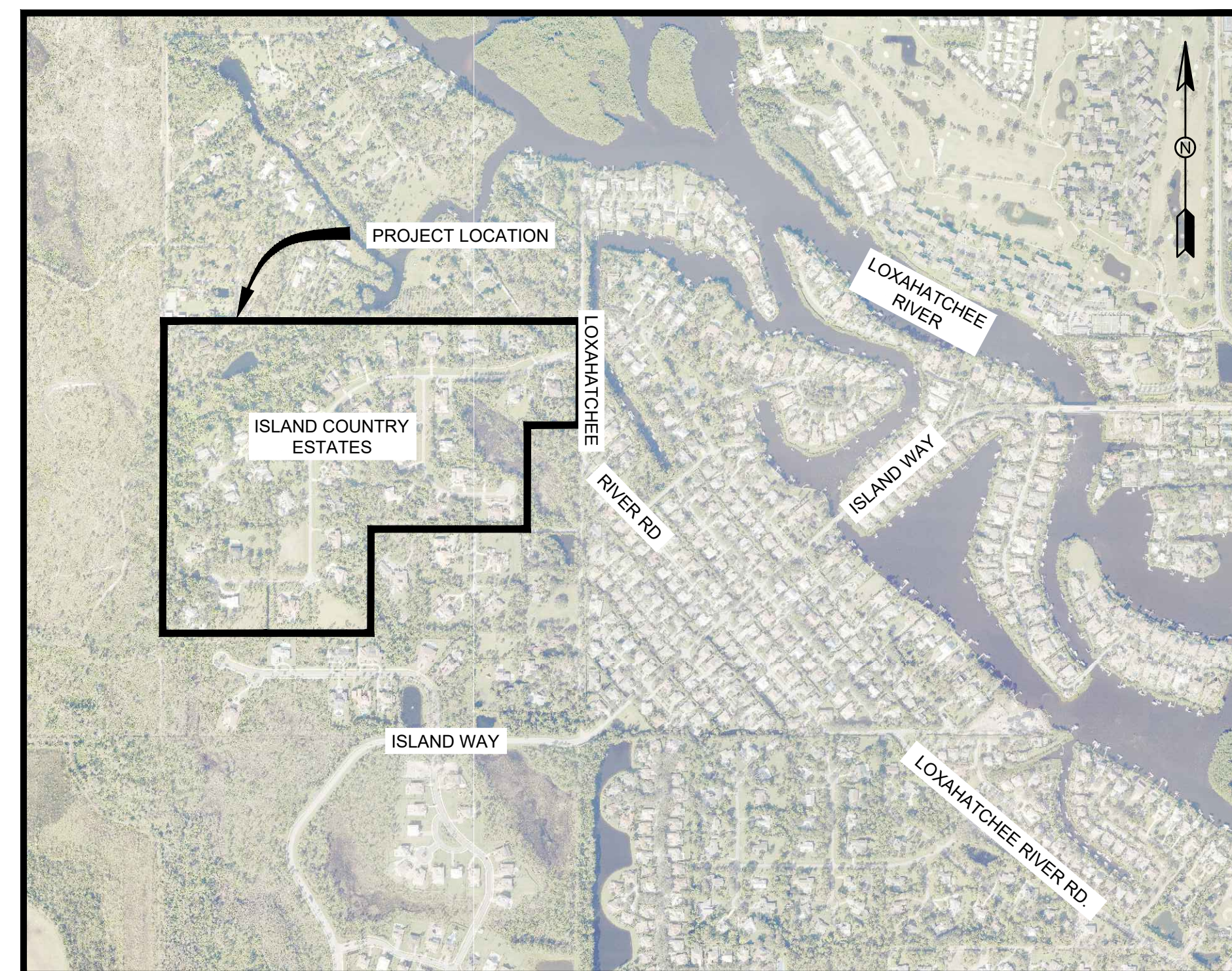
