

CONSTRUCTION PLANS FOR BRADENTON BEACH GRAVITY SEWER

MANATEE COUNTY, FLORIDA

February 2021

MANATEE COUNTY PROJECT #6105280



PROJECT TEAM:

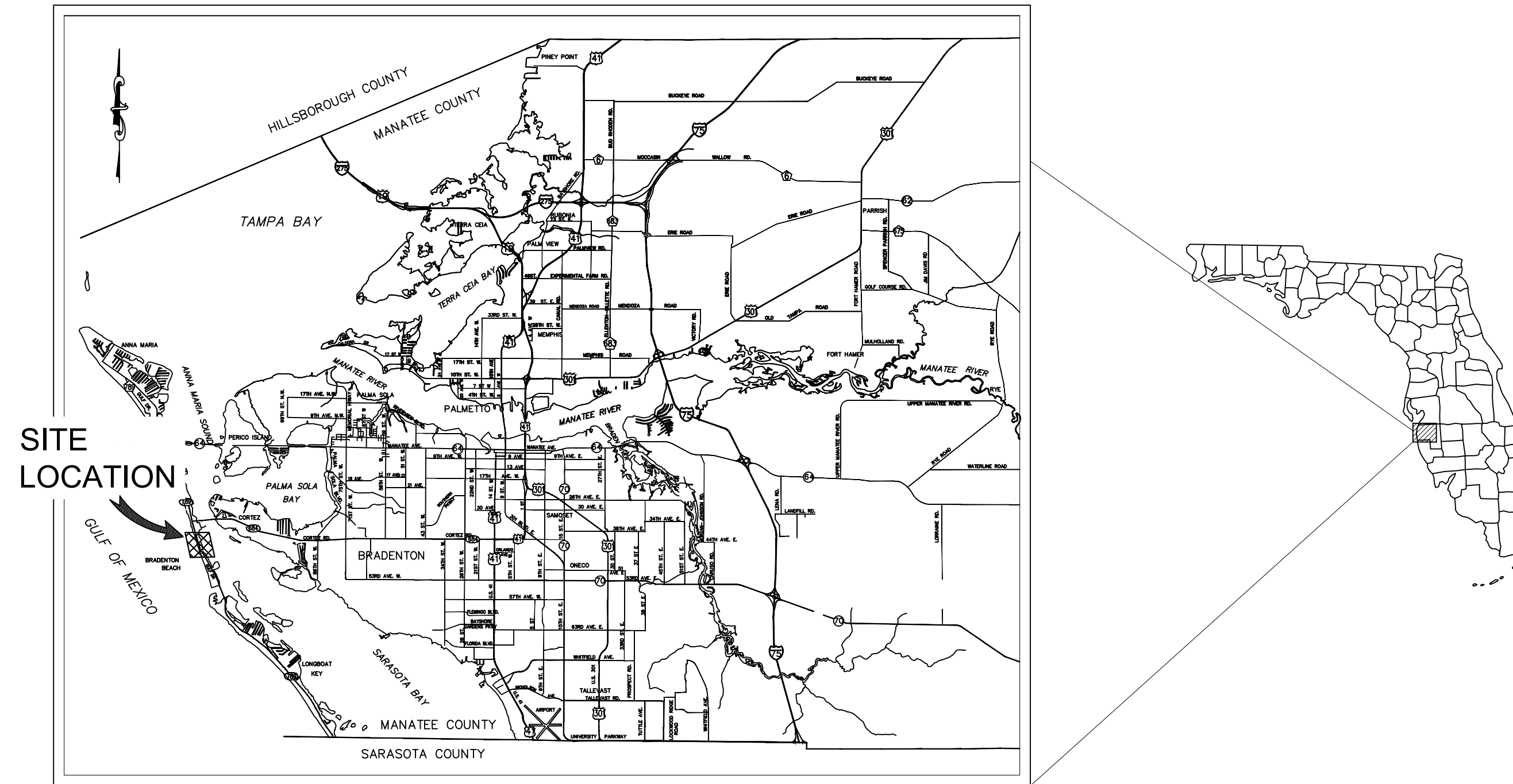
OWNER:
MANATEE COUNTY
1022 26TH AVE. E.
BRADENTON, FL 34208
CONTACT: ALEX GONZALEZ, P.E.
941-708-7450 EXT. 7338

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
100 2ND AVENUE SOUTH, SUITE 105-N
ST. PETERSBURG, FL 33701
CONTACT: MICHAEL A. SEMAGO, P.E.
727-498-3633

SURVEY:
HYATT SURVEY SERVICES, INC.
2012 LENA ROAD
BRADENTON, FL 34211
CONTACT: JOHN MATTHEWS, PM
491-812-2805

GEOTECH:
ARDAMAN & ASSOCIATES, INC.
78 SARASOTA CENTER BOULEVARD
SARASOTA, FL 34240
CONTACT: JERRY H. KUEHN, P.E.
941-922-3526

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PROJECT VICINITY MAP
N.T.S.

BID SUBMITTAL

PREPARED BY
Kimley»Horn

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100 2ND AVENUE SOUTH, SUITE 105-N
ST. PETERSBURG, FL 33701
PHONE: (727) 647-2800
WWW.KIMLEY-HORN.COM CA 00000666

UTILITY CONTACTS:

FRONTIER COMMUNICATIONS TONI CANNON 3712 W WALNUT ST TAMPA, FL 33607 813-875-1014	MANATEE COUNTY KATHY MCMAHON 4520- 66TH STREET W BRADENTON, FL 34210 941-792-8811 EXT. 5002
CHARTER COMMUNICATIONS DAVID AVILA 700 CARILLON PARKWAY, STE 6 ST. PETERSBURG, FL 33716 727-329-2841	TECO PEOPLES GAS JOAN DOMING 8416 PALM RIVER ROAD TAMPA, FL 33619 813-275-3783
MCI (VERIZON) JAMES BARRA 7000 WESTON PARKWAY CARY, NC 27513-2119 469-886-4091	FLORIDA POWER & LIGHT GREG COKER 941-704-9087
BLACK AND VEATCH TAMPA (FIBER) KEN SOULE 5206 EAGLE TRAIL DRIVE TAMPA, FL 33634 813-539-2274	

THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

No.	REVISIONS

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MICHAEL A. SEMAGO, P.E.
FLORIDA LICENSE NUMBER:
87501

DATE
FEB 2021
PROJECT NO.
148400056
SHEET NUMBER
G-01






















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GENERAL NOTES

1. THE FOLLOWING NGS VERTICAL CONTROL MONUMENTS WERE RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREIN: "GIS 103" NAVD 1988 ELEVATION 4.27' "J 254" NAVD 1988 ELEVATION 13.48'
2. THIS SURVEY IS REFERENCED TO A PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
3. RIGHT-OF-WAY AND PARCEL LOCATION INDICATED HEREIN IS THE RESULT OF FOUND BOUNDARY MONUMENTATION TOGETHER WITH AVAILABLE PUBLIC RECORD INFORMATION. TITLE WORK WAS NOT PROVIDED.
4. THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.
5. THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF THE PARTY OR PARTIES CERTIFIED TO BELOW FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ORIGINALLY INTENDED WITHOUT WRITTEN CONSENT FROM HYATT SURVEY SERVICES, INC. IS STRICTLY PROHIBITED AND RENDERS THE SURVEYOR'S CERTIFICATION, SIGNATURE AND SEAL NULL AND VOID. ANY QUESTIONS CONCERNING THE CONTENT OR PURPOSE OF THIS DRAWING SHOULD BE DIRECTED TO HYATT SURVEY SERVICES, INC.

LEGEND

-  SITE CONTROL POINT
-  IRON PIPE FOUND
-  IRON ROD FOUND
-  CONCRETE MONUMENT FOUND
-  SUBSURFACE INVESTIGATION
-  SIGN
-  WOOD UTILITY POLE
-  CONCRETE UTILITY POLE
-  GUY WIRE
-  WATER METER
-  WATER VALVE
-  SANITARY MANHOLE
-  FIRE HYDRANT
-  BACKFLOW PREVENTER
-  UTILITY BOX
-  UTILITY RISER
-  ELECTRIC SERVICE BOX
-  MAILBOX(ES)
-  WOOD POST
-  CLEANOUT
-  GAS MARKER

-  PINE
-  PALM
-  TREE

SITE CONTROL

DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP # 1	1137931.14	429909.29	4.95'	ND (LB 7203)
CP #2	1137704.01	429981.50	4.59'	ND (LB 7203)
CP #3	1137472.22	430057.81	4.89'	IRC (LB 7203)
CP #4	1137248.25	430129.02	4.88'	IRC (LB 7203)
CP #5	1137016.55	430201.71	4.49'	IRC (LB 7203)
CP #6	1136765.91	430274.86	4.64'	IRC (LB 7203)
CP #7	1136538.30	430330.18	4.85'	IRC (LB 7203)
CP #8	1136302.38	430398.82	5.73'	IRC (LB 7203)

VVH TABLE


VVH NUMBER	UTILITY	SIZE	MATERIAL	DEPTH OF COVER	COLOR	SURFACE TYPE	TRACER FOUND
1	FORCE MAIN	4"	PVC	3.99'	GREEN	SAND	METAL TAPE
2	GAS	4"	POLY	2.99'	YELLOW	SAND	WIRE
3	WATER MAIN	4"	PVC	3.37'	BLUE	GRASS	WIRE
4	BURIED ELECTRIC	2"	PVC	3.94'	BLACK	GRASS	NONE
5	FORCE MAIN	4"	PVC	2.41'	GREEN	ASPHALT	NONE
6	WATER MAIN	16"	DIP	3.04'	BLACK	ASPHALT	NONE
7	BURIED FIBER	4"	PVC	1.64'	PEACH	ASPHALT	NONE
8	WATER MAIN	16"	DIP	3.60'	BLACK	CONCRETE	NONE
9	BURIED TEL.	4"	PVC	1.83'	PEACH	ASPHALT	NONE
10	WATER MAIN	16"	DIP	3.20'	BLACK	ASPHALT	NONE
11	BURIED TEL.	1.25"	DBC	1.08'	BLACK	DIRT	NONE
12	WATER MAIN	16"	DIP	3.23'	BLACK	ASPHALT	NONE
13	2 BURIED FIBER	4"	POLY	1.81'	BLACK	ASPHALT	NONE
14	WATER MAIN	16"	DIP	2.93'	BLACK	ASPHALT	NONE
	2 BURIED TEL.	4"	PVC	2.93'	PEACH		NONE
15 (16)	2 BURIED TEL.	4"	PVC	2.26'	PEACH	ASPHALT	NONE
	WATER MAIN	16"	DIP	2.65'	BLACK		NONE
17	WATER MAIN	16"	DIP	3.30'	BLACK	ASPHALT	NONE
	BURIED TEL.	1.25"	DBC	2.90'	BLACK		NONE
18	BURIED TEL.	4"	PVC	3.20'	PEACH	ASPHALT	NONE
	BURIED TEL.	1.25"	DBC	3.20'	BLACK		NONE
19	GAS	4"	POLY	5.34'	YELLOW	DIRT	WIRE
20	GAS	4"	POLY	3.24'	YELLOW	SHELL	WIRE
21	GAS	4"	POLY	3.74'	YELLOW	SHELL	WIRE
22	GAS	4"	POLY	3.56'	YELLOW	SHELL	WIRE
23	GAS	4"	POLY	3.25'	YELLOW	SHELL	WIRE
24	GAS	4"	POLY	3.40'	YELLOW	SHELL	WIRE
25	WATER MAIN	16"	DIP	3.11'	BLACK	ASPHALT	NONE
26	UNKNOWN	4"	PVC	3.17'	GRAY	ASPHALT	NONE
27	BURIED TEL.	1.25"	DBC	2.34'	BLACK	ASPHALT	NONE

No.	REVISIONS	DATE	BY

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100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 148400056
DATE JAN 2021
SCALE AS SHOWN
DESIGNED BY MAS
DRAWN BY KTM
CHECKED BY WEW


**BRADENTON BEACH GRAVITY
REPLACEMENT**

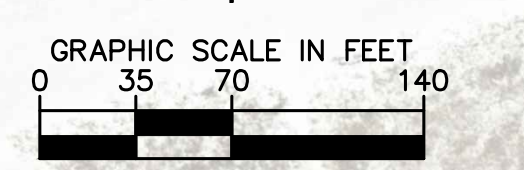
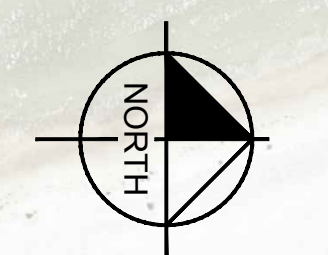
MANATEE COUNTY FL

LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER 87501
DATE:

SURVEY & SUE NOTES

SHEET NUMBER
G-03

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LEGEND

SANITARY SEWER (OPEN CUT)	—————
SANITARY SEWER (CTHDD)	- - - - -
MANHOLE	⊗

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 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

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Manatee County
 FLORIDA

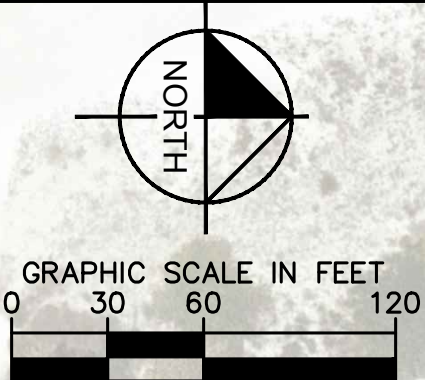
BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY FL

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501
DATE:	

KEYSHEET

SHEET NUMBER	G-04
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CONSTRUCTION PHASING

PHASE I —

PHASE II —

EXISTING SANITARY SEWER TO REMAIN —

EXISTING SANITARY SEWER TO BE GROUT FILL AND ABANDONED —

CONSTRUCTION PHASING NOTES

PHASE I:

- CONTRACTOR TO CONSTRUCT GRAVITY MAIN ALONG GULF DRIVE, CONNECTING INTO EX. MH #1
- CONTRACTOR TO CONSTRUCT GRAVITY MAIN AND SERVICE LATERALS ON 11TH STREET SOUTH, CONNECTING INTO GRAVITY MAIN ALONG GULF AT MH #7
- CONTRACTOR TO SWITCH OVER FLOWS, PENDING GRAVITY SEWER TESTING AND APPROVAL, FROM SOUTH VIA INSTALLED CUT IN MANHOLE #1

PHASE II:

- AFTER FLOW SWITCHES OVER TO NEW MAIN ON 11TH STREET SOUTH AND CUT IN MANHOLE #1 IS INSTALLED CONTRACTOR TO CONSTRUCT REMAINING GRAVITY MAIN AND SERVICES

PHASE III:

- ONCE PROPOSED GRAVITY MAIN IS FULLY CONSTRUCTED AND REVIEWED BY ENGINEER, EXISTING GRAVITY MAIN SHALL BE GROUT FILLED AND ABANDONED PER SHEET G-06



GROUNDWATER / DEWATERING NOTE:
 THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



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 100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT
148400056

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Manatee County
 FLORIDA

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

LICENSED PROFESSIONAL

MICHAEL A. SEMAGO, P.E.

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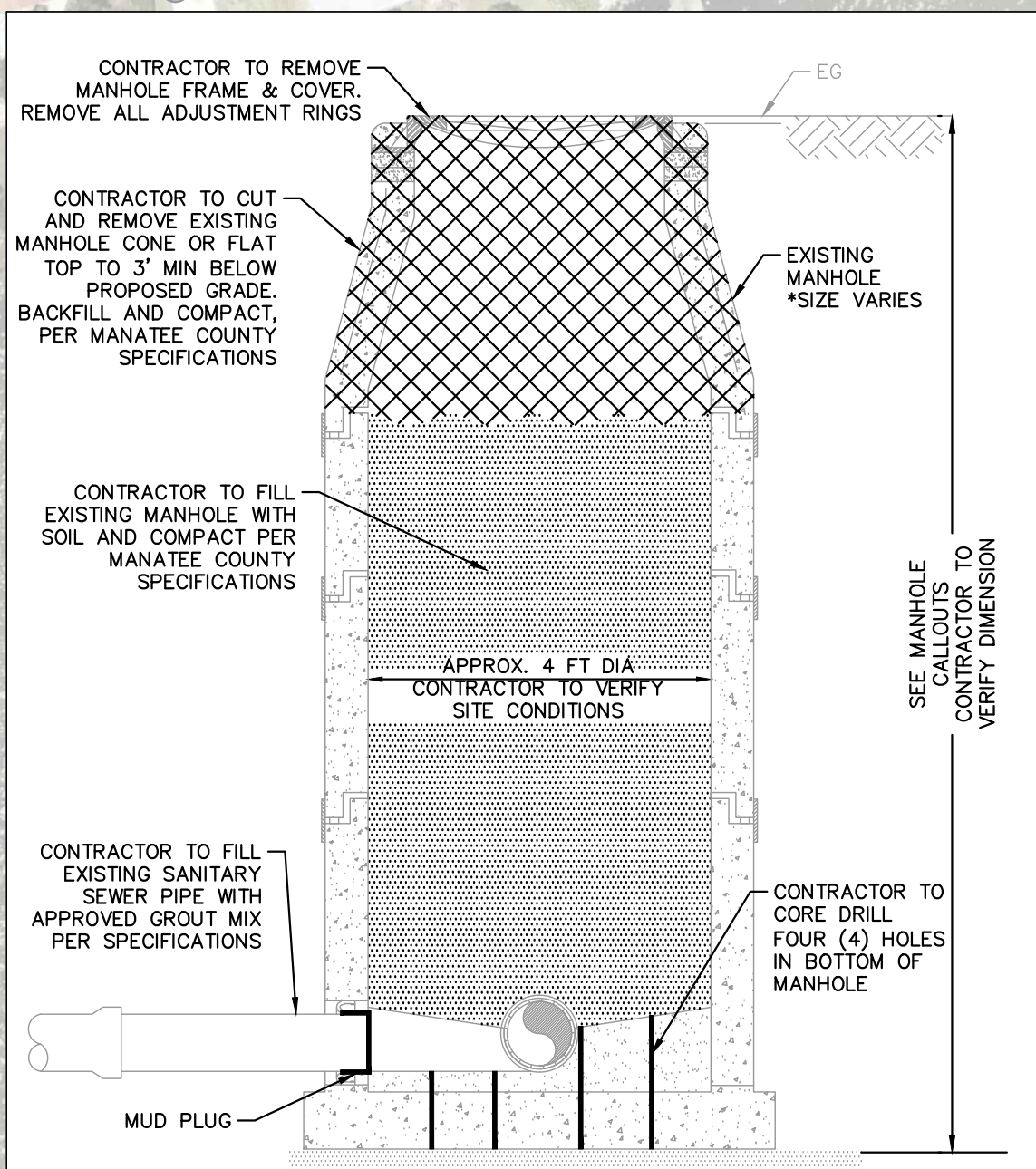
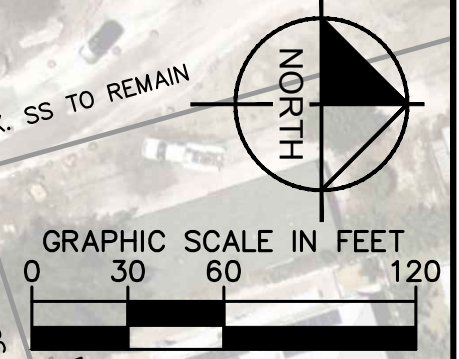
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CONSTRUCTION PHASING PLAN

SHEET NUMBER
G-05

GROUT & DEMOLITION PLAN LEGEND

- EX. SANITARY SEWER
- EX. FORCE MAIN
- EX. MANHOLE
- APPROXIMATE LENGTH OF 10" GRAVITY SEWER TO BE GROUT FILLED AND ABANDONED 1732 LF
- APPROXIMATE LENGTH OF 8" GRAVITY SEWER TO BE GROUT FILLED AND ABANDONED 2318 LF
- APPROXIMATE LENGTH OF 6" GRAVITY SEWER TO BE GROUT FILLED AND ABANDONED 200 LF
- MANHOLE DEMOLITIONS (SEE CALLOUT) 25
- **EX. MANHOLE #1-4 TO REMAIN



- NOTES:**
- MANHOLES 5 FT OR LESS IN DEPTH SHALL BE COMPLETELY REMOVED AND BACKFILLED IN ACCORDANCE WITH MANATEE COUNTY SPECIFICATIONS.
 - IF MANHOLE IS ON ROADWAY, COMPACTION SHALL BE 98% PER AASHTO T-180 DENSITY. IF MANHOLE IS OUTSIDE OF ROADWAY, COMPACTION SHALL BE 95% PER AASHTO T-180 DENSITY OR GREATER.

GROUT MIX TO BE PER SPECIFICATIONS SECTION: 02064 SUB SECTION: 3.04

GROUNDWATER / DEWATERING NOTE:
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REVISION	DATE	MANHOLE DEMOLITION DETAIL	MD-01
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No.	REVISIONS	DATE	BY

Kimley & Horn

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100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

Manatee County

BRADENTON BEACH GRAVITY REPLACEMENT

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MICHAEL A. SEMAGO, P.E.

FL LICENSE NUMBER 87501

EXISTING SANITARY SEWER GROUT & DEMOLITION PLAN

SHEET NUMBER

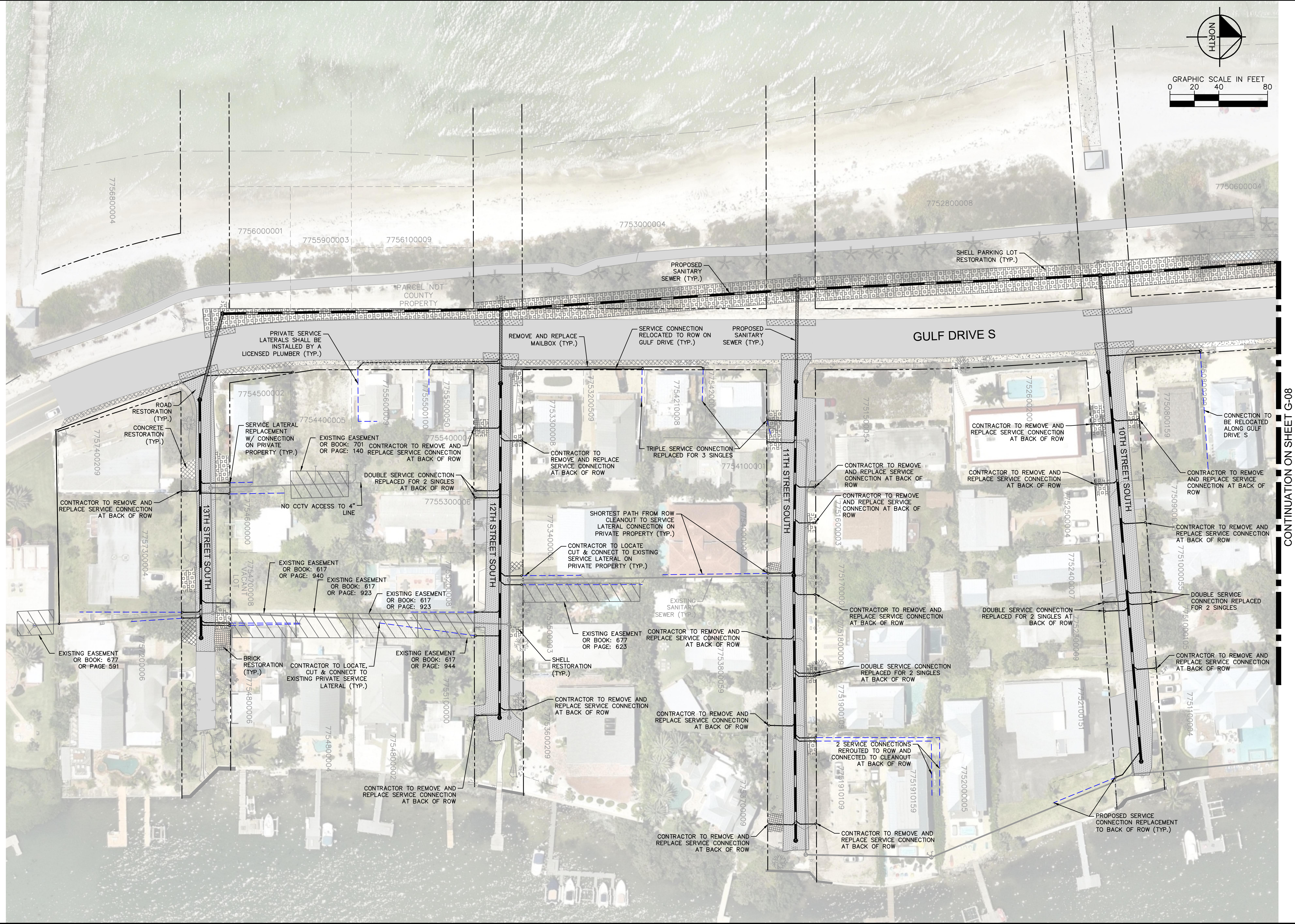
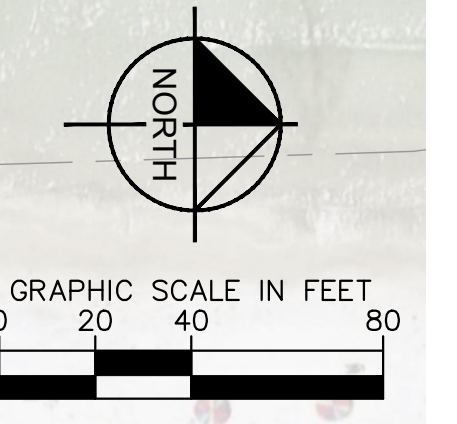
G-06

LEGEND:

- SINGLE SERVICE CONNECTION
- *PATH FROM ROW CLEANOUT TO CONNECTION ON PRIVATE PROPERTY (SEE NOTES BELOW)
- SIDEWALK/CONCRETE RESTORATION
- BRICK DRIVEWAY RESTORATION
- SHELL DRIVEWAY RESTORATION
- FULL ROAD RESTORATION
- MILL AND OVERLAY
- RECORDED EASEMENTS

LATERAL CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING SERVICE LATERALS CONNECTING TO THE GRAVITY MAIN IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY ARE ESTIMATES BASED ON CLOSED CIRCUIT TELEVISION CAMERA. THE SERVICE LATERAL CONNECTIONS TO THE HOUSES ARE BASED ON GEOGRAPHIC INFORMATION SYSTEM. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS OFF ALL SERVICE LATERALS IN RIGHT-OF-WAY AND PRIVATE PROPERTY.
2. ALL SERVICE LOCATIONS SHOWN ARE APPROXIMATE AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL HOMEOWNERS FOR LOCATING THE OWNER'S EXISTING SERVICE LATERAL AND DETERMINE, SUBJECT TO APPROVAL BY THE COUNTY, THE BEST LOCATIONS AND DEPTH FOR EACH SERVICE LATERAL.
3. LOCATION OF ALL SERVICE LATERALS AND CONNECTIONS IN RIGHT-OF-WAY AND ON PRIVATE PROPERTY SHALL BE RECORDED ON THE AS-BUILT DRAWINGS TO BE FURNISHED TO THE COUNTY BY THE CONTRACTOR.
4. CONTRACTOR SHALL USE ALL EFFORTS TO MINIMIZE IMPACT TO EXISTING DRIVEWAYS, SIDEWALKS, INFRASTRUCTURE, ETC.. WHEN CONSTRUCTING SERVICE LATERALS IN RIGHT-OF-WAY AND ON PRIVATE PROPERTY, CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT SERVICE LATERALS, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ATTAIN DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED SERVICE LATERALS.
6. ANY EXISTING UTILITY SERVICES AFFECTED BY CONSTRUCTION SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES AND PUMP STATIONS ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
8. CONTRACTOR TO MAINTAIN MINIMUM CLEARANCES PER FDEP F.A.C. RULE 62-55.314. SEE DETAIL ON SHEET D-03.
9. CONTRACTOR TO REFERENCE DETAIL US-13A ON SHEET D-02 AND MANATEE COUNTY SPECIFICATIONS FOR SERVICE LATERAL CONSTRUCTION.
10. EACH SERVICE CONNECTION SHALL BE A SINGLE SERVICE CONNECTION FROM RIGHT-OF-WAY AND/OR PRIVATE PROPERTY TO GRAVITY MAIN. AT NO POINT MAY ANY SERVICE CONNECTIONS BE DOUBLES.
11. CONTRACTOR TO ENSURE ALL MANHOLES AND CLEANOUTS ARE ACCESSIBLE DURING CONSTRUCTION.
12. ALL RESTORATION ON PRIVATE PROPERTY SHALL BE COORDINATED WITH THE HOME OWNER AND REVIEWED BY THE COUNTY.
13. ALL SERVICE LATERAL CONSTRUCTION ON PRIVATE PROPERTY SHALL BE INSTALLED BY A LICENSED PLUMBER.



