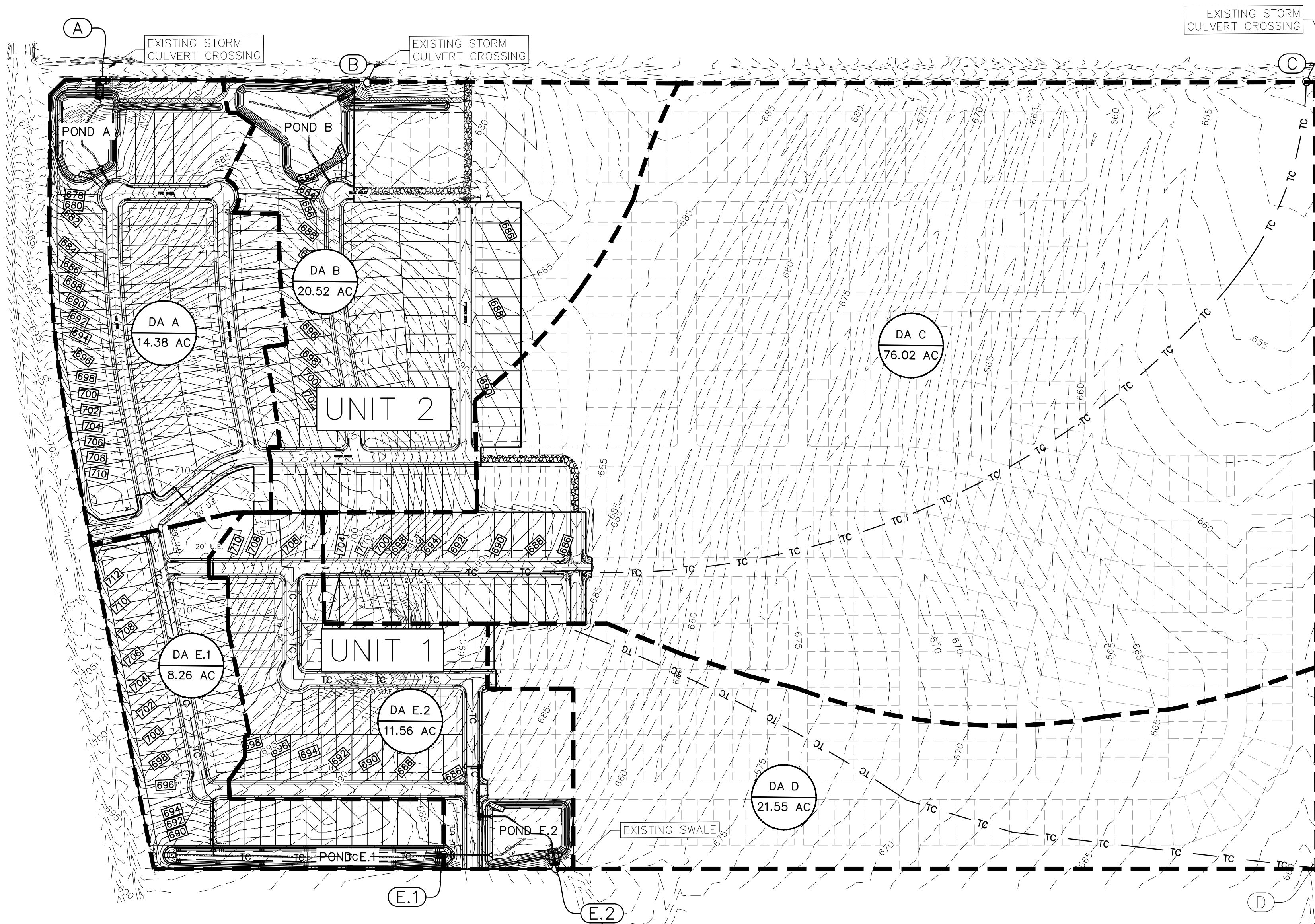


Table 2 - Pre Detention Summary Table												
Point of Concentration	Area ID	Area (ac)	Tc (min)	CN	P ₂ (in)	P ₁₀ (in)	P ₂₅ (in)	P ₁₀₀ (in)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A (Proposed/Ultimate)	DA A	14.38	14.70	87	3.34	6.06	8.06	12.30	25.48	55.82	78.04	124.55
B (Proposed)	DA B	20.52	15.10	85	3.34	6.06	8.06	12.30	33.50	76.58	108.43	175.21
B (Ultimate)	DA B	20.15	15.10	87	3.34	6.06	8.06	12.30	35.70	78.22	109.36	174.53
C (Proposed)	DA C	76.02	34.20	81	3.34	6.06	8.06	12.30	74.96	187.71	273.49	455.07
C (Ultimate)*	DA C	97.94	-	-	3.34	6.06	8.06	12.30	-	-	-	-
D (Proposed)**	DA D	21.55	22.30	81	3.34	6.06	8.06	12.30	26.43	65.93	95.91	159.73
E.1 (Proposed/Ultimate)	DA E.1	8.26	17.70	87	3.34	6.06	8.06	12.30	13.81	30.33	42.44	67.79
E.2 (Proposed)	DA E.2	11.56	17.00	86	3.34	6.06	8.06	12.30	18.58	41.63	58.62	94.20
E.2 (Ultimate)	DA E.2	11.56	17.00	87	3.34	6.06	8.06	12.30	19.33	42.45	59.40	94.87
E.1+E.2 (Proposed)	DA E.1+DA E.2	19.82	-	-	3.34	6.06	8.06	12.30	32.38	71.96	101.06	161.99
E.1+E.2 (Ultimate)	DA E.1+DA E.2	19.82	-	-	3.34	6.06	8.06	12.30	33.14	72.78	101.84	162.66

*DA C will have a detention/storm water quality basin designed in a future unit per the master drainage report

**Drainage area DA D in ultimate conditions will drain to area DA C, therefore there is no DA D ultimate.

Table 3 - Post Detention Summary Table												
Point of Concentration	Area ID	Area (ac)	Tc (min)	CN	P ₂ (in)	P ₁₀ (in)	P ₂₅ (in)	P ₁₀₀ (in)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A (Proposed/Ultimate)	DA A	14.38	14.70	87	3.34	6.06	8.06	12.30	15.71	38.83	56.28	93.54
B (Proposed)	DA B	20.52	15.10	85	3.34	6.06	8.06	12.30	17.89	47.75	71.17	120.06
B (Ultimate)	DA B	20.15	15.10	87	3.34	6.06	8.06	12.30	19.43	49.08	72.00	119.72
E.1 (Proposed/Ultimate)	DA E.1	8.26	17.70	87	3.34	6.06	8.06	12.30	12.79	19.66	22.83	28.45
E.2 (Proposed)	DA E.1+DA E.2	19.82	17.00	86	3.34	6.06	8.06	12.30	21.03	53.59	73.59	112.38
E.2 (Ultimate)	DA E.1+DA E.2	19.82	17.00	87	3.34	6.06	8.06	12.30	21.60	54.38	74.35	113.00

TABLE 18 - CN BREAKDOWN		
DRAINAGE AREA A PROP/ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	14.38	87

DRAINAGE AREA B PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	13.88	87
GOOD CONDITION CONTOURED ROW CROP	6.64	81
WEIGHTED CN	20.52	85

DRAINAGE AREA B ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	20.15	87

DRAINAGE AREA C PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	5.26	87
GOOD CONDITION CONTOURED ROW CROP	70.76	81
WEIGHTED CN	76.02	81

DRAINAGE AREA C ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	97.94	87

DRAINAGE AREA D PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	21.55	81

DRAINAGE AREA E.1 PROP/ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	8.26	87

DRAINAGE AREA E.2 PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	9.84	87
GOOD CONDITION CONTOURED ROW CROP	1.72	81
WEIGHTED CN	11.56	86

DRAINAGE AREA E.2 ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	11.56	87

*FOR EXISTING CN VALUES, SEE TR-55 TABLE 2-28 OF GOOD CONDITION CONTOURED ROW CROPS FOR PROPOSED CONDITIONS, SEE TABLE 4-4 OF THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL FOR SINGLE FAMILY HOMES (R-1/R-1A)

Table 4 - POCA Proposed/Ultimate Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
A	EX-A	Pre-Development Flowrates	15.77	39.30	57.26	95.26	
A	POND A	Post-Development Post-Detention Flowrates	15.71	38.83	56.28	93.54	
Δ			(0.06)	(0.47)	(0.98)	(1.72)	
Δ (%)			-0.38%	-1.20%	-1.71%	-1.81%	

Table 5 - POC B Proposed Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
B	EX-B	Pre-Development Flowrates	27.40	68.29	99.51	165.54	
B	POND B	Post-Development Post-Detention Flowrates	17.89	47.75	71.17	120.06	
Δ			(9.51)	(20.54)	(28.34)	(45.48)	
Δ (%)			-34.71%	-30.08%	-28.48%	-27.47%	

Table 6 - POC B Ultimate Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
B	EX-B	Pre-Development Flowrates	27.40	68.29	99.51	165.54	
B	POND B	Post-Development Post-Detention Flowrates	19.43	49.08	72.00	119.72	
Δ			(7.97)	(19.21)	(27.51)	(45.82)	
Δ (%)			-29.09%	-28.13%	-27.65%	-27.68%	

Table 7 - POC C Proposed Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
C	EX C	Pre-Development Flowrates	75.54	189.16	275.62	458.60	
C	DA C	Post-Development Post-Detention Flowrates	74.96	187.71	273.49	455.07	
Δ			(0.58)	(1.45)	(2.13)	(3.53)	
Δ (%)			-0.77%	-0.77%	-0.77%	-0.77%	

Table 8 - POC D Proposed Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
D	EX-D	Pre-Development Flowrates	27.58	69.04	100.51	167.07	
D	DA D	Post-Development Post-Detention Flowrates	26.43	65.93	95.91	159.73	
Δ			(1.15)	(3.11)	(4.60)	(7.34)	
Δ (%)			-4.17%	-4.50%	-4.58%	-4.39%	

Table 9 - POCE1+E.2 Proposed Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
E	EX-E	Pre-Development Flowrates	21.84	54.44	79.33	131.96	
E	DA E	Post-Development Post-Detention Flowrates	21.03	53.59	73.59	112.38	
Δ			(0.81)	(0.85)	(5.74)	(19.58)	
Δ (%)			-3.71%	-1.56%	-7.24%	-14.84%	

Table 10 - POC E.1+E.2 Ultimate Comparison Table							
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	
E.1+E.2	DA E.2	Pre-Development Flowrates	21.84	54.44	79.33	131.96	
E.1+E.2	DA E.2	Post-Development Post-Detention Flowrates	21.60	54.38	74.35	113.00	
Δ			(0.24)	(0.06)	(4.98)	(18.96)	
Δ (%)			-1.10%	-0.11%	-6.28%	-14.37%	

PROPOSED DRAINAGE AREA MAP

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: CC/SWH
HMT PROJECT NO.: 305.01

SHEET
C1.1

8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
HMT@HMT.COM
P(210)562-3844 • F(210)562-3236
TBP E FIRM # 1-10961
TBP L FIRM 1015360

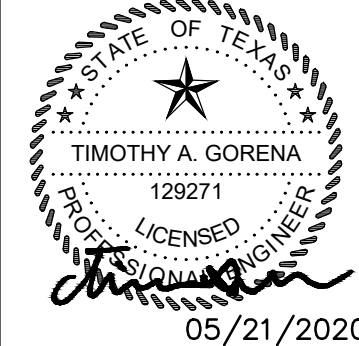


Table 17 - Proposed Detention/Water Quality Basin Summary			
	Basin A	Basin B	Basin E.2*
Watershed Area (acres)	14.38	20.15	19.82
Impervious Cover (sf)	375,836	526,640	518,016
Required WQ Volume (cuft) = Impervious Cover * (1/2" * 1.20)	18,792	26,332	25,901
Provided Water Quality Volume (cuft)	21,357	34,560	32,940
Orifice Outlet Size (in)	3	4	3.5
Average Flowrate (cfs)	0.18	0.31	0.28
Time to Empty SWQ Pond (hrs)	33.0	31.0	32.7
1/2 Provided Water Quality Volume (cuft)	10,679	17,280	16,470
Average Flowrate of First 1/2 of SWQ Pond (cfs)	0.23	0.40	0.36
Time to Empty First 1/2 of SWQ Pond (hrs)	12.9	12.0	12.7
Water Quality Depth (ft)	1.5	1.5	1.9
Detention Pond Length (ft)	250	275	1,076
Detention Pond Width (ft)	121	123	146
Length to Width Ratio	2.1	2.2	7.4

*Basin E.2 is treating the stormwater quality runoff for both drainage areas E.1 and E.2.

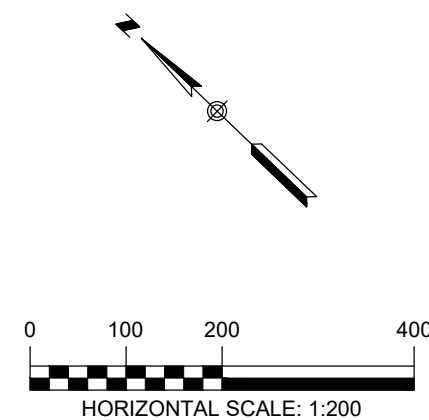
RECORD DRAWING

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DATE: 05/21/2020

BY:

HMT ENGINEERING AND SURVEYING



LEGEND

---	700	---	EXISTING CONTOURS
---	700	---	PROPOSED CONTOURS
B.L.			BUILDING SETBACK LINE
U.E.			UTILITY EASEMENT
D.E.			DRAINAGE EASEMENT
---			DRAINAGE AREA
TC		TC	TIME OF CONCENTRATION
(A)			POINT OF CONCENTRATION
←			DRAINAGE FLOW DIRECTION
DA			DRAINAGE AREA LABEL

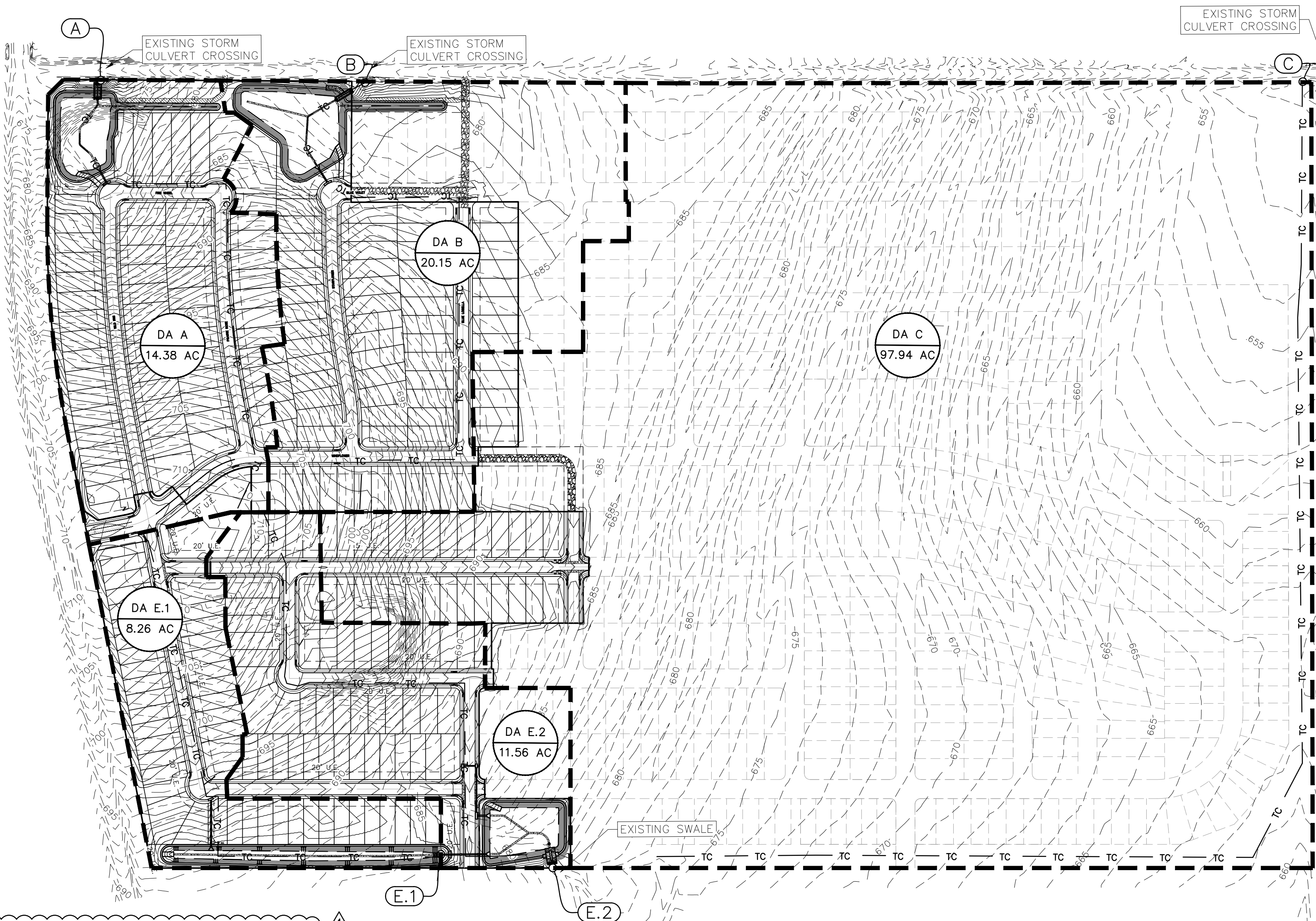


Table 2 - Pre Detention Summary Table												
Point of Concentration	Area ID	Area (ac)	T _c (min)	CN	P ₂ (in)	P ₁₀ (in)	P ₂₅ (in)	P ₁₀₀ (in)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A (Proposed/Ultimate)	DA A	14.38	14.70	87	3.34	6.06	8.06	12.30	25.48	55.82	78.04	124.55
B (Proposed)	DA B	20.52	15.10	85	3.34	6.06	8.06	12.30	33.50	76.58	108.43	175.21
B (Ultimate)	DA B	20.15	15.10	87	3.34	6.06	8.06	12.30	35.70	78.22	109.36	174.53
C (Proposed)	DA C	76.02	34.20	81	3.34	6.06	8.06	12.30	74.96	187.71	273.49	455.07
C (Ultimate)*	DA C	97.94	-	-	3.34	6.06	8.06	12.30	-	-	-	-
D (Proposed)**	DA D	21.55	22.30	81	3.34	6.06	8.06	12.30	26.43	65.93	95.91	159.73
E.1 (Proposed/Ultimate)	DA E.1	8.26	17.70	87	3.34	6.06	8.06	12.30	13.81	30.33	42.44	67.79
E.2 (Proposed)	DA E.2	11.56	17.00	86	3.34	6.06	8.06	12.30	18.58	41.63	58.62	94.20
E.2 (Ultimate)	DA E.2	11.56	17.00	87	3.34	6.06	8.06	12.30	19.33	42.45	59.40	94.87
E.1+E.2 (Proposed)	DA E.1+DA E.2	19.82	-	-	3.34	6.06	8.06	12.30	32.38	71.96	101.06	161.99
E.1+E.2 (Ultimate)	DA E.1+DA E.2	19.82	-	-	3.34	6.06	8.06	12.30	33.14	72.78	101.84	162.66

*DA C will have a detention/storm water quality basin designed in a future unit per the master drainage report

**Drainage area DA D in ultimate conditions will drain to area DA C, therefore there is no DA D ultimate.

Table 3 - Post Detention Summary Table												
Point of Concentration	Area ID	Area (ac)	T _c (min)	CN	P ₂ (in)	P ₁₀ (in)	P ₂₅ (in)	P ₁₀₀ (in)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A (Proposed/Ultimate)	DA A	14.38	14.70	87	3.34	6.06	8.06	12.30	15.71	38.83	56.28	93.54
B (Proposed)	DA B	20.52	15.10	85	3.34	6.06	8.06	12.30	17.89	47.75	71.17	120.06
B (Ultimate)	DA B	20.15	15.10	87	3.34	6.06	8.06	12.30	19.43	49.08	72.00	119.72
E.1 (Proposed/Ultimate)	DA E.1	8.26	17.70	87	3.34	6.06	8.06	12.30	12.79	19.66	22.83	28.45
E.2 (Proposed)	DA E.1+DA E.2	19.82	17.00	86	3.34	6.06	8.06	12.30	21.03	53.59	73.59	112.38
E.2 (Ultimate)	DA E.1+DA E.2	19.82	17.00	87	3.34	6.06	8.06	12.30	21.60	54.38	74.35	113.00

Table 4 - POCA Proposed/Ultimate Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A	EX-A	Pre-Development Flowrates	15.77	39.30	57.26	95.26
A	POND A	Post-Development Post-Detention Flowrates	15.71	38.83	56.28	93.54
Δ			(0.06)	(0.47)	(0.98)	(1.72)
Δ (%)			-0.38%	-1.20%	-1.71%	-1.81%

Table 5 - POCB Proposed Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
B	EX-B	Pre-Development Flowrates	27.40	68.29	99.51	165.54
B	POND B	Post-Development Post-Detention Flowrates	17.89	47.75	71.17	120.06
Δ			(9.51)	(20.54)	(28.34)	(45.48)
Δ (%)			-34.71%	-30.08%	-28.48%	-27.47%

Table 6 - POCE Ultimate Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
B	EX-B	Pre-Development Flowrates	27.40	68.29	99.51	165.54
B	POND B	Post-Development Post-Detention Flowrates	19.43	49.08	72.00	119.72
Δ			(7.97)	(19.21)	(27.51)	(45.82)
Δ (%)			-29.09%	-28.13%	-27.65%	-27.68%

Table 7 - POCC Proposed Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
C	EX C	Pre-Development Flowrates	75.54	189.16	275.62	458.60
C	DA C	Post-Development Post-Detention Flowrates	74.96	187.71	273.49	455.07
Δ			(0.58)	(1.45)	(2.13)	(3.53)
Δ (%)			-0.77%	-0.77%	-0.77%	-0.77%

Table 8 - POC D Proposed Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
D	EX-D	Pre-Development Flowrates	27.58	69.04	100.51	167.07
D	DA D	Post-Development Post-Detention Flowrates	26.43	65.93	95.91	159.73
Δ			(1.15)	(3.11)	(4.60)	(7.34)
Δ (%)			-4.17%	-4.50%	-4.58%	-4.39%

Table 9 - POCE1+E.2 Proposed Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
E	EX-E	Pre-Development Flowrates	21.84	54.44	79.33	131.96
E	DA E	Post-Development Post-Detention Flowrates	21.03	53.59	73.59	112.38
Δ			(0.81)	(0.85)	(5.74)	(19.58)
Δ (%)			-3.71%	-1.56%	-7.24%	-14.84%

Table 10 - POC E.1+E.2 Ultimate Comparison Table						
Point of Concentration	Area ID	Description	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
E.1+E.2	DA E.2	Pre-Development Flowrates	21.84	54.44	79.33	131.96
E.1+E.2	DA E.2	Post-Development Post-Detention Flowrates	21.60	54.38	74.35	113.00
Δ			(0.24)	(0.06)	(4.98)	(18.96)
Δ (%)			-1.10%	-0.11%	-6.28%	-14.37%

TABLE 18 - CN BREAKDOWN		
DRAINAGE AREA A PROP/ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	14.38	87

DRAINAGE AREA B PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	13.88	87
GOOD CONDITION CONTOURED ROW CROP	6.64	81
WEIGHTED CN	20.52	85

DRAINAGE AREA B ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	20.15	87

DRAINAGE AREA C PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	5.26	87
GOOD CONDITION CONTOURED ROW CROP	70.76	81
WEIGHTED CN	76.02	81

DRAINAGE AREA C ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	97.94	87

DRAINAGE AREA D PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	21.55	81

DRAINAGE AREA E.1 PROP/ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	8.26	87

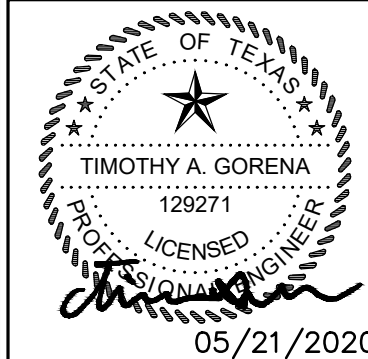
DRAINAGE AREA E.2 PROP*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	9.84	87
GOOD CONDITION CONTOURED ROW CROP	1.72	81
WEIGHTED CN	11.56	86

DRAINAGE AREA E.2 ULT*		
USE	ACRES	CN
ZONE R-1/R-1A SINGLE FAMILY	11.56	87

*FOR EXISTING CN VALUES, SEE TR-55 TABLE 2-2B OF GOOD CONDITION CONTOURED ROW CROPS FOR PROPOSED CONDITIONS, SEE TABLE 4-4 OF THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL FOR SINGLE FAMILY HOMES (R-1/R-1A)

ULTIMATE DRAINAGE

AREA MAP

HEATHERFIELD SUBDIVISION
UNIT 2

8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
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P(210)562-3844 • F(210)562-3236
TBP# FRM F-10961
TBP# FRM 1015360

HMT
ENGINEERING & SURVEYING

NO.	REVISION	DESCRIPTION	DATE	DATE
1	Δ	REVISION DRAINAGE AREA MAP	03/29/2019	03/29/2019
2	Δ	FIRE ACCESS REV	05/29/2019	05/29/2019
3	Δ	PROFILE, UTILITIES AND LOT LAYOUT REV	06/18/2019	06/18/2019
4	Δ	POND REVISION	08/13/2019	08/13/2019
5	Δ	ADDED WATER LATERAL LINE D STATION 10+15.68		

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

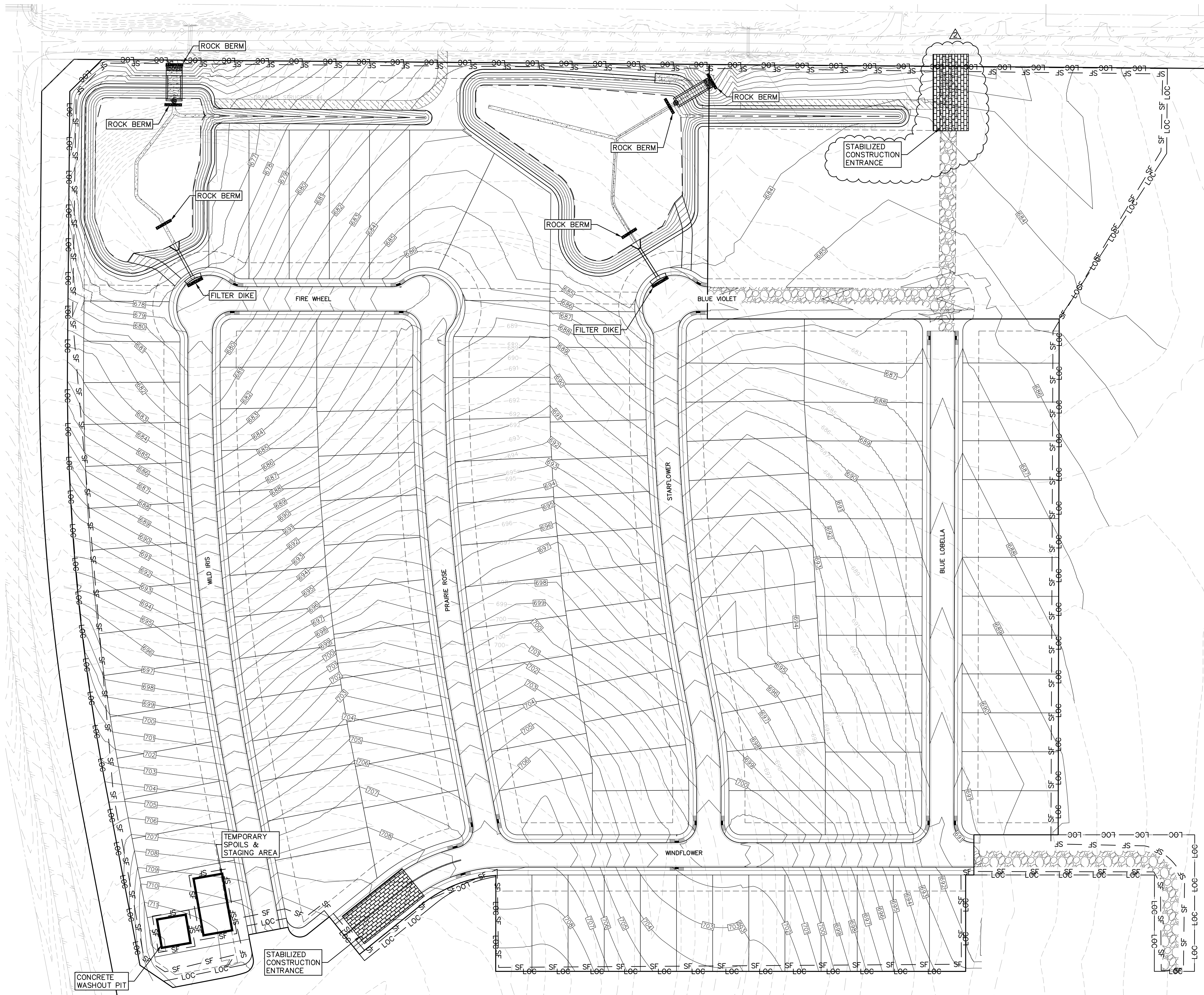
REVIEWED BY: CC/SWH

HMT PROJECT NO.:

305.01

SHEET

C1.2



LEGEND

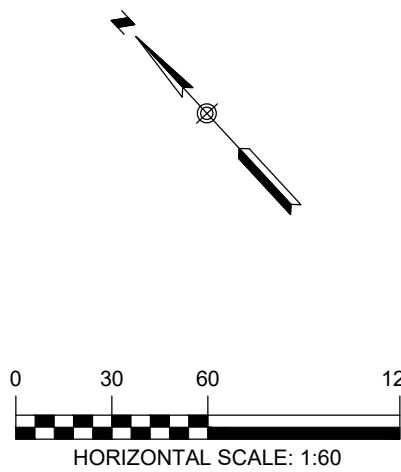
- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- > DRAINAGE FLOW DIRECTION
- SF — SF — SILT FENCE
- LOC — LOC — LIMIT OF CONSTRUCTION
- [Pattern] STABILIZED CONSTRUCTION ENTRANCE
- [Pattern] FILTER DIKE CURB INLET PROTECTION
- [Pattern] ROCK BERM

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
10. TPDES REQUIREMENTS - DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY WILL BEGIN AGAIN WITHIN 21 DAYS.

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) AND SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES IN 21 DAYS, PER TPDES REQUIREMENTS.



RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

EROSION CONTROL PLAN

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJECT NO.: 305.01

SHEET
C2.0

8200 W INTERSTATE 10
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TBPB FIRM # 10961
TBPB FIRM 10153600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

Drawing Name: M:_Projects\305 - HEC NB, LLC\001 - Heatherfield Unit 2\CDR\305.001_C3.0 - GRAD.dwg User: andrewm May 26, 2020 - 10:40am



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - LOT GRADING SEE DETAILS SHEET C3.1
 - DRAINAGE FLOW DIRECTION
 - LOT DRAINAGE AREA BOUNDARY

NOTES:

- DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
- ALL FINISHED FLOOR ELEVATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:
 - PER NOTE 10 ON PLAT SHEET C0.2.
 - HUD DETAILS SHOWN ON SHEET C3.1.
- WHEN POSSIBLE, CONTRACTOR SHALL PHASE GRADING SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME.
- FOR ANY LOTS ADJACENT TO A DRAINAGE STRUCTURE, HOME BUILDER TO ENSURE FINISHED FLOOR HAS A MINIMUM ELEVATION AS LABELED OR AS PER NOTE 2 ABOVE, WHICHEVER IS GREATER.

EARTHWORK VOLUMES	
EXCAVATION & EMBANKMENT	VOLUME (CY)
CUT	49,461
FILL	45,386
NET	4,075 [CUT]

GRADING PLAN

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
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DATE: **FEBRUARY 2020**
DRAWN BY: **HM**
DESIGNED BY: **TG**
REVIEWED BY: **CC/SWH**
HMT PROJECT NO.: **305.01**

SHEET
C3.0

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DATE: 05/21/2020 BY: *Timothy A. Goren*
HMT ENGINEERING AND SURVEYING

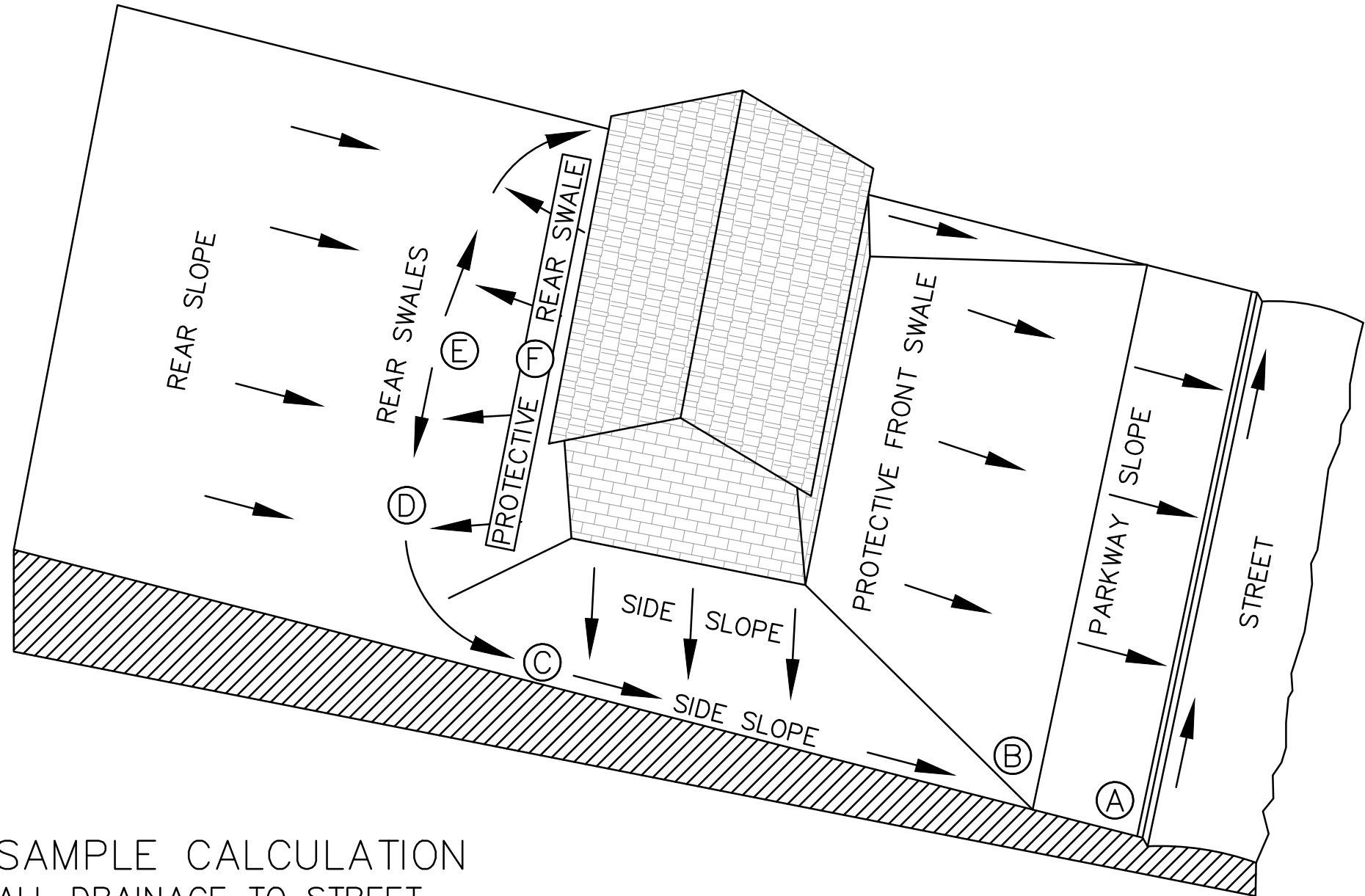
REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

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HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

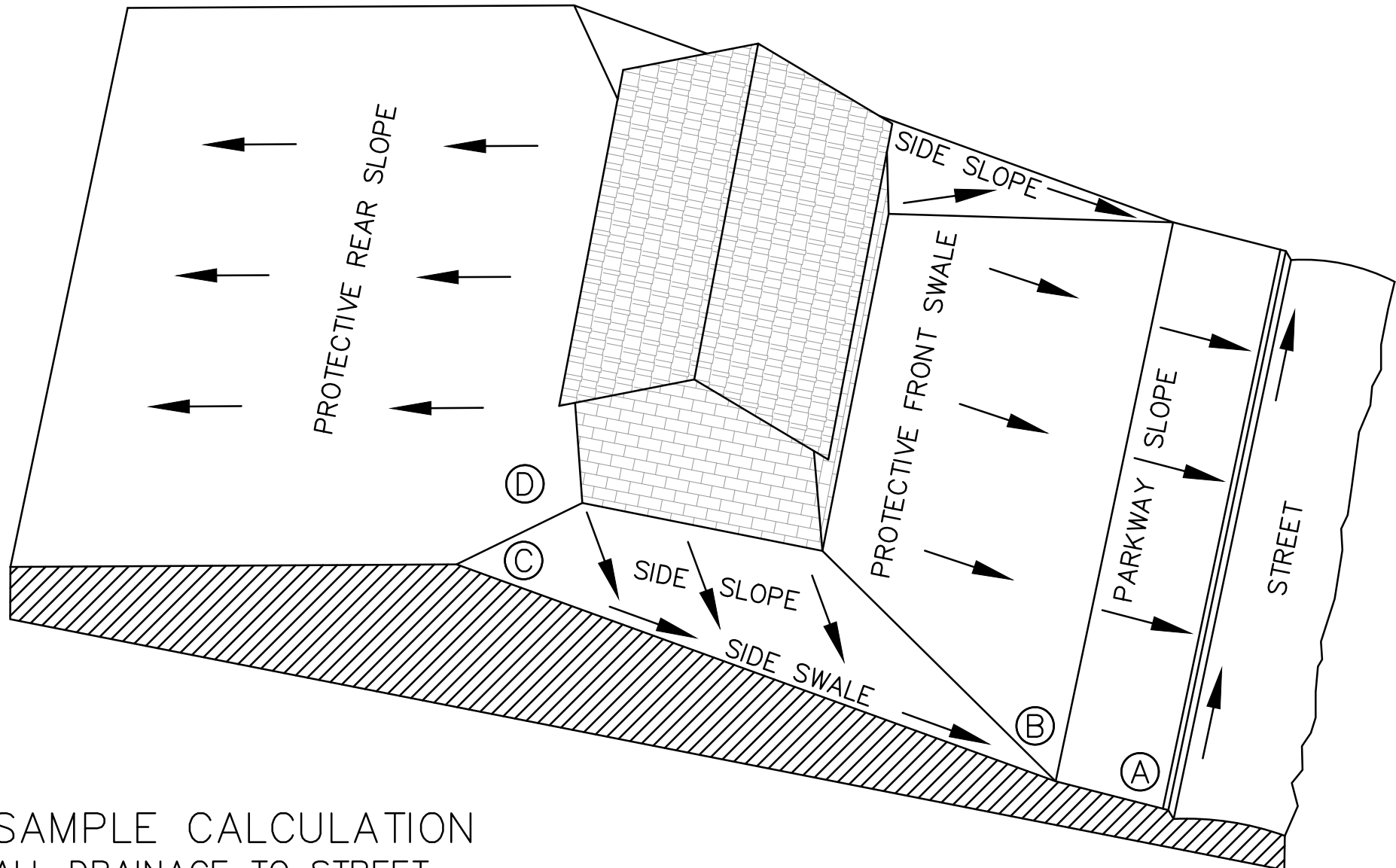
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SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.					RESULTS OF 1% SWALES		
A	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER						<div>CALCULATIONS FOR 2% SWALES</div> <div>15 x 0.25' = 3½"</div> <div>85 x 0.25' = 21½"</div> <div>16 x 0.25' = 4"</div> <div>13 x 0.25' = 3½"</div> <div>10 x 0.25' = 2½"</div> <div>34½"</div>
AB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')		
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')		
CD	SWALE TURN WITH 10' RADIUS:16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')		
DE**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3"	(0.3')	2"	(0.2')		
EF*	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')		
SUB-TOTAL AF FROM CURB TOP TO GROUND AT REAL BLDG WALL		35"	(3.0')	20"	(1.7')	34½"	
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"		43"	(3.6')	28"	(2.3')	<div>CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.</div>	
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		54"	(4.5')	39"	(3.3')		
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.							
** LENGTH DE = [1/2(LOT WIDTH - (2x SWALE TURN RADIUS))] - [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]							

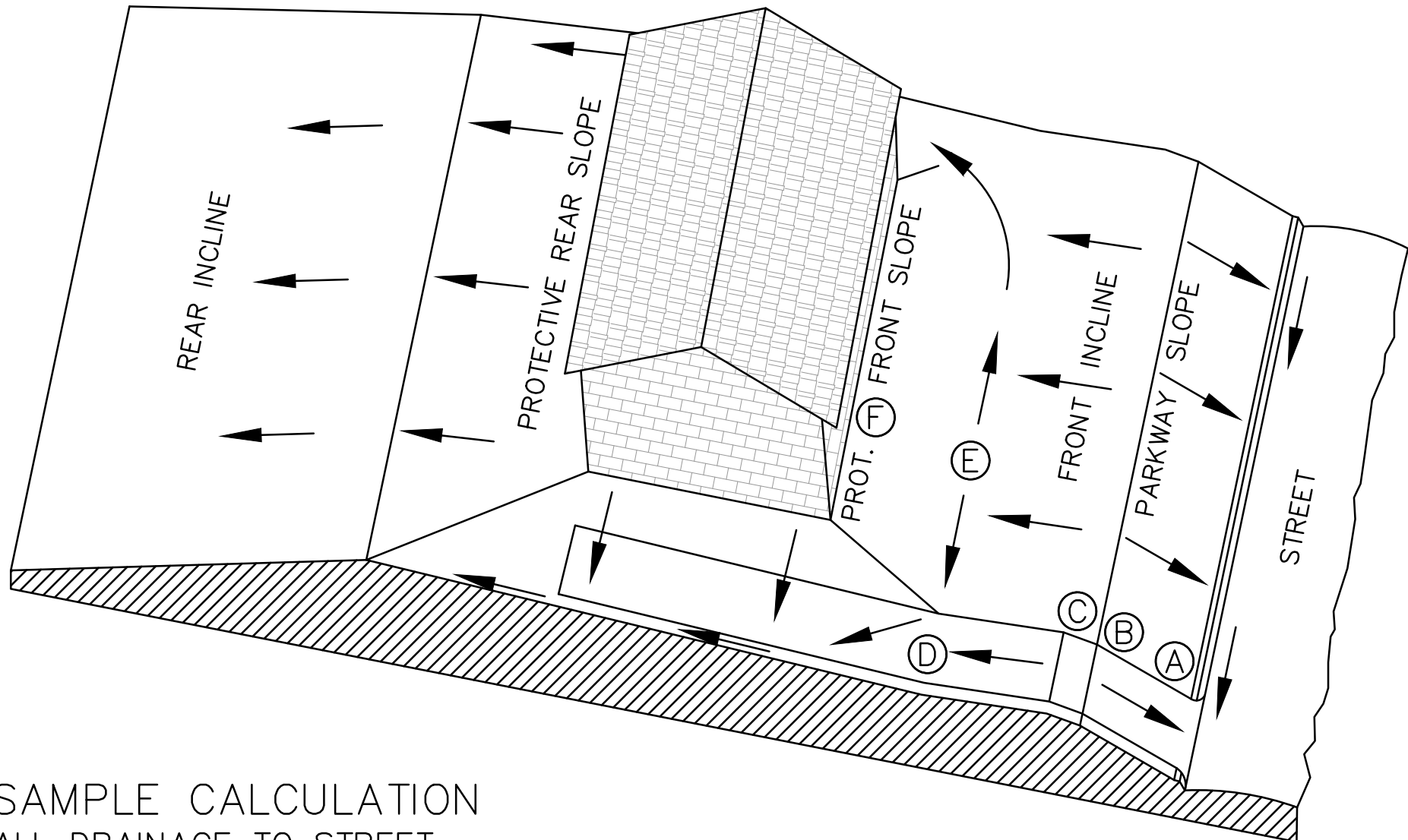
LOT TYPE ①



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES		CALCULATIONS FOR 2% SWALES
A	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER					
AB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')	15 x 0.25' = 3½"		
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21" (1.8')	11" (0.9')	85 x 0.25' = 21½"		
CD*	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3" (0.3')	3" (0.3')	6 x 0.25' = 1½"		
SUB-TOTAL AD FROM CURB TOP TO GROUND AT REAL BLDG WALL		27" (2.4')	16" (1.4')	26½"		
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8"		35" (2.9')	24" (2.0')	CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.		
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		46" (3.8')	35" (2.9')			
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.						

LOT TYPE ②



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE \overline{AF} FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE \overline{DE} AT 2.0%.					RESULTS OF 1% SWALES		CALCULATIONS FOR SWALES
A	CURB-TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER						$15 \times 0.25' = 3\frac{3}{4}"$
\overline{AB}	PARKWAY SLOPE: 15' GRASS AND WALK AT $1/4"/\text{FT.}$ (2%)	4" (0.3')	2" (0.2')	2" (0.2')		$0 \times 0.25' = 0"$	
\overline{BC}	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP-GRADE DRIVE IN STREET TO DOWN-GRADE DRIVE ON LOT	0" (0.0')	0" (0.0')	0" (0.0')		$-11 \times 1.625' = -17\frac{1}{2}"$	
\overline{CD}	DRIVEWAY DOWN-GRADE TO POINT 10 FEET OUT FROM FRONT OF BUILDING: $-11'$ AT $1\frac{1}{8}"/\text{FT}$ (13.5%)	-18" (-1.5')	-18" (-1.5')	-18" (-1.5')		$16 \times 0.25' = 4"$	
\overline{DE}	FRONT SWALE: 16' GRASS AT $1/4"/\text{FT.}$ (2%)	4" (0.3')	2" (0.2')	2" (0.2')		$10 \times 0.25' = 2\frac{1}{2}"$	
\overline{EF}^*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3" (0.3')	3" (0.3')	3" (0.3')			
SUB-TOTAL \overline{AF} FROM CURB TOP TO GROUND AT FRONT BLDG WALL		-7" (-1.0')	-11" (1.3')	-11" (1.3')			
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: $-7" + 8"$		1" (-0.3')	-3" (0.7')	-3" (0.7')			
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: $-7" + 19"$		12" (-0.6')	8" (0.3')	8" (0.3')			
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.							

LOT TYPE ③

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"). ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE TMD-TEX-113-E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHWA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE.

EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST

FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REMOVED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEO-TECHNICAL ENGINEER OR STAFF.

- THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
- THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8-12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
- FILLS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.
- TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

CUT/FILL LOTS

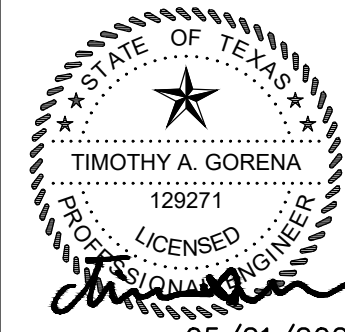
AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES. HUD 79-G
HUD 79-G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79-G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79-G. AFTER SITE GRADING IS COMPLETED, GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79-G LETTER.

DRAINAGE NOTE

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

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GRADING DETAILS

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJECT NO.: 305.01

SHEET

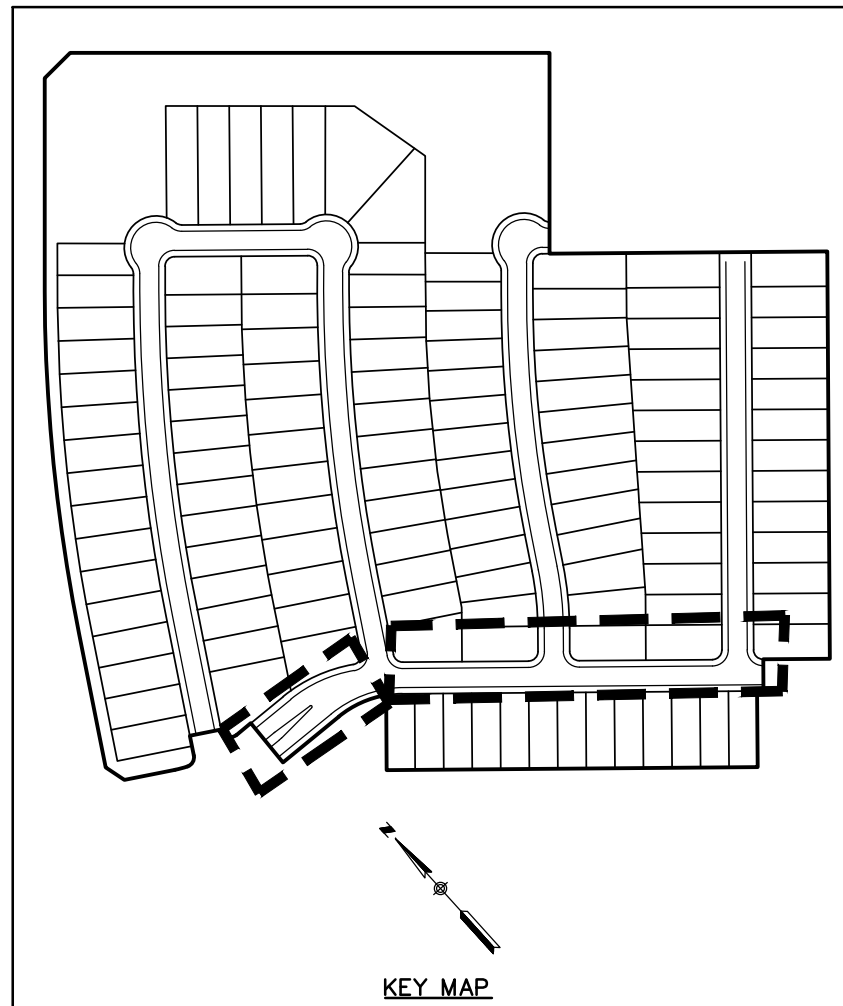
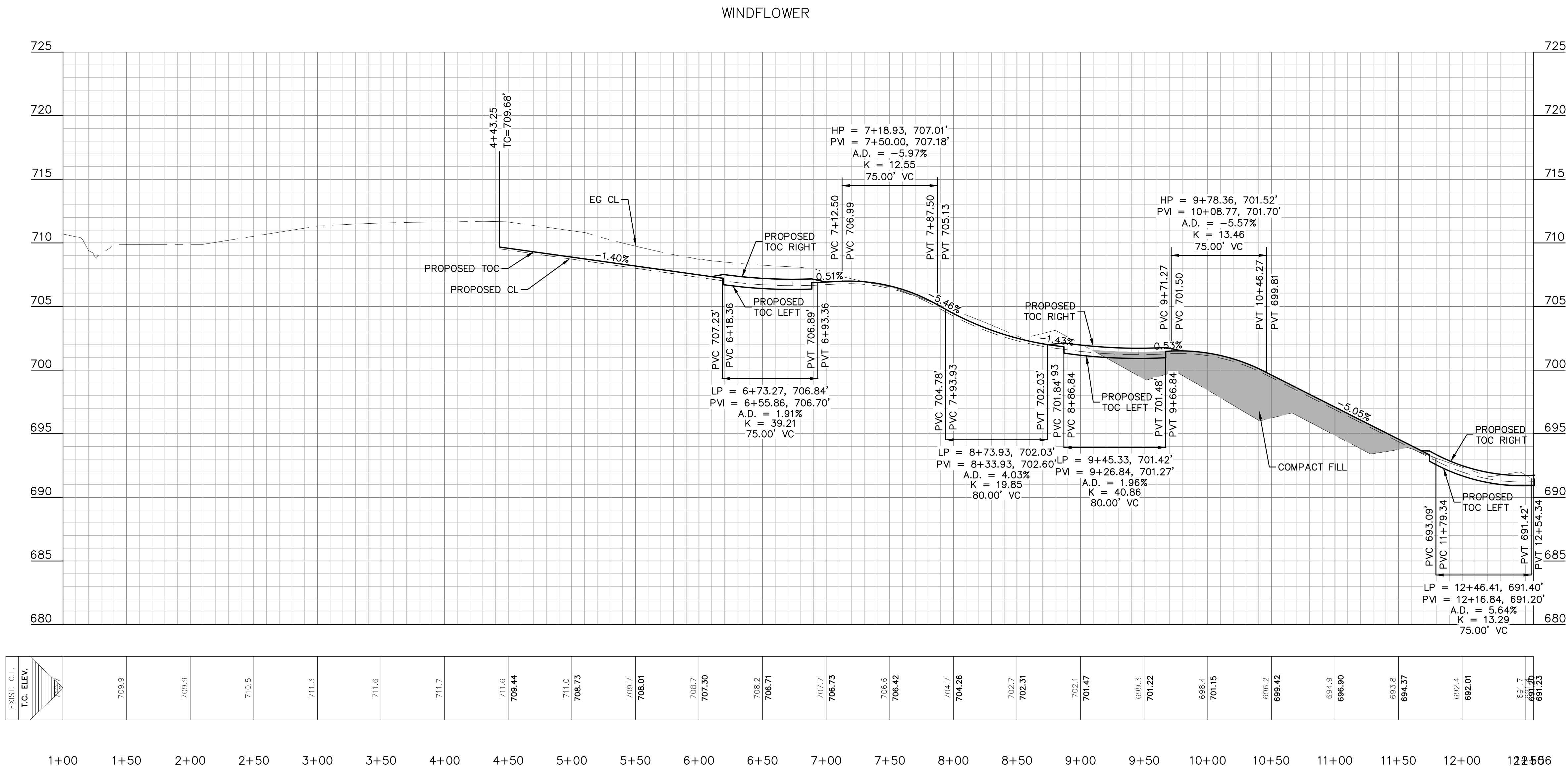
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DATE: 05/21/2020 BY: *Timothy A. Goren*

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HMT ENGINEERING AND SURVEYING

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LEGEND

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CL)
- FINISHED GROUND TOP OF CURB (FG TOC)
- ACCESSIBLE CROSSING AREA
CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
- 2.0% MAX
- SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C3.10)
- SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR
- WASHOUT CROWN AREA

NOTES

- STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
- IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
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- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.

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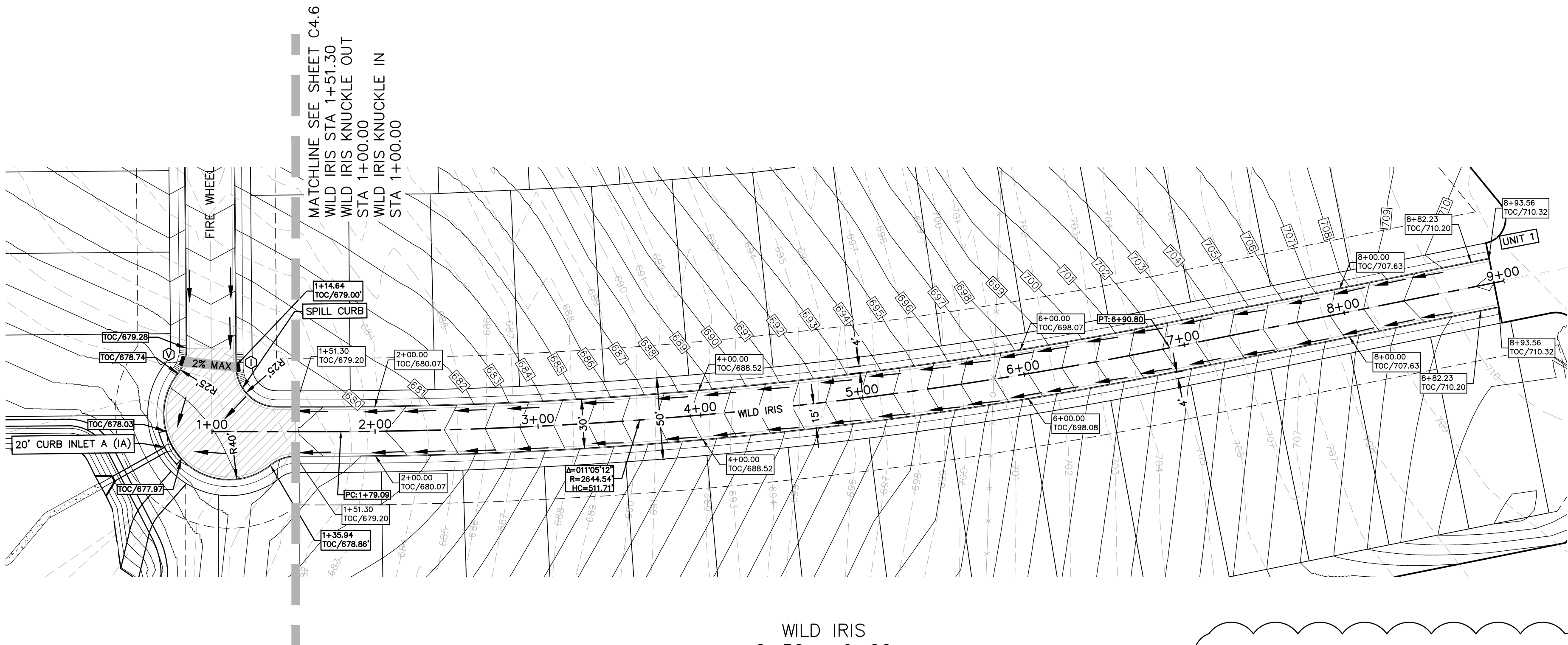
STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

WINDFLOWER
PLAN & PROFILE
HEATHERFIELD SUBDIVISION
UNIT 2

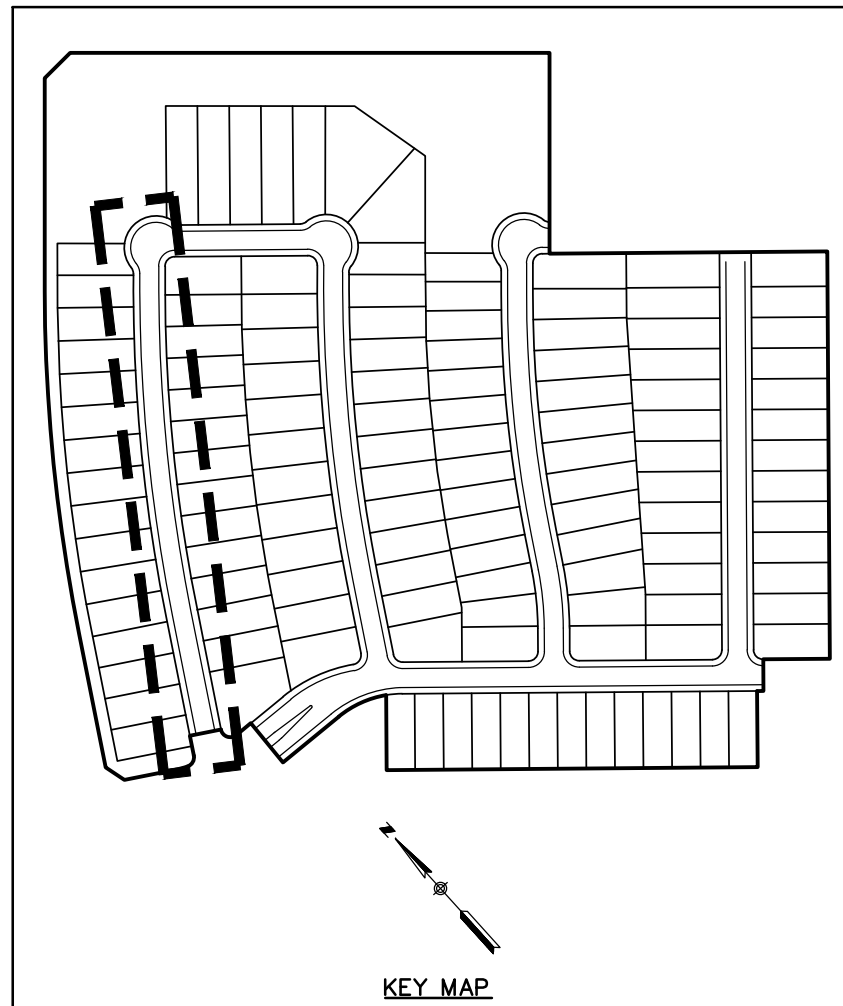
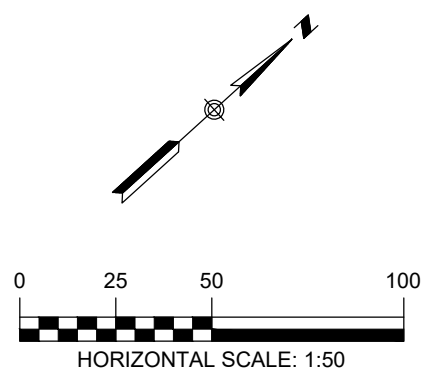
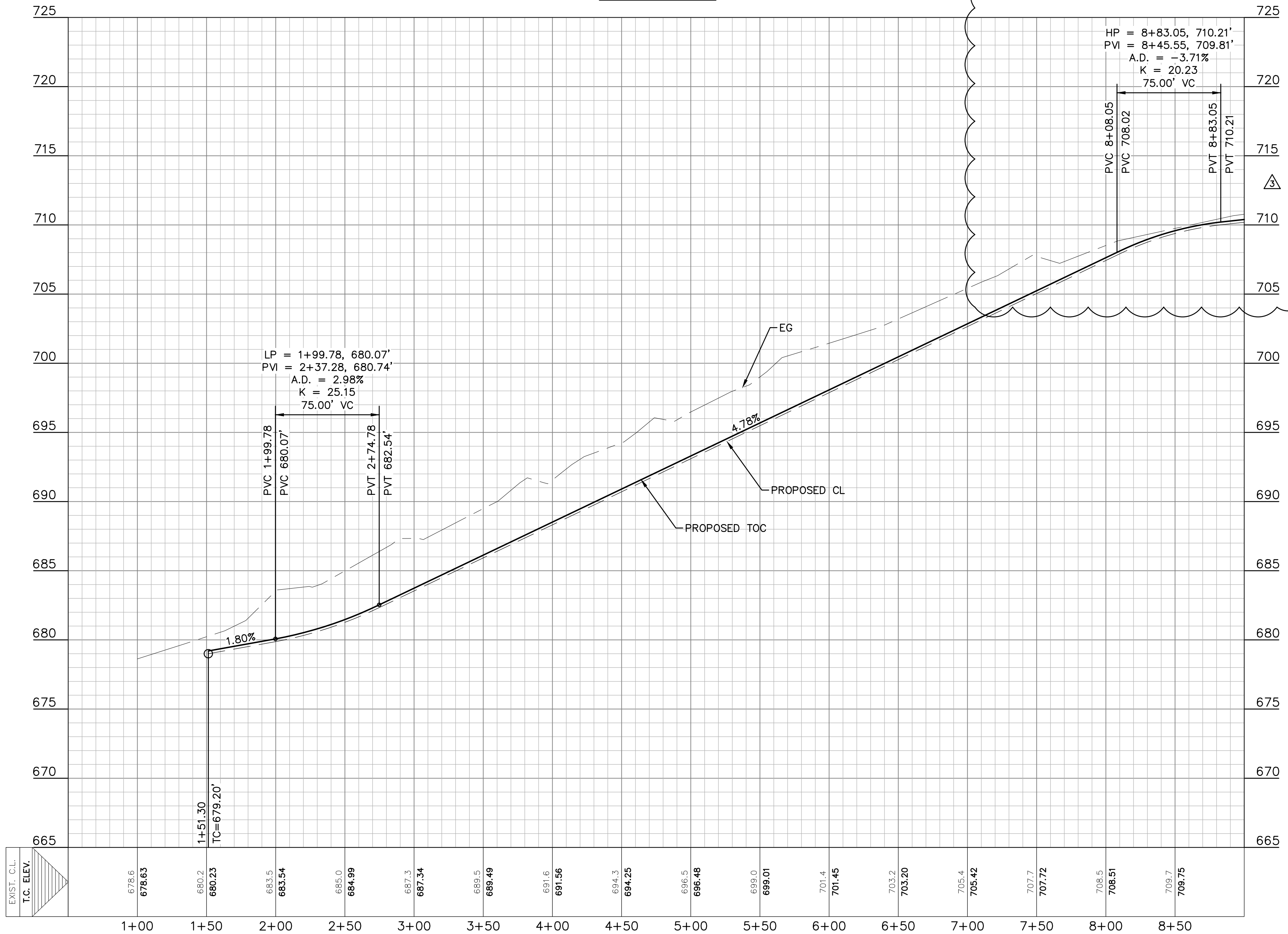
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DATE: FEBRUARY 2020
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: CC/SHH
HMT PROJECT NO.: 305.01

SHEET
C4.0



WILD IRIS
0+50 - 9+00



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NOTES

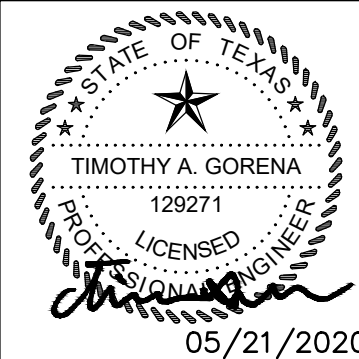
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LEGEND

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- PROPOSED CONTOURS
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- ACCESSIBLE CROSSING AREA
CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C3.10)
- SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR
- WASHOUT CROWN AREA

