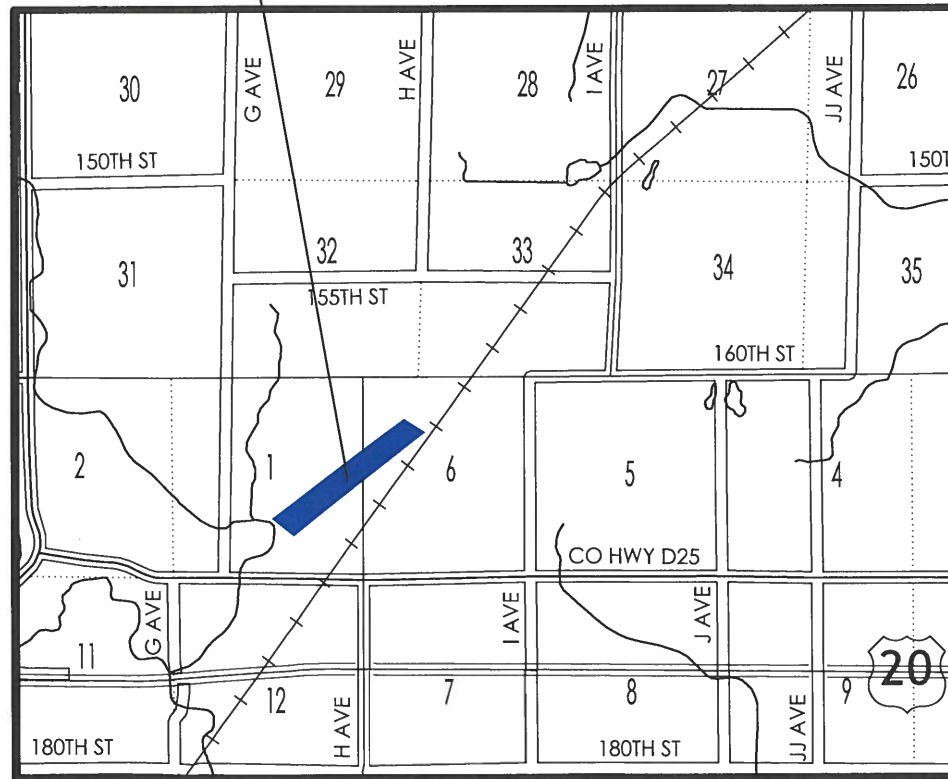
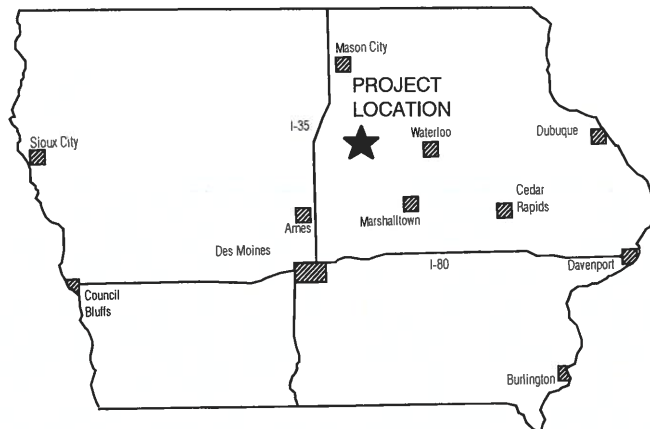


UPPER MAIN TILE DIVERSION DRAINAGE DISTRICT NO. 9 HARDIN COUNTY, IOWA 2020

PROJECT
LOCATION



VICINITY MAP
NOT TO SCALE



LOCATION MAP

INDEX OF SHEETS

SHEET	DESCRIPTION
1	COVER SHEET
2	LEGEND, NOTES, AND ABBREVIATIONS
3	PLAN AND PROFILE
4	DETAILS



NOTES:

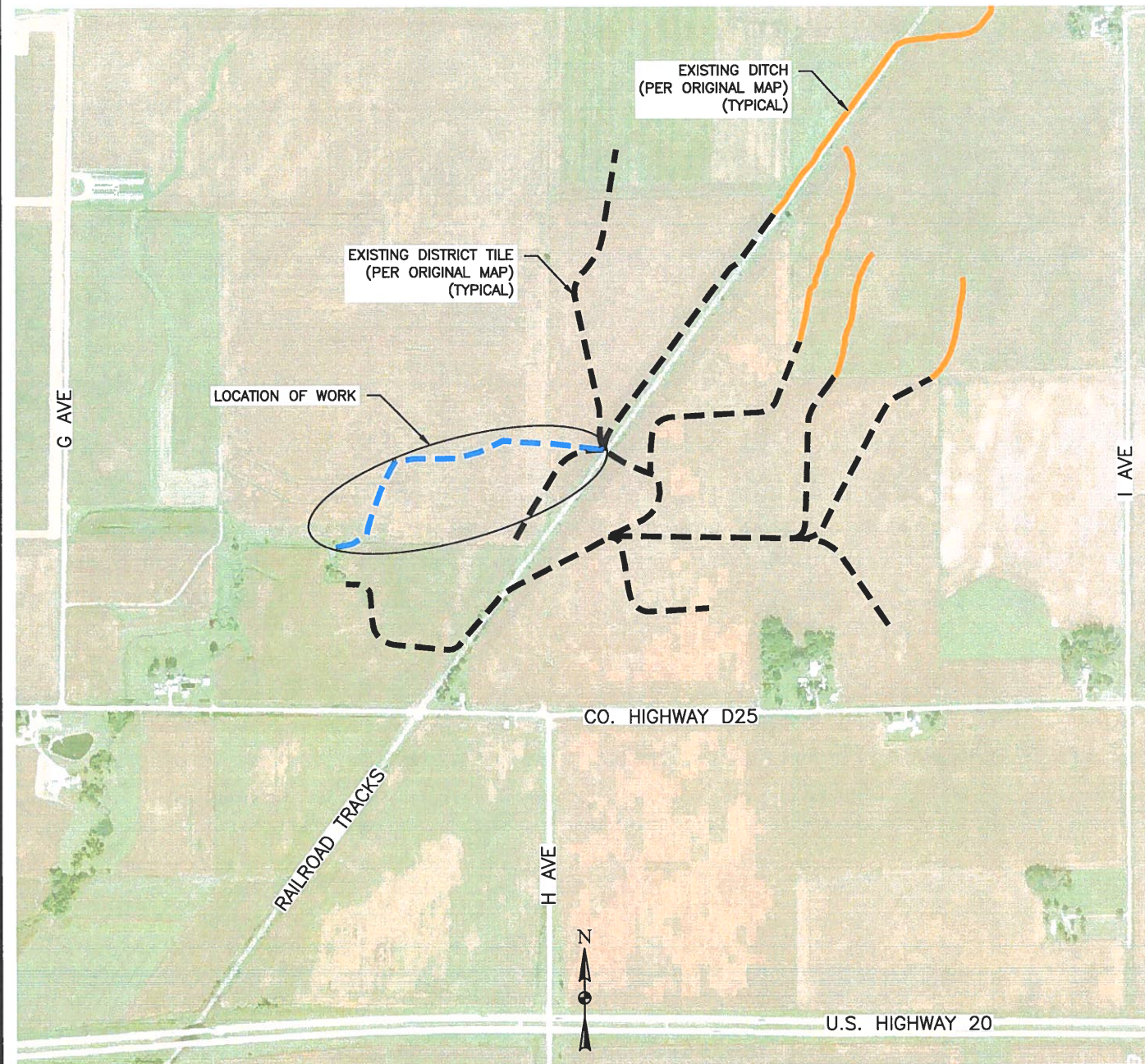
1. THE PLANS & SPECIFICATIONS PREPARED BY CGA SHALL GOVERN. ALL WORK SHALL COMPLY WITH THE DETAILS & SPECIFICATIONS REFERENCED.
2. CONTRACTOR SHALL CONTACT IOWA ONE-CALL TO OBTAIN UTILITY LOCATES PRIOR TO STARTING CONSTRUCTION.
3. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED OR INCREASED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
4. ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON 2019 SURVEY.