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 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

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Manatee County
BRADENTON BEACH GRAVITY REPLACEMENT
 MANATEE COUNTY

LICENSED PROFESSIONAL
 MICHAEL A. SEMAGO, P.E.
 FL LICENSE NUMBER 87501

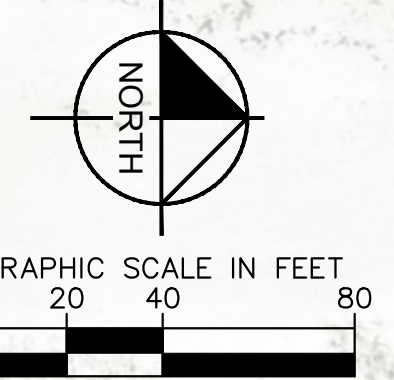
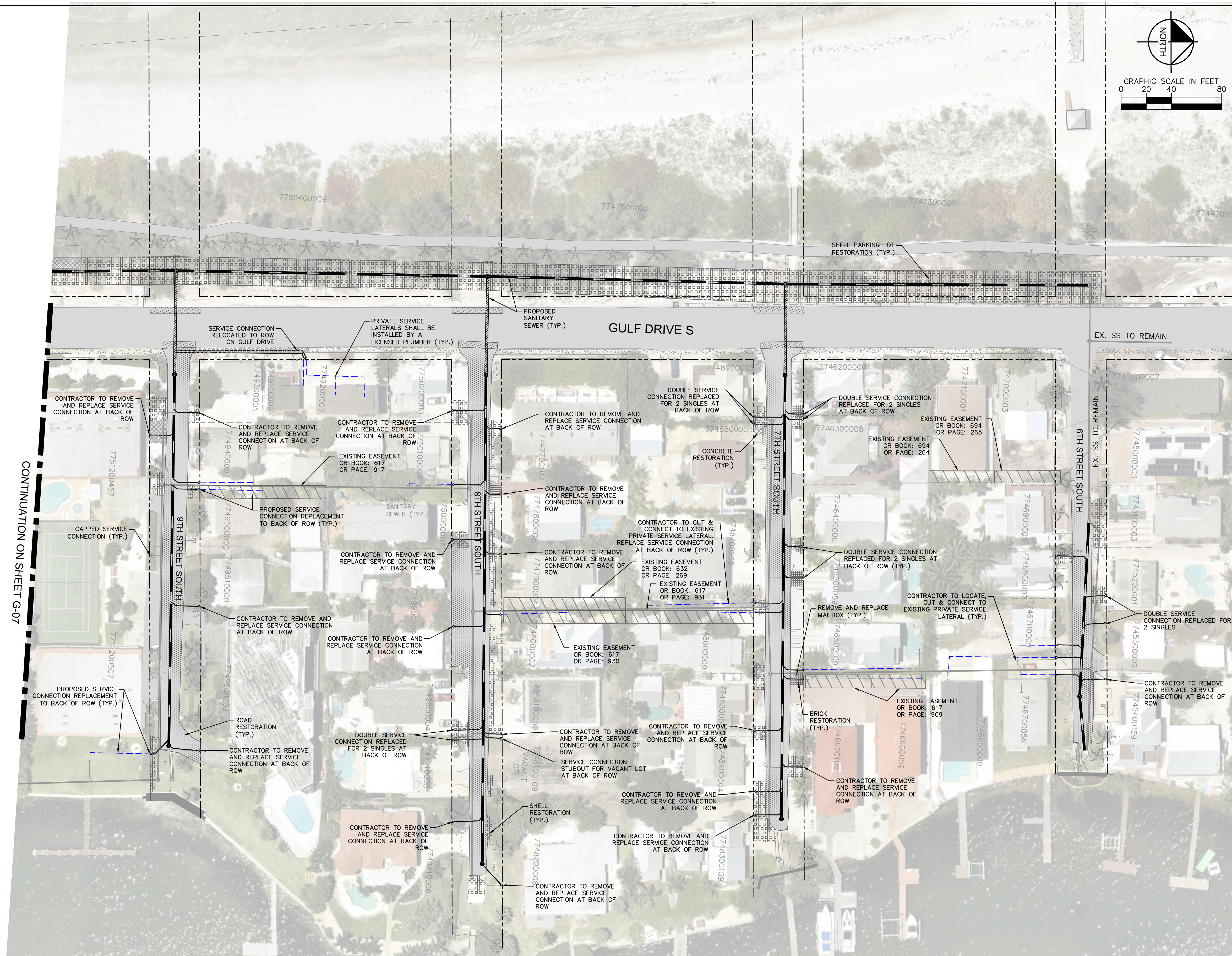
SERVICE LATERAL CONSTRUCTION I

SHEET NUMBER
G-07

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CONTINUATION ON SHEET G-08

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LEGEND:

SINGLE SERVICE CONNECTION	
*PATH FROM ROW CLEANOUT TO CONNECTION ON PRIVATE PROPERTY (SEE NOTES BELOW)	
SIDEWALK/CONCRETE RESTORATION	
BRICK DRIVEWAY RESTORATION	
SHELL DRIVEWAY RESTORATION	
FULL ROAD RESTORATION	
MILL AND OVERLAY	
RECORDED EASEMENTS	

- LATERAL CONSTRUCTION NOTES:
1. THE LOCATIONS OF EXISTING SERVICE LATERALS CONNECTING TO THE GRAVITY MAIN IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY ARE ESTIMATES BASED ON CLOSED CIRCUIT TELEVISION CAMERA THE SERVICE LATERAL CONNECTIONS TO THE HOUSES ARE BASED ON GEOGRAPHIC INFORMATION SYSTEM. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS OFF ALL SERVICE LATERALS IN RIGHT-OF-WAY AND PRIVATE PROPERTY.
 2. ALL SERVICE LOCATIONS SHOWN ARE APPROXIMATE AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL HOMEOWNERS FOR LOCATING THE OWNER'S EXISTING SERVICE LATERAL AND DETERMINE, SUBJECT TO APPROVAL BY THE COUNTY, THE BEST LOCATIONS AND DEPTH FOR EACH SERVICE LATERAL.
 3. LOCATION OF ALL SERVICE LATERALS AND CONNECTIONS IN RIGHT-OF-WAY AND ON PRIVATE PROPERTY SHALL BE RECORDED ON THE AS-BUILT DRAWINGS TO BE FURNISHED TO THE COUNTY BY THE CONTRACTOR.
 4. CONTRACTOR SHALL USE ALL EFFORTS TO MINIMIZE IMPACT TO EXISTING DRIVEWAYS, SIDEWALKS, INFRASTRUCTURE, ETC., WHEN CONSTRUCTING SERVICE LATERALS IN RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT SERVICE LATERALS, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ATTAIN DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED SERVICE LATERALS.
 5. ANY EXISTING UTILITY SERVICES AFFECTED BY CONSTRUCTION SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE.
 6. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES AND PUMP STATIONS ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
 7. CONTRACTOR TO MAINTAIN MINIMUM CLEARANCES PER FDEP F.A.C. RULE 62-55.314. SEE DETAIL ON SHEET D-03.
 8. CONTRACTOR TO REFERENCE DETAIL US-13A ON SHEET D-02 AND MANATEE COUNTY SPECIFICATIONS FOR SERVICE LATERAL CONSTRUCTION.
 9. EACH SERVICE CONNECTION SHALL BE A SINGLE SERVICE CONNECTION FROM RIGHT-OF-WAY AND/OR PRIVATE PROPERTY TO GRAVITY MAIN. AT NO POINT MAY ANY SERVICE CONNECTIONS BE DOUBLES.
 10. CONTRACTOR TO ENSURE ALL MANHOLES AND CLEANOUTS ARE ACCESSIBLE DURING CONSTRUCTION.
 11. ALL RESTORATION ON PRIVATE PROPERTY SHALL BE COORDINATED WITH THE HOME OWNER AND REVIEWED BY THE COUNTY.
 12. ALL SERVICE LATERAL CONSTRUCTION ON PRIVATE PROPERTY SHALL BE INSTALLED BY A LICENSED PLUMBER.

CONTINUATION ON SHEET G-07

No.	REVISIONS	DATE	BY

Kimley»Horn

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 100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

BRADENTON BEACH GRAVITY REPLACEMENT

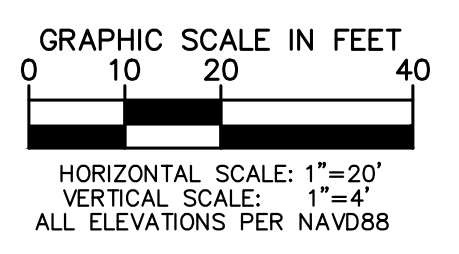
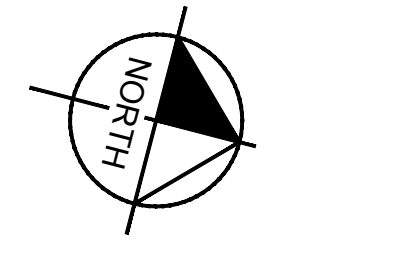
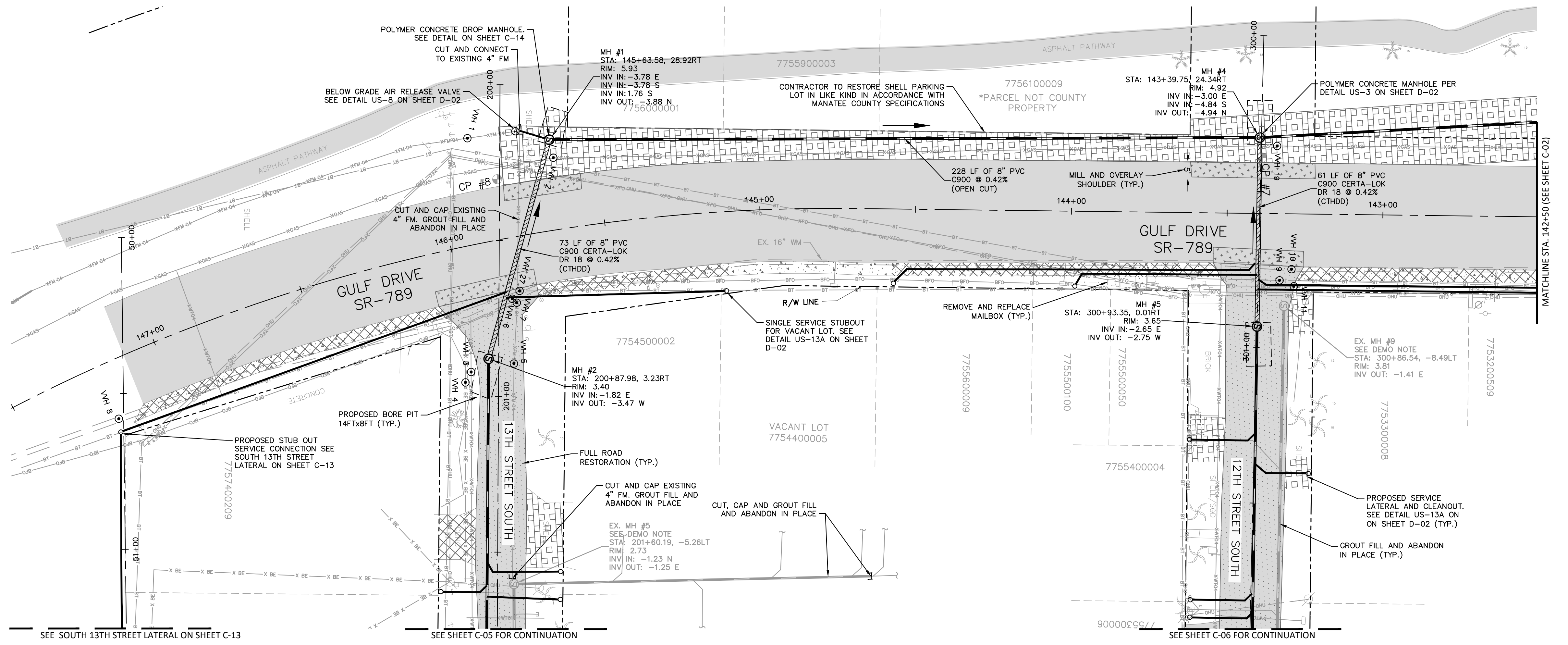
MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501

FL DATE: _____

SERVICE LATERAL CONSTRUCTION II	SHEET NUMBER G-08
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- LEGEND:
- SIDEWALK/CONCRETE RESTORATION
 - BRICK DRIVEWAY RESTORATION
 - SHELL DRIVEWAY RESTORATION
 - FULL ROAD RESTORATION
 - MILL AND OVERLAY
 - BORE PIT

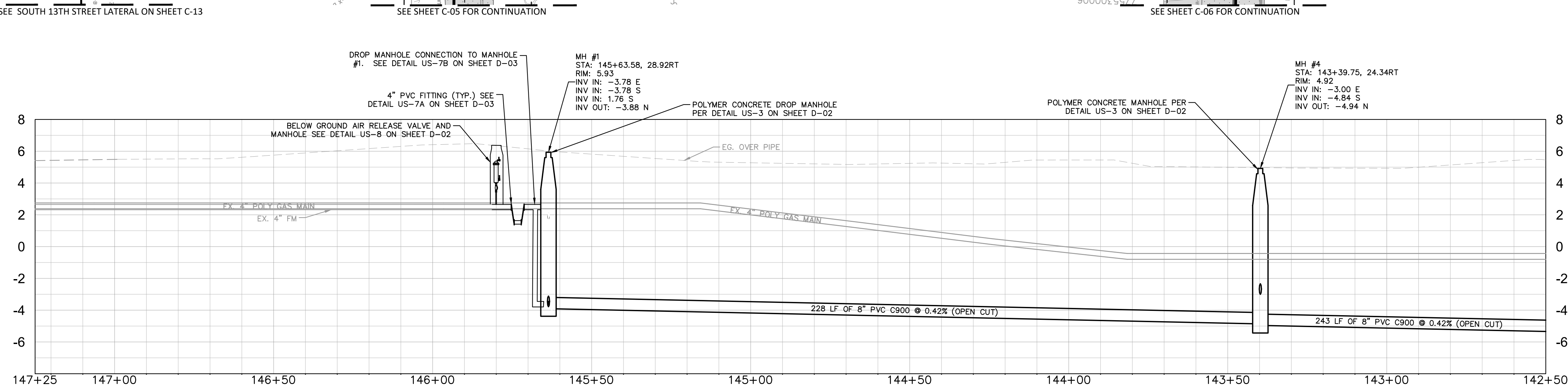
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KHA PROJECT	148400056
DATE	JAN 2021
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DRAWN BY	KTM
CHECKED BY	WEW

Manatee County Florida

BRADENTON BEACH GRAVITY REPLACEMENT

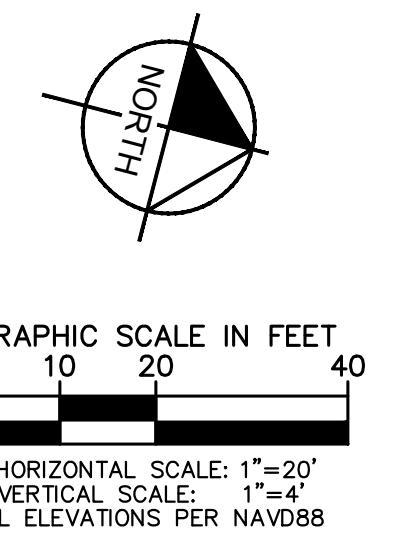
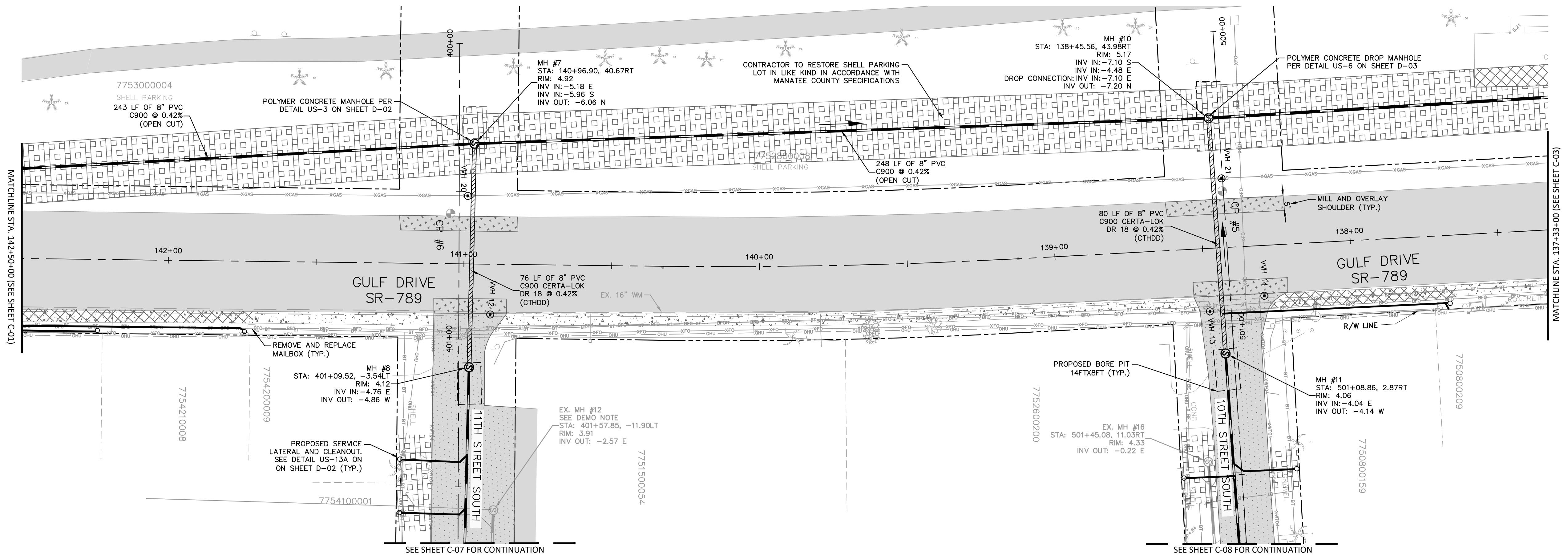
MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501

GULF DRIVE S [STA. 147+25-142+50]

SHEET NUMBER	C-01
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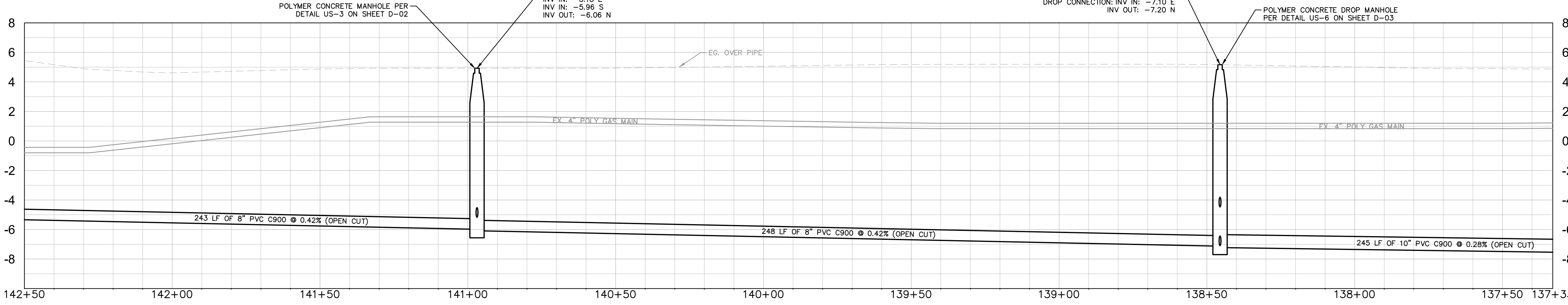
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No.	REVISIONS	DATE	BY

Kimley & Horn

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 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

Manatee County Florida

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501
DATE:	

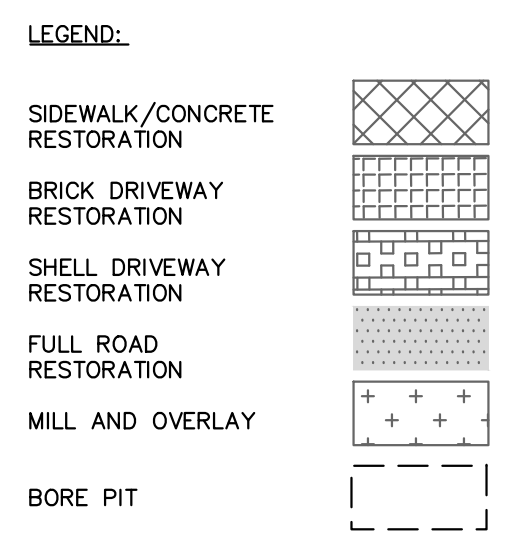
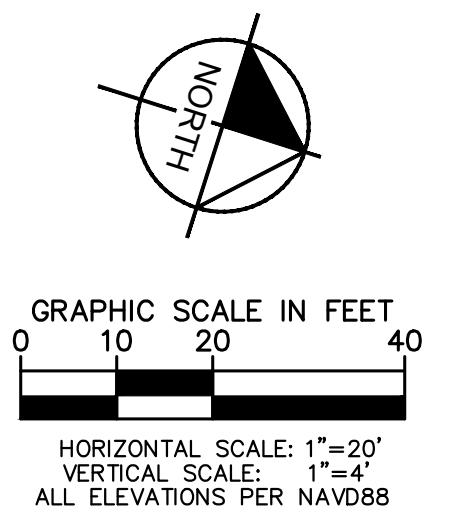
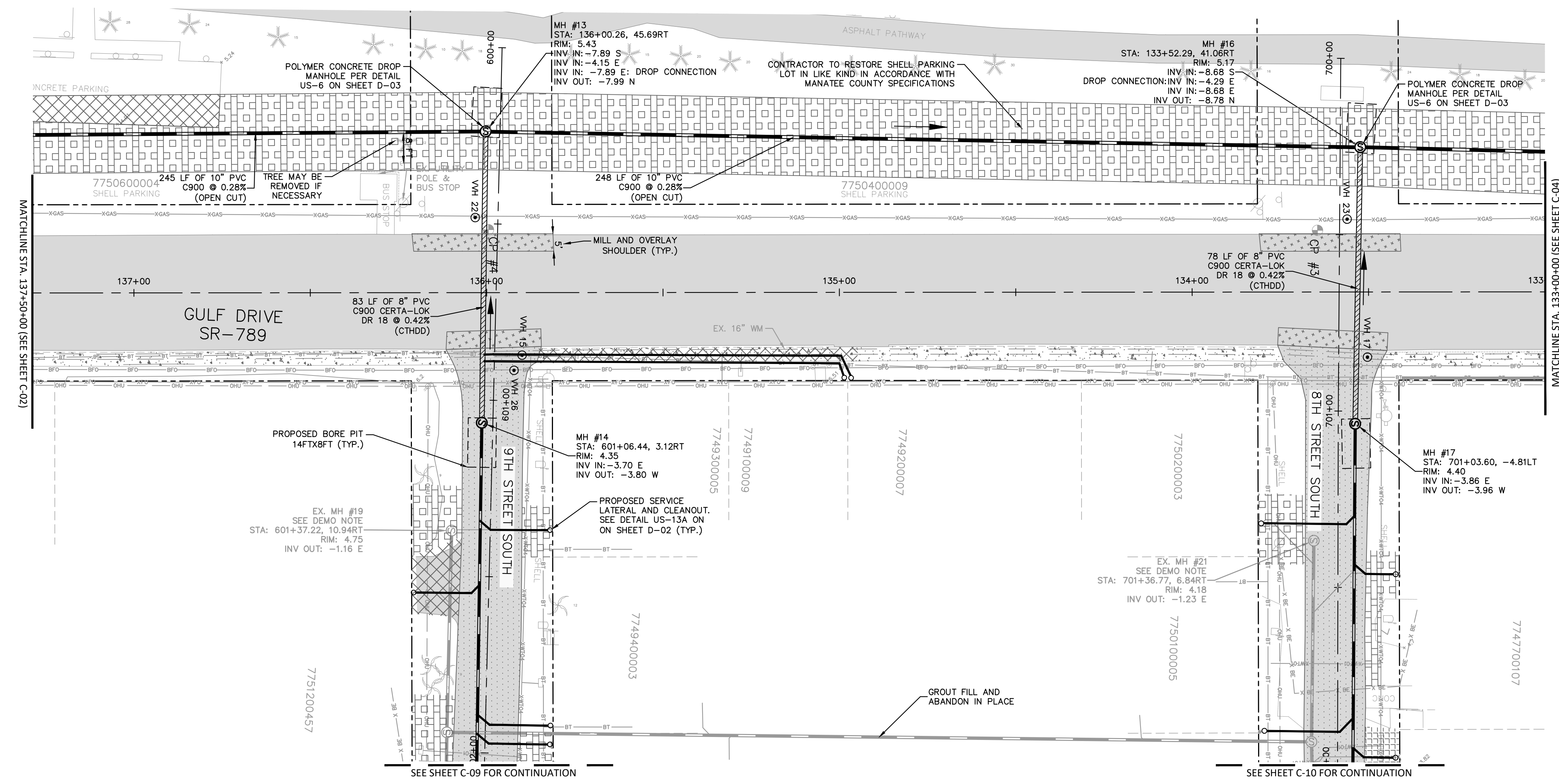
GULF DRIVE S [STA. 142+50-137+33]

