

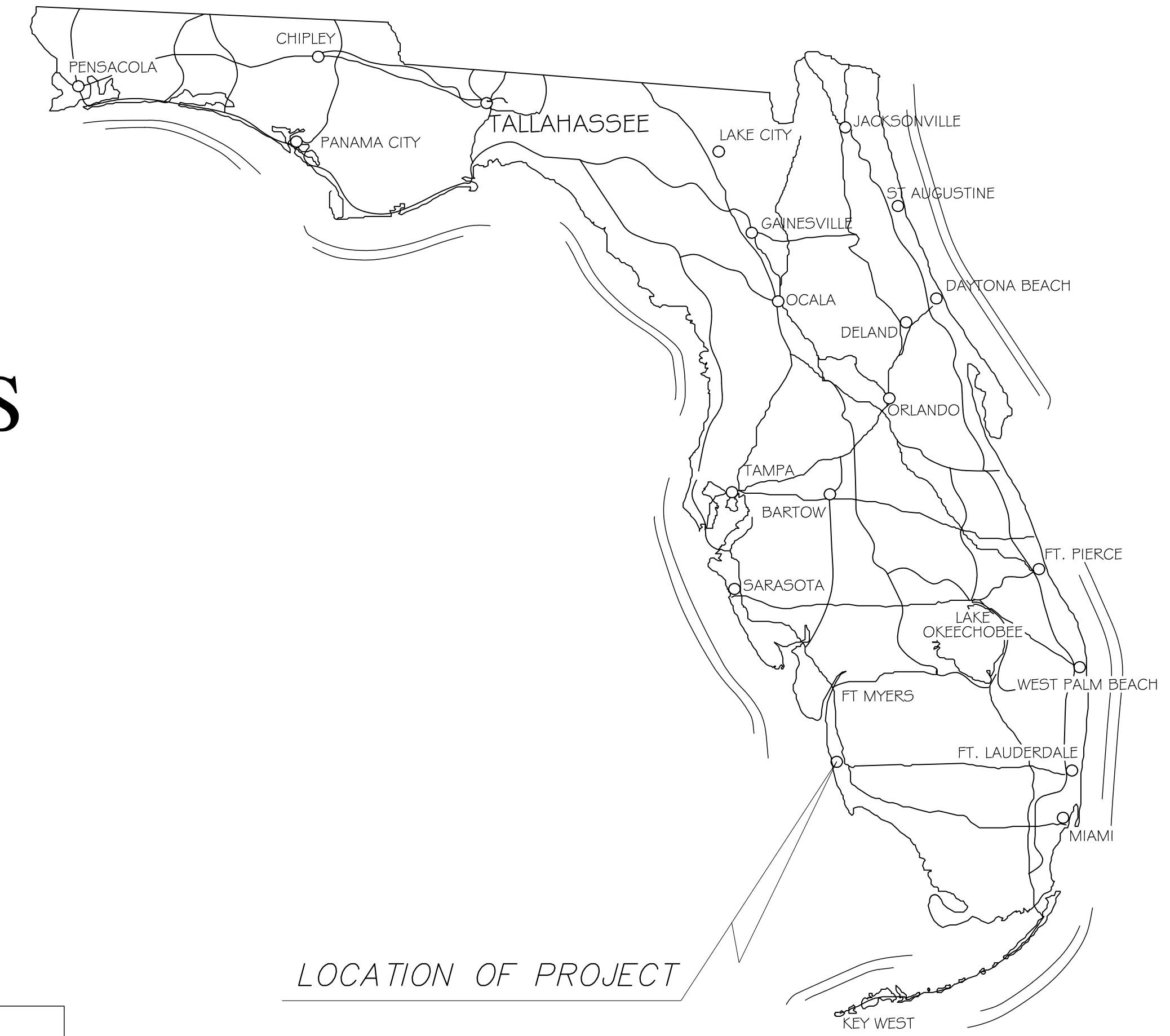


PARK SHORE DRIVE FORCE MAIN IMPROVEMENTS

FOR
CITY OF NAPLES

LOCATED IN
SECTIONS 21, TOWNSHIP 49 SOUTH, RANGE 25 EAST
COLLIER COUNTY, FLORIDA

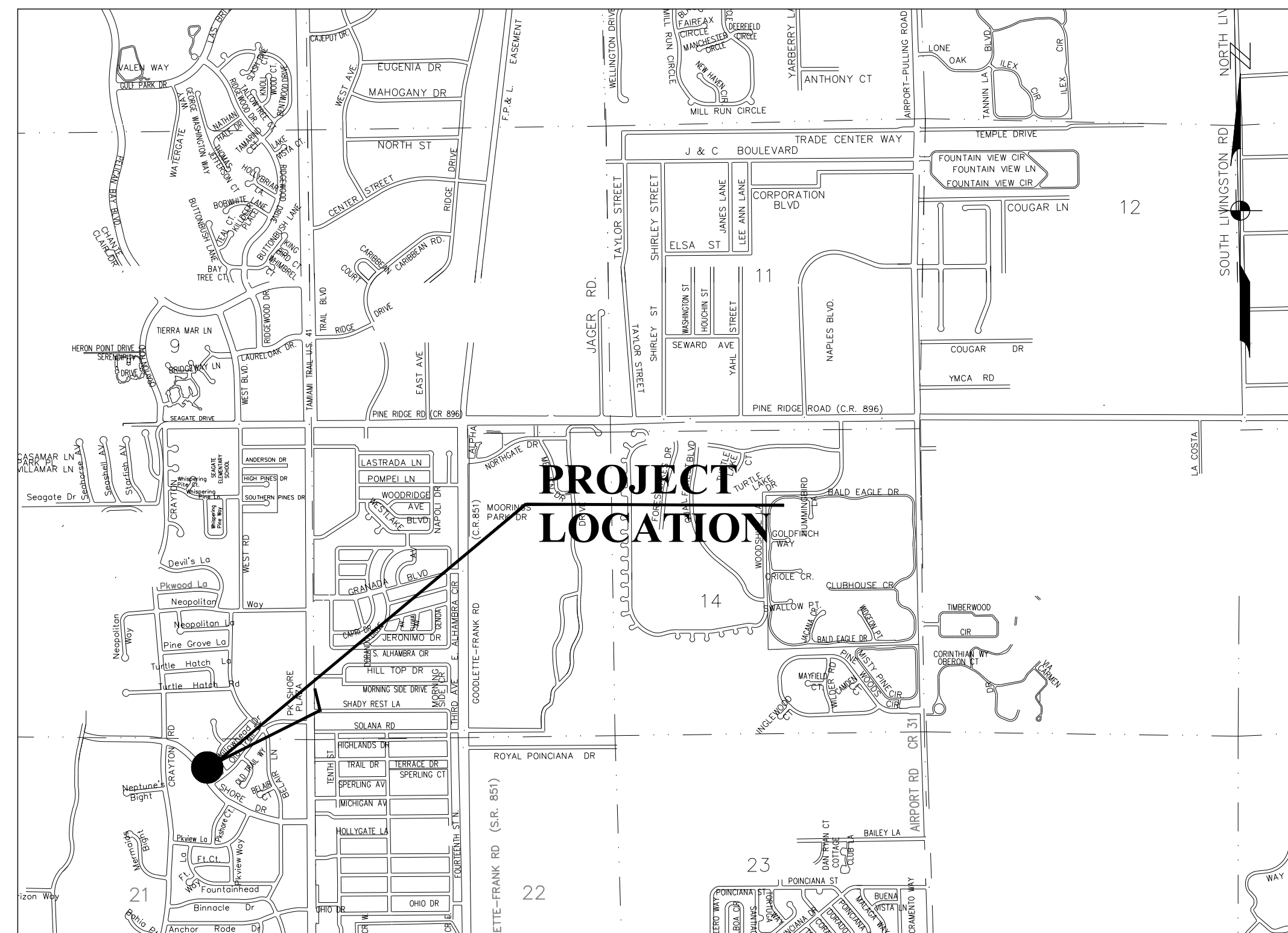
JANUARY 17, 2020



LOCATION OF PROJECT

Sheet List Table

Sheet Number	Sheet Title
01	Cover
02	Notes & Legends
03	Lift Station Bypass Plan Plan & Profile
04	Sta. 1+80 to 13+00
05	Sta. 13+00 to 23+40
06	Sta. 22+80 to 31+40
07	Sta. 31+40 to 41+00
08	U.S. 41 Intersection
City of Naples Details	
D-01	Details 1 of 2
D-02	Details 2 of 2



LOCATION MAP

0 2,000 4,000
(INTENDED DISPLAY SCALE: 1"=2,000')

JANUARY 17, 2020

For Information Regarding
This Project, Contact:
Michael S. Dickey, PE

NOTICE TO ALL
CONTRACTORS

IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE
YOU DIG
CALL SUNSHINE
1-800-432-4770

STATE, COUNTIES & CITIES
ARE "NOT" PART OF THE
ONE CALL SYSTEM. THEY
MUST BE CALLED
INDIVIDUALLY.