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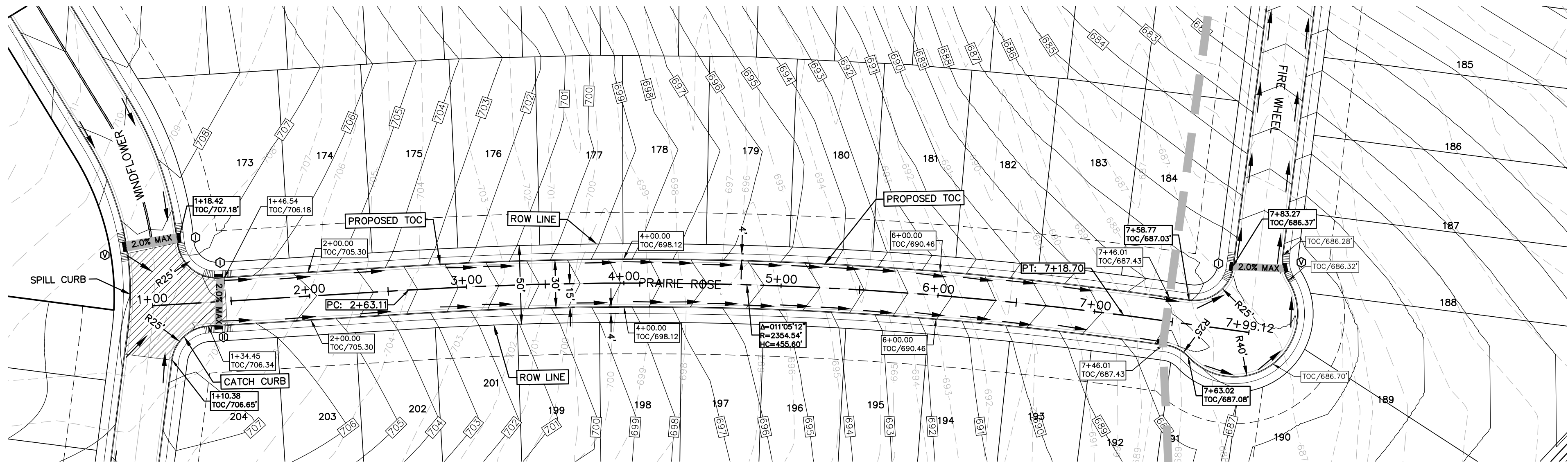
WILD IRIS PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

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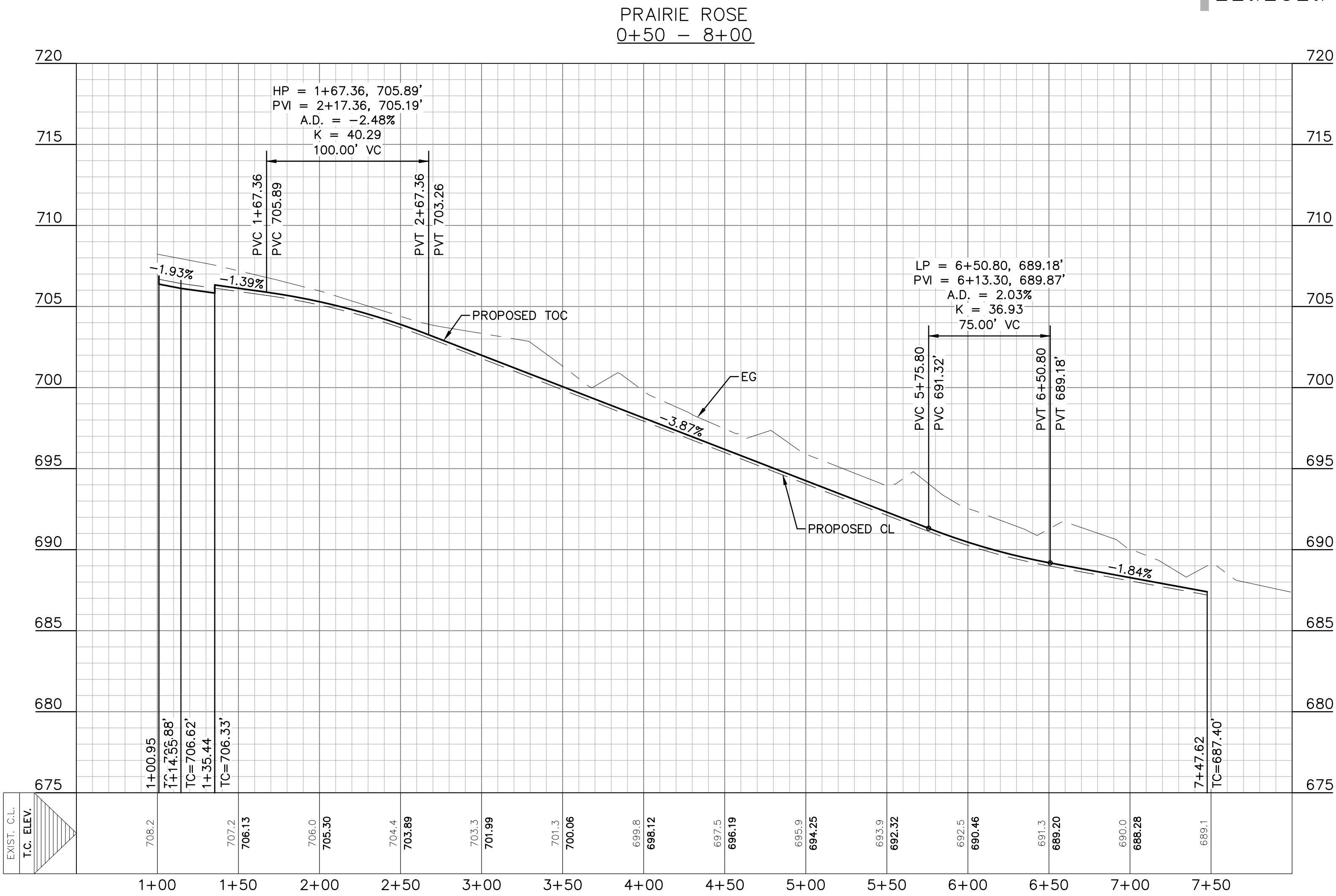
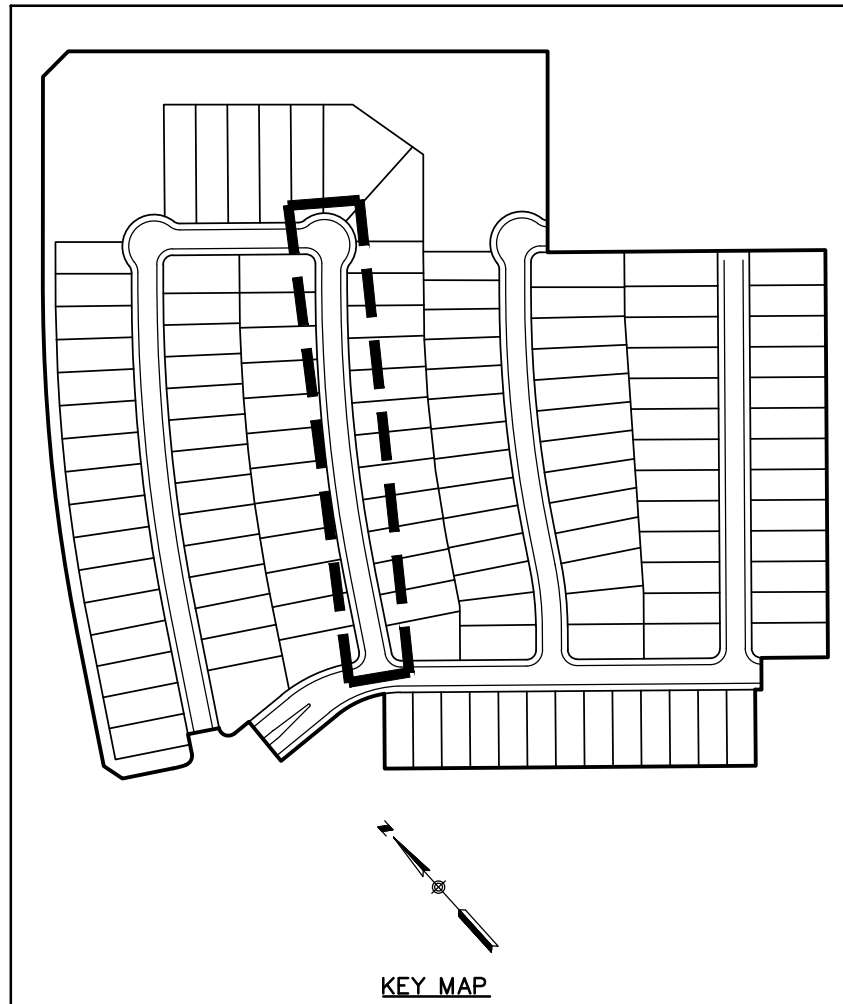
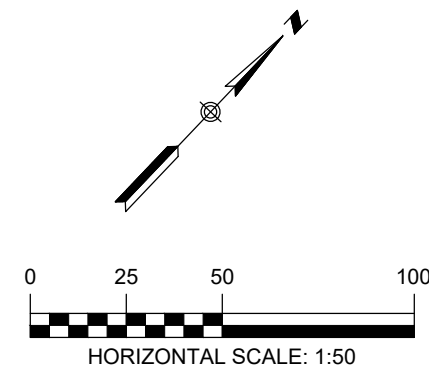
SHEET
C4.1



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
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 - FLOW ARROW
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 - ACCESSIBLE CROSSING AREA
CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
 - 2.0% MAX
 - SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C3.10)
 - SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR

NOTES

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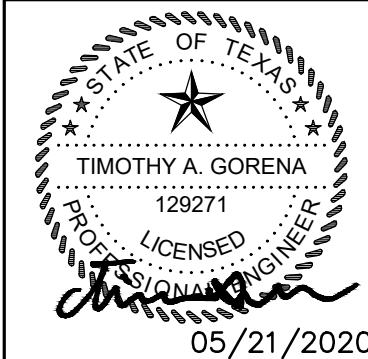
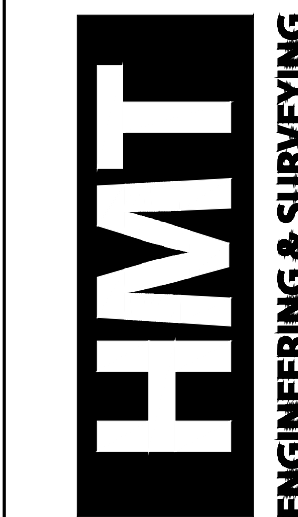
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DATE: 05/21/2020 BY: *Timothy A. Gorena*
HMT ENGINEERING AND SURVEYING

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

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**PRAIRIE ROSE
PLAN & PROFILE**
HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/23/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

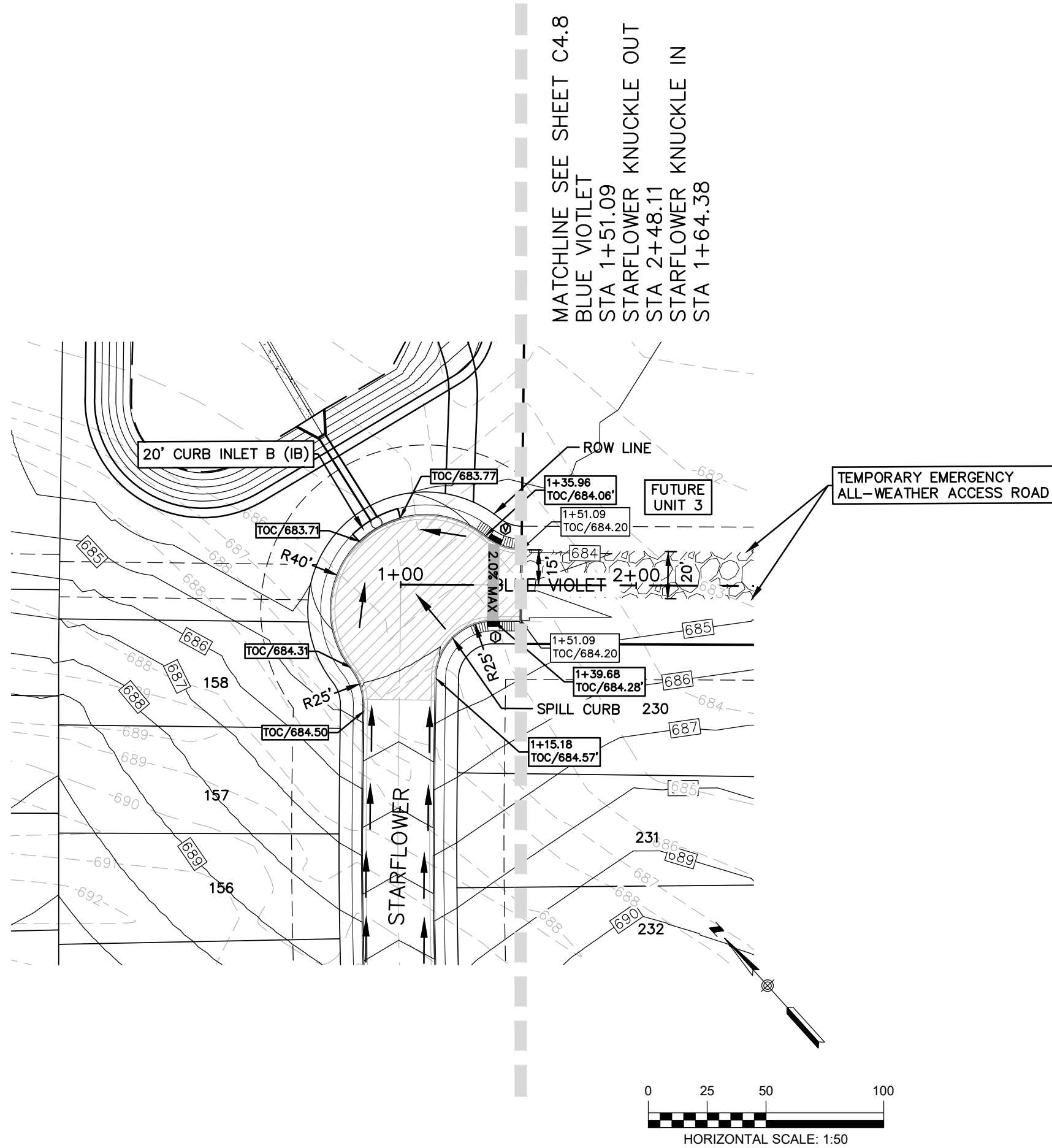
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DESIGNED BY: TG

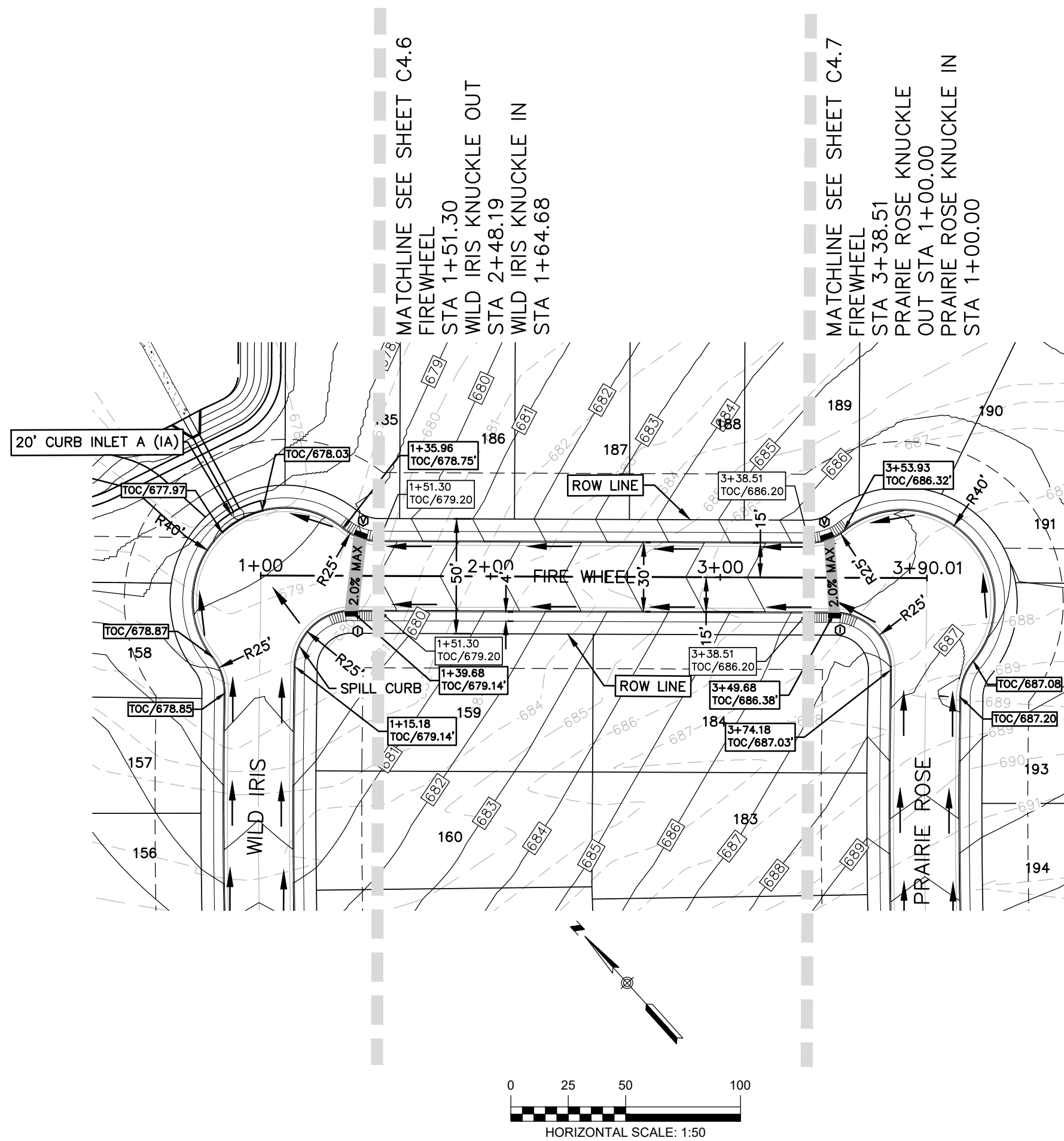
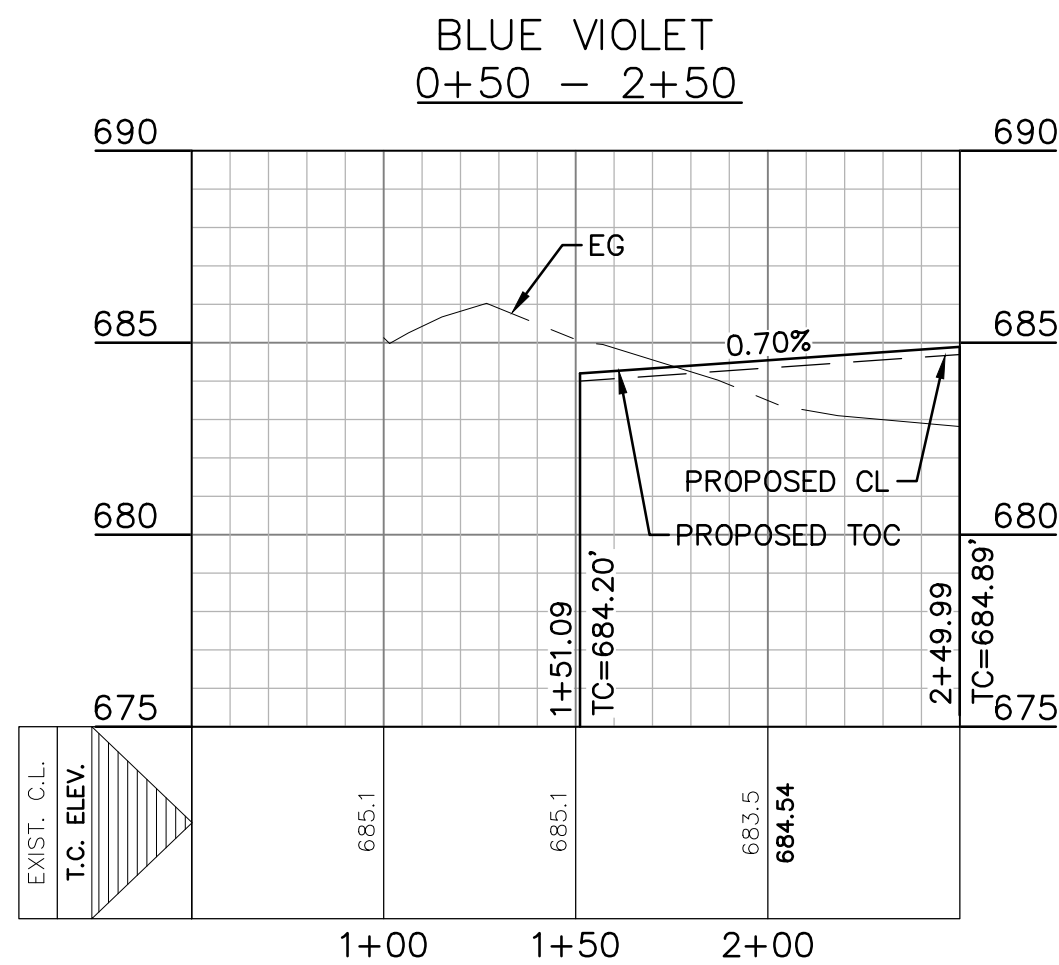
REVIEWED BY: CC/SWH

HMT PROJECT NO.:
305.01

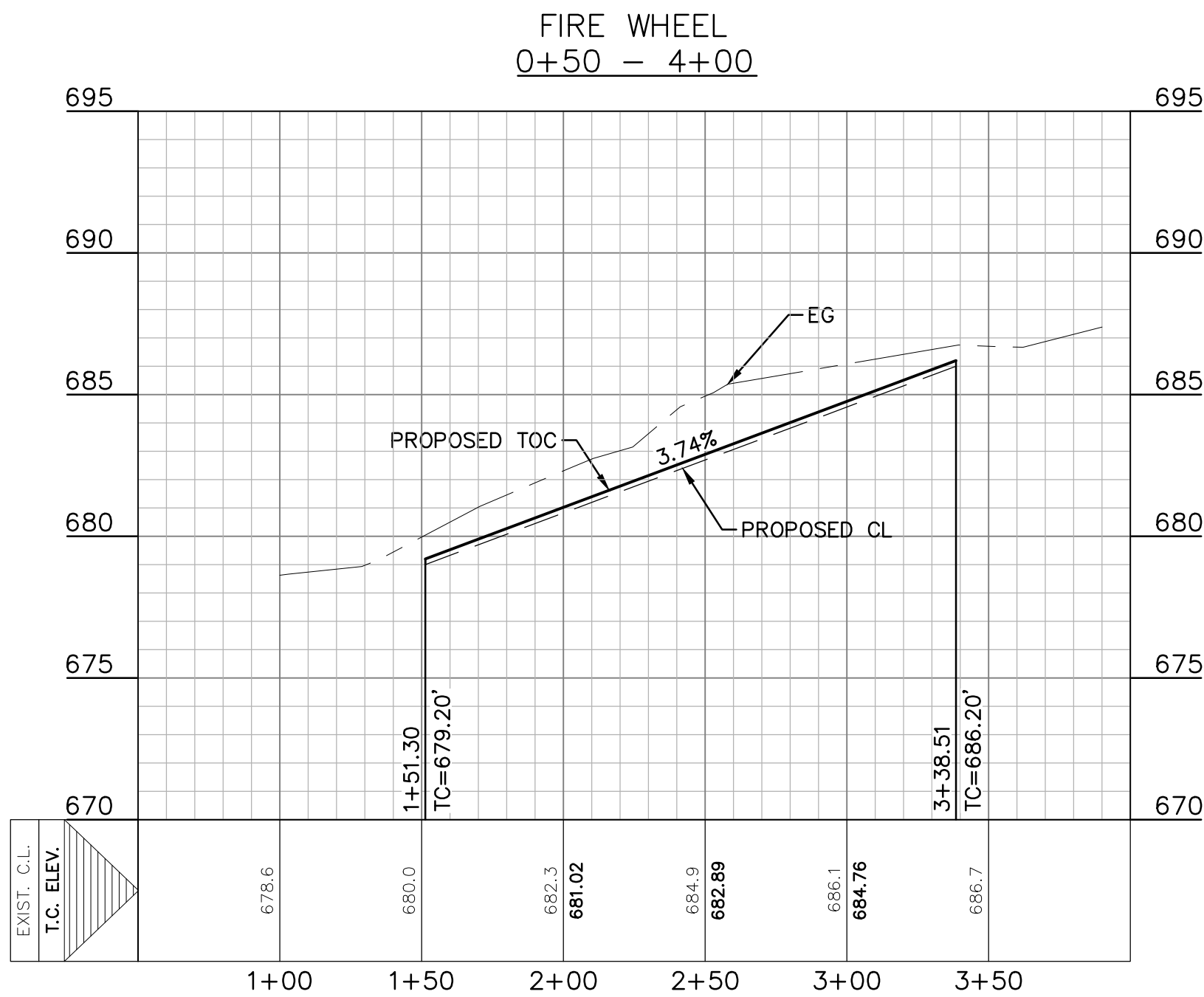
SHEET
C4.2



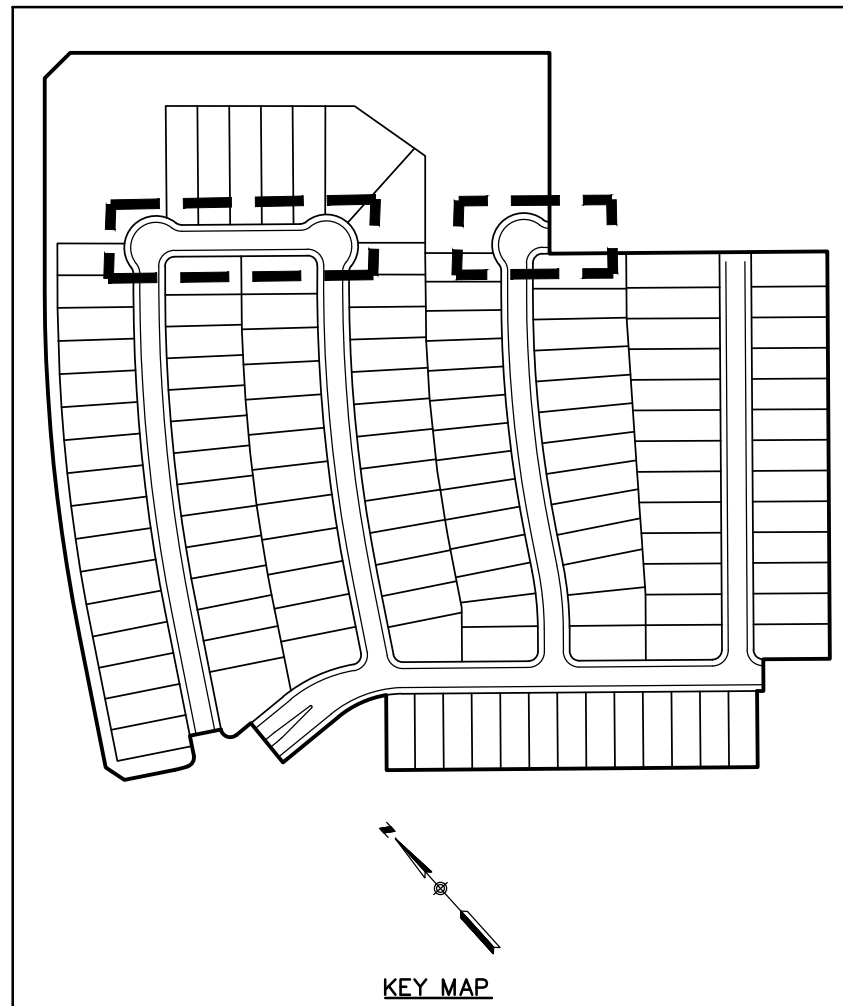
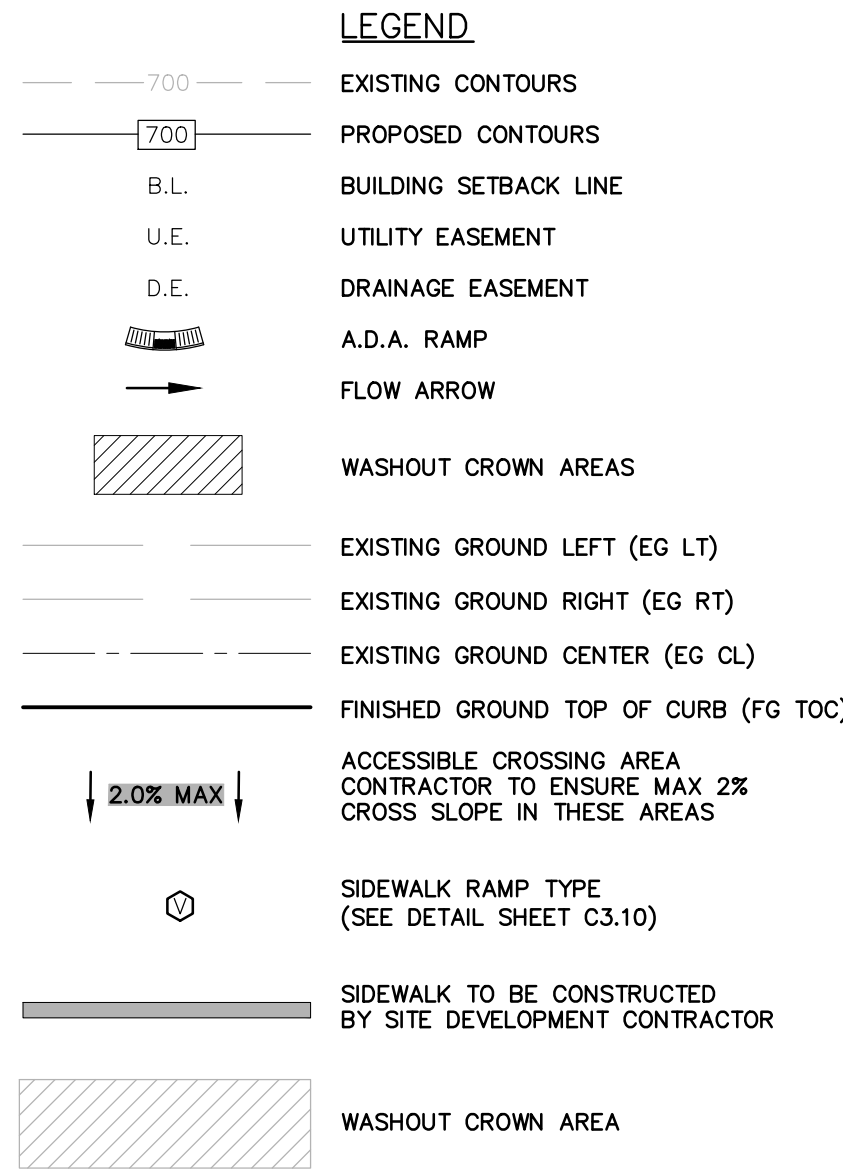
MATCHLINE
1+00.00 BLUE VIOLET = 7+99.12 STARFLOWER



MATCHLINE
1+00.00 FIRE WHEEL = 7+99.12 WILD IRIS



MATCHLINE
3+90.01 FIRE WHEEL = 7+99.12 PRAIRIE ROSE



RECORD DRAWING

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HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

**FIRE WHEEL & BLUE VIOLET
PLAN & PROFILE**

HEATHERFIELD SUBDIVISION
UNIT 2

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5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: **FEBRUARY 2020**

DRAWN BY: **HM**

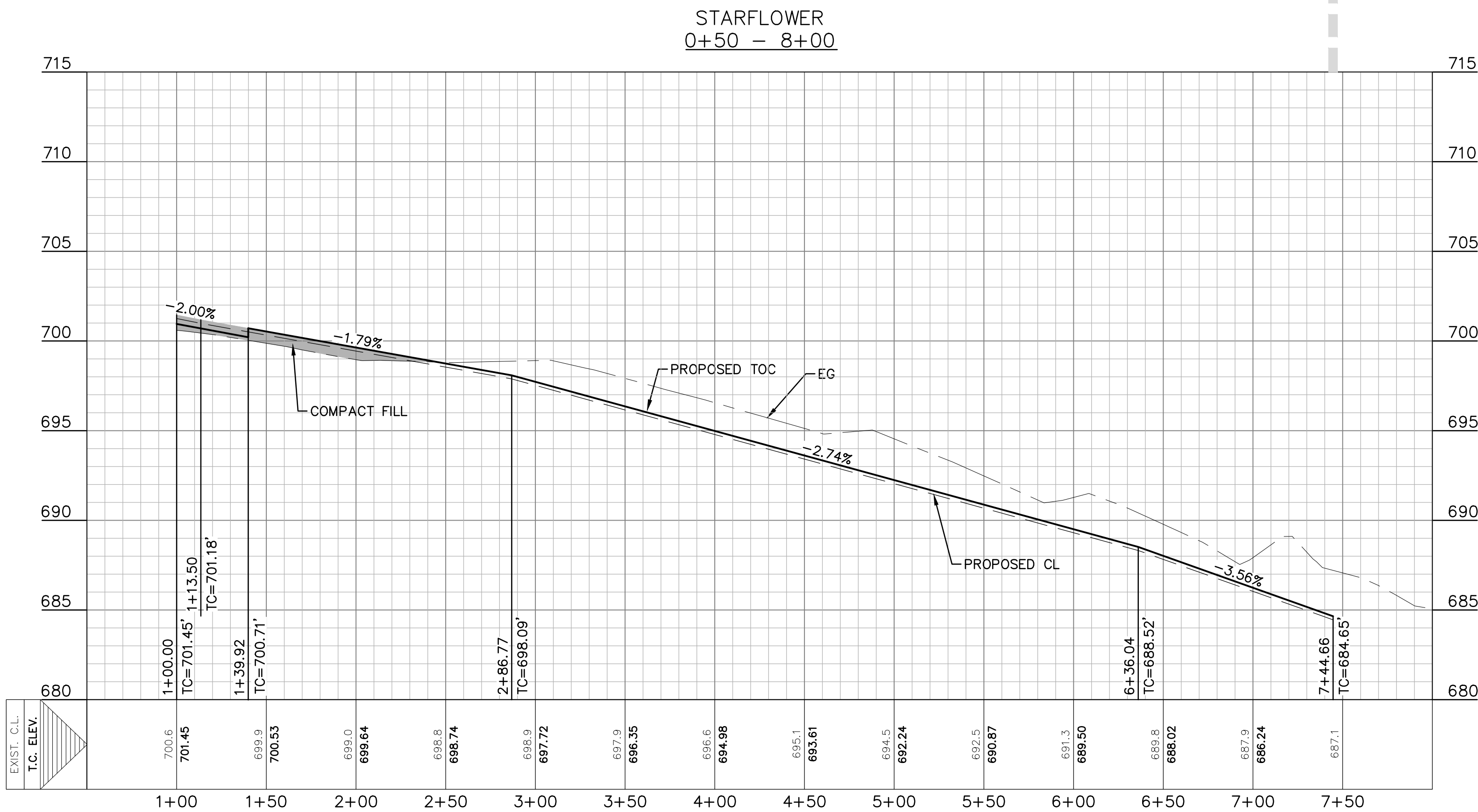
DESIGNED BY: **TG**

REVIEWED BY: **CC/SWH**

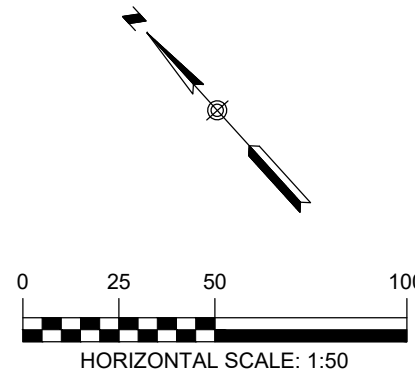
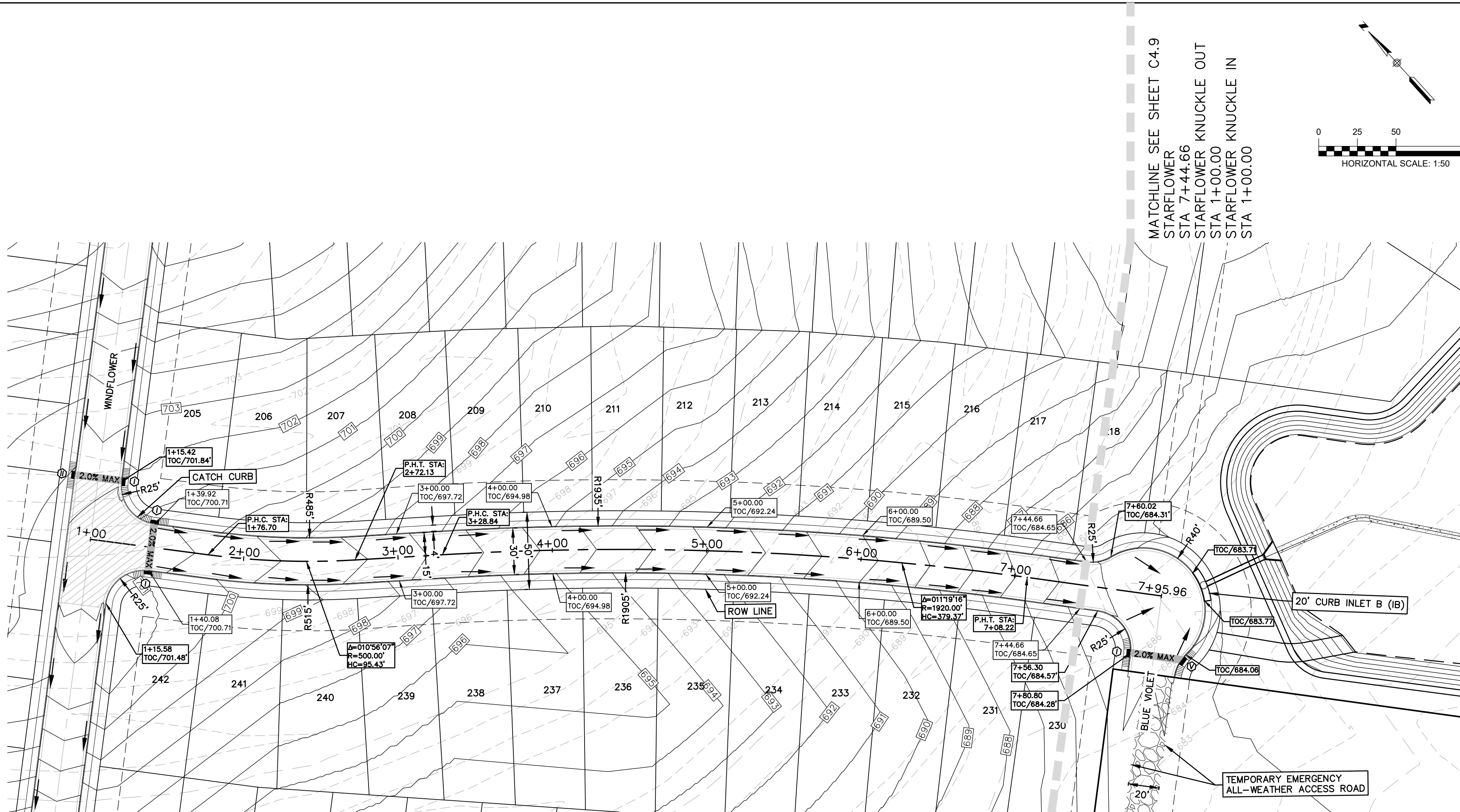
HMT PROJECT NO.:
305.01

SHEET
C4.3

MATCHLINE
7+98.60 WINDFLOWER =1+00 STARFLOWER



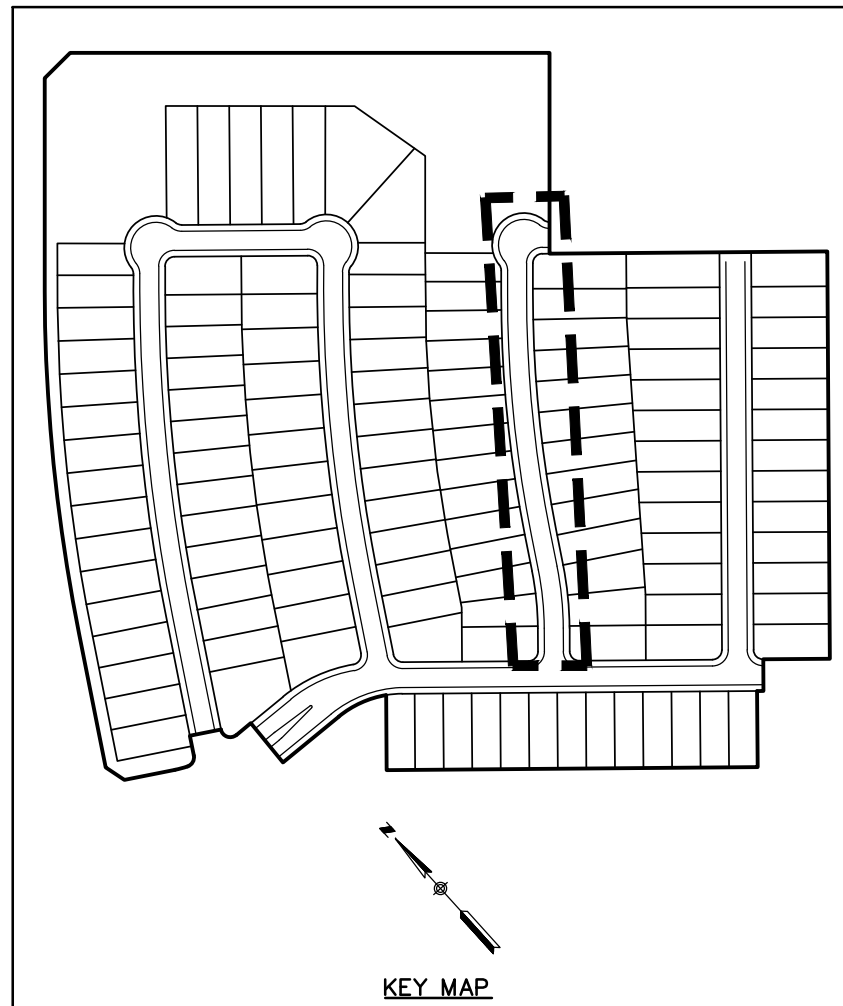
MATCHLINE
7+95.96 STARFLOWER =1+00 BLUE VIOLET



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - A.D.A. RAMP
 - FLOW ARROW
 - WASHOUT CROWN AREAS
 - EXISTING GROUND LEFT (EG LT)
 - EXISTING GROUND RIGHT (EG RT)
 - EXISTING GROUND CENTER (EG CL)
 - FINISHED GROUND TOP OF CURB (FG TOC)
 - ACCESSIBLE CROSSING AREA
CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
 - 2.0% MAX
 - SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C3.10)
 - SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR

NOTES

- STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
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RECORD DRAWING

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HMT ENGINEERING AND SURVEYING

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**STARFLOWER
PLAN & PROFILE**

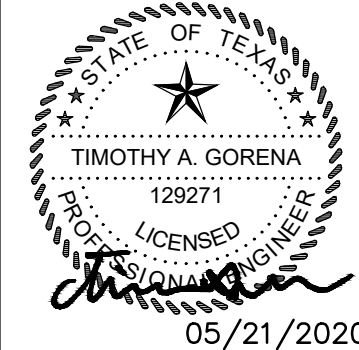
HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
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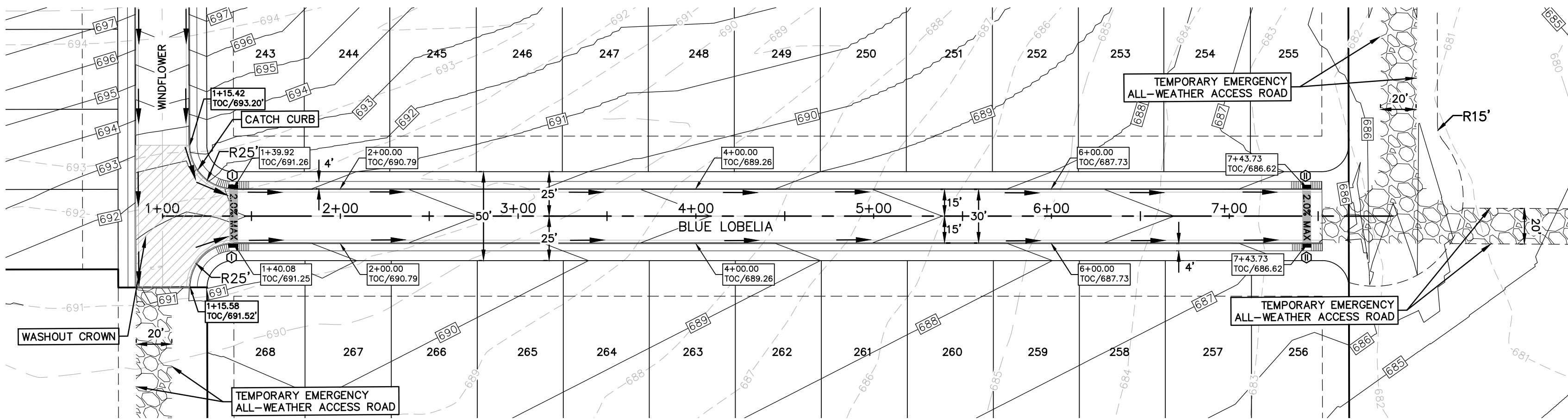
DATE: FEBRUARY 2020
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: CC/SHH
HMT PROJECT NO.: 305.01

**SHEET
C4.4**

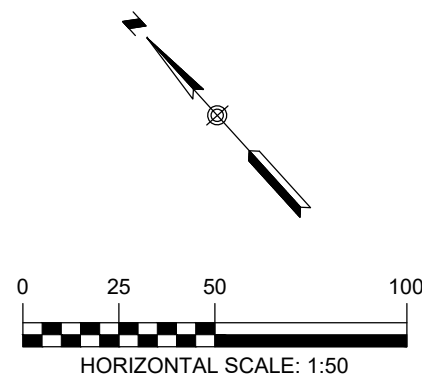
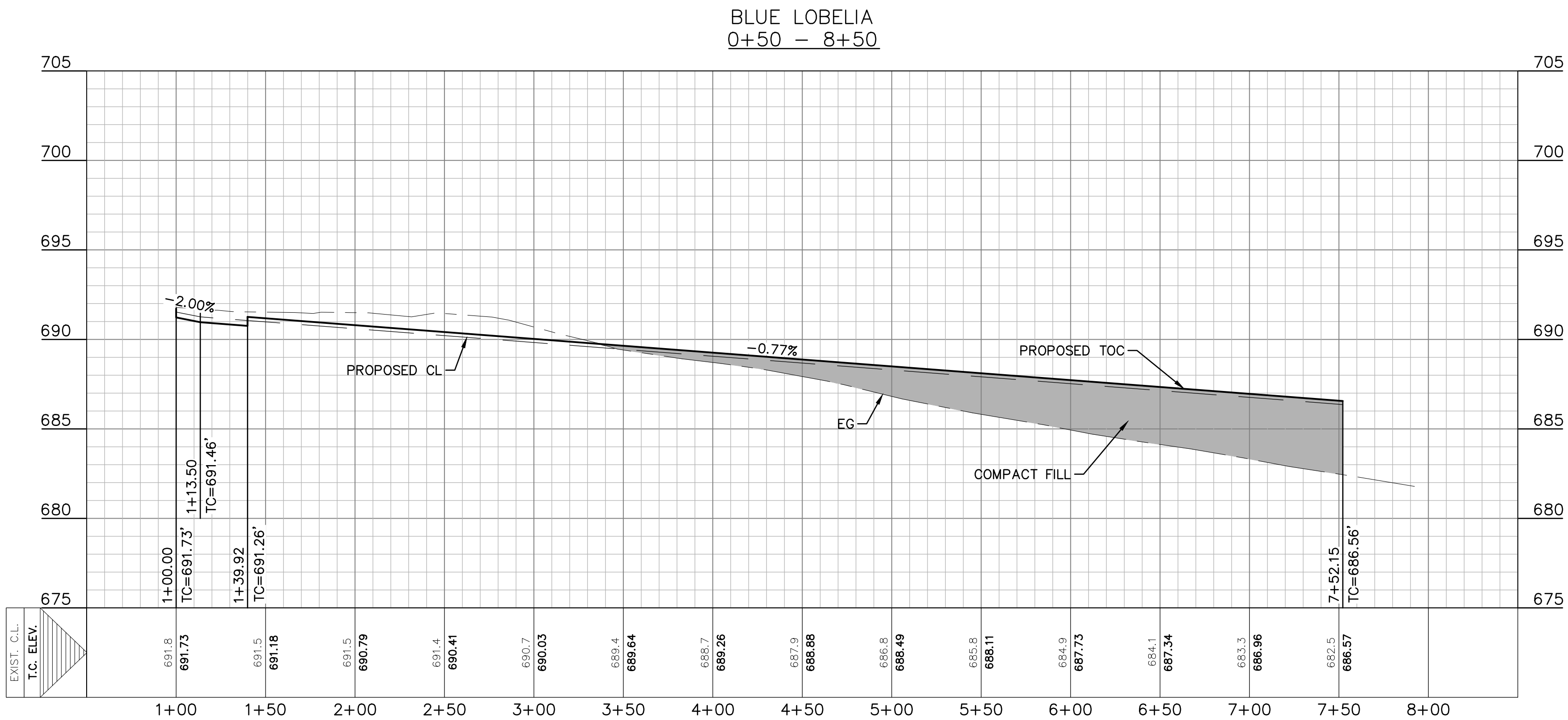
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Drawing Name: M:_Projects\305 - Heatherfield Unit 2\CDs\305.001_C4.5 - BLUE LOBELLA P&P.dwg User: andrewm May 26, 2020 - 10:44am

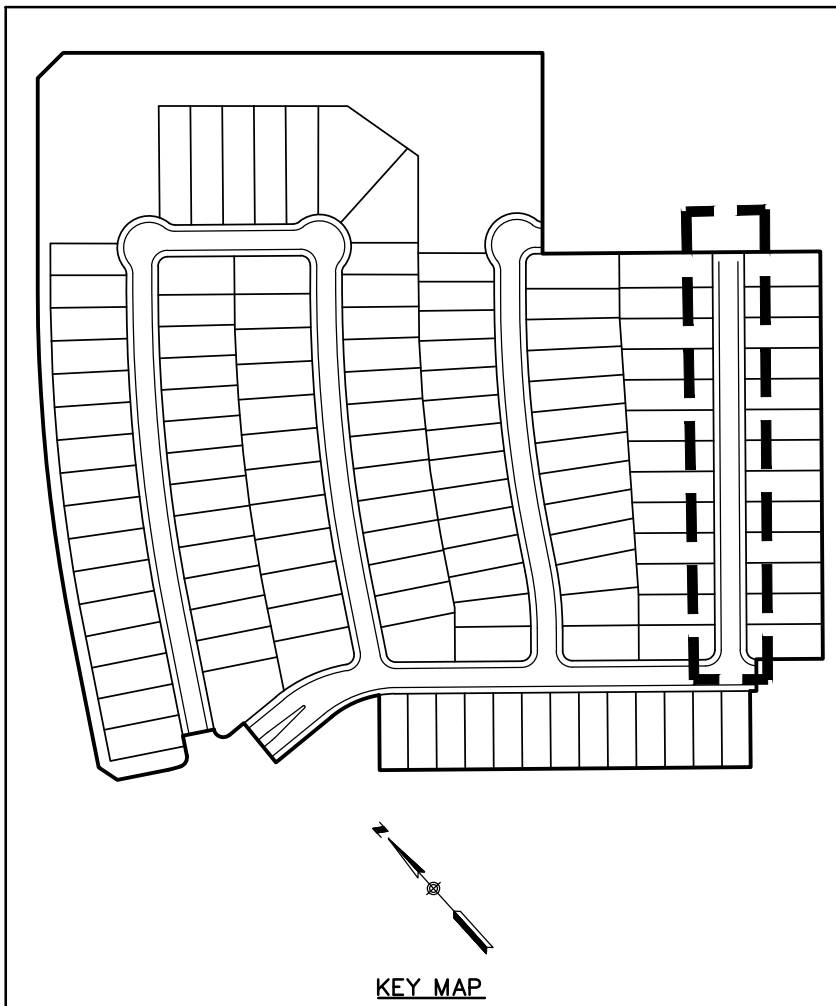


MATCHLINE
12+16.84 WINDFLOWER =1+00 STARFLOWER



LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	B.L.
	U.E.
	D.E.
	A.D.A. RAMP
	FLOW ARROW
	WASHOUT CROWN AREAS
	EXISTING GROUND LEFT (EG LT)
	EXISTING GROUND RIGHT (EG RT)
	EXISTING GROUND CENTER (EG CL)
	FINISHED GROUND TOP OF CURB (FG TOC)
	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
	SIDEWALK RAMP TYPE (SEE DETAIL SHEET C3.10)
	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

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RECORD DRAWING

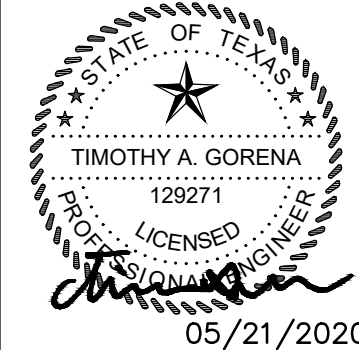
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DATE: 05/21/2020 BY:

HMT ENGINEERING AND SURVEYING

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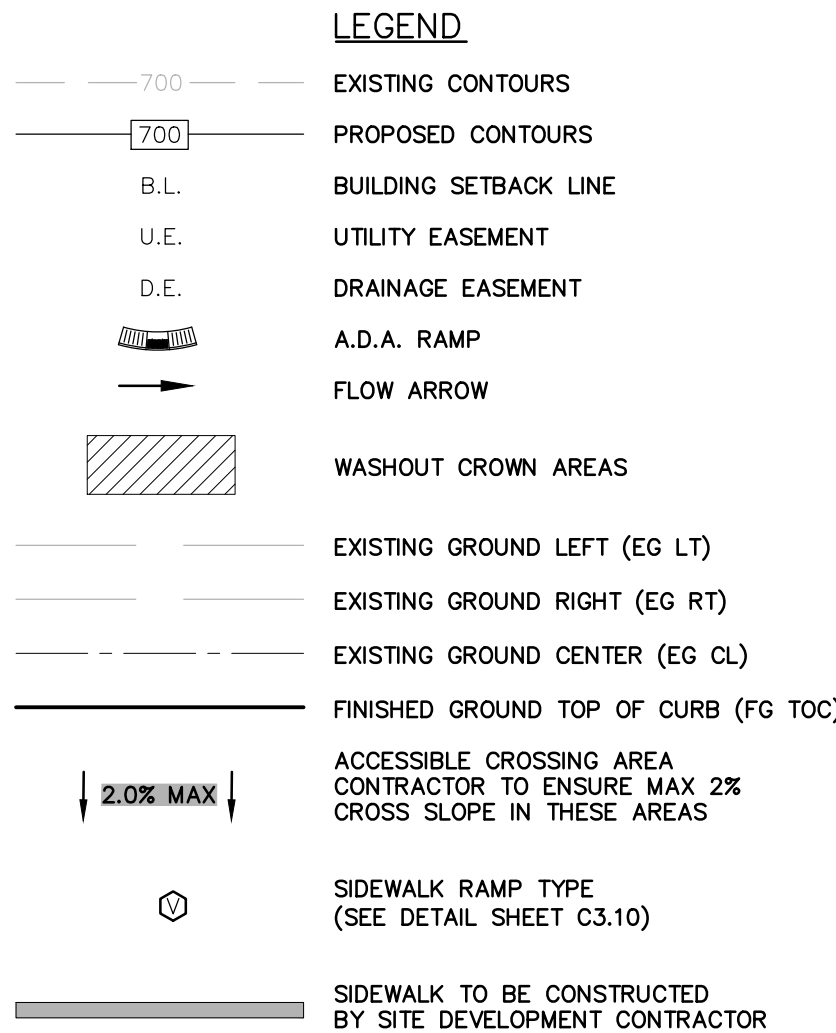
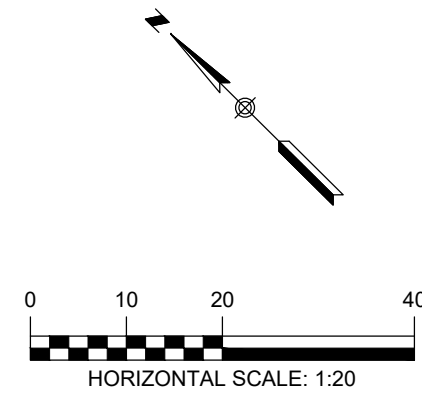
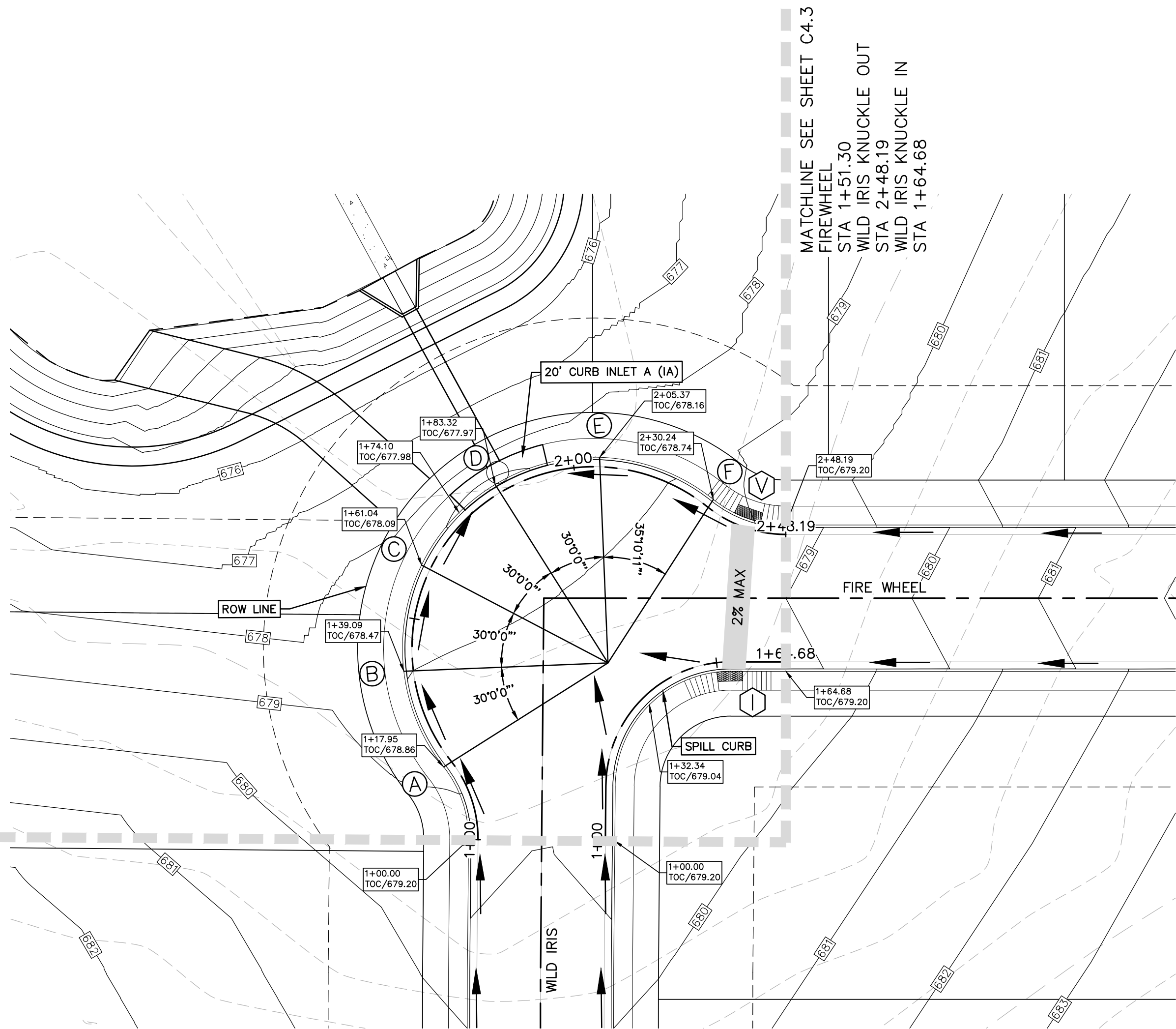
BLUE LOBELLA
PLAN & PROFILE
HEATHERFIELD SUBDIVISION
UNIT 2

REVISION		DATE
NO.	DESCRIPTION	
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DATE: FEBRUARY 2020
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: CC/SHH
HMT PROJECT NO.: 305.01

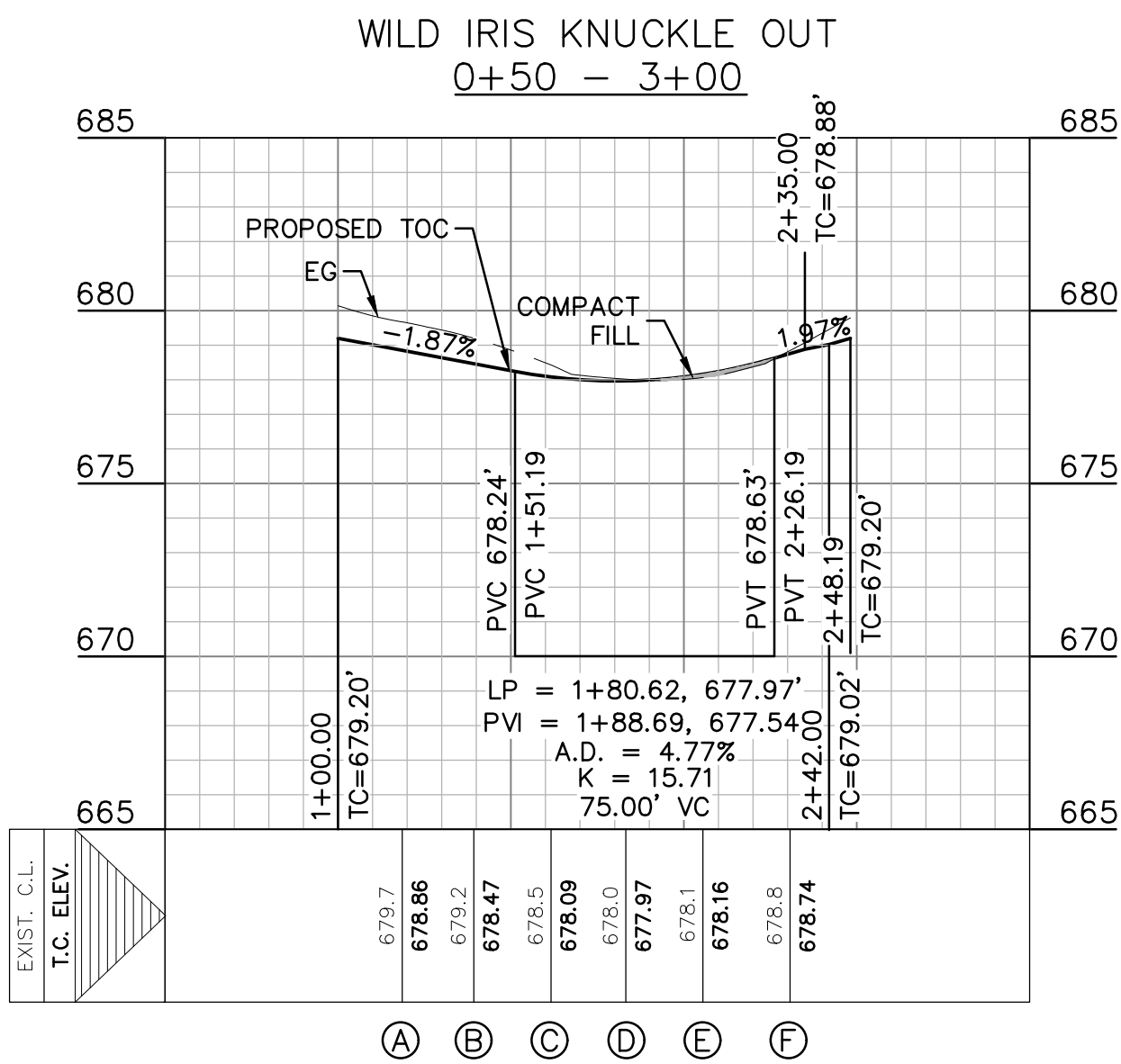
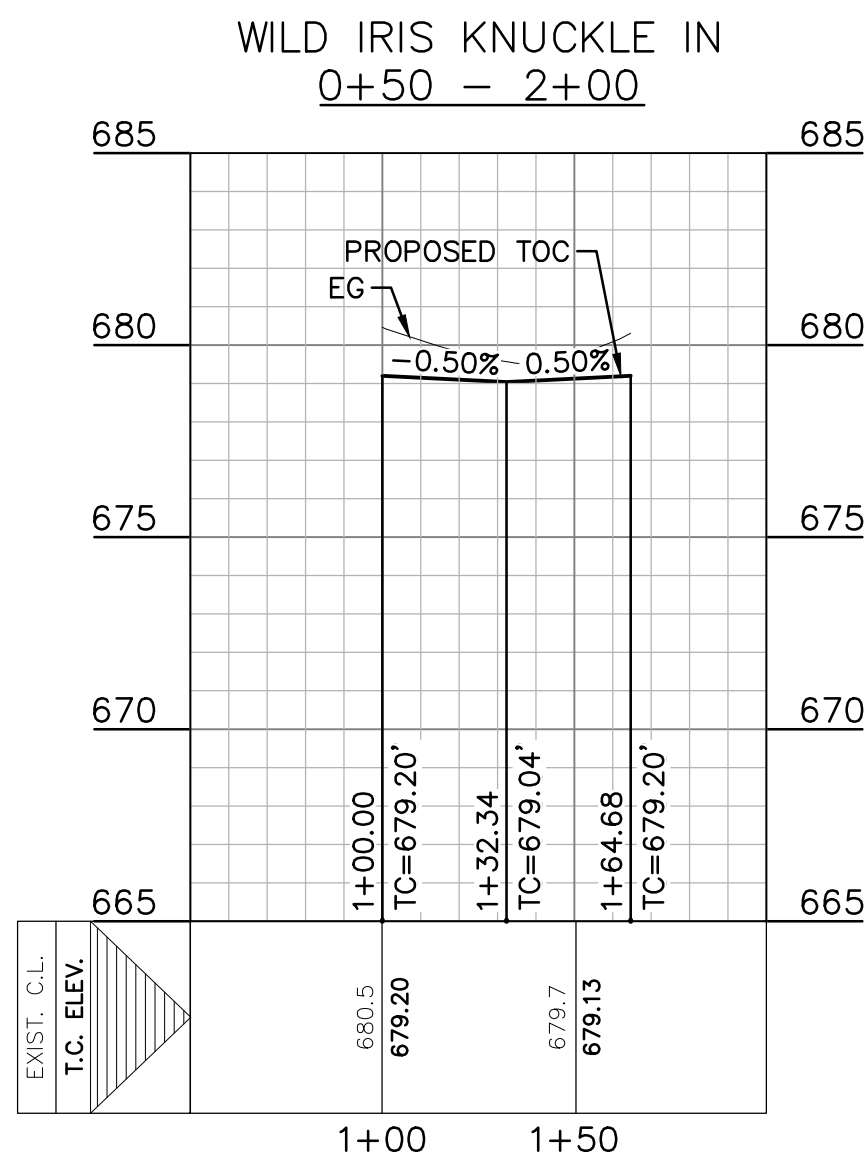
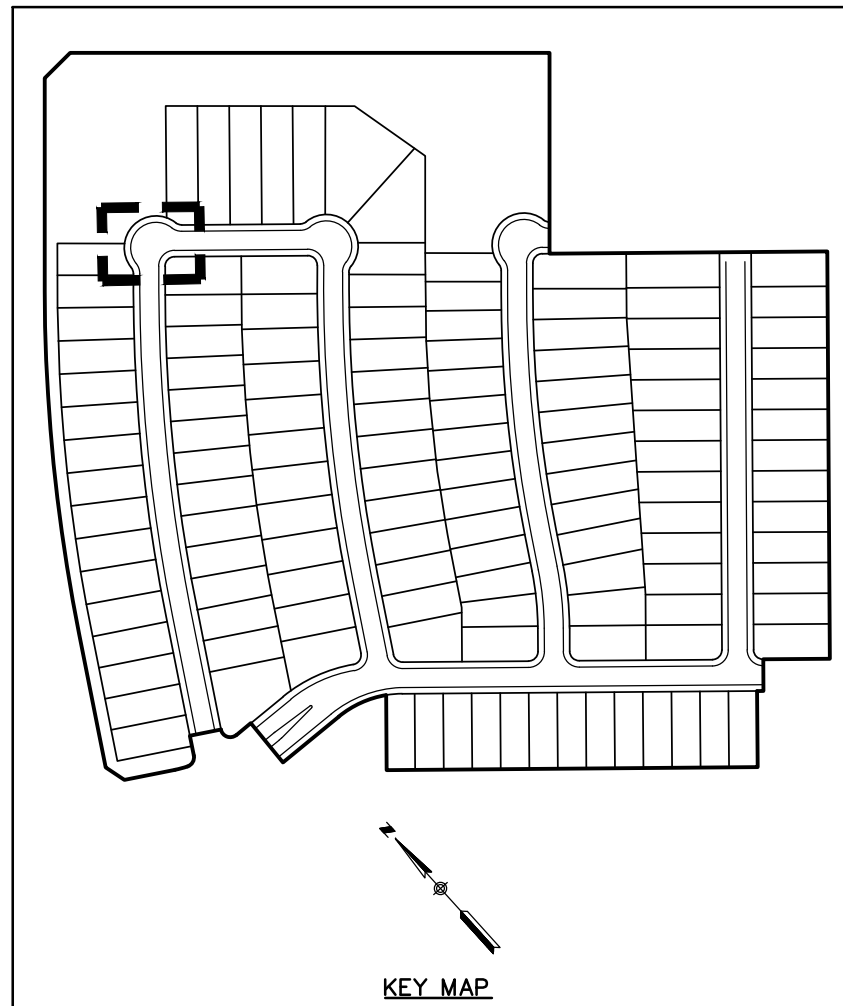
SHEET
C4.5