C-02

SHEET NUMBER	C-02
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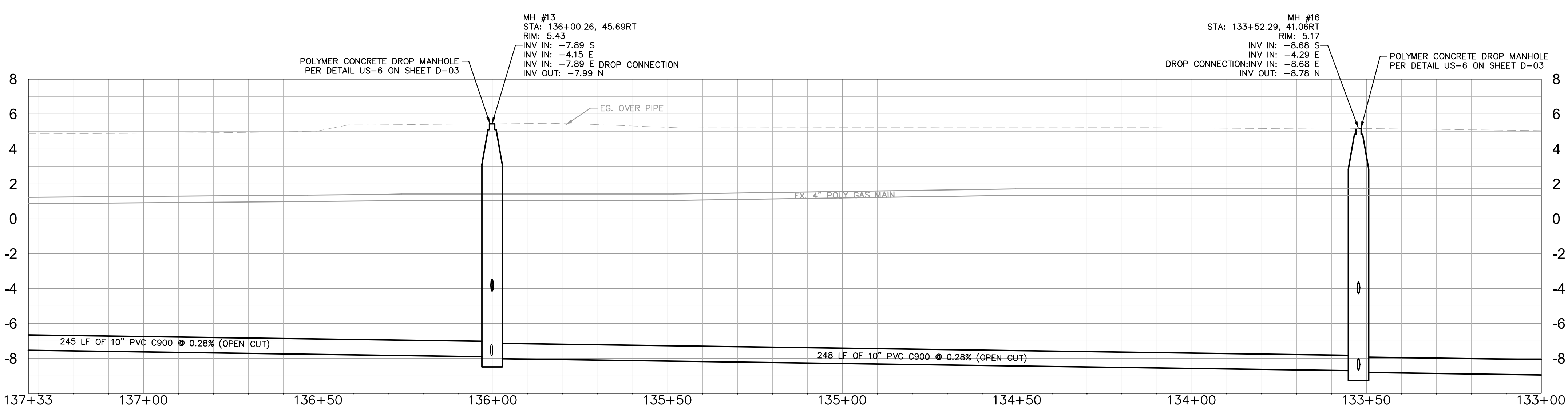
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No.	REVISIONS	DATE	BY

Kimley & Horn

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 100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

Manatee County
 FLORIDA

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501
DATE:	

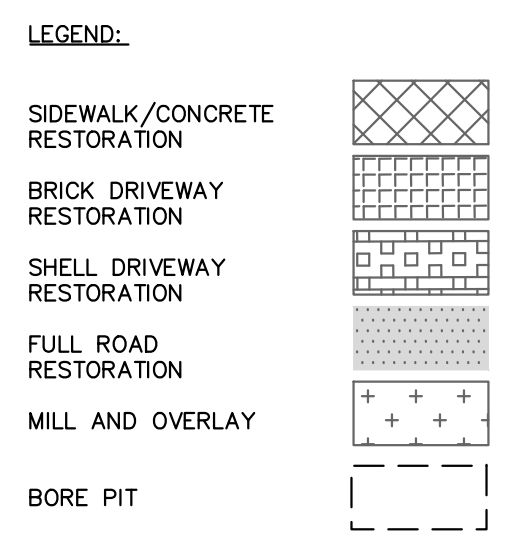
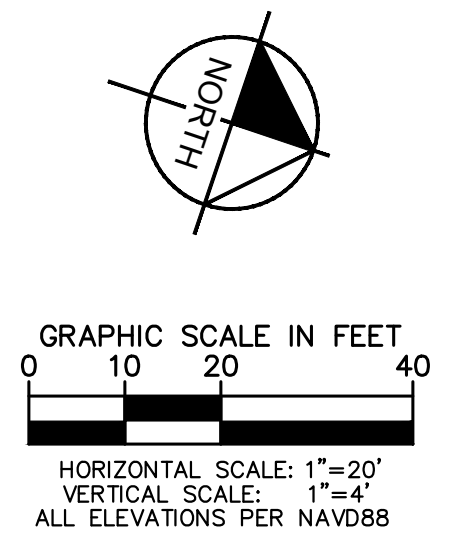
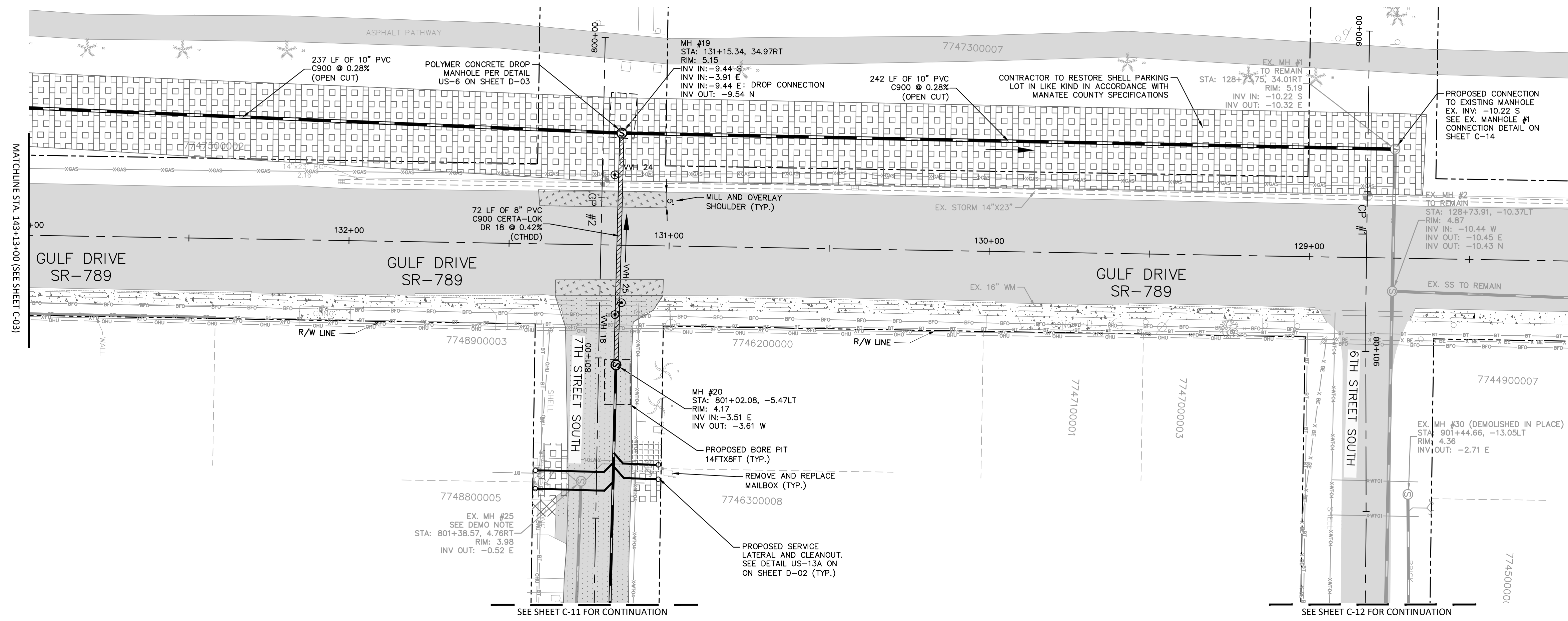
SHEET NUMBER

GULF DRIVE S [STA. 137+33-133+00]

C-03



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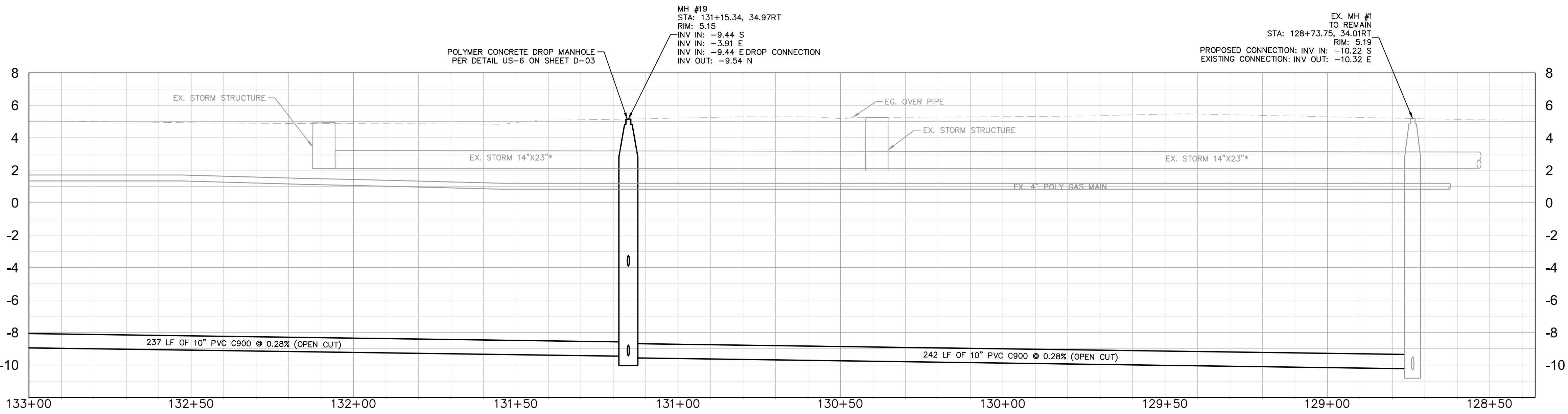
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No.	REVISIONS	DATE	BY

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KHA PROJECT	148400056
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Manatee County
BRADENTON BEACH GRAVITY REPLACEMENT

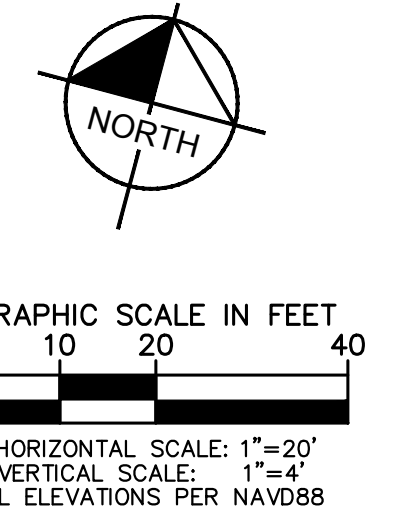
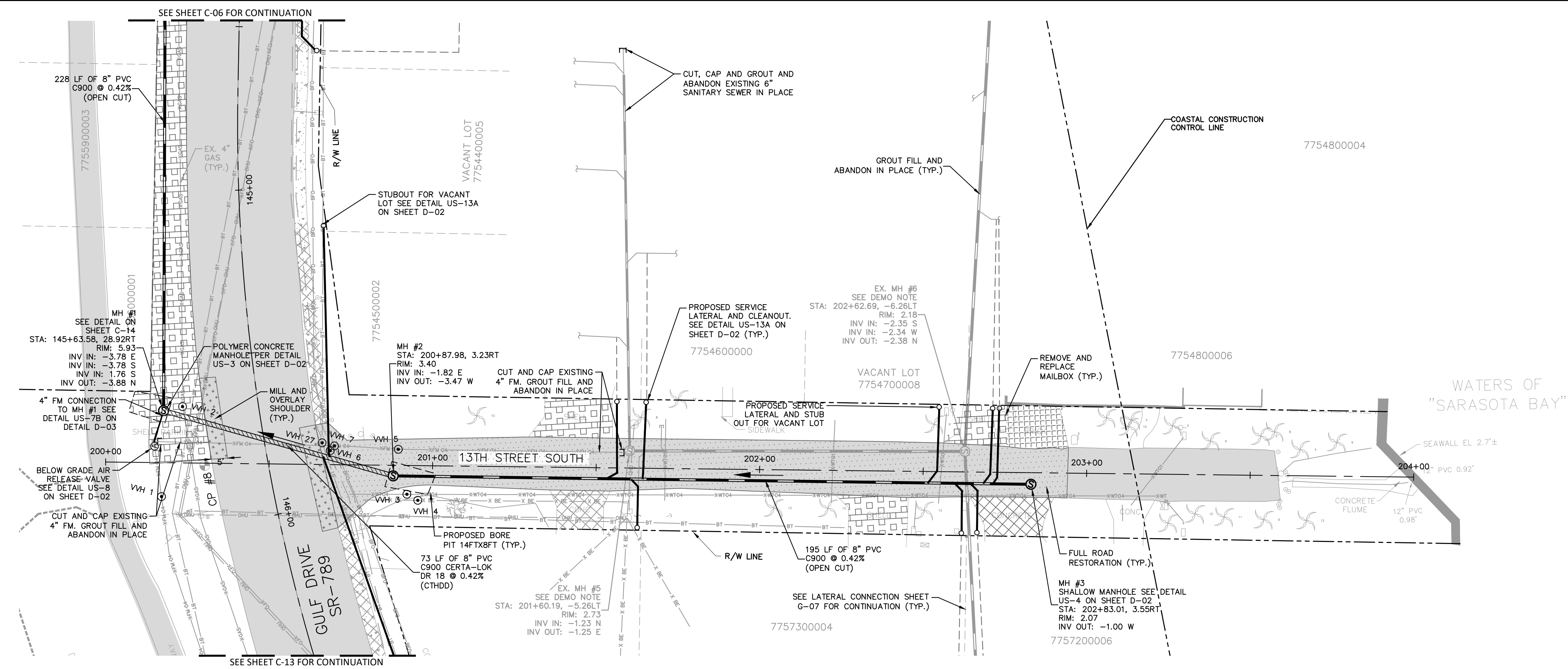
MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501

GULF DRIVE S [STA. 133+00-128+36]

SHEET NUMBER	C-04
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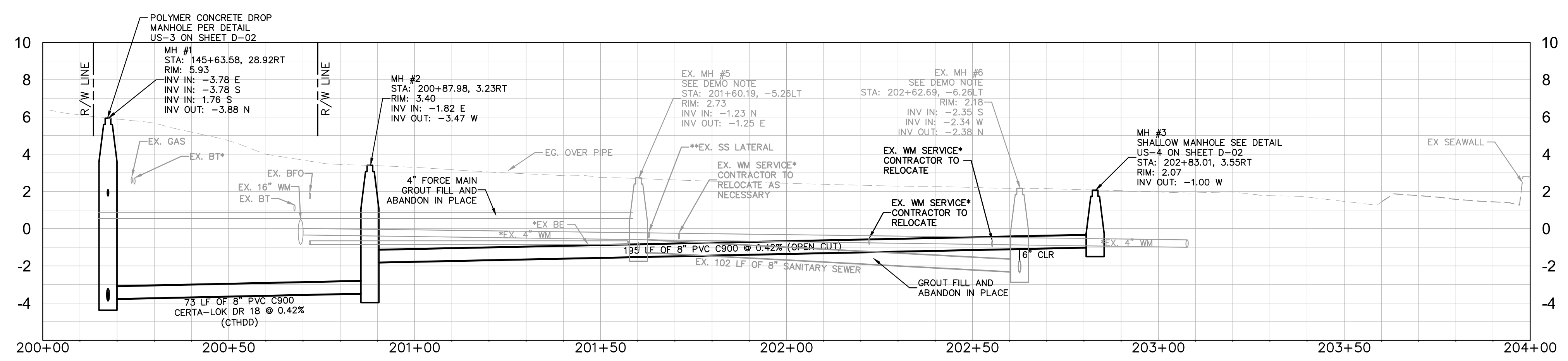
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No.	REVISIONS	DATE	BY

Kimley & Horn

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100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

Manatee County

BRADENTON BEACH GRAVITY REPLACEMENT

LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER 87501

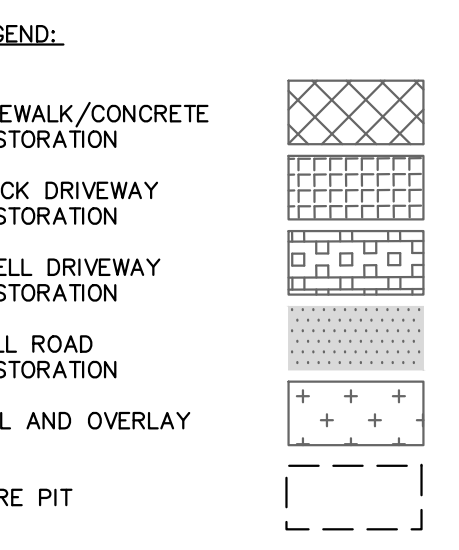
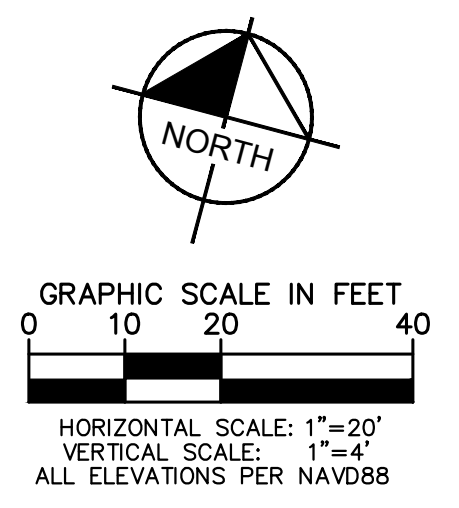
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SHEET NUMBER

13TH STREET S [STA. 200+00-204+00]

C-05

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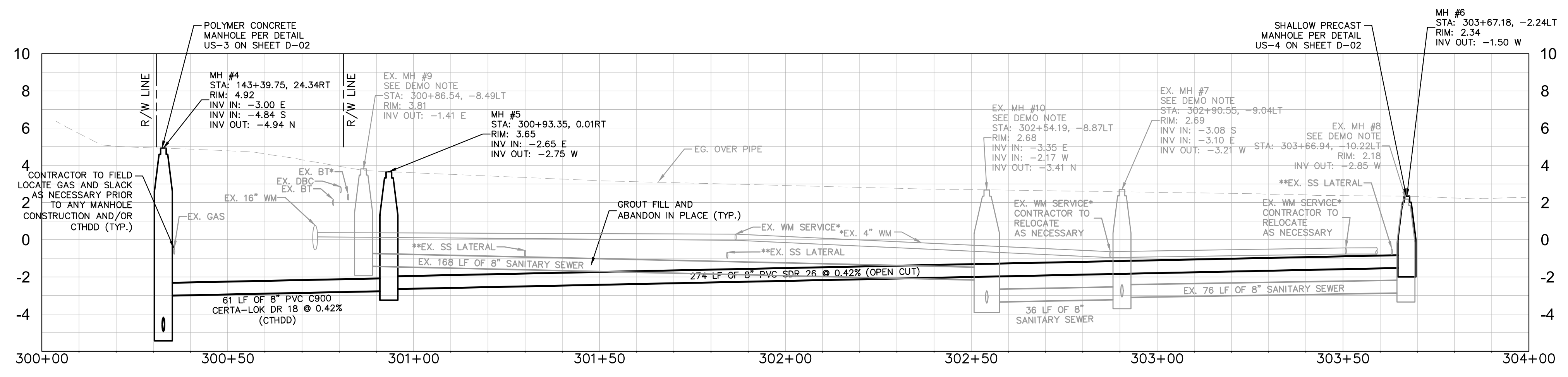
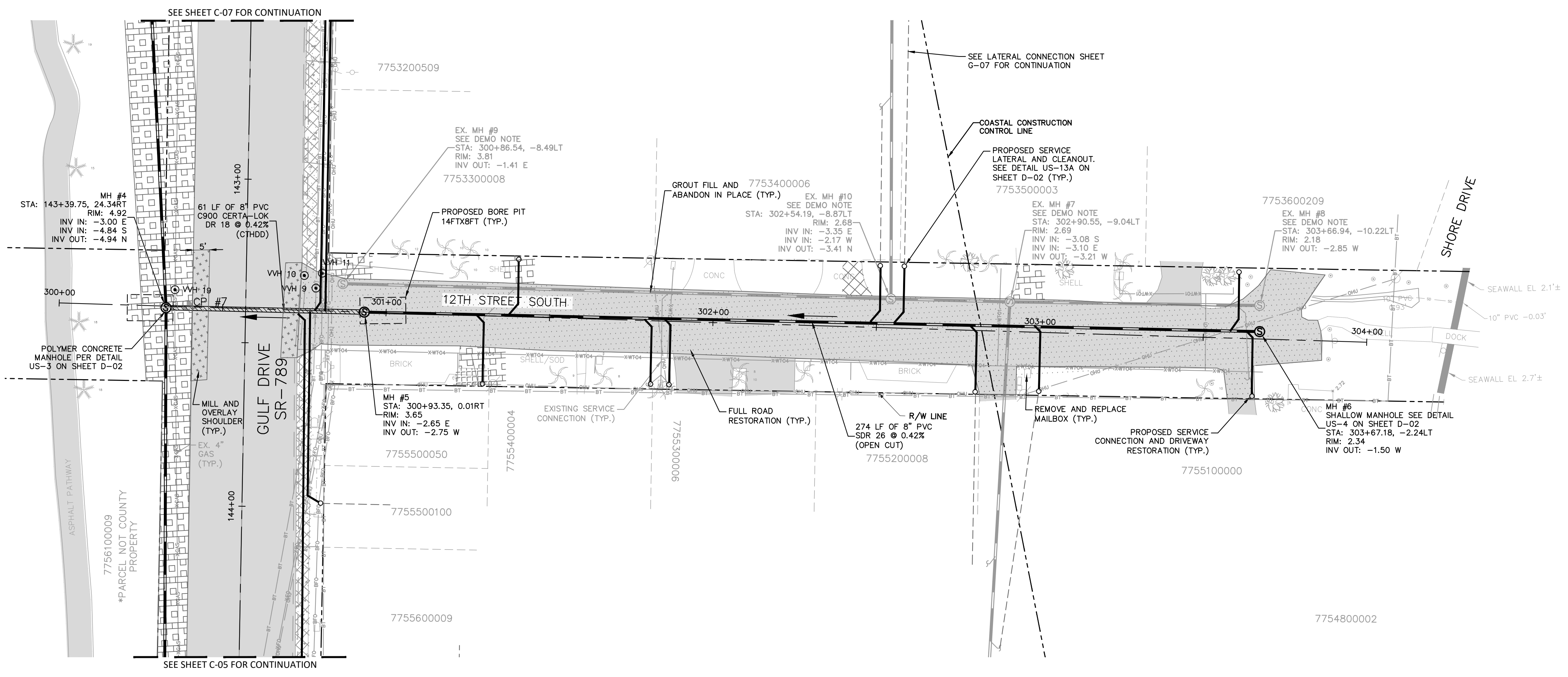
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KHA PROJECT 148400056
DATE JAN 2021
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DESIGNED BY MAS
DRAWN BY KTM
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Manatee County

BRADENTON BEACH GRAVITY REPLACEMENT

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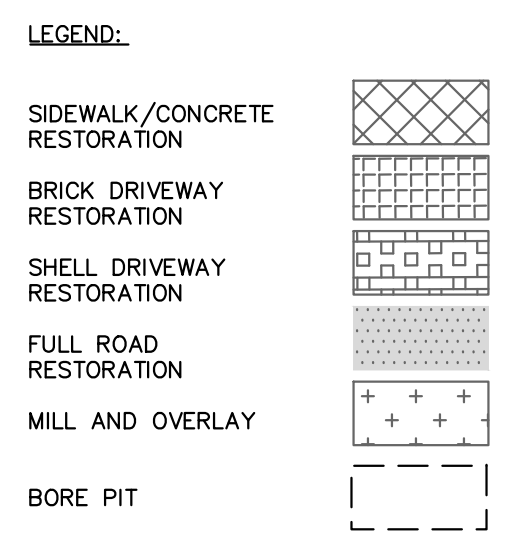
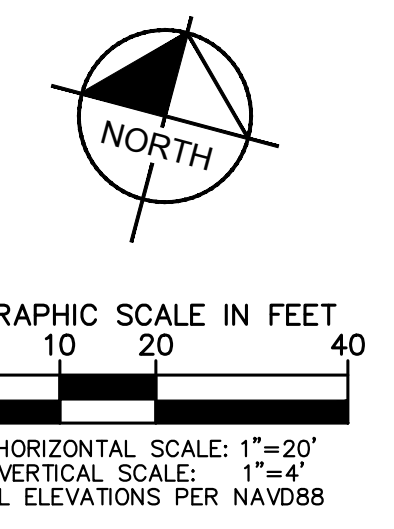
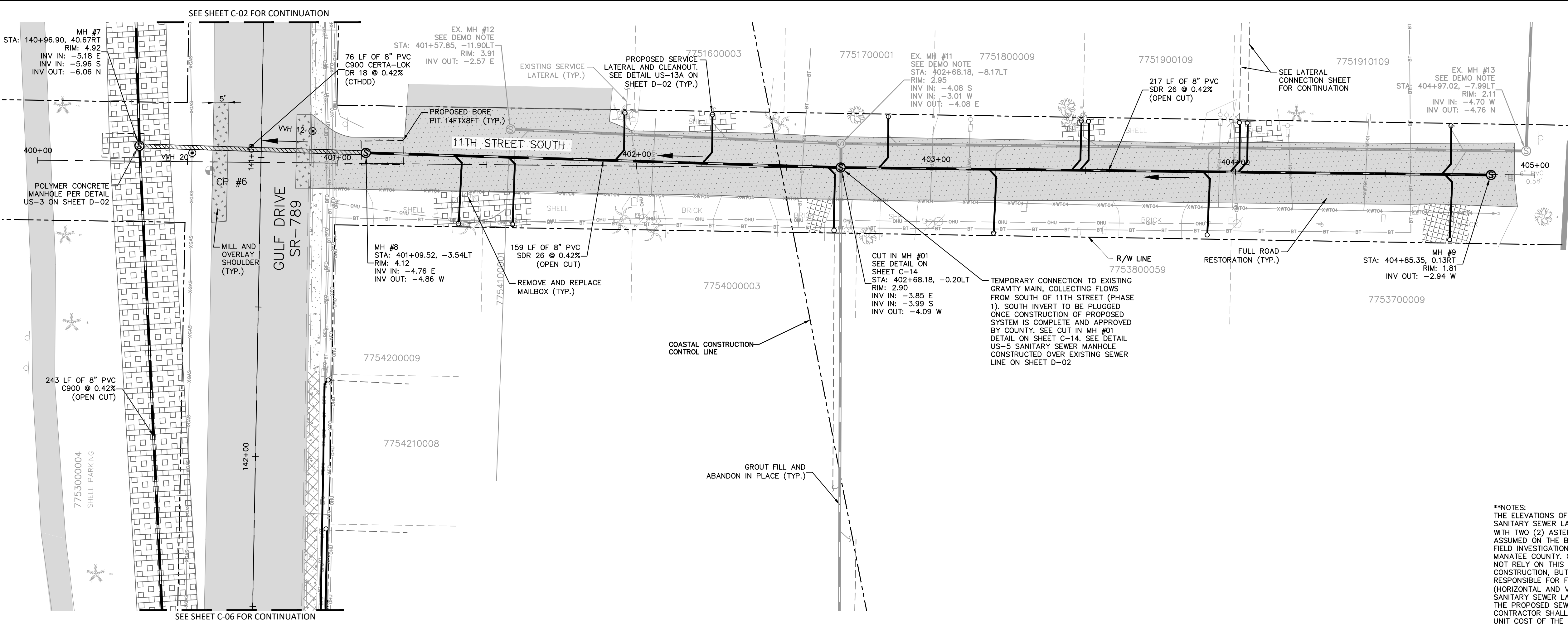
MANATEE COUNTY FL DATE:

SHEET NUMBER

12TH STREET S [STA. 300+00-304+00]

C-06

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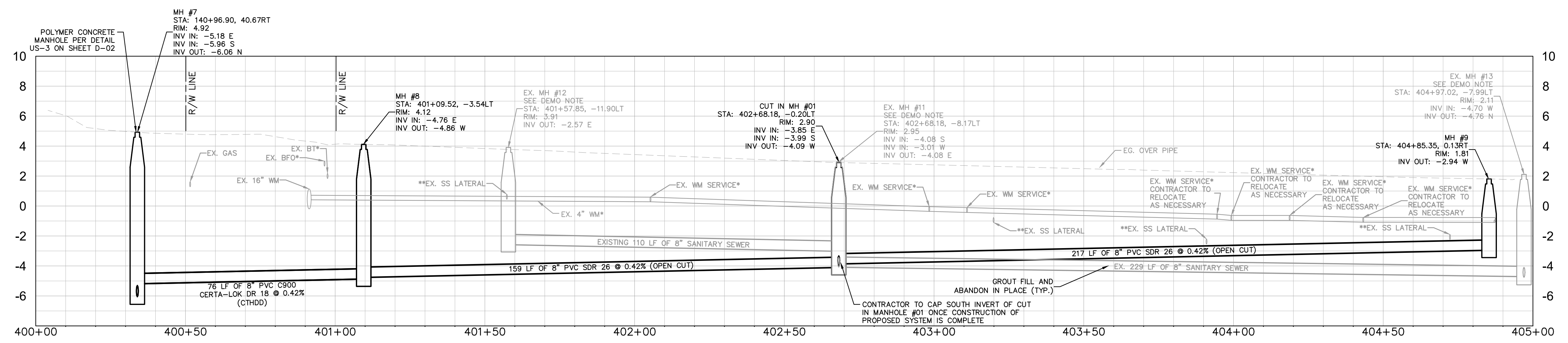
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DATE JAN 2021
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DESIGNED BY MAS
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CHECKED BY WEW

Manatee County
FLORIDA

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

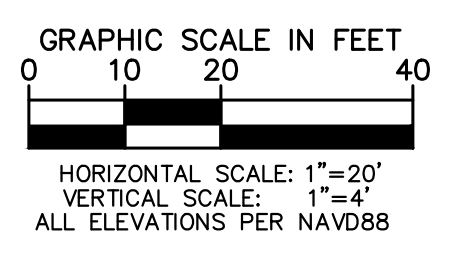
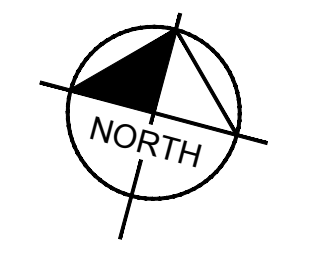
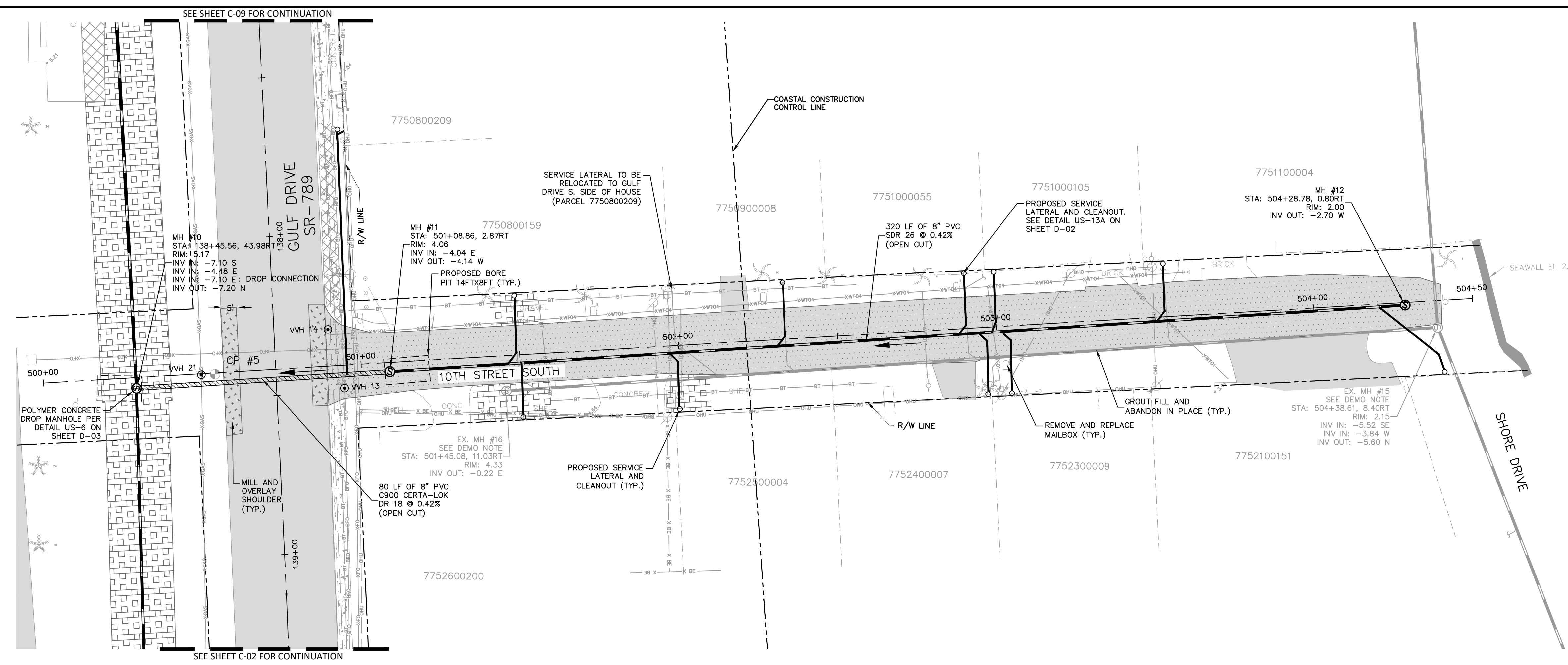
LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER 87501

11TH STREET S [STA. 400+00-405+00]

SHEET NUMBER
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- LEGEND:
- SIDEWALK/CONCRETE RESTORATION
 - BRICK DRIVEWAY RESTORATION
 - SHELL DRIVEWAY RESTORATION
 - FULL ROAD RESTORATION
 - MILL AND OVERLAY
 - BORE PIT

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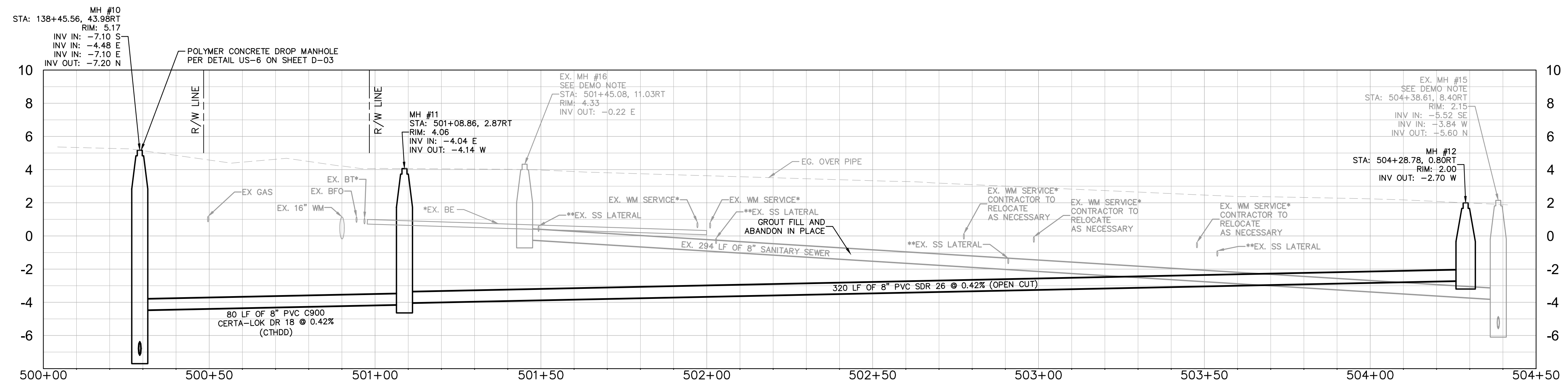
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KHA PROJECT 148400056
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Manatee County

BRADENTON BEACH GRAVITY REPLACEMENT

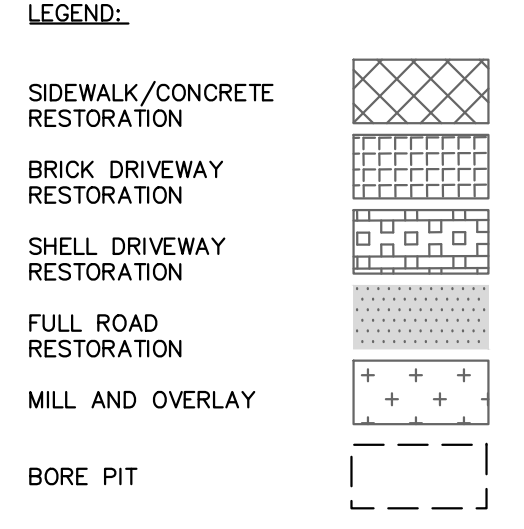
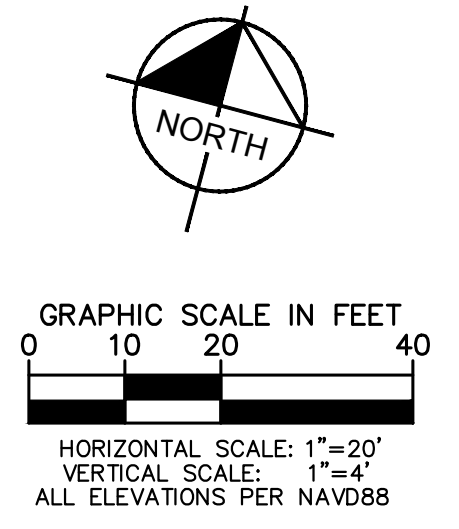
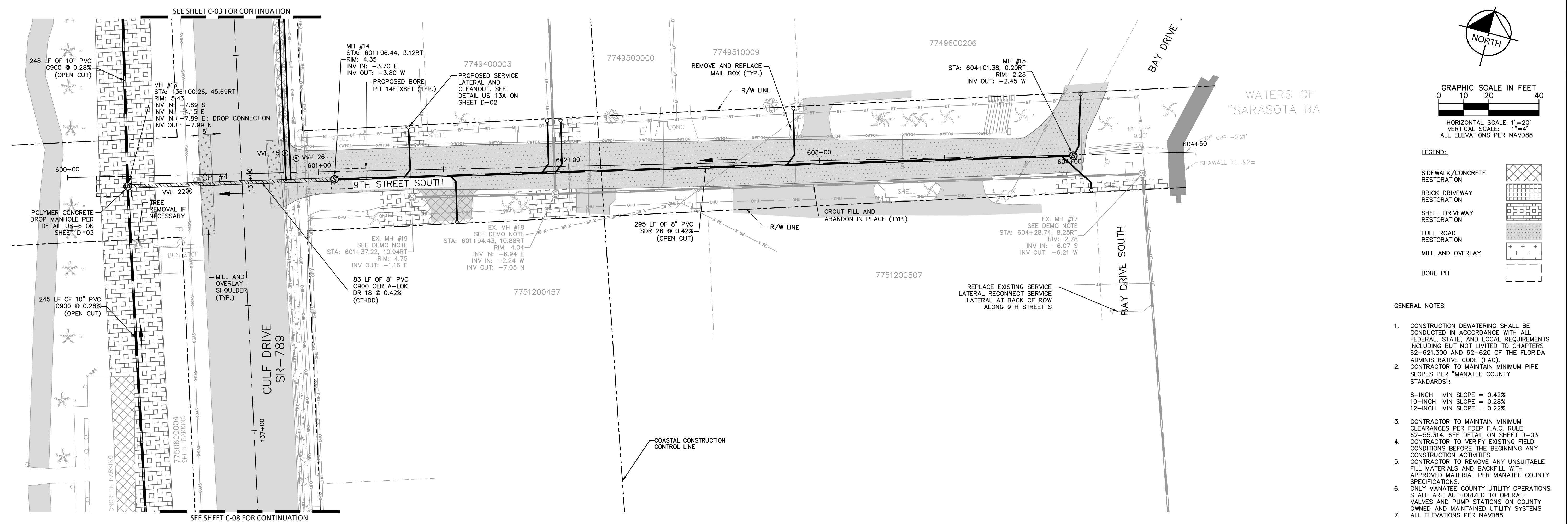
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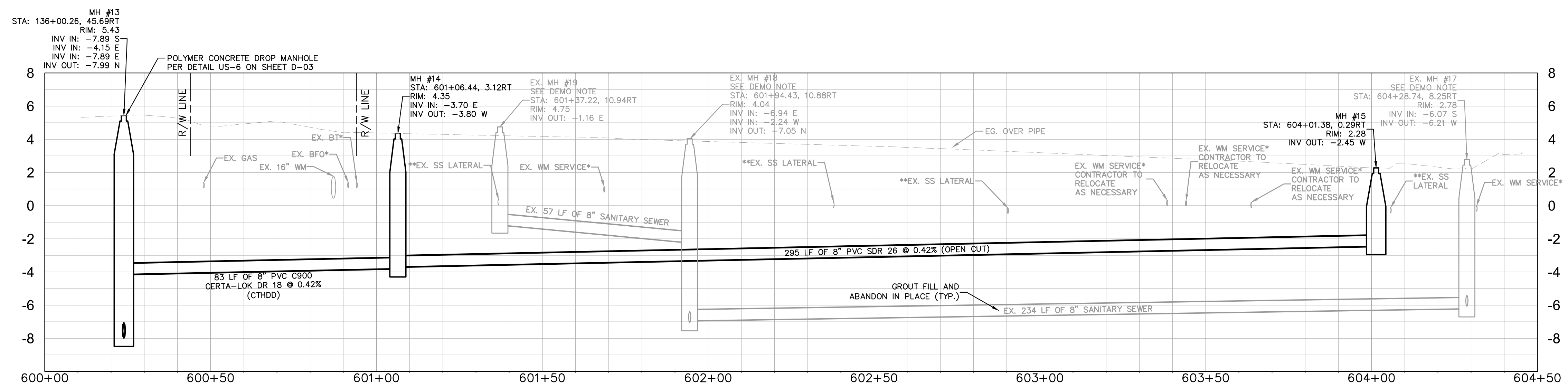
10TH STREET S [STA. 500+00-504+50]

SHEET NUMBER
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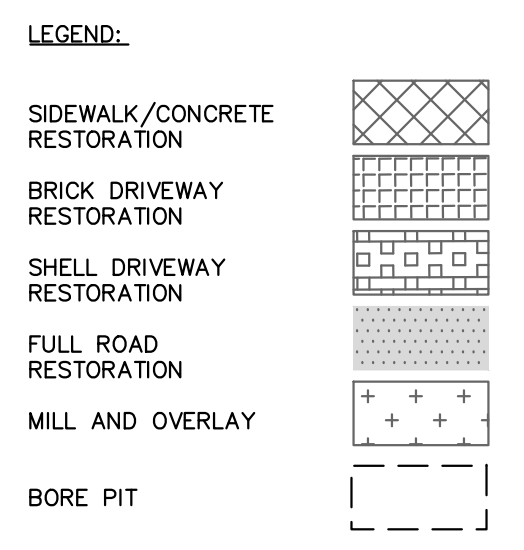
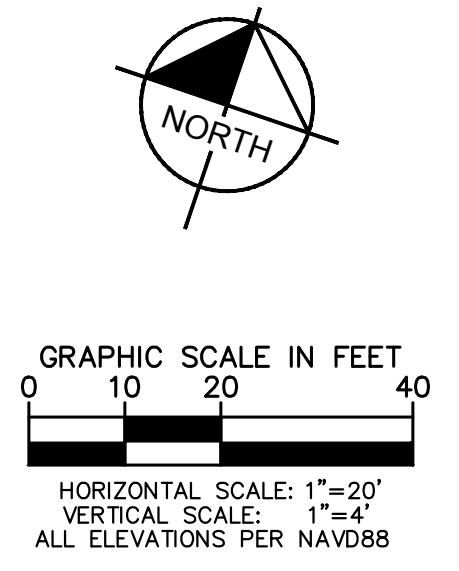
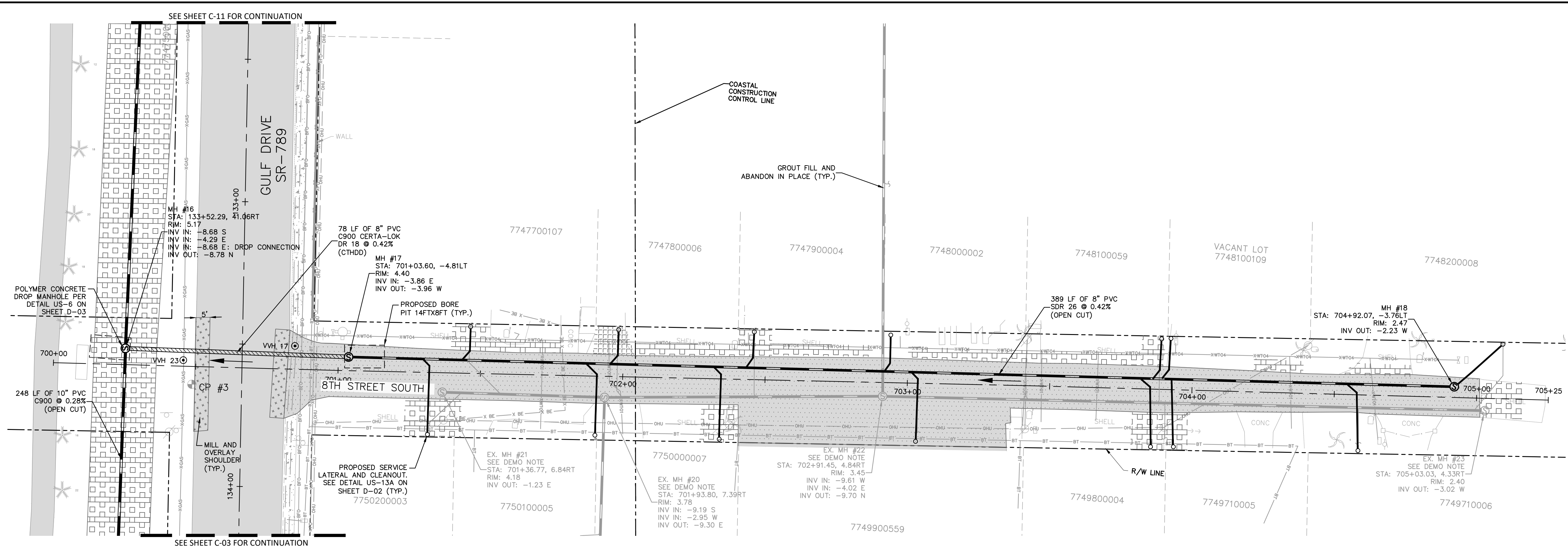
9TH STREET S [STA. 600+00-604+50]

C-09

SHEET NUMBER

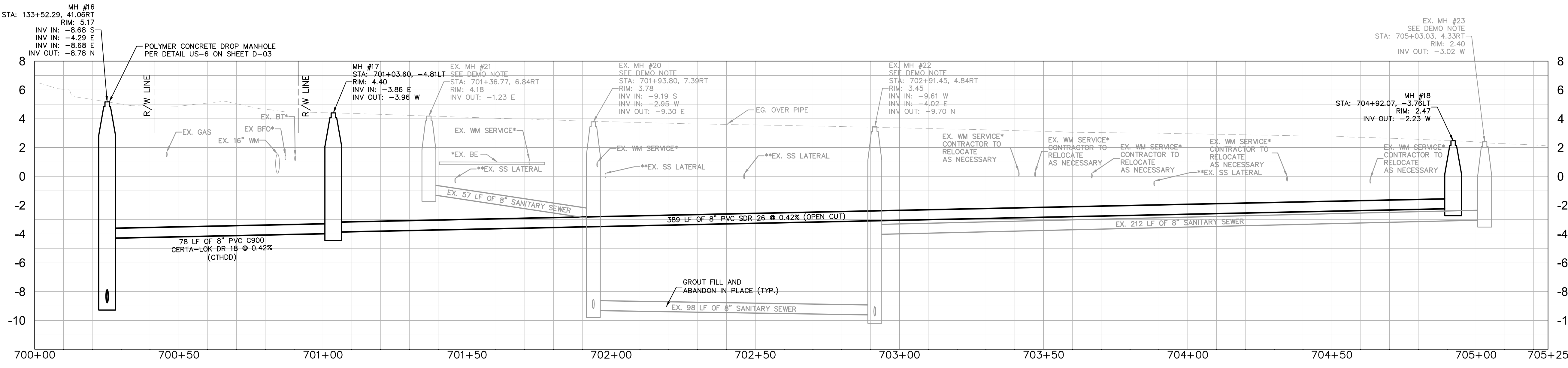


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GROUNDWATER / DEWATERING NOTE:
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No.	REVISIONS	DATE	BY

Kimley & Horn

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100 2ND AVE S, UNIT 105N, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 148400056
DATE JAN 2021
SCALE AS SHOWN
DESIGNED BY MAS
DRAWN BY KTM
CHECKED BY WEW

Manatee County Florida

BRADENTON BEACH GRAVITY REPLACEMENT

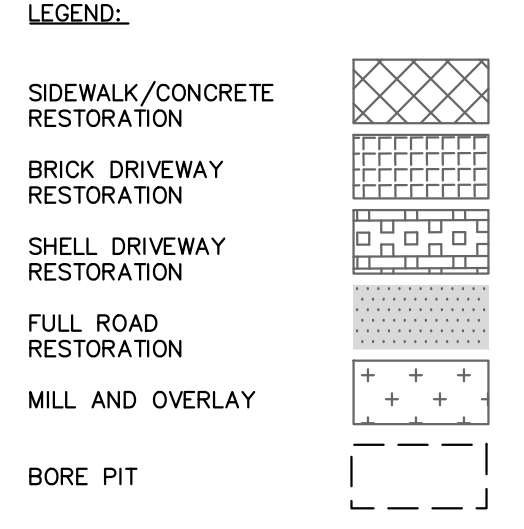
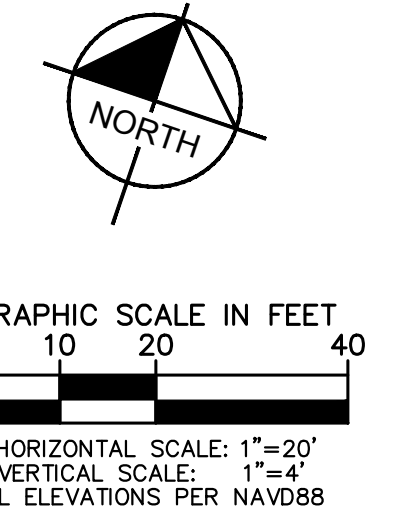
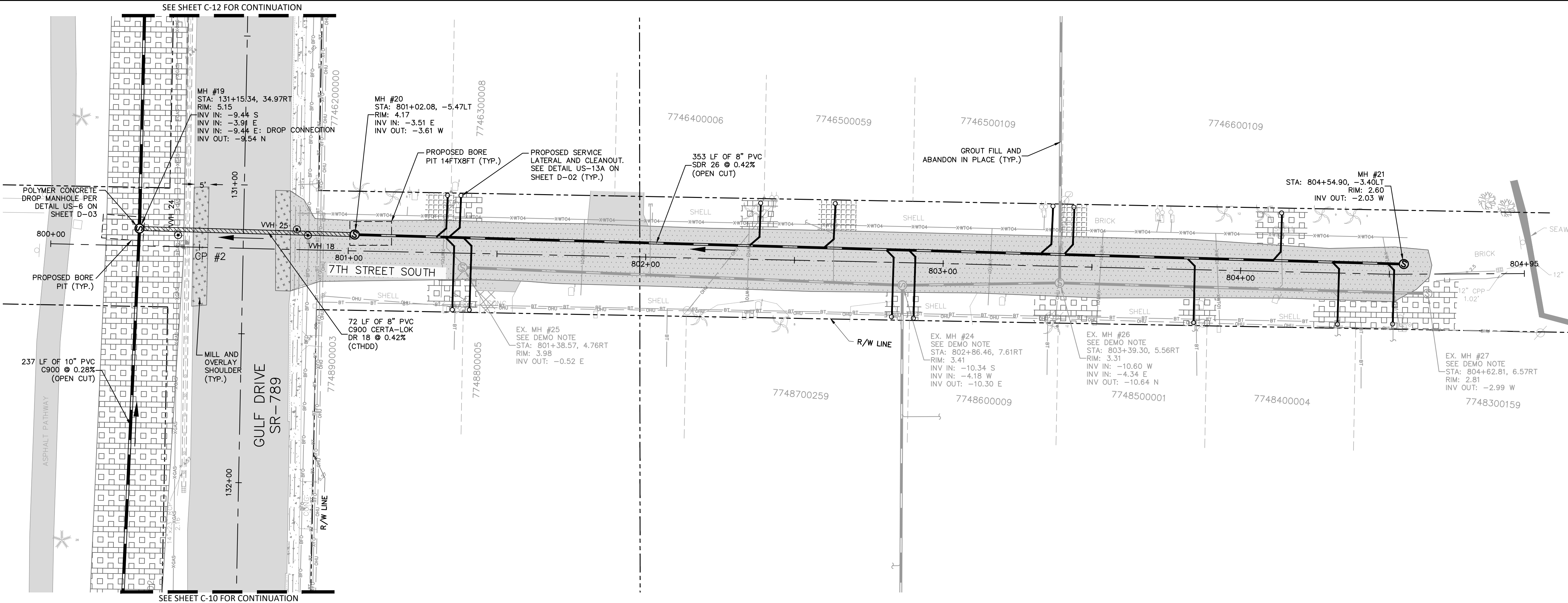
LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER 87501