Clapsaddle-Garber Associates, Inc

Toll Free (800) 542-7981
www.cgaconsultants.com

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p style="text-align: right;"><i>Lee O. Gallentine</i> PE Feb 13, 2020</p> <p>Signature _____ Date _____ Lee O. Gallentine, PE Iowa License Number 15745 My license renewal date is December 31, 2020</p>
<p>Pages or sheets covered by this seal: <u>AS SHOWN ON INDEX</u></p>	



VISUAL INDEX
NOT TO SCALE

BENCHMARKS:

HARDIN COUNTY GPS MONUMENT NO. 8016
2019 SURVEY ELEVATION = 1169.72'

HARDIN COUNTY GPS MONUMENT NO. 8024
2019 SURVEY ELEVATION = 1181.52'

15"Ø VCP EXISTING MAIN TILE OUTLET FLOWLINE
2019 SURVEY ELEVATION = 1127.85'

PIPE MATERIAL ABBREVIATIONS

ACP	—	ASPHALT COATED PIPE
AWWA	—	AMERICAN WATER WORKS ASSOCIATION
CMLC	—	CEMENT MORTAR LINED AND COATED
CMP	—	CORRUGATED METAL PIPE
DIP	—	DUCTILE IRON PIPE
ELL	—	ELLIPTICAL
HDPE	—	HIGH DENSITY POLYETHYLENE
PPL	—	POLYPROPYLENE PIPE
PVC	—	POLYVINYL CHLORIDE
RCP	—	REINFORCED CONCRETE PIPE
RCEC	—	REINFORCED CONCRETE ELLIPTICAL PIPE
VCP	—	VITRIFIED CLAY PIPE

NOTES:

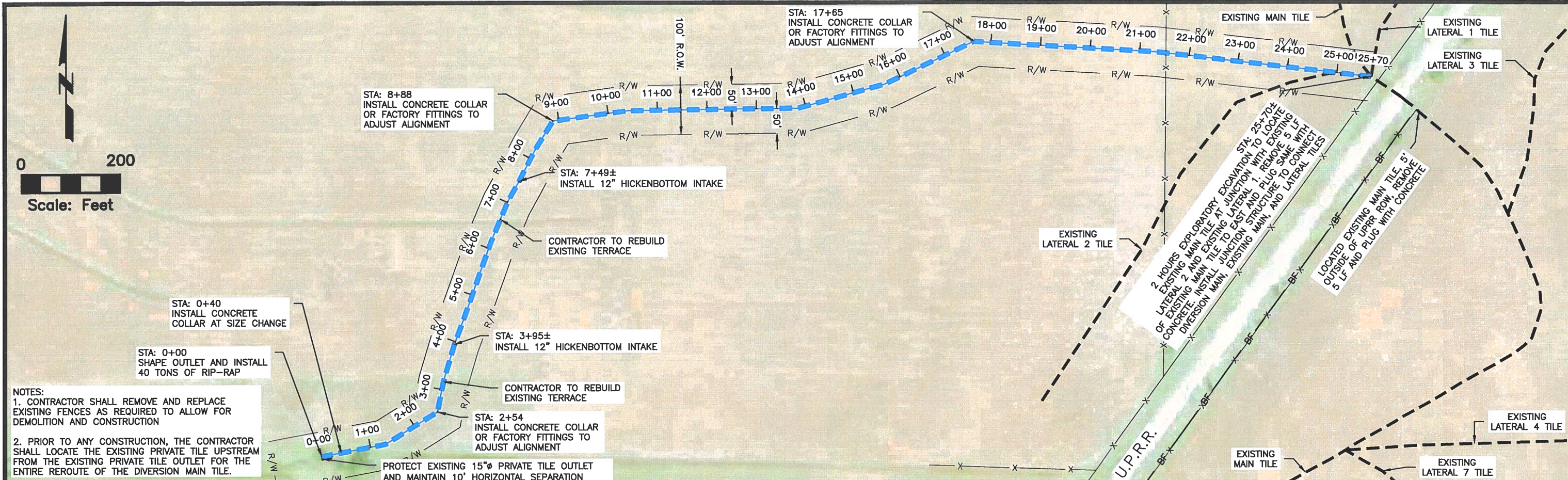
1. ALL PIPE LENGTHS SHOWN ARE THROUGH ALL STRUCTURES. HOWEVER, CONTRACTOR SHALL BE PAID ONLY FOR ACTUAL PIPE LENGTH INSTALLED IN COMPLETED SYSTEM.
2. CONTRACTOR SHALL PROTECT ALL TREES (INCLUDING LIMBS) SHOWN IN THE PROJECT PLANS UNLESS NOTED OTHERWISE. ALL TREES SHALL BE PROTECTED FROM DAMAGE TO TRUNKS, BRANCHES AND ROOTS. NO EXCAVATING, FILLING, GRADING, HAUL ROUTES OR MATERIAL STORAGE SHALL BE WITHIN THE DRIP LINE OF THE TREE(S) UNLESS OTHERWISE INDICATED. IF REQUIRED, CONTRACTOR SHALL PROVIDE BRANCH AND ROOT PRUNING REQUIRED FOR THE MEANS AND METHODS PROPOSED FOR THE NEW WORK BY A REGISTERED ARBORIST IN ADVANCE OF CONSTRUCTION. COST SHALL BE INCLUDED IN THE ASSOCIATED NEW WORK ITEM.
3. SOME UTILITIES ARE PLOTTED ON THESE PLANS. THERE MAY BE OTHER, THE EXISTENCE OF WHICH MAY BE KNOWN OR UNKNOWN. THE CONTRACTOR SHALL USE THE CONSTRUCTION PLANS IN CONJUNCTION WITH THE IOWA ONE-CALL SERVICE FOR THE ENTIRE PROJECT PRIOR TO STARTING ANY CONSTRUCTION TO ALLOW REVIEW FOR POSSIBLE UTILITY CONFLICTS. CONTRACTOR SHALL CONTACT ONE-CALL TO OBTAIN UTILITY LOCATES PRIOR TO STARTING CONSTRUCTION. WHERE PROPOSED CONSTRUCTION SHALL CROSS EXISTING UTILITIES, SERVICE, AND TILE LINES, CONTRACTOR SHALL LOCATE AND EXPOSE SAID UTILITIES, SERVICE, AND TILE LINES AT LEAST 24 HOURS PRIOR TO CONSTRUCTION TO ALLOW REVIEW FOR POSSIBLE UTILITY CONFLICTS.
4. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED OR INCREASED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ABBREVIATIONS