DESIGN CONSULTANT

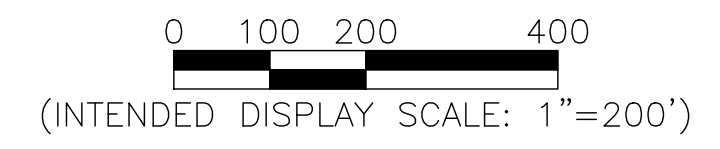
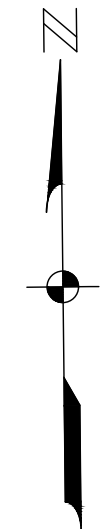
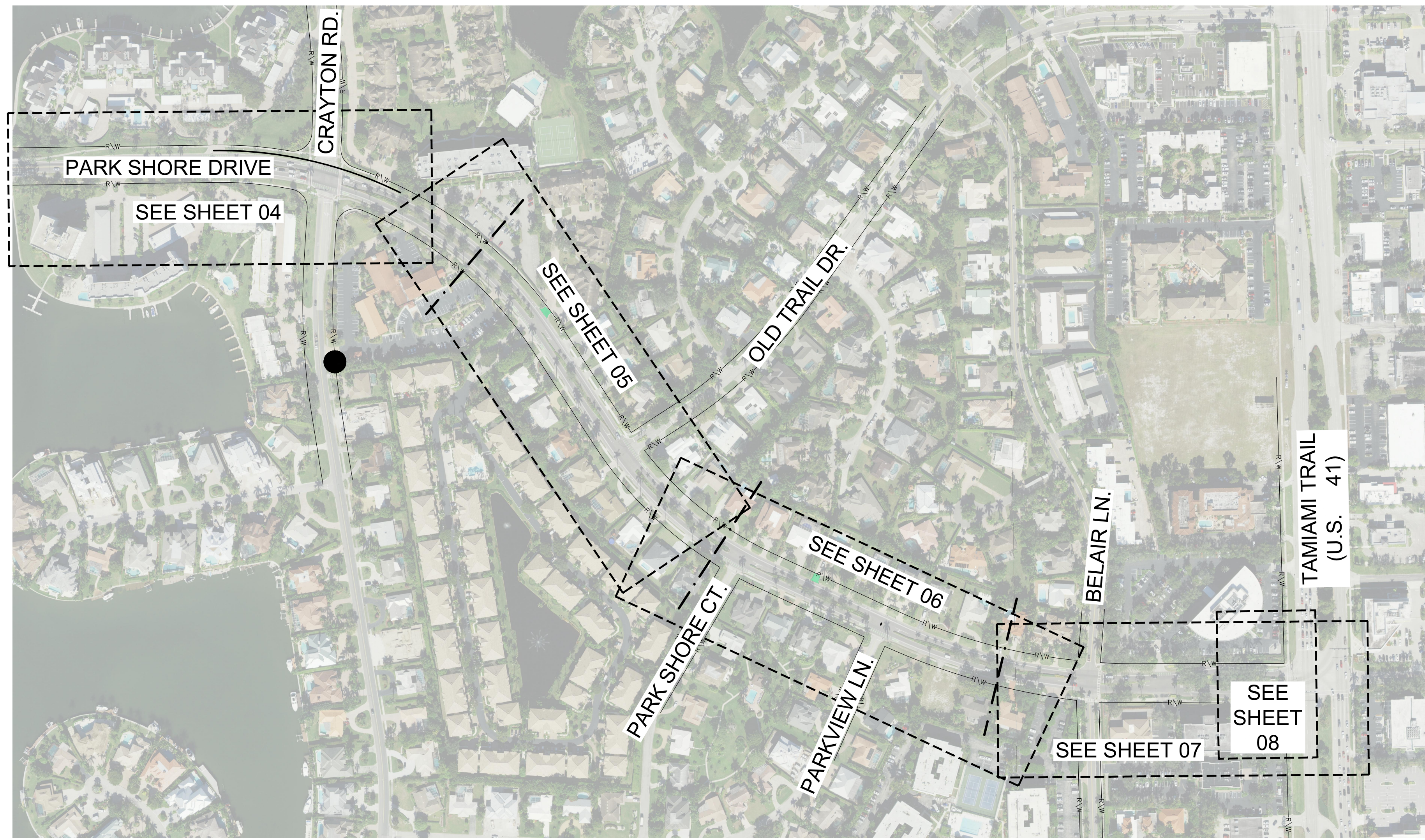
**JOHNSON
ENGINEERING**

JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

MICHAEL S. DICKEY, PE
FL License No. 60057



**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**



NOTICE TO ALL CONTRACTORS
IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE YOU DIG
CALL SUNSHINE 1-800-432-4770
STATE, COUNTIES & CITIES ARE "NOT"
PART OF THE ONE CALL SYSTEM.
THEY MUST BE CALLED INDIVIDUALLY.
STATE OF FLORIDA DOT
ALL INTERSTATE RIGHT-OF-WAY
HIGHMAST LIGHTING
7-DAY NOTICE REQUIRED
239-656-7811
239-656-7742 FAX

ABBREVIATIONS		LEGEND	
ABD	= Abandoned	EX XX" FM	= EXISTING FORCE MAIN & PIPE SIZE
AE	= Access Easement	XX" FM	= PROPOSED FORCE MAIN & PIPE SIZE
ALT	= Alternate	EX XX" WM	= EXISTING POTABLE WATER MAIN & PIPE SIZE
ARV	= Air Release Valve	XX" WM	= PROPOSED WATER MAIN & PIPE SIZE
ASPH	= Asphalt	XX" SS	= PROPOSED SANITARY SEWER MAIN & PIPE SIZE
BLDG	= Building	EX XX" SS	= EXISTING SANITARY SEWER MAIN & PIPE SIZE
BTM	= Bottom	XX" RCWM	= PROPOSED RECLAIMED WATER MAIN & PIPE SIZE
CATV	= Cable Television	EX XX" RCWM	= EXISTING RECLAIMED WATER MAIN & PIPE SIZE
CB	= Catch Basin	⊗	= PROPOSED GATE VALVE
CMP	= Corrugated Metal Pipe	⊗	= EX GATE VALVE
CO	= Cleanout	⊗	= EXISTING FIRE HYDRANT
DE	= Drainage Easement	⊗	= PROPOSED FIRE HYDRANT
DIP	= Ductile Iron Pipe	⊗	= PROPOSED AUTOMATIC AIR RELEASE VALVE
DR	= Dimensional Ratio	⊗	= PROPOSED REDUCER
EOP	= Edge of Pavement	⊗	= EXISTING SANITARY MANHOLE
EX	= Existing	⊗	= PROPOSED SANITARY MANHOLE
FE	= Flared End Section	⊗	= EXISTING SANITARY MANHOLE
FH	= Fire Hydrant	⊗	= PROPOSED SANITARY MANHOLE
FLG	= Flanged	⊗	= EXISTING PUMP STATION
FM	= Force Main	⊗	= PROPOSED PLUG
GV	= Gate Valve	⊗	= BENCHMARK
HDPE	= High Density Poly Ethylene	⊗	= SOIL BORING
INV	= Invert	⊗	= CATCH BASIN
IRR	= Irrigation	⊗	= WOOD POWER POLE
MH	= Manhole	⊗	= CONCRETE POWER POLE
ME	= Mitered End Section	⊗	= EXISTING WATER METER
MJ	= Mechanical Joint		

SEPARATION OF WATER AND SEWER LINES	
<u>HORIZONTAL SEPARATION OF PIPELINES</u>	
Minimum Separation Distance	Between The Outside Of The Water Main And The Outside Of Any Existing Or Proposed
Three feet	Storm sewer, stormwater force main, or reclaimed water main
Three feet, and preferably ten feet	Vacuum-type sanitary sewer.
Six feet, and preferably ten feet	Gravity- or pressure-type sanitary sewer, wastewater force main, or reclaimed water main not regulated under part III of chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer.
Ten feet	"On-site sewage treatment and disposal system"
<u>VERTICAL SEPARATION OF PIPELINES</u>	
Minimum Separation Distance From The (Outside To The Outside)	New Or Relocated, Underground Water Mains Crossing Any Existing Or Proposed
Six inches, and preferably 12 inches above	Gravity- or vacuum-type sanitary sewer or storm sewer
12 inches below	Gravity- or vacuum-type sanitary sewer or storm sewer
12 inches above or below	Pressure-type sanitary sewer, wastewater, stormwater force main, or pipeline conveying reclaimed water main
One full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or reclaimed water mains, and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or reclaimed water mains.	
<u>ALTERNATE CONSTRUCTION</u>	
Where an underground water main is being laid less than the required minimum horizontal distance from another pipeline and where an underground water main is crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline	
1. Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline;	
2. Use of welded, fused, or otherwise restrained joints for either the water main or the other pipeline; or	
3. Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.	
Where an underground water main is being laid less than three feet horizontally from another pipeline and where an underground water main is crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline	
1. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the water main; and	
2. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the other pipeline if it is new and is conveying wastewater or reclaimed water.	

NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

NOTES & LEGENDS

SHEET NUMBER

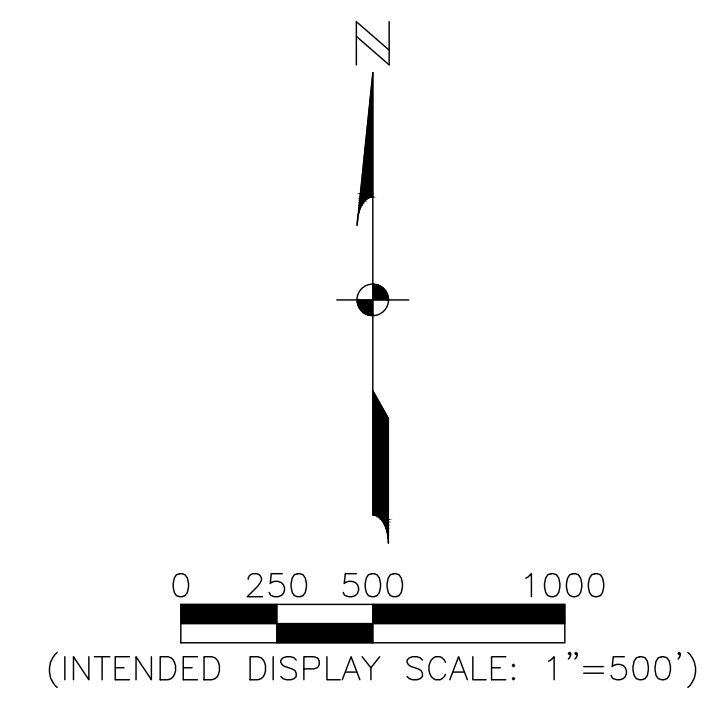
LS 25
4551 GULFSHORE BLVD N.
183 GPM
60,931 GPD
TRUCKS TRANSFER
TO LS 26

LS 24
4005 GULFSHORE BLVD N.
328 GPM
71,825 GPD
TRUCKS TRANSFER
TO LS 26

LS 21
254 GPM
138,252 GPD
TRUCKS TRANSFER
TO LS 22

LS 22
NW CORNER OF
CRAYTON & HARBOUR DRIVE

LS 26
2701 GULFSHORE BLVD N.



**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**

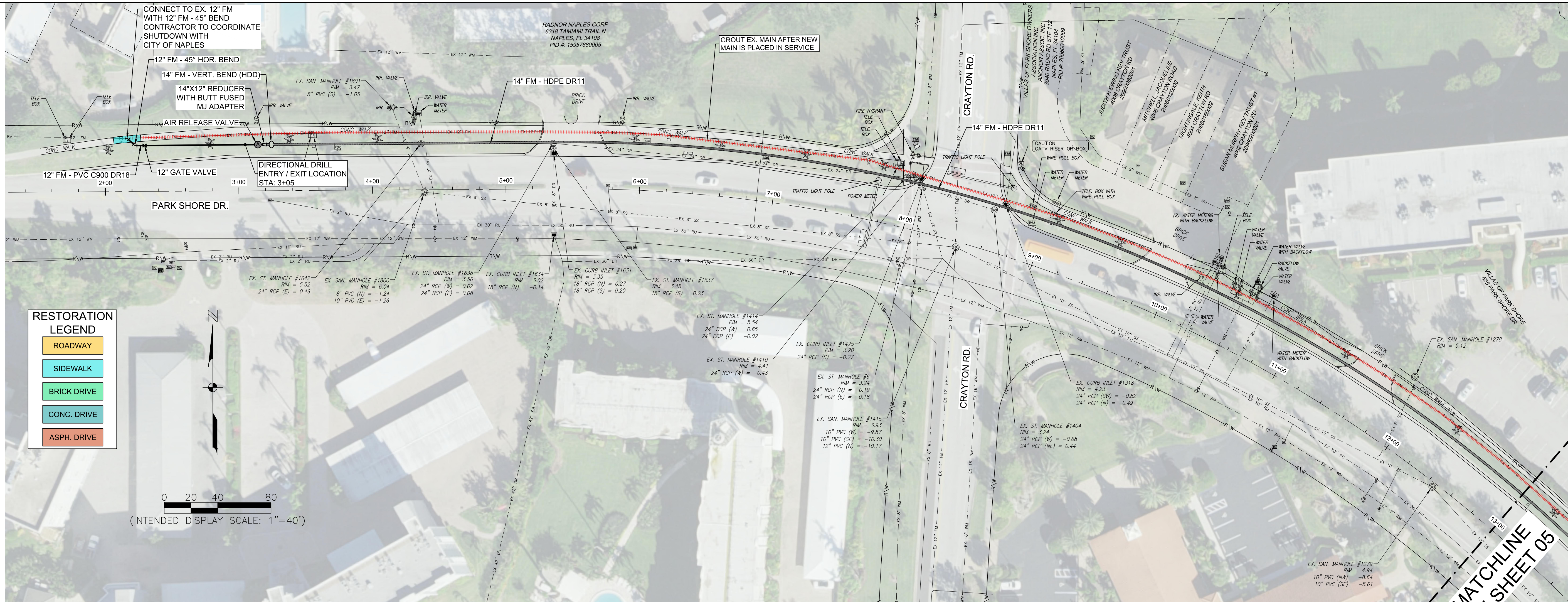
NO.	DESCRIPTION	DATE

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

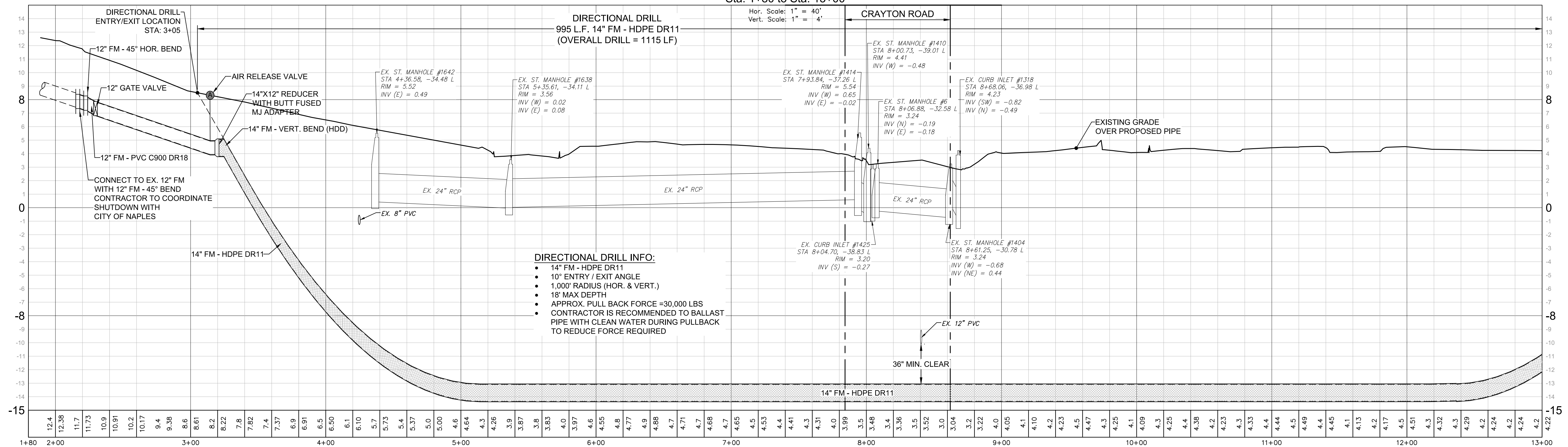
**LIFT STATION
BYPASS PLAN**

SHEET NUMBER

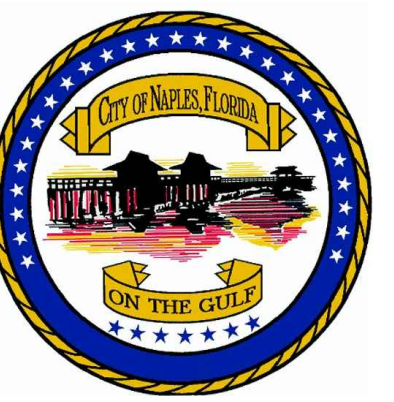
03



Profile View of Park Shore Drive CL
Sta: 1+80 to Sta: 13+00



- DIRECTIONAL DRILL INFO:**
- 14" FM - HDPE DR11
 - 10° ENTRY / EXIT ANGLE
 - 1,000' RADIUS (HOR. & VERT.)
 - 18' MAX DEPTH
 - APPROX. PULL BACK FORCE = 30,000 LBS
 - CONTRACTOR IS RECOMMENDED TO BALLAST PIPE WITH CLEAN WATER DURING PULLBACK TO REDUCE FORCE REQUIRED