MATCHLINE SEE SHEET C4.1
WILD IRIS STA 1+51.30
WILD IRIS KNUCKLE OUT
STA 1+00.00
WILD IRIS KNUCKLE IN
STA 1+00.00



NOTES

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WILD IRIS KNUCKLE PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

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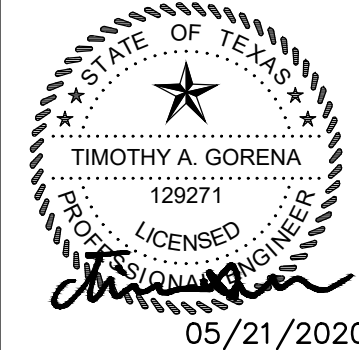
REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

SHEET
C4.6

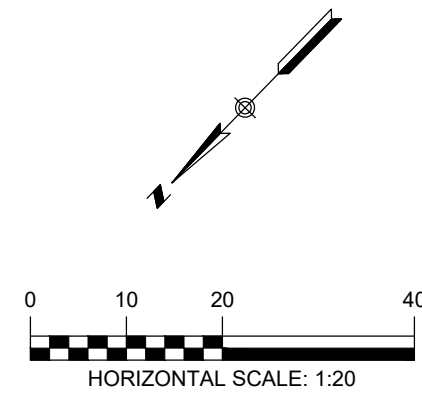
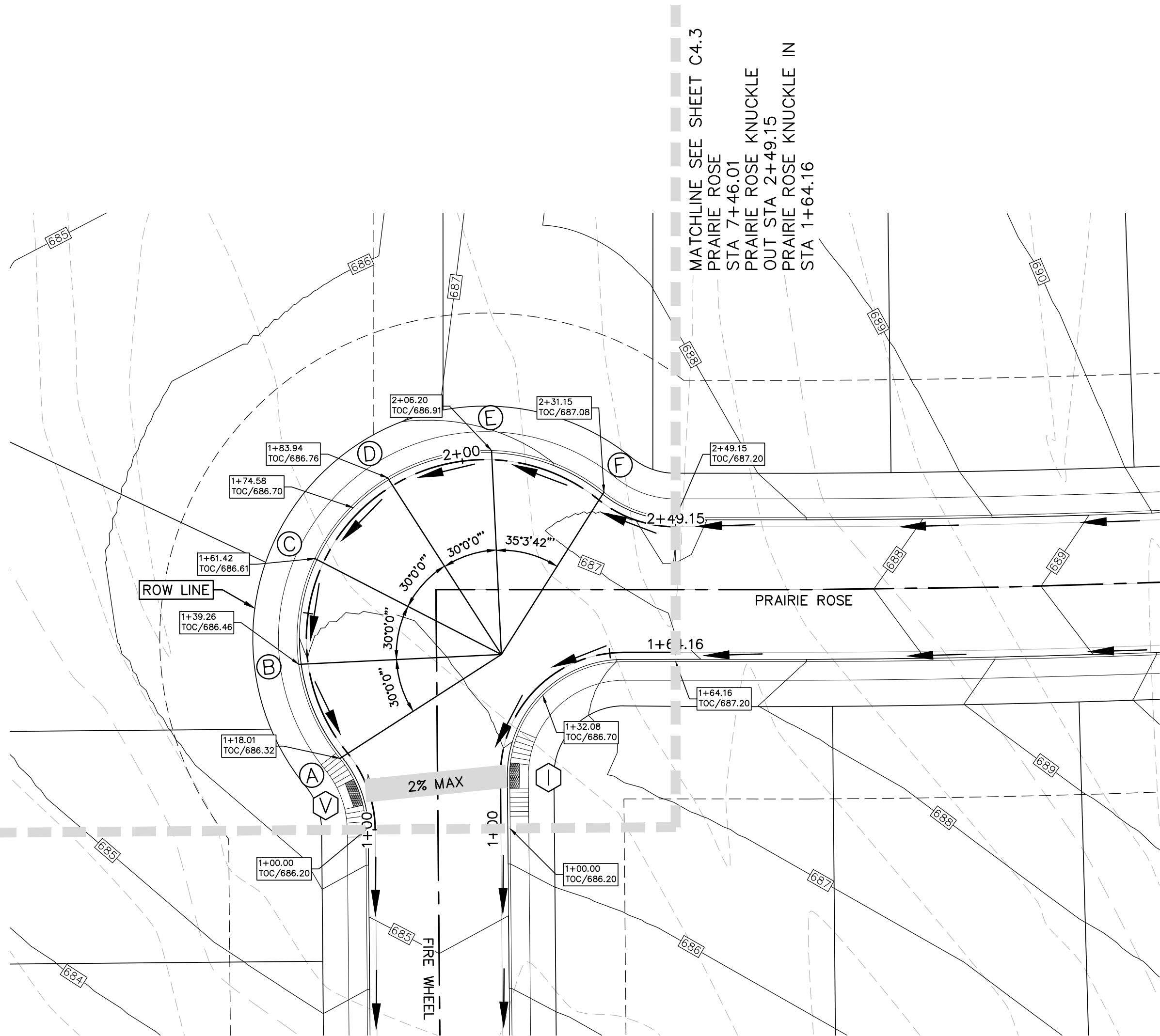
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TBPLS FIRM 10153600

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ENGINEERING & SURVEYING



05/21/2020

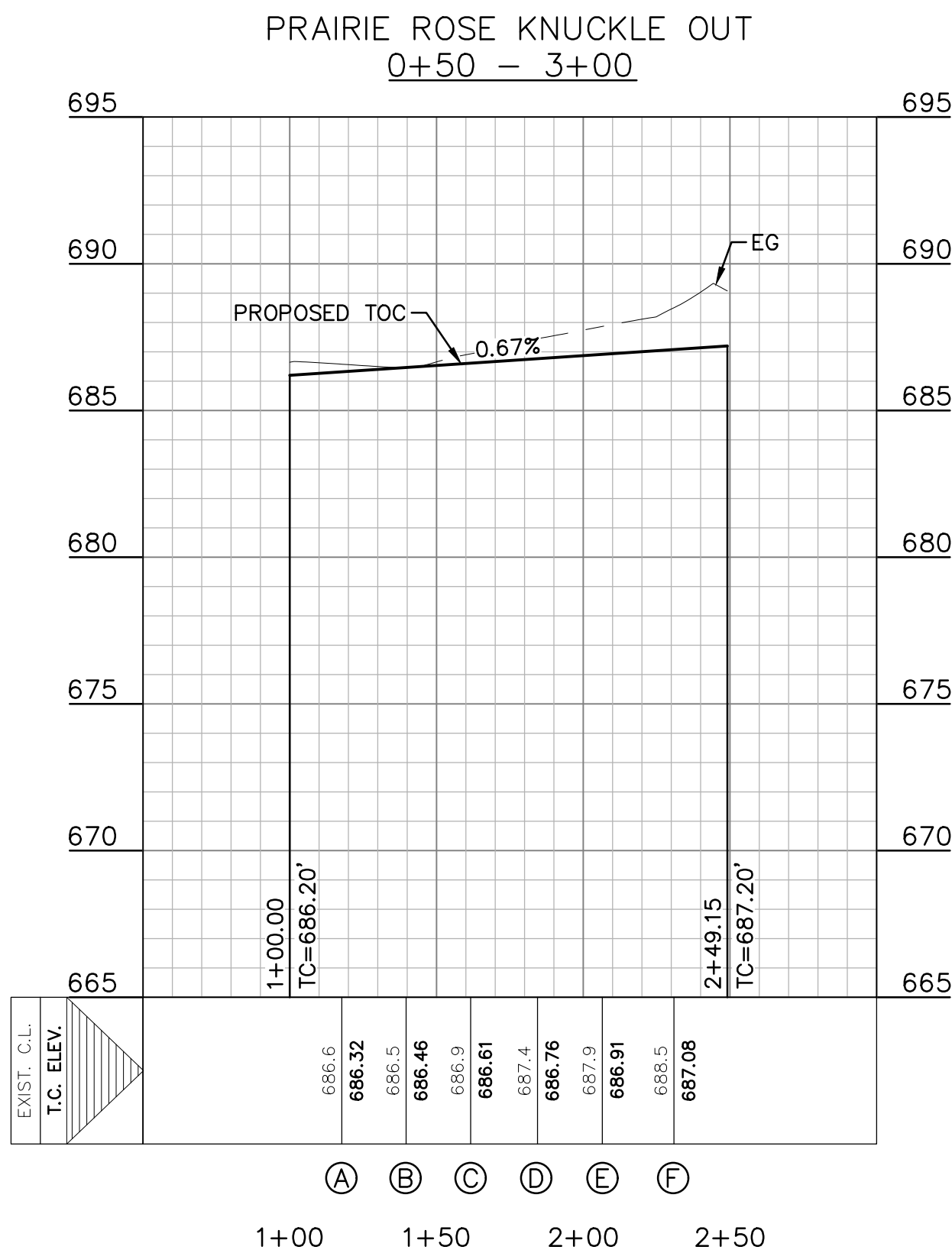
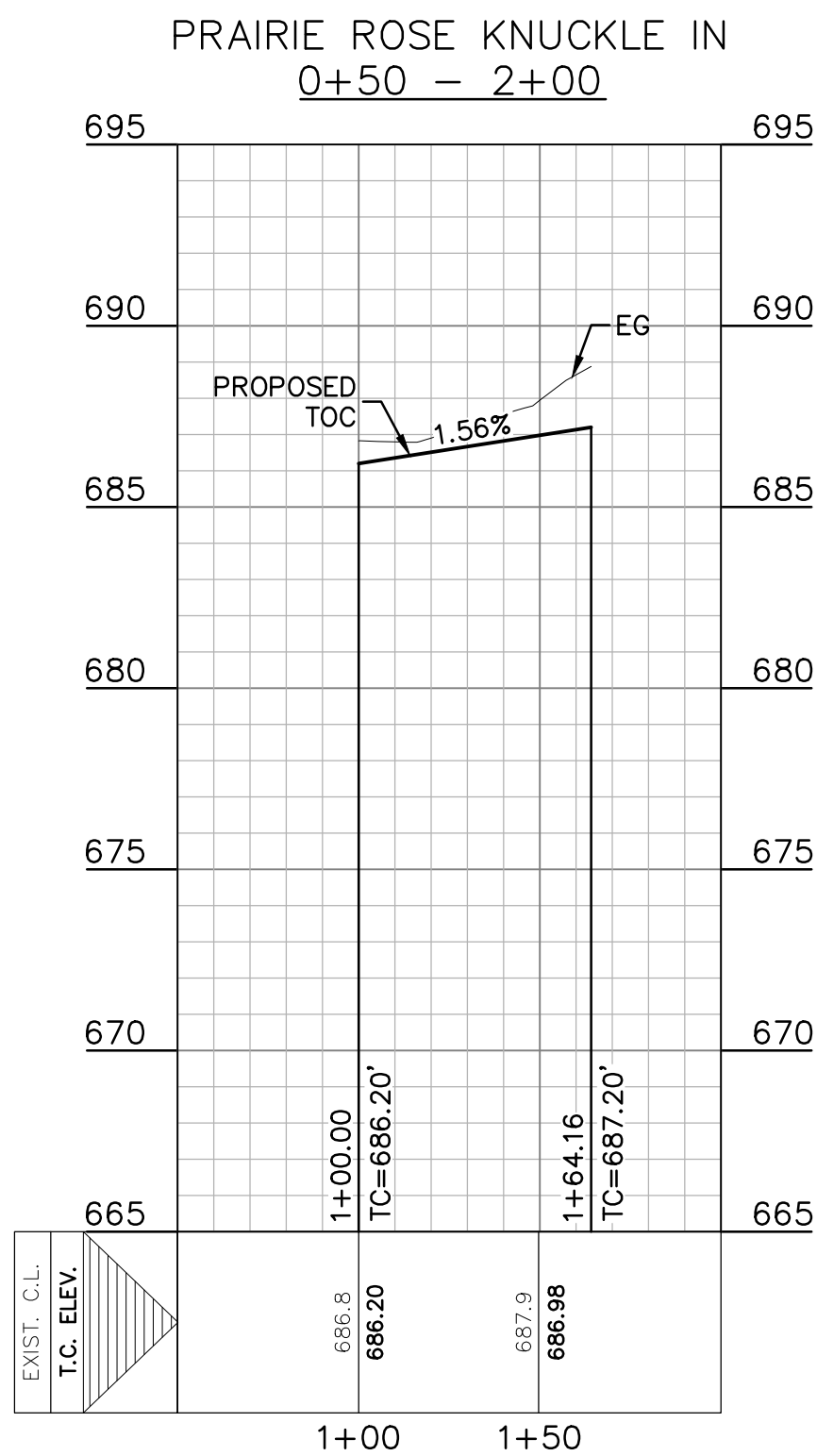
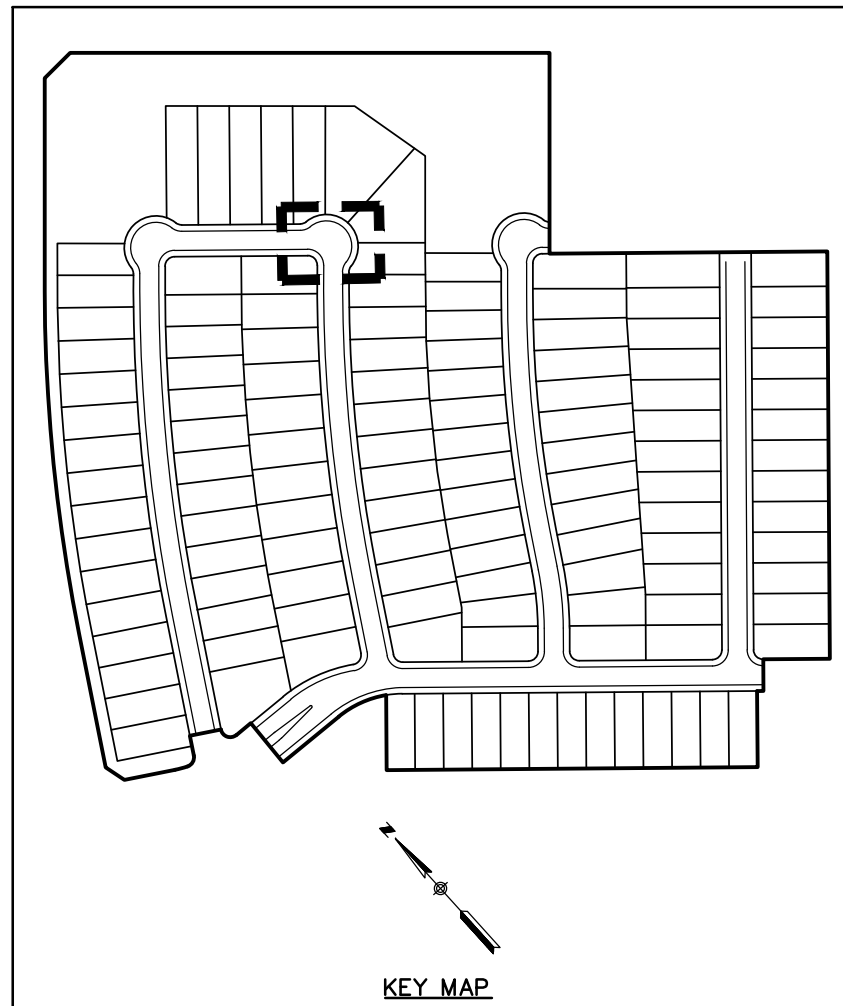
MATCHLINE SEE SHEET C4.3
FIREWHEEL
STA 3+38.51
PRAIRIE ROSE KNUCKLE
OUT STA 1+00.00
PRAIRIE ROSE KNUCKLE IN
STA 1+00.00



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - A.D.A. RAMP
 - FLOW ARROW
 - WASHOUT CROWN AREAS
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CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
 - 2.0% MAX
 - SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C3.10)
 - SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR

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**PRAIRIE ROSE KNUCKLE
PLAN & PROFILE**

HEATHERFIELD SUBDIVISION
UNIT 2

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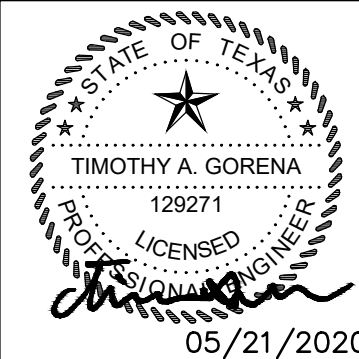
REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

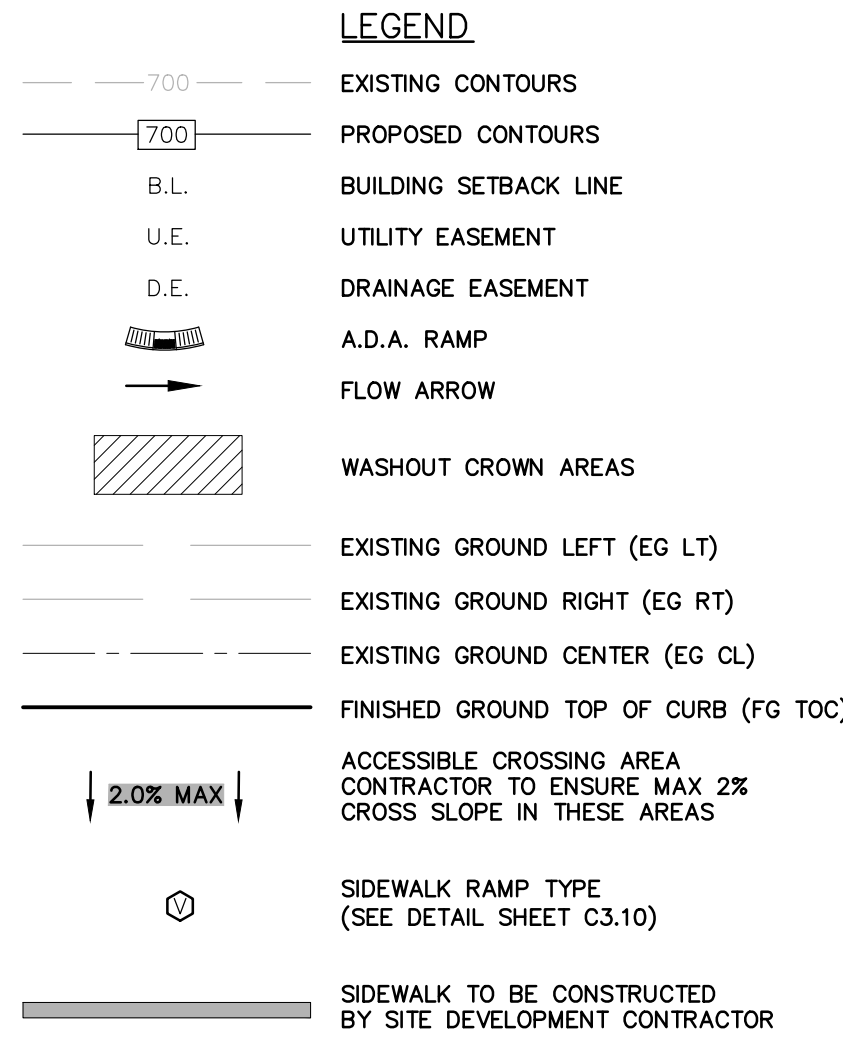
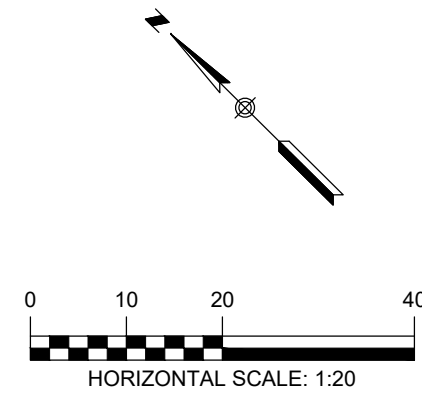
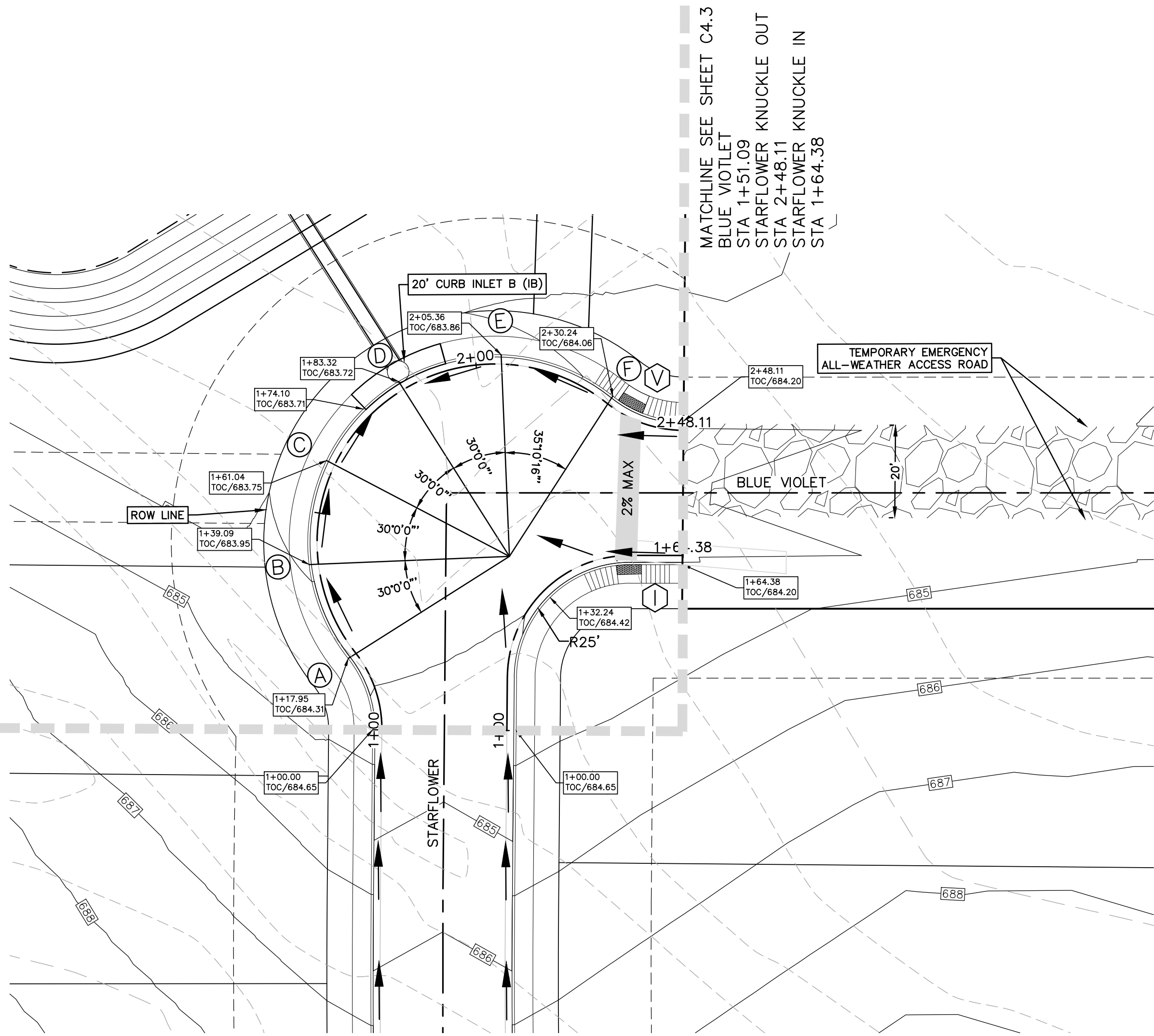
**SHEET
C4.7**

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ENGINEERING & SURVEYING

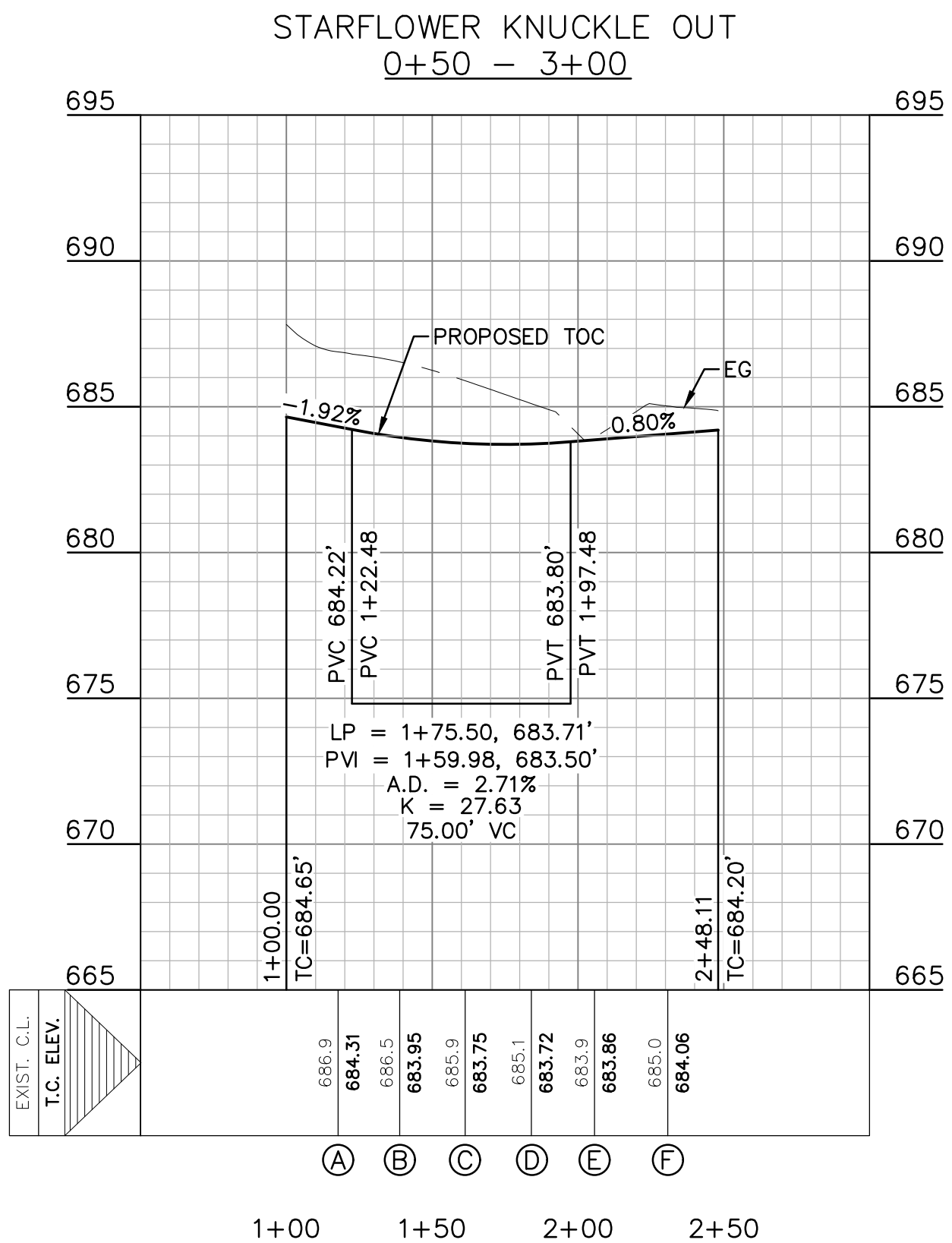
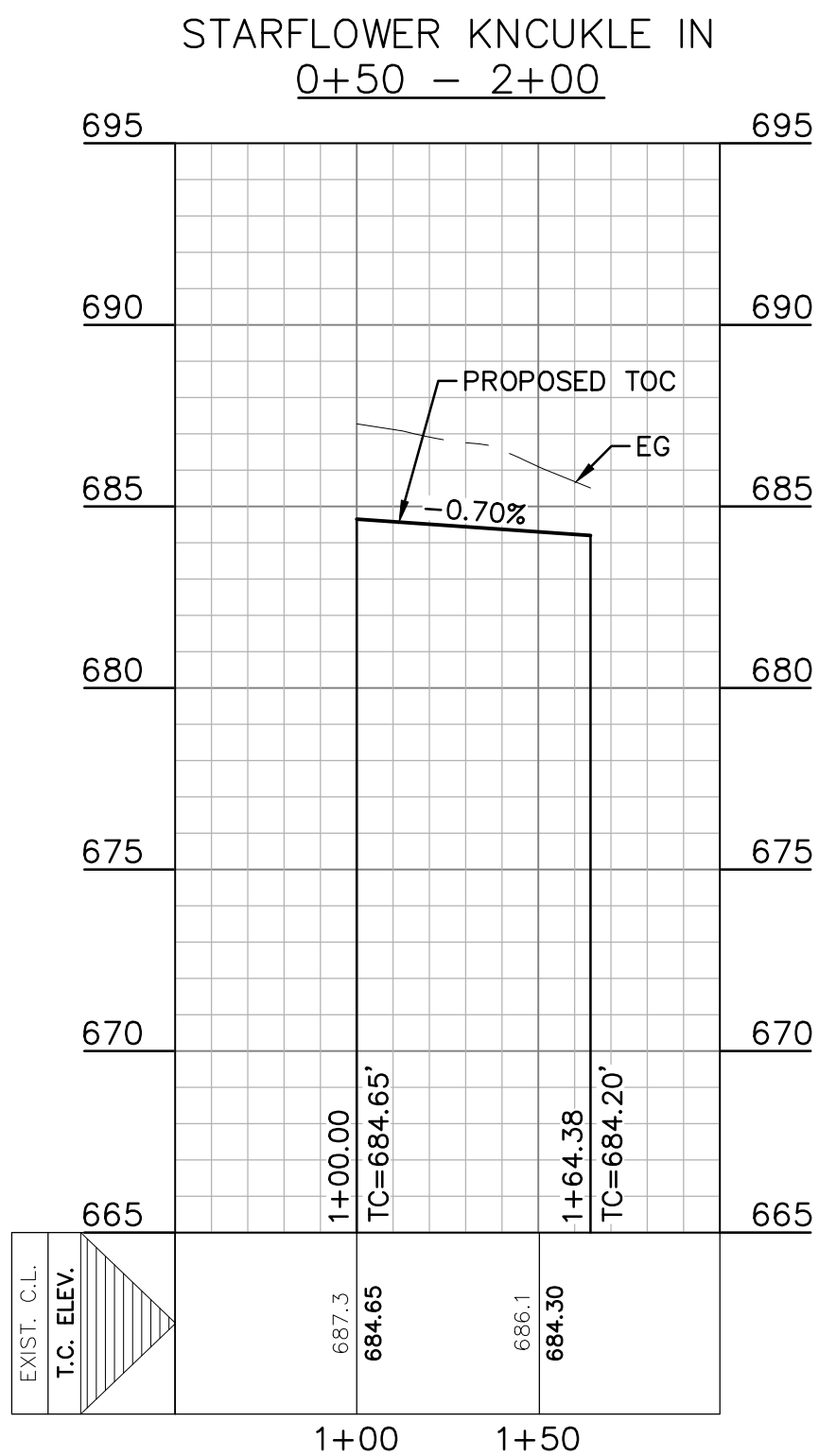
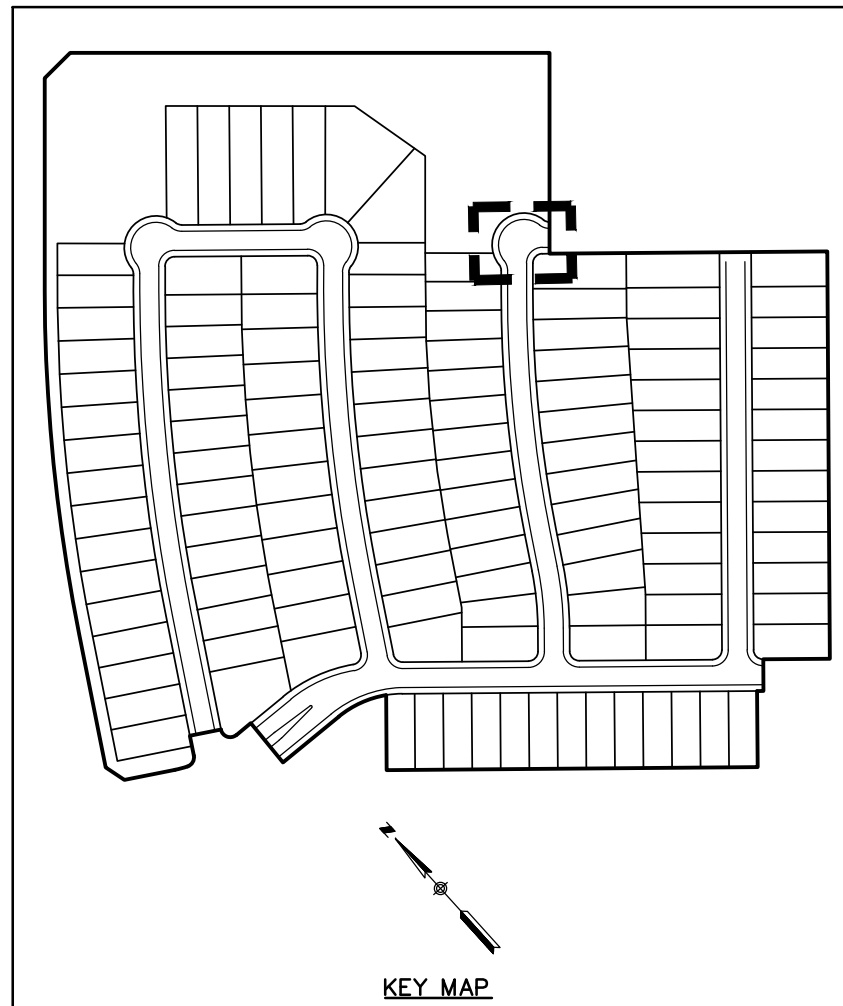


MATCHLINE SEE SHEET C4.4
STARFLOWER
STA 7+44.66
STARFLOWER KNUCKLE OUT
STA 1+00.00
STARFLOWER KNUCKLE IN
STA 1+00.00



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- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.



RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

STARFLOWER KNUCKLE
PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

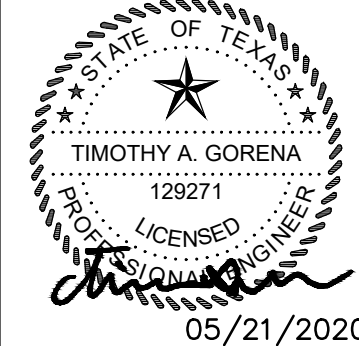
REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

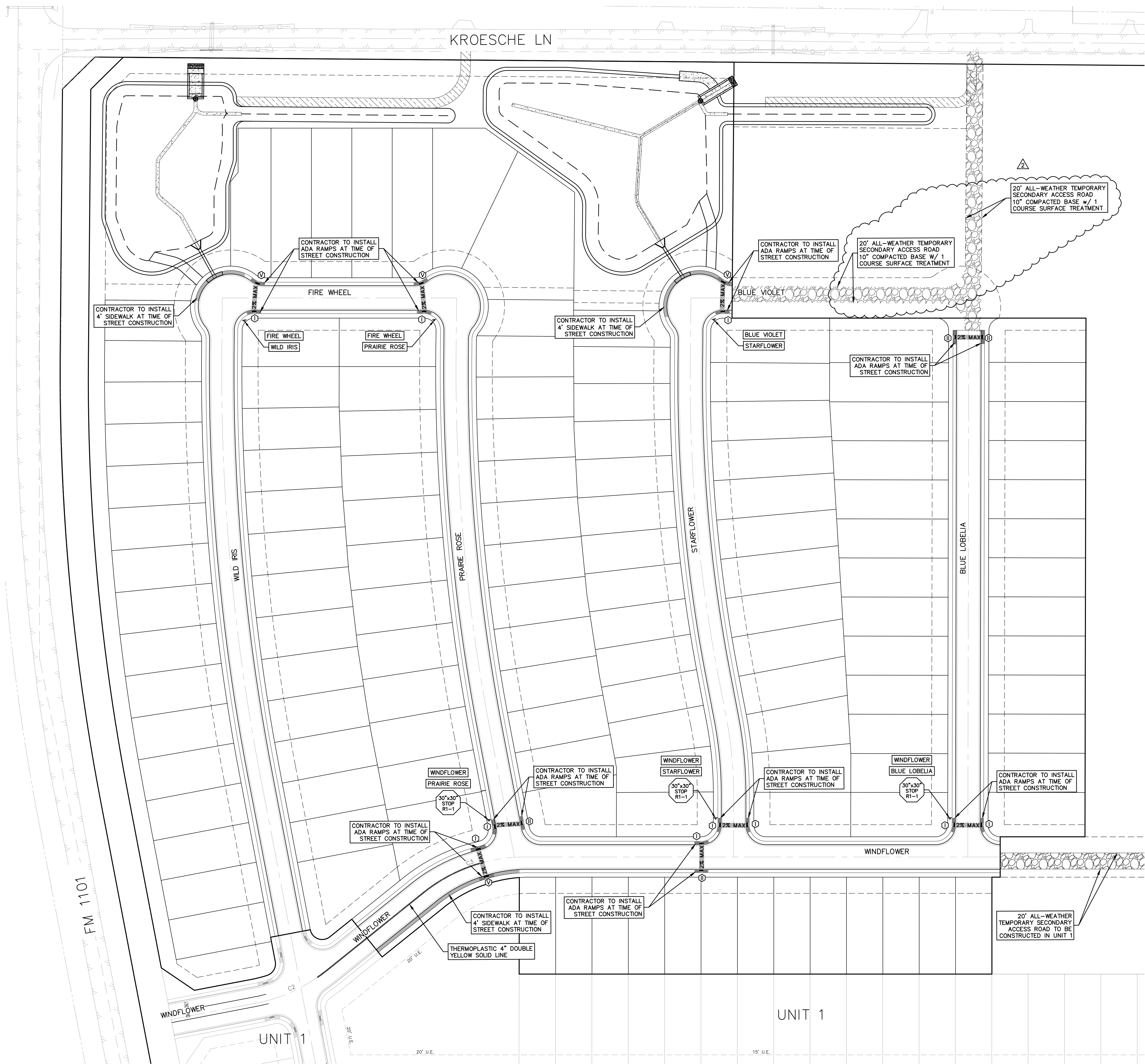
SHEET
C4.8

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ENGINEERING & SURVEYING



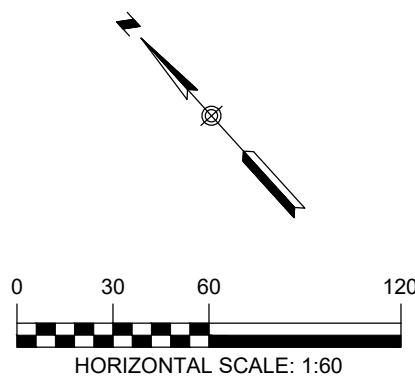
05/21/2020



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CL)
- FINISHED GROUND TOP OF CURB (FG TOC)
- ACCESSIBLE CROSSING AREA
CONTRACTOR TO ENSURE MAX 2%
CROSS SLOPE IN THESE AREAS
- 2.0% MAX
- SIDEWALK RAMP TYPE
(SEE DETAIL SHEET C4.6)
- SIDEWALK TO BE CONSTRUCTED
BY SITE DEVELOPMENT CONTRACTOR

- NOTES:**
- STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
 - ALL A.D.A. RAMPS AND SIDEWALKS NOT FRONTING PROPOSED RESIDENTIAL LOTS ARE TO BE CONSTRUCTED BY THE SITE DEVELOPMENT CONTRACTOR AT THE TIME OF STREET CONSTRUCTION.



RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1-3) - 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 - 5) - 10.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

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ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

SIGNAGE PLAN

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: **FEBRUARY 2020**

DRAWN BY: **HM**

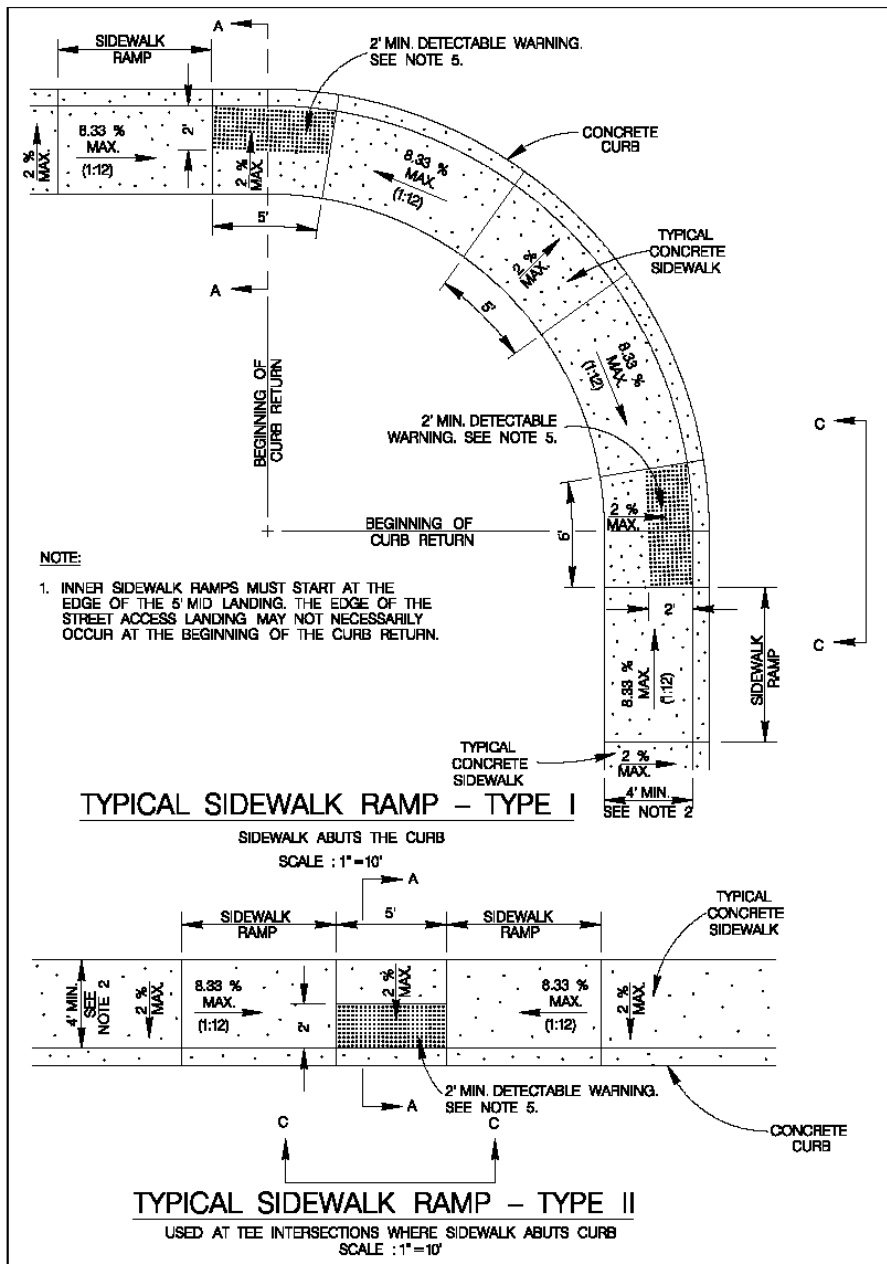
DESIGNED BY: **TG**

REVIEWED BY: **CC/SNH**

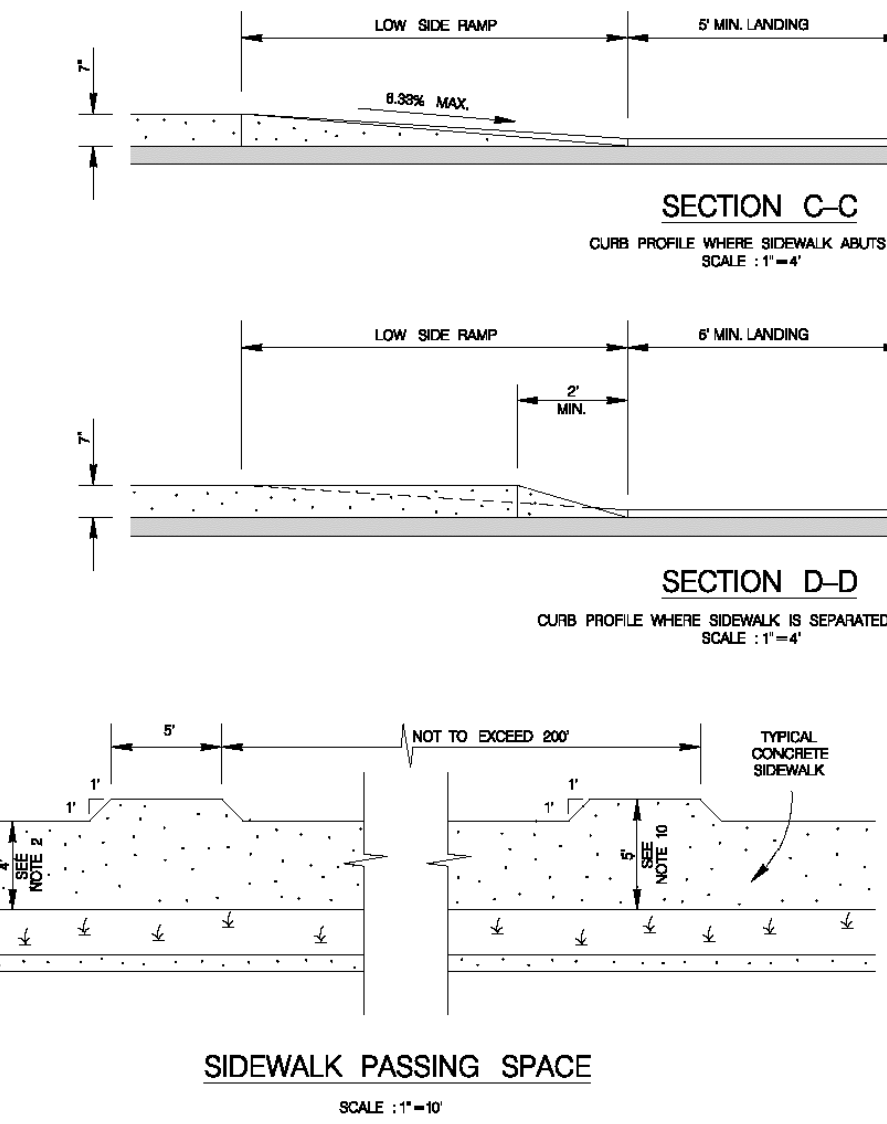
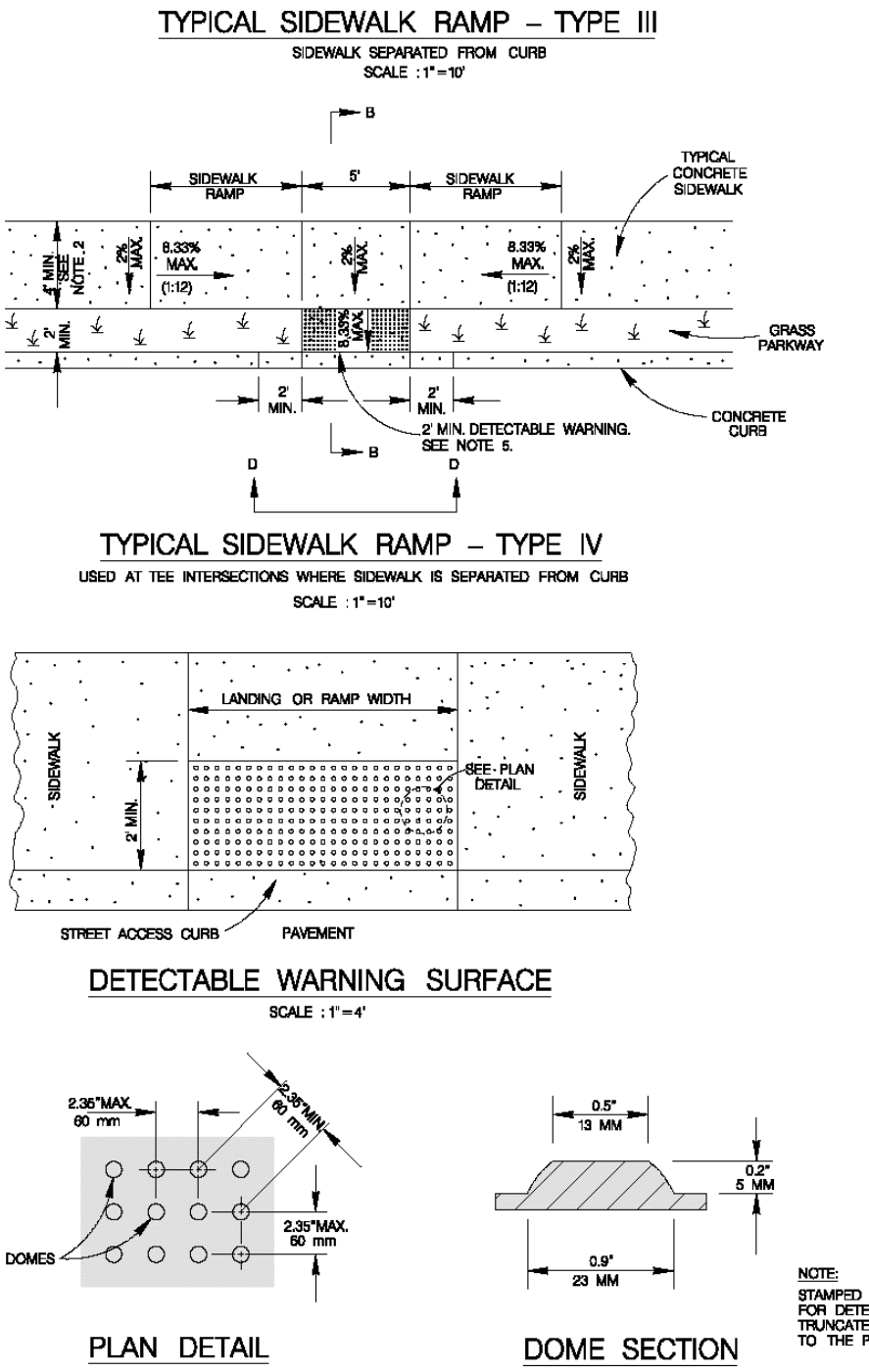
HMT PROJECT NO.: **305.01**

SHEET

C4.9



- GENERAL NOTES**
- WHEN POSSIBLE, SIDEWALKS SHOULD BE PLACED TO THE PROPERTY LINE ALLOWING A MINIMUM OF 1 FOOT BUTTERED DOWN TO THE PROPERTY LINE FROM A STREET LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
 - FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 2' AND BE SEPARATED FROM THE CURB BY A MINIMUM OF 6" WHEN LOCATED AT THE BACK OF CURB.
 - FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6" WHEN LOCATED AT THE BACK OF CURB.
 - SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 0.3% TO 0.5% MAXIMUM SLOPE.
 - ALL CURB-RAMPS OR LANDINGS ADJACENT TO THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES CLEAR IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF PAVED TRACED CROSSWALKING PLATES 18 IN. WIDE AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.38 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE A CAST-IN-PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS ON PAVEMENTS CONFORMING TO TxDOT STANDARD PED 06/PEDESTRIAN FACILITIES.
 - DETECTABLE WARNING SHALL CONTRAST VISUALLY WITH ADJACENT SURFACES EITHER LIGHT OR DARK OR CONTRAST THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WARNING SURFACE.
 - SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARAPET TO CONSTRUCT TYPE I OR TYPE II RAMP.
 - CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER TYPE "A" CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER FOR "A" CONCRETE SIDEWALK RAMP SURFACE SHALL BE BRUSH OR FINISH CONFORMING TO TxDOT STANDARD PED 06/PEDESTRIAN FACILITIES.
 - THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
 - SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A FINISH SPACE AT A MAXIMUM SPACING OF 20 FEET.
 - WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
 - RAILROADS SHALL BE 18" BARS AT 18" O.C. OR 18" x 18" x 18" MIN. GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
 - SIDEWALK GRIDS SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT HIGHWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING HIGHWAY WILL REQUIRE RAMPS, WALKWAYS AND FINISH PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND T&E STANDARDS.
 - SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2% LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 - THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 1/4" IN THE CHANGE OF GRADE SHALL BE GRADUALLY ADJUSTED TO THE ADJACENT SURFACE. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 1/4" MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 0.6%.
 - THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 1/4" IN ANY DIRECTION, 3 FEET IN LENGTH SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
 - ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.
 - ALL CROSSWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%.