MANATEE COUNTY FL DATE:

8TH STREET S [STA. 700+00-705+25]

SHEET NUMBER **C-10**

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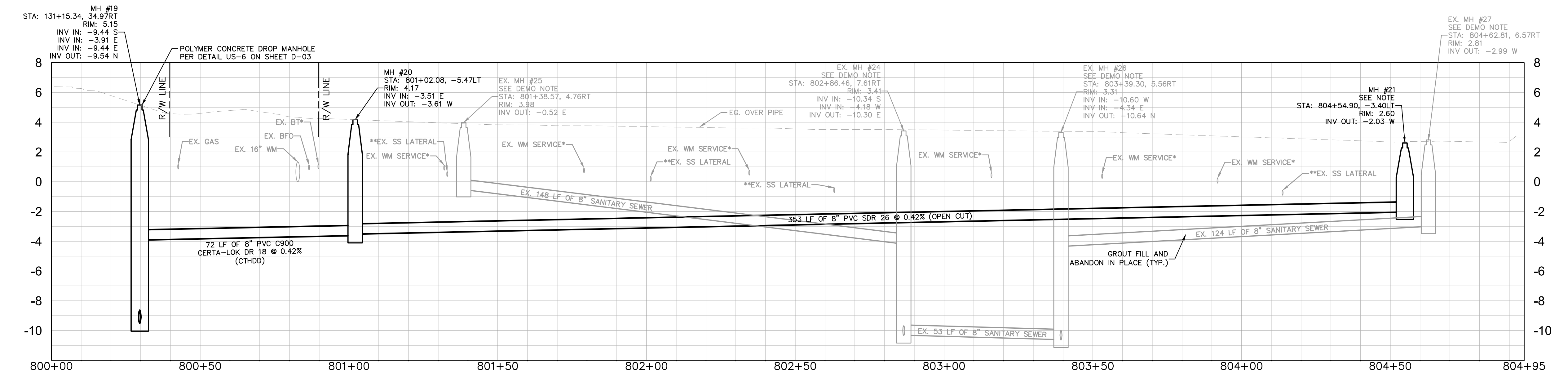
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KHA PROJECT 148400056
 DATE JAN 2021
 SCALE AS SHOWN
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Manatee County

BRADENTON BEACH GRAVITY REPLACEMENT

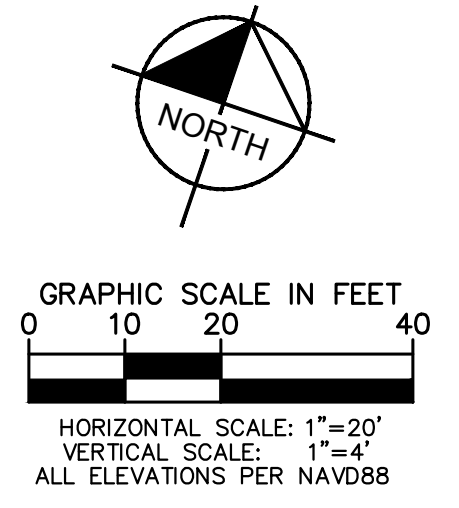
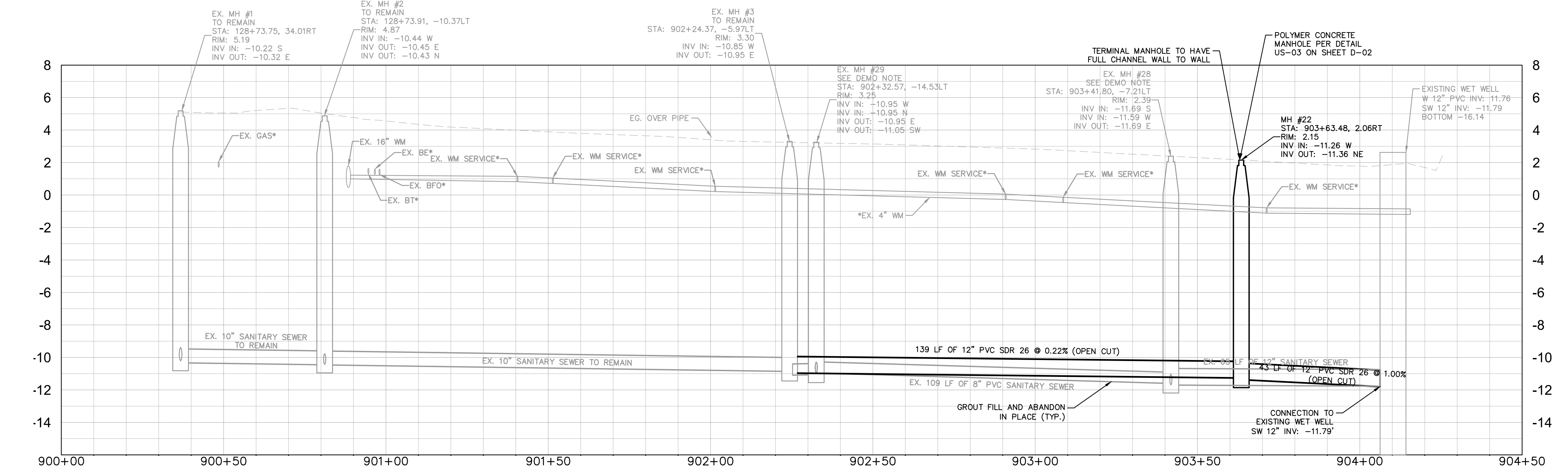
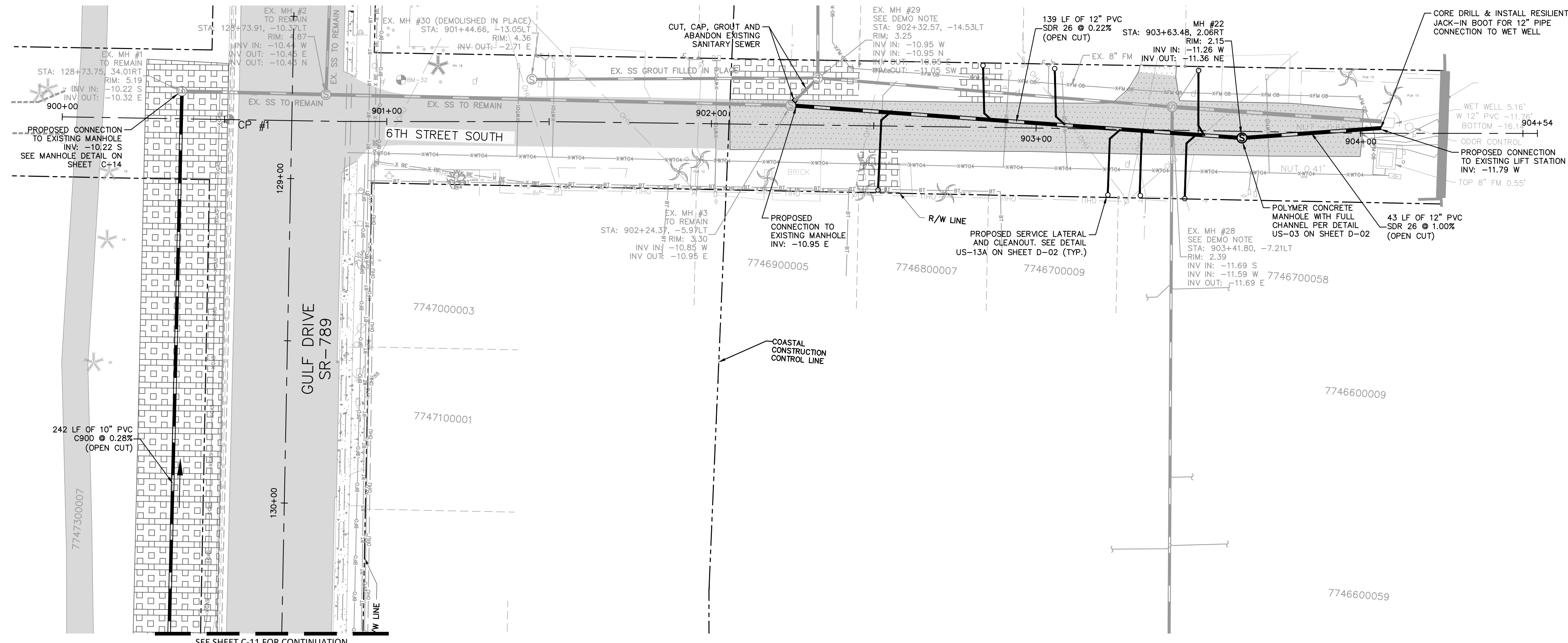
MANATEE COUNTY

LICENSED PROFESSIONAL
 MICHAEL A. SEMAGO, P.E.
 FL LICENSE NUMBER 87501

7TH STREET S [STA. 800+00-804+95]

SHEET NUMBER
C-11

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- LEGEND:**
- SIDEWALK/CONCRETE RESTORATION
 - BRICK DRIVEWAY RESTORATION
 - SHELL DRIVEWAY RESTORATION
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 - MILL AND OVERLAY
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No.	REVISIONS	DATE	BY

Kimley & Horn

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 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

Manatee County Florida

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501

LICENSED PROFESSIONAL

MICHAEL A. SEMAGO, P.E.

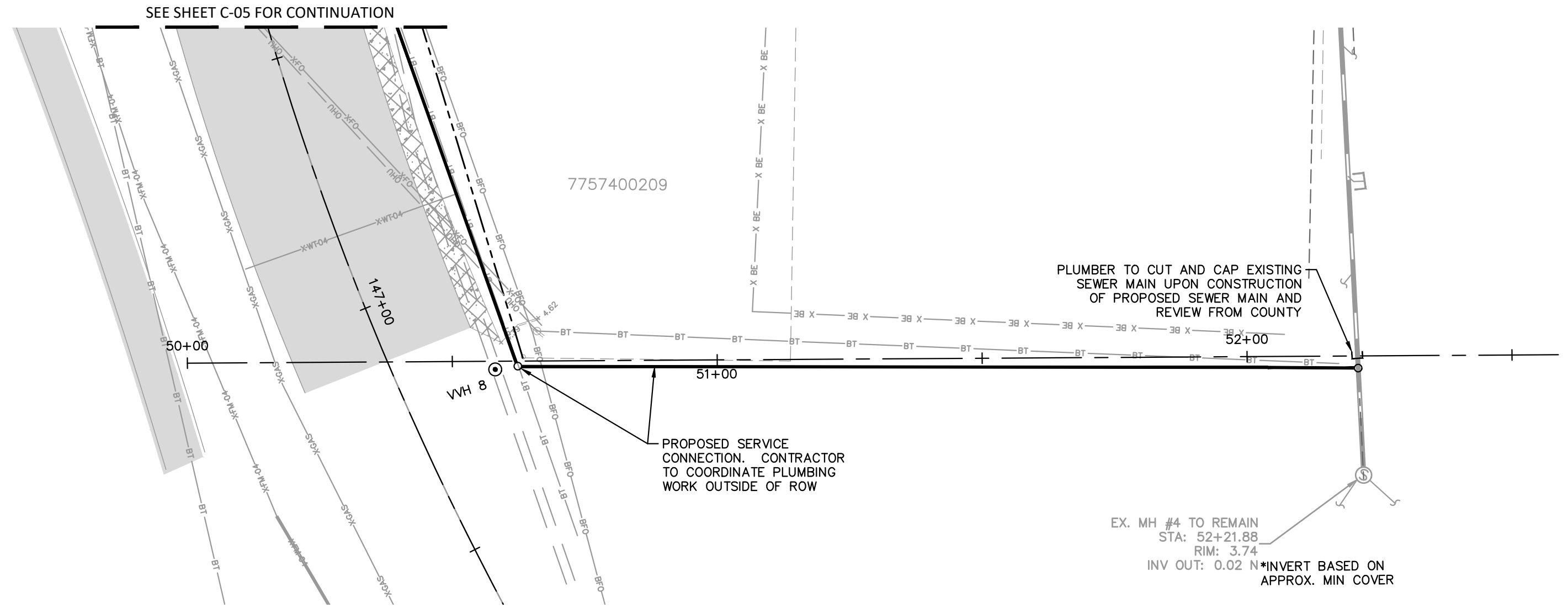
FL LICENSE NUMBER 87501

DATE:

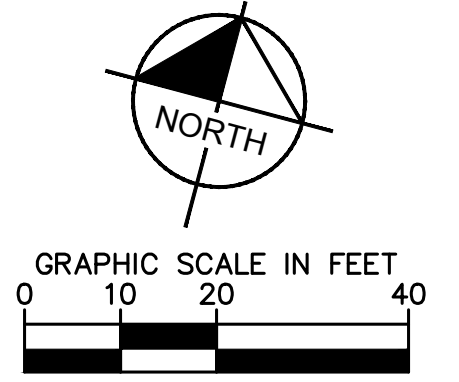
6TH STREET S [STA. 900+00-904+54]

SHEET NUMBER **C-12**

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PLUMBING DETAIL: SOUTH OF 13TH ST



HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=4'
 ALL ELEVATIONS PER NAVD88

LEGEND:

SIDEWALK/CONCRETE RESTORATION	
BRICK DRIVEWAY RESTORATION	
SHELL DRIVEWAY RESTORATION	
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KHA PROJECT 148400056
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SCALE AS SHOWN
DESIGNED BY MAS
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Manatee County
BRADENTON BEACH GRAVITY REPLACEMENT

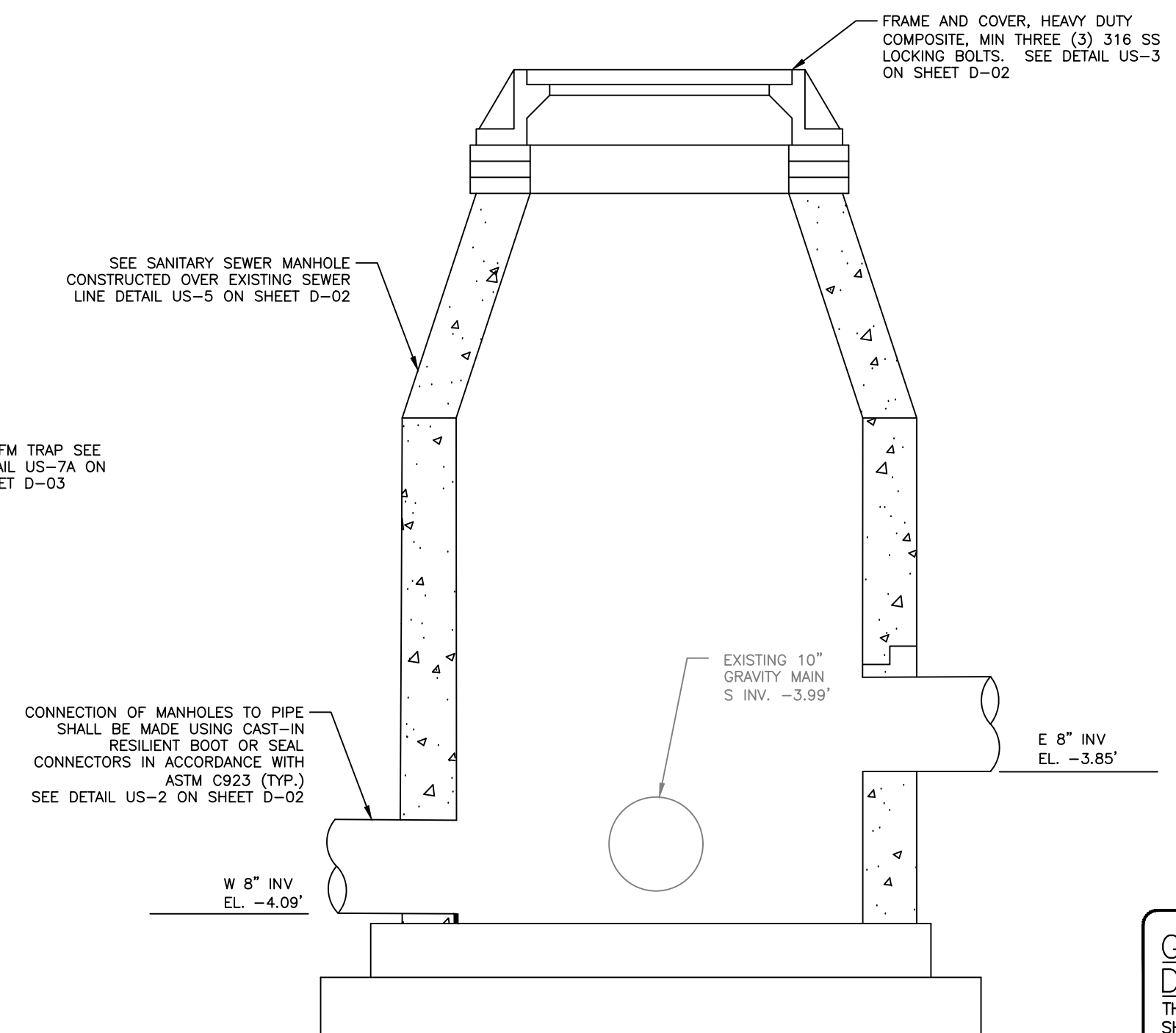
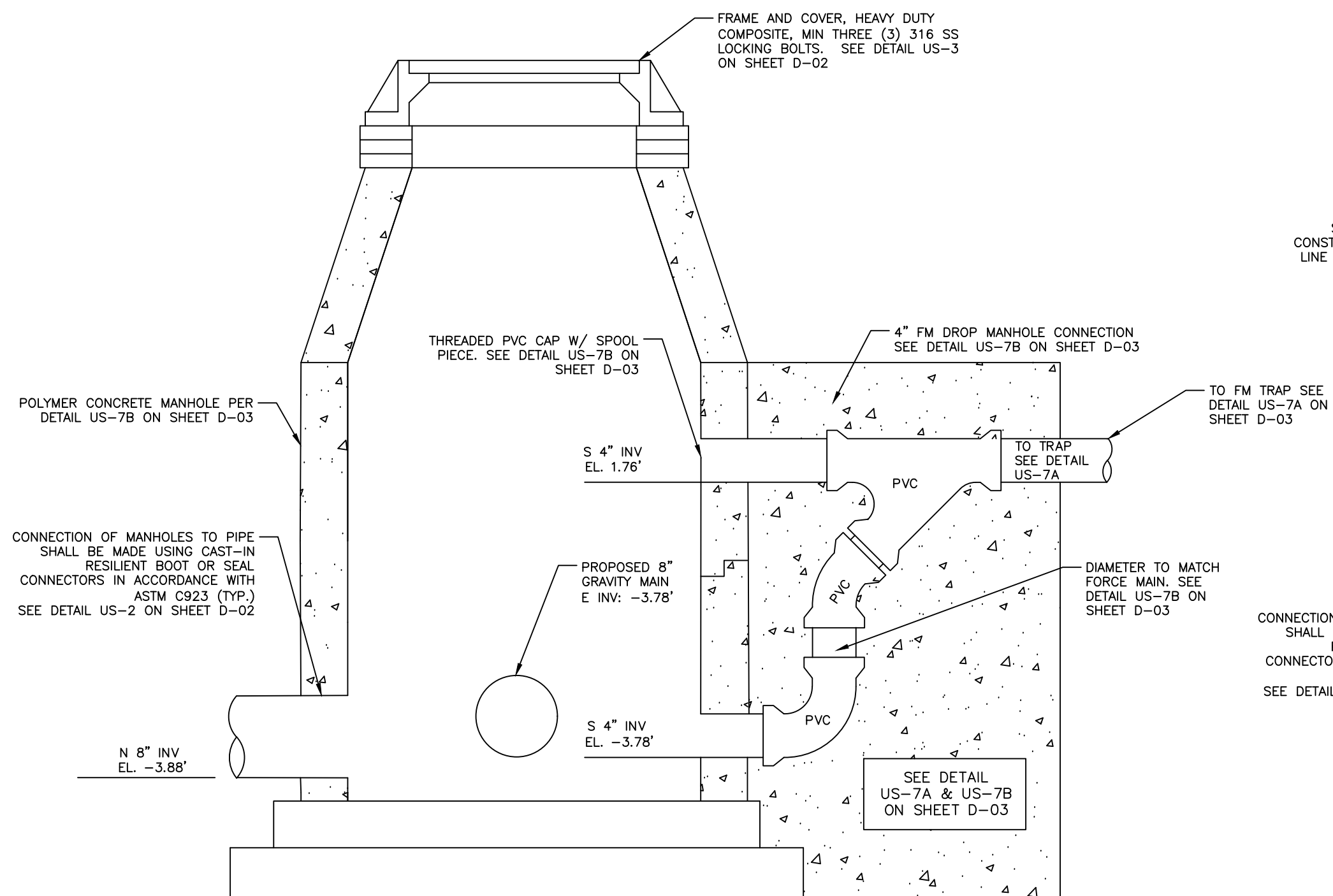
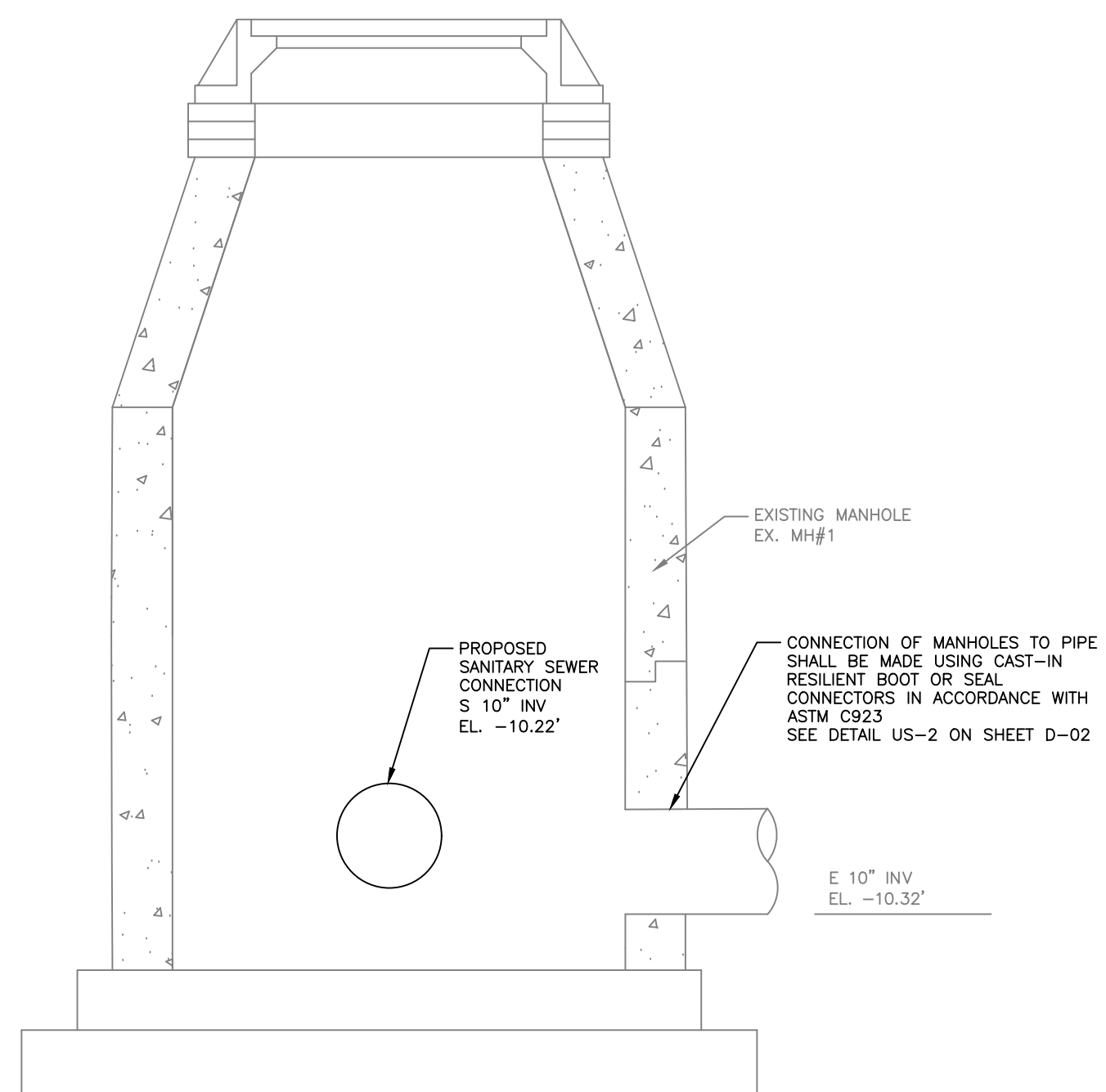
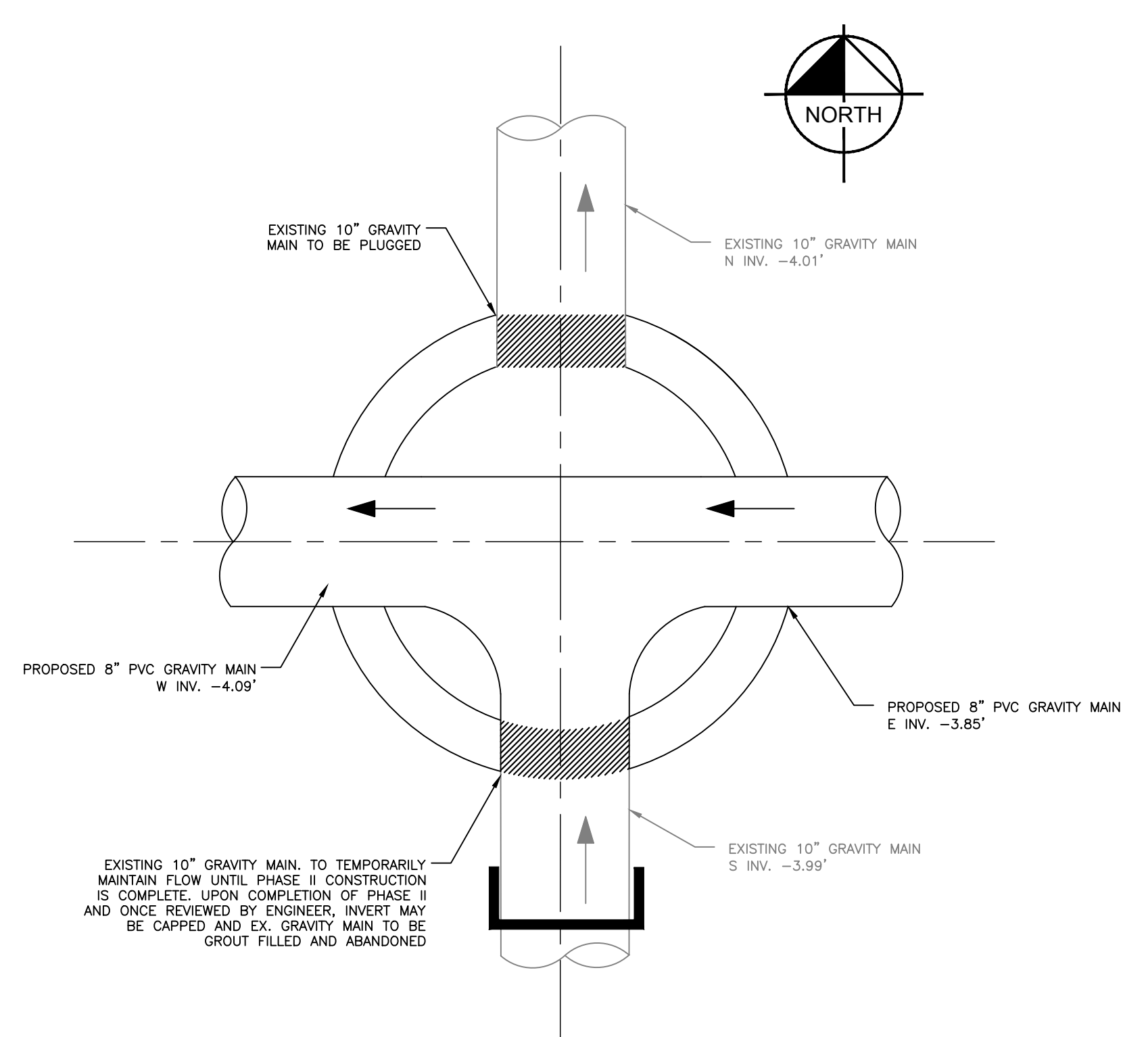
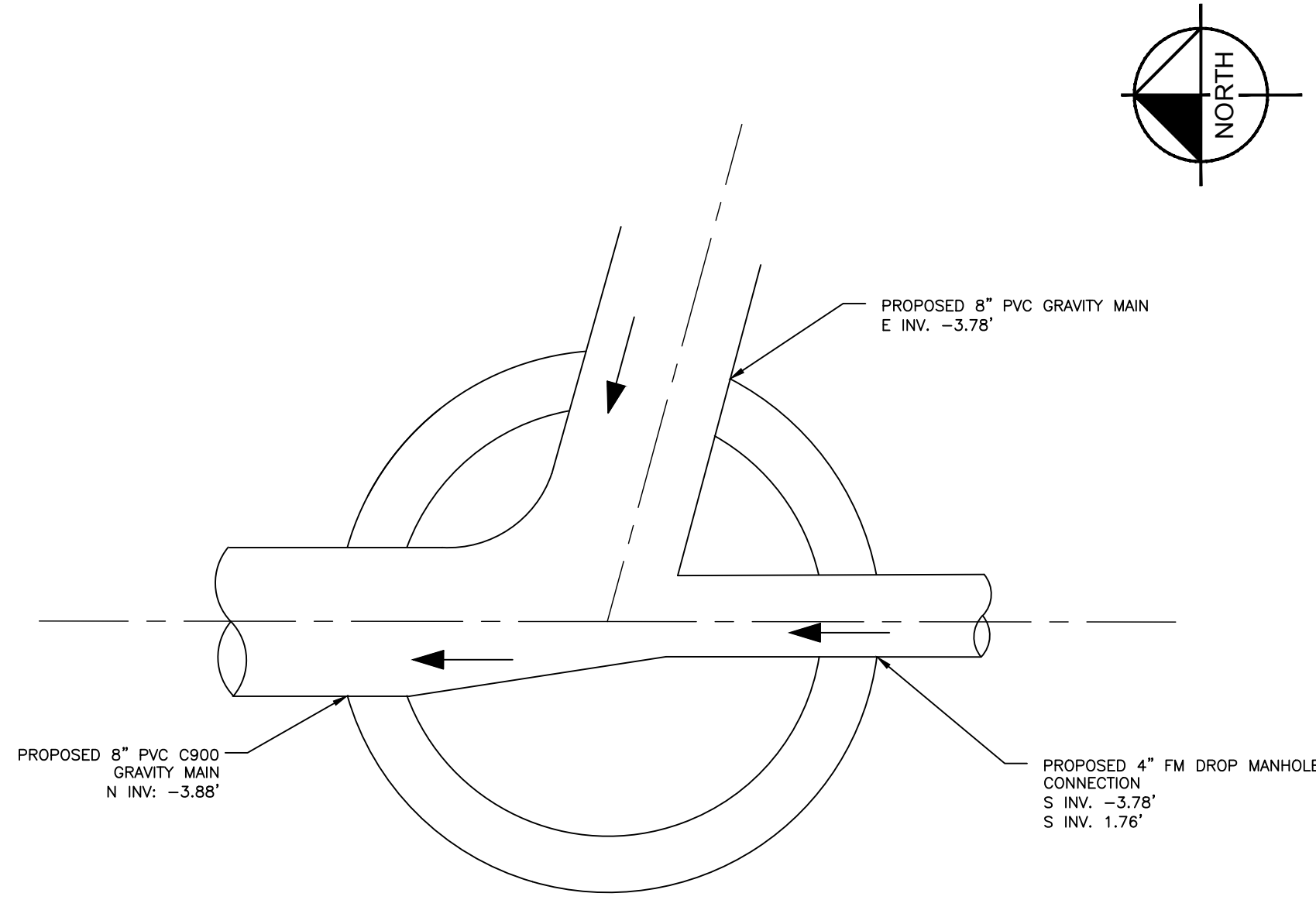
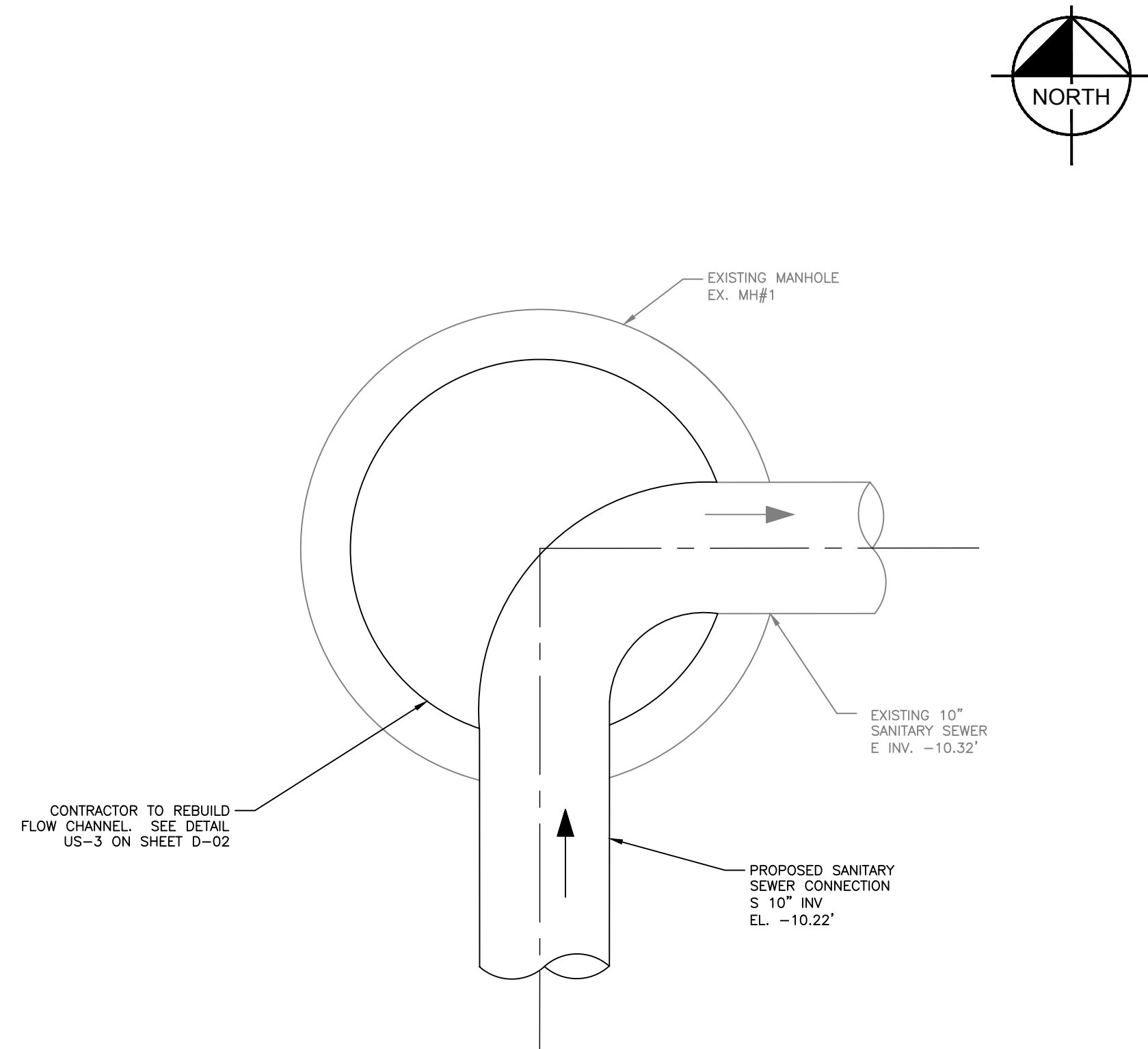
MANATEE COUNTY FL

LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER 87501
DATE:

SOUTH 13TH STREET LATERAL

SHEET NUMBER
C-13

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EXISTING MH #1 CONNECTION

N.T.S. SHEET C-04 & C-12

PRECAST POLYMER CONCRETE MANHOLE - MH #1

N.T.S. SHEET C-01 & C-05

CUT IN MANHOLE - CUT IN MH #01

N.T.S. SHEET C-07

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KHA PROJECT	148400056
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Manatee County
 FLORIDA

BRADENTON BEACH GRAVITY REPLACEMENT

MANATEE COUNTY

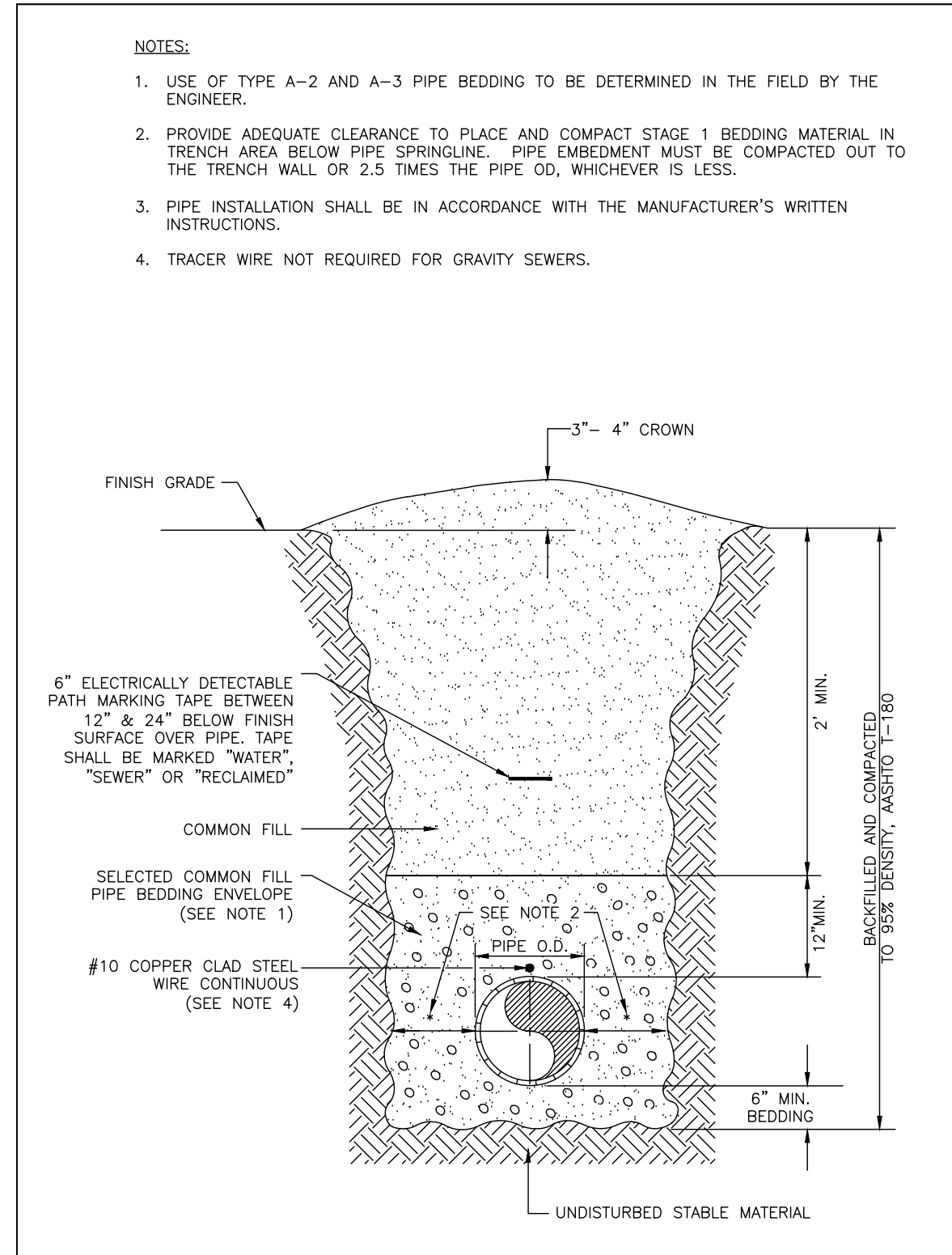
LICENSED PROFESSIONAL	MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER	87501

MANHOLE DETAILS

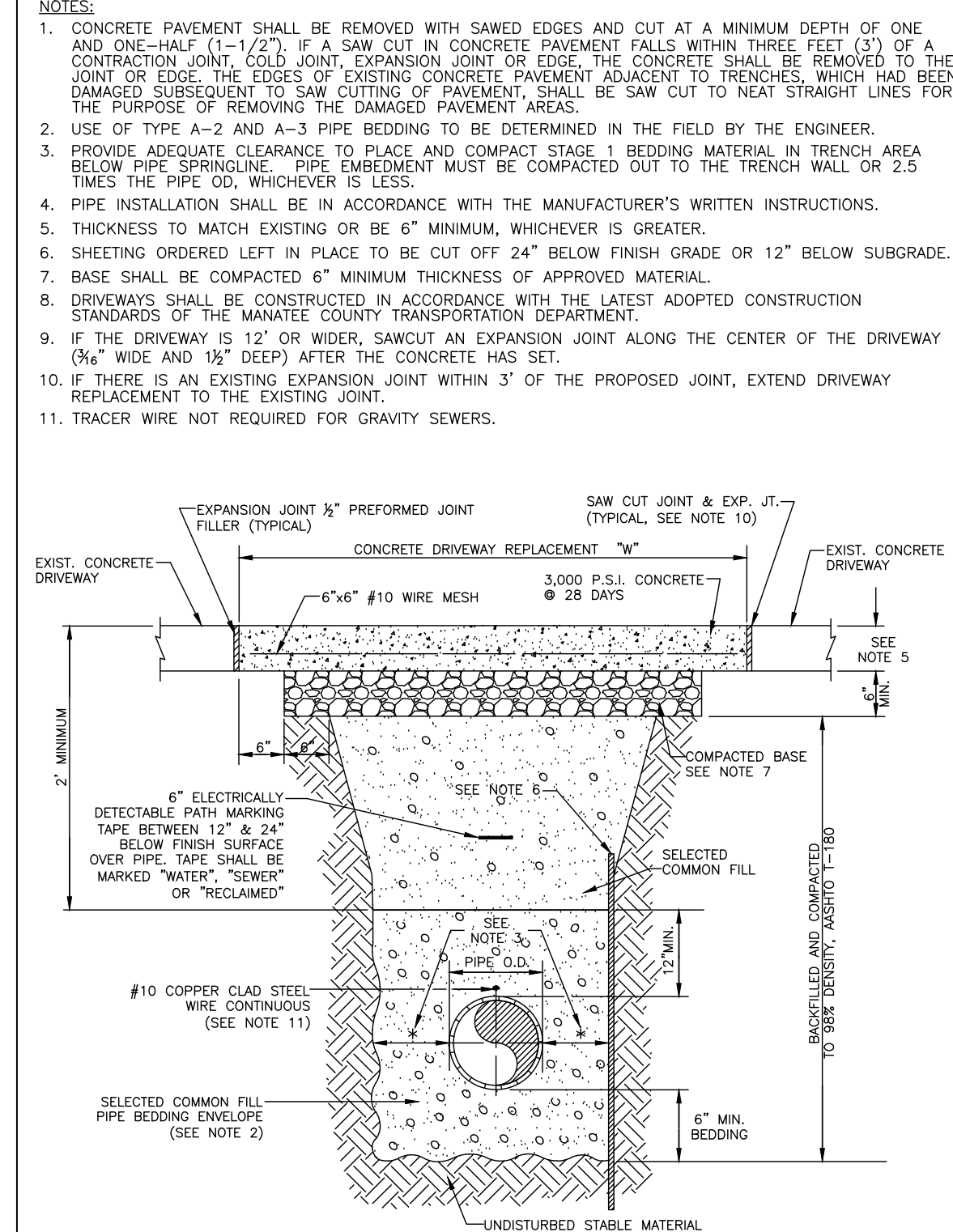
FL DATE:

SHEET NUMBER	C-14
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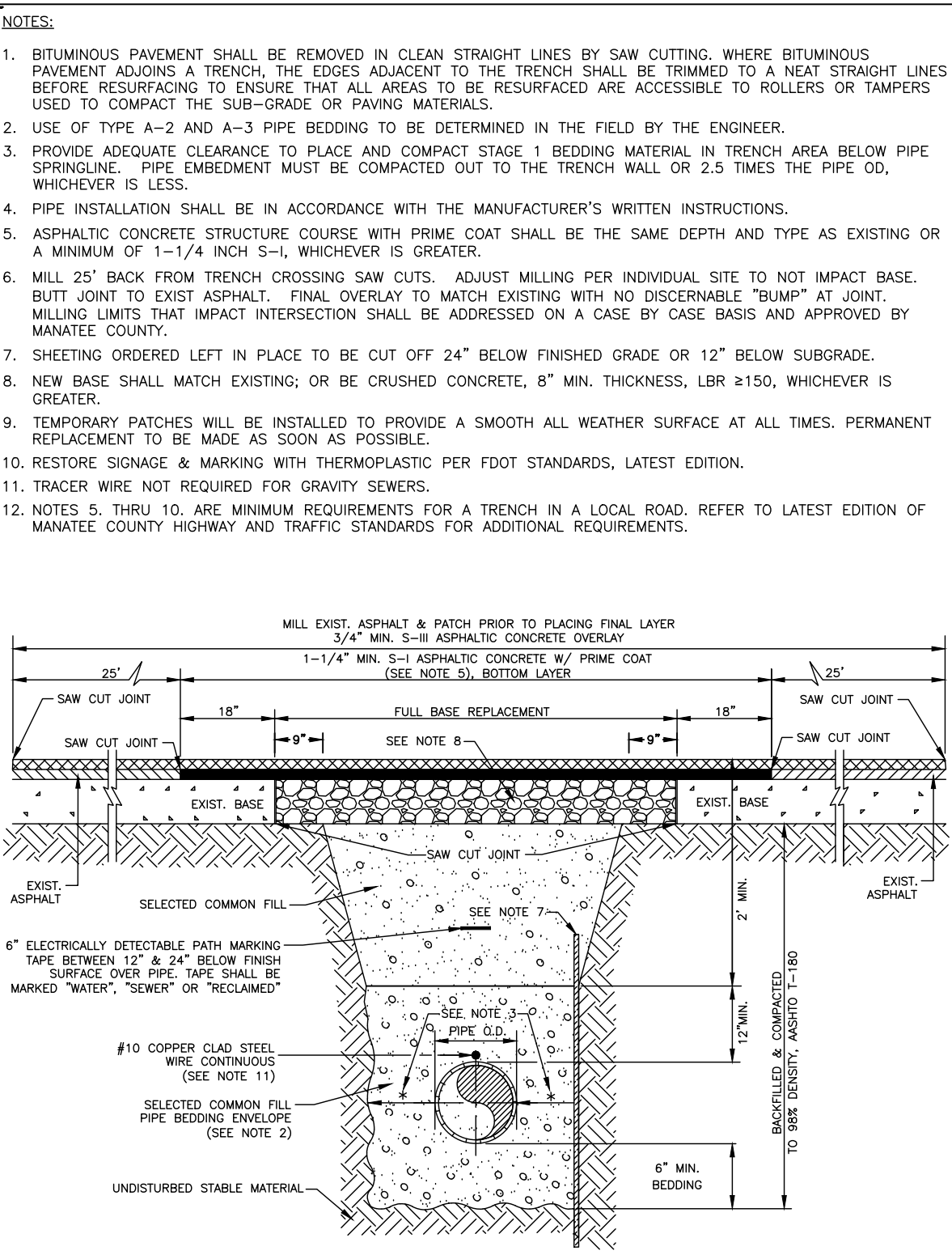
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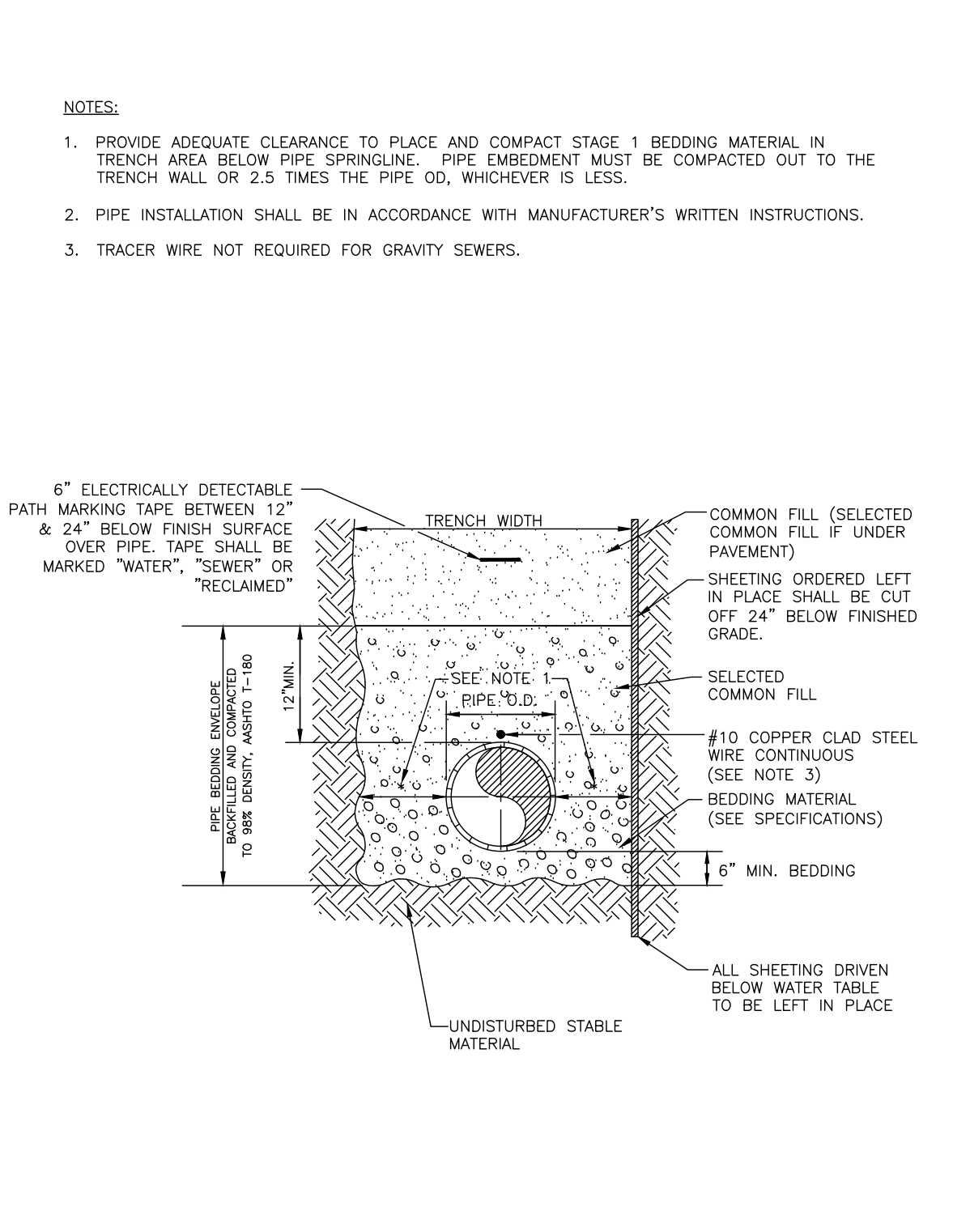
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