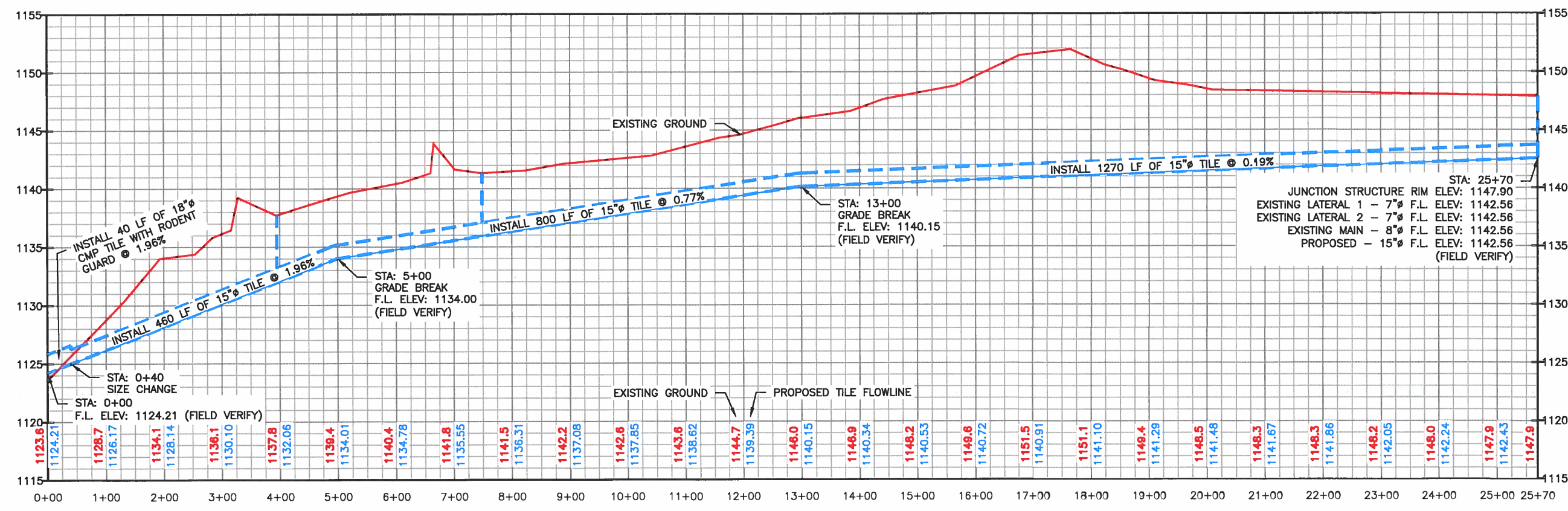
ADAAG	—	AMERICAN DISABILITIES ACT ACCESSIBILITY GUIDELINES
BM	—	BENCHMARK
BOC	—	BACK OF CURB
CDS	—	CUL DE SAC
CL	—	CENTERLINE
EG	—	EXISTING GROUND
EP	—	EDGE OF PAVEMENT
FG	—	FORM GRADE
FL	—	FLOW LINE
HP	—	HIGH POINT
INV	—	INVERT
LP	—	LOW POINT
MAX	—	MAXIMUM
MIN	—	MINIMUM
MUTCD	—	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
PC	—	POINT OF CURVATURE
PCC	—	PORTLAND CEMENT CONCRETE
PRC	—	POINT OF REVERSE CURVATURE
PT	—	POINT OF TANGENCY
R/W	—	RIGHT OF WAY
TOC	—	TOP OF CONCRETE
TYP	—	TYPICAL

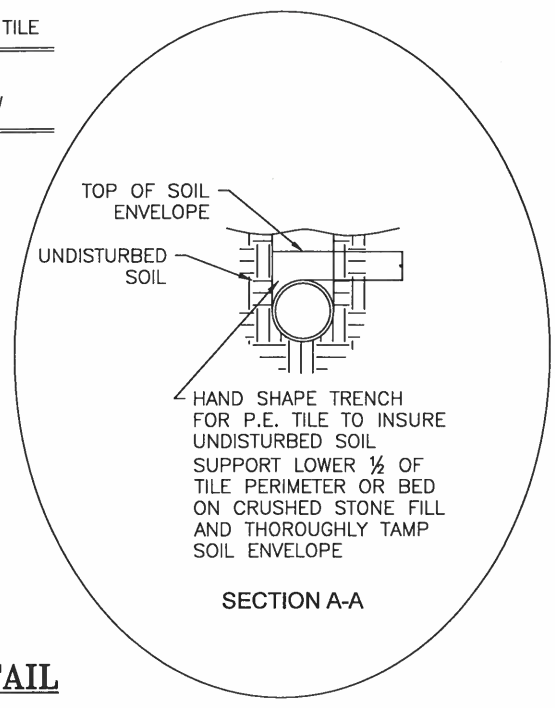
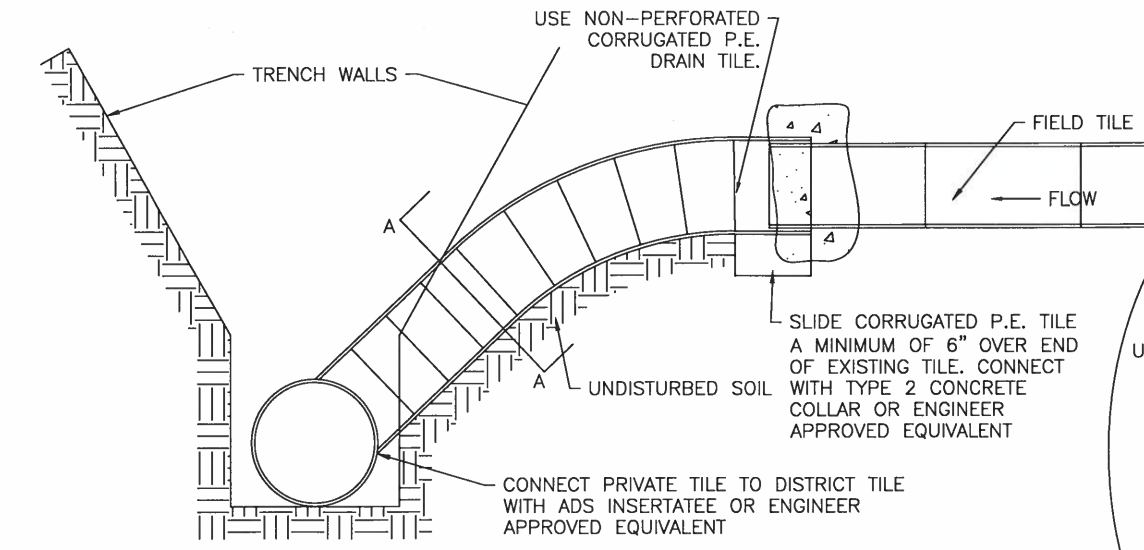
PLAN SHEET LEGEND