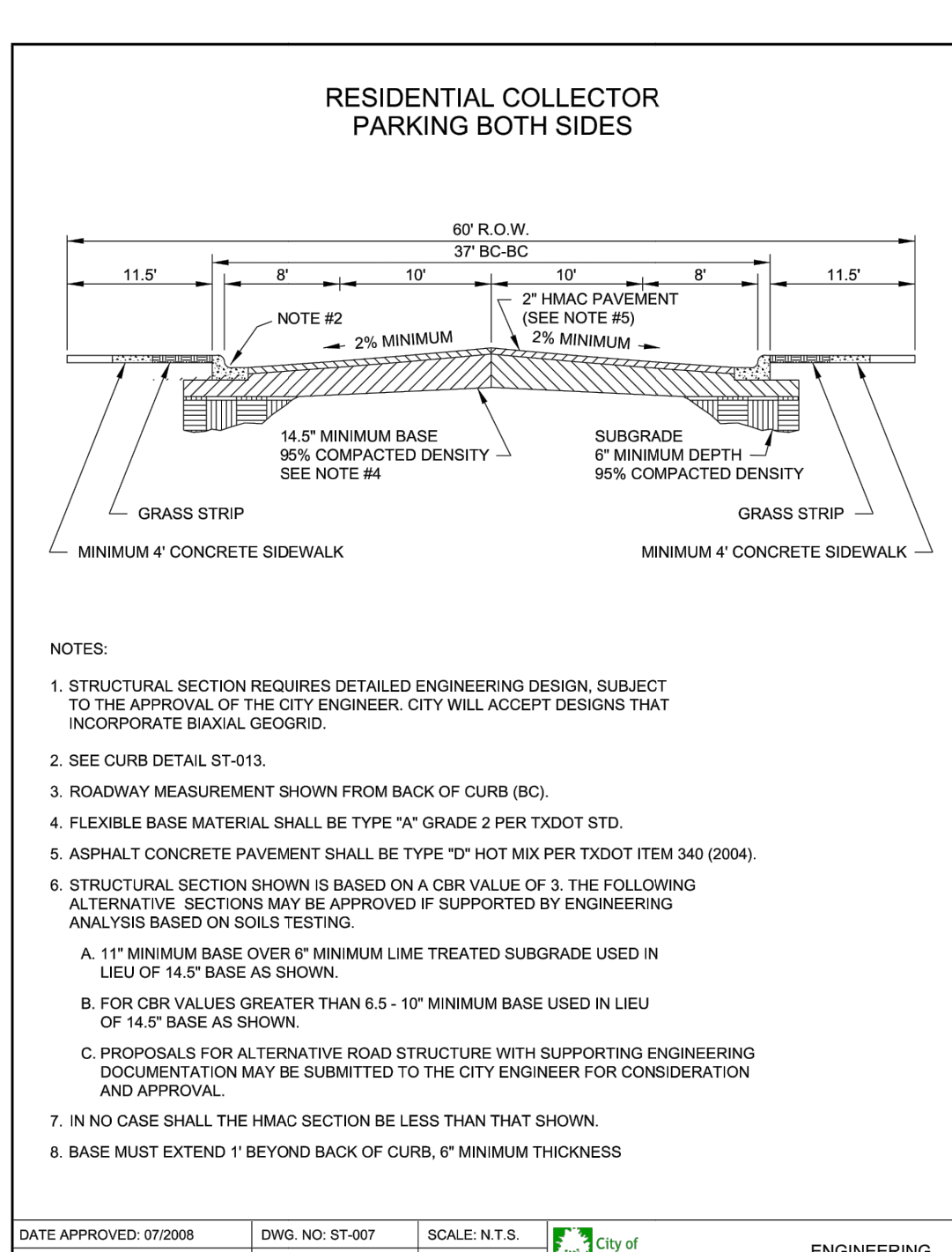
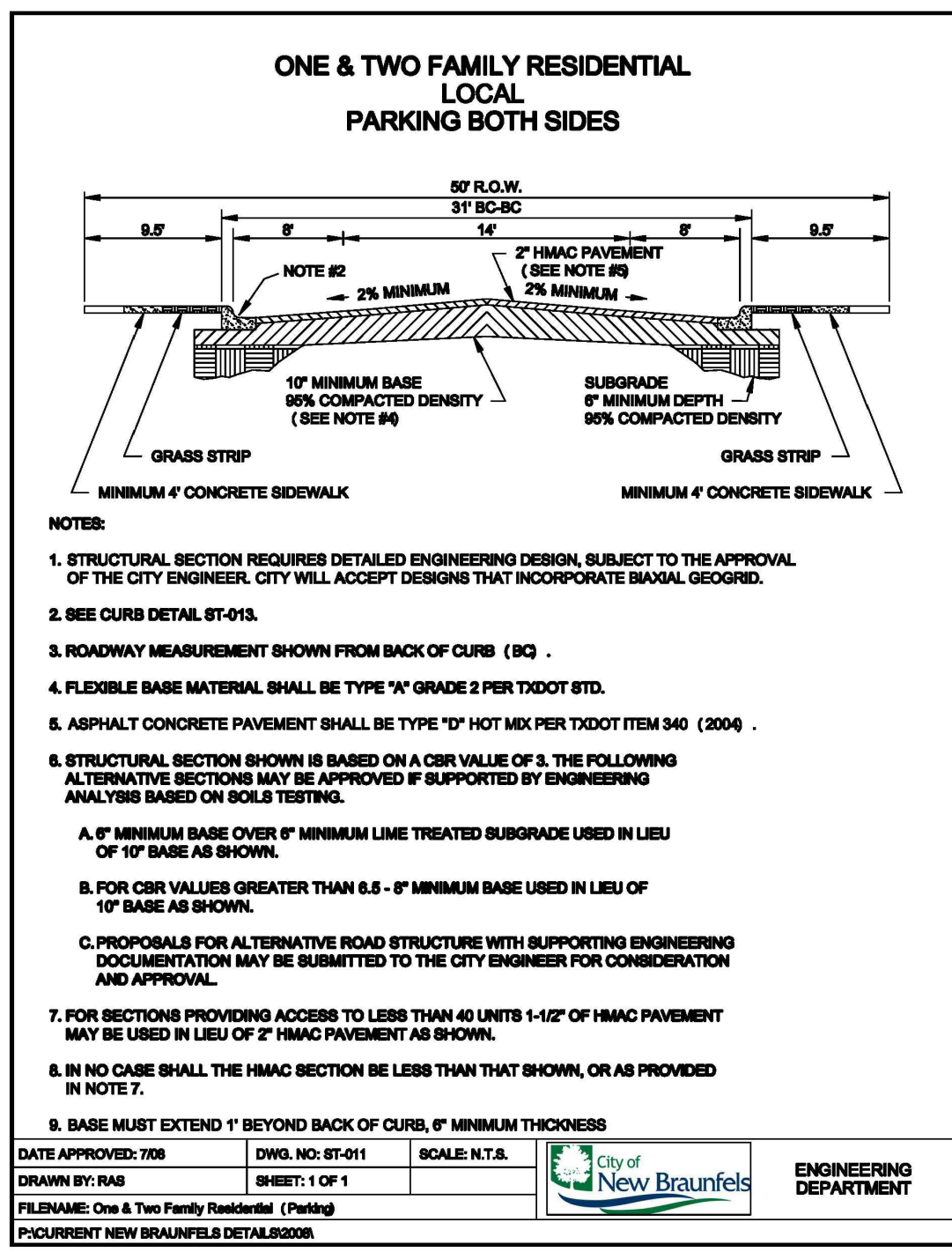
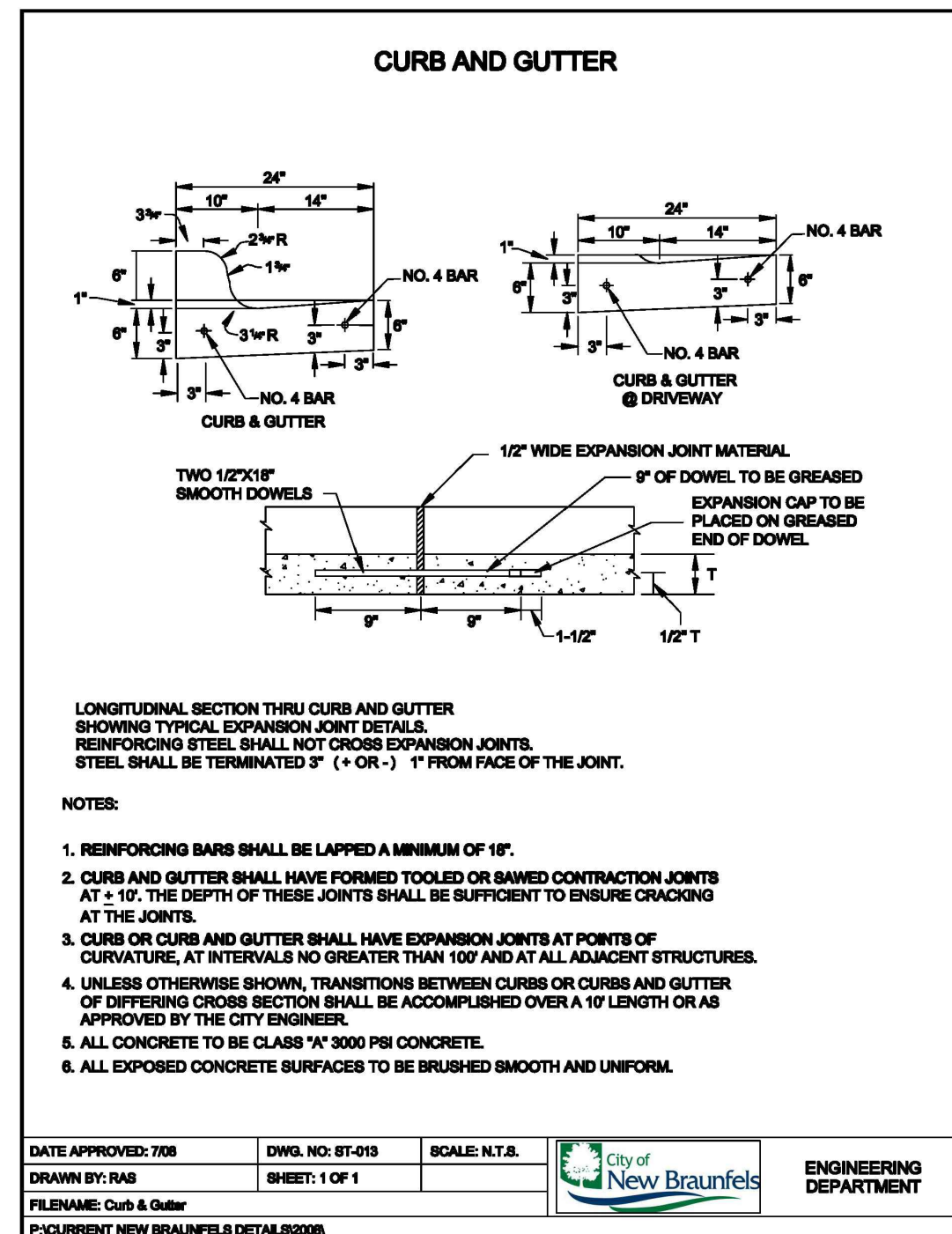
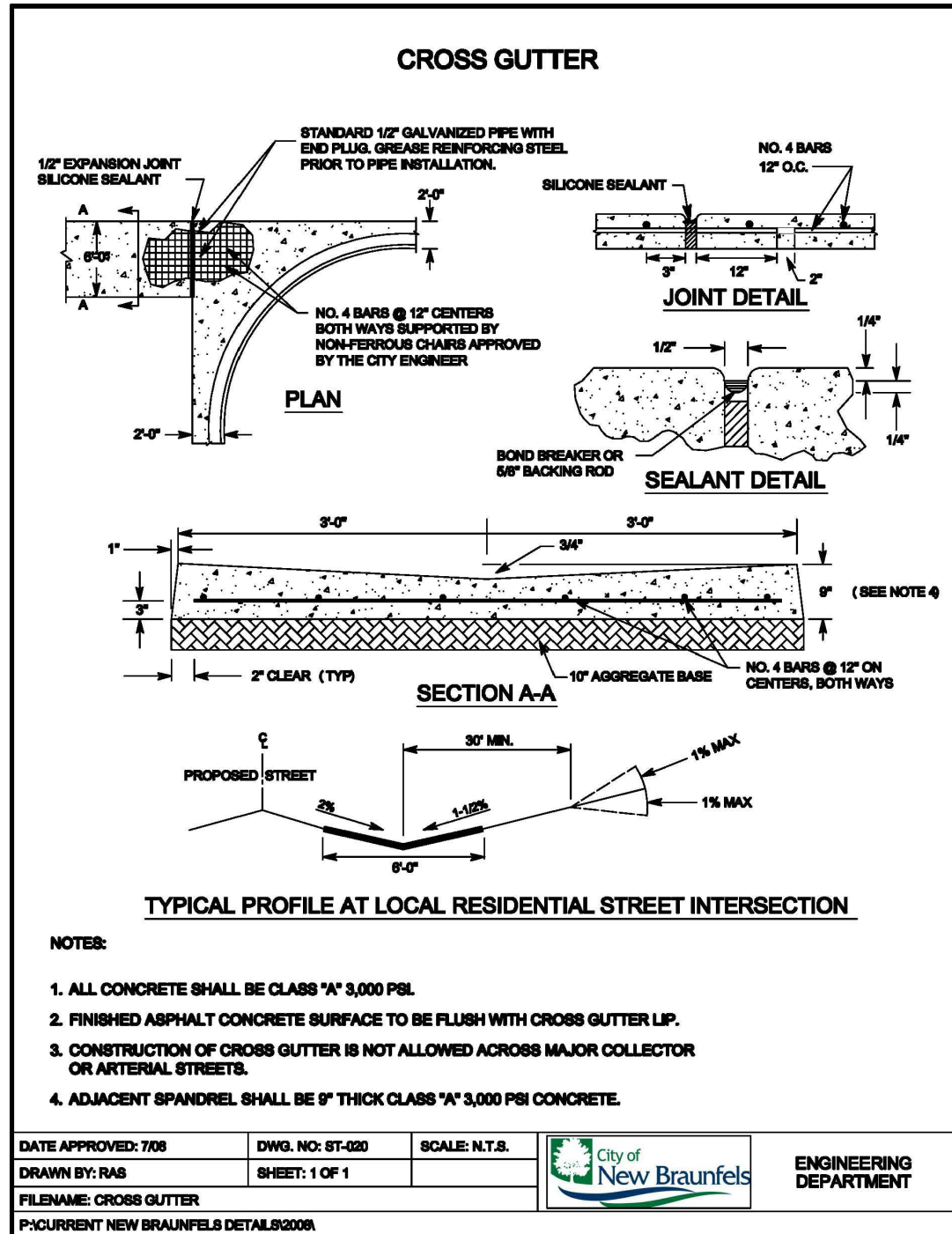
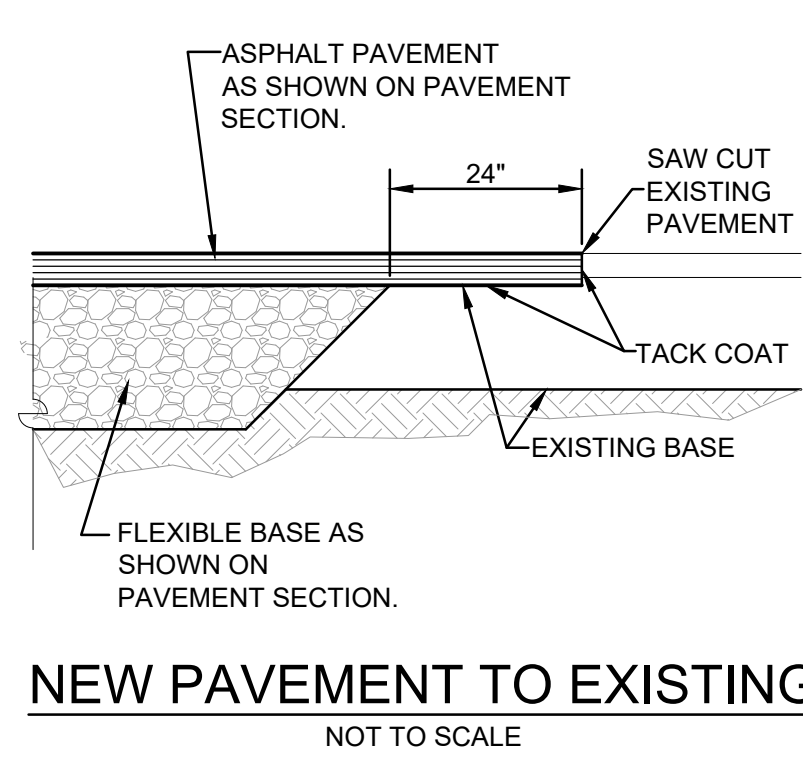
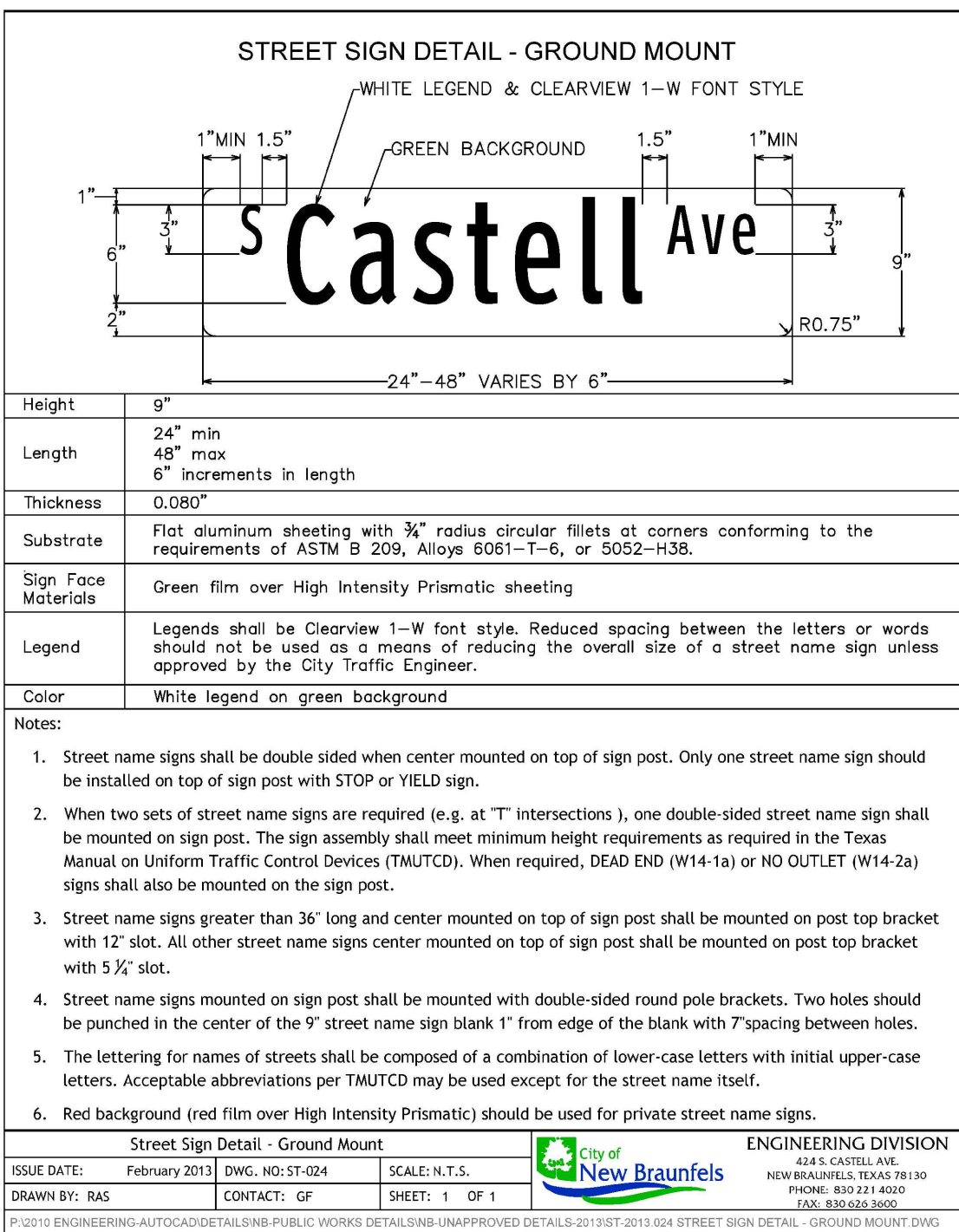
MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

SUBMITTAL PROJECT NO.:		DATE:
DRAWN BY: V. VANDOLFO		CH-CHECKED BY: B.B. HUBBEN
DATE:		DATE:



RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

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HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GOREN
129271
LICENSED PROFESSIONAL ENGINEER
08/01/2019

STREET DETAILS (1 OF 4)

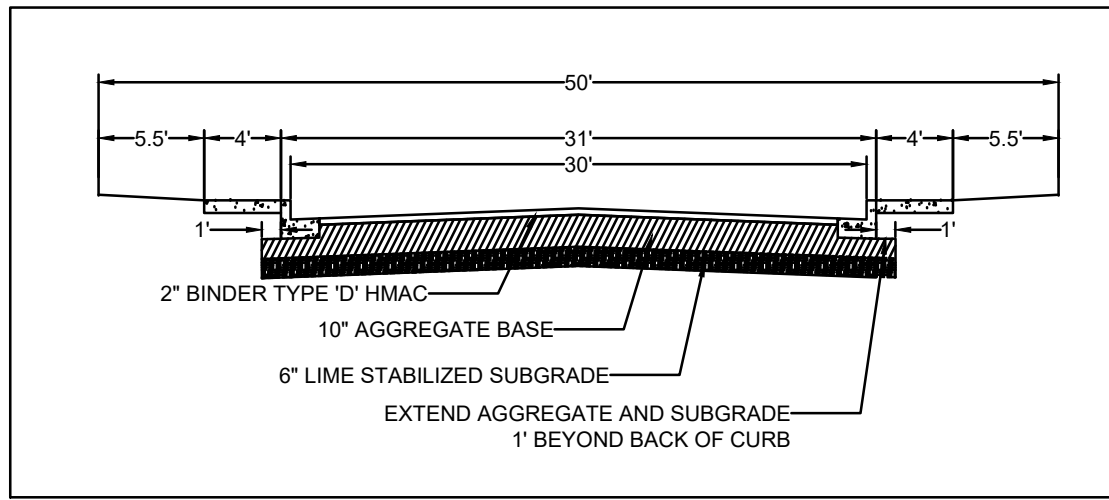
HEATHERFIELD SUBDIVISION
UNIT 2

REVISION	DATE	DESCRIPTION
NO.		

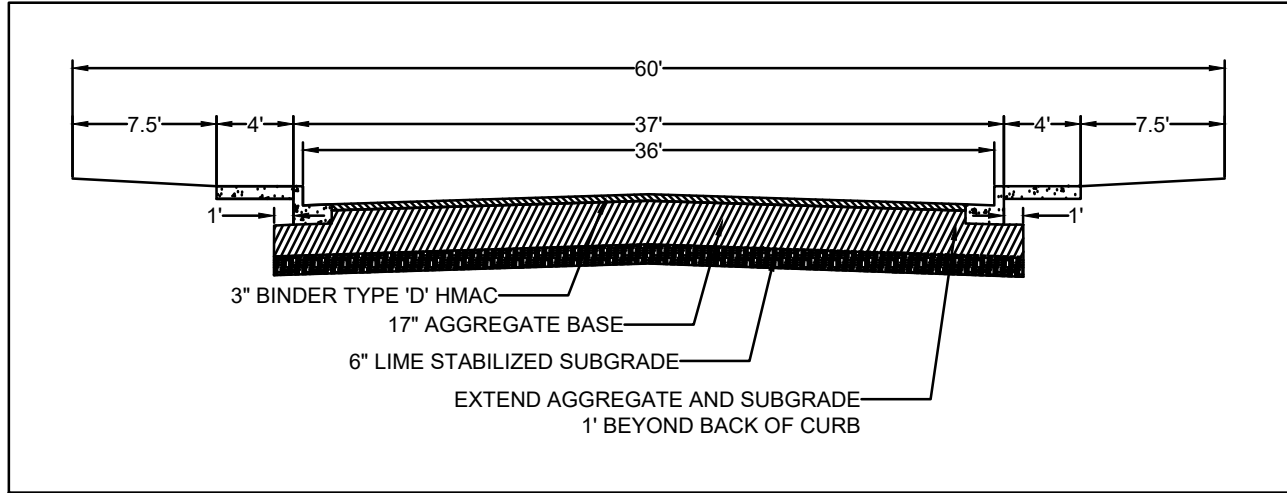
DATE: JANUARY 2019
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: cc/SHH
HMT PROJECT NO.: 305.01

SHEET
C4.10

Drawing Name: M:\Projects\305 - HDC NB, LLC\001 - Heatherfield Unit 2\CDs\305.001_C4.5 - STREET DETAILS.dwg User: andrewm May 26, 2020 - 10:47am



LOCAL PAVEMENT SECTION



36' COLLECTOR PAVEMENT SECTION

	Hot Mix Asphaltic Concrete Thickness Inches	Aggregate Base Thickness Inches	Geogrid	Compacted Subgrade Thickness Inches	Structural Number
Residential Local	2.00 Type D	10.00	Yes	6"	3.05
Residential Collector	3.00 Type D	17.00	Yes	6"	4.59

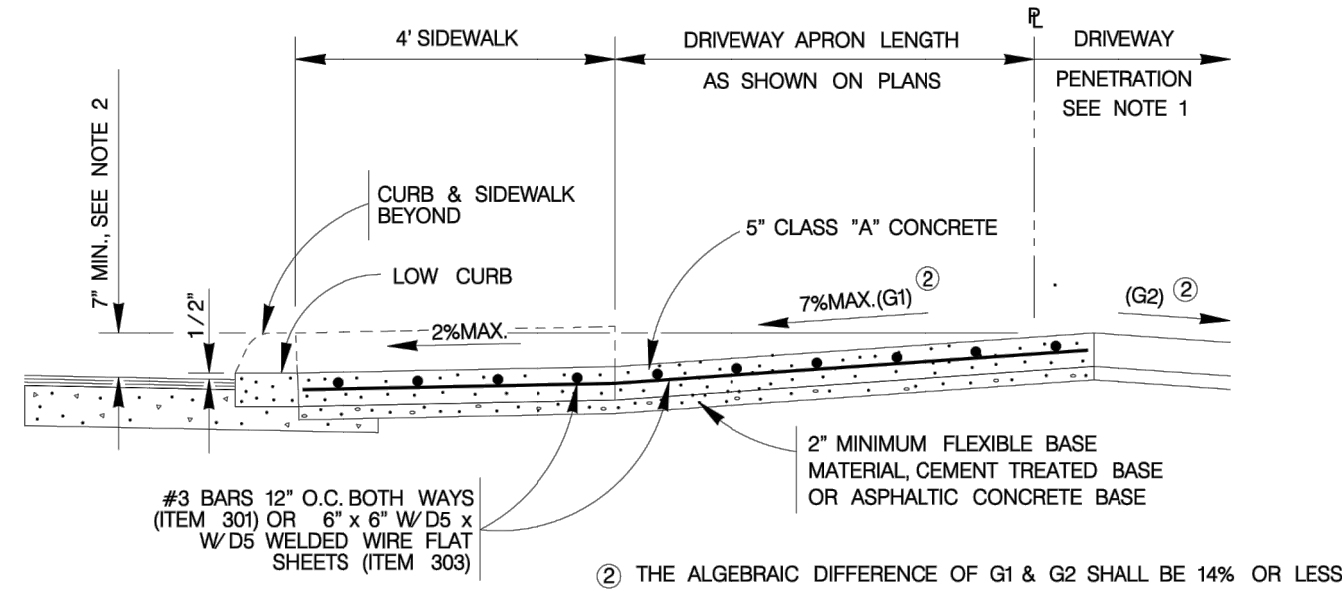
Subgrade Notes ("):

- We recommend the following option for treating the subgrade:
 - Lime stabilizing the subgrade to a depth of 6 inches. Based on the laboratory tests performed, approximately 8 percent of lime resulted in pH value of 12.4. We recommend lime application rate of 3 percent - for 6-inch depth of treatment - 35 lbs per sq yard. The final cut subgrade soils should be tested for soluble sulfate content prior to treatment.

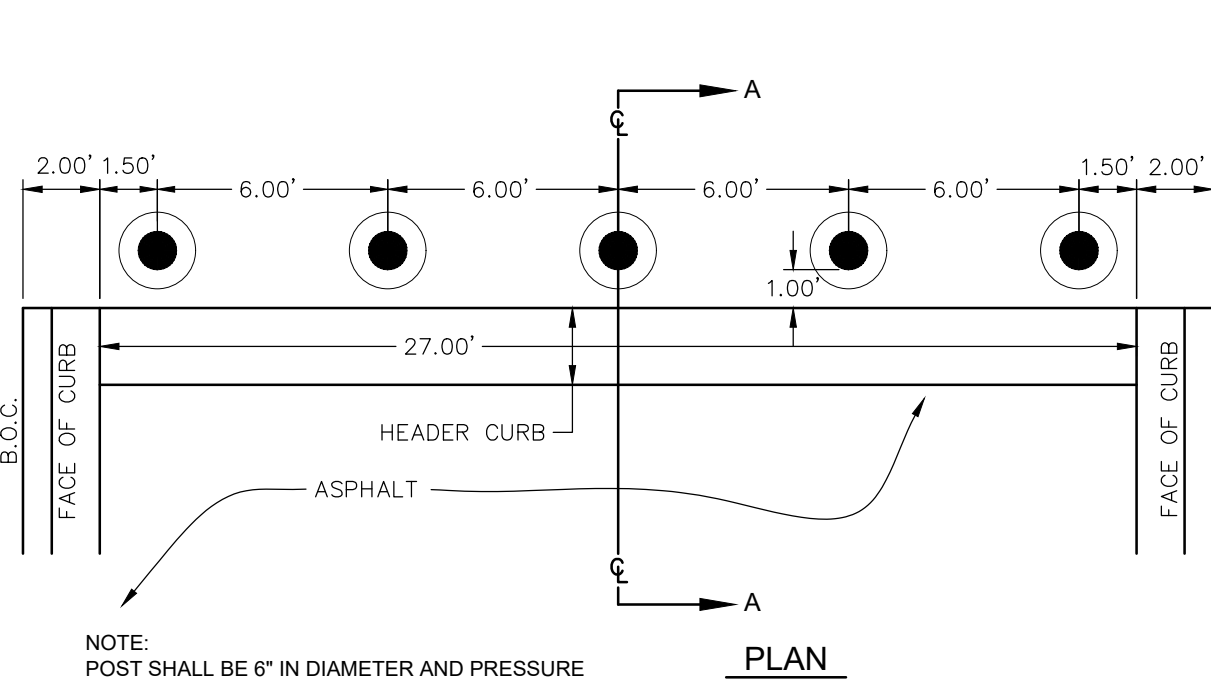
NOTE:

- ALL PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE TO THE "SUBSURFACE EXPLORATION AND PAVEMENT ANALYSIS, PROPOSED NEW STREETS, ROLLING VALLEY UNIT 12", BY INTEC OF SAN ANTONIO, LP, DATED JANUARY 23, 2013.
- THE SUBGRADE SHOULD BE STABILIZED USING LIME TO A DEPTH OF 6 INCHES. LIME CONTENT OF 8.0 PERCENT OF THE DRY WEIGHT OF THE SOIL TO BE TREATED IS RECOMMENDED; A UNIT WEIGHT OF THE CLAY OF 100 LBS PER CUBIC FEET MAY BE USED.
- THE SUBGRADE SHOULD BE STABILIZED USING LIME IN ACCORDANCE WITH THE GEOTECHNICAL REPORT IN ORDER TO ACHIEVE THE FOLLOWING:
 - PLASTICITY INDEX OF 20 OR LESS
 - PH OF 12.4 OR GREATER
- THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.

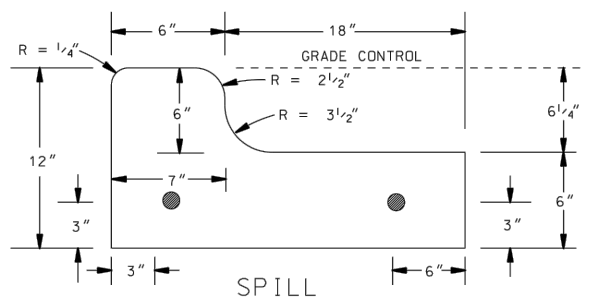
TYPICAL PAVEMENT SECTION



TYPE 'C' LOT DRIVEWAY DETAIL



BOLLARD DETAIL
NOT TO SCALE



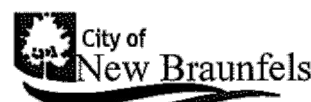
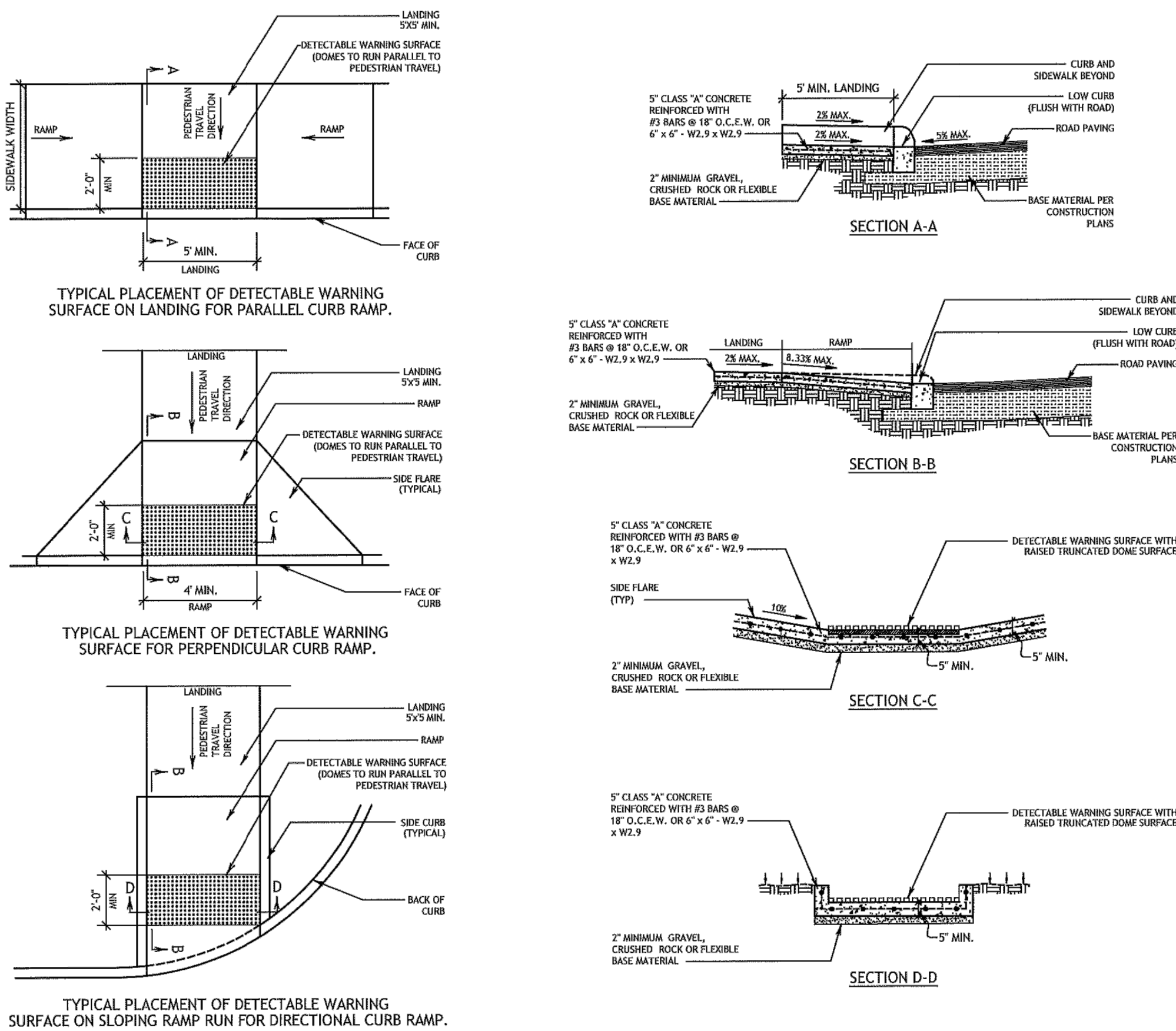
SPILL CURB DETAIL

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DATE: 05/21/2020 BY: *Timothy A. Goren*
HMT ENGINEERING AND SURVEYING

DISCLAIMER: The use of this standard is approved by the City of New Braunfels for any purpose whatsoever. No warranty of any kind is made by the City of New Braunfels for any purpose whatsoever.



ENGINEERING DIVISION
850 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 626 3600

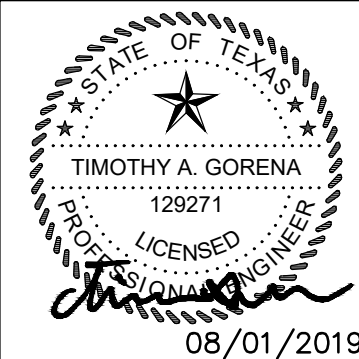
CURB RAMP STANDARDS			
APPROVED DATE: 05/18/2017	DWG. NO.: ST-019	SCALE: AS NOTED	
DRAWN BY: RC	CONTACT: GF	SHEET: 1 OF 1	

- #### CURB RAMP NOTES
- ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
 - THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
 - THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 118-4 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
 - ALL LANDINGS WHERE REQUIRED SHALL BE 5' X 9' (60" X 90") MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
 - RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1:12), MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1:50).
 - SIDEWALK GRABBERS SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
 - PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1:10) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED IN-STEAD OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
 - MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4' (48" X 48") WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
 - CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
 - EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
 - HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
 - SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH PRE-CAST OR BOARD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
 - PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
 - THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.07% (I.E. 8.33% X 2.47% = 2.07%). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
 - IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
 - ADA RAMP SHALL BE CONSTRUCTED WITH 5' CLASS 'A' CONCRETE WITH 2' MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" X 6" W2.9 X W2.9 WIRE MESH.
 - THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

- CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 709 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJACENT SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNPAVED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
- DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
- ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
- DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
- DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADII.
- DETECTABLE WARNING MATERIALS MUST MEET TxDOT DEPARTMENTAL MATERIALS SPECIFICATION DMS 430 AND BE LISTED ON THE MATERIAL PRODUCER LIST. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.

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T(210)562-3844 • F(210)562-3236



STREET DETAILS (2 OF 4)

HEATHERFIELD SUBDIVISION
UNIT 2

REVISION	DESCRIPTION	DATE
NO.		

DATE: JANUARY 2019

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.: 305.01

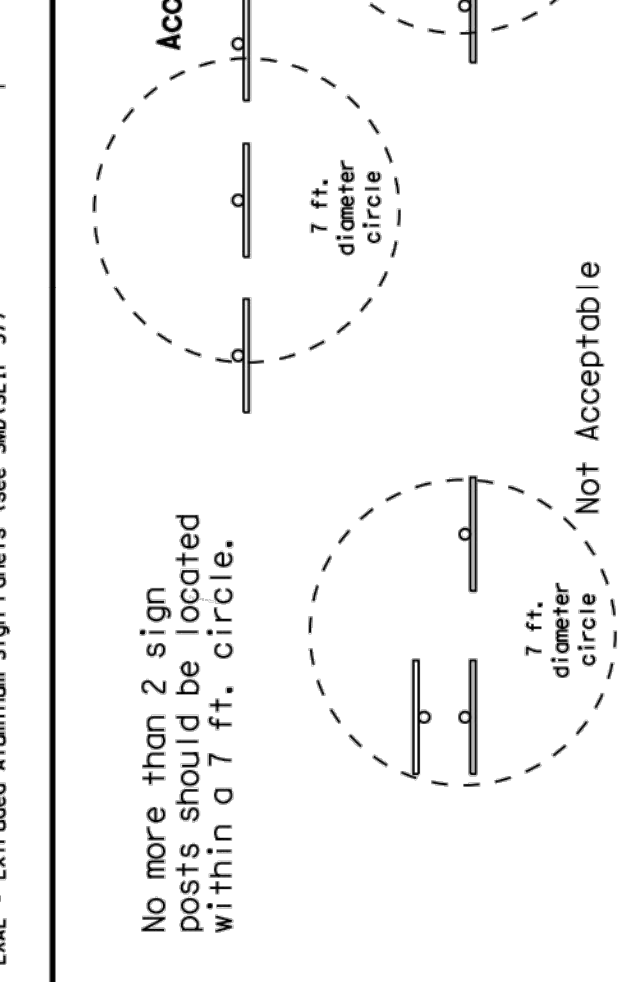
SHEET
C4.11

SIGN SUPPORT DESCRIPTIVE CODES

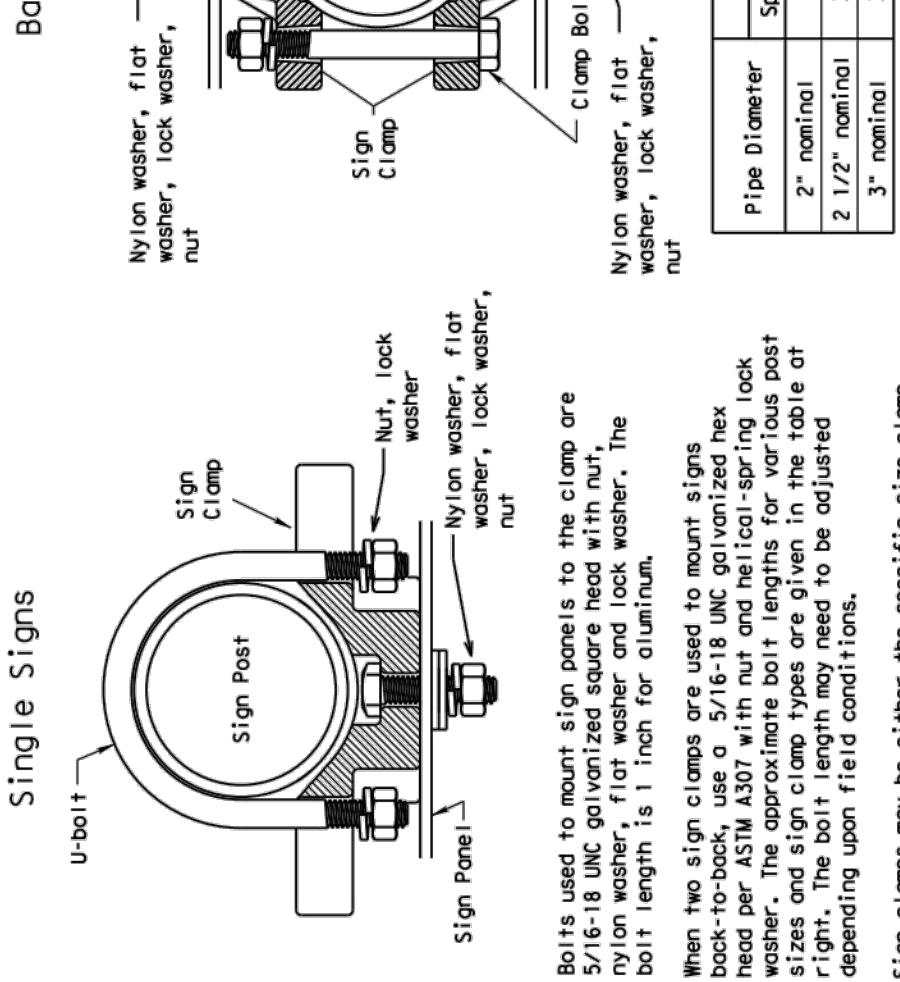
(Descriptive codes correspond to project estimates and quantities sheets)

SM RD SGN ASSM TY XXXX(X)XX(X-XXXX)

Post Type
UA = Universal Anchor - Concrete (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted Down (see SMD(FRP) and (TWT))
TC = Thin-Walled Tubing (see SMD(TWT))
TBE = 10 BNC Tubing (see SMD(SLP-1) to (SLP-3))
SBO = Schedule 80 Pipe (see SMD(SLP-1) to (SLP-3))
Number of Posts (1 or 2)
Anchor Type
UA = Universal Anchor - Concrete (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted Down (see SMD(FRP) and (TWT))
TC = Thin-Walled Tubing (see SMD(TWT))
TBE = 10 BNC Tubing (see SMD(SLP-1) to (SLP-3))
SBO = Schedule 80 Pipe (see SMD(SLP-1) to (SLP-3))
Sign Mounting Designation
P = Prefab. "Plain" (see SMD(SLP-1) to (SLP-3), (TWT), (FRP))
U = Prefab. "U" (see SMD(SLP-1) to (SLP-3), (TWT))
IF REQUIRED
EXT or EXT - Number of Extensions (see SMD(SLP-1) to (SLP-3), (TWT))
MC = 1.12 x 1/4" Wing Channel (see SMD(SLP-1) to (SLP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLP-3))

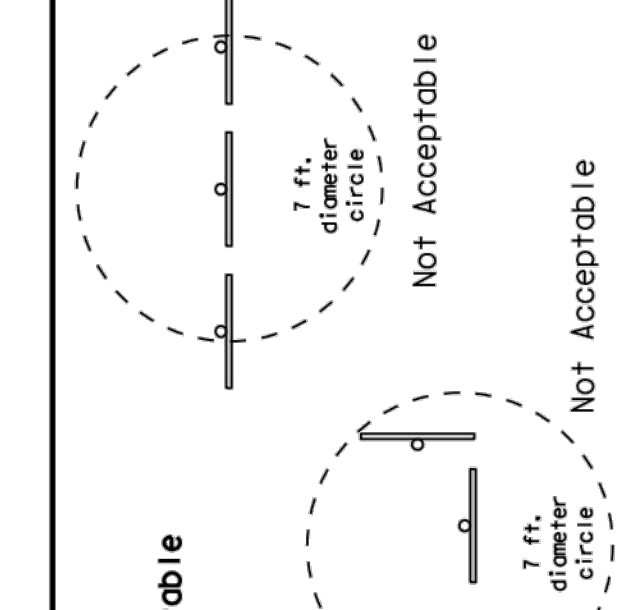
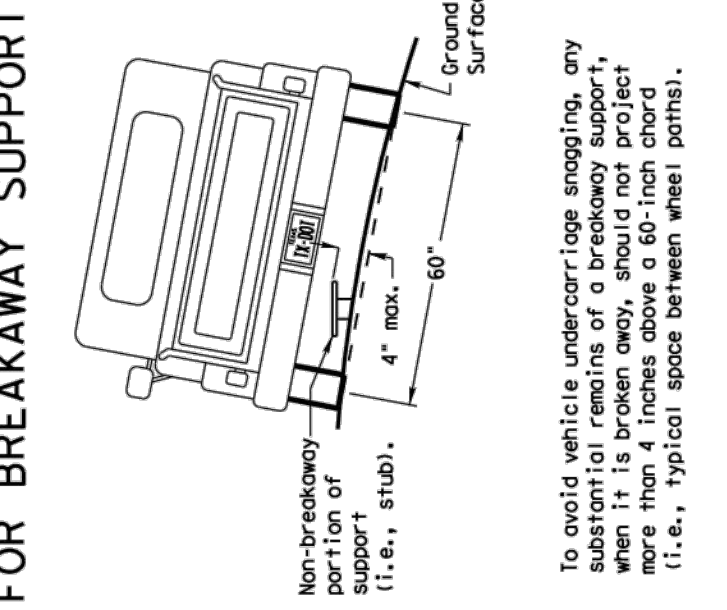


TYPICAL SIGN ATTACHMENT DETAIL



Pipe Diameter	Approximate Bolt Length
2" nominal	3"
3" nominal	3 or 3 1/2"
4" nominal	3 or 3 1/2"
6" nominal	3 1/2 or 4"
8" nominal	4 1/2"

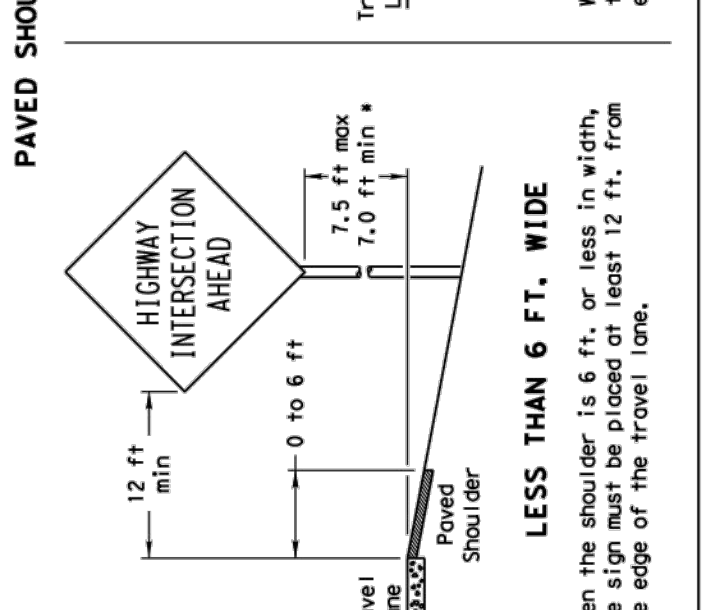
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



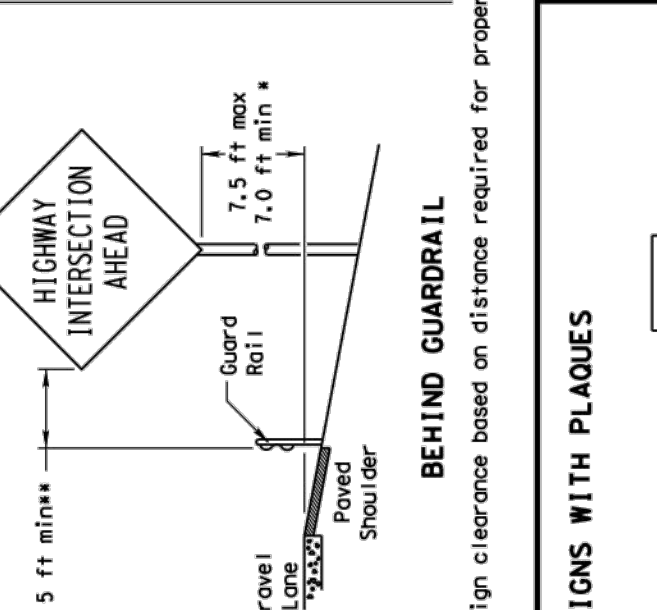
BEHIND GUARDRAIL

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

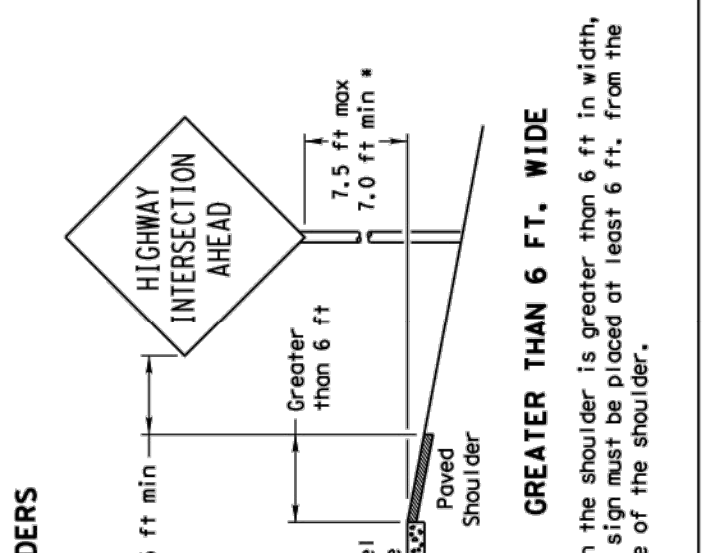
PAVED SHOULDERS



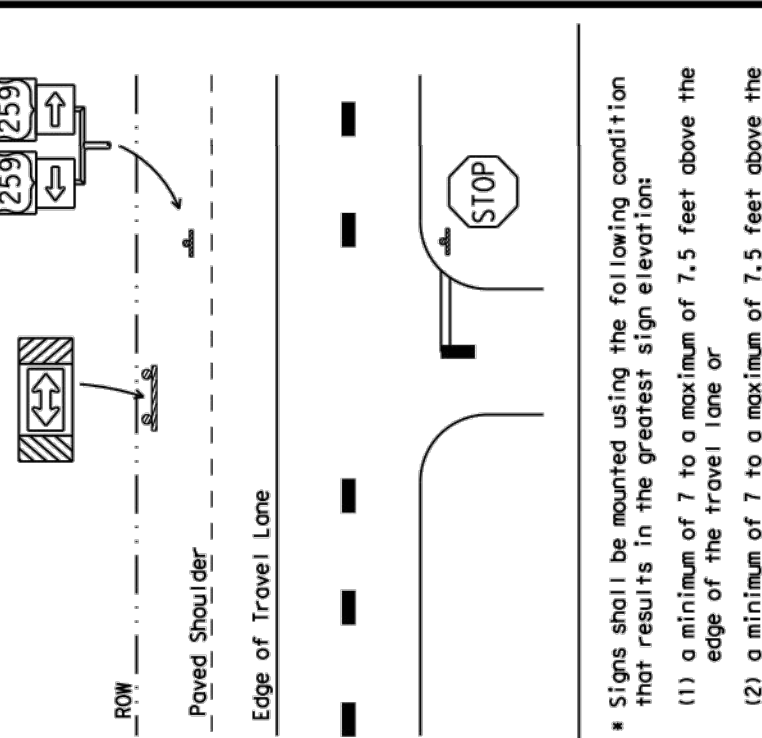
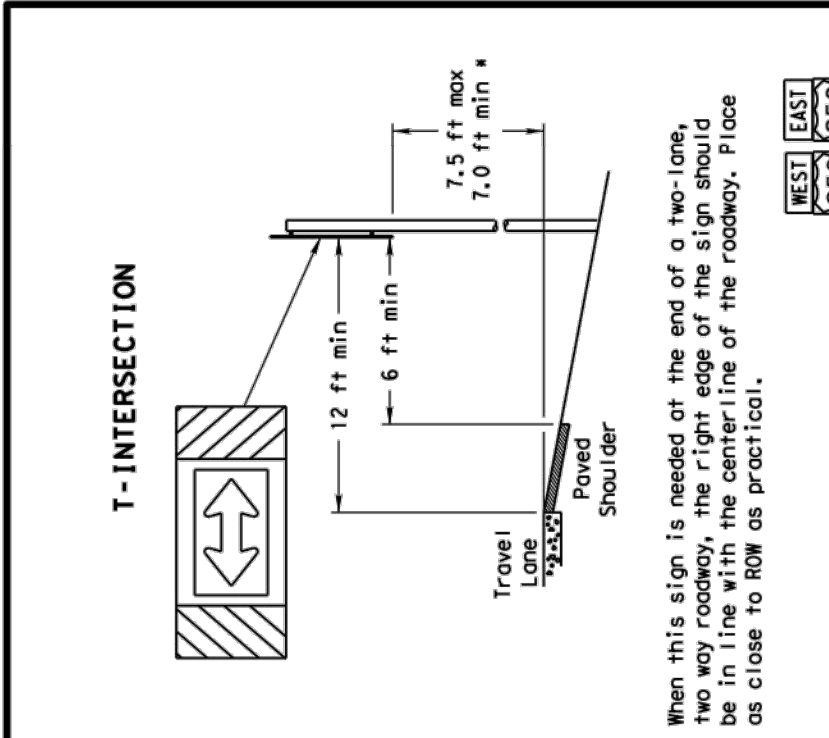
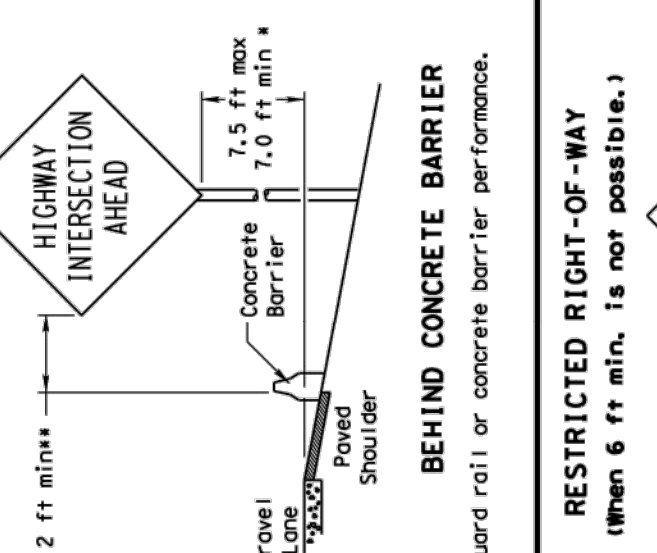
BEHIND BARRIER



SIGN LOCATION



BEHIND BARRIER



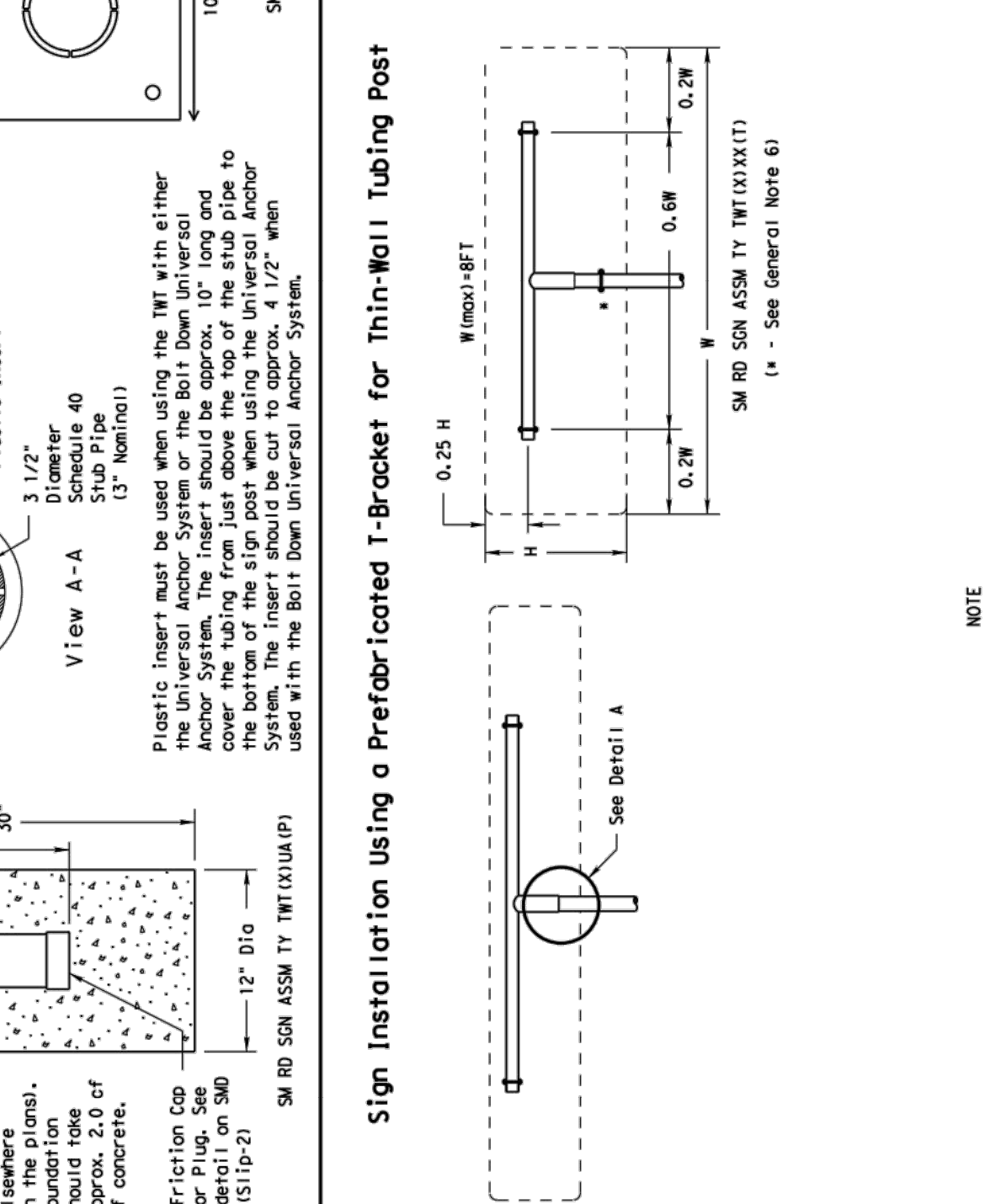
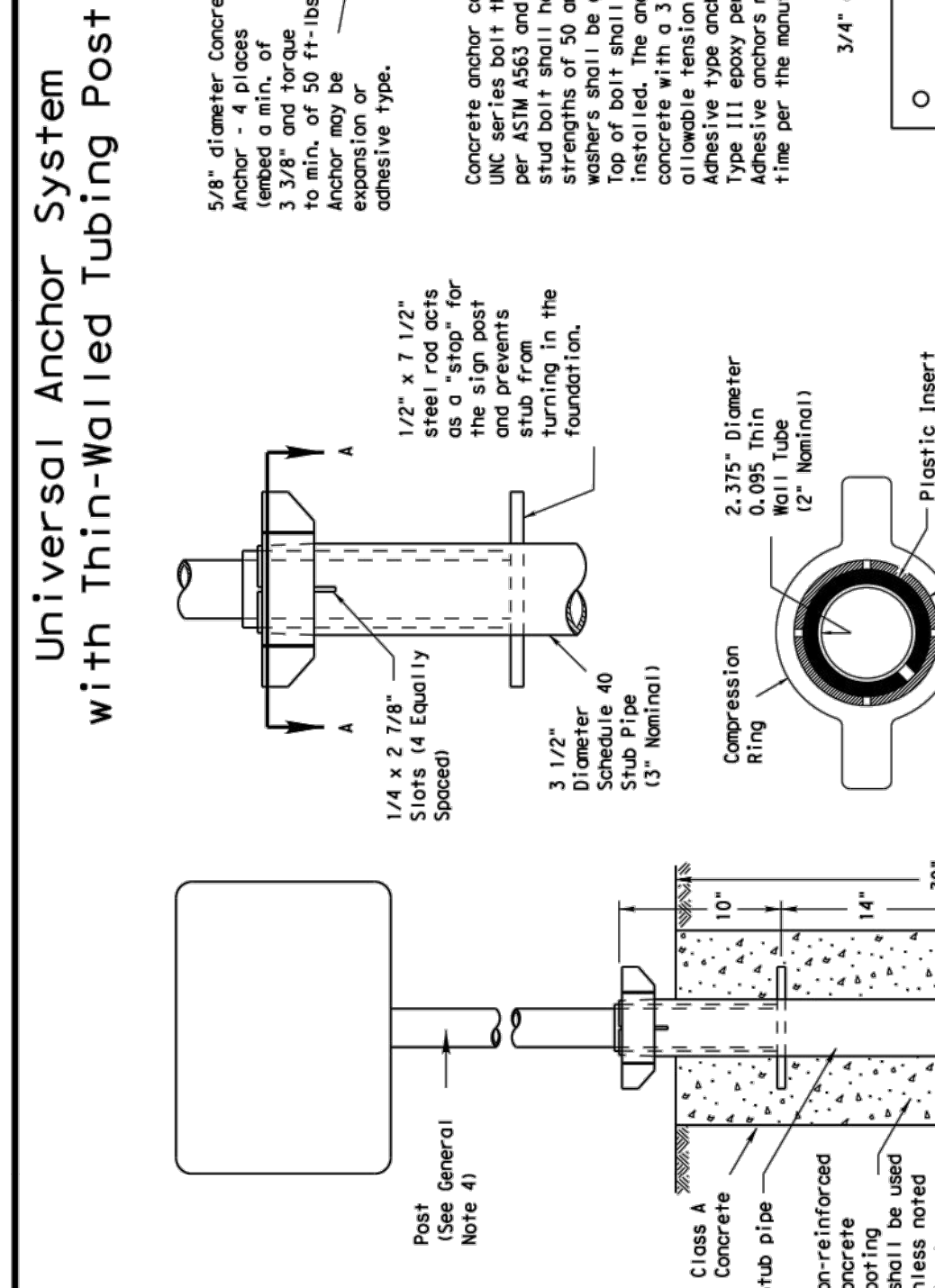
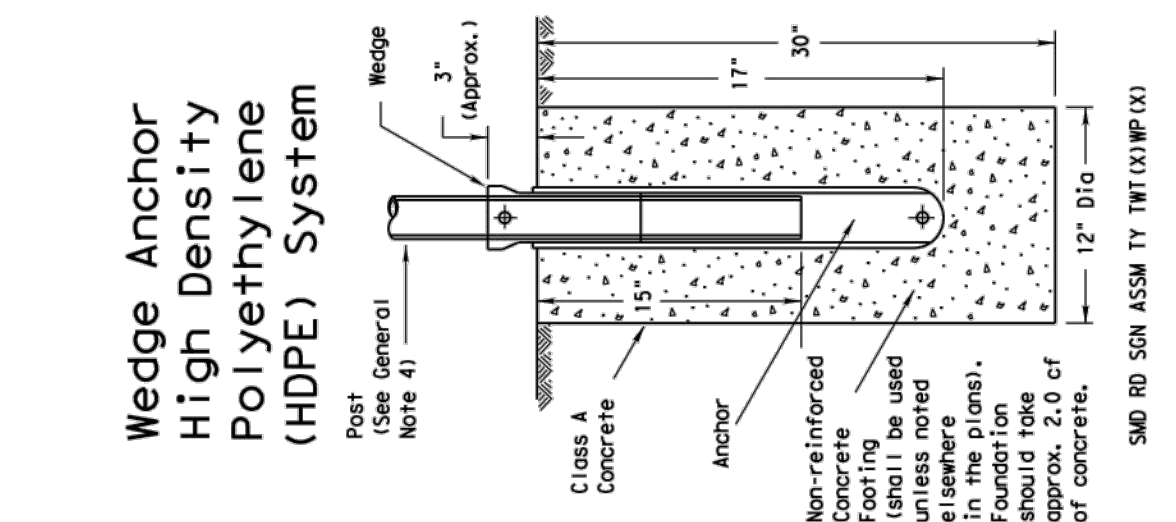
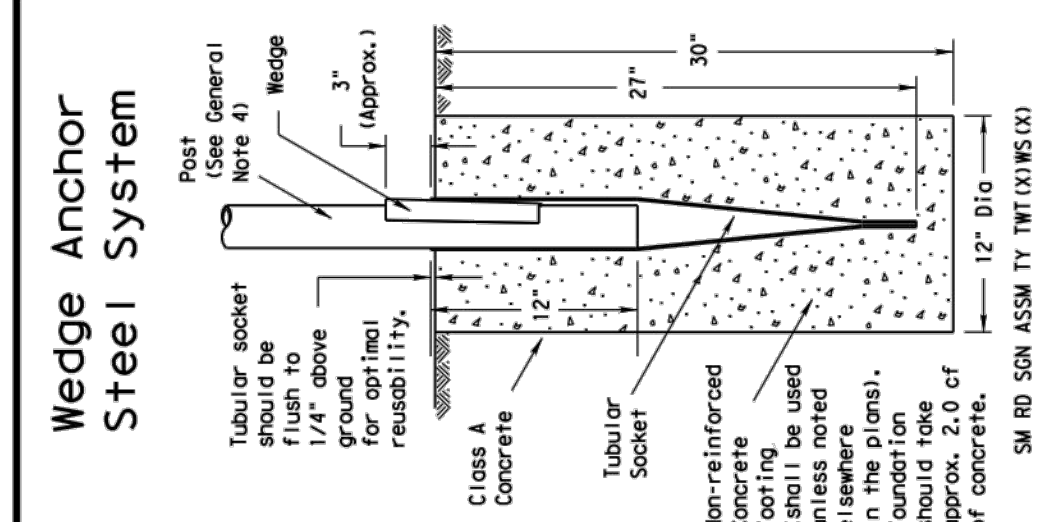
* Signs shall be mounted using the following condition that results in the greatest sign elevation:
(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
(2) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or shoulder when sign is installed on the backslope.
The maximum values may be increased when directed by the Engineer.
See the Traffic Operations Division website for detailed drawings of sign clamps. Triangular Signpost System components and Wedge Anchor System components.
The website address is:
<http://www.txdot.gov/publications/traffic.htm>

Texas Department of Transportation
Traffic Operations Division
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS
SMD (GEN) - 08

REV	DATE	BY	CHKD	APPD	REVISION
9-08	10/07	JULY 2002	REVISIONS		

26.1

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. The user assumes all liability for any errors or omissions in the design or construction of any project. The user shall not rely on the standard for any purpose other than as a guide. The user shall not rely on the standard for any purpose other than as a guide. The user shall not rely on the standard for any purpose other than as a guide.



GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubing socket, wedge and prefabricated T-bracket shall be permanently marked to the tubing with the following information: Project Name, Location, Stationing, and Date of Installation.
3. Except for posts (1) Bag Taping, clamps, nuts and bolts, all components shall be marked with the following information: Project Name, Location, Stationing, and Date of Installation.
4. Material used as post with this system shall conform to the following specifications:
a. Steel shall be A36 or A572 Grade 50.
b. Concrete shall be Class A.
c. Plastic shall be HDPE.
d. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
e. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
f. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
g. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
h. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
i. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
j. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
k. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
l. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
m. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
n. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
o. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
p. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
q. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
r. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
s. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
t. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
u. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
v. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
w. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
x. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
y. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".
z. Tubing shall be 1/2" x 3/4" x 1/2" steel rod for as a "sign post" and 3/4" x 1/2" x 1/2" steel rod for as a "sign post".