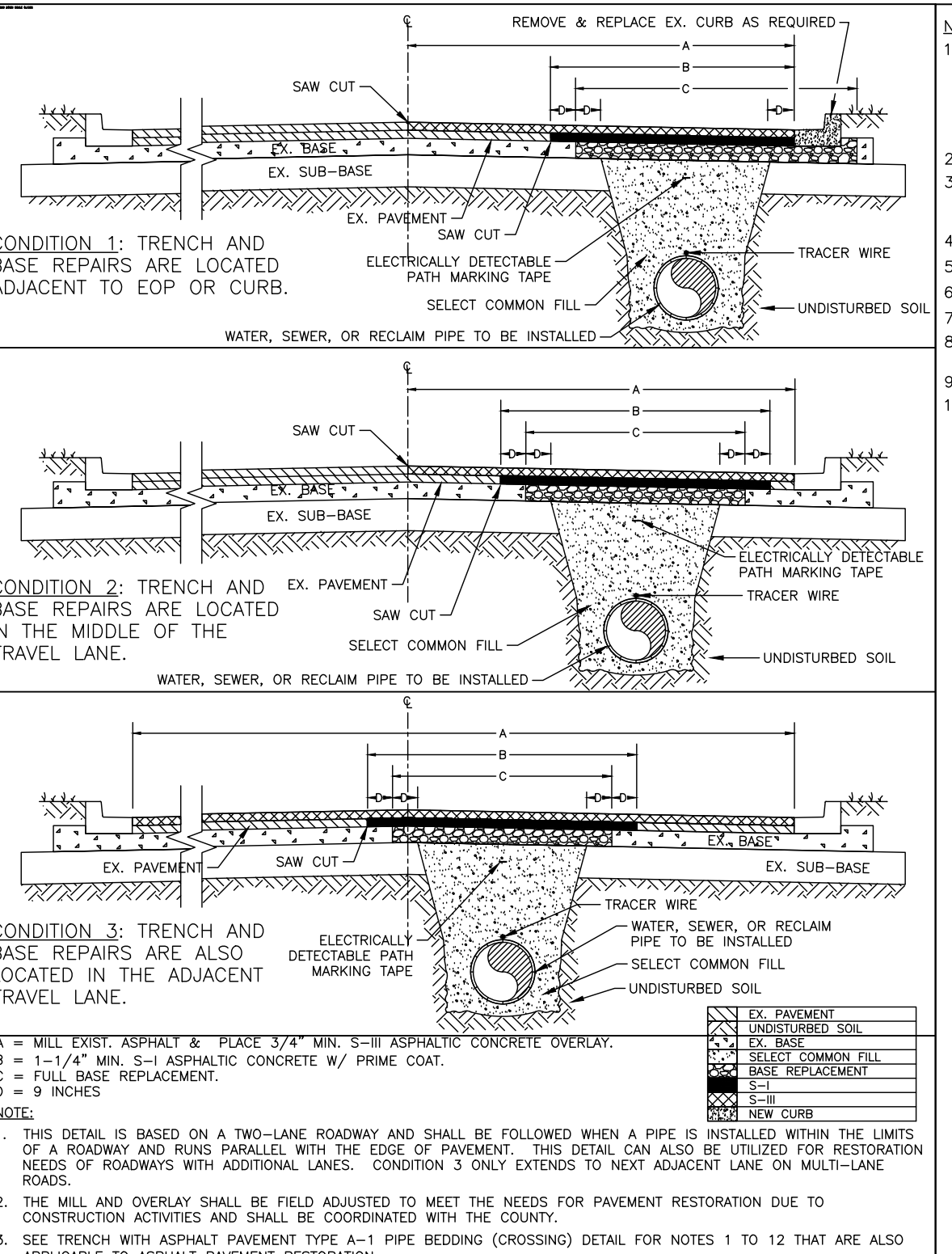
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (CROSSING)	UG-12
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



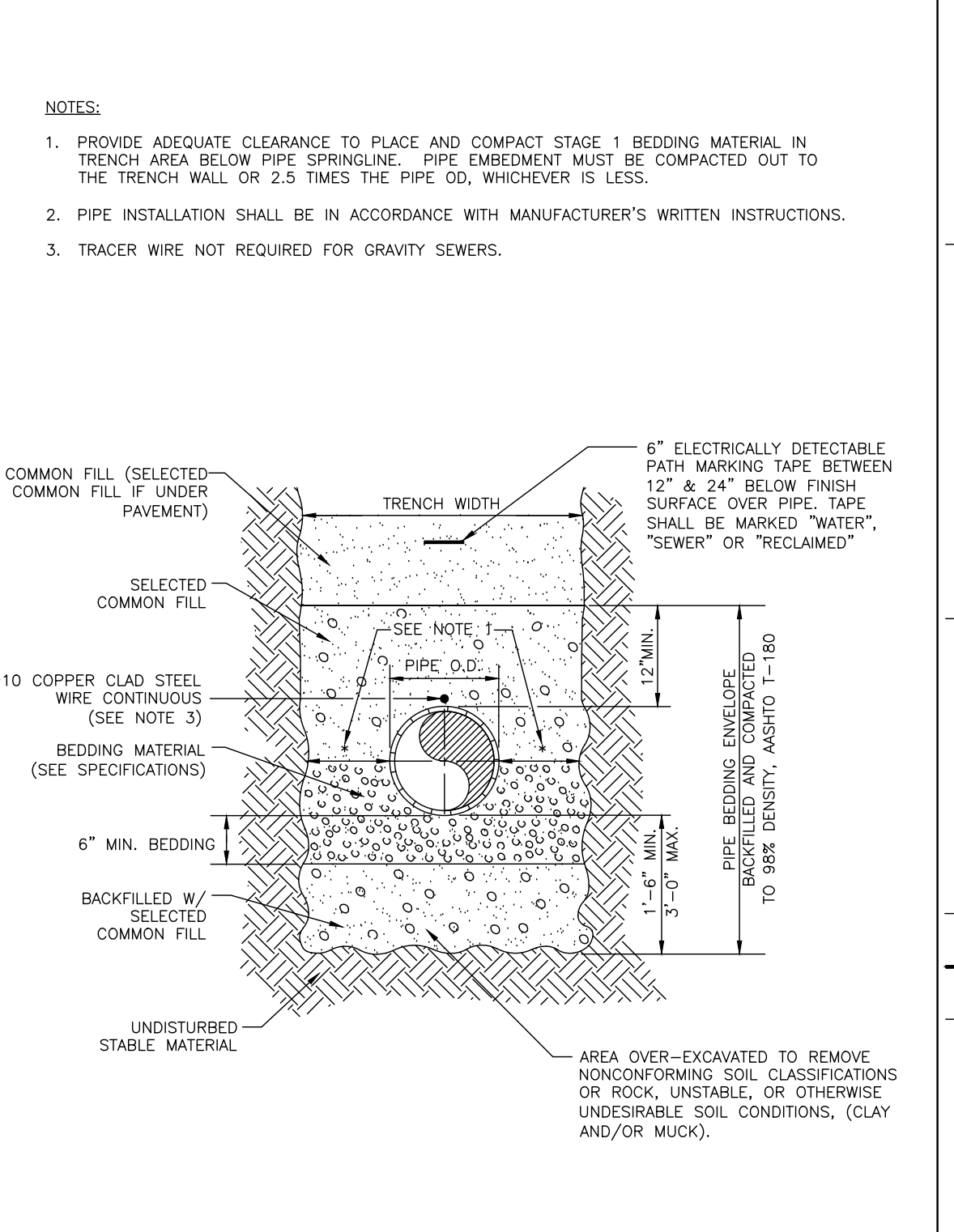
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-13
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



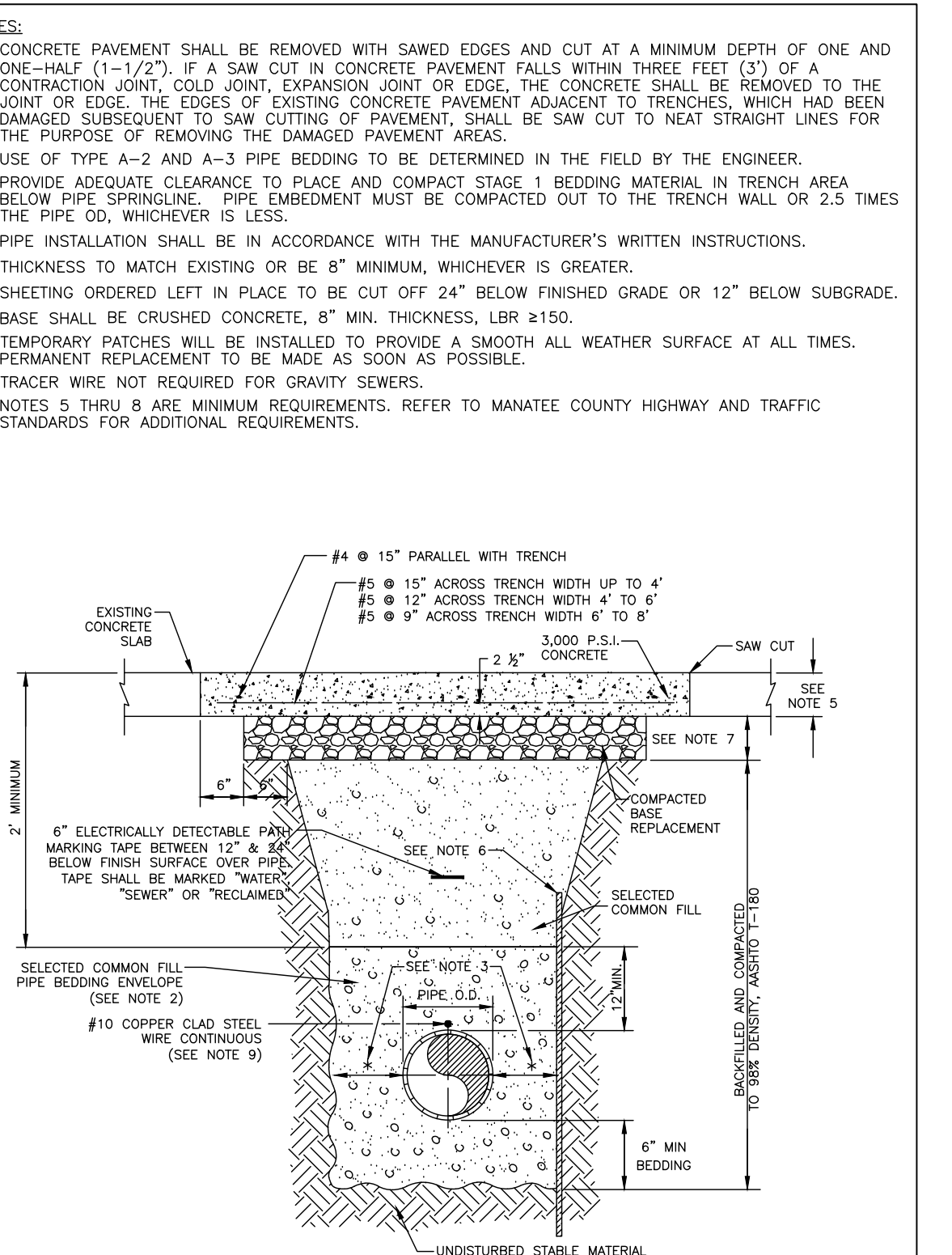
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-14
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



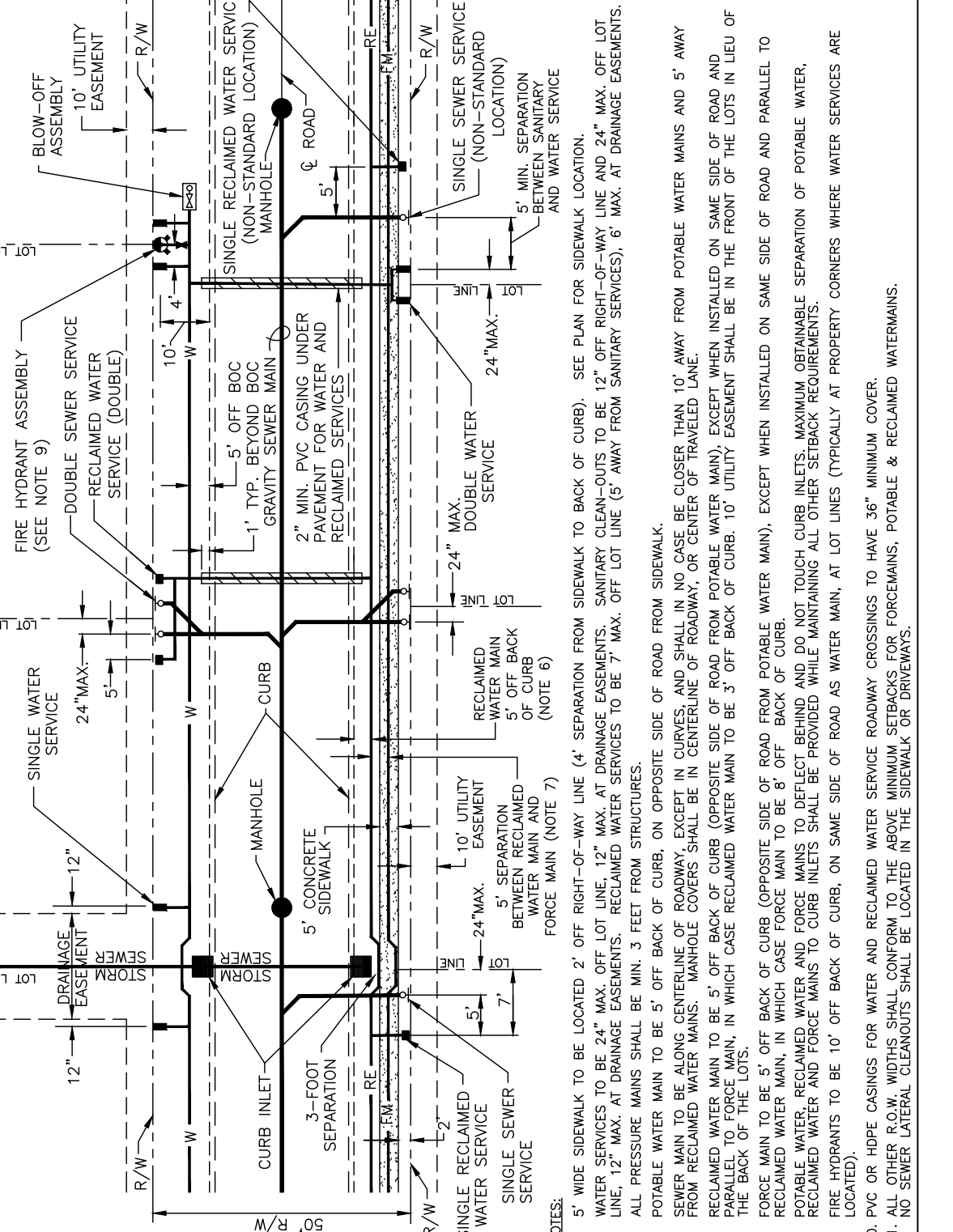
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH TYPE A-2 PIPE BEDDING	UG-15
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-3 PIPE BEDDING (LONGITUDINAL)	UG-12B
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-13
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		UTILITY LAYOUT FOR 50' R/W	UG-17
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

NOTES:

- CONCRETE PAVEMENT SHALL BE REMOVED WITH SAWS EDGES AND CUT AT A MINIMUM DEPTH OF ONE AND ONE-HALF (1-1/2"). IF A SAW CUT IN CONCRETE PAVEMENT FALLS WITHIN THREE FEET (3') OF A CONTRACTION JOINT, COLD JOINT, EXPANSION JOINT OR EDGE, THE CONCRETE SHALL BE REMOVED TO THE JOINT OR EDGE. THE EDGES OF EXISTING CONCRETE PAVEMENT ADJACENT TO TRENCHES, WHICH HAD BEEN DAMAGED SUBSEQUENT TO SAW CUTTING OF PAVEMENT, SHALL BE SAW CUT TO NEAT STRAIGHT LINES FOR THE PURPOSE OF REMOVING THE DAMAGED PAVEMENT AREAS.
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 8" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE CRUSHED CONCRETE, 8" MIN. THICKNESS, LBR #150.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5 THRU 8 ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.

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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400056
DATE	JAN 2021
SCALE	AS SHOWN
DESIGNED BY	MAS
DRAWN BY	KTM
CHECKED BY	WEW

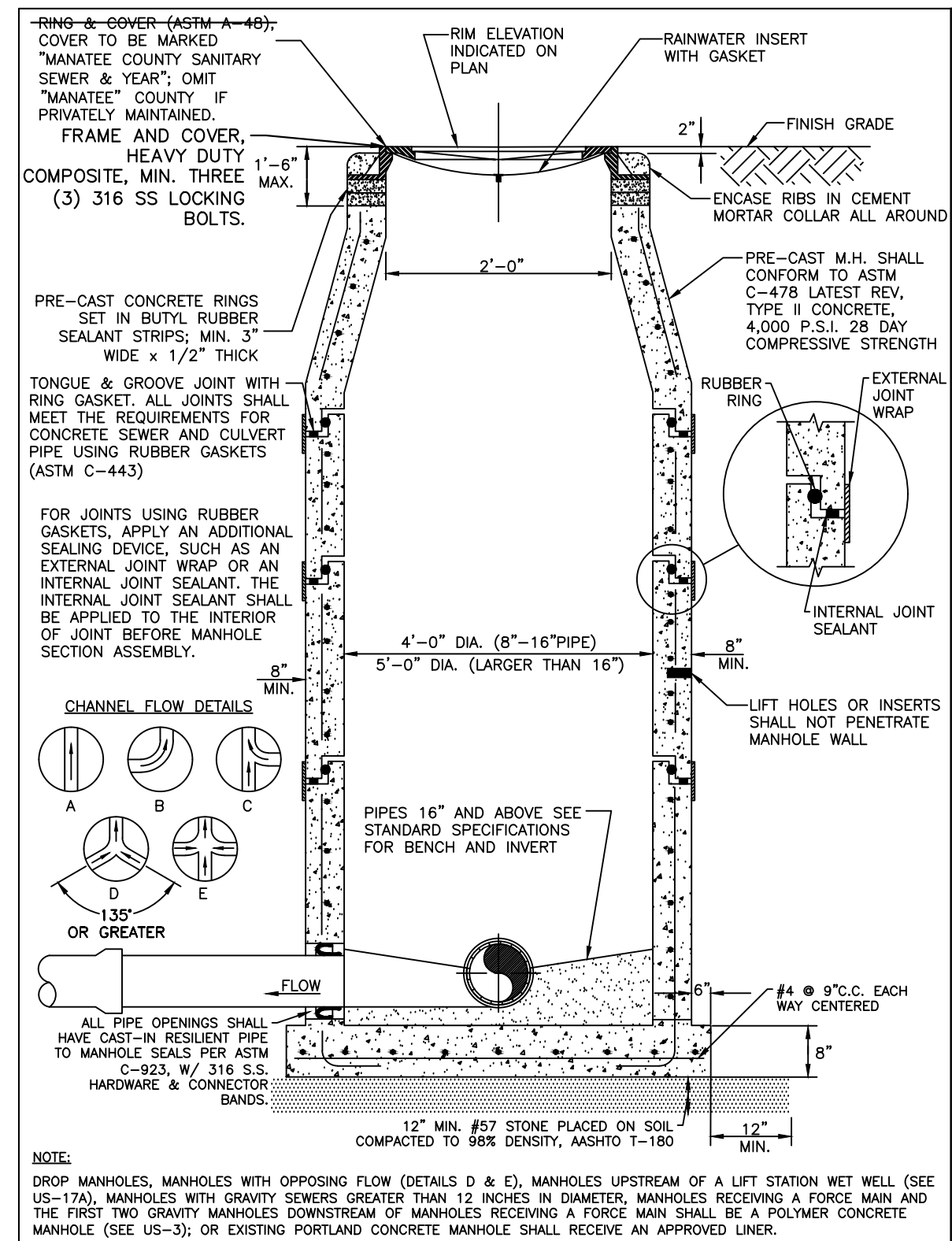
Manatee County
BRADENTON BEACH GRAVITY REPLACEMENT
MANATEE COUNTY

LICENSED PROFESSIONAL
MICHAEL A. SEMAGO, P.E.
FL LICENSE NUMBER
87501

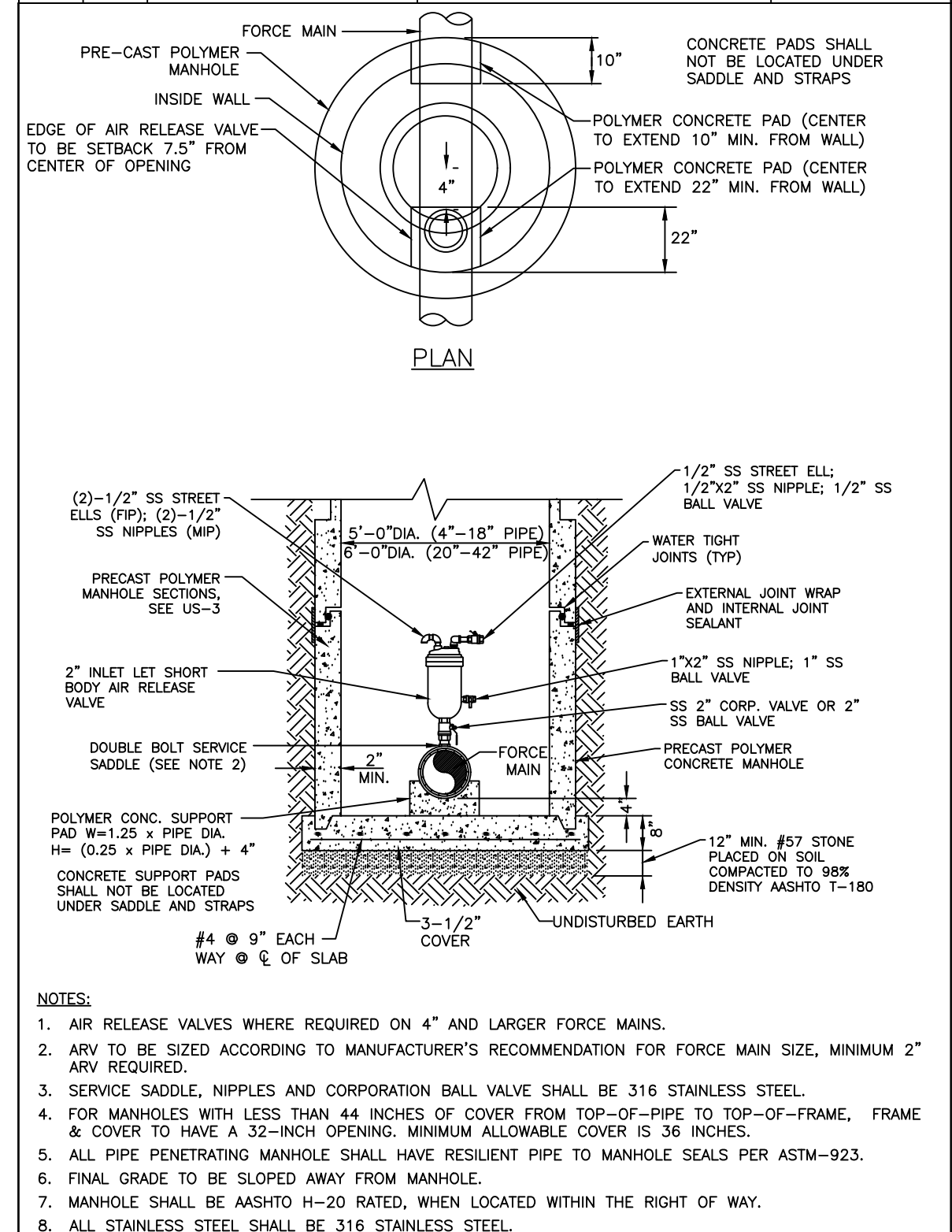
DETAILS
SHEET NUMBER
D-01

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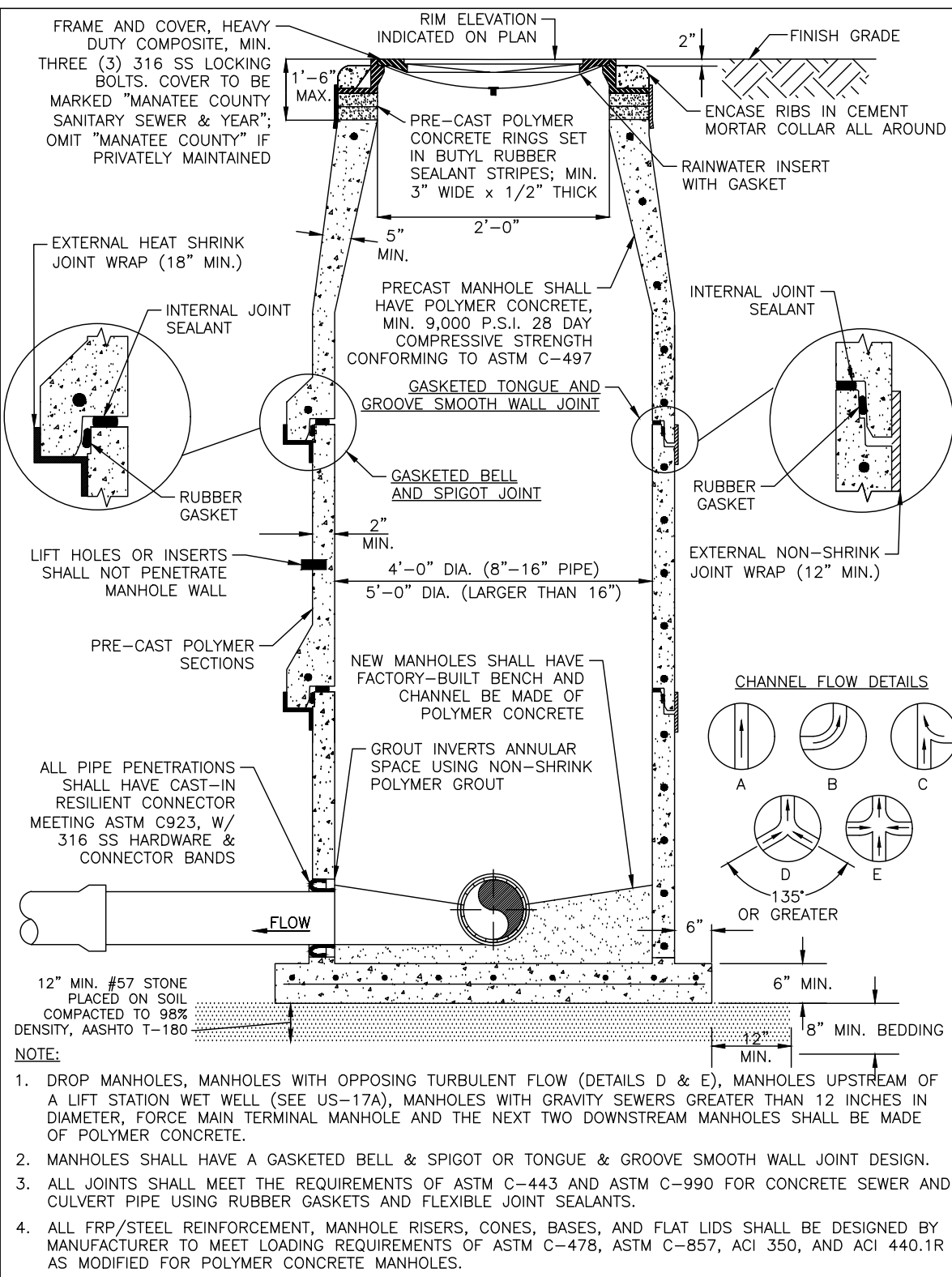
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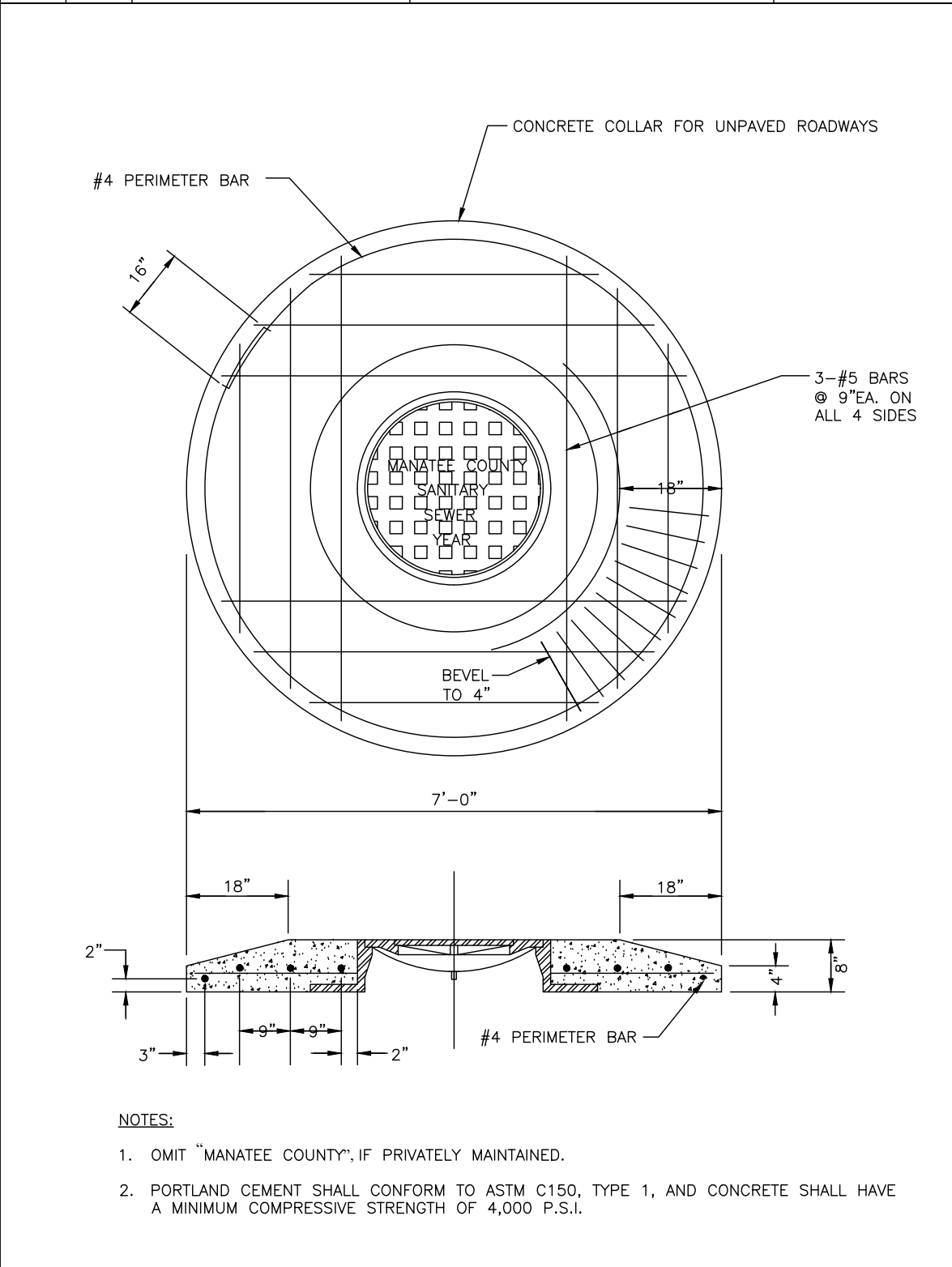
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	STANDARD PRE-CAST SANITARY SEWER MANHOLE FOR UNDISTURBED FLOW	US-2
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