EXISTING	PROPOSED	
		— Street Sign Post
		— Sign Post
		— Ornamental Bush
		— Deciduous Tree
		— Coniferous Tree
		— Guy Anchor
		— Power Pole, w/Trans, w/Light, w/Trans & Light
		— Telephone Pedestal
		— Telephone Service
		— Electric Pedestal
		— Electric Panel
		— Light Pole
		— Gas Valve
		— Gas Meter
		— Fire Hydrant
		— Water Valve
		— Water Shut-Off
		— Sanitary Sewer Manhole
		— Storm Sewer/Tile Intake
		— Buried Fiber Optic Line
		— Overhead Electric Line
		— Fence Line
		— Gas Line
		— Water Main
		— Water Main Service Line
		— Sanitary Sewer Line
		— Sanitary Sewer Service Line
		— Storm Sewer/Tile Line
		— Future Storm Sewer Line
		— Tile Removal
		— Tile Abandoned
		— Structure/Intake Removal
		— Property Line
		— Right-Of-Way Line
		— Contour Line
		— Baseline/Centerline
		— Sawcut Line
		— Proposed Concrete Surface
		— Existing Concrete Surface/Removal
		— Proposed Gravel Surface
		— Gravel Surface/Removal
		— Proposed ACC Pavement
		— Existing ACC Pavement/Removal
		— Existing Surface Milling/Overlay
		— Existing Brick/Stamped Concrete



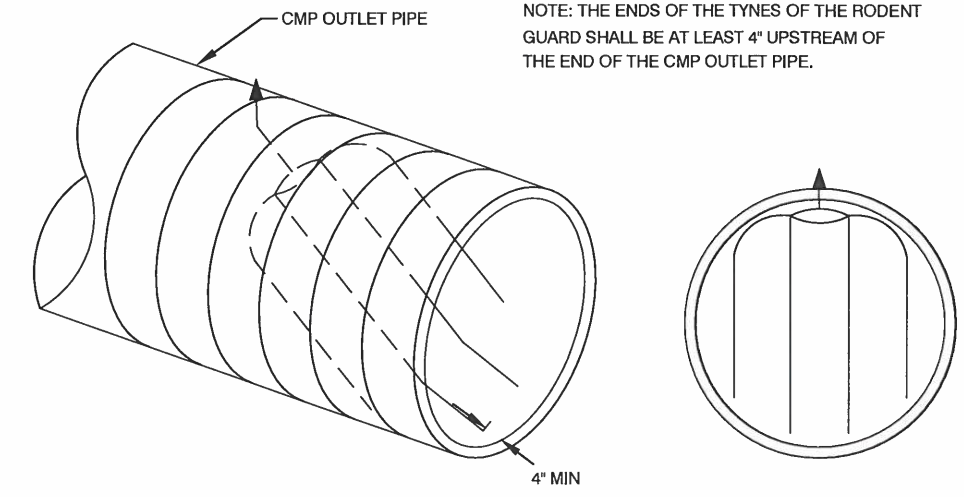
NOTES:
 1. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING FENCES AS REQUIRED TO ALLOW FOR DEMOLITION AND CONSTRUCTION
 2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL LOCATE THE EXISTING PRIVATE TILE UPSTREAM FROM THE EXISTING PRIVATE TILE OUTLET FOR THE ENTIRE REROUTE OF THE DIVERSION MAIN TILE.