UNIVERSAL WEDGE SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered at a depth of 18" or greater, the foundation shall be a minimum depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the inner surfaces of the socket/stub must remain free of concrete or other debris. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 2 cubic yards, the concrete shall be Class A.
2. Place the concrete into the hole until it is approximately flush with the ground.
3. Allow the concrete to cure for a minimum of 4 days for concrete to set, unless otherwise directed by Engineer.
4. Insert the sign post into the socket to secure post. This will leave approximately 1/4" of the sign post above the ground.
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Texas Department of Transportation
Traffic Operations Division
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST
SMD (TWT) - 08

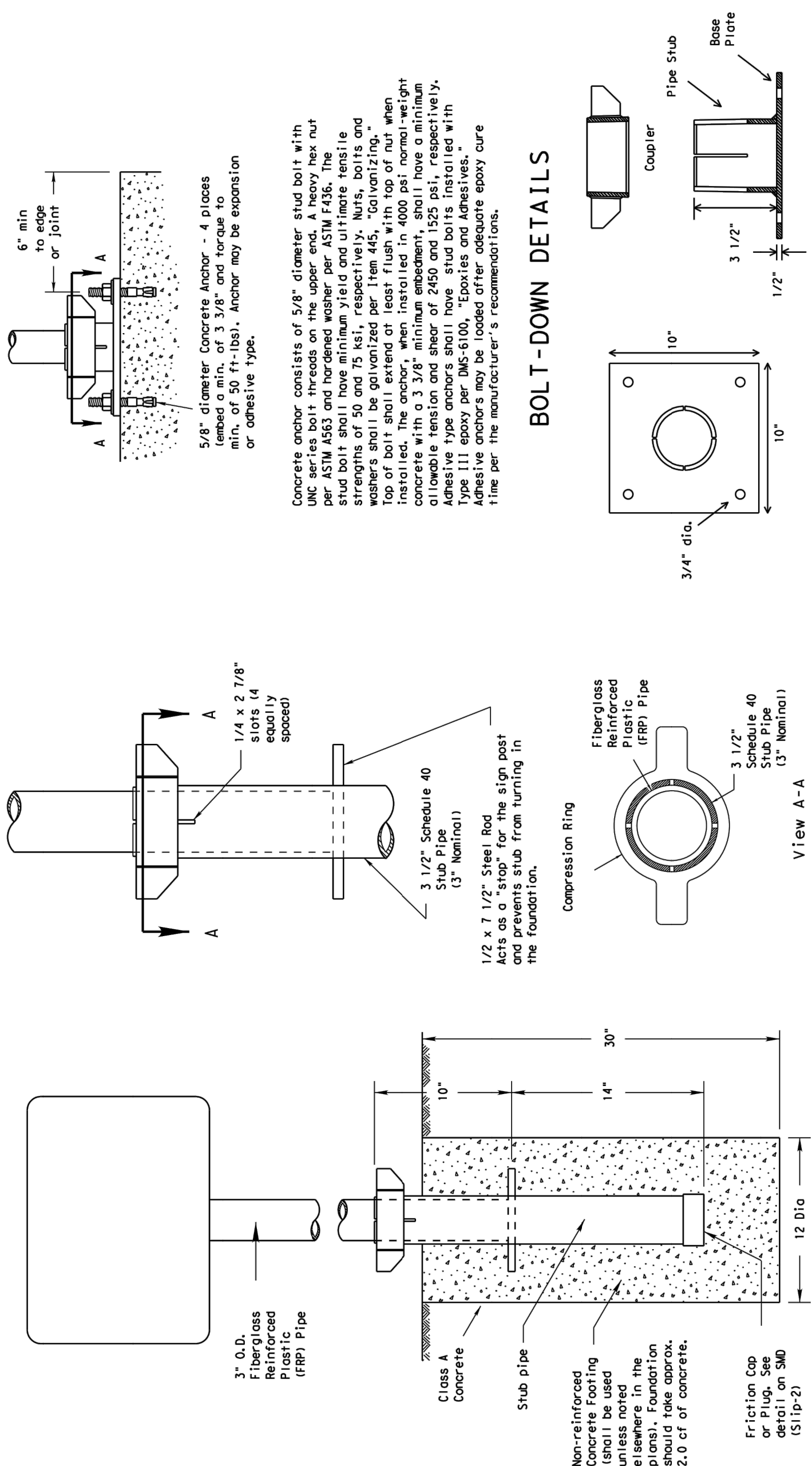
REV	DATE	BY	CHKD	APPD	REVISION
9-08	10/07	JULY 2002	REVISIONS		

26.2

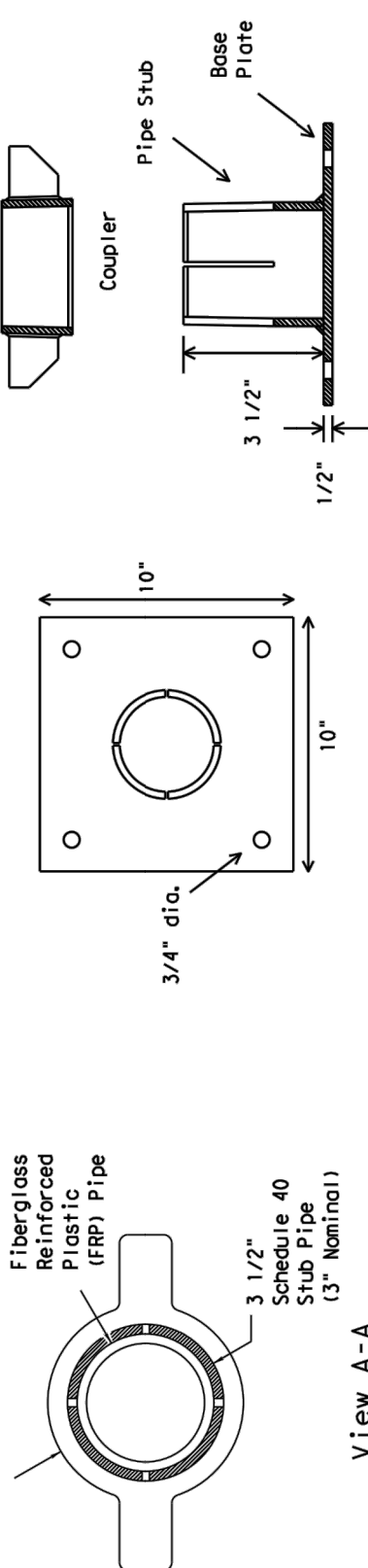
RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE ENGINEER IS NOT RESPONSIBLE FOR ITS ACCURACY OR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.
DATE: 05/21/2020 BY: *Timothy A. Goren*
HMT ENGINEERING AND SURVEYING

STREET DETAILS (3 OF 4)
HEATHERFIELD SUBDIVISION
UNIT 2
NO. REVISION DESCRIPTION REVISION DATE
DATE: JANUARY 2019
DRAWN BY: HM
DESIGNED BY: TG
REVIEWED BY: CC/SHH
HMT PROJECT NO.: 305.01
SHEET
C4.12
8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
HMTNB.COM
P(210)562-3844 • F(210)562-3236
TBPB FIRM T-10961
TBPB FIRM 10153600

Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post



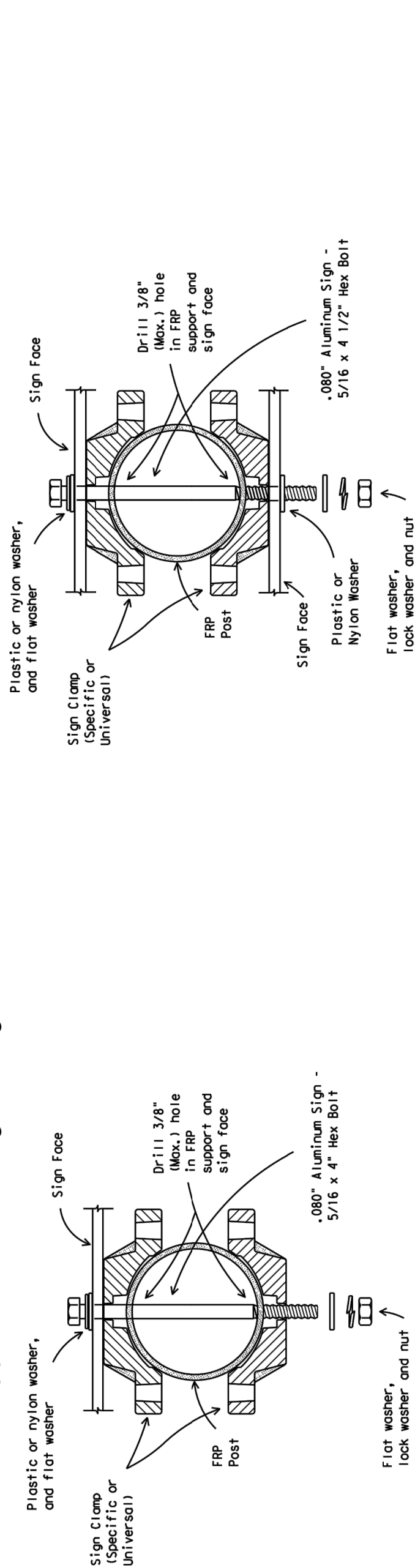
BOLT-DOWN DETAILS



SM RD SGN ASSM TY FRP(X)UB(P)

SM RD SGN ASSM TY FRP (X) UA (P)

Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Typical Sign Mounting Detail for FRP Support with Single Sign

GENERAL NOTES:

1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet. Signs may be galvanized per Item 445, "Galvanizing."
2. See the Traffic Operations Division website for detailed drawings of sign cloamps. The website address is: <https://www.txdot.gov/publications/trocfic.htm>

FRP POST REQUIREMENTS

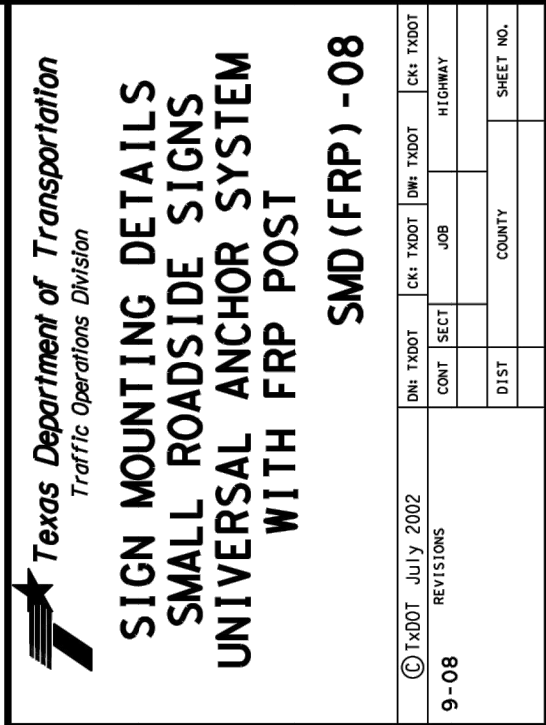
1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color, as specified.
2. Thickness of FRP sign support is $0.125" \pm 0.031"$ - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:
Texas Department of Transportation
Traffic Operations Division

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES

1. Dig foundation hole. Ensure depth of rock is 18". When solid rock is encountered, the foundation soil must be a minimum depth of 18". When solid rock is encountered below ground level, the foundation soil must extend in the solid rock a minimum depth of 18". If the foundation hole is not to be dug into solid rock, the minimum depth of rock must be 18". If the rock is not encountered, the socket rate may be reduced in length as required to a minimum length of 18". Any material removed from the socket/slot must be placed on the bottom and the clearance requirements given on SAG001 must be maintained. The surface of the socket/slot must remain free of concrete or other debris.
2. The Engineer may permit surfaces of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements (less than 2 cubic yards), the Engineer may allow a portable concrete mixer to be allowed by Engineer. Concrete must be Class A.
3. Insert base post in foundation hole to ensure a minimum of 18" embedment if concrete. Cut base post from bottom and ensure a minimum of 18" embedment if concrete. The Engineer may permit a 12" embedment if the concrete is Class A.
4. Level and plumb the base post in the coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer.
5. Portion of base post slots shall be cut to the required length.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be flush with the top of the sign post.
8. Check sign to ensure there is no twist, if loose, increase the tightening of the coupler.

BOLT DOWN SIGN SUPPORT

1. Position base plate with coupler and existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.



26F

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DATE:
FILE:

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DATE: 05/21/2020 BY: chuck
HMT ENGINEERING AND SURVEYING

DATE: JANUARY 2019

DRAWN BY: HM

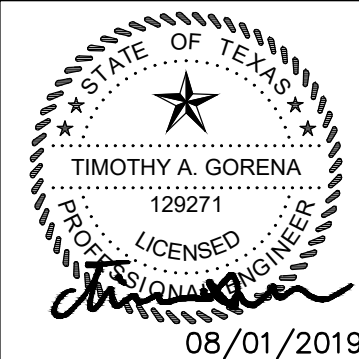
DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJEC
305.01

SHEET

C4.13

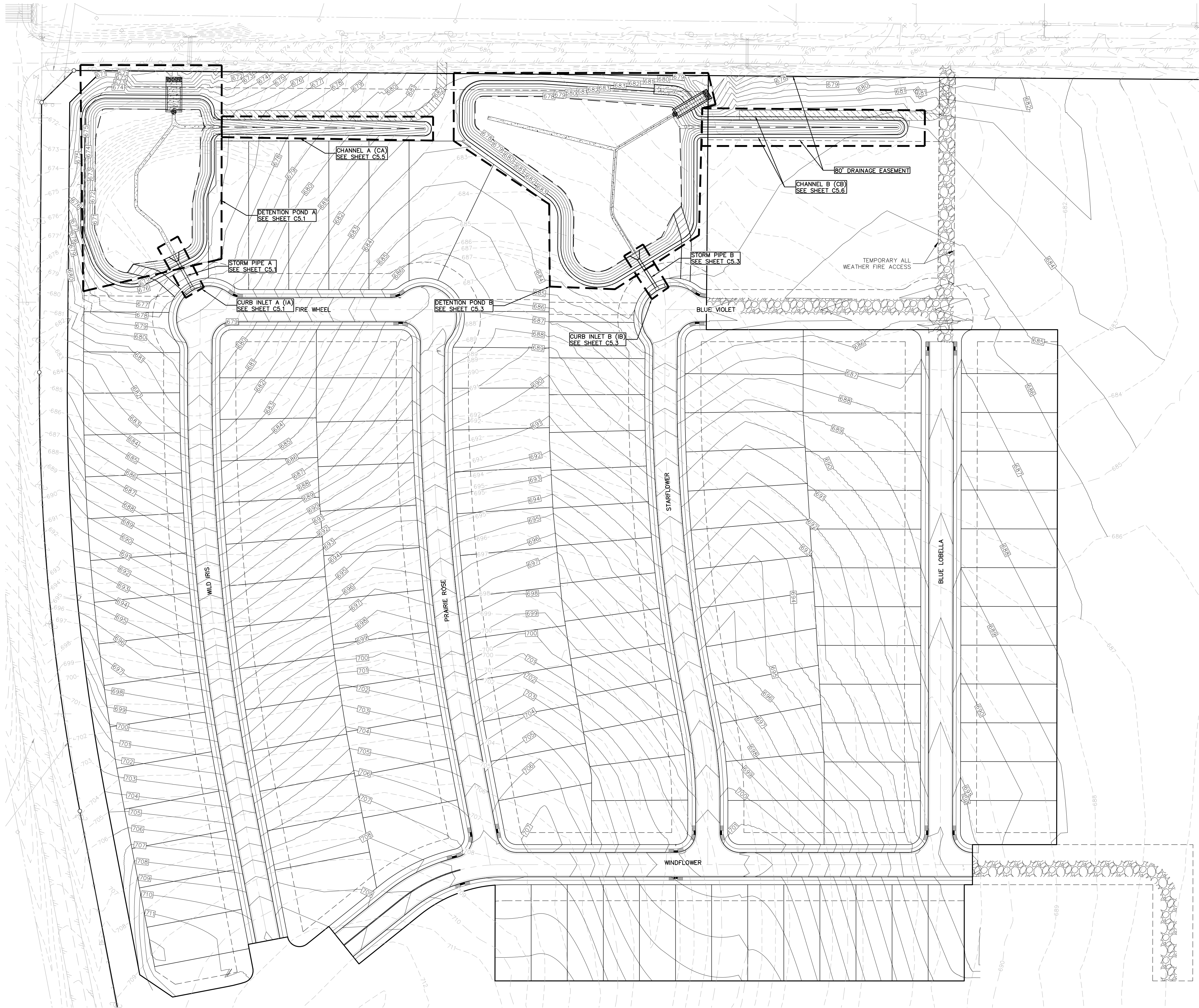


STREET DETAILS (4 OF 4)

HEATHERFIELD SUBDIVISION
UNIT 2

8200 W INTERSTATE 10
SAN ANTONIO, TX 78253
HMTNB.COM
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Drawing Name: M:_Projects\305 - HEC NB, LLC\001 - Heatherfield Unit 2\CDs\305.001_C5.0 - OVERALL STORM.dwg User: andrewm May 26, 2020 - 10:48am



RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

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LEGEND

700 EXISTING CONTOURS

700 PROPOSED CONTOURS

B.L. BUILDING SETBACK LINE

U.E. UTILITY EASEMENT

D.E. DRAINAGE EASEMENT

S.B.C. SINGLE BOX CULVERT

PROPOSED STORM DRAIN LINE

NOTES:

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OVERALL STORM PLAN

HEATHERFIELD SUBDIVISION UNIT 2

REVISION DATE

2/18/2019

03/29/2019

05/29/2019

06/18/2019

08/13/2019

NO. 1

2

3

4

5

WATER AND WASTEWATER REV

FIRE ACCESS REV

PROFILE, UTILITIES AND LOT LAYOUT REV

POND REVISION

ADDED WATER LATERAL LINE D STATION 10+15.68

DATE: FEBRUARY 2020

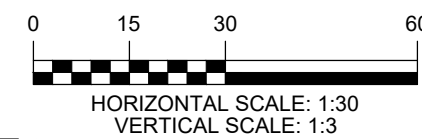
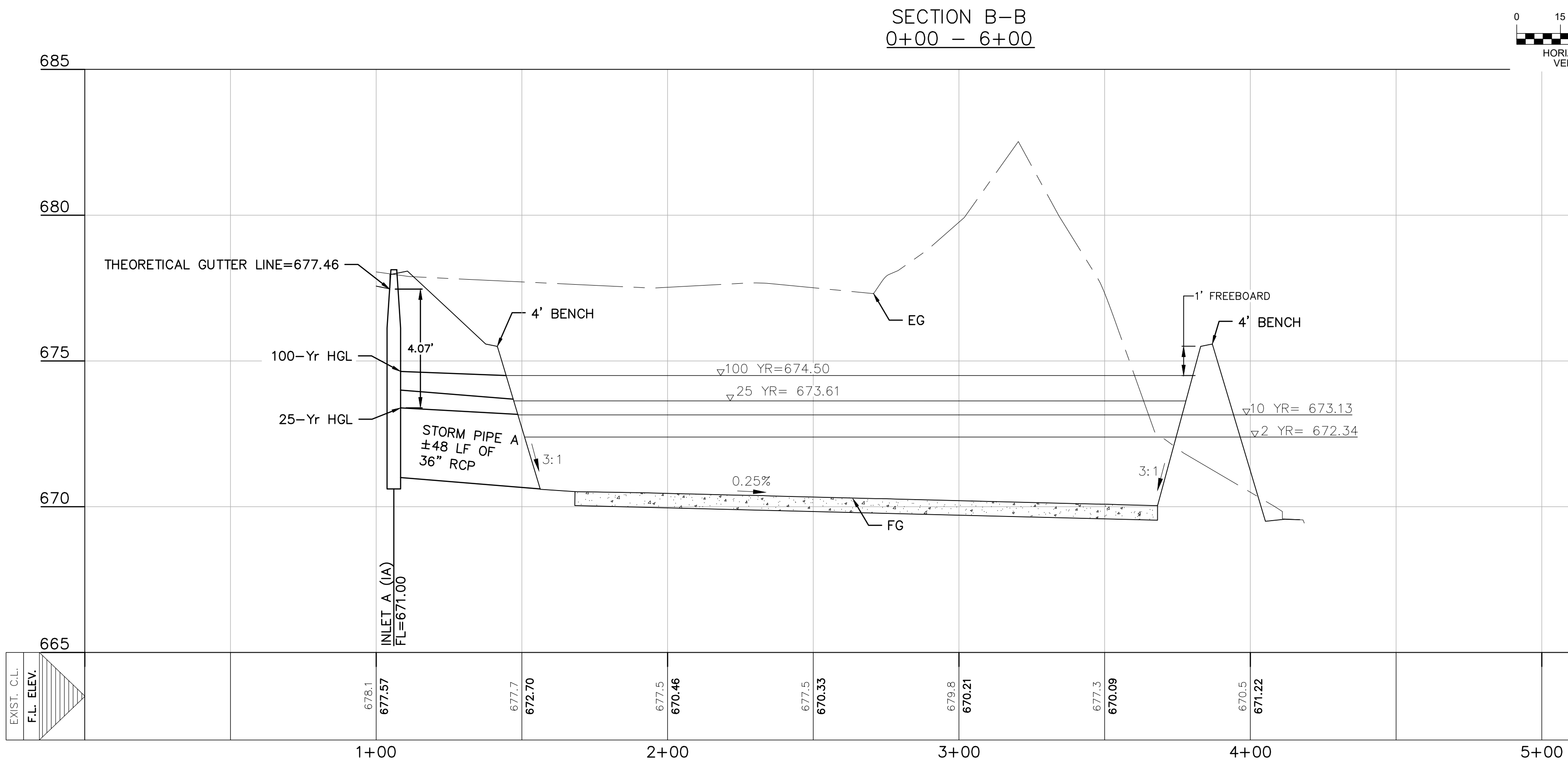
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJECT NO.: 305.01

SHEET C5.0



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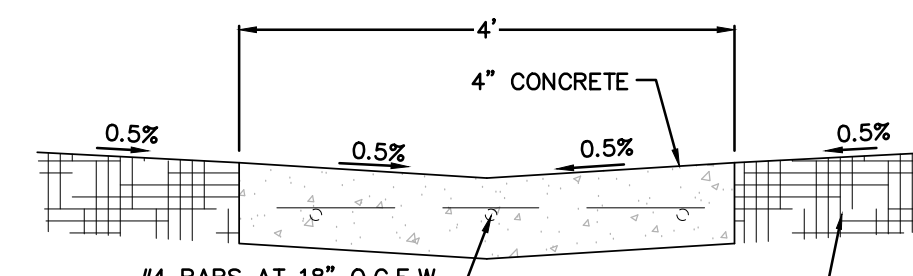
STORM PIPE A
25 YEAR EVENT
DIA: 36"
Q25: 53.93 CFS
V25: 8.95 FPS
n: 0.0013
S: 0.8%
HGL IN: 673.39'

STORM PIPE A
100 YEAR EVENT
DIA: 36"
Q100: 79.66 CFS
V100: 11.27 FPS
n: 0.0013
S: 0.8%
HGL IN: 675.24'

LEGEND

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- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- S.B.C. SINGLE BOX CULVERT
- PROPOSED STORM DRAIN LINE
- STORM WATER QUALITY PATH

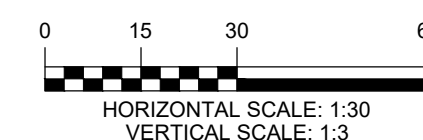
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4' WIDE CONC PILOT CHANNEL

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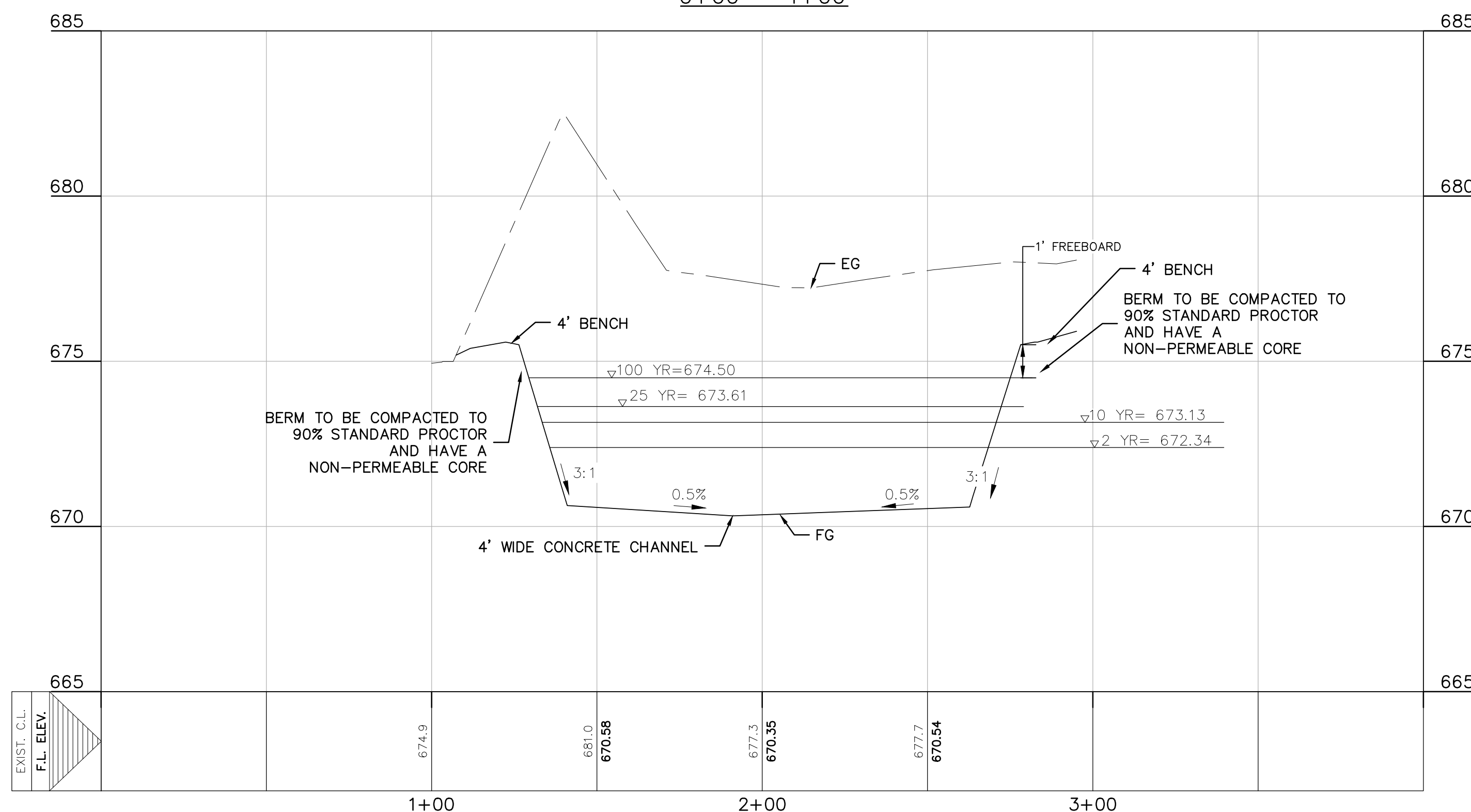
DATE: 05/21/2020 BY: *Timothy A. Goren*
HMT ENGINEERING AND SURVEYING

Table 11 - Detention/Water Quality Basin A Prop/Ultimate Summary				
	2-YEAR	10-YEAR	25-YEAR	100-YEAR
Peak Storage Volume (includes SWQ Volume) (cf)	24,761	46,315	60,479	87,581
Pond Release Rate (cfs)	15.71	38.83	56.28	93.54
Water Surface Elevation (ft)	672.34	673.13	673.61	674.50
Water Depth (ft)	2.34	3.13	3.61	4.50
Time to Drain (hrs)	25.8	26.4	26.6	26.9
Freeboard (ft)	3.16	2.37	1.89	1.00
Discharge Velocity (fps)	0.99	1.82	2.29	3.06

Table 17 - Proposed Detention/Water Quality Basin Summary			
	Basin A	Basin B	Basin E.2*
Watershed Area (acres)	14.38	20.15	19.82
Impervious Cover (sf)	375,836	526,640	518,016
Required WQ Volume (cuft) = Impervious Cover * (1/2" * 1.20)	18,792	26,332	25,901
Provided Water Quality Volume (cuft)	21,357	34,560	32,940
Orifice Outlet Size (in)	3	4	3.5
Average Flowrate (cfs)	0.18	0.31	0.28
Time to Empty SWQ Pond (hrs)	33.0	31.0	32.7
1/2 Provided Water Quality Volume (cuft)	10,679	17,280	16,470
Average Flowrate of First 1/2 of SWQ POND (cfs)	0.23	0.40	0.36
Time to Empty First 1/2 of SWQ Pond (hrs)	12.9	12.0	12.7
Water Quality Depth (ft)	1.5	1.5	1.9
Detention Pond Length (ft)	250	275	1,076
Detention Pond Width (ft)	121	123	146
Length to Width Ratio	2.1	2.2	7.4

*Basin E.2 is treating the stormwater quality runoff for both drainage areas E.1 and E.2.

SECTION A-A
0+00 - 4+00



DETENTION POND A

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

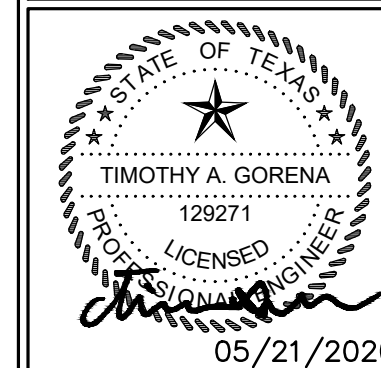
REVIEWED BY: CC/SWH

HMT PROJECT NO.: 305.01

SHEET
C5.1

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HMT
ENGINEERING & SURVEYING



RIP-RAP CROSS SECTION
N.T.S.

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HMT ENGINEERING AND SURVEYING



N.T.S

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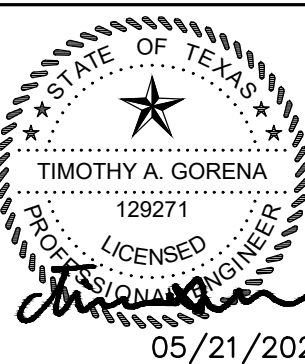
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SAN ANTONIO, TX 78253
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TBPE FIRM F-10961
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05/21/2020

POND B DETAILS

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/19/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

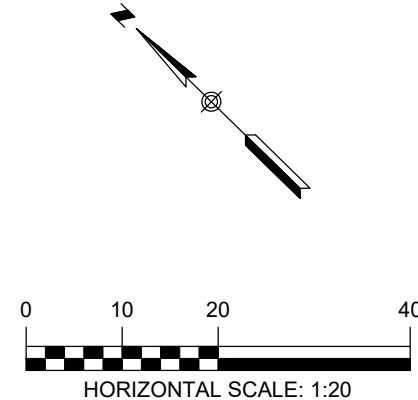
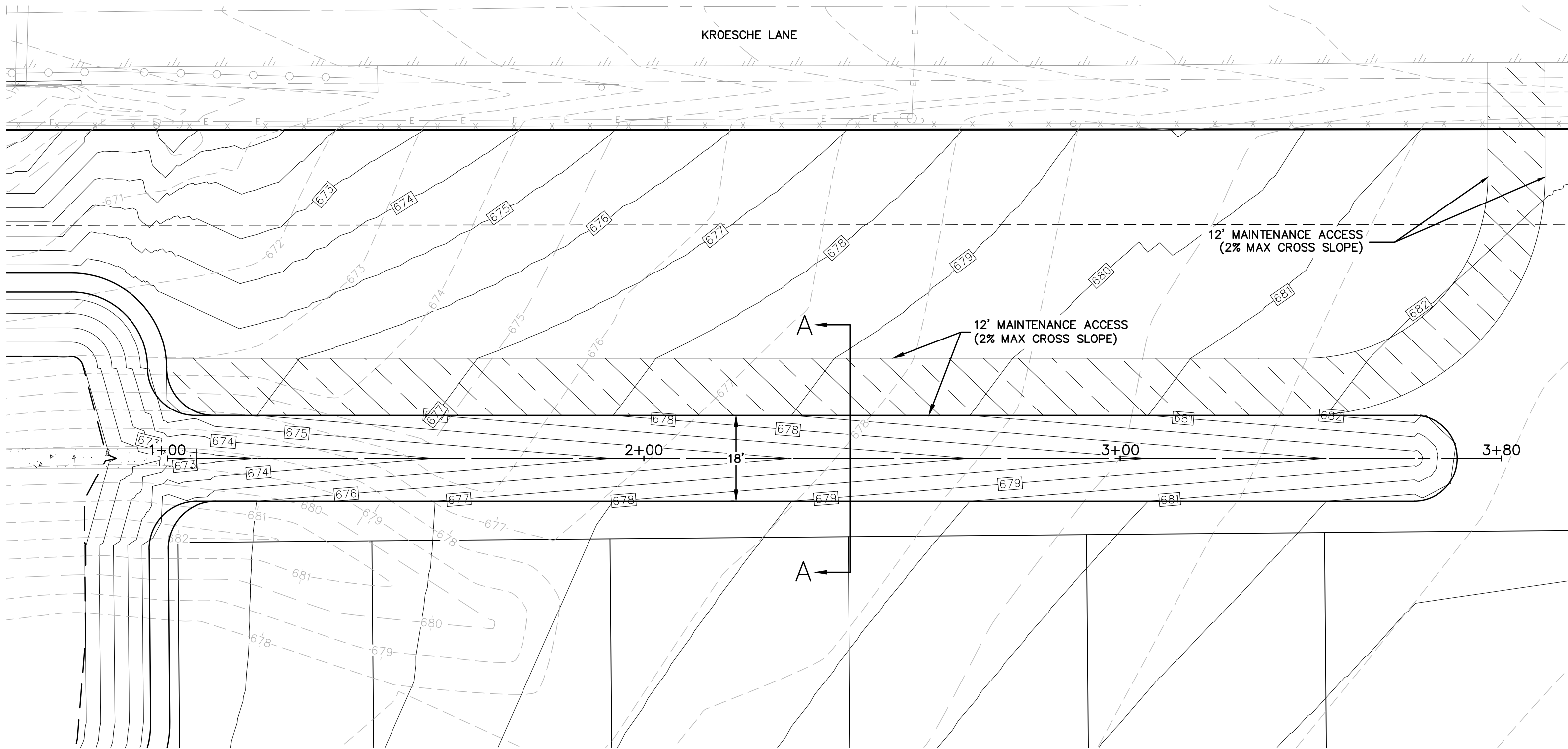
DESIGNED BY: TG

REVIEWED BY: CC/SWH

HMT PROJECT NO.
305.01

SHEET

C5.4



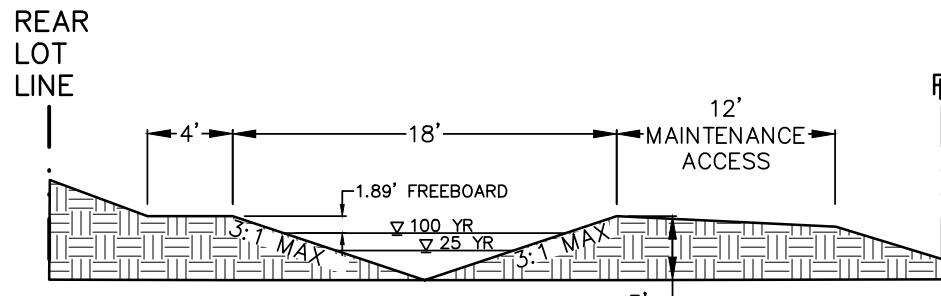
LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	B.L. BUILDING SETBACK LINE
	U.E. UTILITY EASEMENT
	D.E. DRAINAGE EASEMENT
	S.B.C. SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE

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CHANNEL "A" CALCULATIONS

H= 3.00FT	H= 3.00FT	H= 3.00FT	H= 3.00FT
Q _s = 4.29CFS	Q _s = 7.42CFS	Q _s = 9.67CFS	Q _s = 14.51CFS
n= 0.035	n= 0.035	n= 0.035	n= 0.035
S= 2.67%	S= 2.67%	S= 2.67%	S= 2.67%
Dm= 0.67FT	Dm= 0.82FT	Dm= 0.91FT	Dm= 1.06FT
Vm= 3.19FPS	Vm= 3.68FPS	Vm= 3.89FPS	Vm= 4.30FPS

RECORD DRAWING

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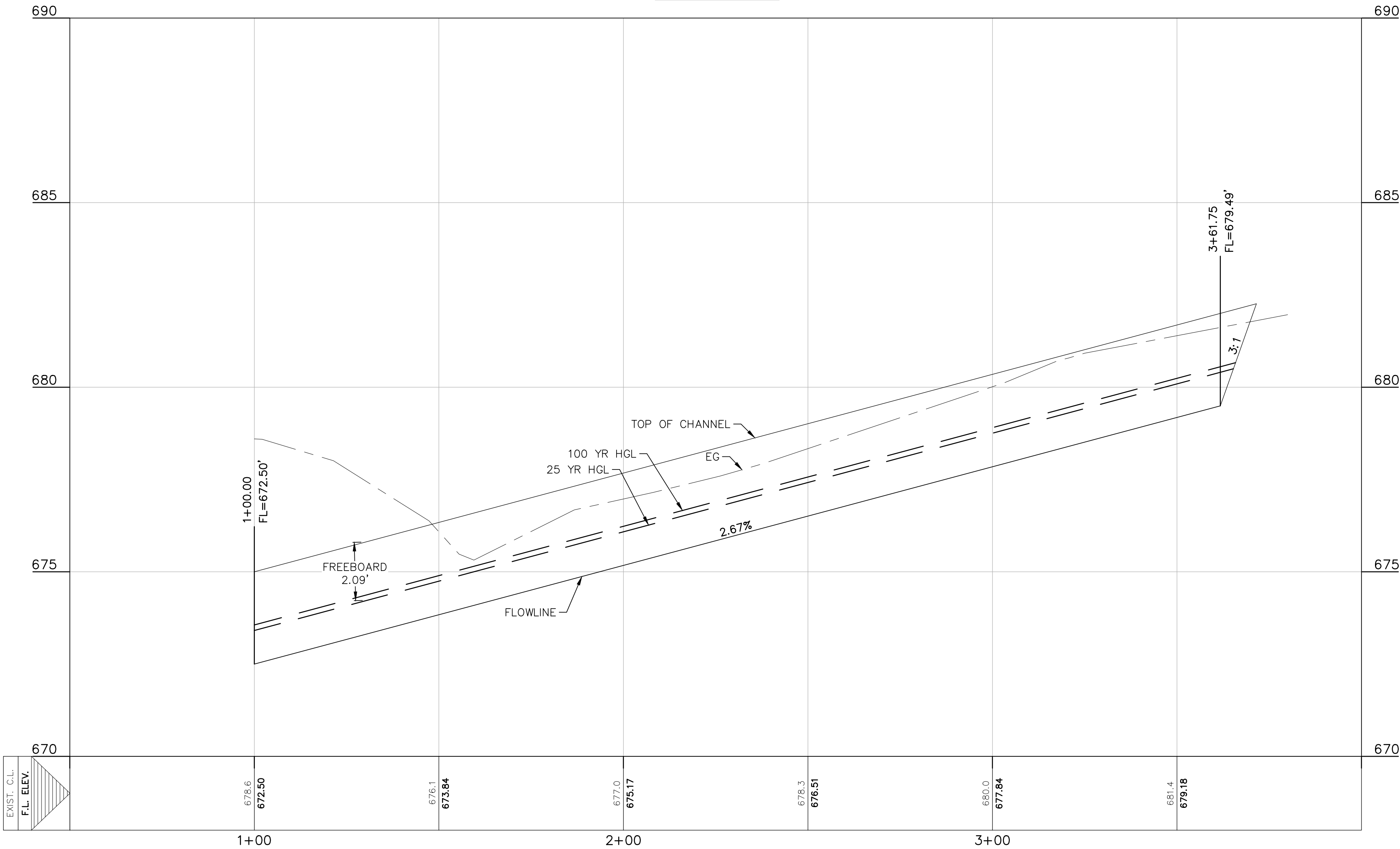
DATE: 05/21/2020

BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

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CHANNEL A ALIGNMENT
0+50 - 4+00



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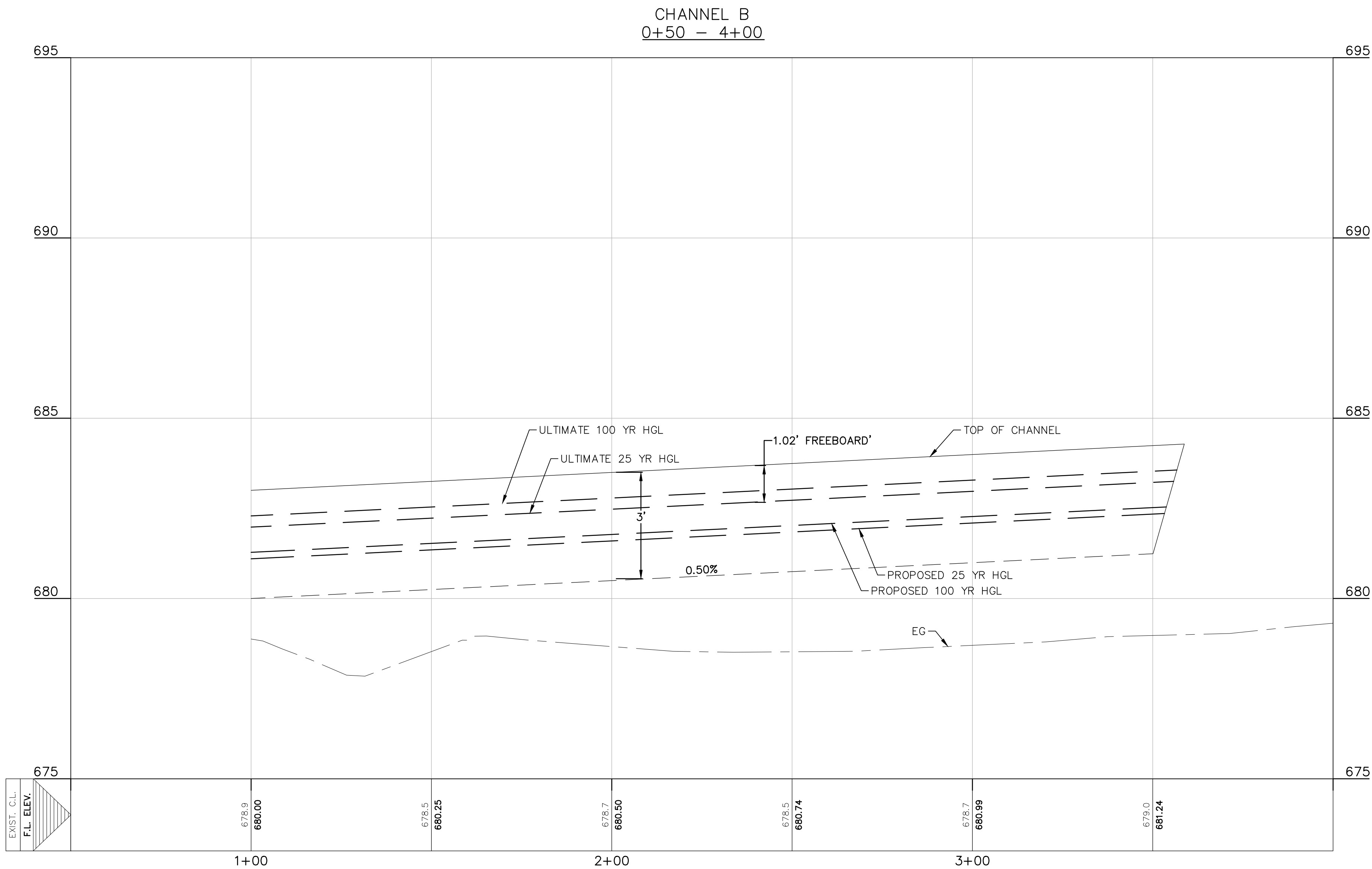
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SIH

HMT PROJECT NO.:
305.01

Drawing Name: M:_Projects\305 - HEC NB, LLC\001 - Heatherfield Unit 2\CDs\305.001_C5.6 - CHANNEL A P&P.dwg User: andrewm May 26, 2020 - 10:49am



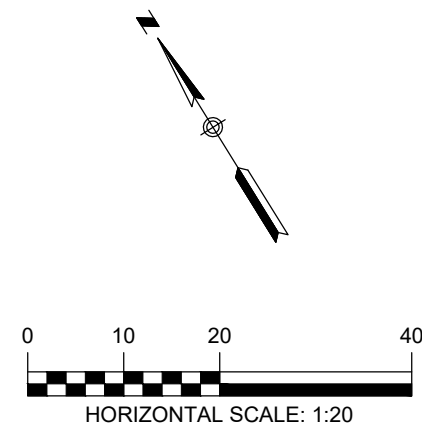
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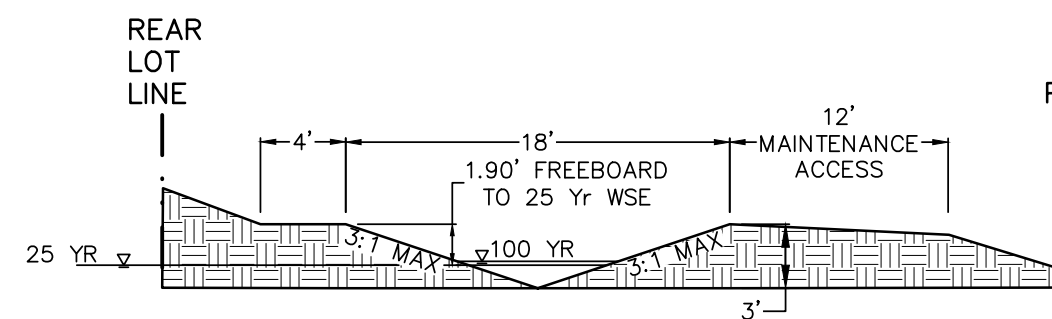
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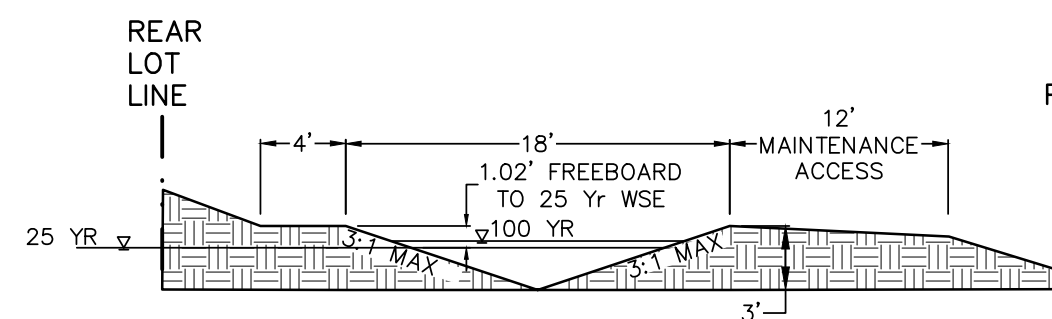
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- G. EROSION ALONG PILOT CHANNEL SHALL BE MAINTAINED AS NEEDED.
- H. DUE TO CHANNEL B NOT MEETING THE MINIMUM VELOCITY REQUIREMENT OF 2 FPS IN THE 2-YEAR STORM EVENT. THIS CHANNEL SHALL BE INSPECTED EVERY 3 MONTHS TO INSURE SEDIMENTATION AND DEBRIS HAS NOT ACCUMULATED ENOUGH TO CAUSE IMPROPER OPERATION OF THE CHANNEL.



CHANNEL "B" PROPOSED CALCULATIONS

H= 3.00FT	H= 3.00FT	H= 3.00FT	H= 3.00FT
Q _p = 3.11CFS	Q _p = 5.37CFS	Q _p = 6.98CFS	Q _p = 10.44CFS
n= 0.035	n= 0.035	n= 0.035	n= 0.035
S= 0.50%	S= 0.50%	S= 0.50%	S= 0.50%
Dn= 0.81FT	Dn= 1.00FT	Dn= 1.10FT	Dn= 1.28FT
Vn= 1.58FPS	Vn= 1.79FPS	Vn= 1.92FPS	Vn= 2.12FPS



CHANNEL "B" ULTIMATE CALCULATIONS

H= 3.00FT	H= 3.00FT	H= 3.00FT	H= 3.00FT
Q _p = 15.12CFS	Q _p = 25.91CFS	Q _p = 33.59CFS	Q _p = 49.76CFS
n= 0.035	n= 0.035	n= 0.035	n= 0.035
S= 0.50%	S= 0.50%	S= 0.50%	S= 0.50%
Dn= 1.47FT	Dn= 1.80FT	Dn= 1.98FT	Dn= 2.29FT
Vn= 2.33FPS	Vn= 2.67FPS	Vn= 2.86FPS	Vn= 3.16FPS

**CHANNEL B
PLAN & PROFILE**

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: **FEBRUARY 2020**

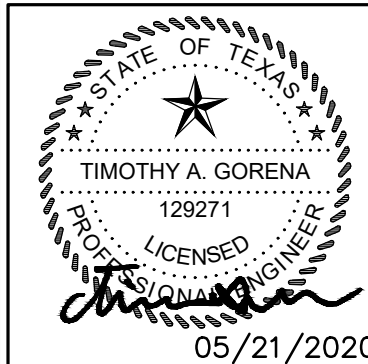
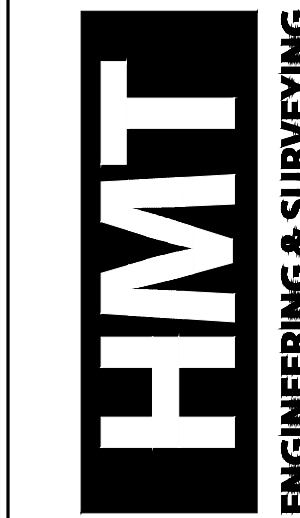
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DESIGNED BY: **TG**

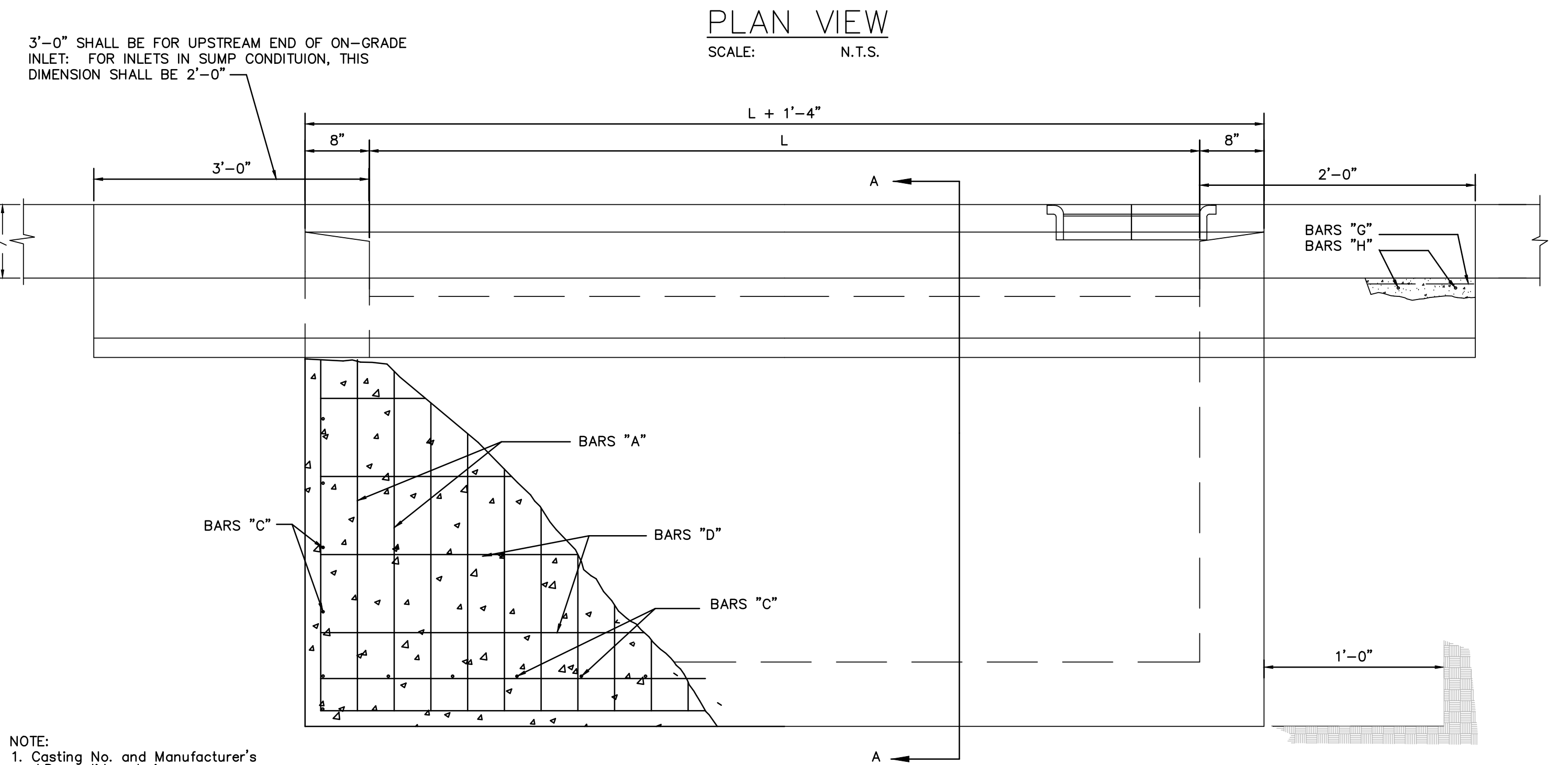
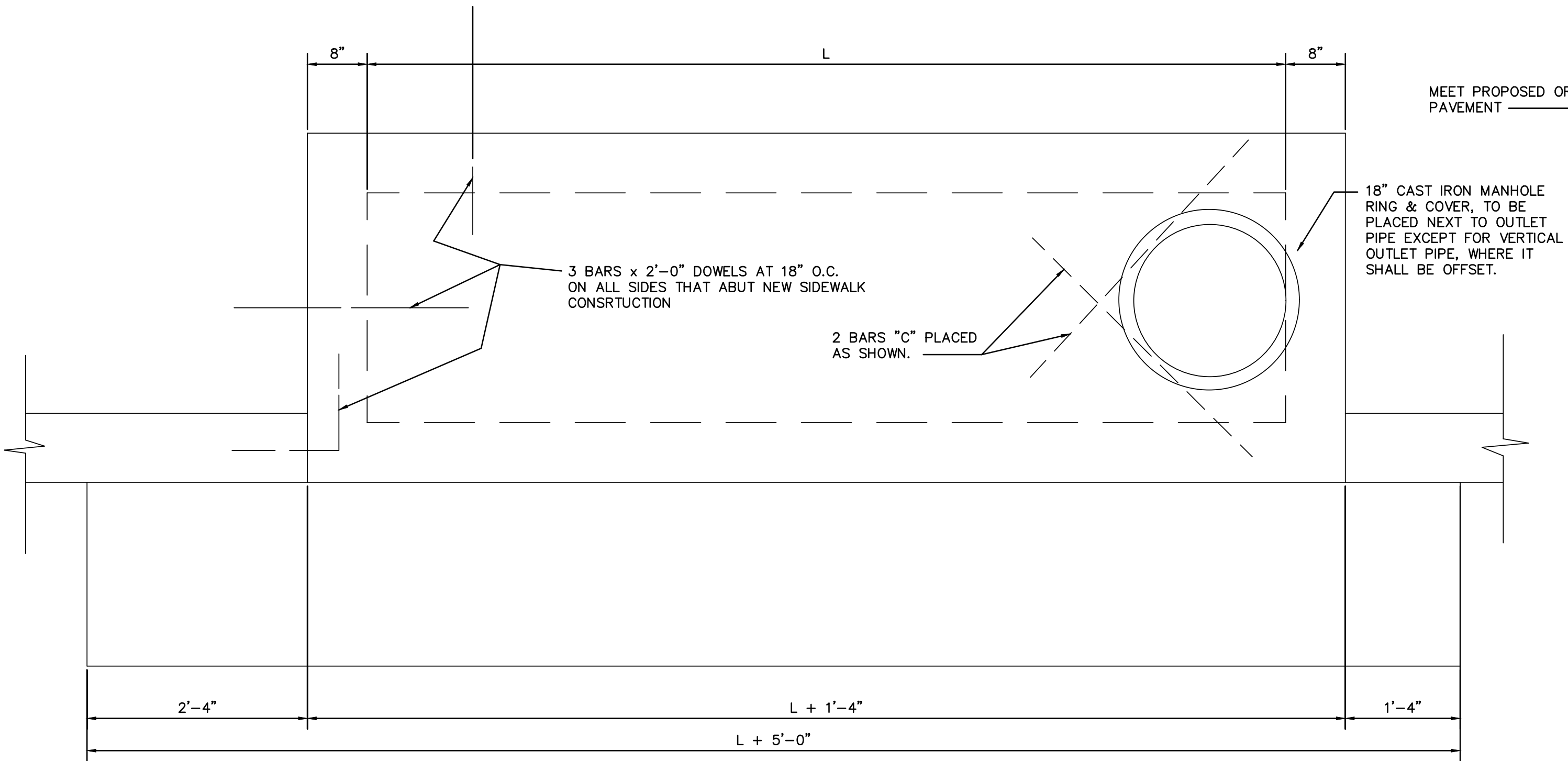
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HMT PROJECT NO.: **305.01**

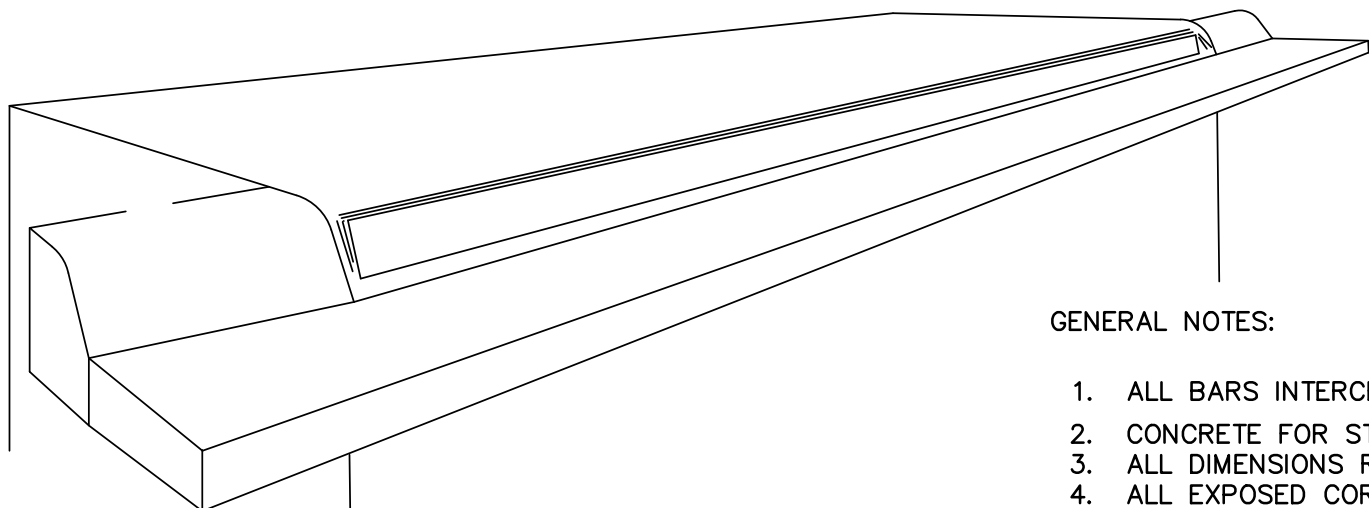
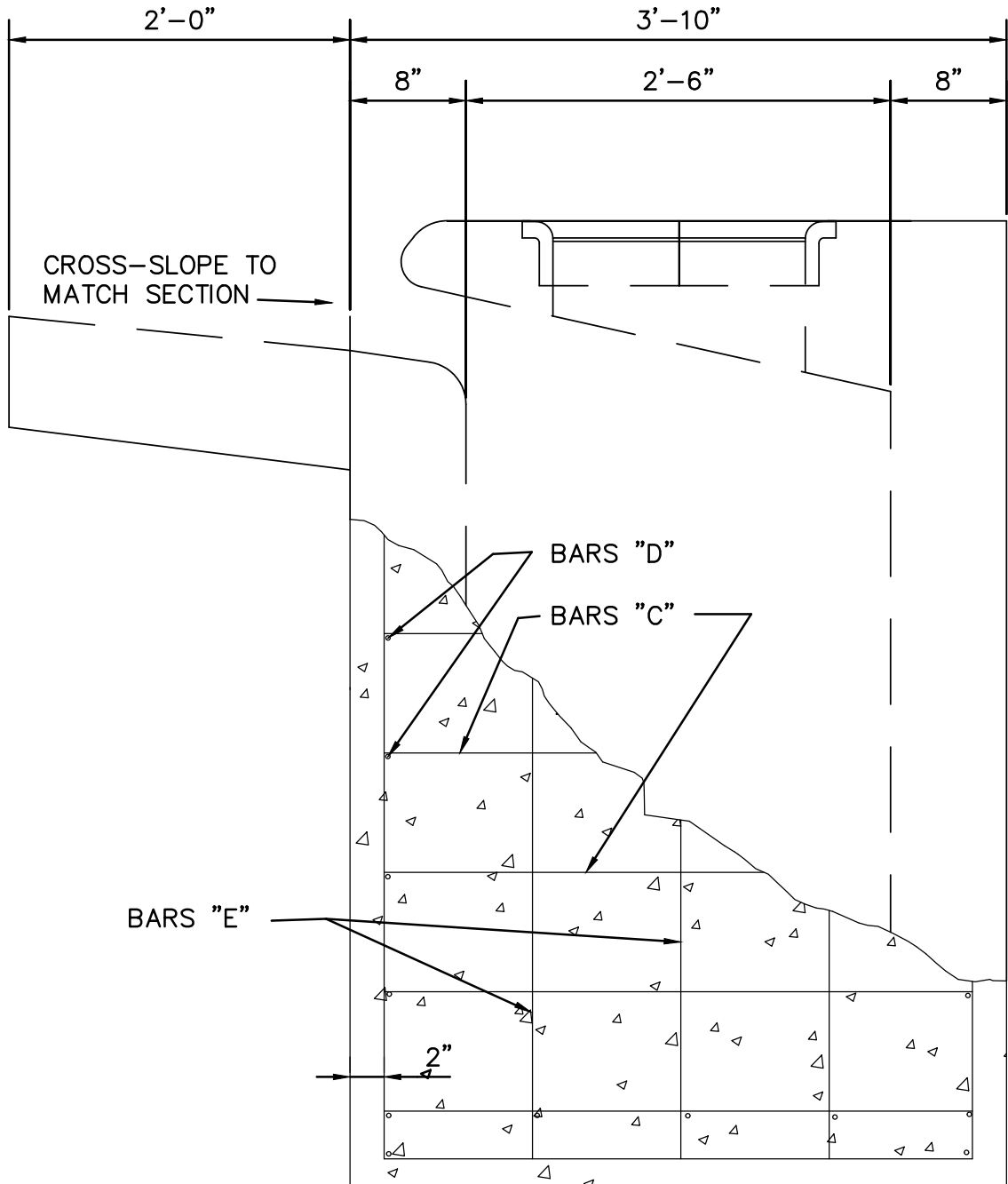
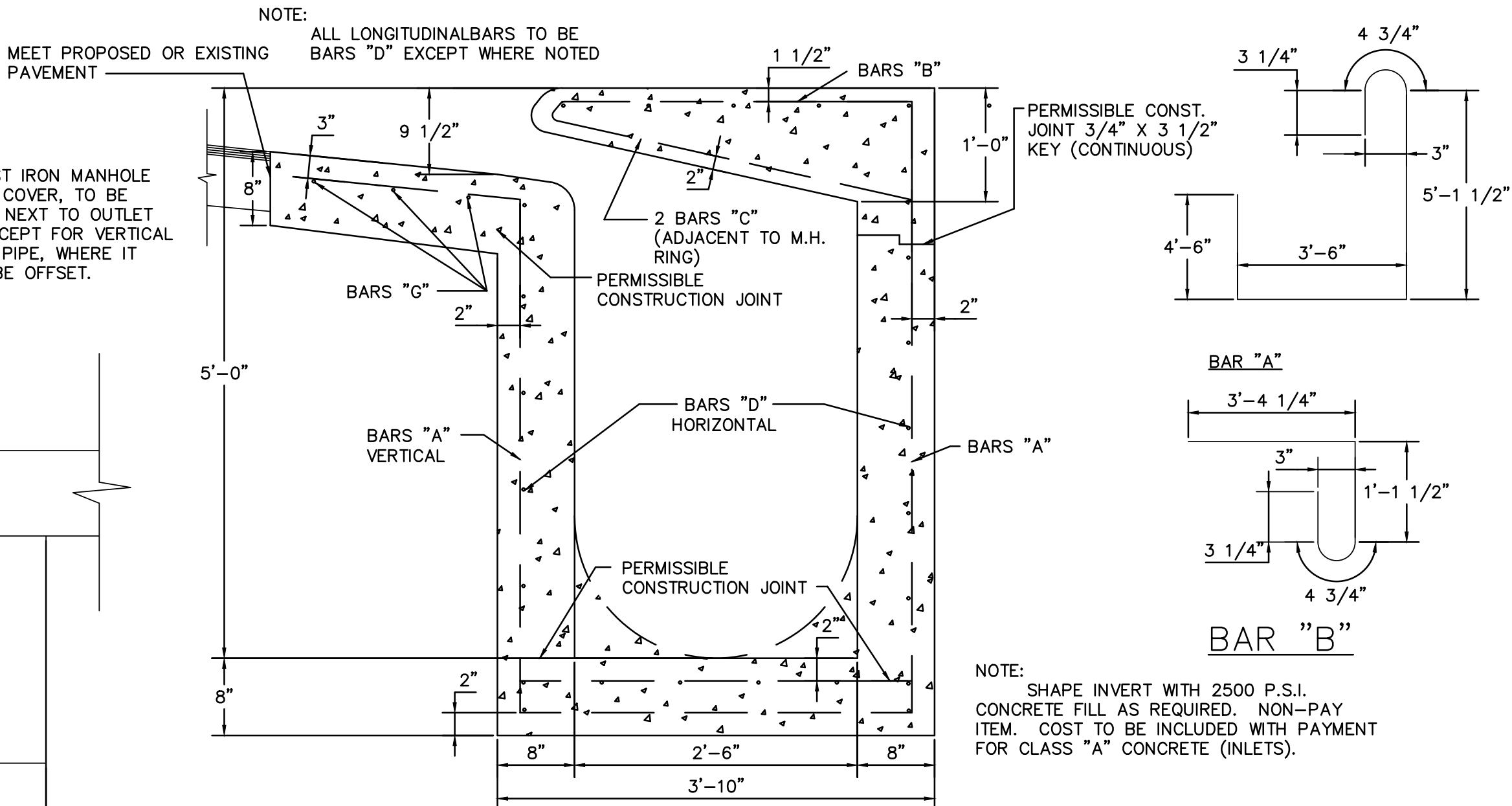
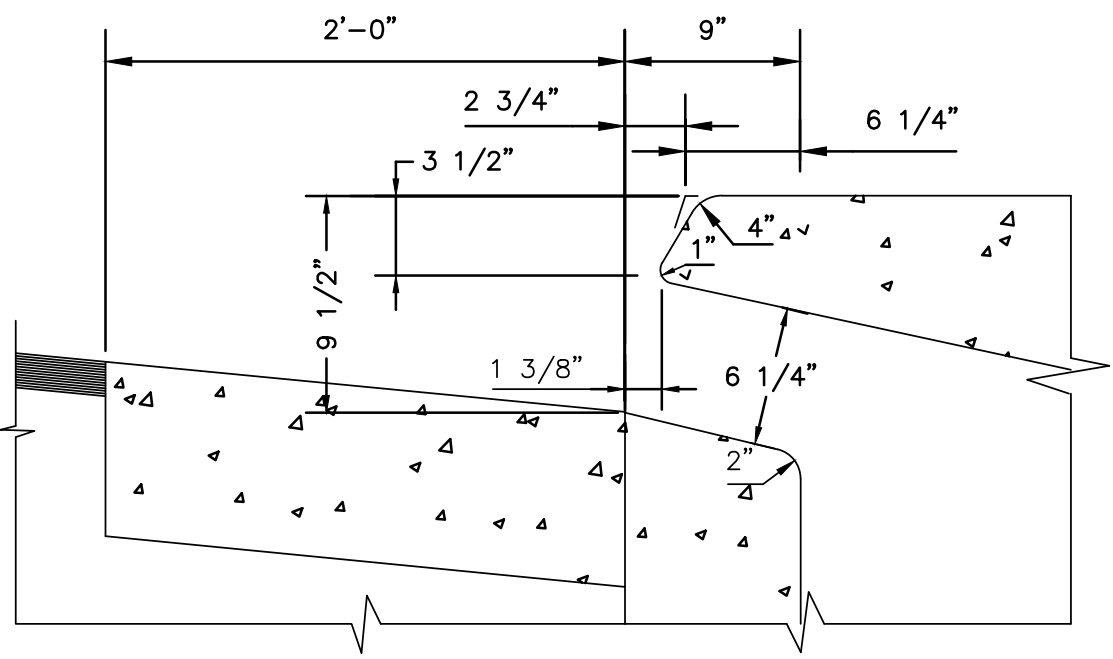
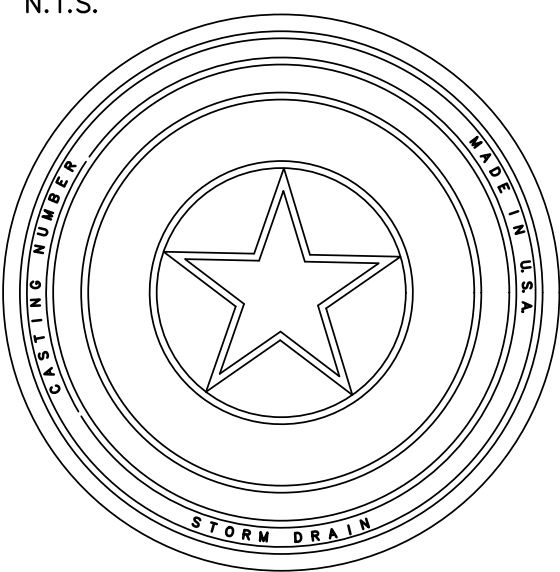
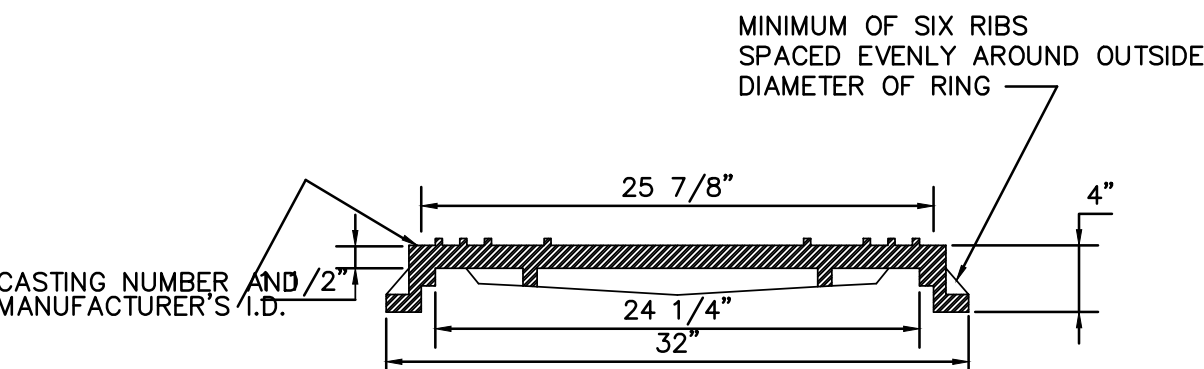
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Drawing Name: M:\Projects\305 - HDC NB, LLC\001 - Heatherfield Unit 2\Cds\305.001_C4.5 - STREET DETAILS.dwg User: andrewm May 26, 2020 - 10:49am



- NOTE:
1. Casting No. and Manufacturer's I.D. on lid and ring.
 2. Load bearing capability of N-20 minimum.
 3. The load bearing surface shall be machine ground.
 4. The combined weight of the manhole ring and cover must be at least 260 lbs.