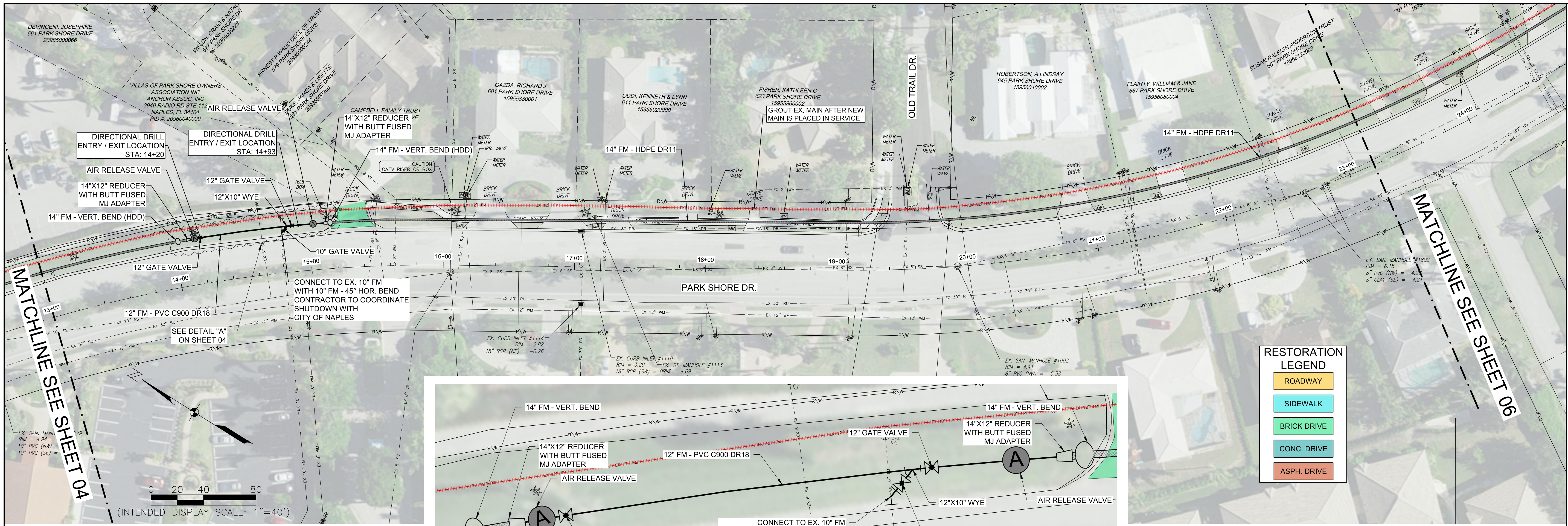
**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**

NO.	REVISIONS DESCRIPTION	DATE

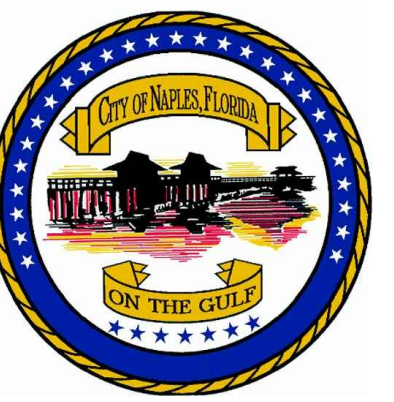
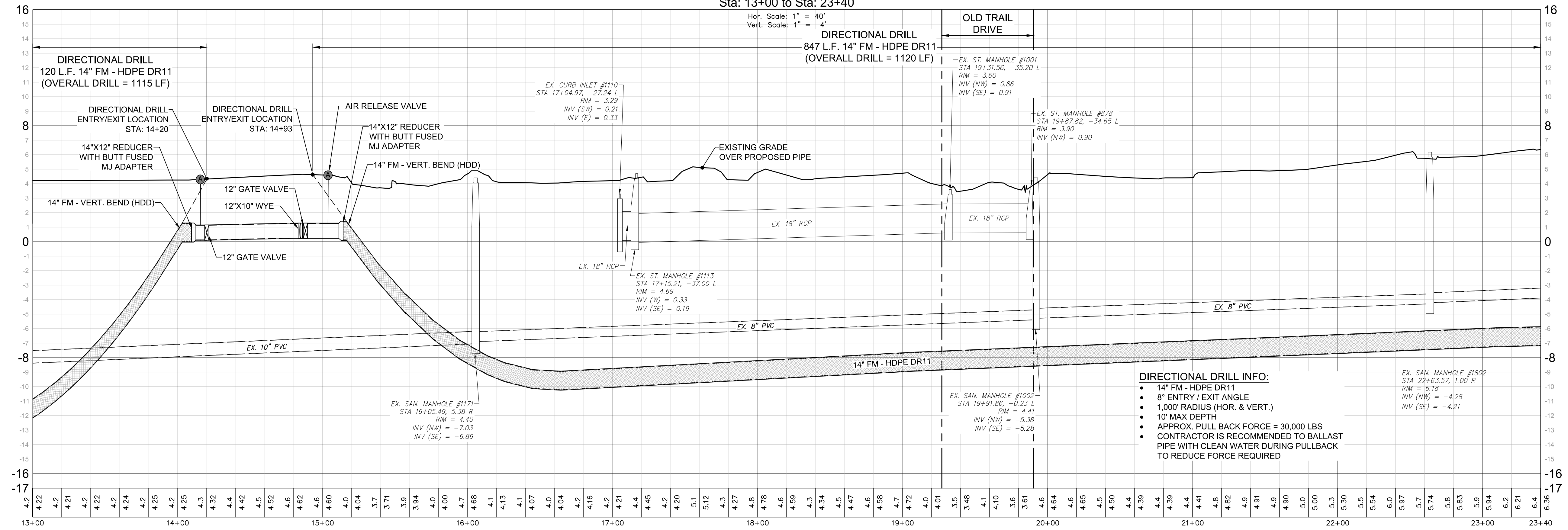
DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