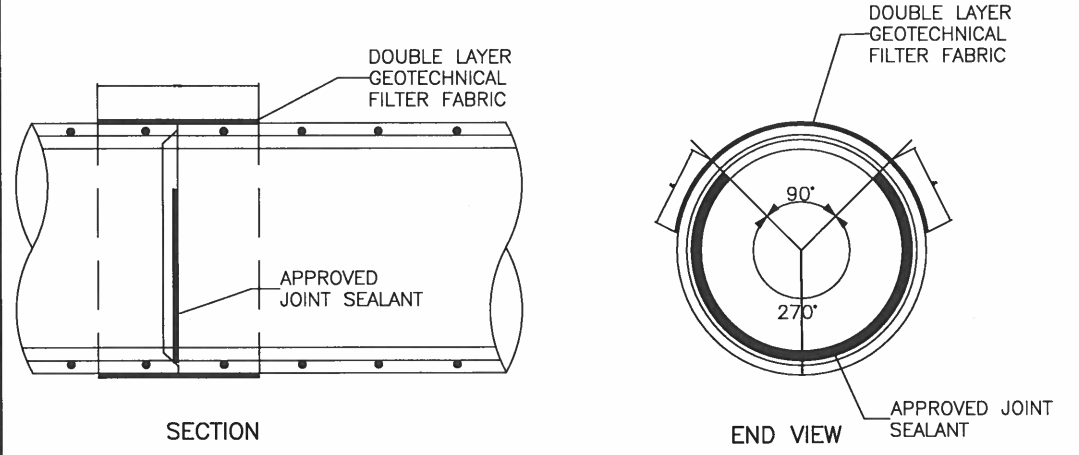
CONCRETE COLLAR EXCEPTION
 CONNECTIONS TO THE PIPE AT BOTH ENDS MAY BE MADE WITH A MANUFACTURED POLYETHYLENE INTERNAL SNAP COUPLER INSERTED FULLY INTO THE PIPE AND WRAPPED WITH GEOTECHNICAL FILTER FABRIC. CONCRETE COLLARS NOT REQUIRED WITH POSITIVE LOCKED CONNECTION, BUT COMPACTED CRUSHED ROCK FULLY SURROUNDING THE CONNECTION IS REQUIRED