GENERAL NOTES:

1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 P.S.I. IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4"
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A-615, GRADE 60.

Reinforcing Steel Schedule						
BAR	NO.	SIZE	SPA.	LENGTH	WEIGHT	
L=5'-00"						
A	15	4	5"OC	13'-9 1/2"	138	
B	15	4	5"	5'-1"	52	
C	23	4	9"	3'-6"	54	
D	22	4	10"	6'-1"	89	
E	10	4	10 1/2"	6'-10"	46	
F	6	5	12"	2'-3"	14	
G	3	4	12"	9'-8"	20	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=353 CY. MANHOLE CASTING=100 LBS. STEEL TOTAL=422 LBS.						
10'						
A	27	4	5"OC	13'-9 1/2"	249	
B	27	4	5"	5'-1"	93	
C	30	4	9"	3'-6"	70	
D	22	4	10"	11'-1"	163	
E	10	4	10 1/2"	6'-10"	46	
F	12	5	12"	2'-3"	27	
G	3	4	12"	14'-8"	30	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=5.75CY MANHOLE CASTING=100LBS. STEEL TOTAL=687LBS						
15'						
A	39	4	5"OC	13'-9 1/2"	359	
B	39	4	5"	5'-1"	134	
C	36	4	9"	3'-6"	84	
D	22	4	10"	16'-1"	236	
E	10	4	10 1/2"	6'-10"	46	
F	17	5	12"	2'-3"	38	
G	3	4	12"	19'-8"	40	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=8.97CY. MANHOLE CASTING=100LBS. STEEL TOTAL=946LBS						
20'						
A	51	4	5"OC	13'-9 1/2"	470	
B	51	4	5"	5'-1"	175	
C	43	4	9"	3'-6"	101	
D	22	4	10"	6'-1"	310	
E	10	4	10 1/2"	6'-10"	46	
F	22	5	12"	2'-3"	50	
G	3	4	12"	9'-8"	50	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=10.19CY MANHOLE CASTING=100LBS. STEEL TOTAL=1211LBS						
25'						
A	63	4	5"OC	13'-9 1/2"	580	
B	63	4	5"	5'-1"	217	
C	50	4	9"	3'-6"	117	
D	22	4	10"	6'-1"	383	
E	10	4	10 1/2"	6'-10"	46	
F	27	5	12"	2'-3"	61	
G	3	4	12"	9'-8"	60	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=12.41CY. MANHOLE CASTING=100LBS. STEEL TOTAL=1473LB						
30'						
A	75	4	5"OC	13'-9 1/2"	691	
B	75	4	5"	5'-1"	258	
C	56	4	9"	3'-6"	131	
D	22	4	10"	6'-1"	457	
E	10	4	10 1/2"	6'-10"	46	
F	32	5	12"	2'-3"	72	
G	3	4	12"	9'-8"	70	
H	5	5	12"	1'-8"	9	
*CONCRETE TOTAL=14.63CY MANHOLE CASTING=100LBS. STEEL TOTAL=1734LB						

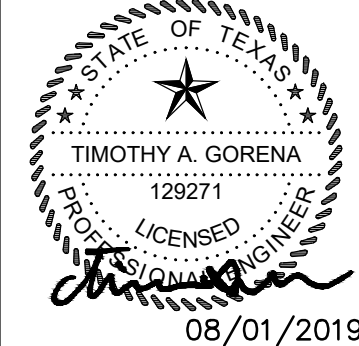
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DATE: 05/21/2020 BY: *Timson*

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STORM DETAILS (1 OF 2)



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HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION	DESCRIPTION

DATE: JANUARY 2019

DRAWN BY: HM

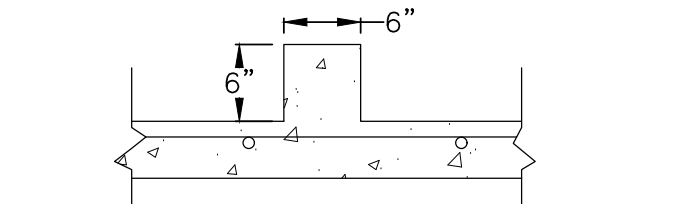
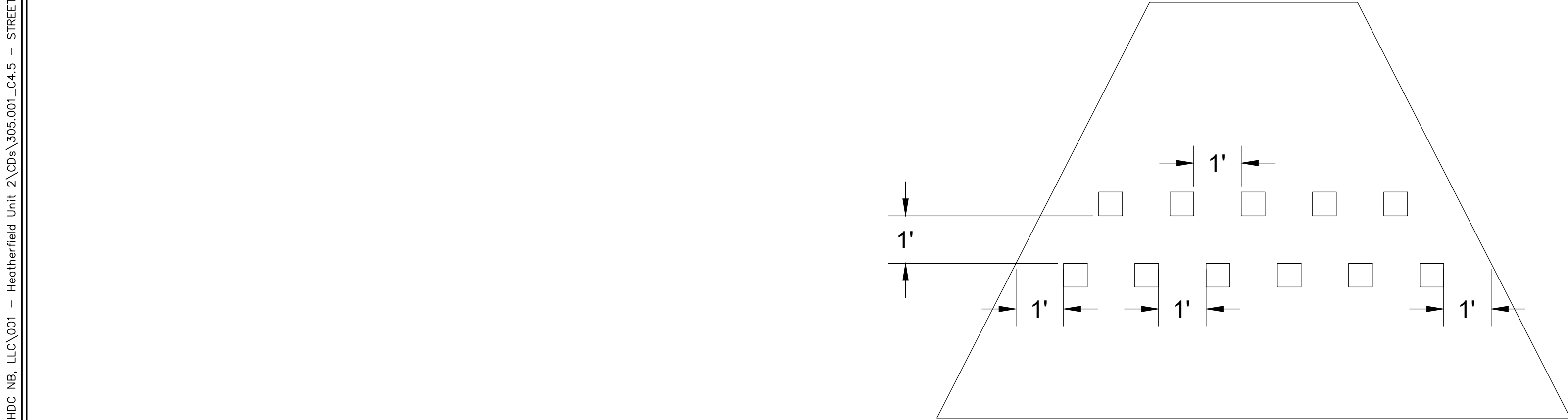
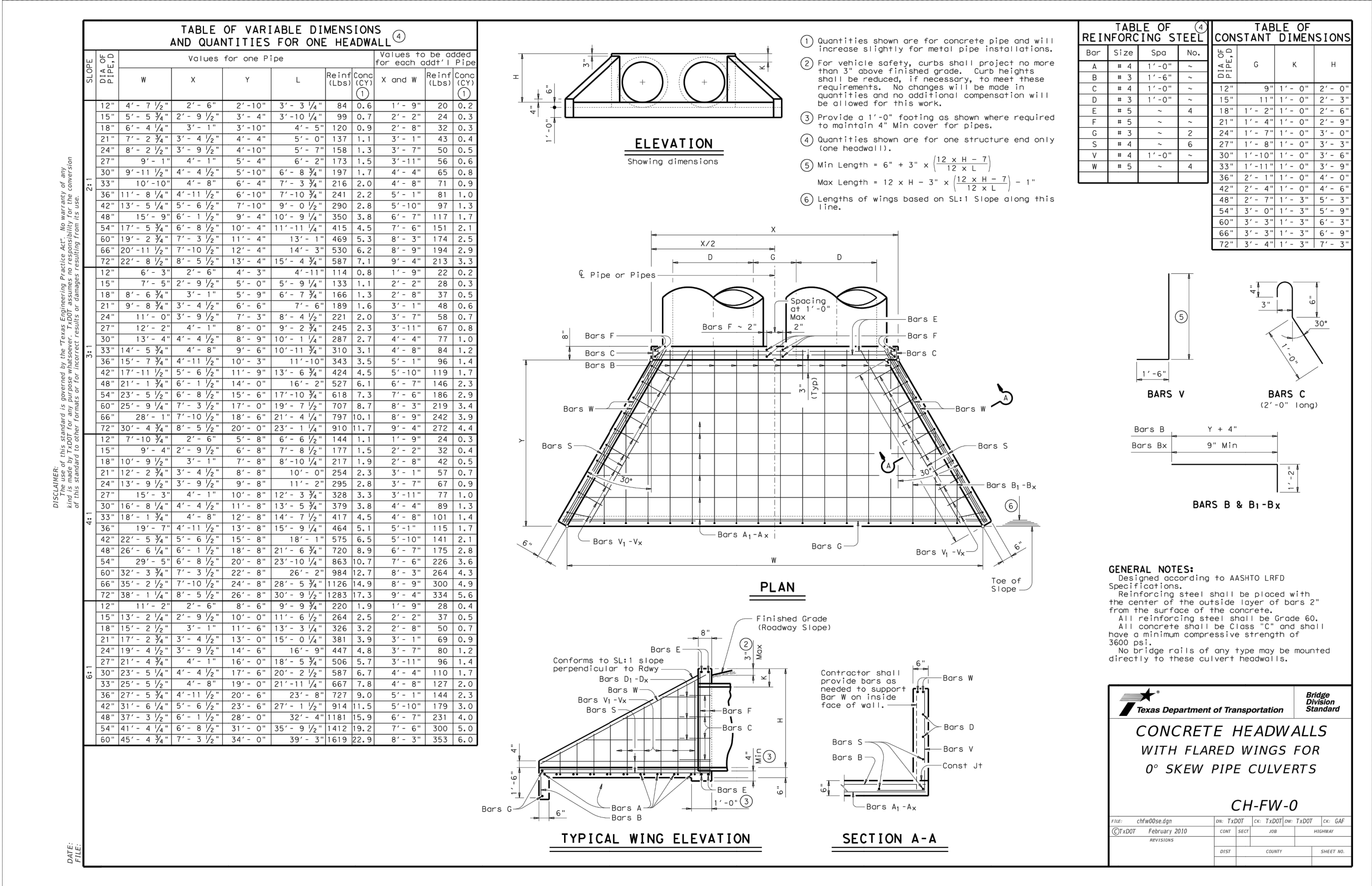
DESIGNED BY: TG

REVIEWED BY: CC/SHH

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DATE: 05/21/2020 BY: *Timothy A. Gorena*

HMT ENGINEERING AND SURVEYING

STORM DETAILS (2 OF 2)

HEATHERFIELD SUBDIVISION

UNIT 2

NO.	REVISION	DESCRIPTION	DATE

DATE: JANUARY 2019

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: cc/smh

HMT PROJECT NO.: 305.01

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STATE OF TEXAS

TIMOTHY A. GORENA

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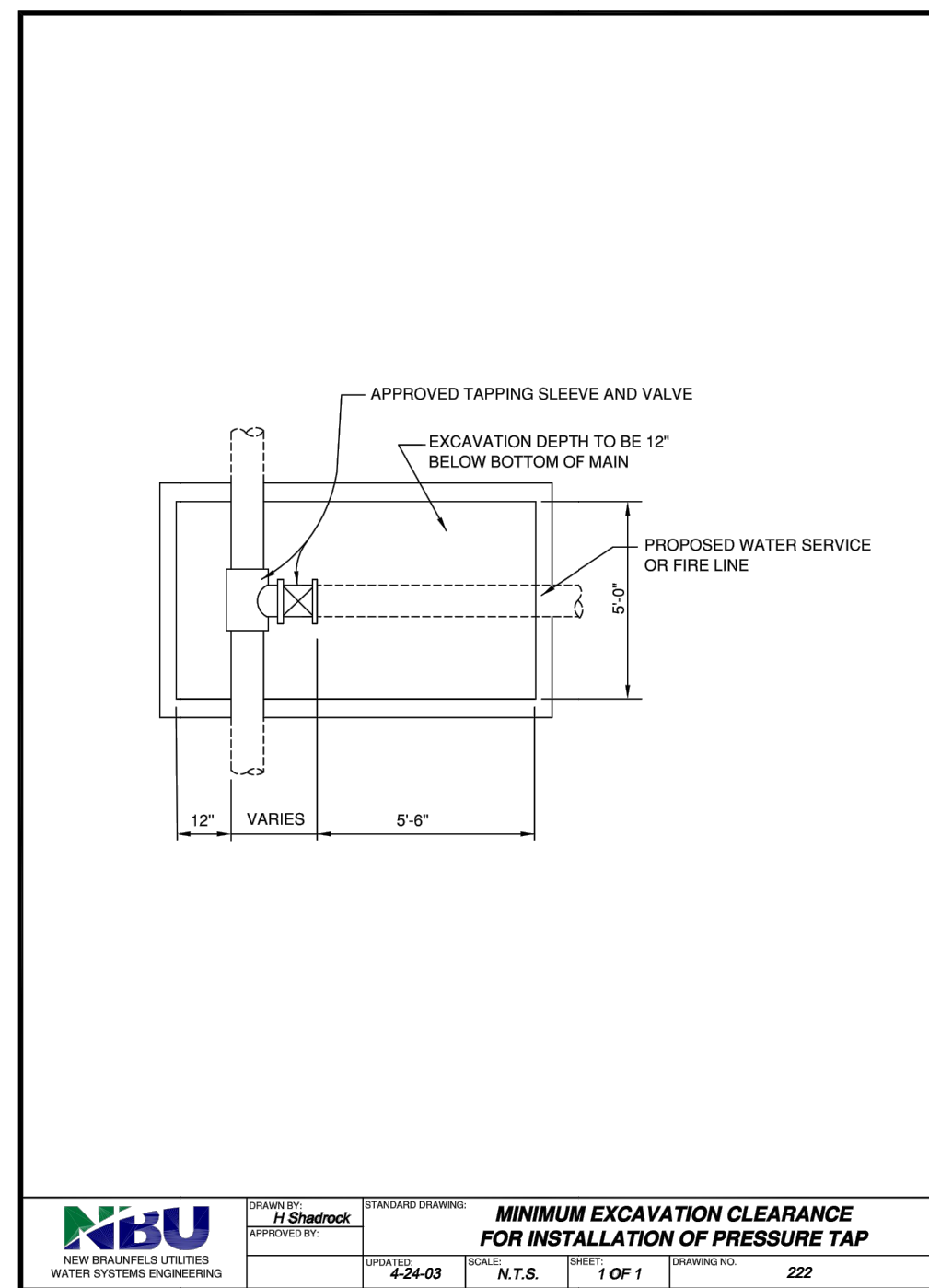
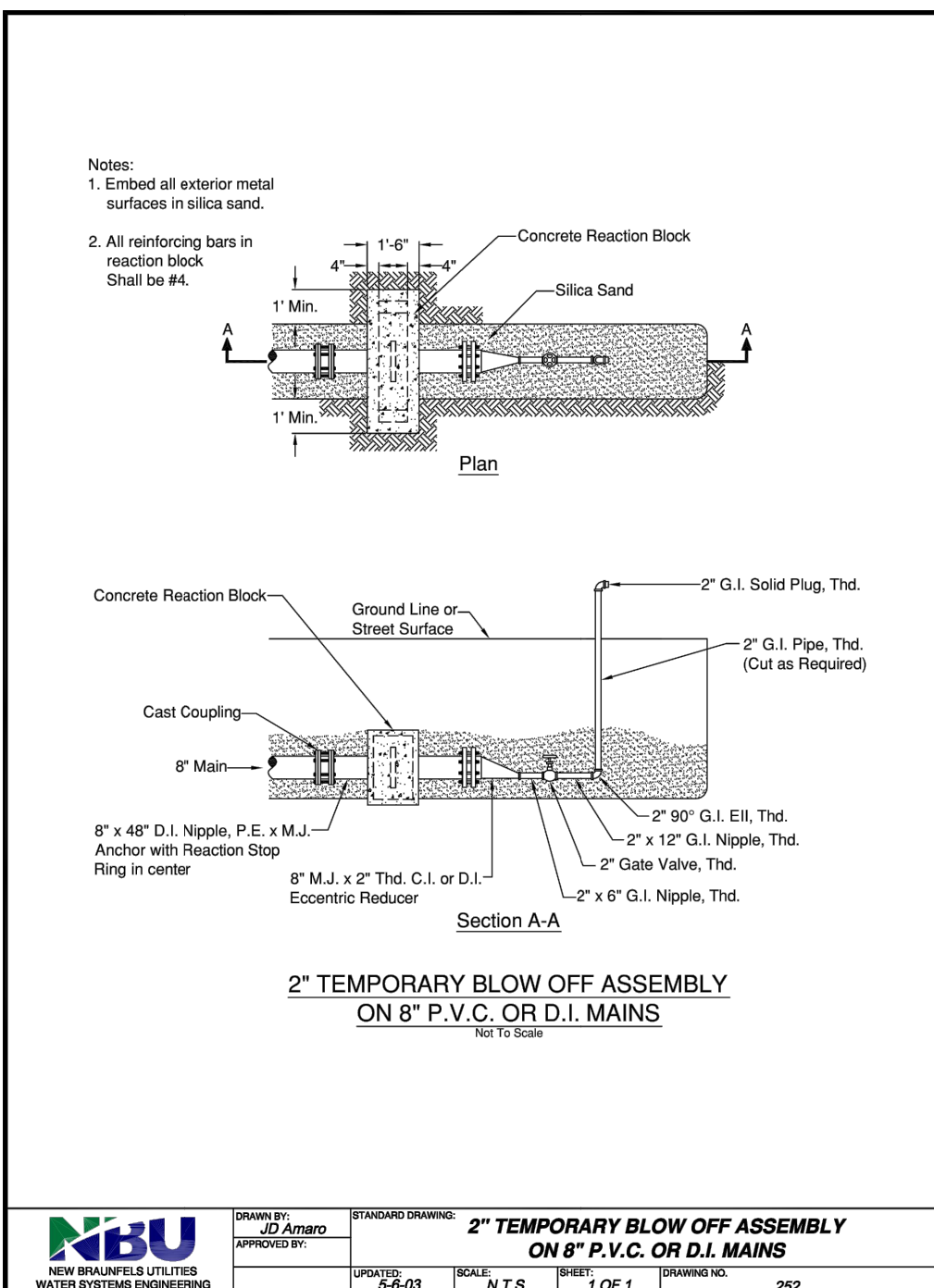
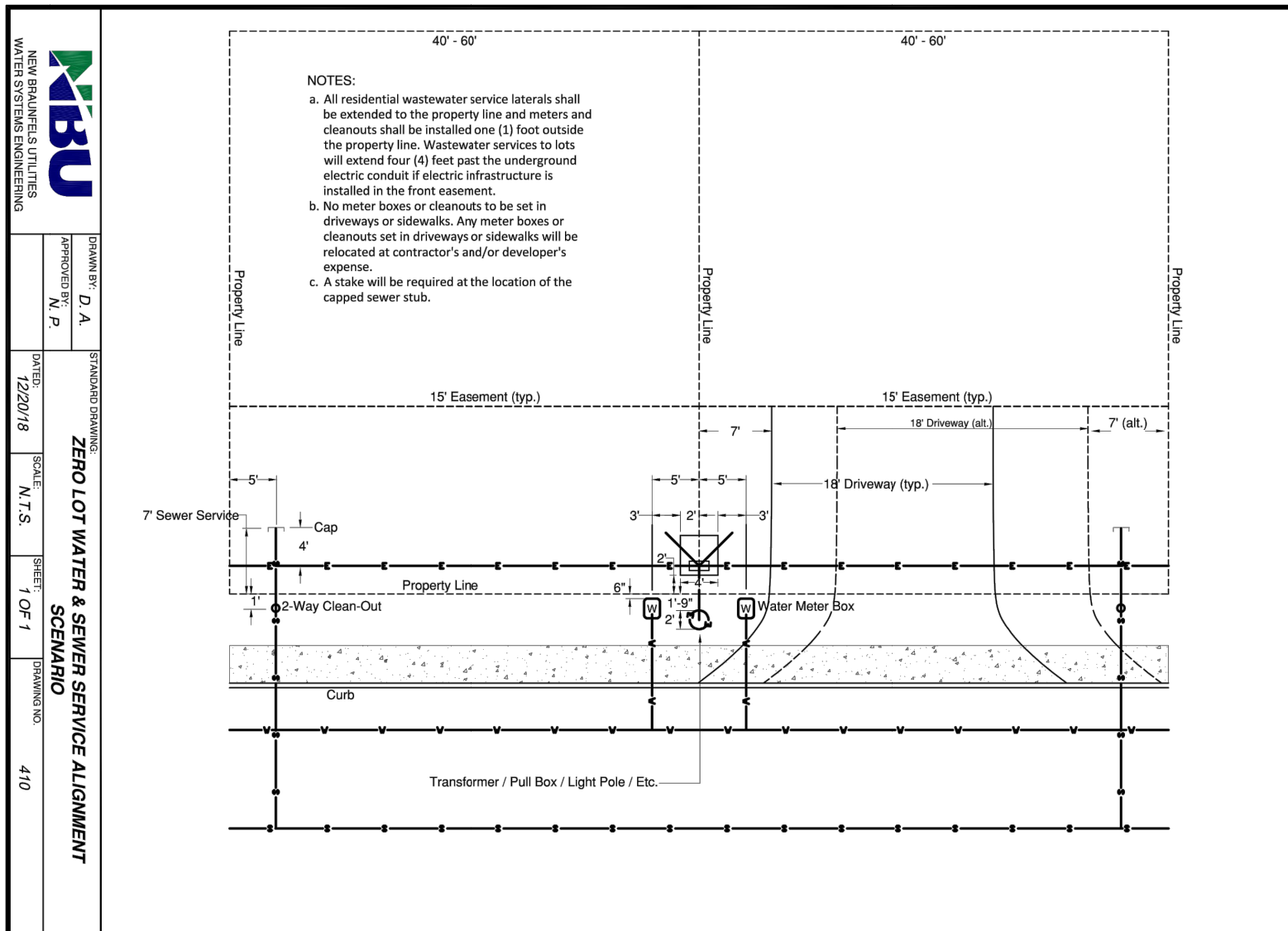
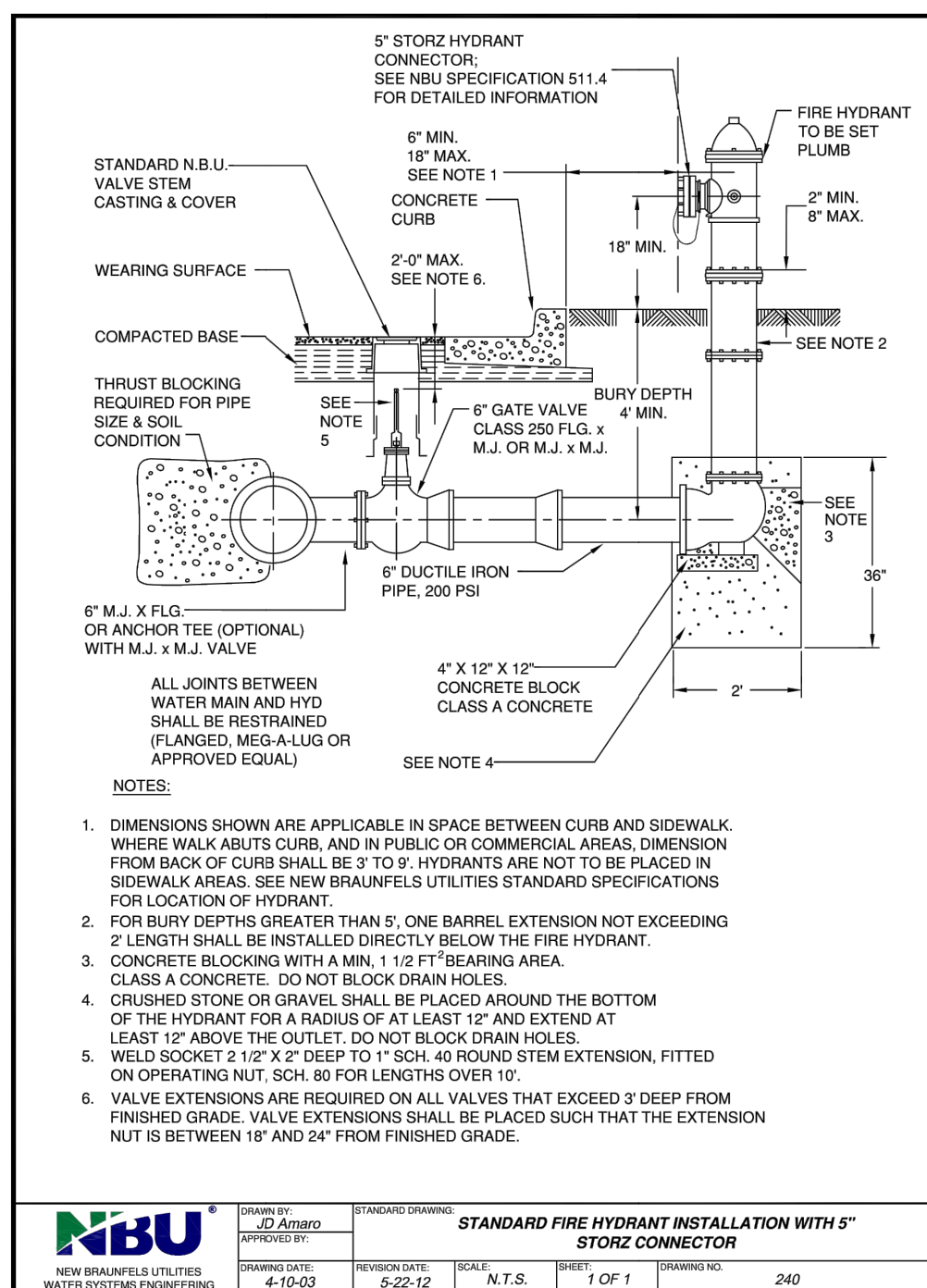
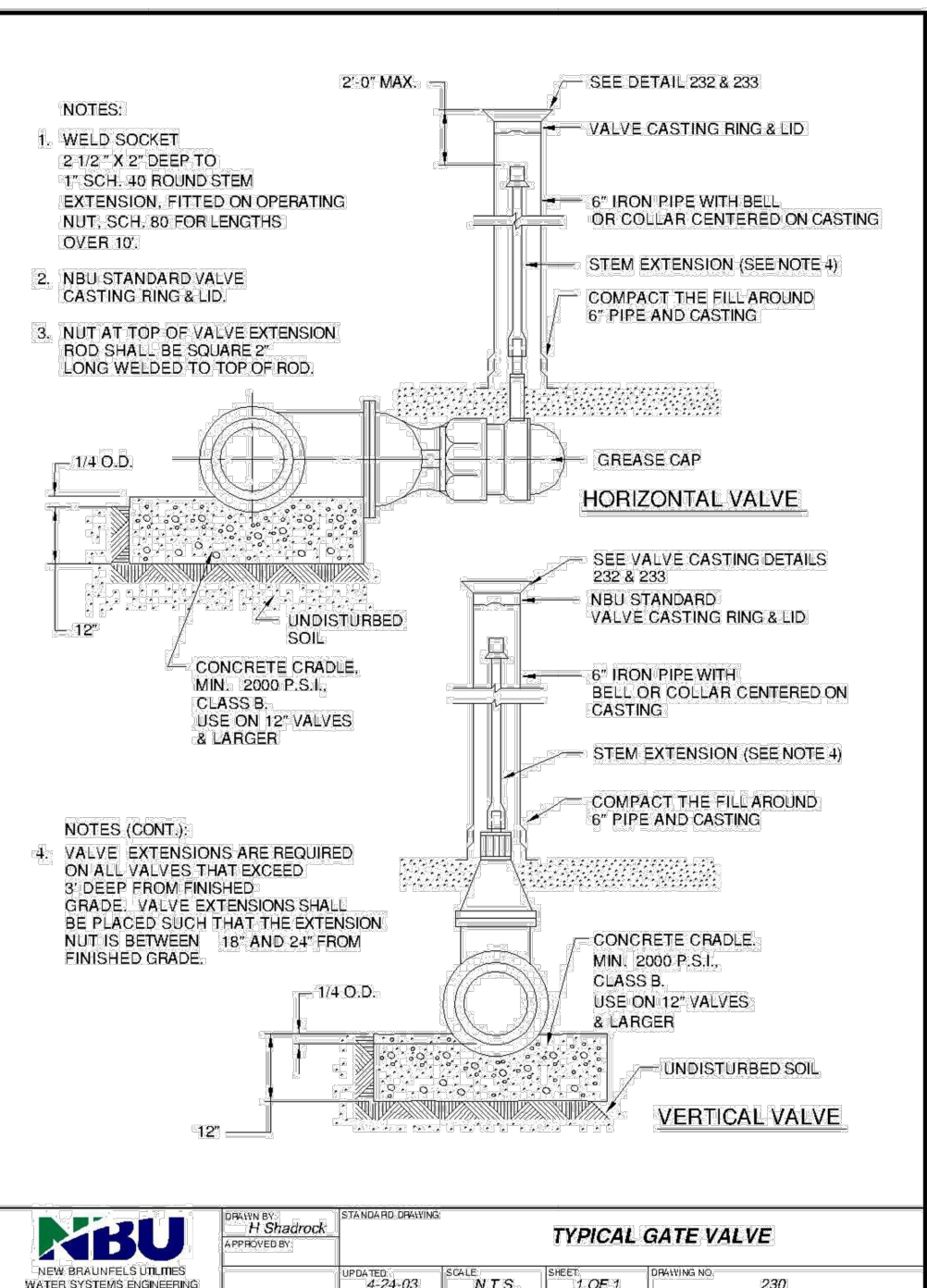
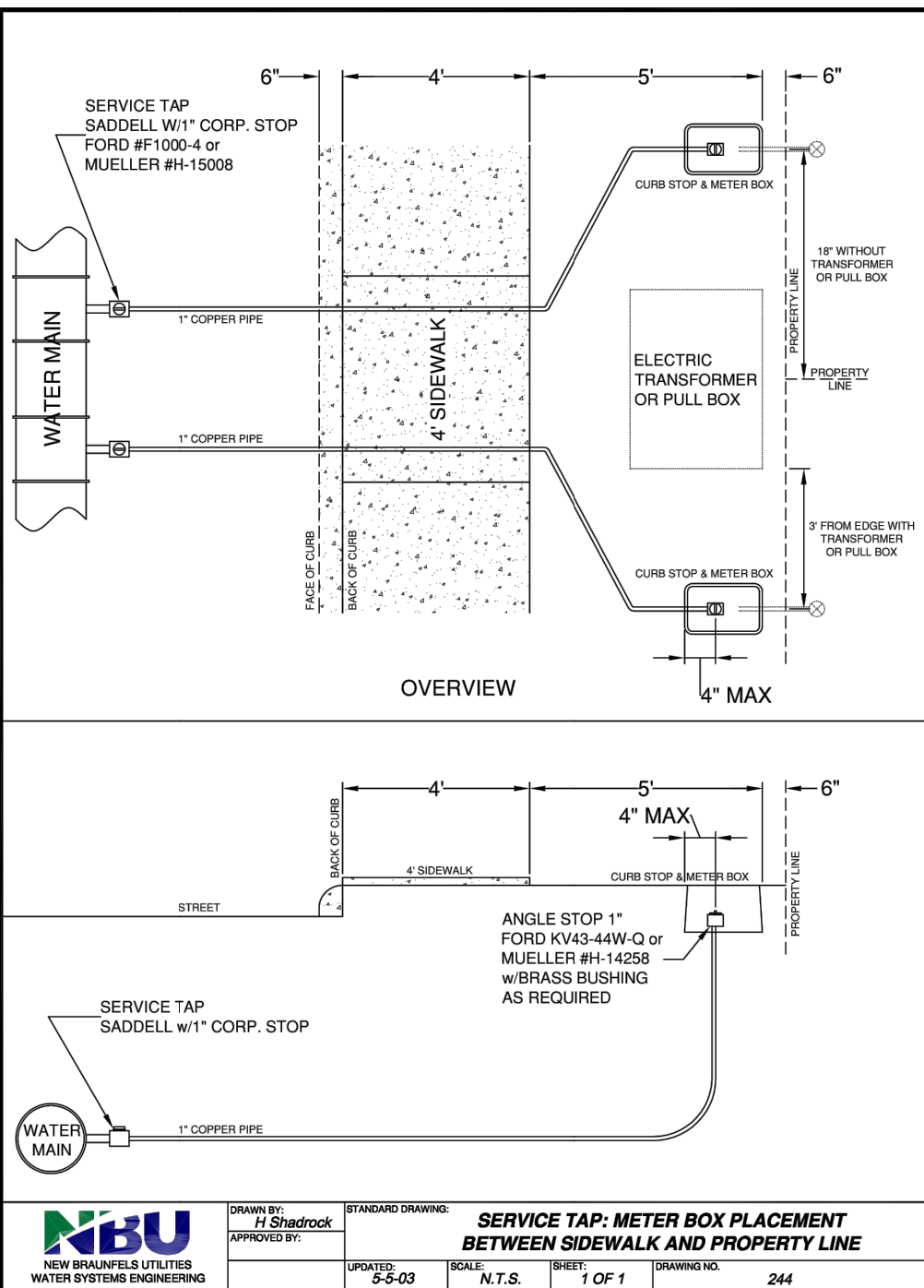
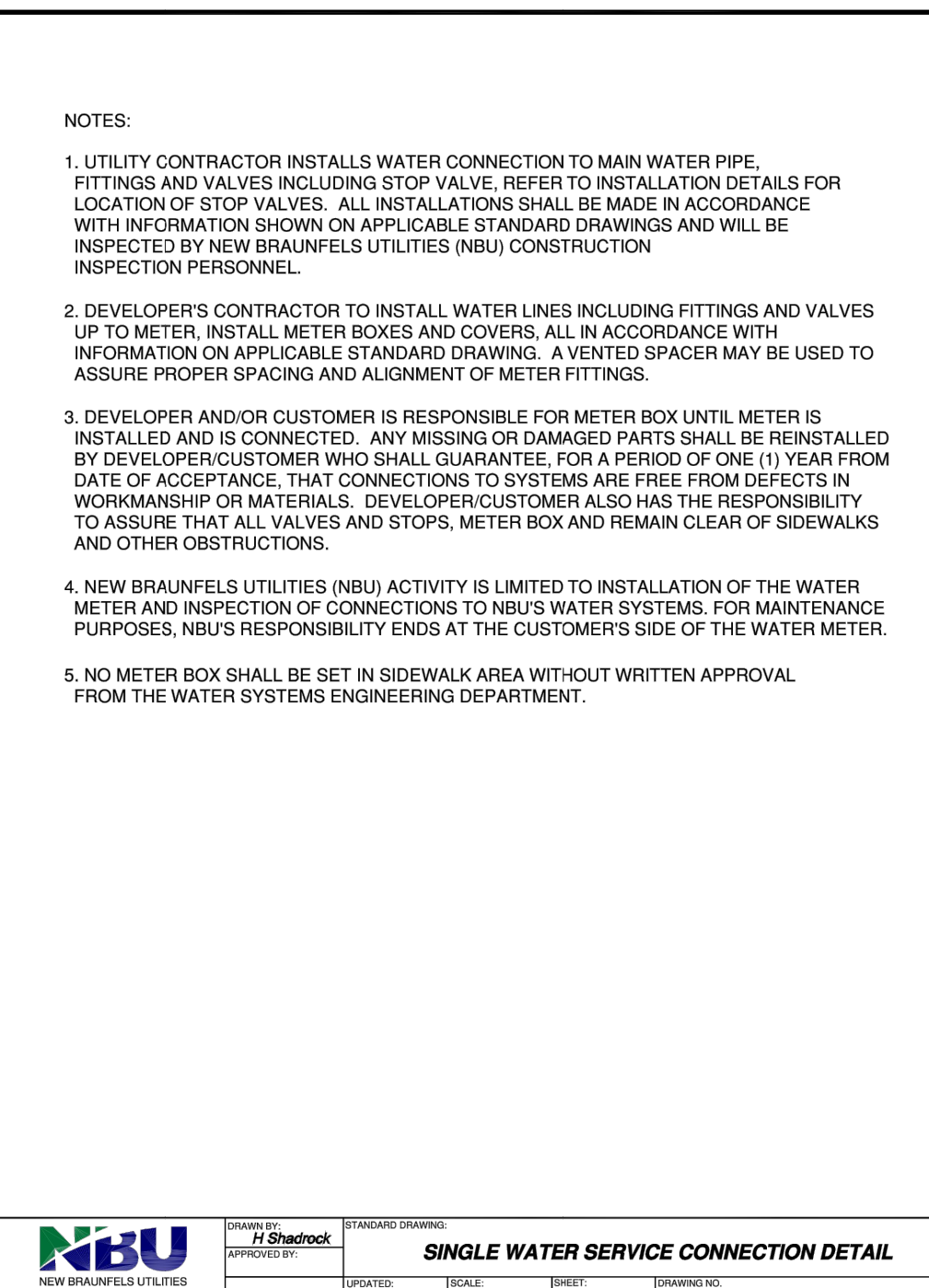
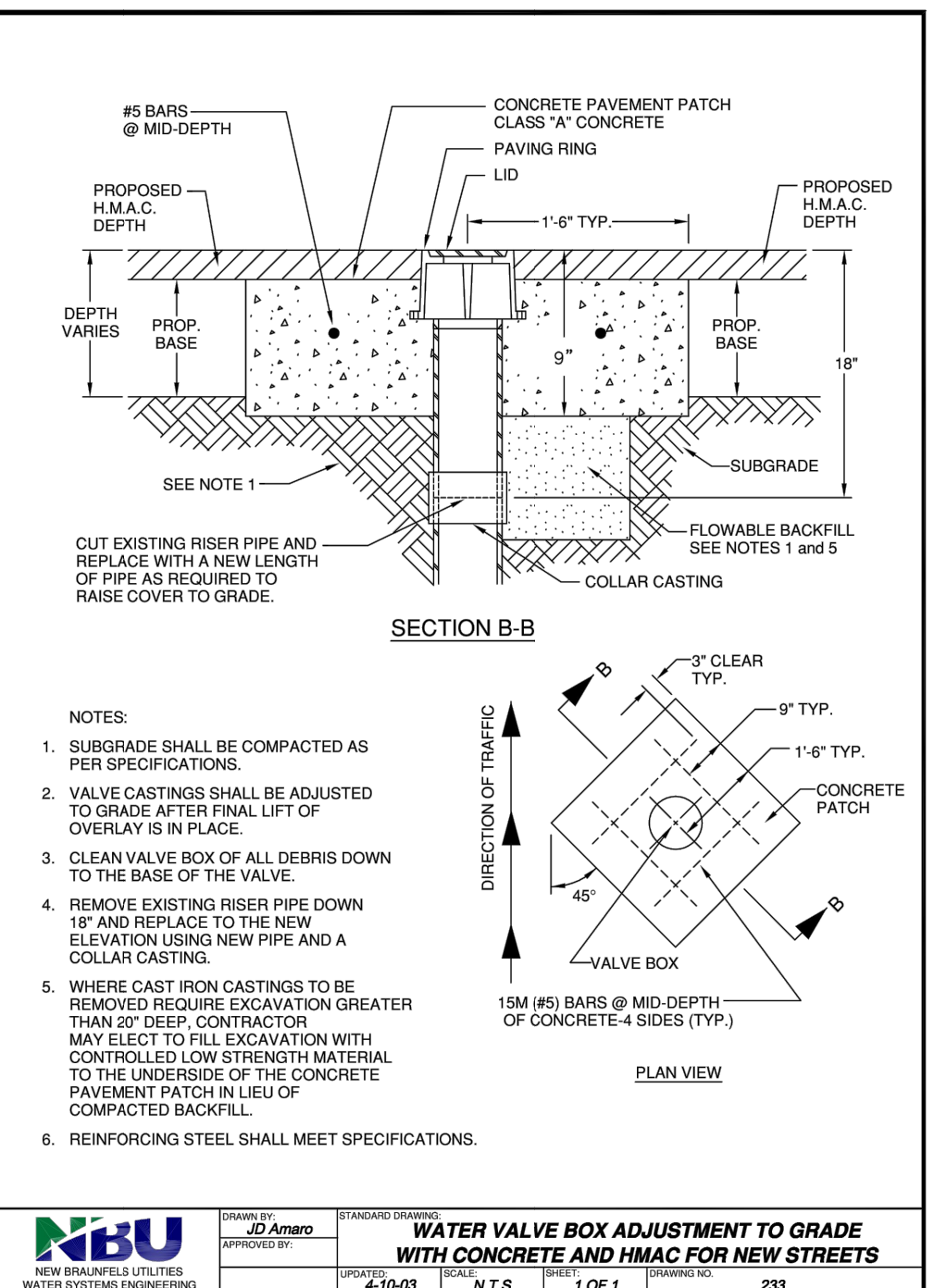
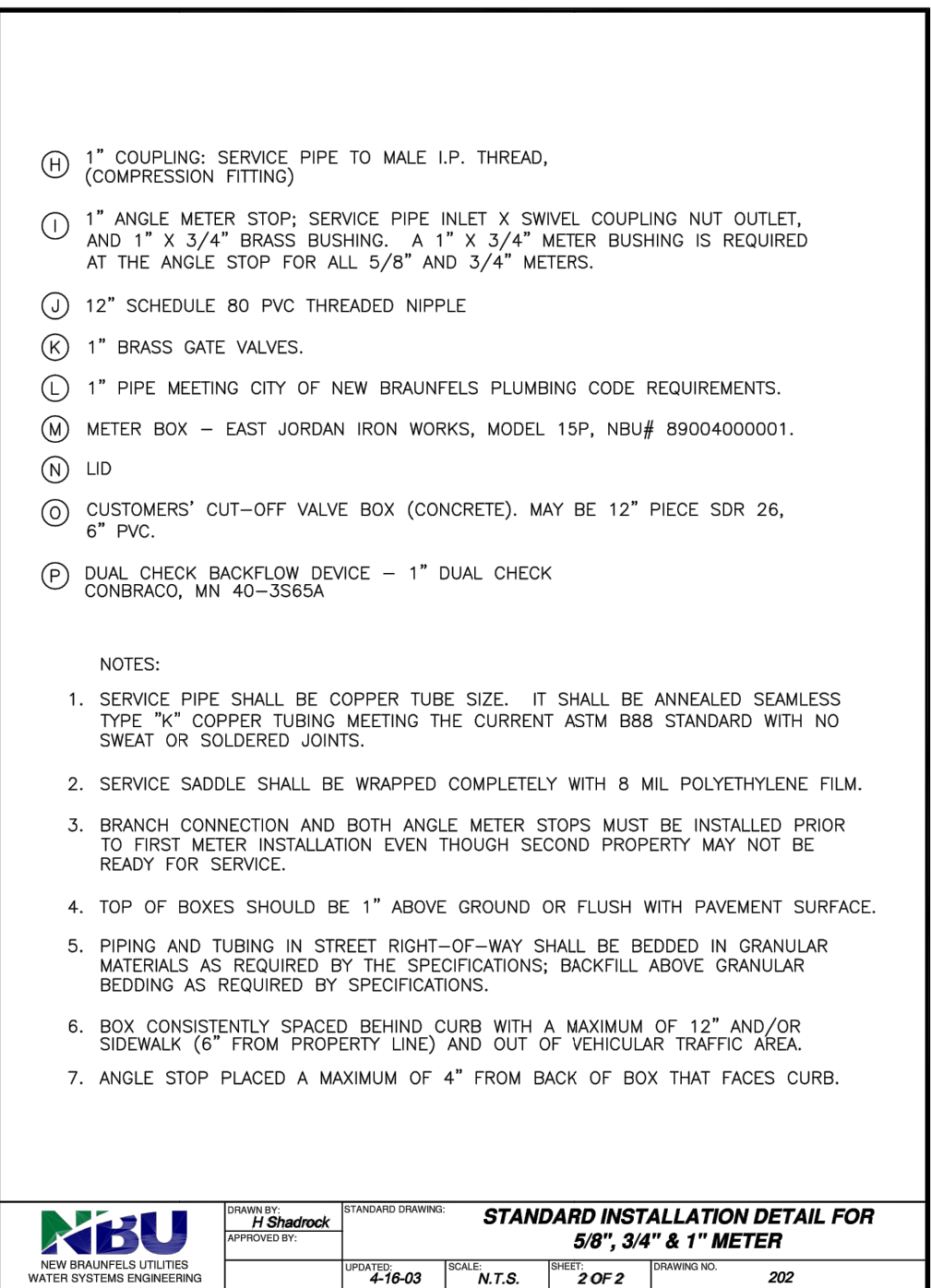
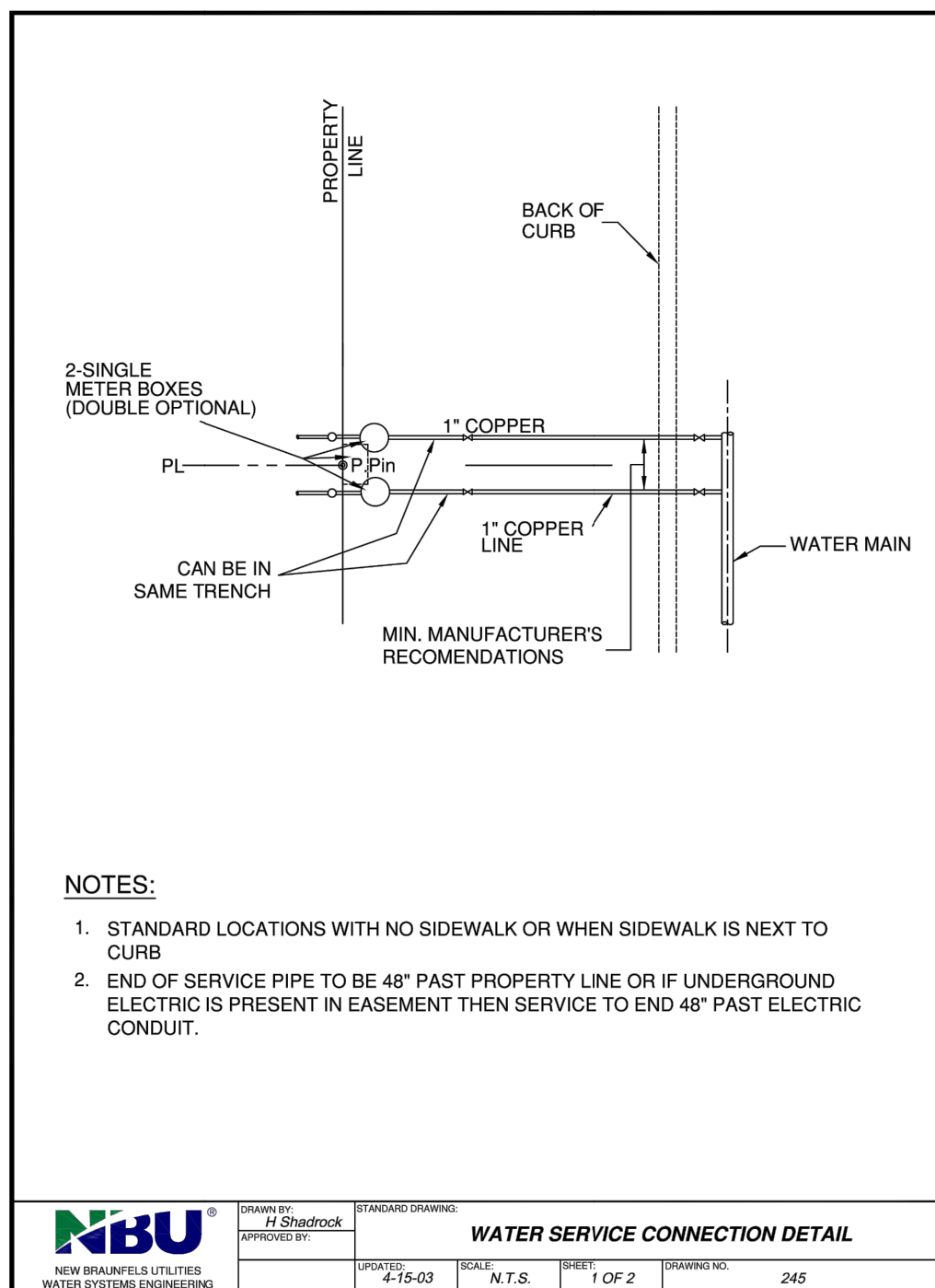
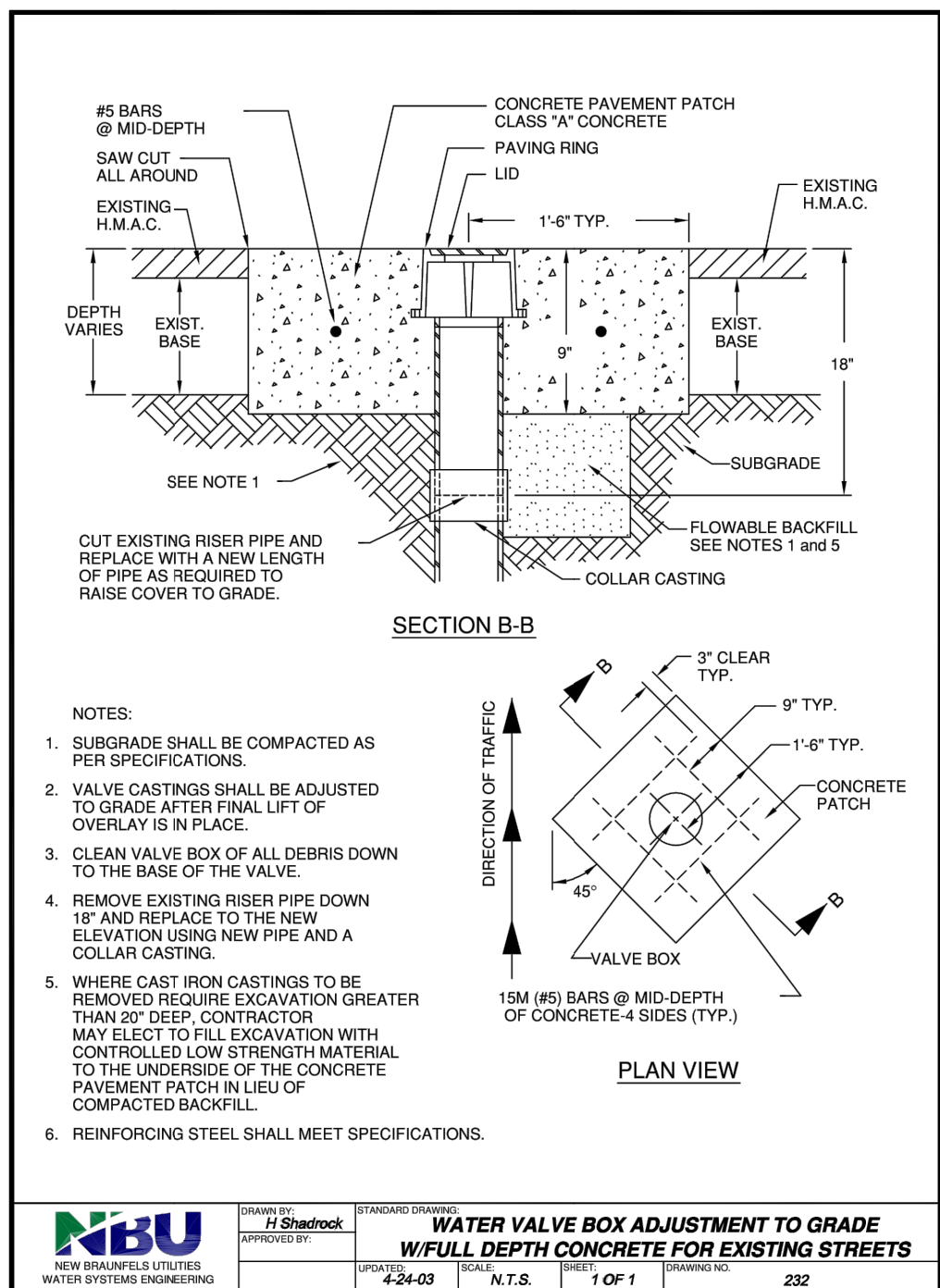
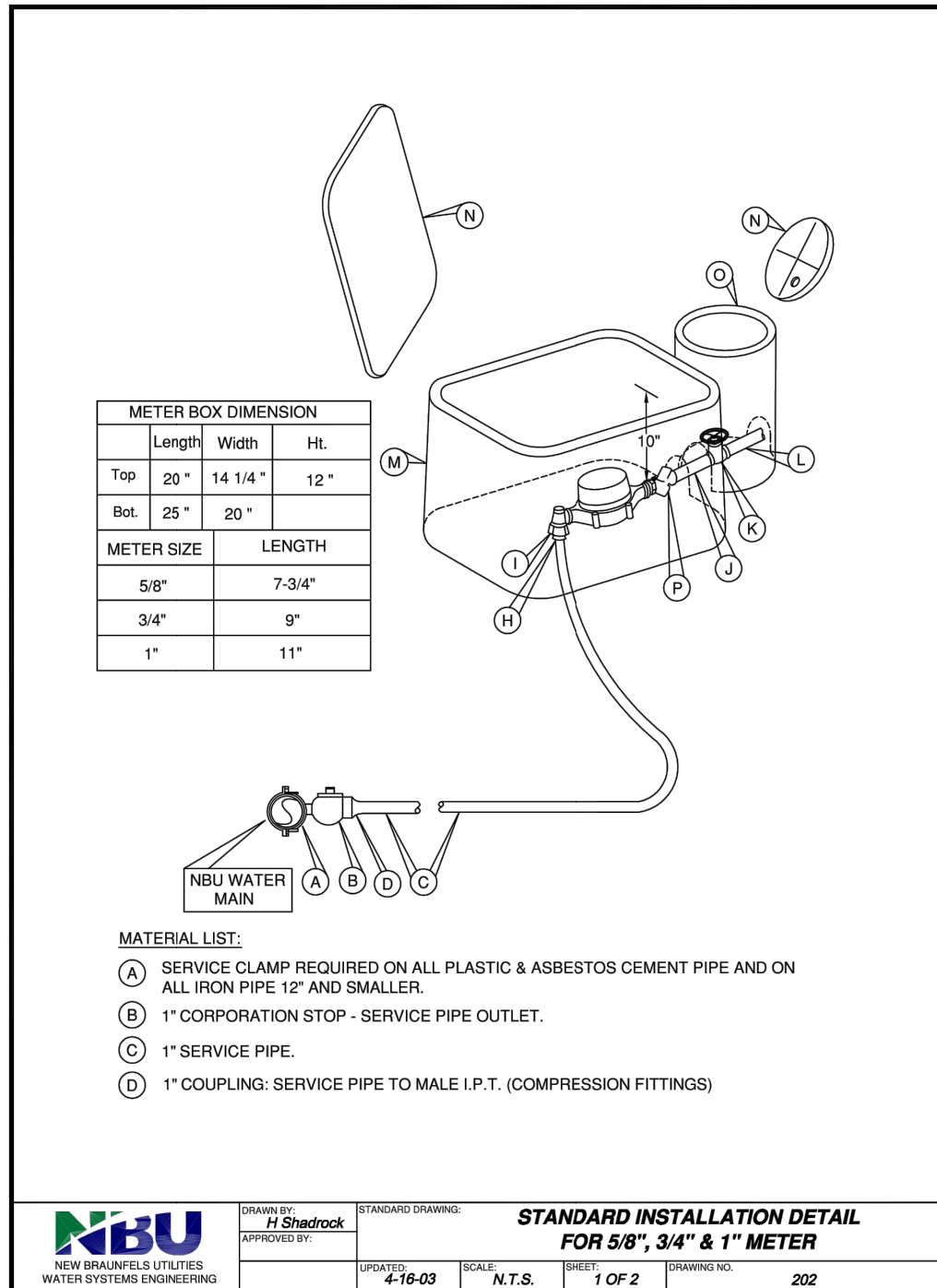
REGISTERED PROFESSIONAL ENGINEER

08/01/2019

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- UTILITY NOTES:
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
 - NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.

RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*
HMT ENGINEERING AND SURVEYING

WATER DETAILS

HEATHERFIELD SUBDIVISION UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/18/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
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5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

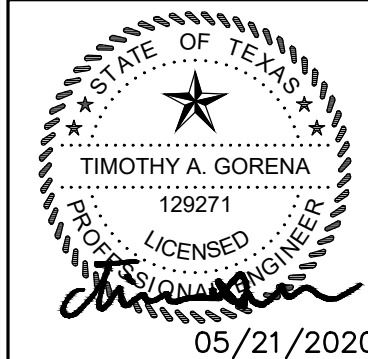
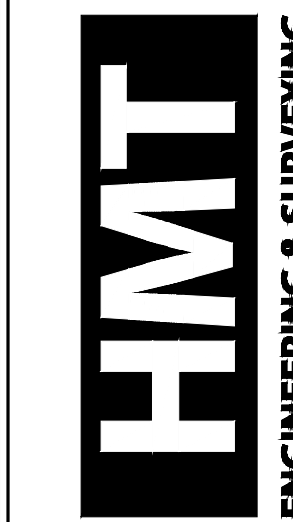
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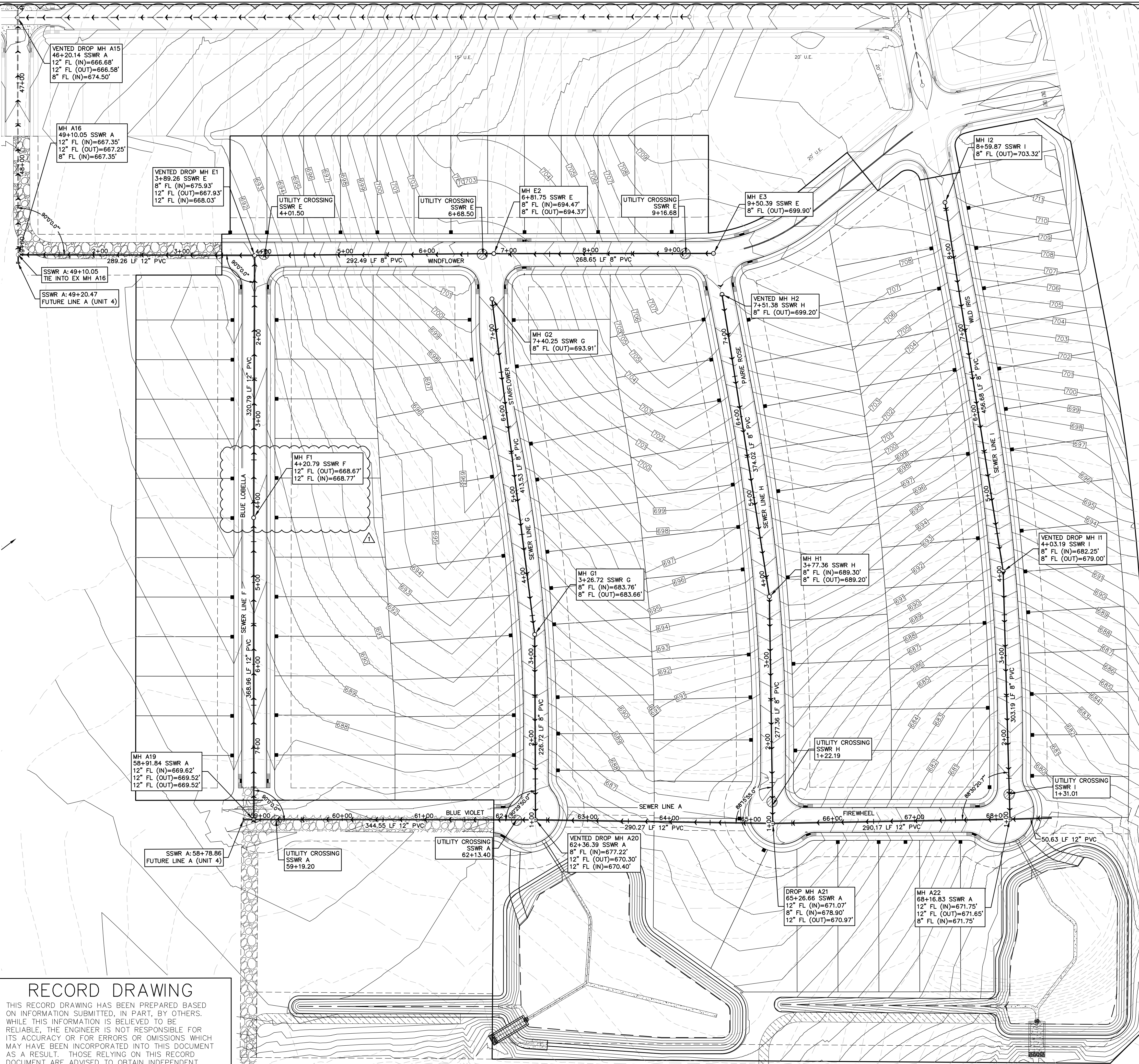


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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING



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 GEOTECHNICAL 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.

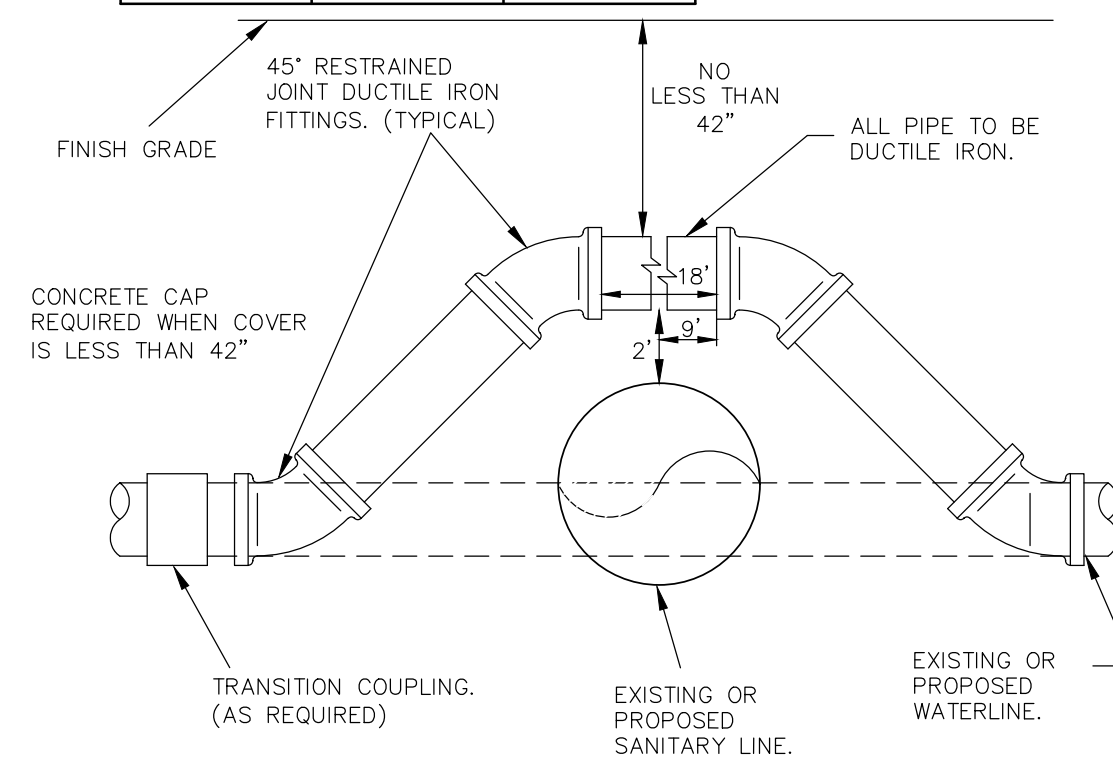
DEEP TRENCH COMPACTION TESTING

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. 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.

CONSTRUCTION NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
2. NO VALVES, HYDRANTS, CLEAN-OUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. EXISTING MANHOLES, RIM AND FLOWLINE ELEVATIONS SURVEYED BY HMT ENGINEERING & SURVEYING DATED NOVEMBER 11, 2017.
7. CONTRACTOR TO FIELD-VERIFY THE EXISTING SANITARY SEWER INVERT ELEVATIONS.

WASTEWATER STRUCTURE TOTALS		
	QUANTITY	UNITS
8" PIPE	2570'	LF
12" PIPE	2083'	LF
48" MANHOLE	15	EA
6" LATERALS	131	EA



A WATERLINE ADJUSTMENT DETAIL
N.T.S.