Plan & Profile
STA. 1+80 TO 13+00

SHEET NUMBER



Profile View of Park Shore Drive CL
Sta: 13+00 to Sta: 23+40

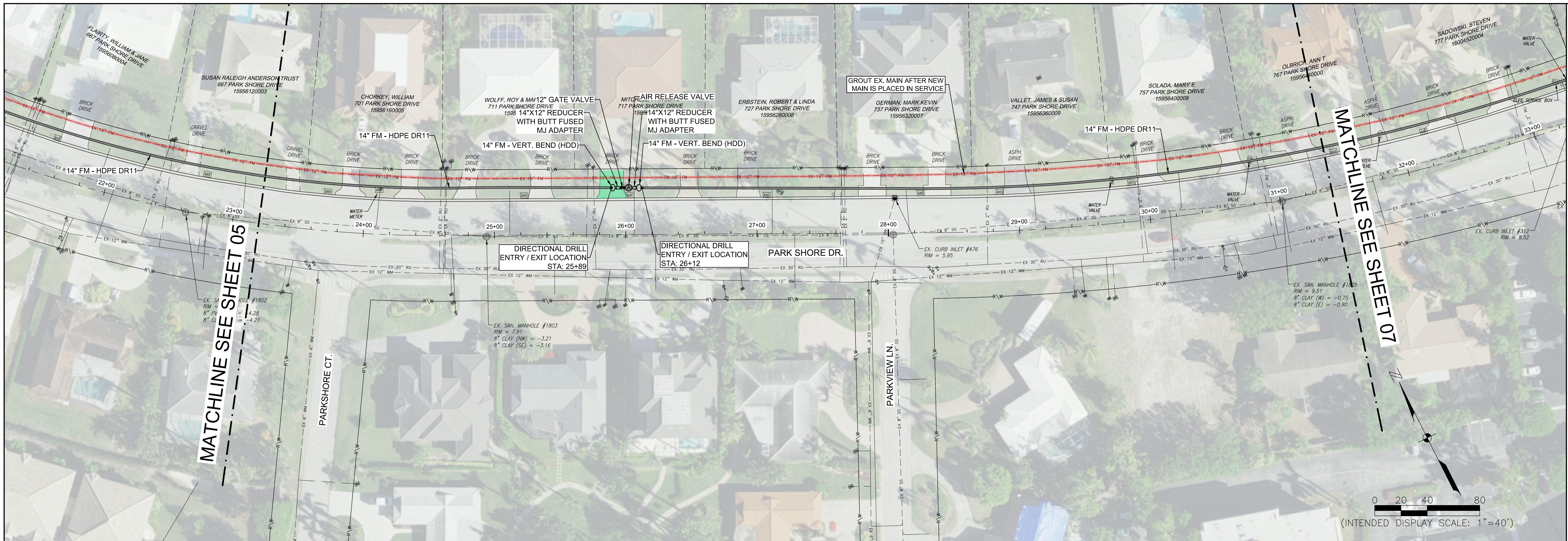


**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**

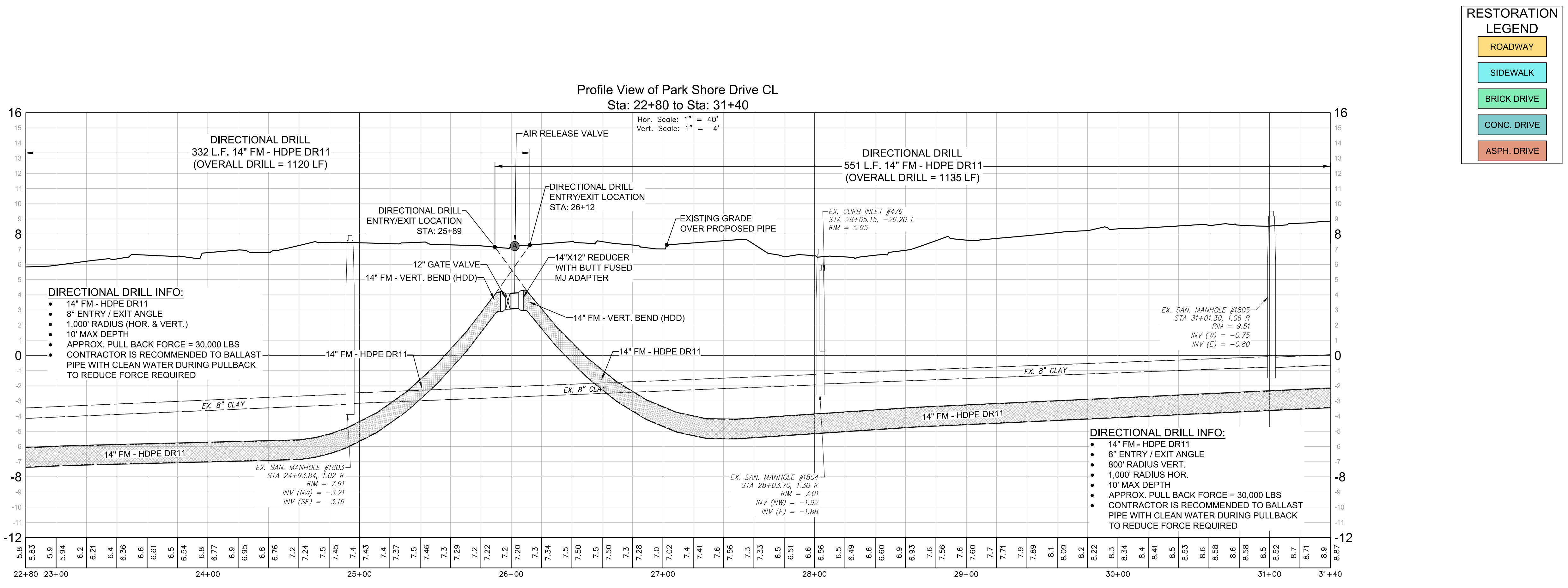
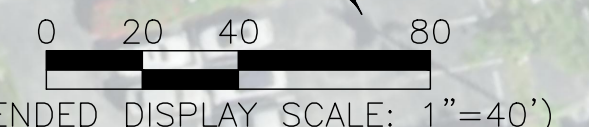
NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

Plan & Profile
STA. 13+00 TO 23+40



**PARK SHORE DRIVE
 FORCE MAIN
 IMPROVEMENTS**



RESTORATION LEGEND

- ROADWAY
- SIDEWALK
- BRICK DRIVE
- CONC. DRIVE
- ASPH. DRIVE

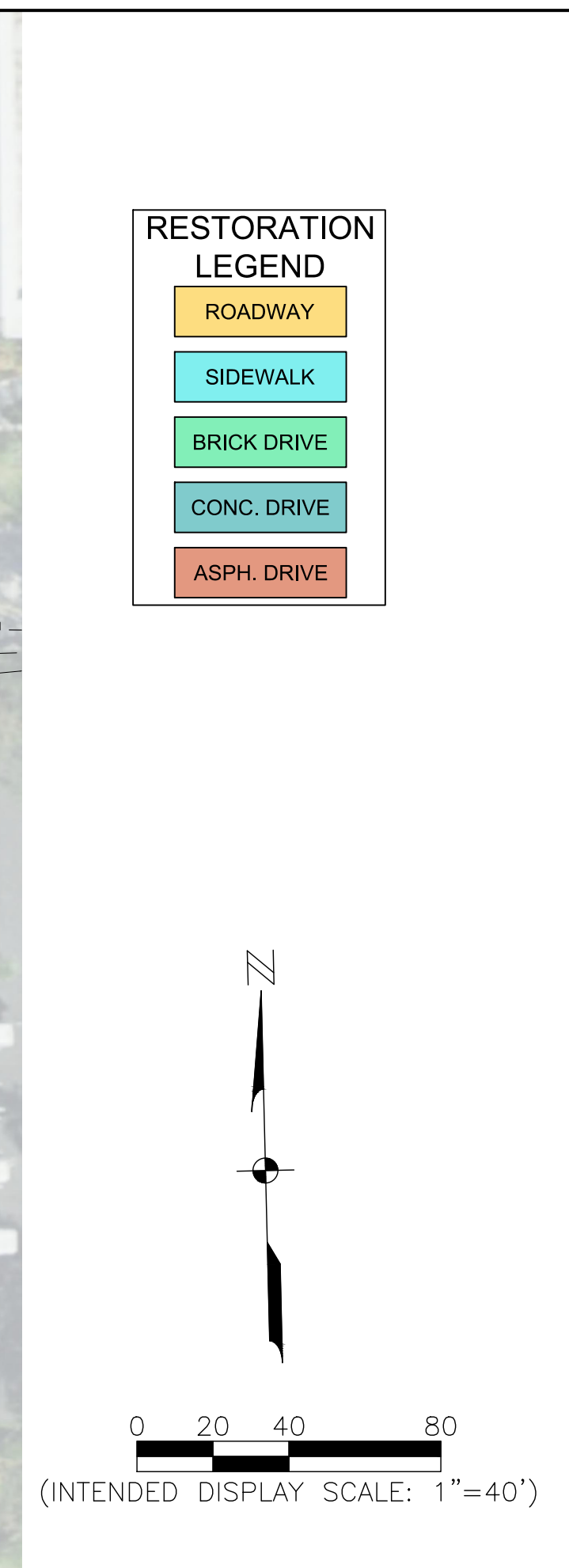
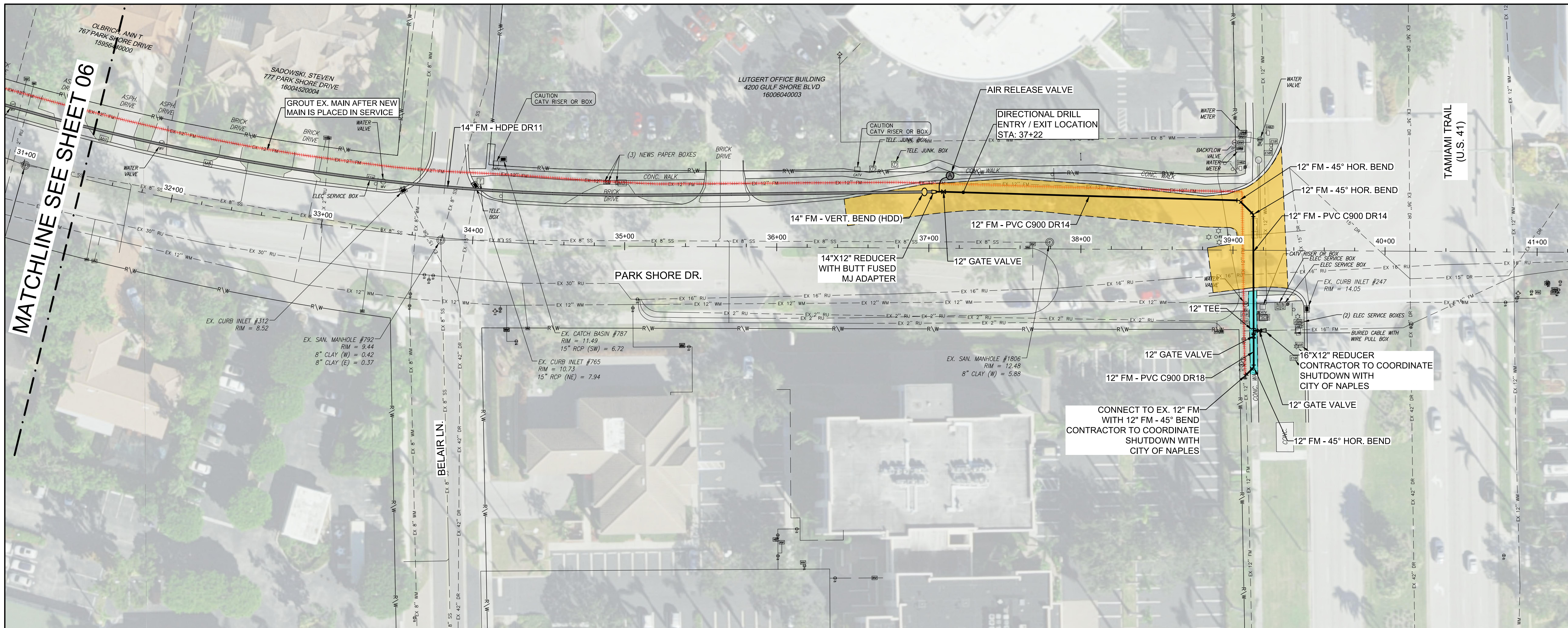
REVISIONS