PRIVATE TILE CONNECTION DETAIL
 FOR PRIVATE TILE UP TO 10" DIAMETER

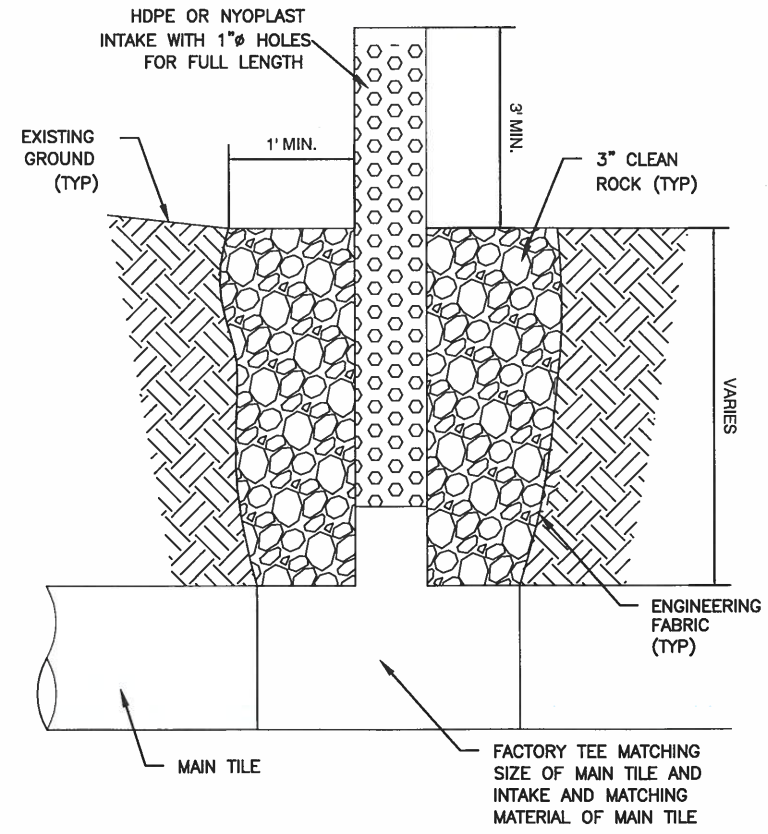


REMOVABLE RODENT GUARD DETAIL
 NO SCALE

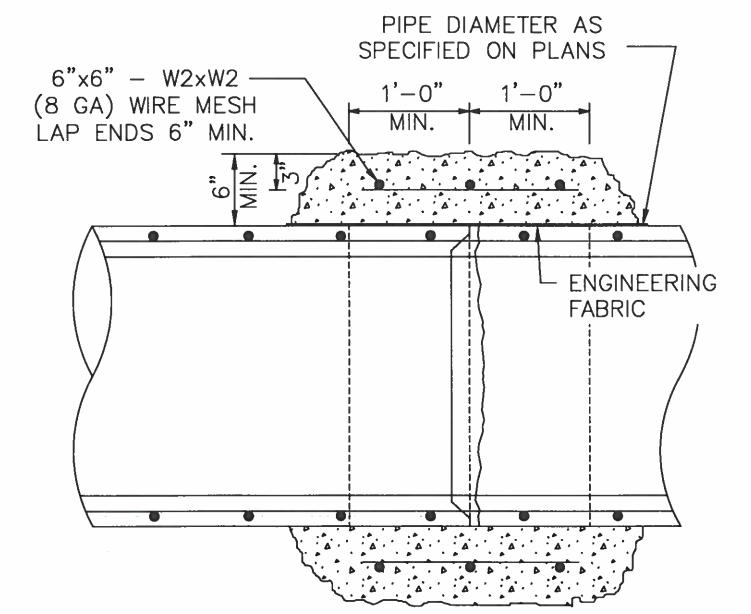
CONCRETE COLLAR REQUIREMENT
 THE OUTER EDGE OF PIPE JOINTS SHALL NOT BE OPENED GREATER THAN 5/16-INCH. IF GREATER THAN 5/16-INCH, A TYPE 2 CONCRETE COLLAR SHALL BE INSTALLED AROUND THE JOINT AT NO ADDITIONAL COST TO THE OWNER



RCP JOINT DETAIL
 NO SCALE



HICKENBOTTOM INTAKE DETAIL
 NO SCALE



MODIFIED TYPE PC-2 CONCRETE COLLAR CONNECTION DETAIL
 NO SCALE

DRAWN BY: ZJS	APPROVED BY: LOG	REVISIONS:
DATE: 07-22-2019	PROJ. NO.: 6735.1	
FIELD BY:		
P:\6735.1\CADD\CDS\6735.1-DETAILS.DWG; 1/2/2020		



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PROJECT:
 DRAINAGE DISTRICT #9
 HARDIN COUNTY, IOWA 2019

SHT. NAME:
 DETAIL

SHT. NO.:
 4 OF 4