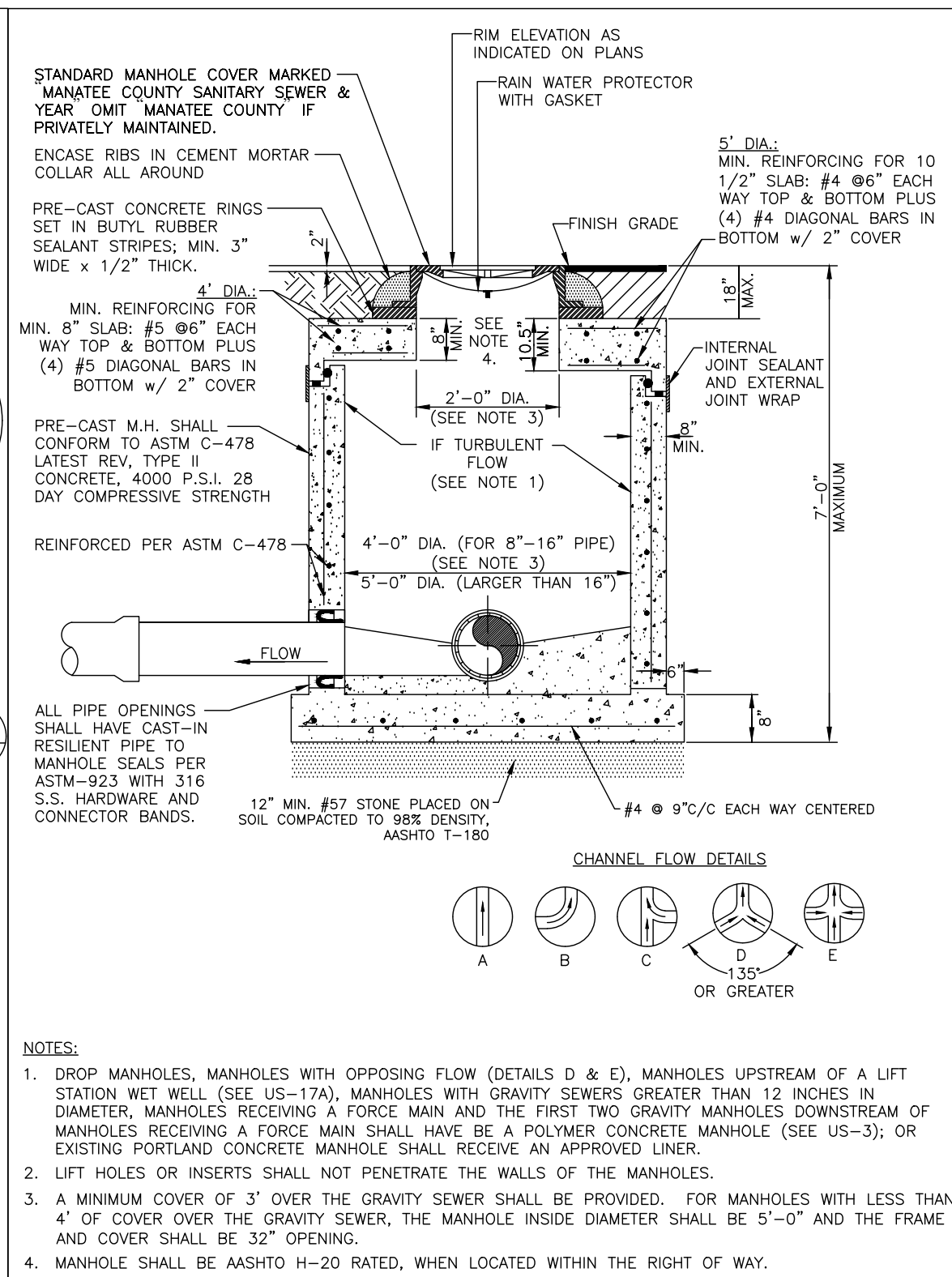
PUBLIC WORKS DEPARTMENT	BELOW GRADE AIR RELEASE VALVE FOR FORCE MAINS	US-8
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



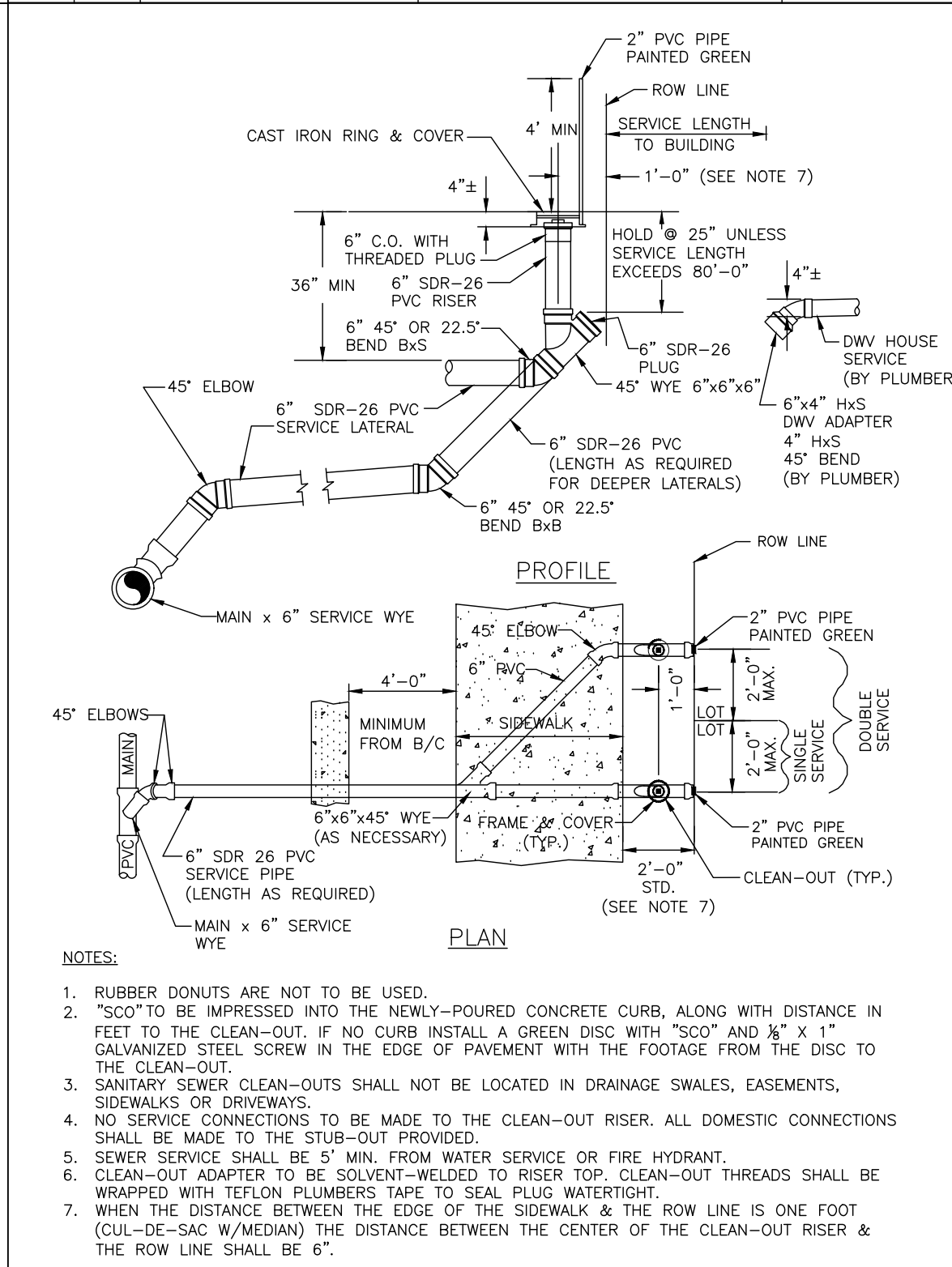
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	STANDARD PRE-CAST POLYMER CONCRETE SANITARY SEWER MANHOLE FOR TURBULENT FLOW	US-3
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



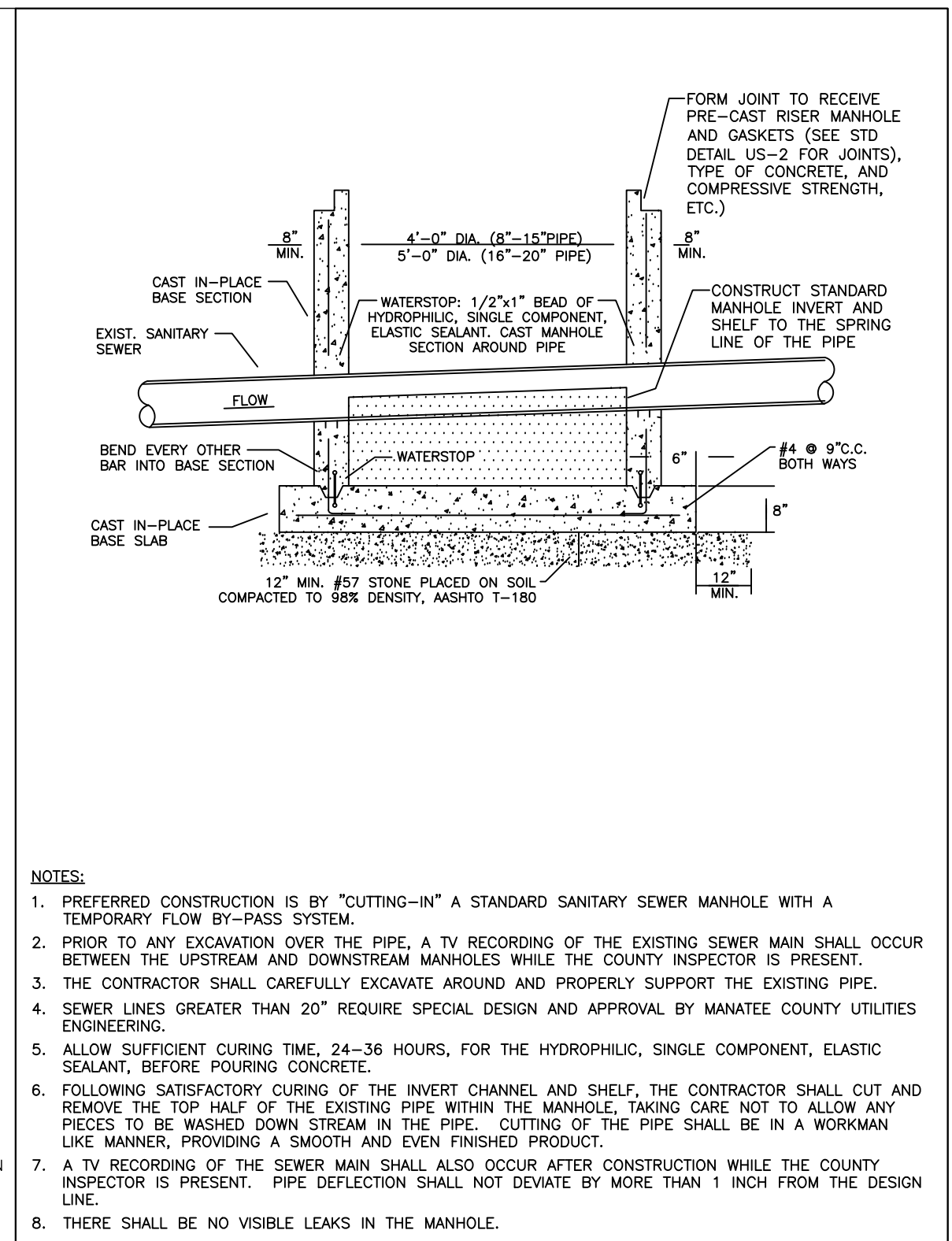
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	MANHOLE COVER & CONCRETE COLLAR FOR UNPAVED ROADWAYS	US-10
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



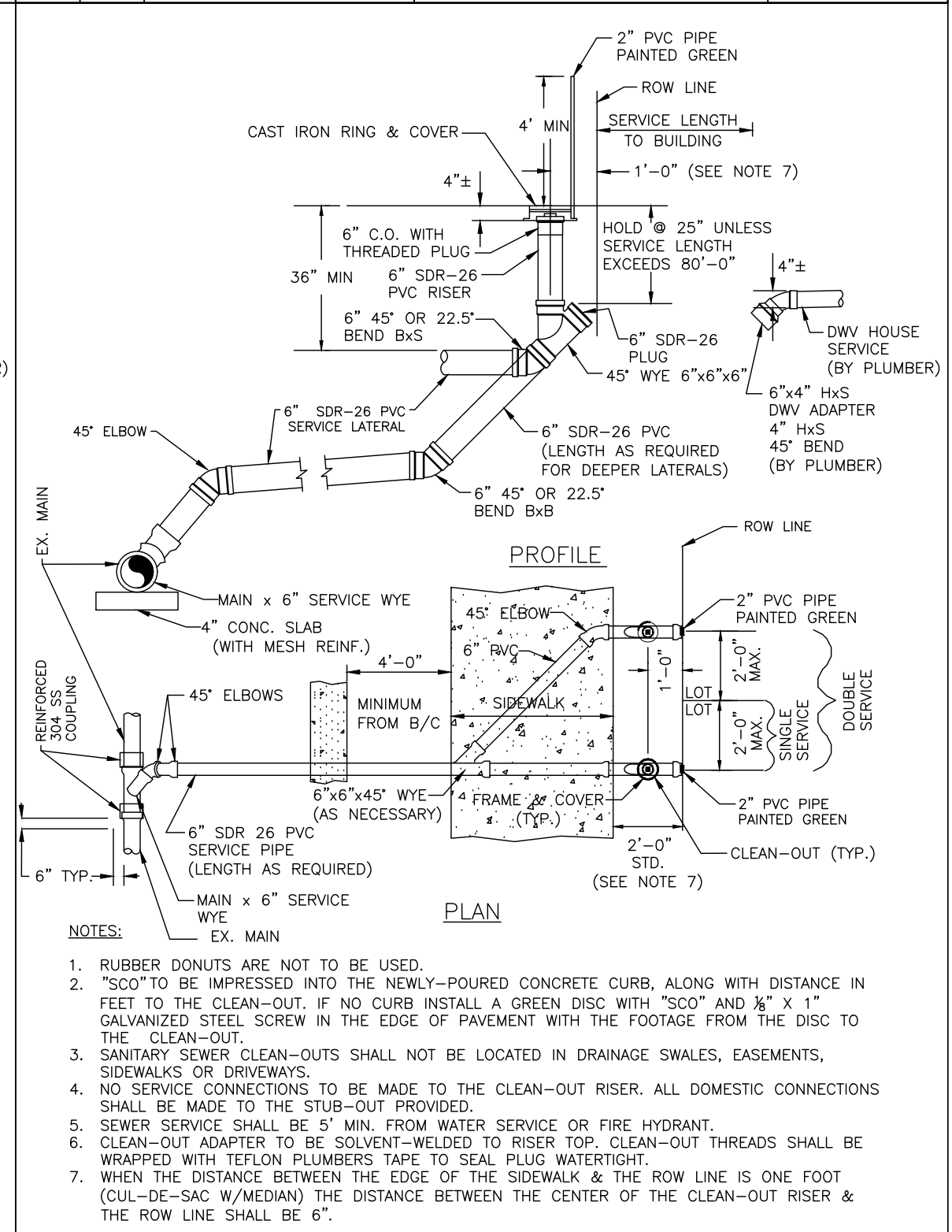
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	STANDARD PRE-CAST PORTLAND CEMENT SHALLOW MANHOLE	US-4
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



MANATEE COUNTY PUBLIC WORKS DEPARTMENT	SINGLE AND DOUBLE SERVICE CONNECTION	US-13A
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



MANATEE COUNTY PUBLIC WORKS DEPARTMENT	CUT-IN SINGLE AND DOUBLE SERVICE WYES	US-13B
REV. BY / DATE	February 25, 2020	DATE OF APPROVAL



MANATEE COUNTY PUBLIC WORKS DEPARTMENT	CUT-IN SINGLE AND DOUBLE SERVICE WYES	US-13B
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BRADENTON BEACH GRAVITY
REPLACEMENT

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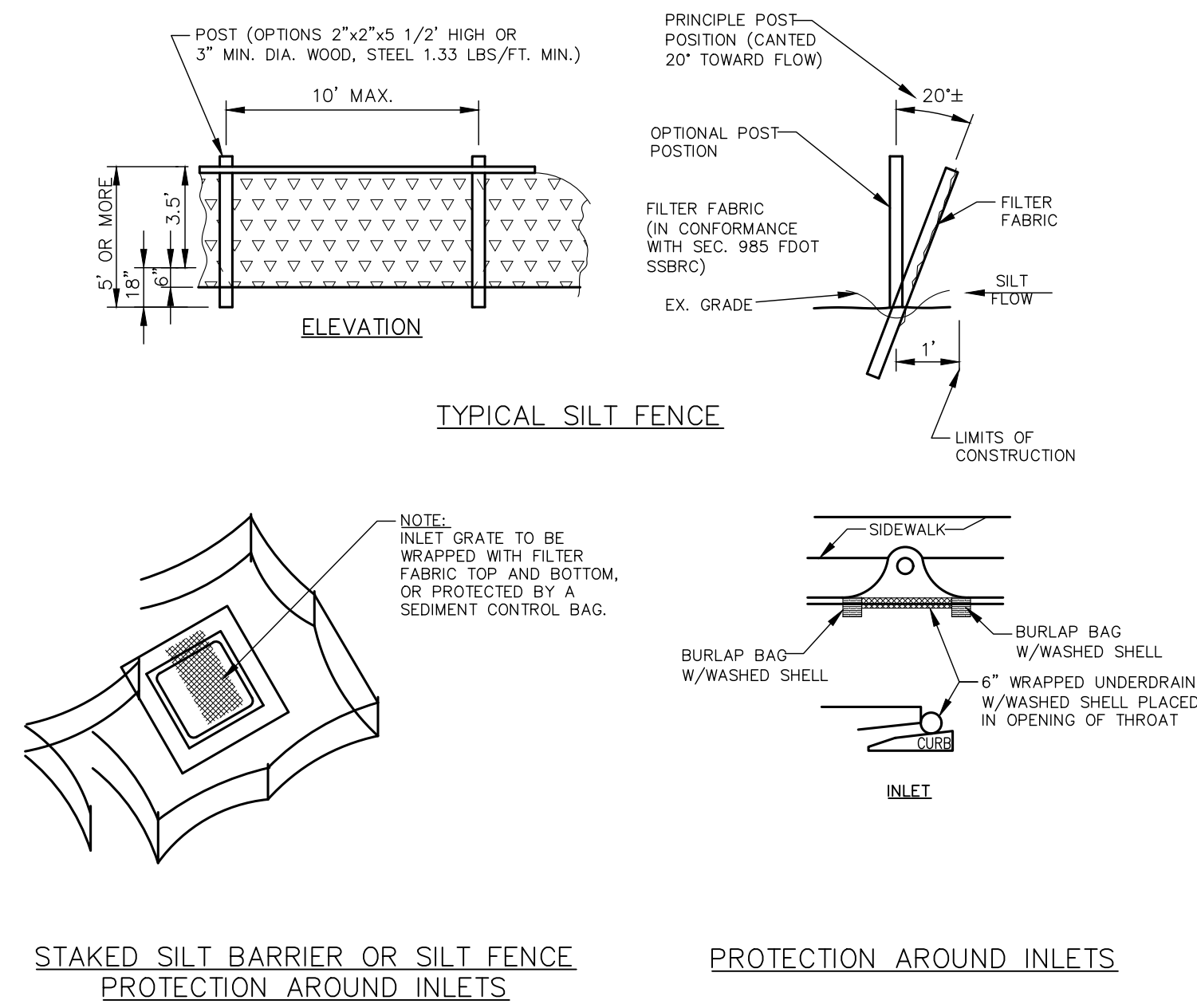
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LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum Water Main
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main 10 ft. preferred 6 ft. minimum (3)	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

- (1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
 (2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
 (3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
 (4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer - This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.



EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES
 N.T.S.

F.A.C. RULE 62-55.314 MAIN CLEARANCES DETAIL

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
 OUTSIDE DROP CONNECTION TO EX. PORTLAND CEMENT MANHOLE
 US-6
 February 25, 2020
 DATE OF APPROVAL

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
 FORCE MAIN CONNECTION TO EX. PORTLAND CONCRETE MANHOLE (3-6 FEET DEEP)
 US-7A
 February 25, 2020
 DATE OF APPROVAL

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
 FORCE MAIN CONNECTION TO EX. PORTLAND CONCRETE MANHOLE (>6 FEET DEEP)
 US-7B
 February 25, 2020
 DATE OF APPROVAL

NOTES:

- THIS IS A TURBULENT FLOW MANHOLE AND SHALL BE LINED WITH AN APPROVED LINER. IN NEW CONSTRUCTION, THIS MANHOLE SHALL BE MADE OF POLYMER CONCRETE, SEE US-3.
- DROP MANHOLES ARE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN THE LOWEST EXISTING MANHOLE INVERT AND THE HIGHEST PIPE INVERT IS 2'-0" OR GREATER.
- MANHOLE SHALL BE ASHTO H-20 RATED, WHEN LOCATED WITHIN THE RIGHT OF WAY.

NOTES:

- PIPE FITTINGS TO BE PVC AWWA C907 CLASS 235.
- APPROVED PVC RESTRAINTS SHALL BE USED.
- FORCE MAIN CONNECTION SHALL BE AT THE BOTTOM OF THE MANHOLE.
- FINISH SMOOTH WITH GROUT DETAIL US-3 SEWER MANHOLE FOR TURBULENT FLOW, AND DETAIL US-3 FORCE MAIN CONNECTION TO EX. PORTLAND CONCRETE MANHOLE.
- THIS IS AN INTERCEPT MANHOLE WITH TURBULENT FLOW. THIS MANHOLE AND THE NEXT TWO DOWNSTREAM MANHOLES SHALL BE COMPLETELY LINED WITH AN APPROVED LINER. ALL THREE MANHOLES SHALL BE REHABILITATED AS NECESSARY. IN NEW CONSTRUCTION, THIS MANHOLE AND THE NEXT TWO DOWNSTREAM MANHOLES SHALL BE POLYMER CONCRETE, SEE US-3.
- FORCE MAIN SHALL CONNECT TO THE BOTTOM OF THE MANHOLE 0.1 FT. ABOVE EXISTING U-CHANNEL. INFLUENT FORCE MAIN AND GRAVITY EFFLUENT PIPE IS REFERRED TO BE BETWEEN 135°-225° IF OUTSIDE THE ACCEPTED ANGLES, ADDITIONAL PVC FITTINGS MAY BE REQUIRED INSIDE THE MANHOLE TO DIRECT EFFLUENT TO EXITING PIPE. GRAZE AIR RELEASE MAY BE REQUIRED.
- RESTRAINTS TO BE MADE BY MECHANICAL ROTARY CORE BORING AND SHALL BE BUTTERED WITH LINER. RESTRAIN ALL JOINTS (TYP.).
- MINIMUM 10 LF OF PVC OF 18" DIA. (TYP.) UPSTREAM OF 3" TRAP.

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DATE:

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