NO.	DESCRIPTION	DATE

DATE: JANUARY 17, 2020
 PROJECT NO. 20150110-011
 FILE NO. 21-49-25
 SCALE: AS SHOWN

Plan & Profile
 STA. 22+80 TO 31+40

SHEET NUMBER



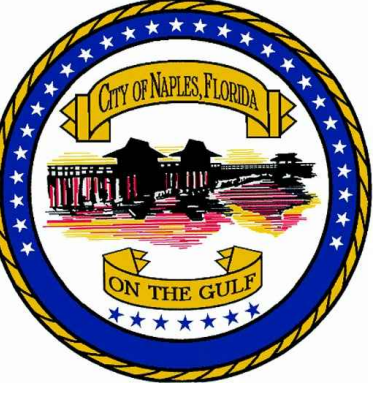
**PARK SHORE DRIVE
 FORCE MAIN
 IMPROVEMENTS**

NO.	REVISIONS DESCRIPTION	DATE

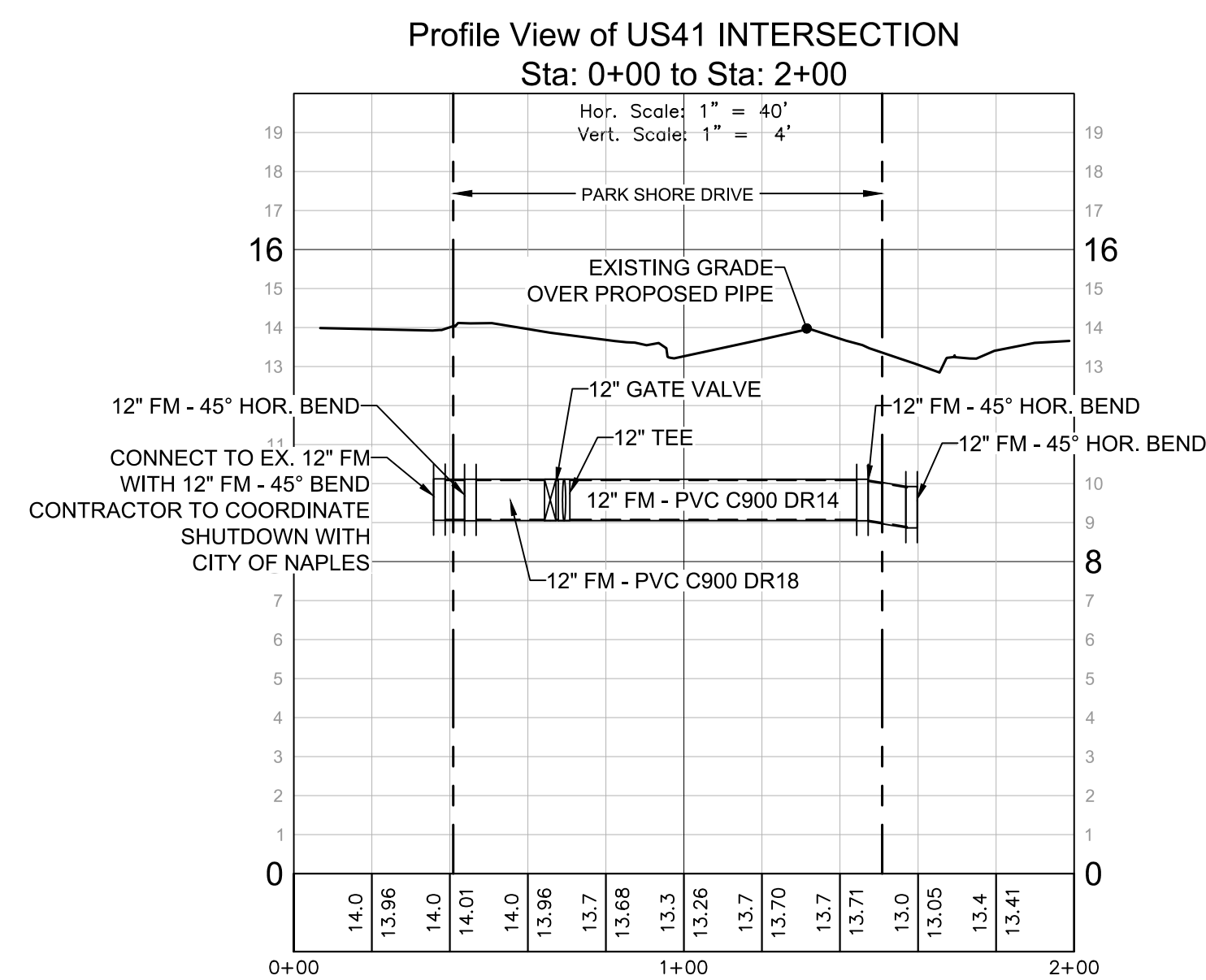
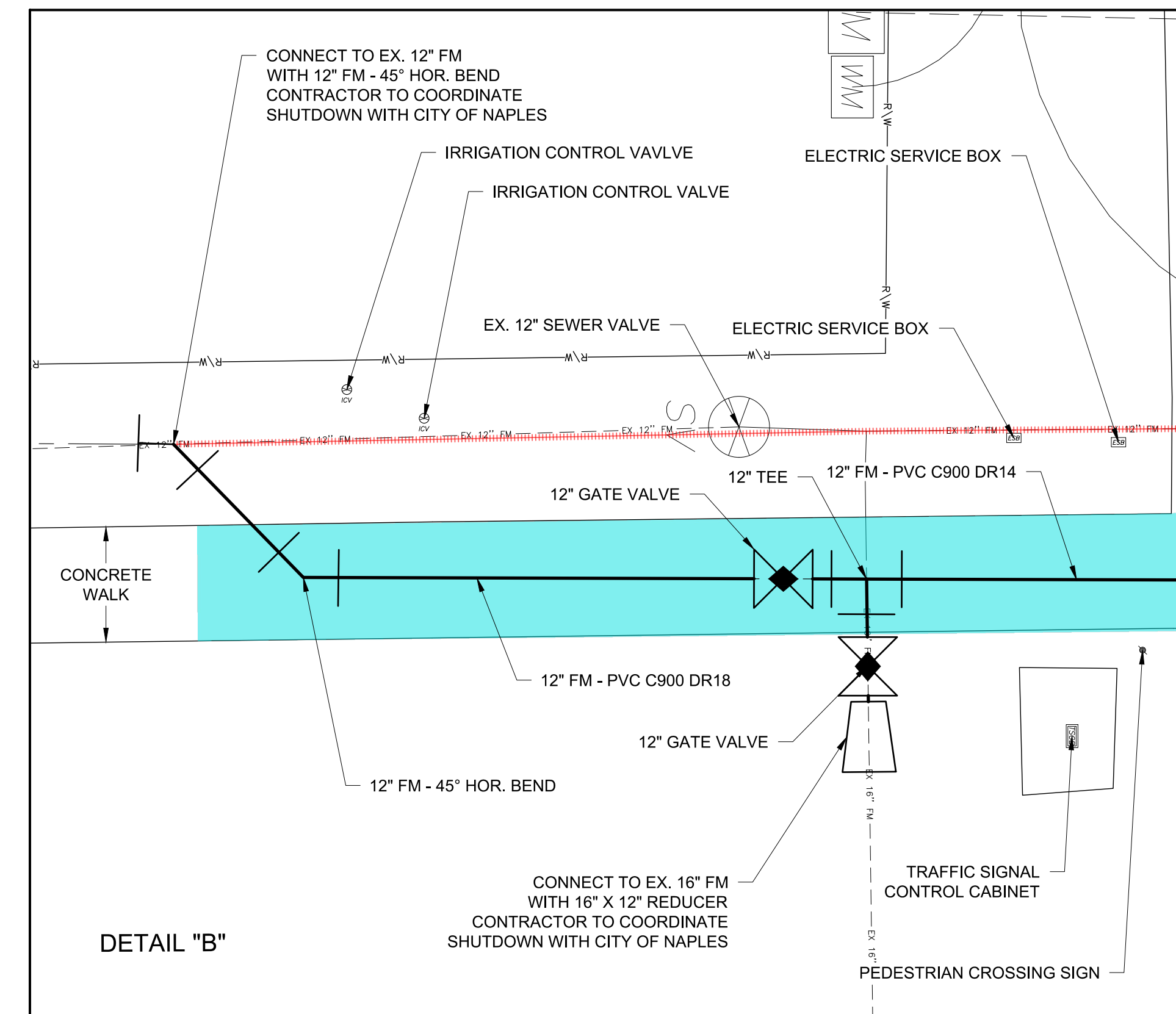
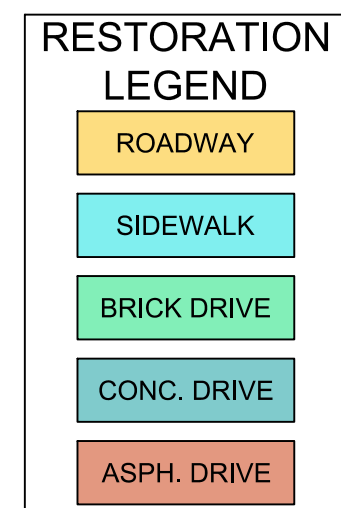
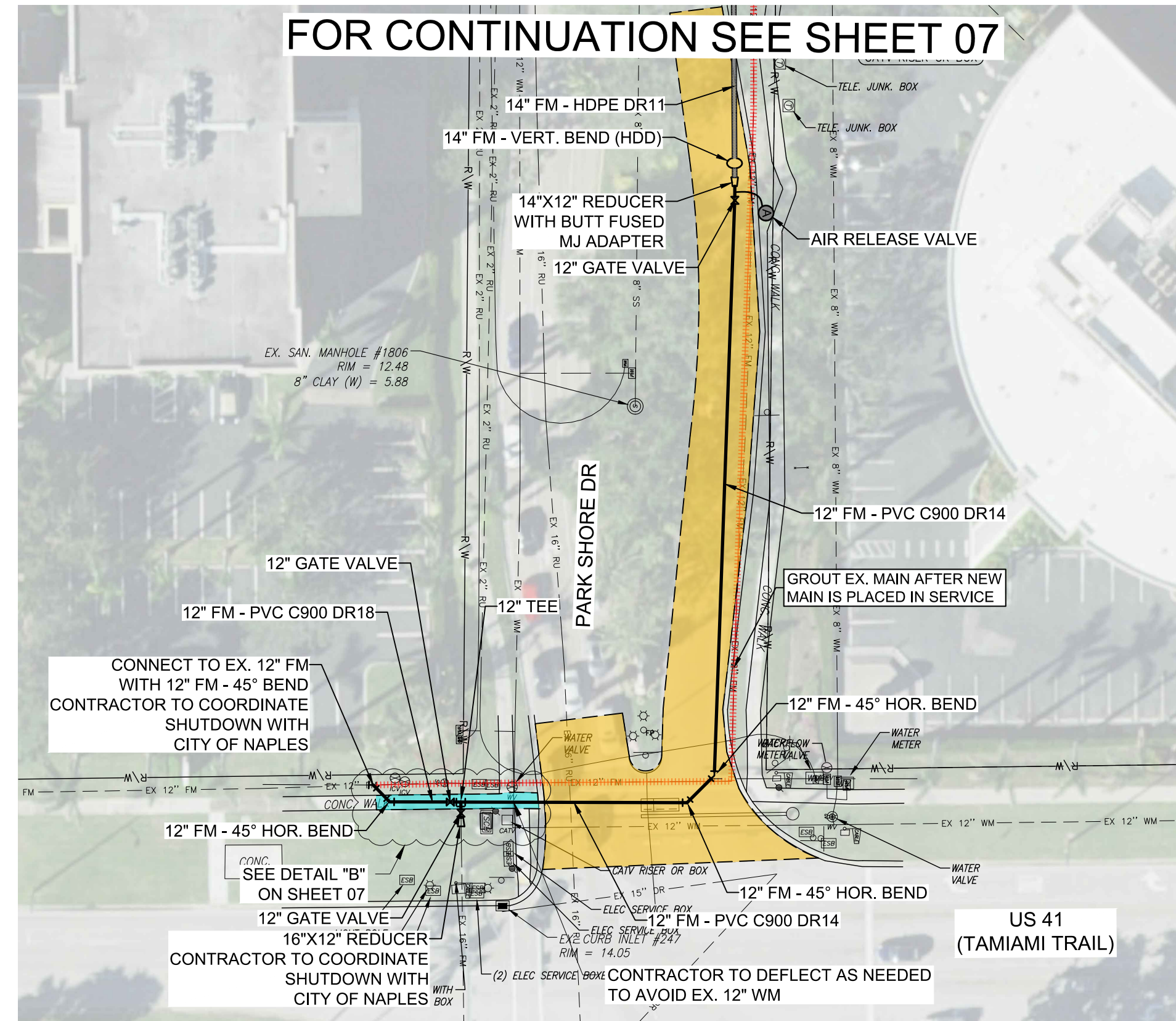
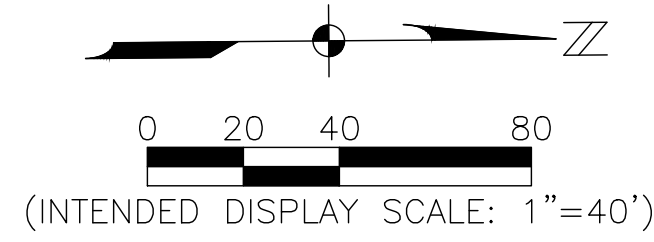
DATE: JANUARY 17, 2020
 PROJECT NO. 20150110-011
 FILE NO. 21-49-25
 SCALE: AS SHOWN