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 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 FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS 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 EXCAVATIONS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

OVERALL WASTEWATER

PLAN

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
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DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

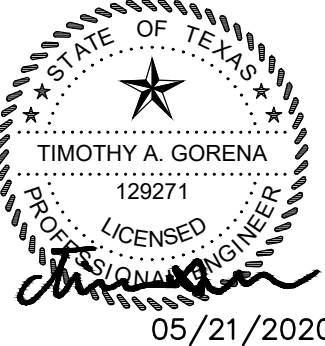
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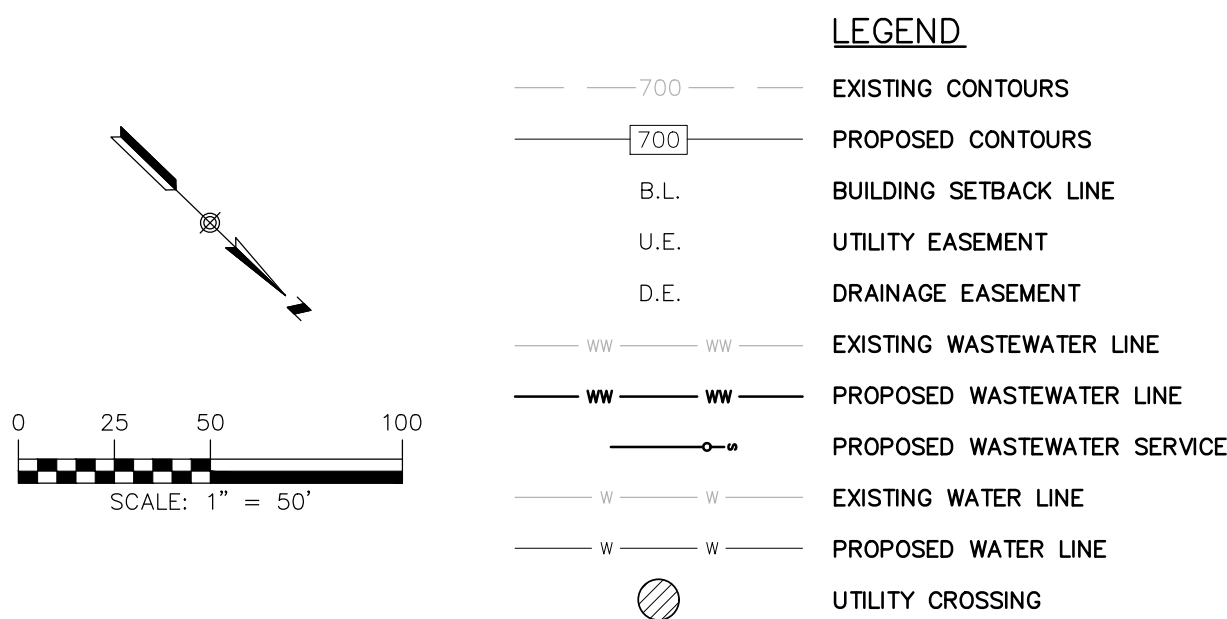
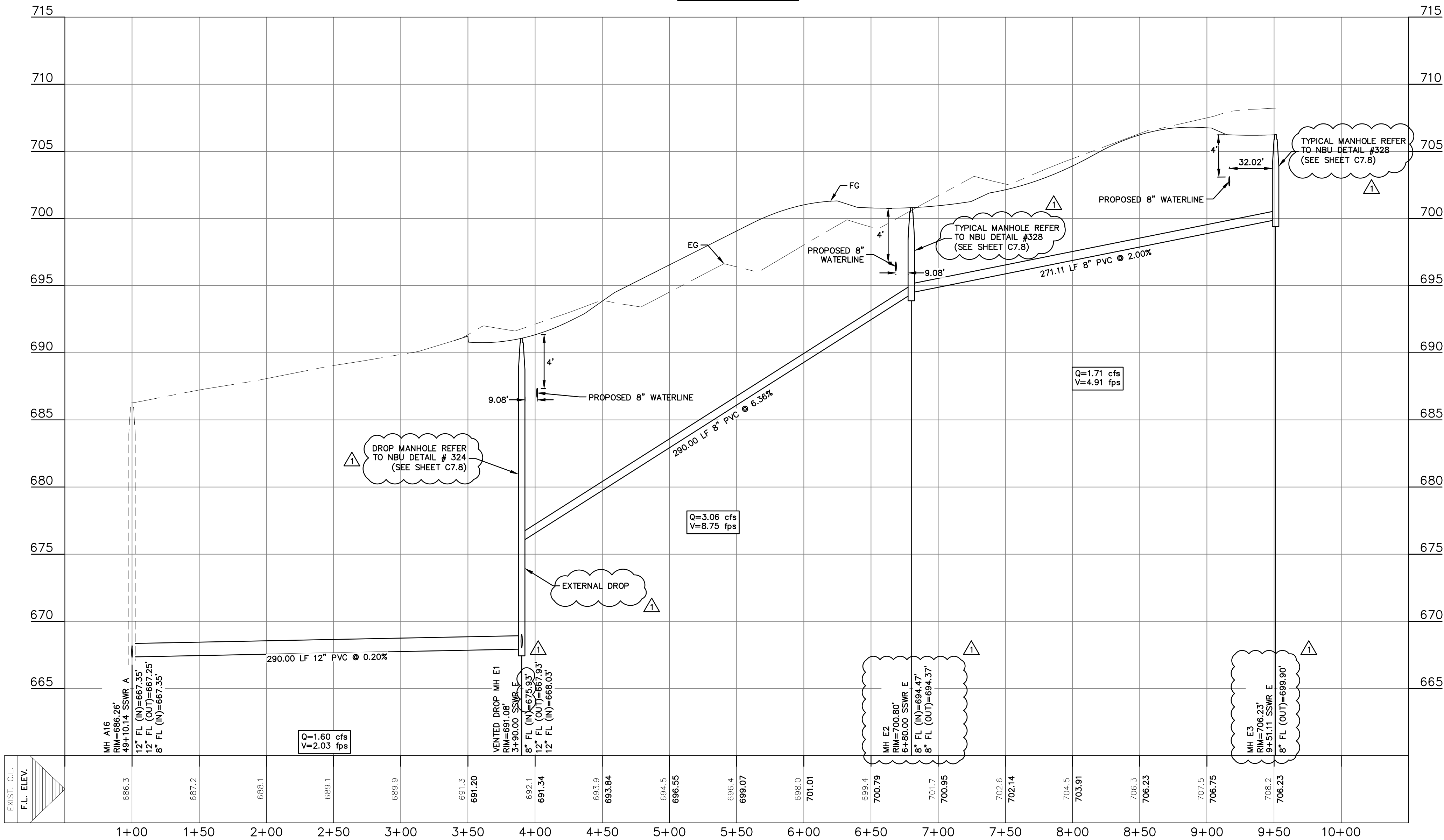
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UTILITY TRENCH COMPACTION

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DEEP TRENCH COMPACTION TESTING

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DATE: 05/21/2020 BY: *Timothy A. Goren*
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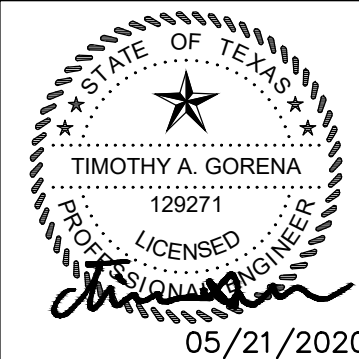
TRENCH EXCAVATION SAFETY PROTECTION

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WASTEWATER LINE E
PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
2	FIRE ACCESS REV	03/29/2019
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4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

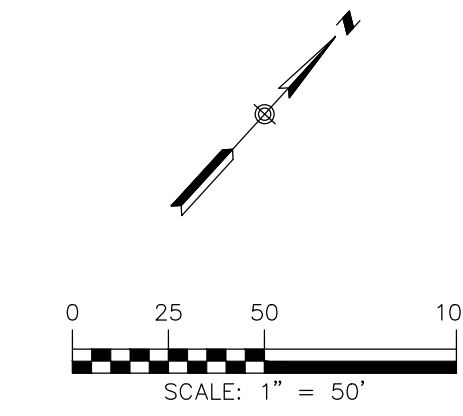
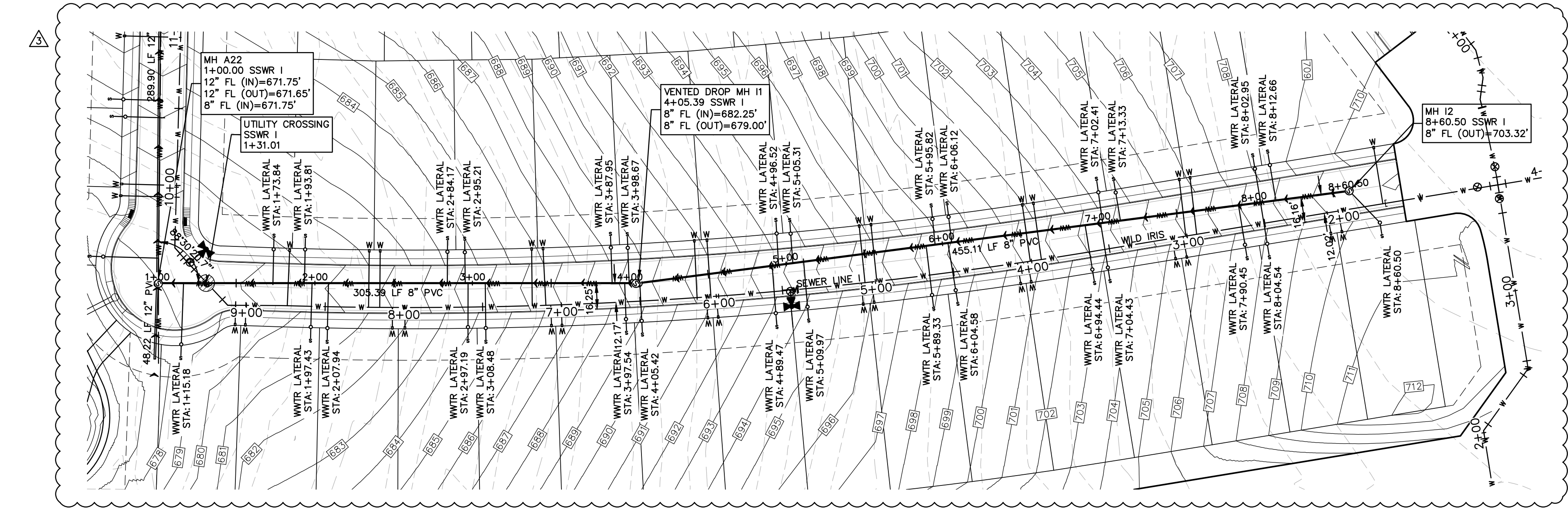
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

SHEET
C7.1



LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	B.L. BUILDING SETBACK LINE
	UTILITY EASEMENT
	DRAINAGE EASEMENT
	EXISTING WASTEWATER LINE
	PROPOSED WASTEWATER LINE
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HMT ENGINEERING AND SURVEYING

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WASTEWATER LINE I PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

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DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

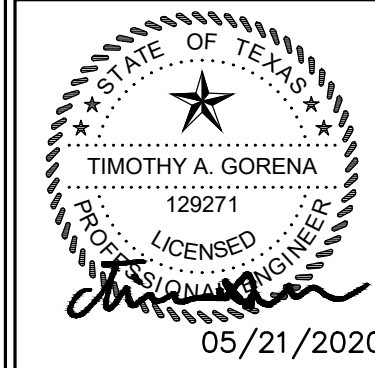
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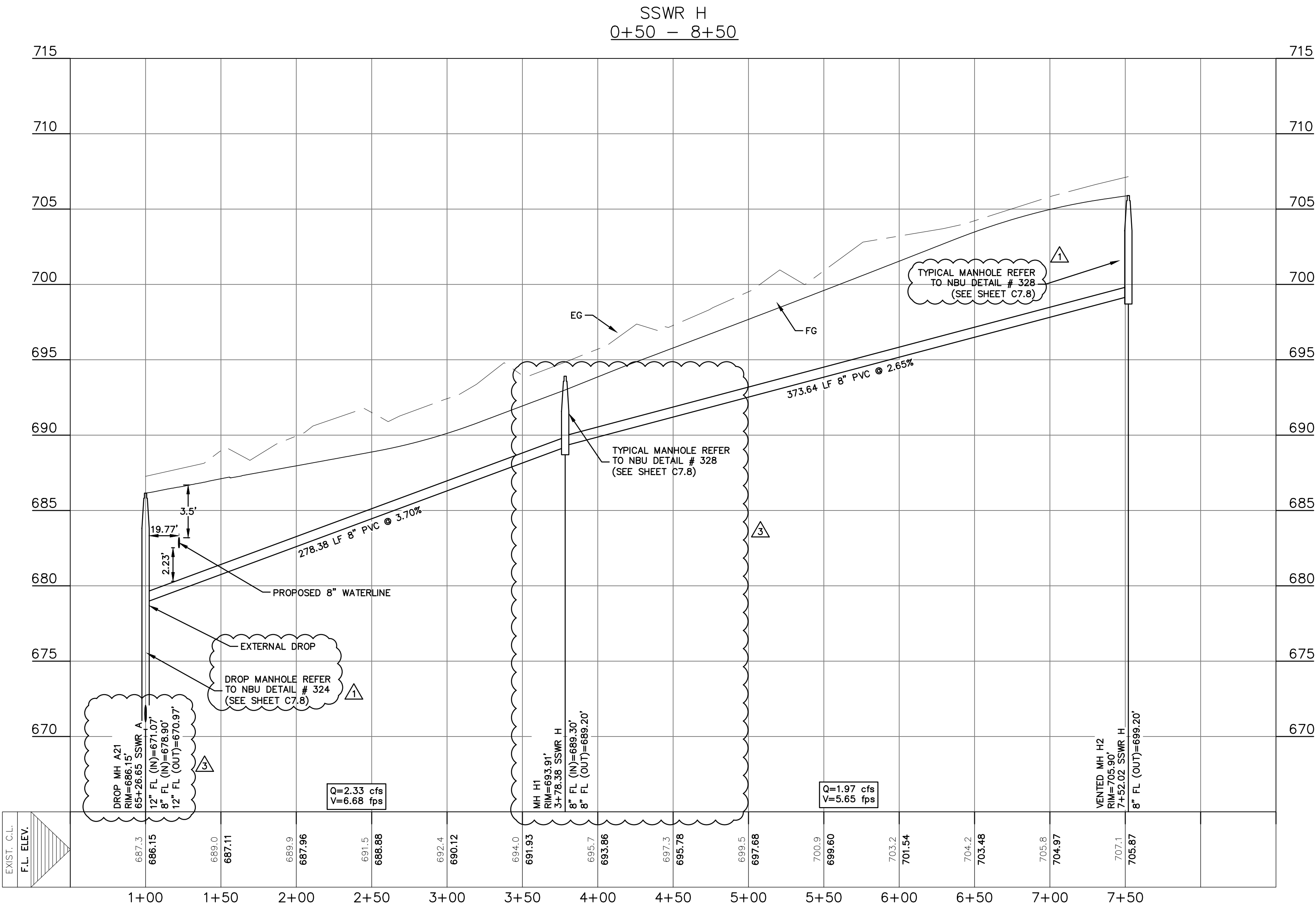
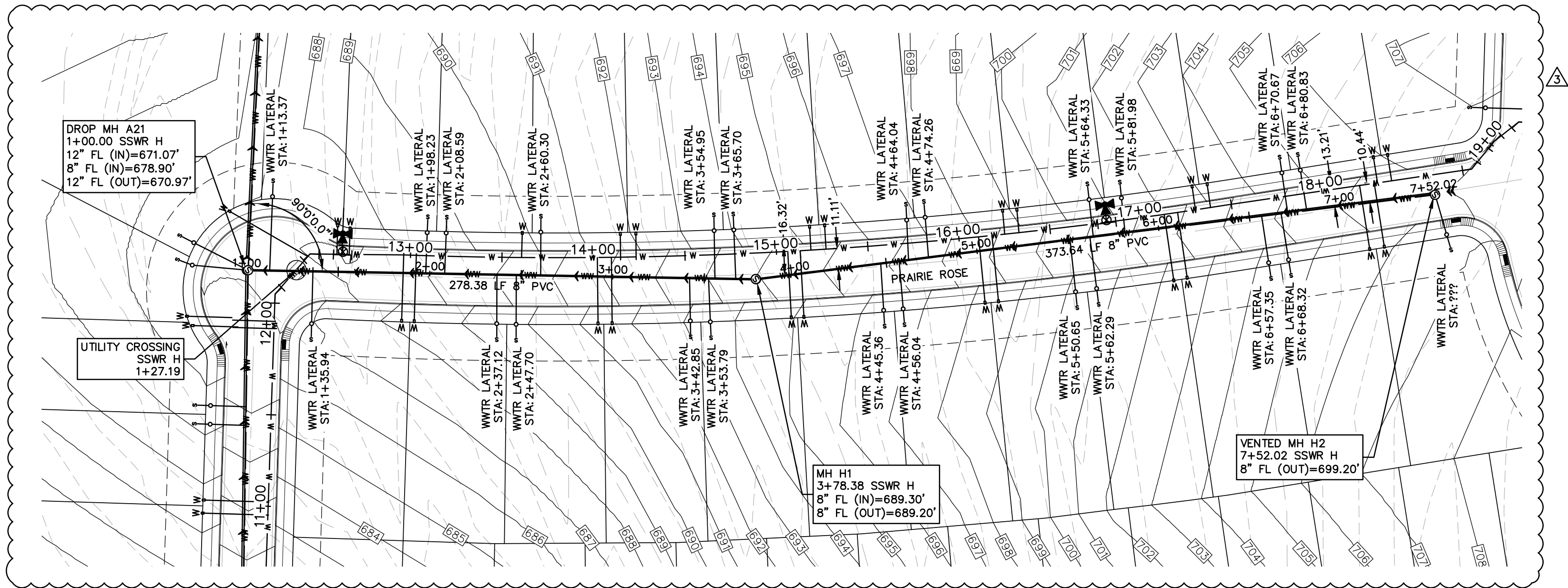
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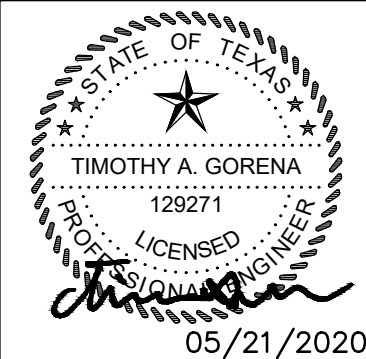
HMT ENGINEERING AND SURVEYING

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WASTEWATER LINE H
PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

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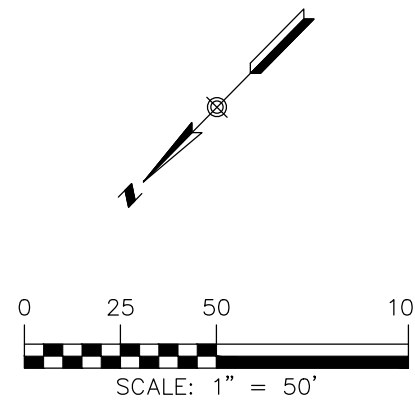
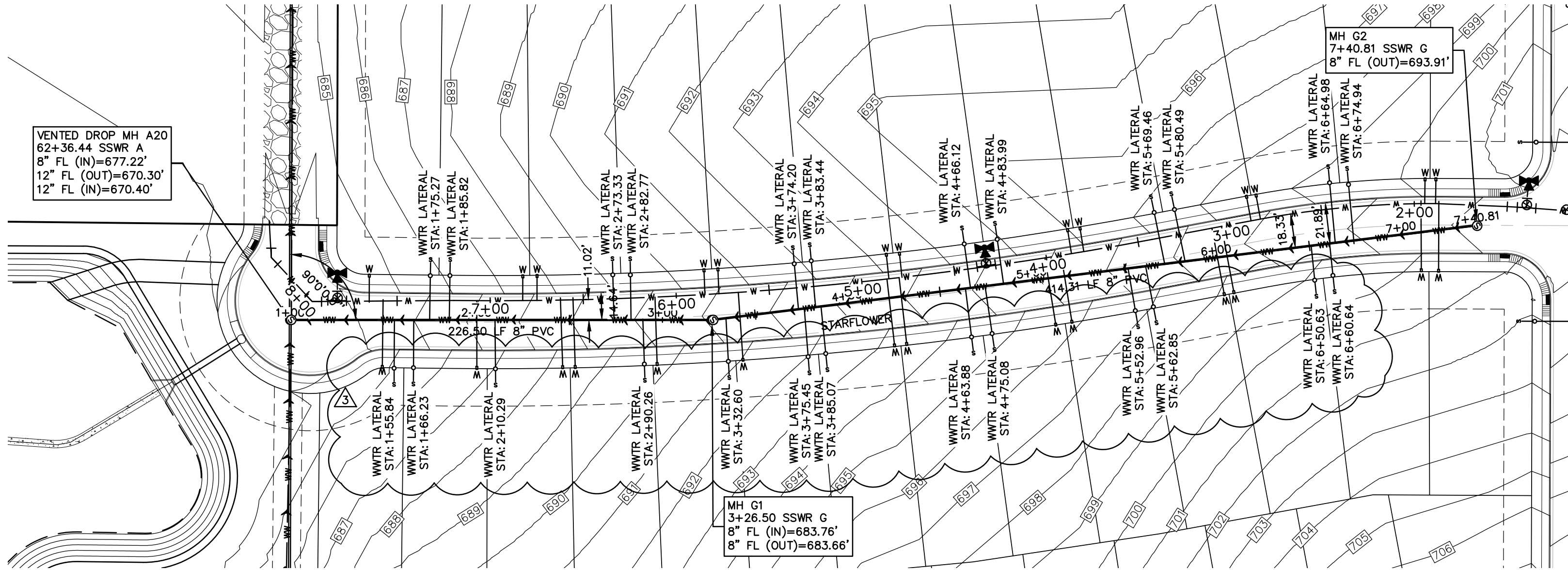
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.:
305.01

SHEET
C7.3



LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	B.L. BUILDING SETBACK LINE
	U.E. UTILITY EASEMENT
	D.E. DRAINAGE EASEMENT
	EXISTING WASTEWATER LINE
	PROPOSED WASTEWATER LINE
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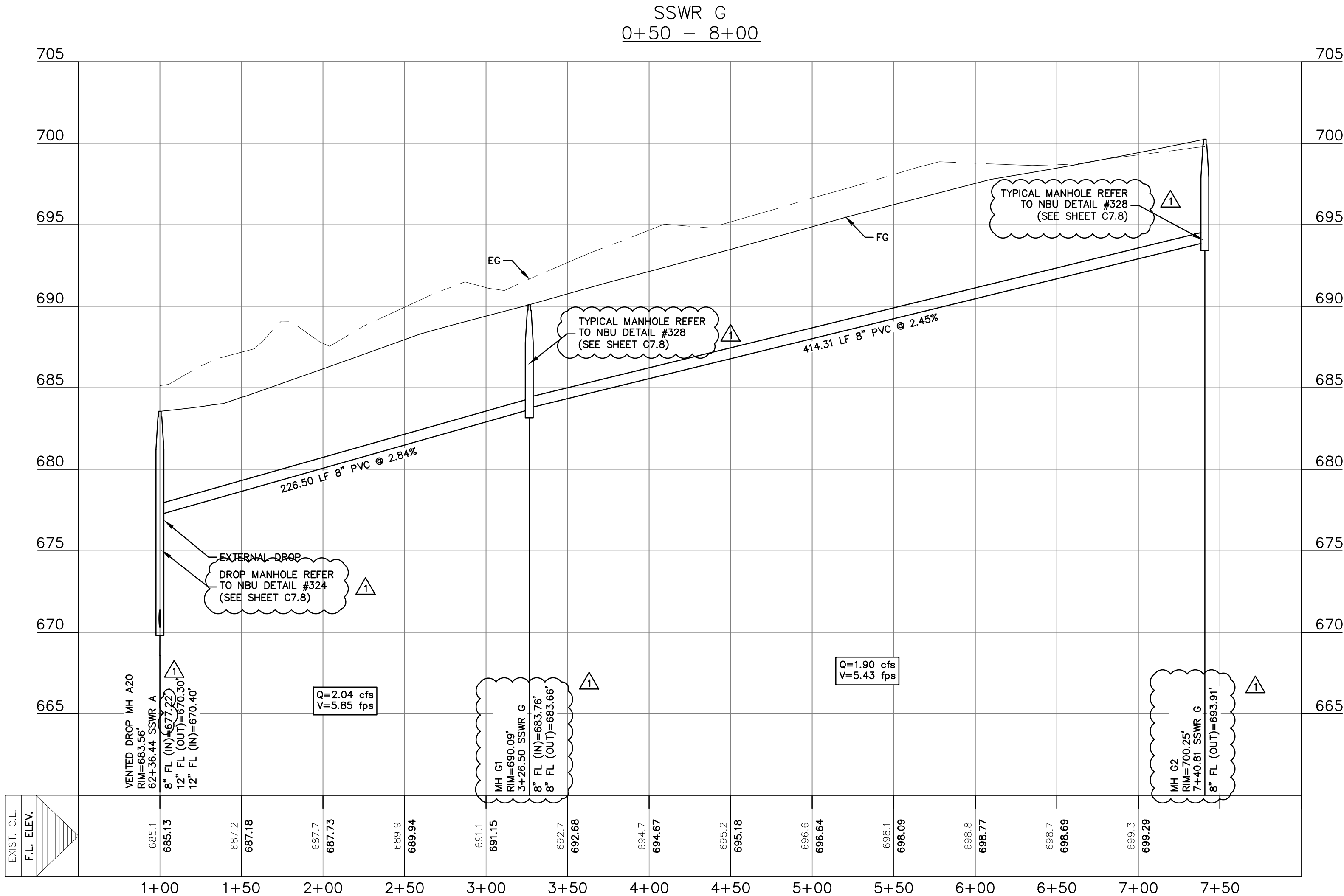
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HMT ENGINEERING AND SURVEYING

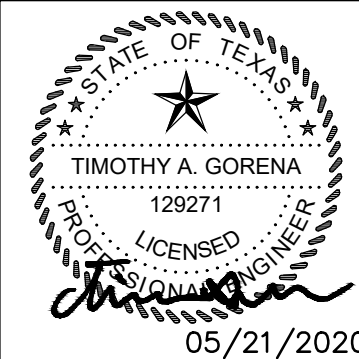
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WASTEWATER LINE G PLAN & PROFILE

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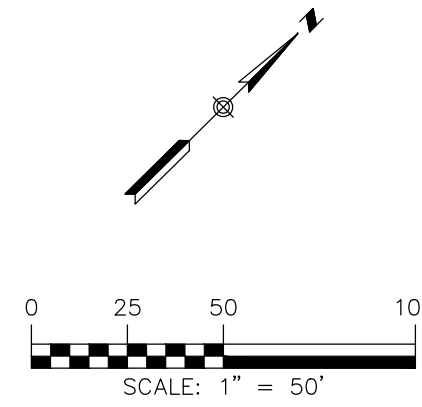
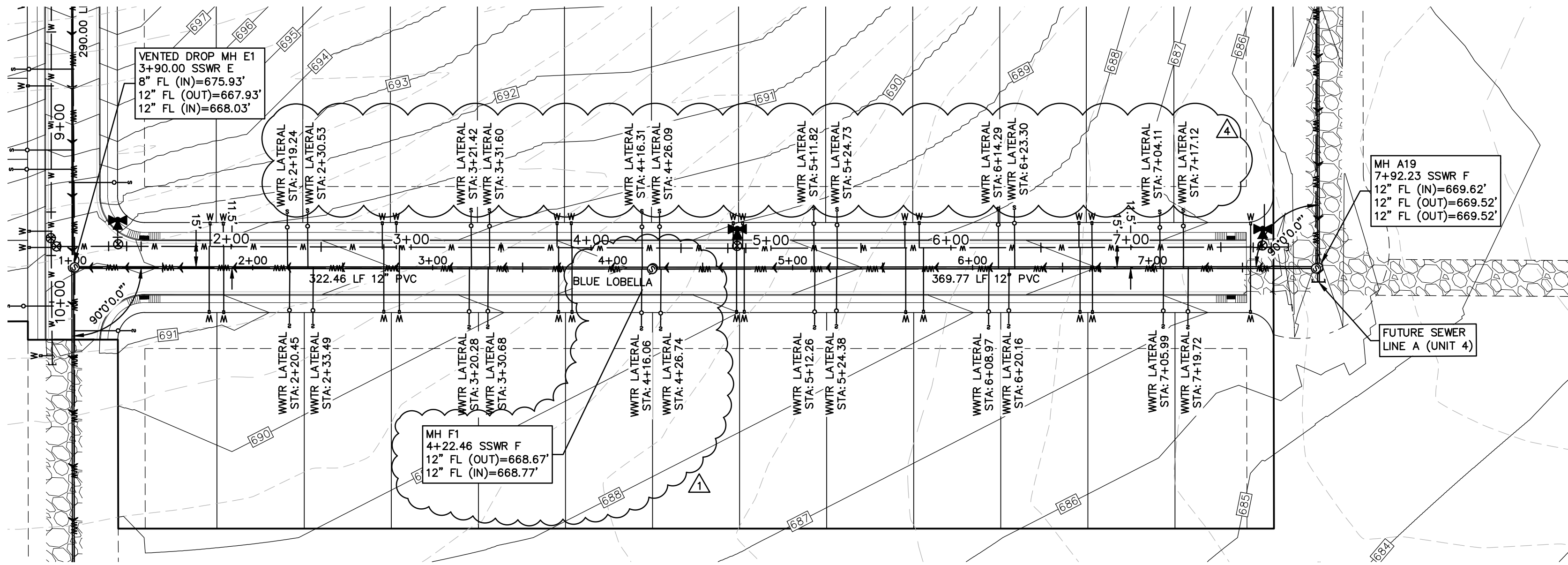
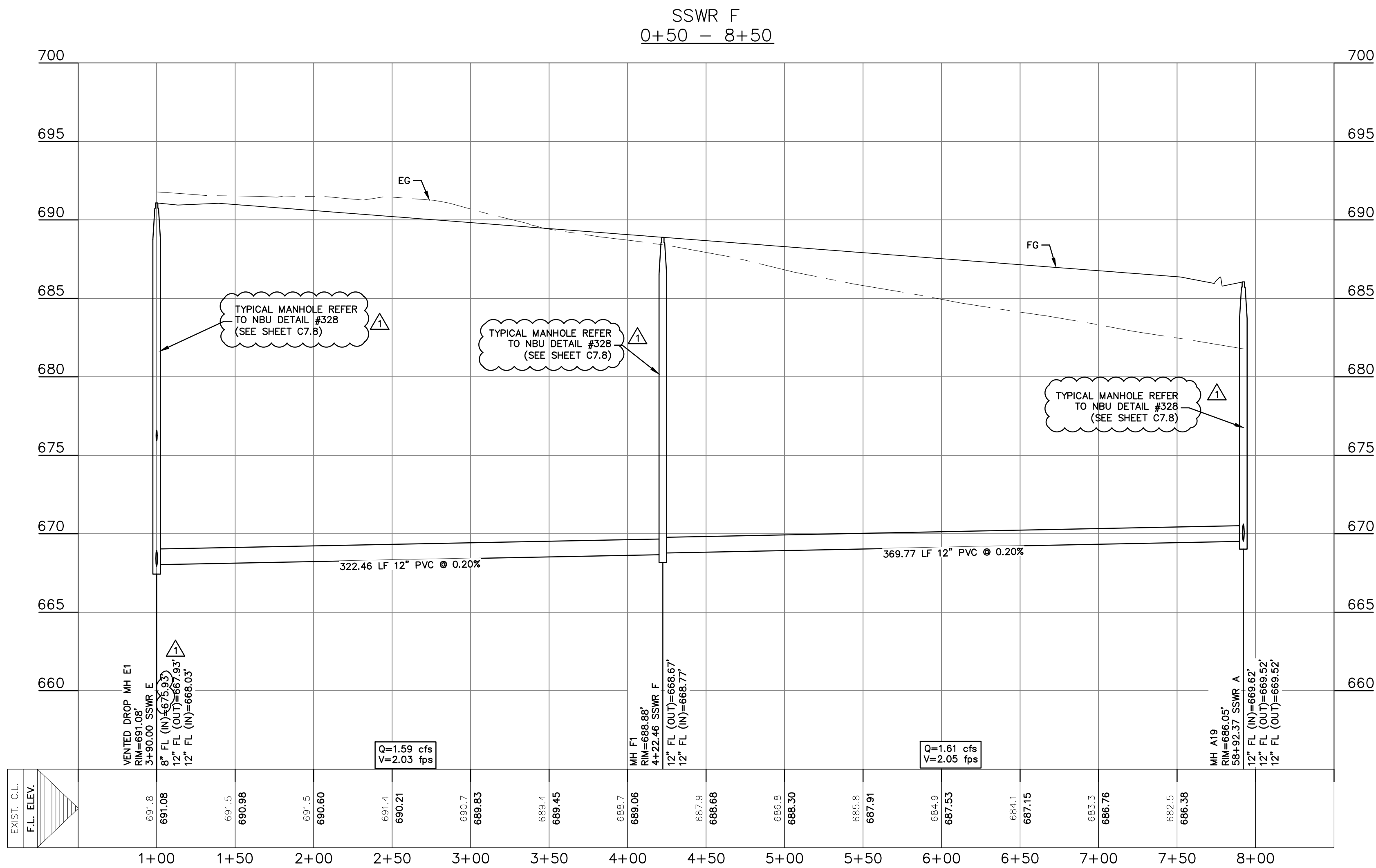
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.: 305.01

SHEET
C7.4



LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	BUILDING SETBACK LINE
	UTILITY EASEMENT
	DRAINAGE EASEMENT
	EXISTING WASTEWATER LINE
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2. NO VALVES, HYDRANTS, CLEAN-OUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. EXISTING MANHOLES, RIM AND FLOWLINE ELEVATIONS SURVEYED BY HMT ENGINEERING & SURVEYING DATED NOVEMBER 11, 2017.
7. CONTRACTOR TO FIELD-VERIFY THE EXISTING SANITARY SEWER INVERT ELEVATIONS.

RECORD DRAWING

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DATE: 05/21/2020 BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

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 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 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 EXCAVATIONS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

WASTEWATER LINE F PLAN & PROFILE

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
2	FIRE ACCESS REV	03/29/2019
3	PROFILE, UTILITIES AND LOT LAYOUT REV	05/29/2019
4	POND REVISION	06/18/2019
5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

DRAWN BY: HM

DESIGNED BY: TG

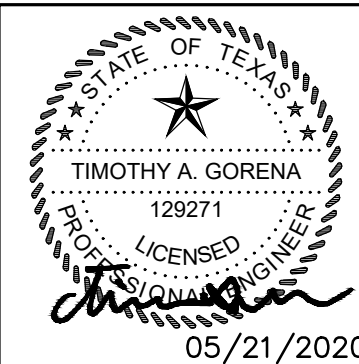
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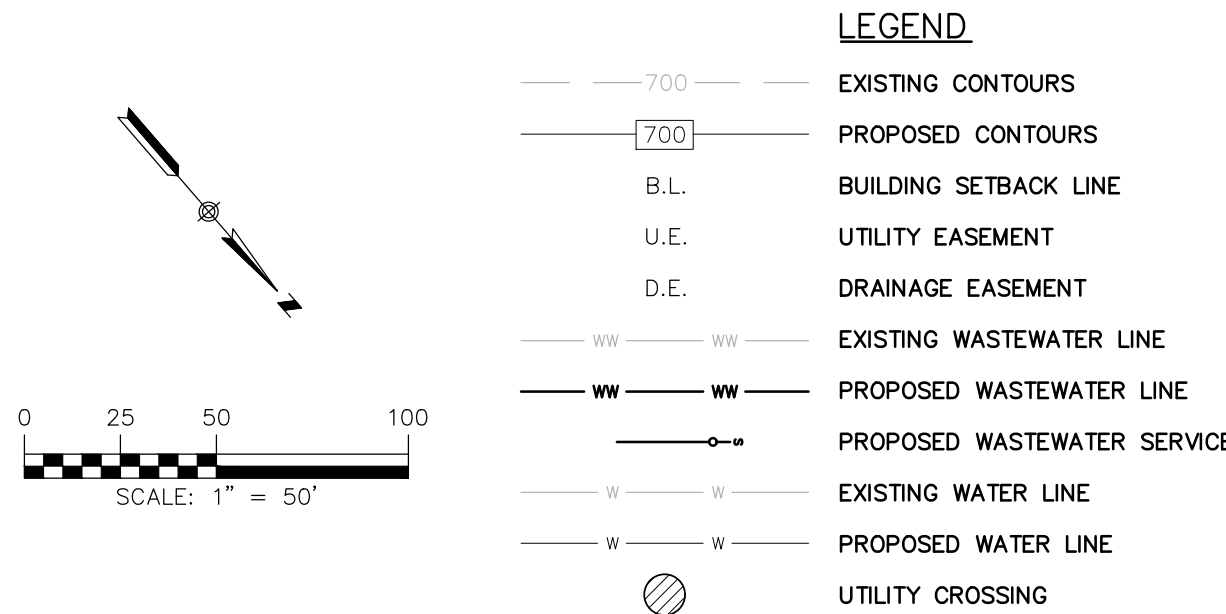
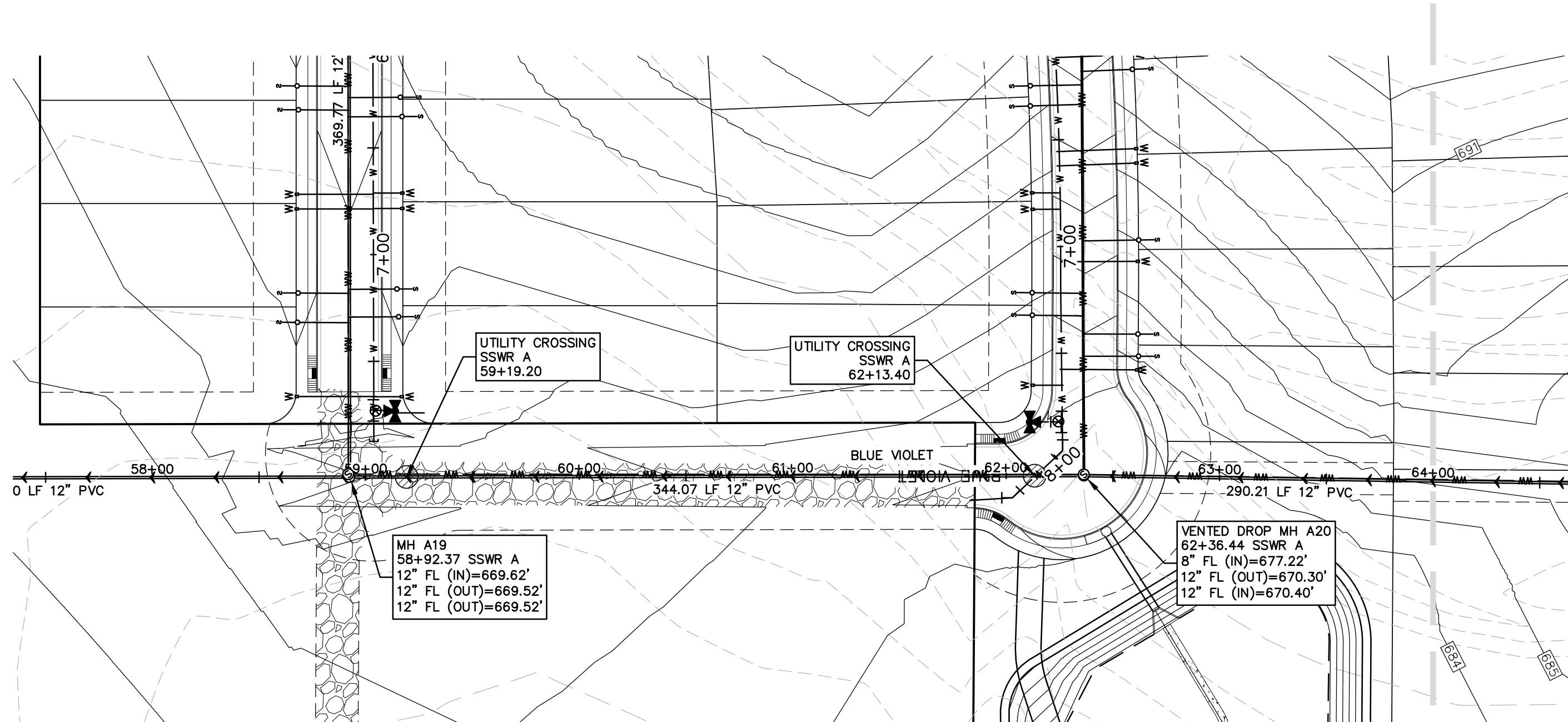
HMT PROJECT NO.: 305.01

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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 GEOTECHNICAL 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.

DEEP TRENCH COMPACTION TESTING

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. 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.

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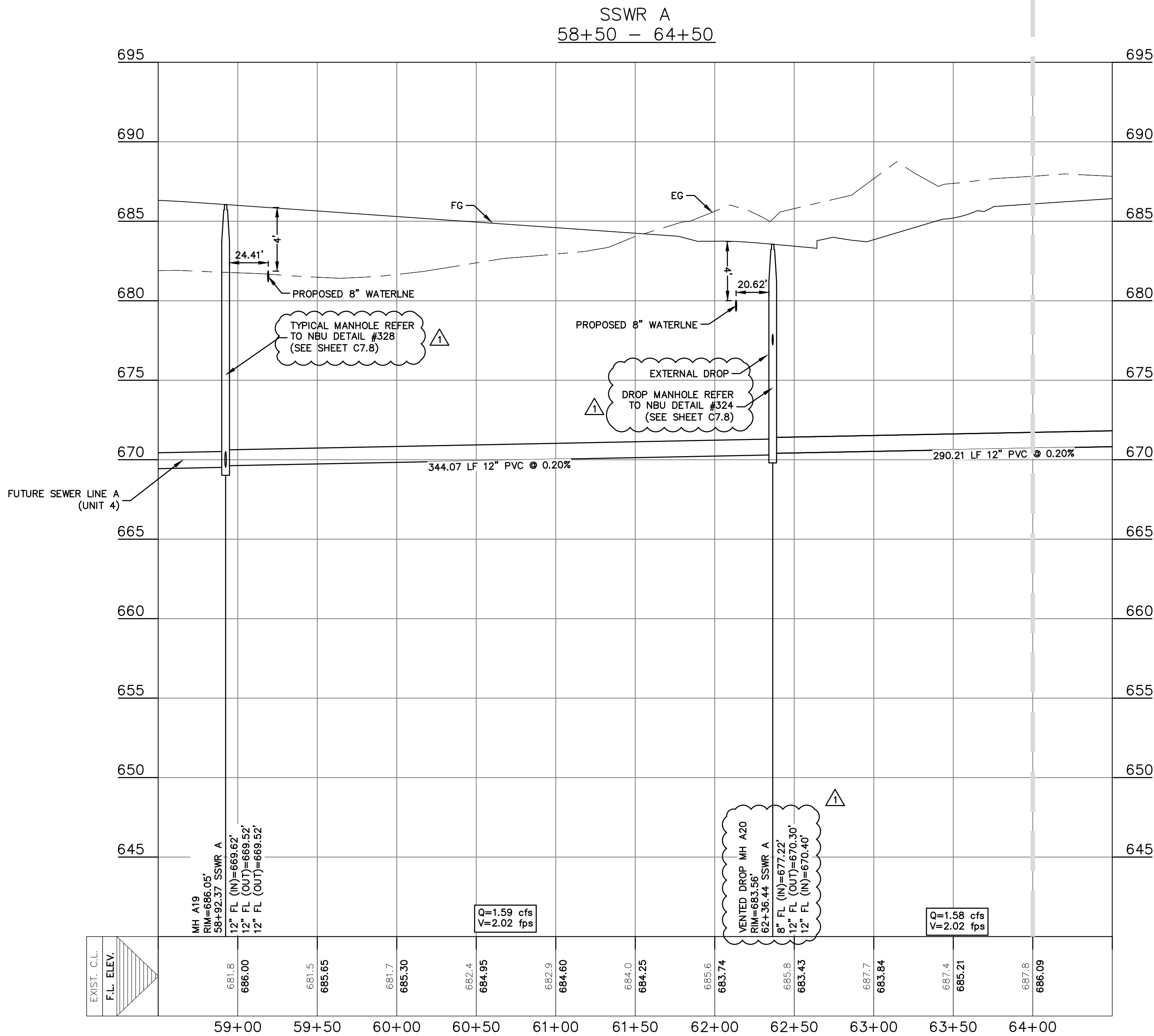
BY: *Timothy A. Goren*

HMT ENGINEERING AND SURVEYING

TRENCH EXCAVATION SAFETY PROTECTION

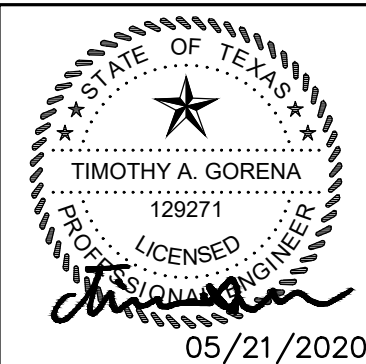
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WASTEWATER LINE A
PLAN & PROFILE (1 OF 2)

HEATHERFIELD SUBDIVISION
UNIT 2

NO.	REVISION DESCRIPTION	REVISION DATE
1	WATER AND WASTEWATER REV	2/19/2019
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5	ADDED WATER LATERAL LINE D STATION 10+15.68	08/13/2019

DATE: FEBRUARY 2020

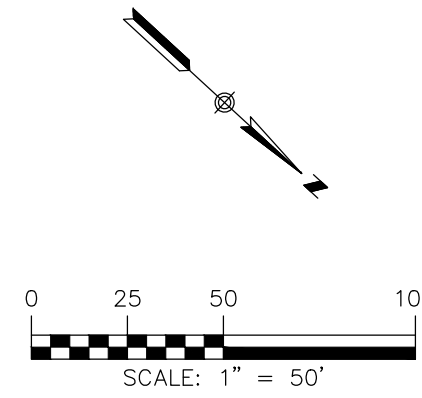
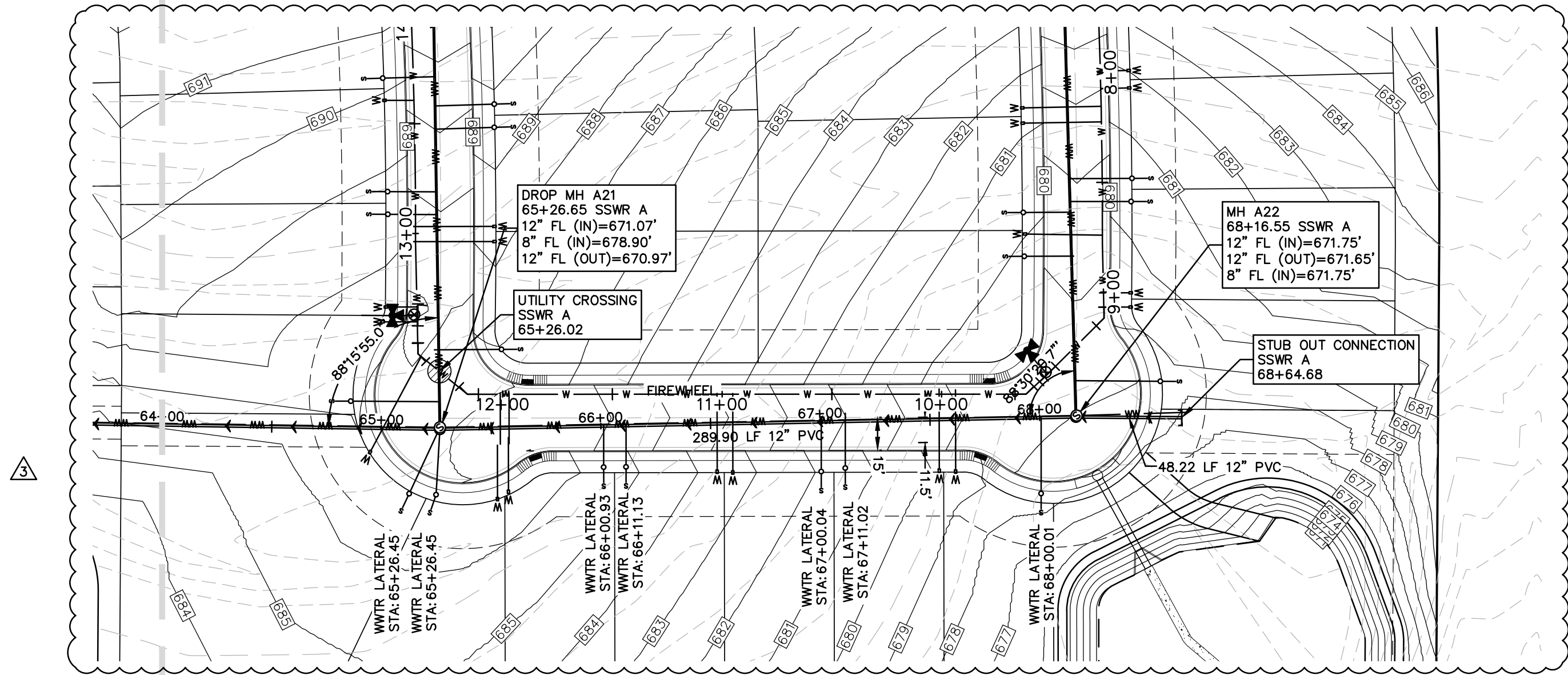
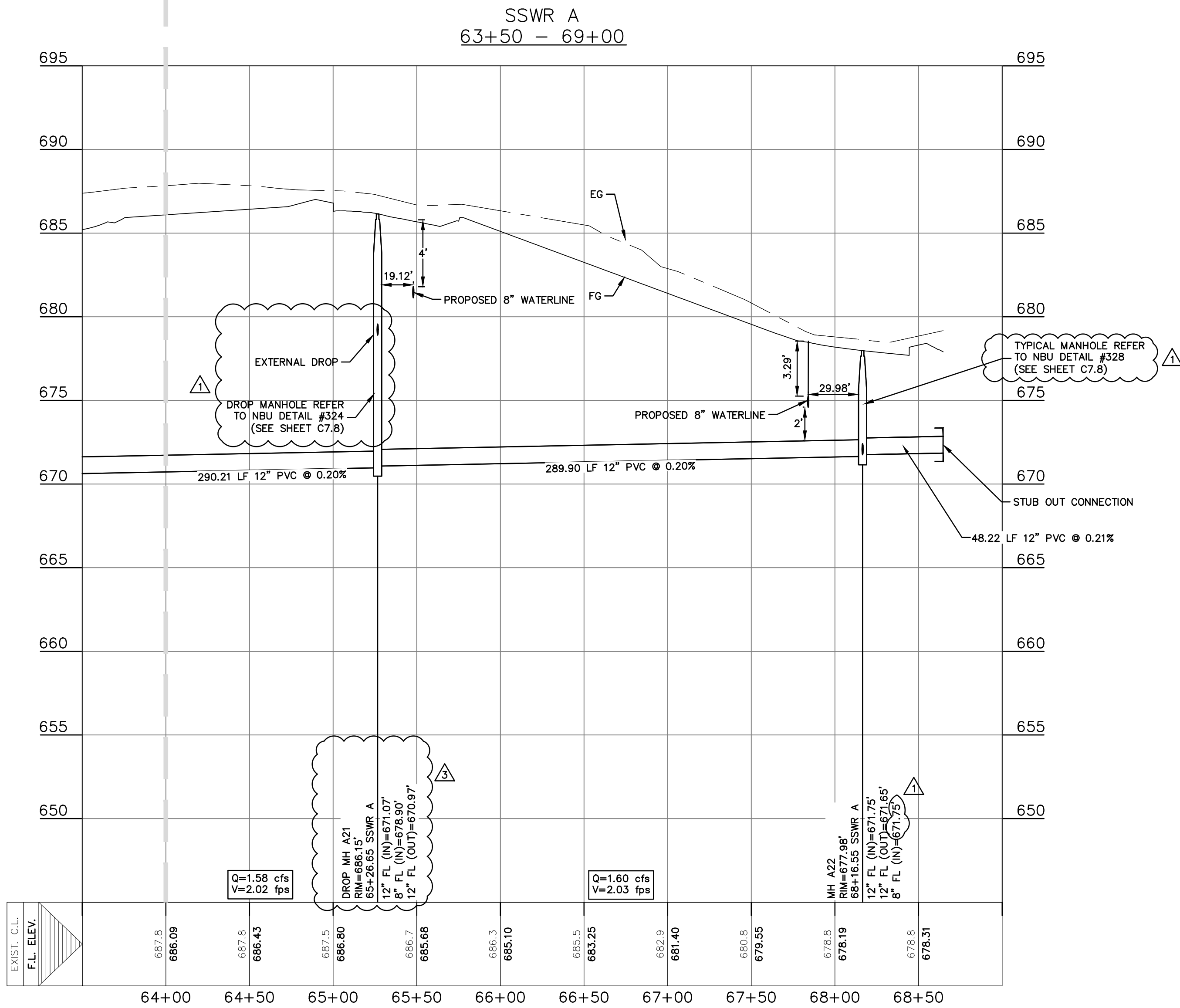
DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

HMT PROJECT NO.: 305.01

SHEET
C7.6



LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	B.L. BUILDING SETBACK LINE
	U.E. UTILITY EASEMENT
	D.E. DRAINAGE EASEMENT
	EXISTING WASTEWATER LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WASTEWATER SERVICE
	EXISTING WATER LINE
	PROPOSED WATER LINE
	UTILITY CROSSING

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HMT ENGINEERING AND SURVEYING

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WASTEWATER LINE A PLAN & PROFILE (2 OF 2)