Plan & Profile
 STA. 31+40 TO 41+00

\\FTMS01\Drawings\2015\20150110-005\Utilities\Drawings\20150100-005_Park Shore Drive PP.dwg (PP(4)) MNT Jan 17, 2020 - 10:05am



**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**



NO.	REVISIONS	DESCRIPTION	DATE

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

Plan & Profile
U.S. 41 INTERSECTION

SHEET NUMBER

08



**PARK SHORE DRIVE
FORCE MAIN
IMPROVEMENTS**

NO.	REVISIONS	DESCRIPTION	DATE

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

DETAILS 1 OF 2

SHEET NUMBER

D-01

PIPE SIZE	TEES	90° BEND	45° BEND	22 1/2° BEND	VALVES & PLUGS
4"	1	1	1	1	1
6"	3	4	2	1	3
8"	5	7	4	2	5
10"	8	12	6	3	9
12"	12	16	9	5	12
16"	16	20	12	7	16
20"	24	24	17	10	24
24"	34	34	24	13	34

TYPICAL THRUST BLOCKS

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-04
DRAWN: DAG/AMH DIR: UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-04-16.DWG

PIPE BEDDING & BACKFILL

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-03
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-03-16.DWG

BACKFILL - PAVED ROADWAYS

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-02
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-02-16.DWG

BACKFILL - OPEN TERRAIN

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-01
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-01-16.DWG

PIPE SIZE	TEES	90° BEND	45° BEND	22 1/2° BEND	VALVES & PLUGS
4"	1	1	1	1	1
6"	3	4	2	1	3
8"	5	7	4	2	5
10"	8	12	6	3	9
12"	12	16	9	5	12
16"	16	20	12	7	16
20"	24	24	17	10	24
24"	34	34	24	13	34

TYPICAL THRUST BLOCKS

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-05
DRAWN: DAG/AMH DIR: UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-05-16.DWG

CROSS OVER

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-07
DRAWN: DAG/AMH DIR: UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-07-16.DWG

TYPICAL ENCASEMENT

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-06
DRAWN: DAG/AMH DIR: UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-06-16.DWG

PIPE SIZE	TEES	90° BEND	45° BEND	22 1/2° BEND	VALVES & PLUGS
4"	1	1	1	1	1
6"	3	4	2	1	3
8"	5	7	4	2	5
10"	8	12	6	3	9
12"	12	16	9	5	12
16"	16	20	12	7	16
20"	24	24	17	10	24
24"	34	34	24	13	34

TYPICAL THRUST BLOCKS

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 SHEET: U-04
DRAWN: DAG/AMH DIR: UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 DWG. U-04-16.DWG



REVISIONS	DATE	DESCRIPTION
NO.		

DATE: JANUARY 17, 2020
PROJECT NO. 20150110-011
FILE NO. 21-49-25
SCALE: AS SHOWN

VALVE PAD DETAIL

RAW WATER (WHITE)
FIRE HYDRANT (RED)
RECLAIMED WATER (PURPLE)
POTABLE WATER (BLUE)
SANITARY FORCE MAIN (GREEN)
IRRIGATION WATER (PURPLE)

2" DIAM. BRONZE DISC. ANCHORED IN CONCRETE

— MAIN — VALVE TYPE
— MAIN — SIZE OF MAIN
— TURNS — # OF TURNS TO OPEN
— OPEN — VALVE OPEN DIRECTION
— CO. — VALVE MANUFACTURER
— YEAR INSTALLED

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-15
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-15-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

TYPICAL IN-LINE VALVE (WATER/SEWER/REUSE)

TOP OF PAVEMENT OR FINISHED GRADE

DEBRIS CAP as Mfg by "SWS" Color Coded For (Water/Sewer/Reuse)

TELESCOPE TYPE ADJUSTABLE VALVE BOX NOTE VALVE BOX RISER SHALL NOT BEAR ON VALVE OR PIPE

OPERATING NUT NOT TO EXCEED 30" DEEP EXTENSION TO BE PINNED

FITTINGS TO BE WRAPPED IN PLASTIC PRIOR TO CONCRETE POUR

THRUST BLOCK

TYPICAL APPLICATION FOR UN-RESTRAINED PIPE SYSTEMS AND WHERE CONNECTED TO EXISTING AC & CI PIPES

30" MIN.

TYPICAL APPLICATION FOR NEW RESTRAINED PIPE SYSTEMS

SEE VALVE PAD DETAIL

6"x18"x18" CONCRETE COLLAR

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-14
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-14-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

HDD INSTALLATION NOTES:

- PROVIDE VALVES AT BOTH ENDS OF SUB-AQUEOUS CROSSING. FOR WATER MAIN CROSSINGS, IF REQUIRED BY THE CITY UTILITY ENGINEER, THE VALVE CLOSEST TO THE WATER SUPPLY SHALL BE IN A VAULT WITH PERMANENT TAPS ON EACH SIDE OF THE VALVE WITHIN THE VAULT. SEE SUB-AQUEOUS MAIN VALVE VAULT DETAIL DWG. FOR DETAILS.
- FOR POTABLE WATER; IF REQUIRED BY THE CITY UTILITY ENGINEER, PROVIDE VALVE VAULT FOR MAINS 12" OR LESS IN DIAMETER.
- PROVIDE AIR RELEASE VALVES (ARV); ONE ARV VALVE ON EACH SIDE OF CROSSING FOR WASTEWATER CROSSINGS AND ONE VALVE ON EACH SIDE OF CROSSING FOR WATER CROSSINGS.
- PROVIDE A FUSED HDPE MJ ADAPTER AT EACH END OF THE HDPE DIRECTIONAL DRILL.
- ALL SUB-AQUEOUS CROSSINGS SHALL BE DISCUSSED AT A PLAN PRE-SUBMITTAL CONFERENCE WITH REPRESENTATIVE(S) OF THE UTILITIES DEPARTMENT. SUB-AQUEOUS WATER MAINS SHALL REQUIRE APPROVAL BY THE UTILITIES DEPARTMENT.
- WARNING SIGN SHALL BE PLACED ALONG BANK OF WATERWAY TO CLEARLY IDENTIFY SUB-AQUEOUS CROSSING. SIGN SHALL INDICATE TYPE OF PIPELINE AND DEPTH OF PIPELINE BELOW BOTTOM OF WATER BODY.
- ALLOW 40' BETWEEN VALVE AND END OF CASING. DISTANCE LESS THAN 40' REQUIRES APPROVAL OF DEVIATION. THE 40' LENGTH SHALL NOT INCLUDE BRANCHES/TEES IN THE PIPING BETWEEN VALVE AND END OF CASING.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-12
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-12-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)						
	HORIZONTAL BENDS				DEAD ENDS (2)	45° VERTICAL BENDS	
	90°	45°	22-1/2'	11-1/4'		UPPER	LOWER
4	23	9	5	2	55	23	8
6	32	13	6	3	77	32	11
8	74	31	15	7	100	41	14
10	87	36	17	9	120	50	17
12	100	41	20	10	141	58	20
16	123	51	24	12	181	75	25
18	133	55	27	13	200	83	28
20	143	59	29	14	218	90	30
24	162	67	32	16	253	105	35
30	184	76	37	18	303	125	41
36	207	86	41	20	350	145	47

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)	
	TEE (3)	REDUCER (4)
6 x 4	0	40
6 x 6	34	
8 x 4	0	72
8 x 8	55	
10 x 6	3	74
10 x 10	75	
12 x 4	0	122
12 x 8	31	75
12 x 12	95	
16 x 6	0	153
16 x 10	44	107
16 x 16	134	
18 x 8	0	157
18 x 12	68	108
18 x 18	152	
20 x 10	20	161
20 x 16	120	77
20 x 20	170	
24 x 12	37	187
24 x 18	132	109
24 x 24	204	
30 x 16	78	213
30 x 20	138	165
30 x 30	252	
36 x 18	84	259
36 x 24	170	191
36 x 36	298	

NOTES:

- RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
- ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
- RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
- RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
- THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-09
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-09-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

AIR RELEASE VALVE (SANITARY)

* AIR RELEASE VALVE TO BE LOCATED WITHIN RIGHT-OF-WAY/SEWERMENT PREFERABLY OVER PRESSURE MAIN. LOCATION TO BE DETERMINED BY CITY ENGINEER SO THAT APPARATUS DOES NOT CREATE A SAFETY HAZARD.

* 1" BRASS NPT TO POLY-TUBE ADAPTER
* 2" BRASS OR S.S. NPT 45 BEND
* 2" BRASS OR S.S. NPT PIPE NIPLE
* 2" BRASS CORP. STOP
H-10283 MUELLER OR EQUAL
* DOUBLE STRAP TAPPING SADDLE (SEE SPECS. FOR DETAILS)
* PRESSURE FORCE MAIN

* FINN CELL PLASTICS - PEDESTAL HOUSING. PART NO. AGVNS-1420 HASPS. COLOR - GREEN

* SCHED 80 PVC 90 ELLS
* SCHED 80 PVC MALE ADAPTER
* AIR RELEASE VALVE: H-TEC MODEL 886 ARV. ALL INTERNAL COMPONENTS TO BE S.S.

* SCHED 80 PVC MALE ADAPTER (AS REQUIRED)
* SCHED 80 PVC PIPE
* S.S. HARDWARE AND S.S. LOCKING HASP WITH BRASS MASTER LOCK, KEYS PER CITY ENGINEER

* SCHED 80 PVC REDUCER (SS) IF NEEDED.
* SCHED 80 PVC MALE ADAPTER
* CURB STOP NPT 1/4 TURN BRASS
* 2" BRASS NPT TO POLY-TUBE ADAPTER

* 3/4" STONE (MIN. 4")
* 2" BRASS OR S.S. NPT 45 BEND (IF REQUIRED)

* 2" BRASS NPT TO POLY-TUBE ADAPTER

POLY-TUBE AND PIPING COLOR CODE:
* SANITARY SEWER - GREEN
* POTABLE WATER - BLUE
* EFFLUENT (REUSE) - PURPLE

* 3M MAGNETIC MARKER
- DEPTH NOT LESS THAN 18" BELOW FINISHED GRADE
- DEPTH NOT GREATER THAN 48" BELOW FINISHED GRADE

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** WW-11
DRAWN: DAG/AMH **DIR:** WASTEWATER
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FLORIDA 34102 **DWG:** WW-11-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

SOD DROP INLET PROTECTION

AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED AND PERMANENT SOD LAID AROUND THE DROP INLET.

FOUR 1' WIDE STRIPS OF SOD ON EACH SIDE OF THE INLET.

SEDIMENT FENCE

8.0'

1.5'

FABRIC COMPACTED FILL OVER TOE OF FABRIC BURIED 8.0" DEEP.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-17
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-17-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

TEMPORARY SEDIMENT TRAP

FOOT Size #467 EROSION CONTROL STONE

PERMIABLE FILTER FABRIC

ROAD DITCH EL.

CROSS SECTION

SET SEDIMENT CLEANOUT STAKE AT GROUND EL.

NATURAL GROUND ELEVATION

2:1 SIDE SLOPE

1:1 SIDE SLOPE

PERMIABLE FILTER FABRIC

STONE SECTION

SECTION AA

RIPRAP CHANNEL

TYPICAL CROSS SECTION

PERMIABLE SYNTHETIC FILTER FABRIC

OVER-EXCAVATE 30" AROUND X-SECTION TO ALLOW FOR STONE THICKNESS

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 **SHEET:** U-18
DRAWN: DAG/AMH **DIR:** UTILSTDS
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL. 34102 **DWG:** U-18-16.DWG

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.