HEATHERFIELD SUBDIVISION
UNIT 2

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DRAWN BY: HM

DESIGNED BY: TG

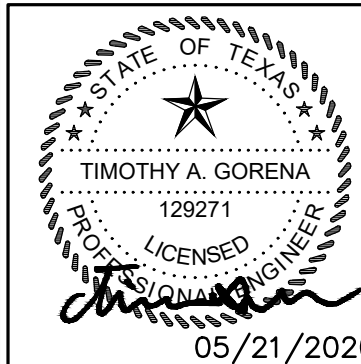
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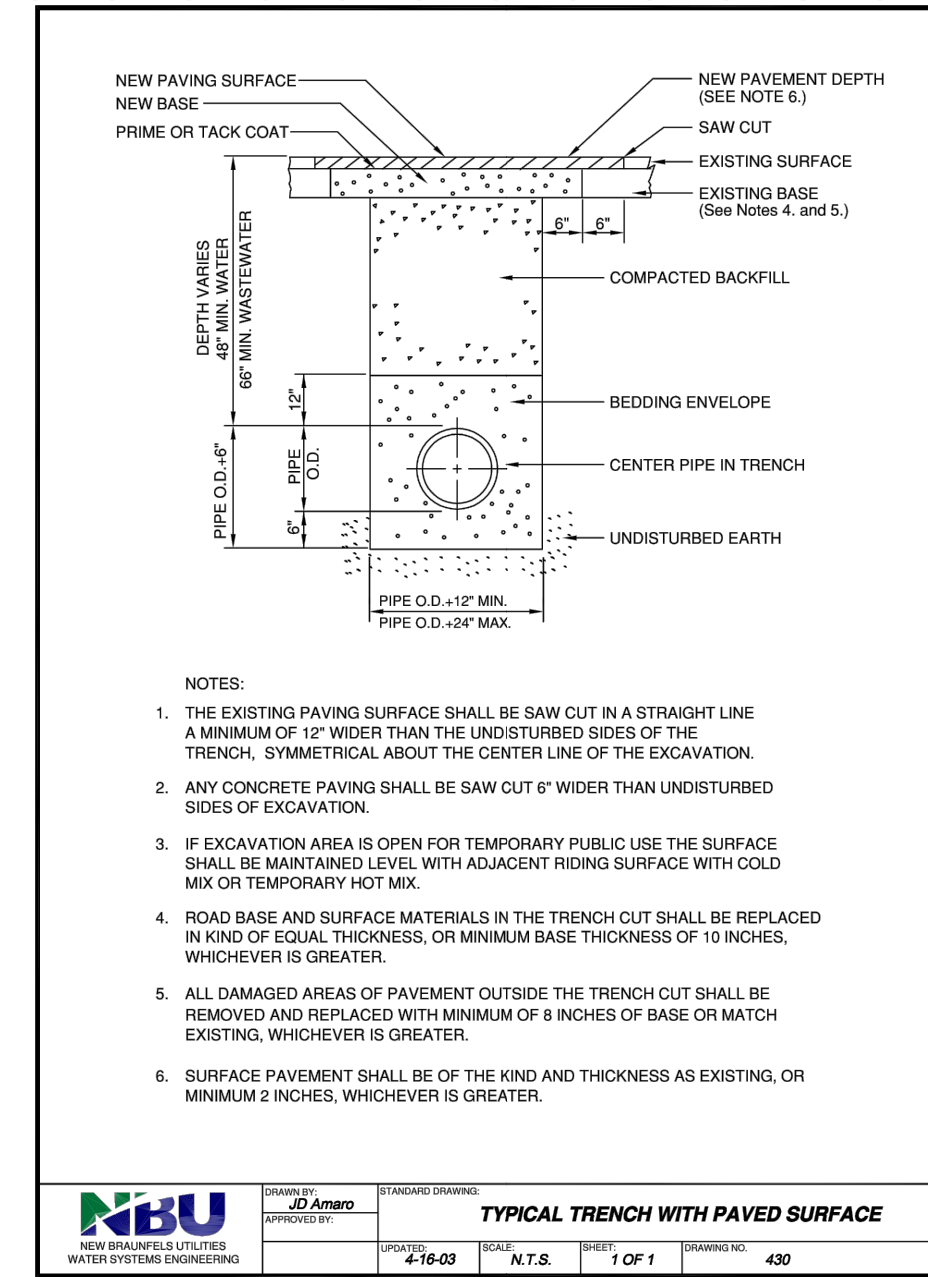
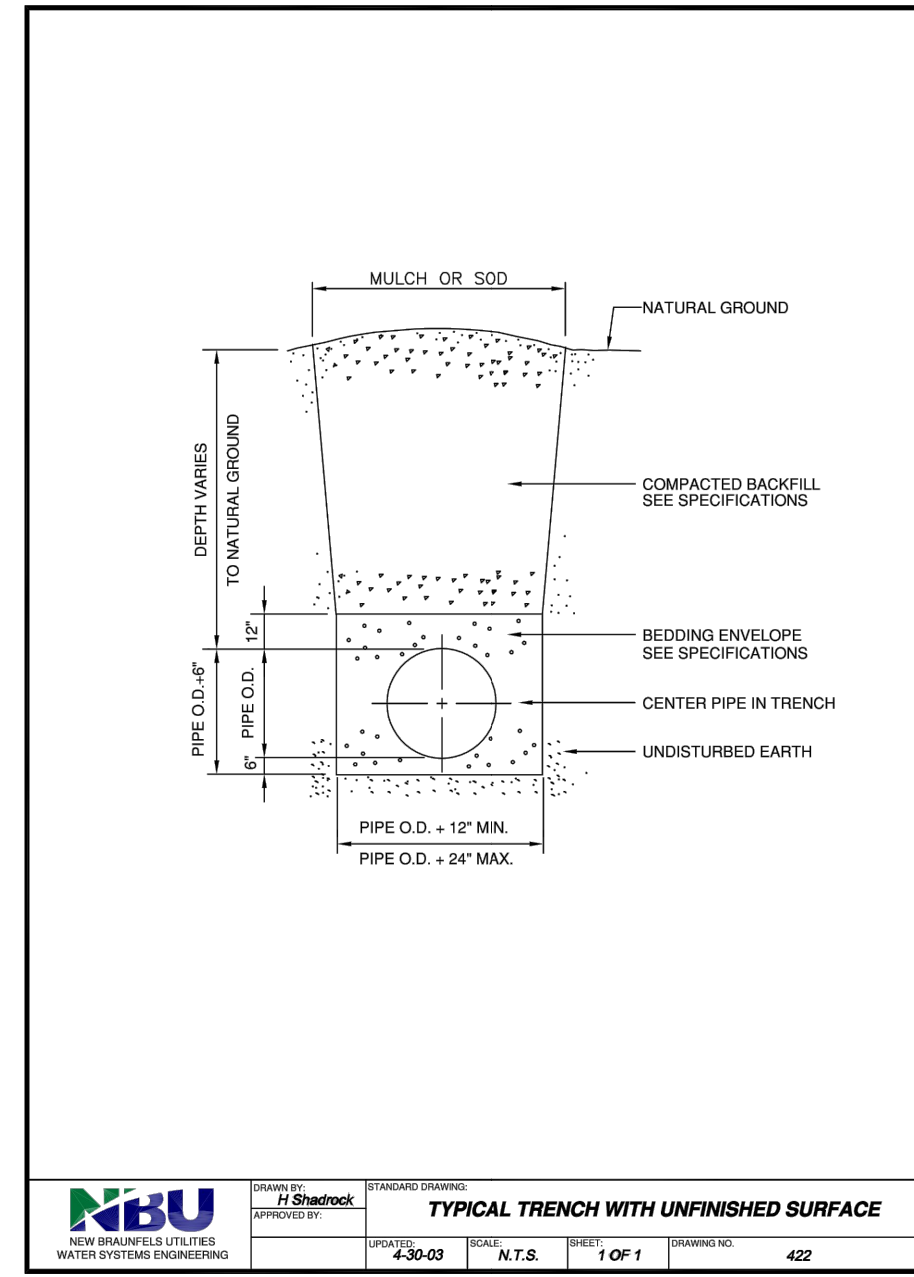
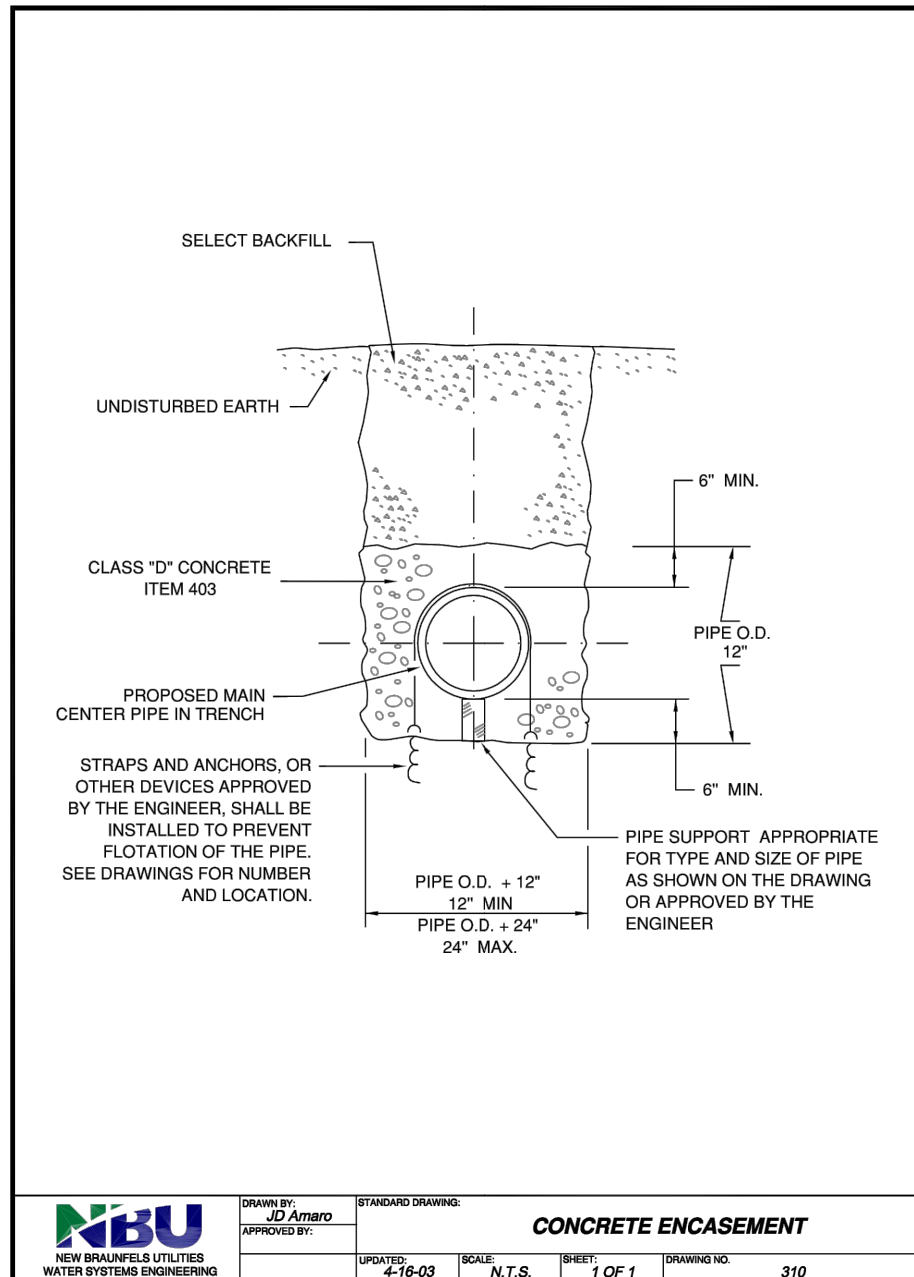
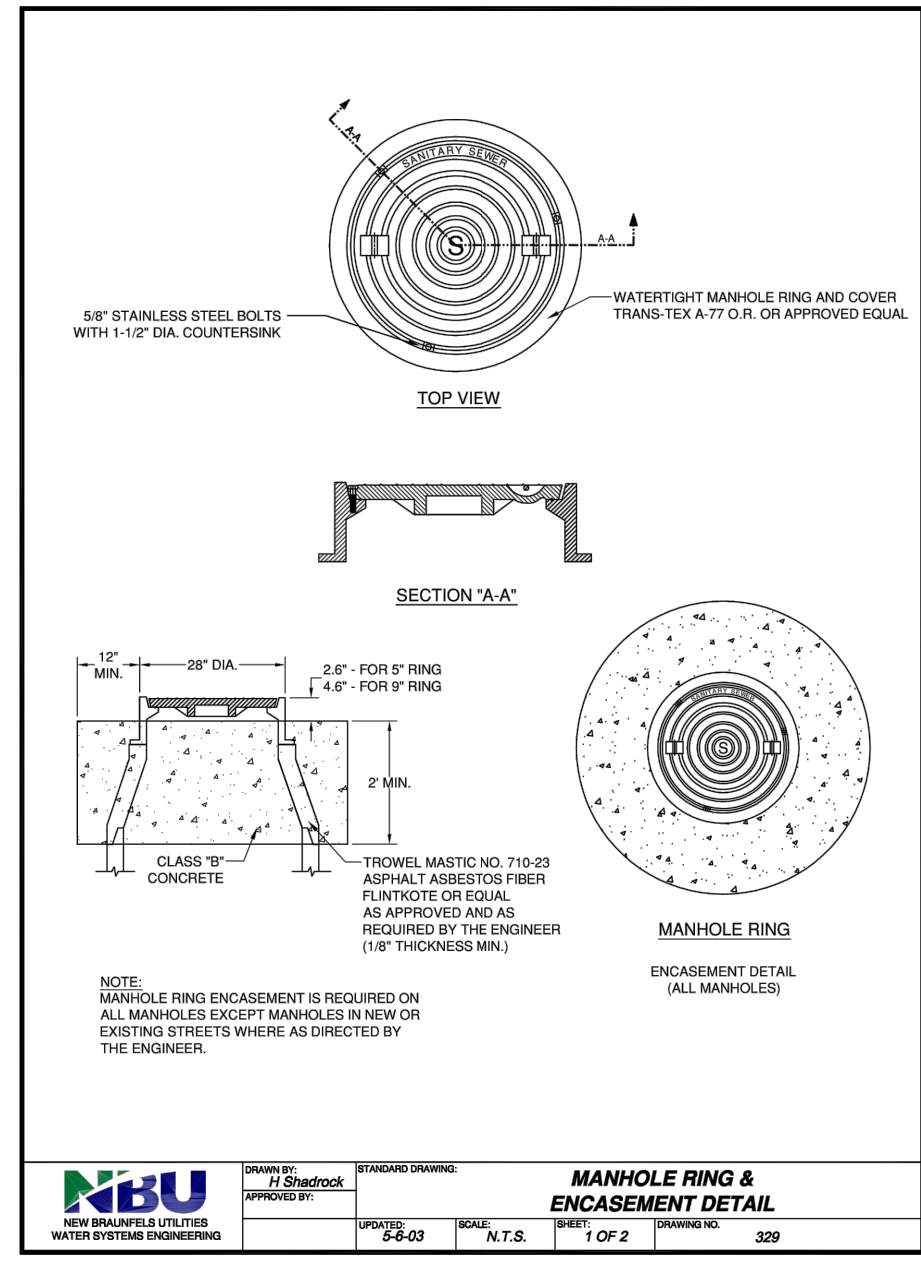
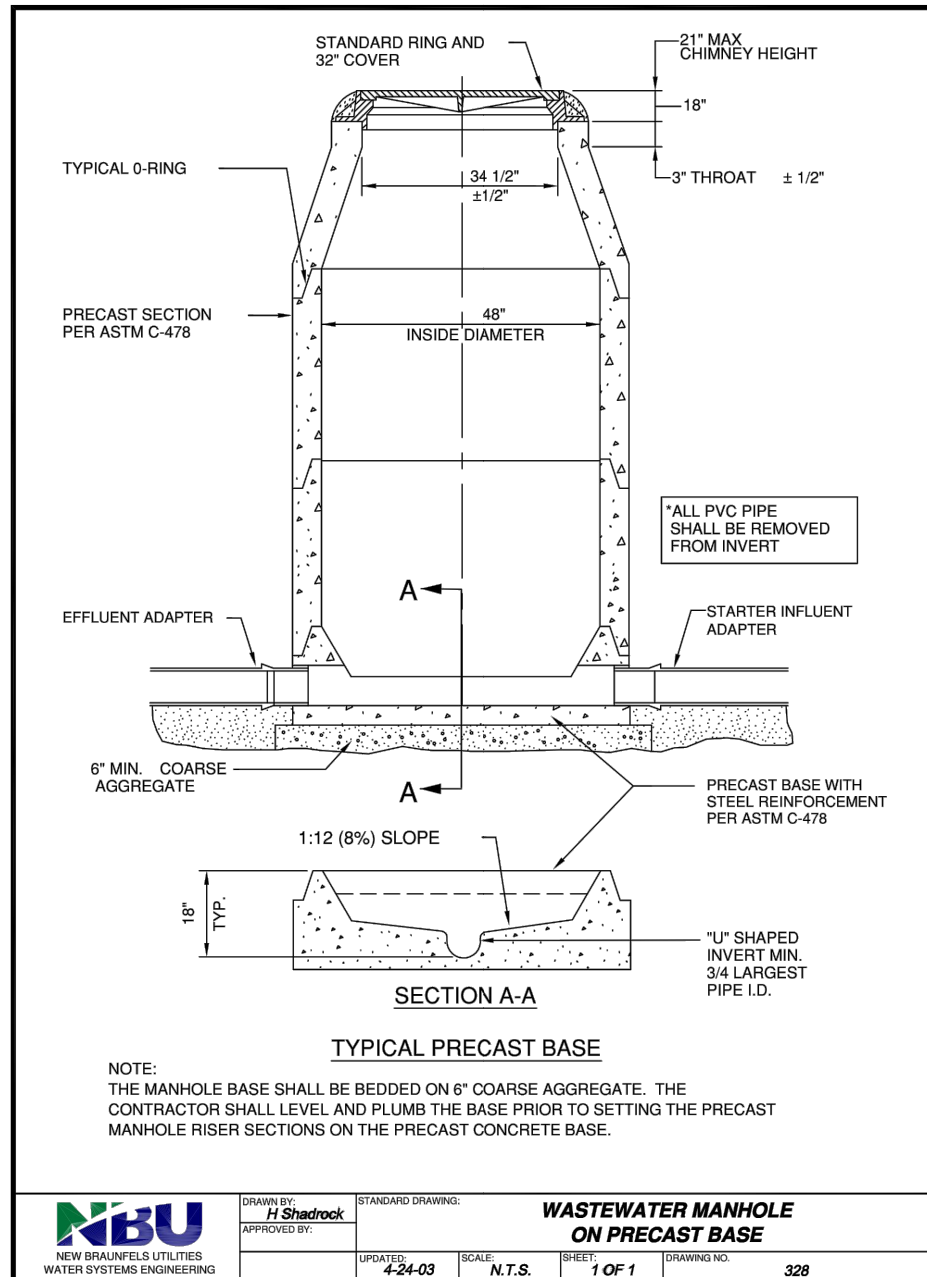
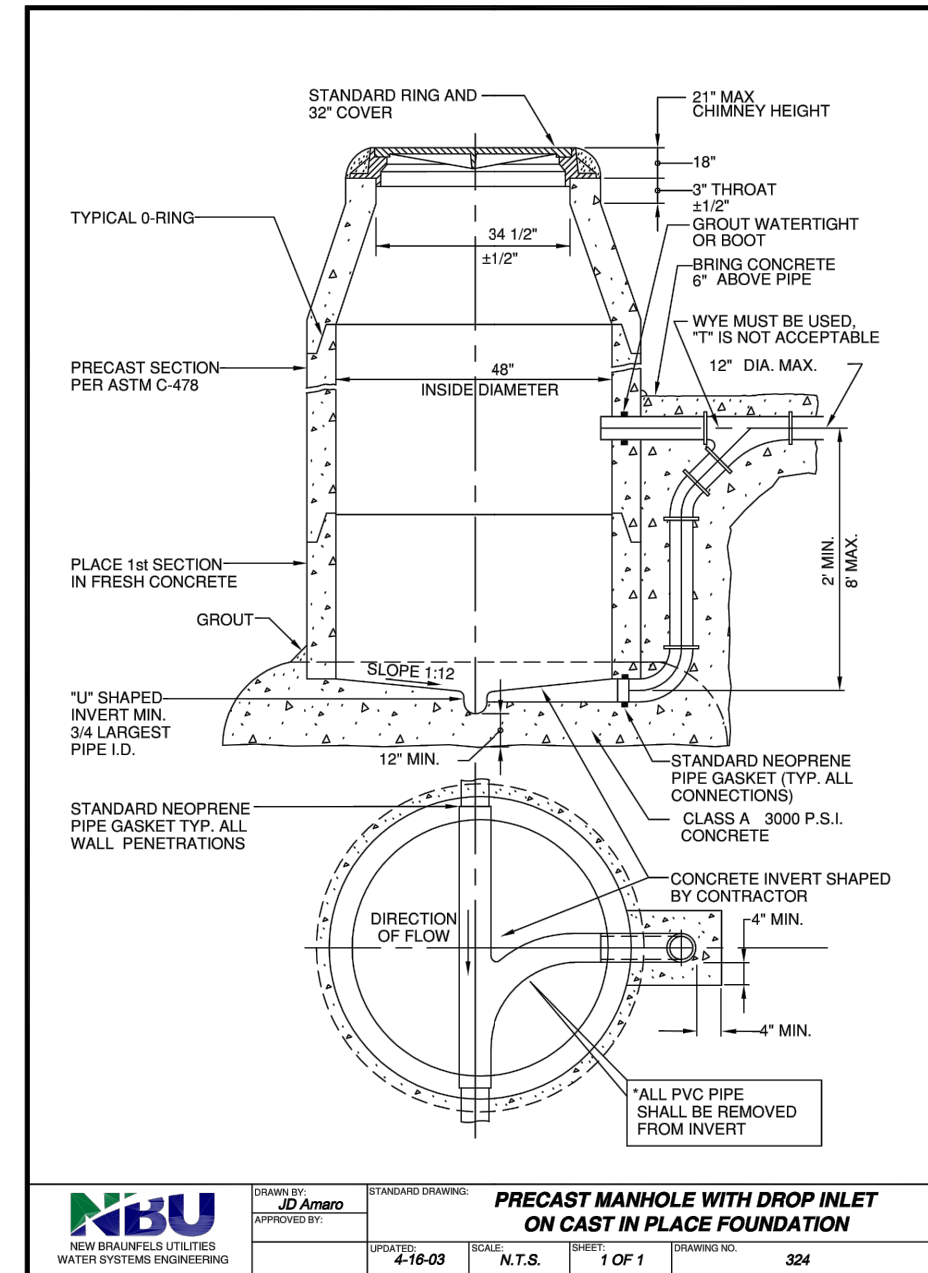
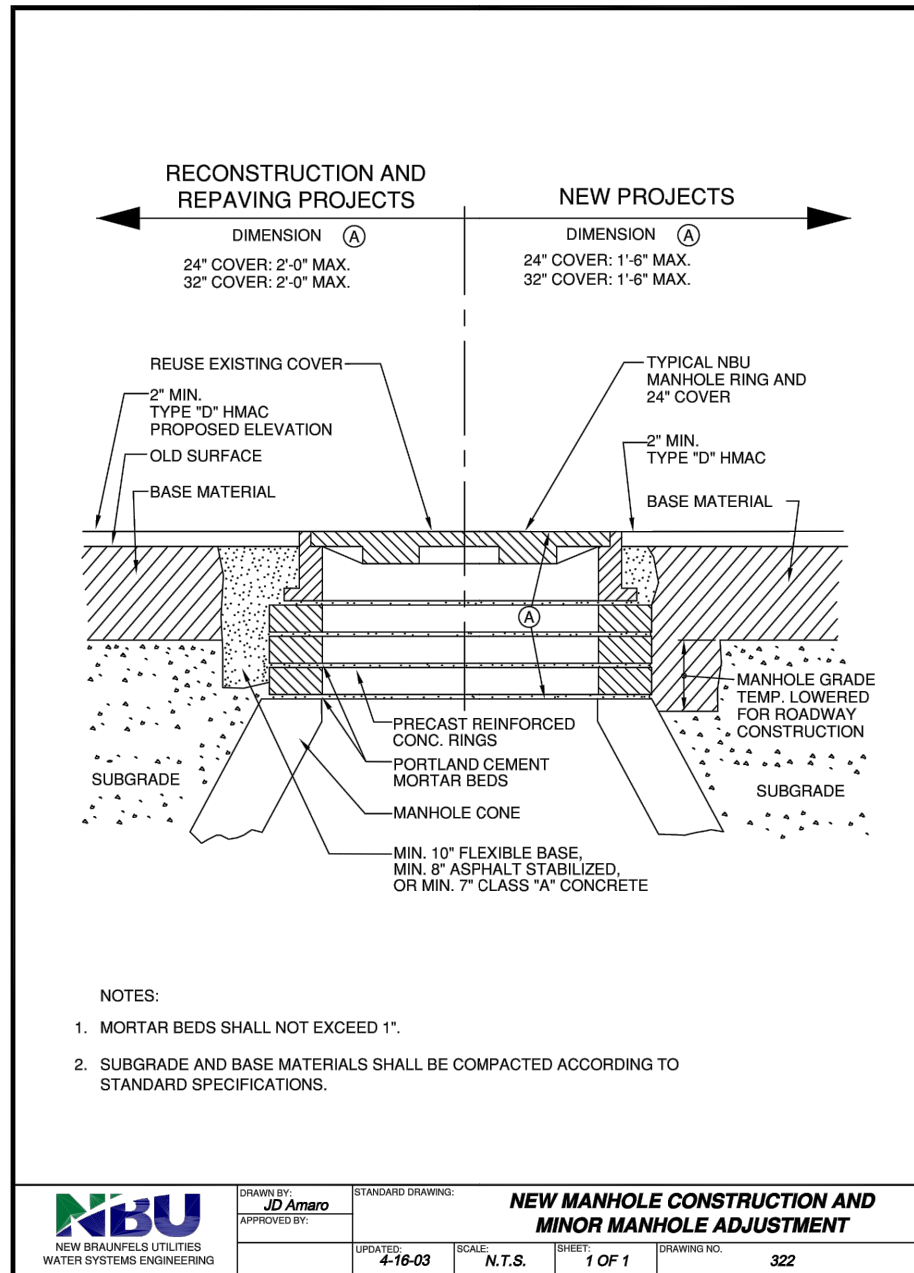
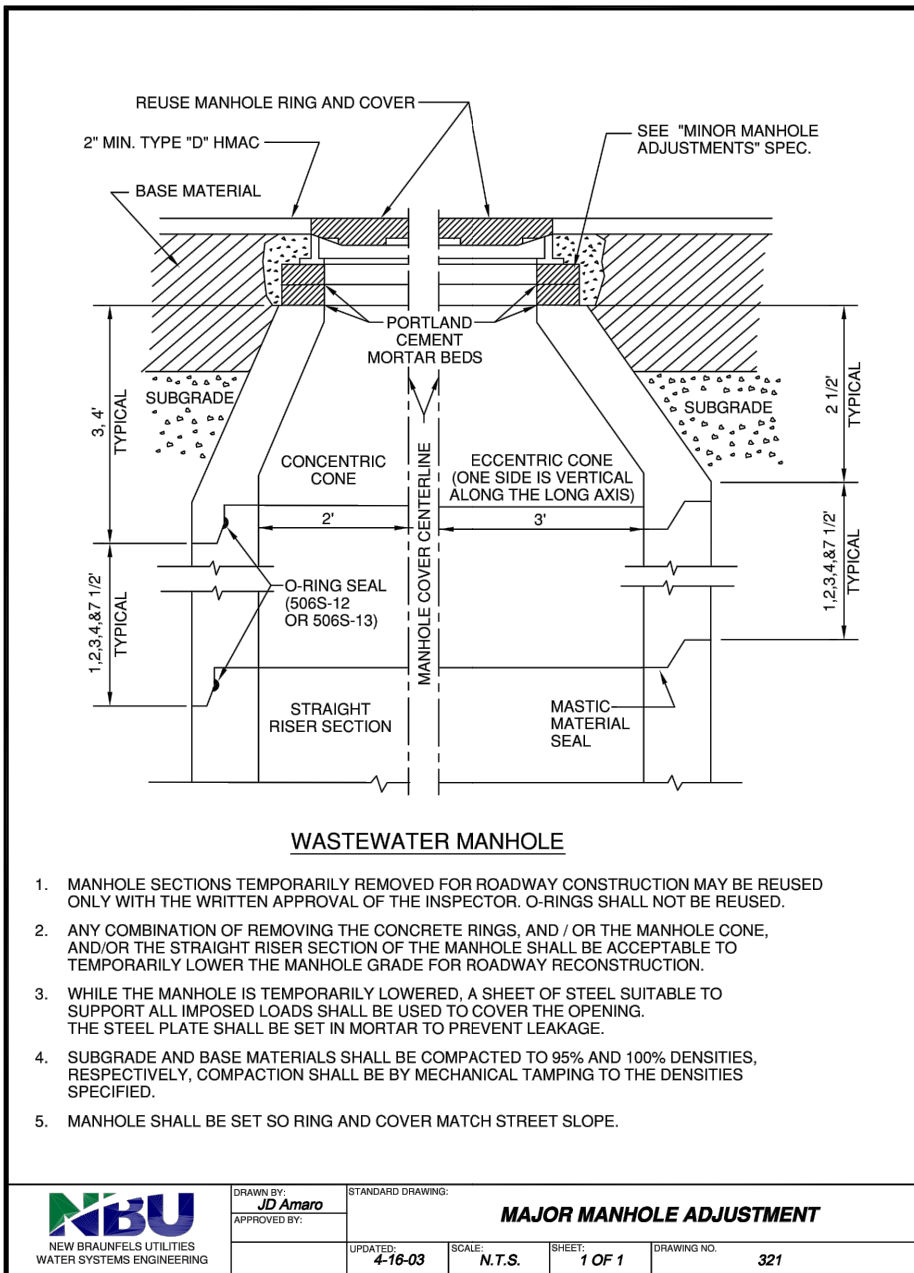
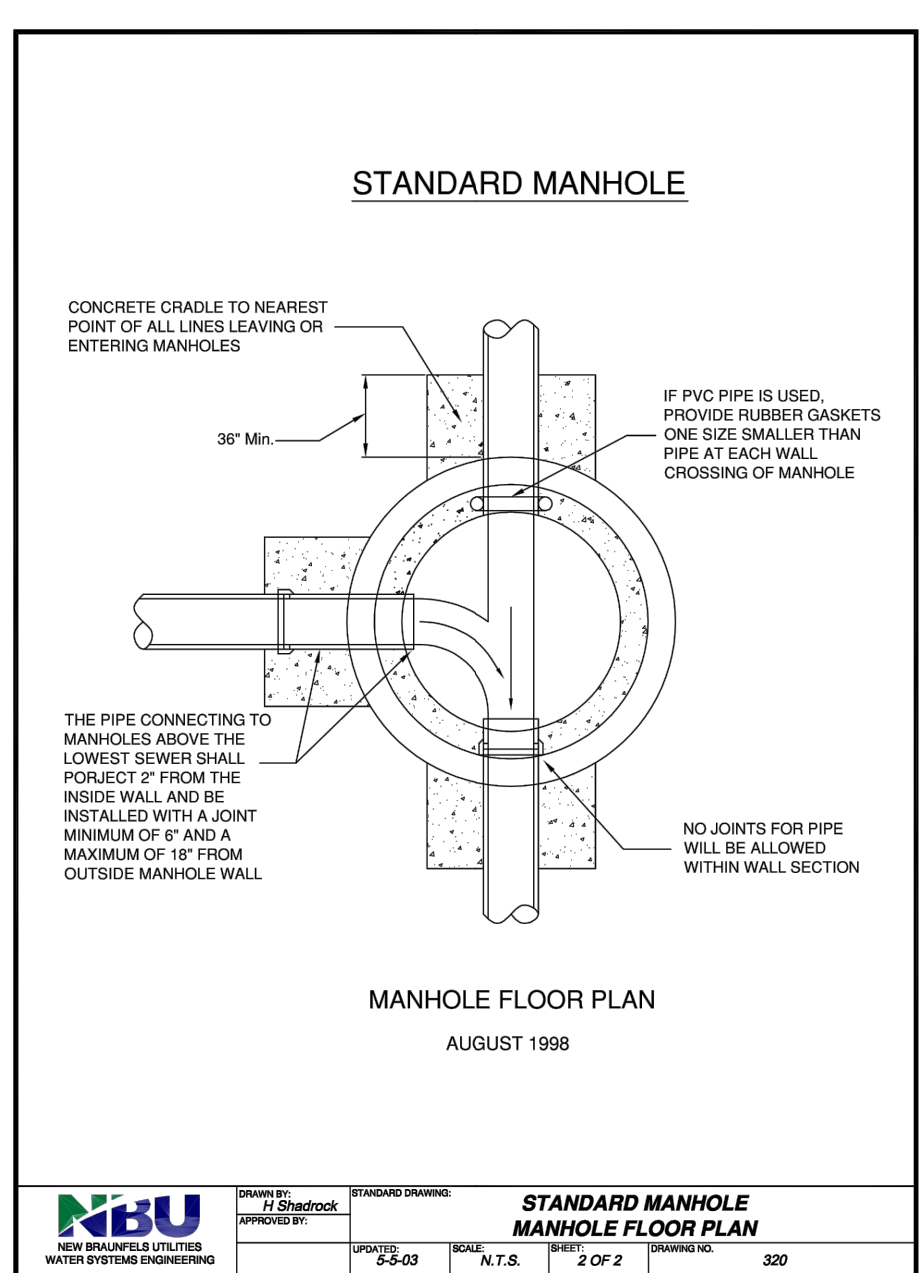
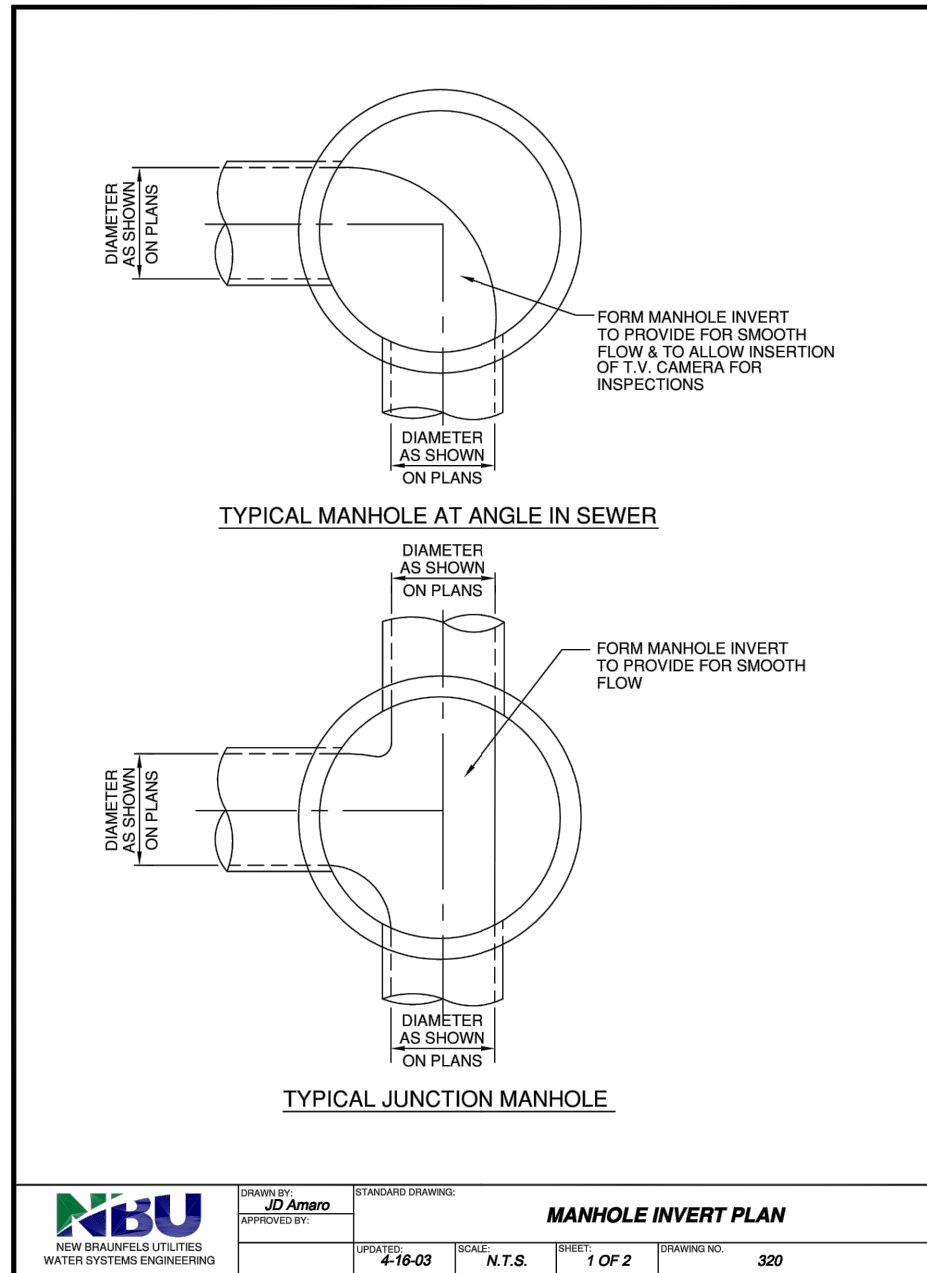
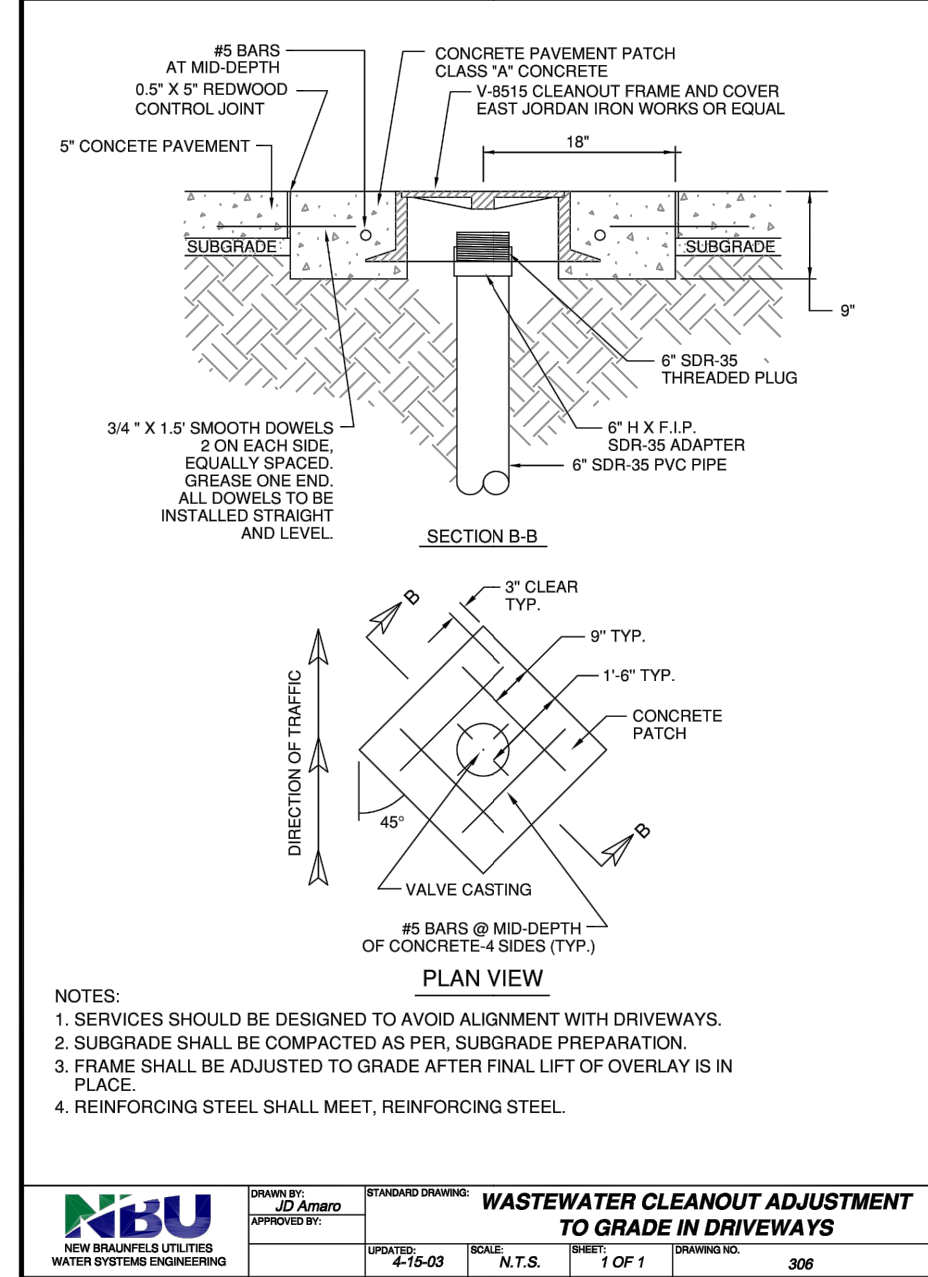
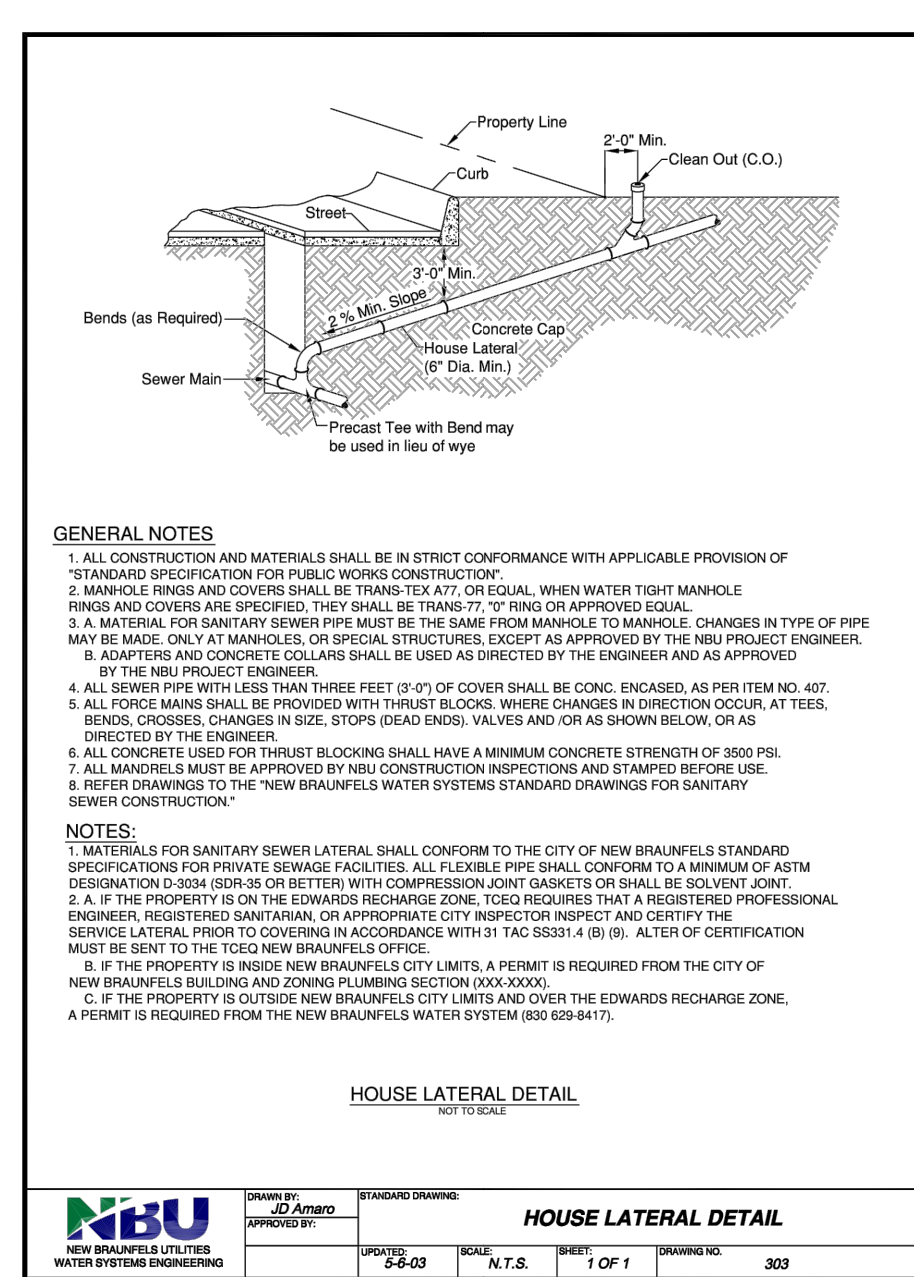
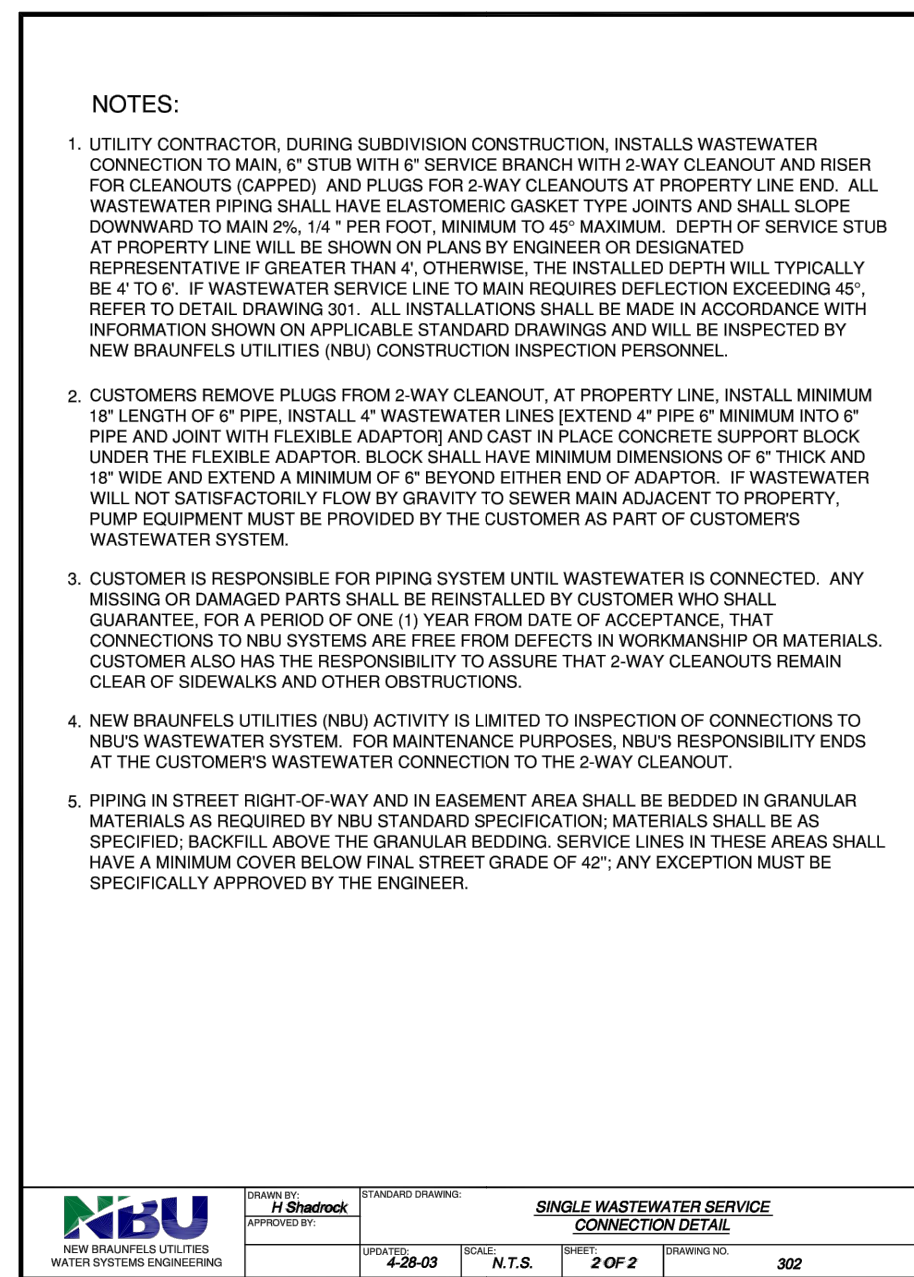
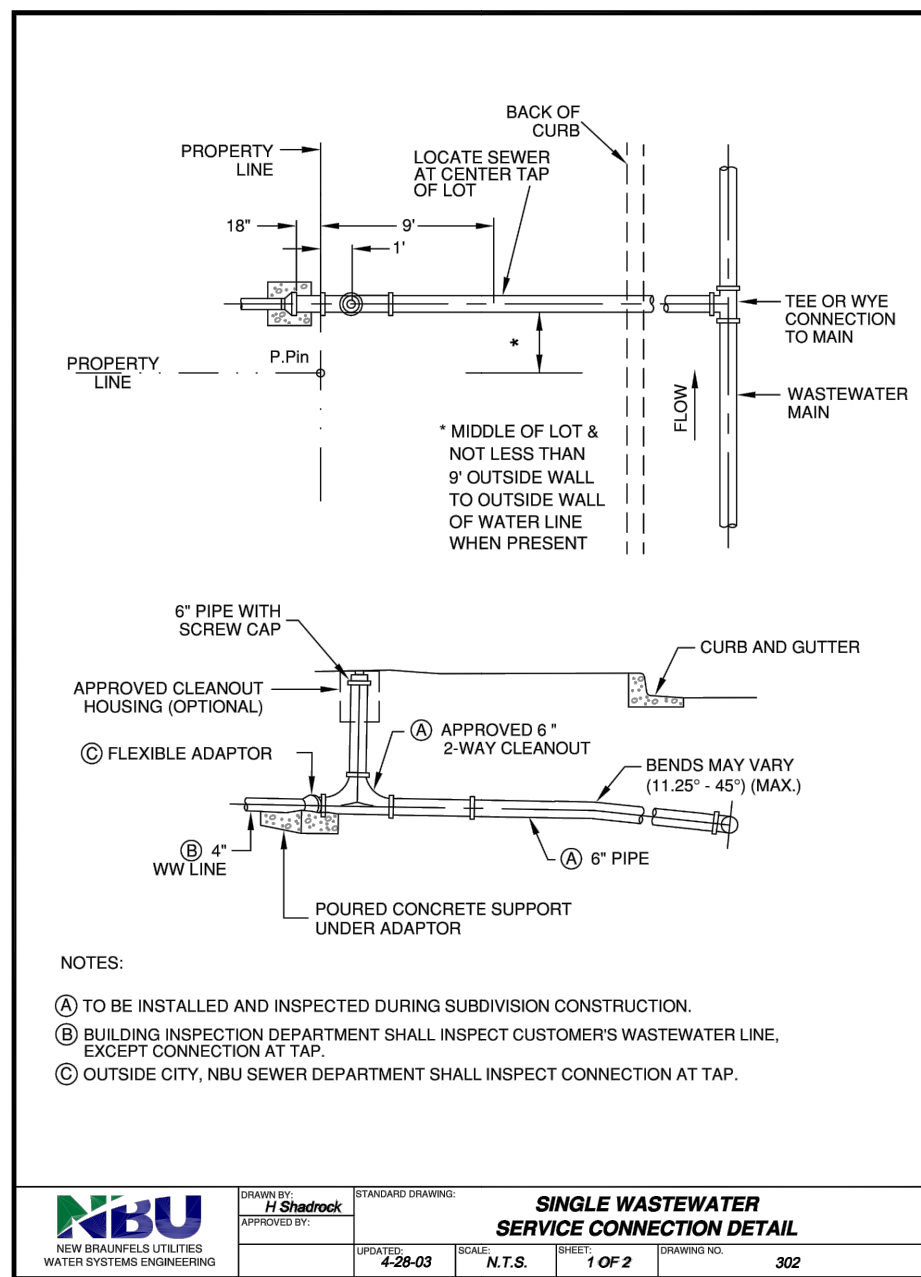
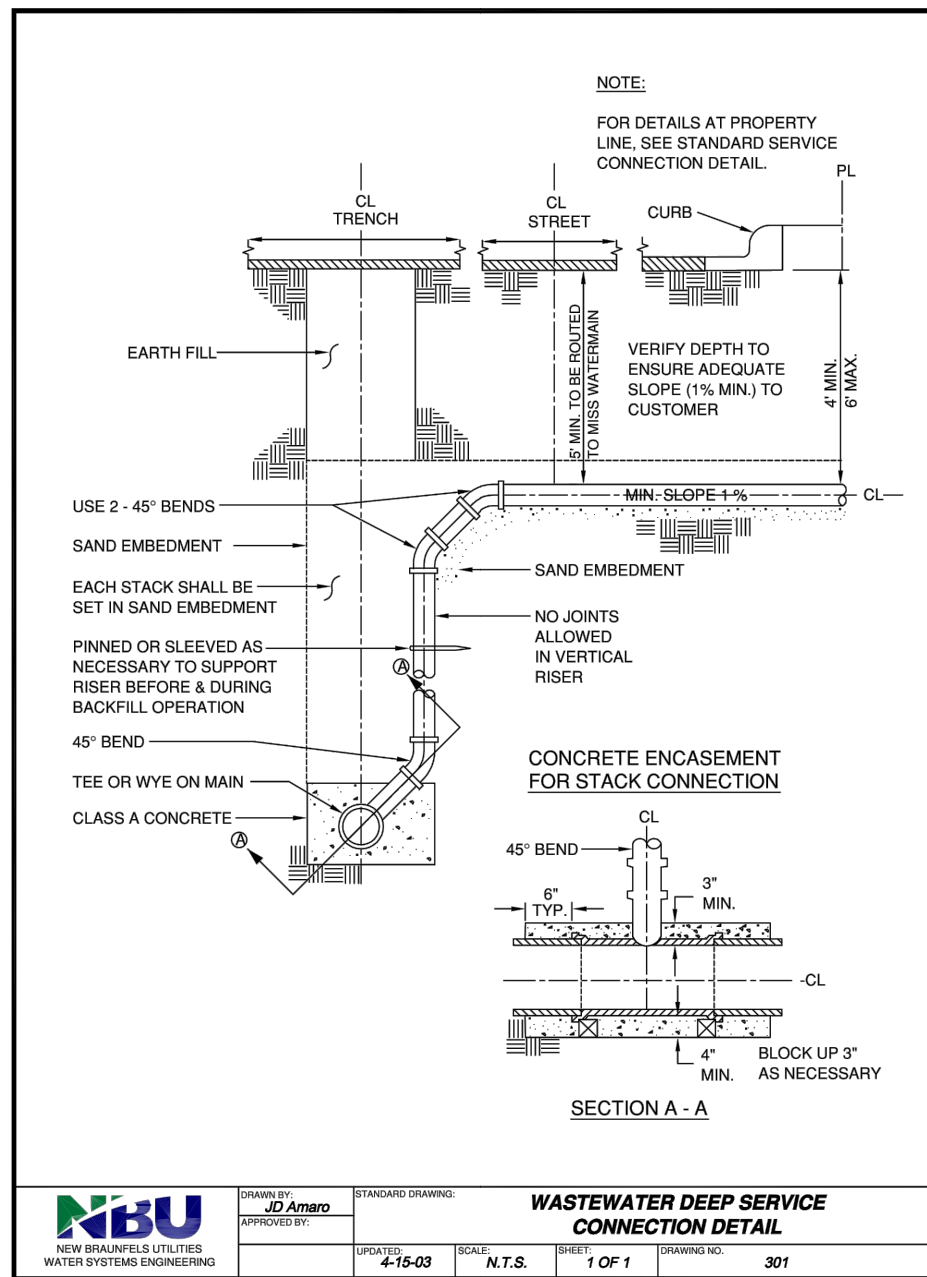
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RECORD DRAWING

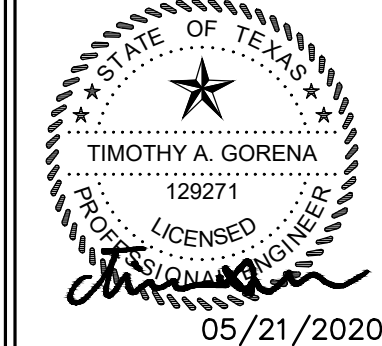
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DATE: 05/21/2020 BY: *Timson*

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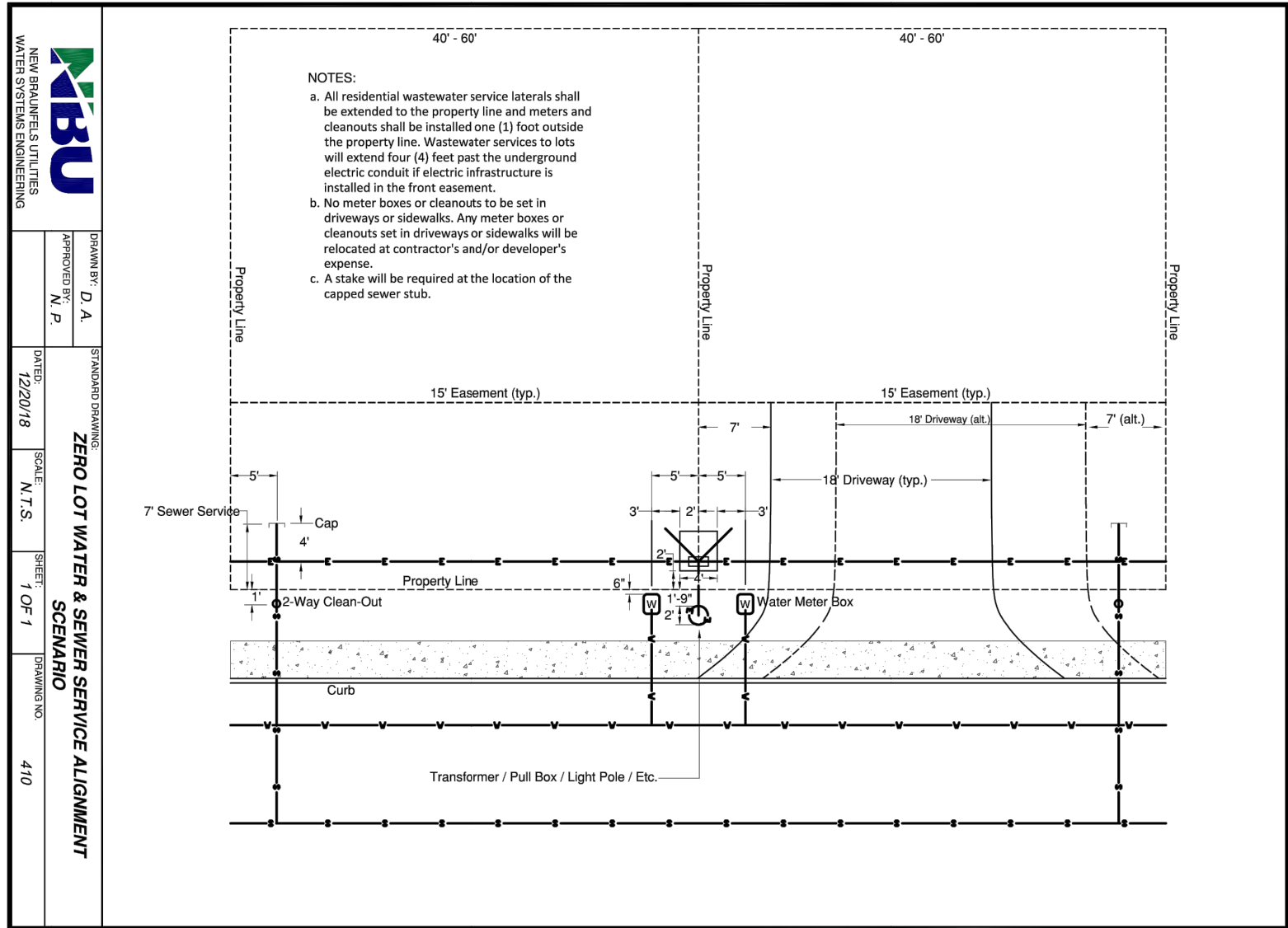
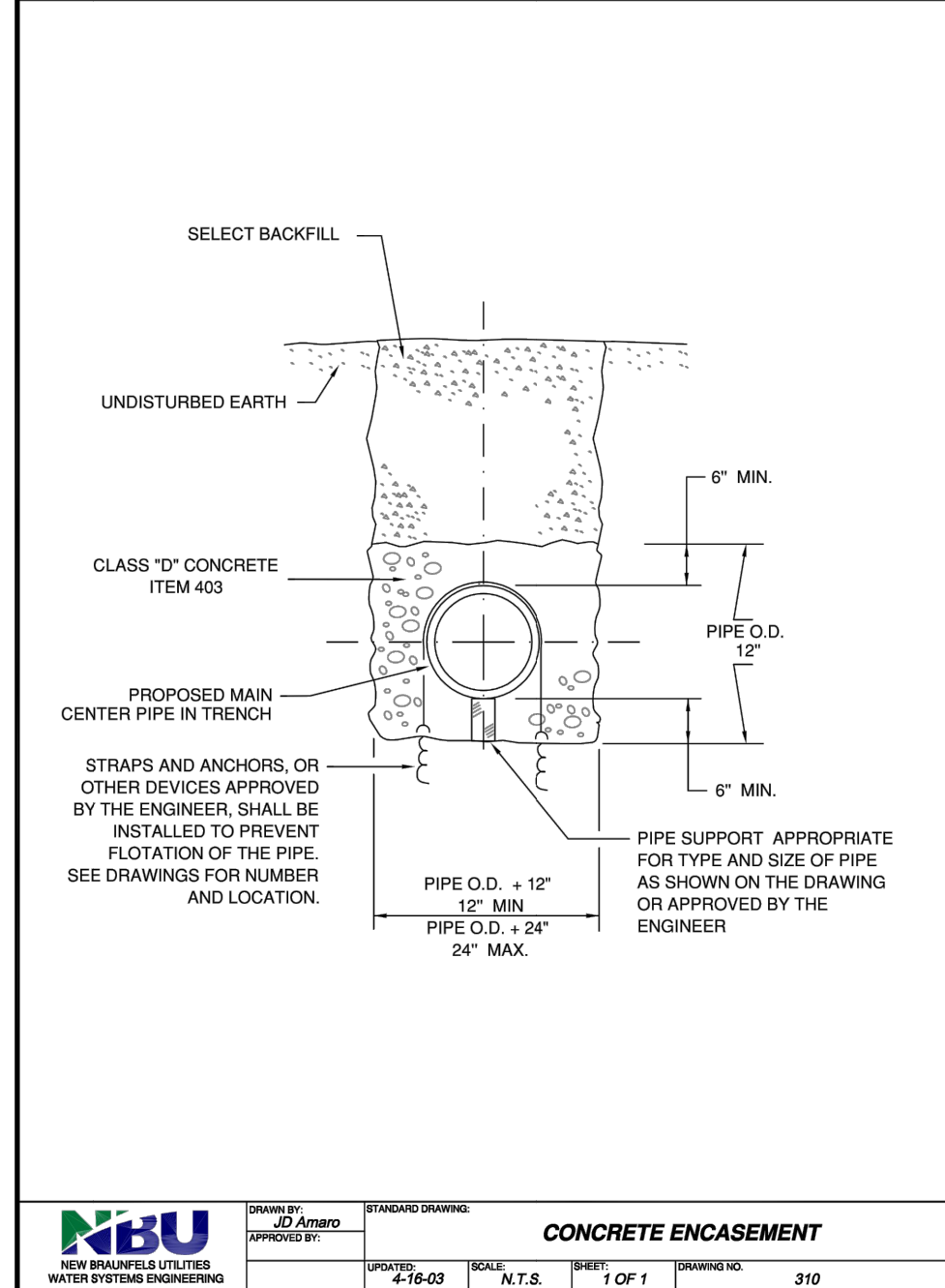
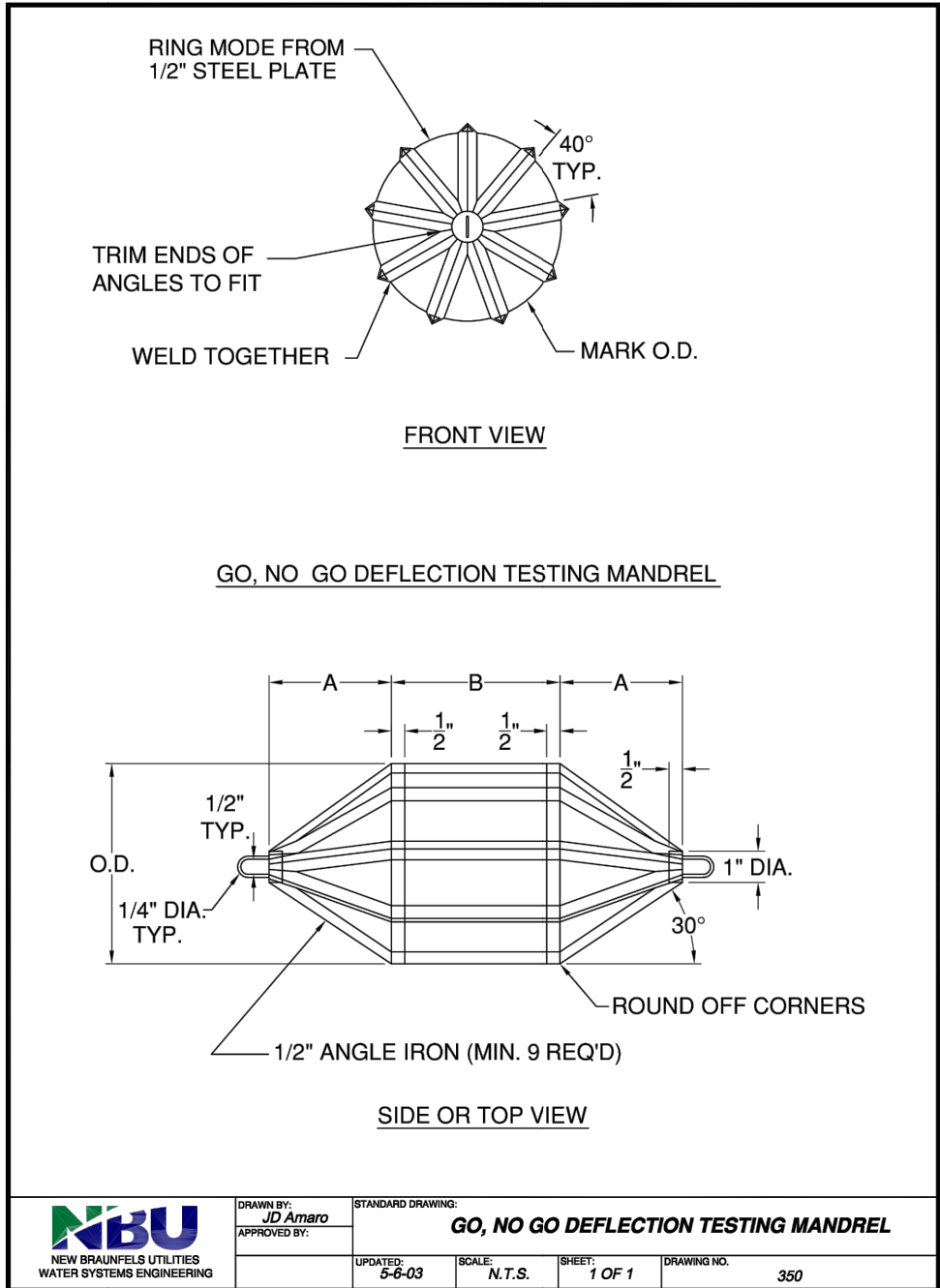
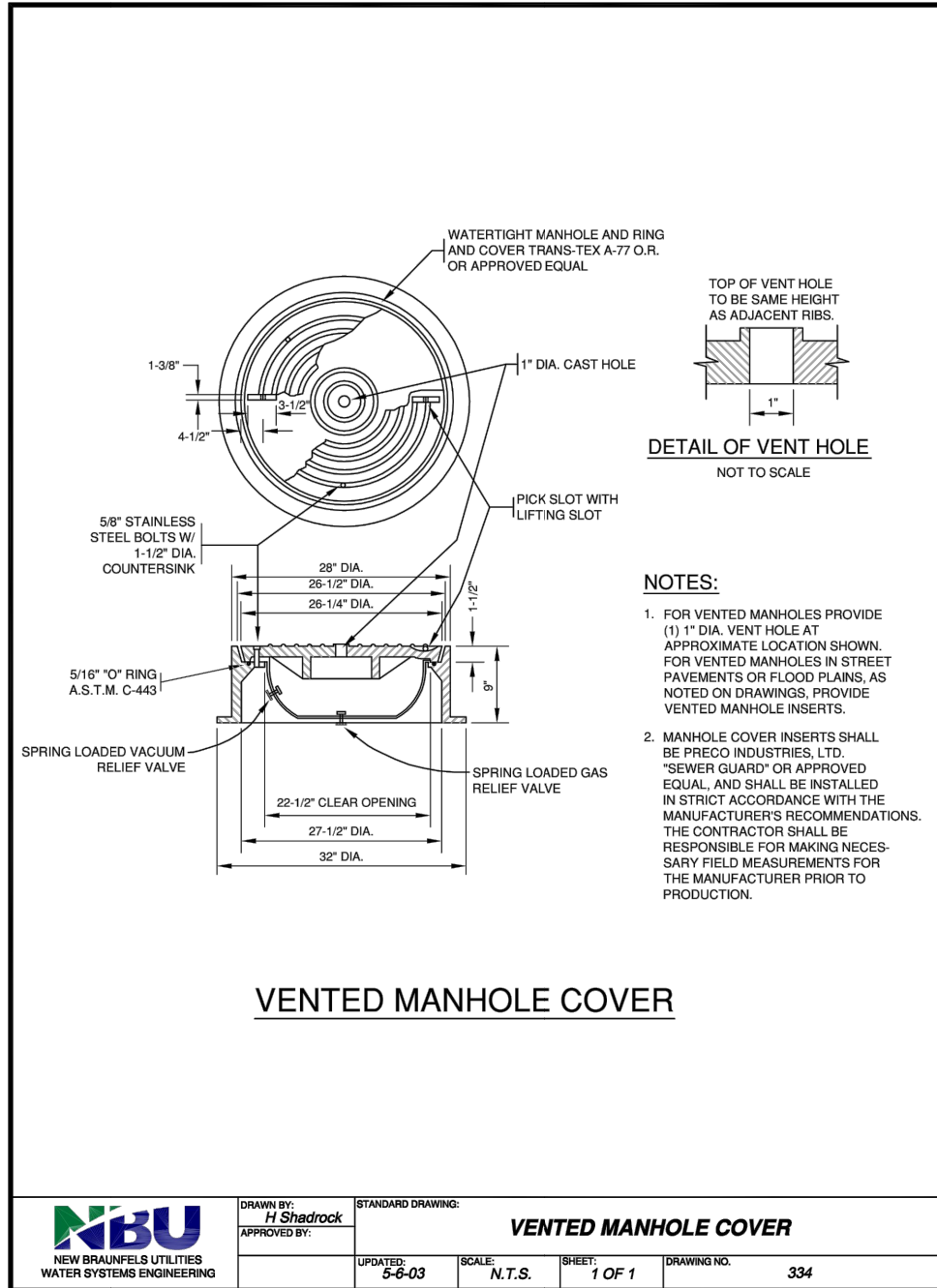
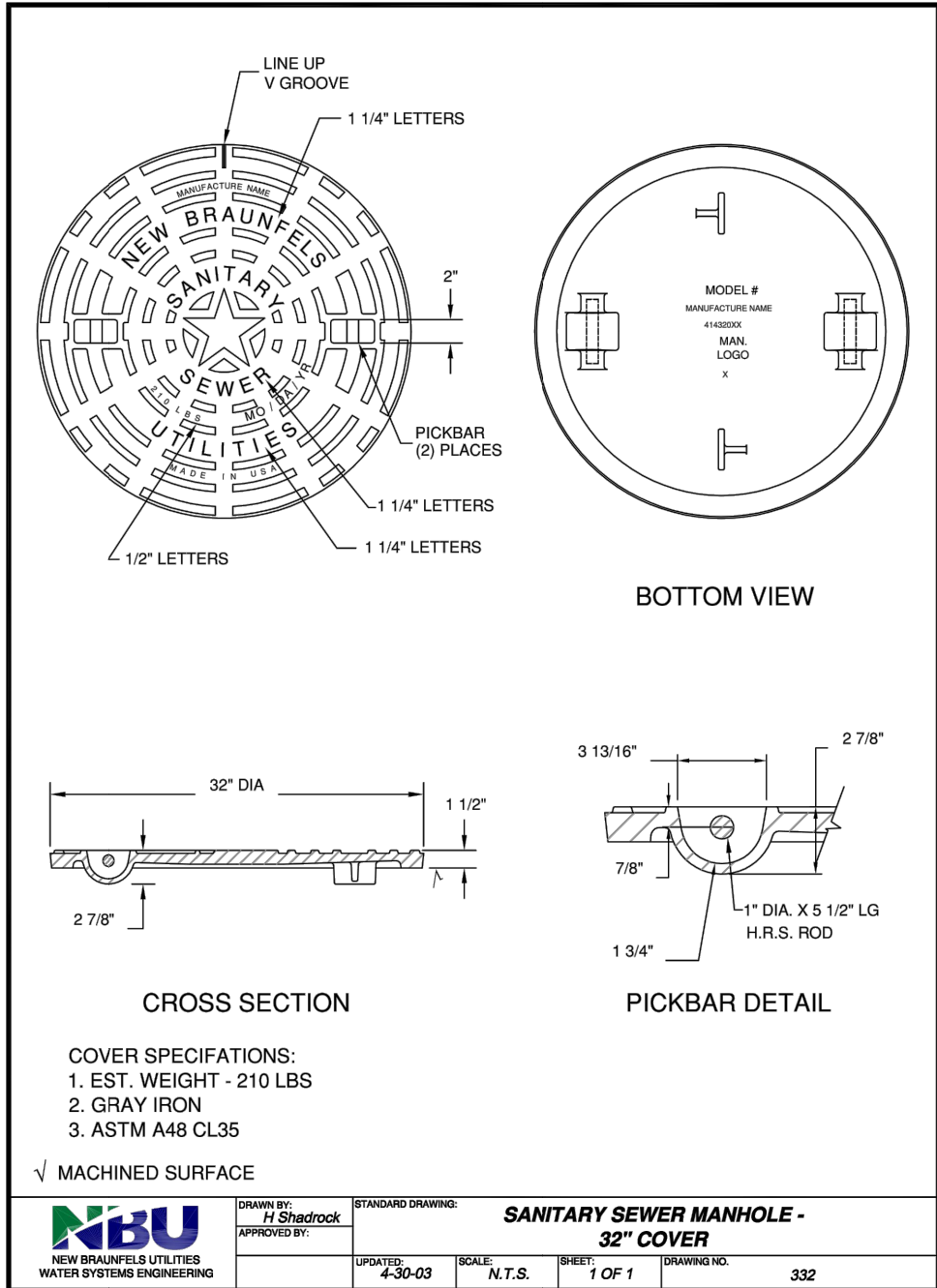
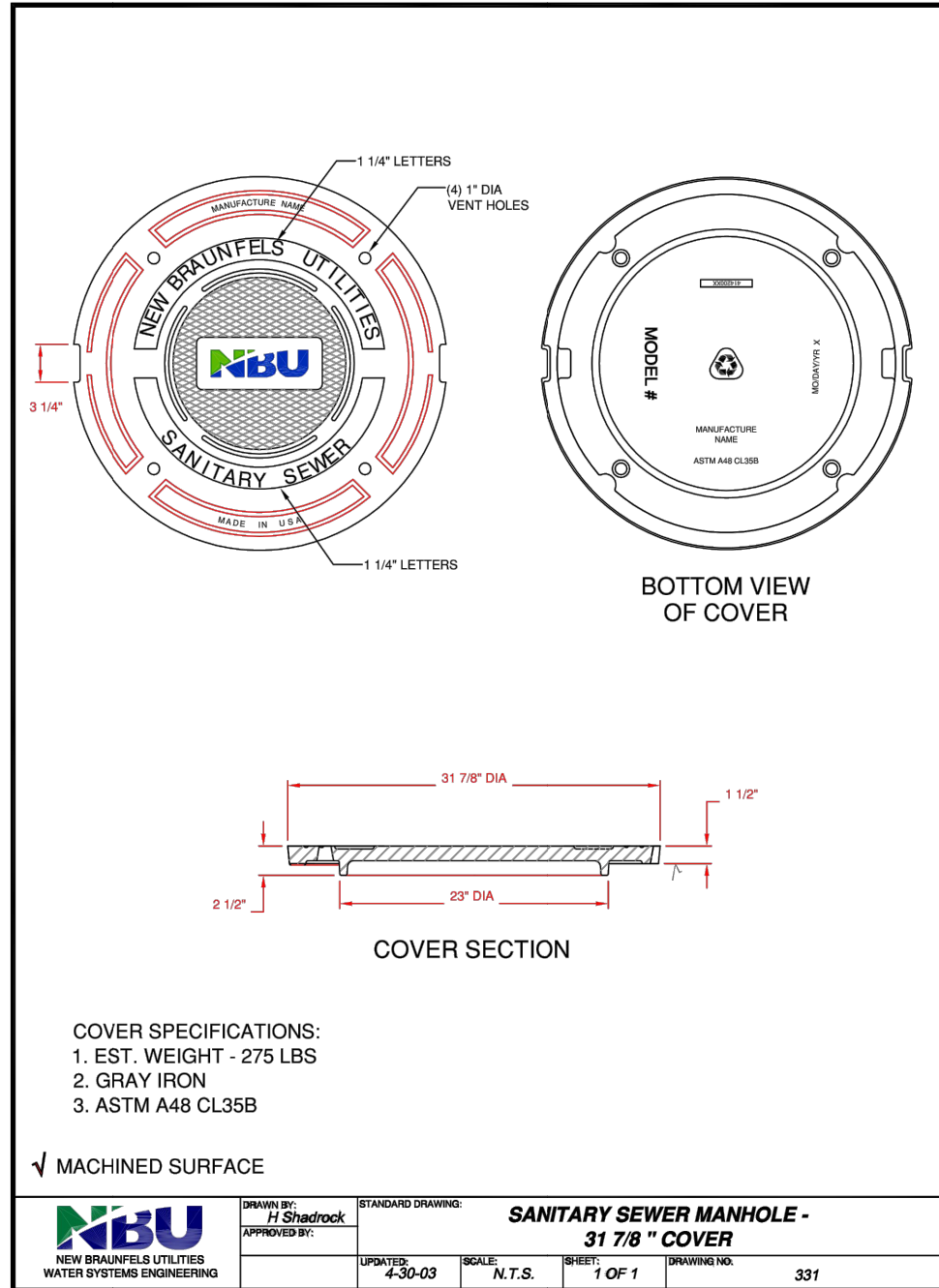


WASTEWATER
DETAILS (1 OF 2)

HEATHERFIELD SUBDIVISION
UNIT 2

REVISION	DATE	DESCRIPTION
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2	03/29/2019	FIRE ACCESS REV
3	05/29/2019	PROFILE, UTILITIES AND LOT LAYOUT REV
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SHEET
C7.8



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HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
TIMOTHY A. GORENA
129271
LICENSED PROFESSIONAL ENGINEER
05/21/2020

WASTEWATER
DETAILS (2 OF 2)
HEATHERFIELD SUBDIVISION
UNIT 2

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DRAWN BY: HM

DESIGNED BY: TG

REVIEWED BY: CC/SHH

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