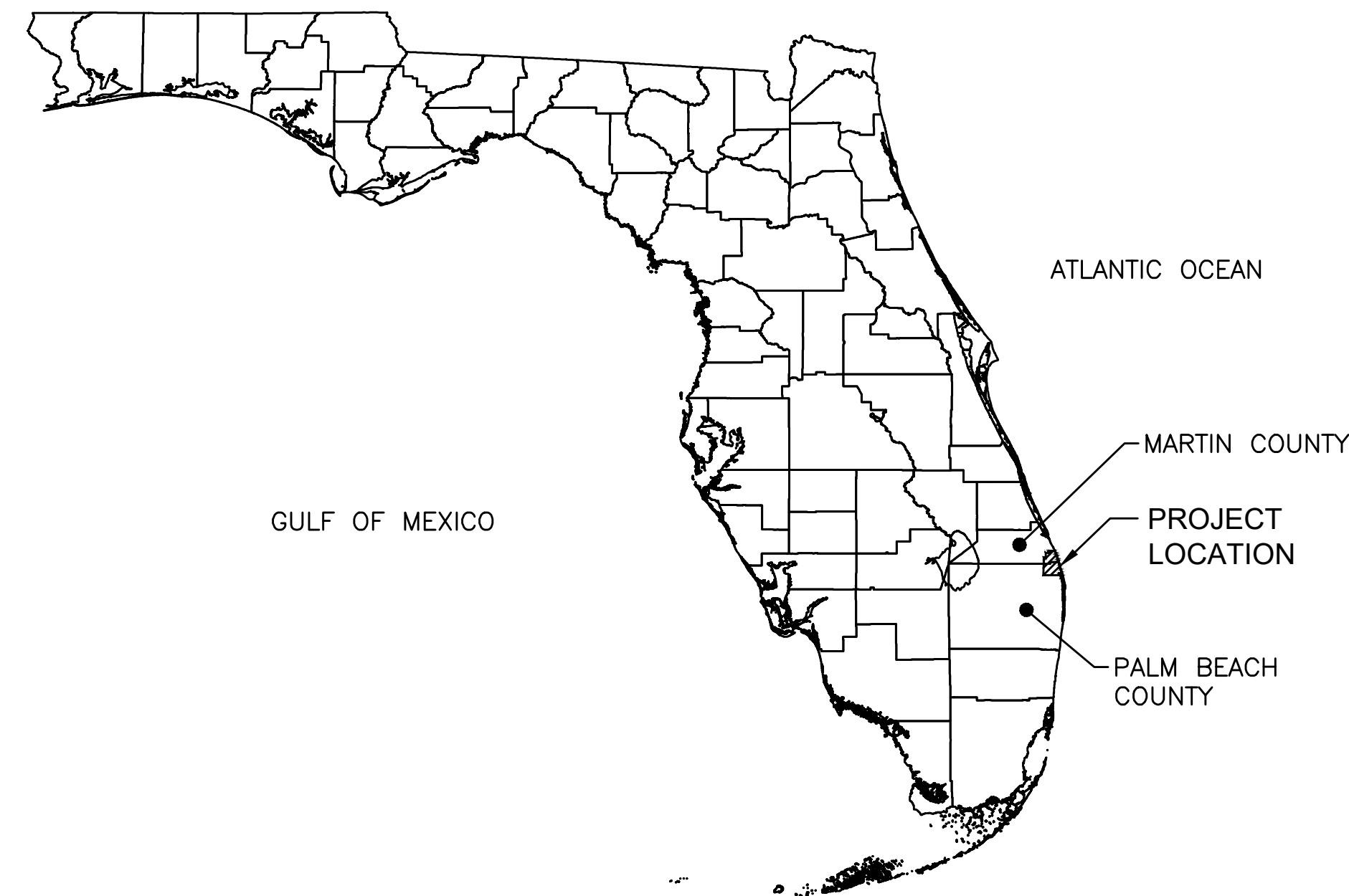




ISLAND COUNTRY ESTATES LOW PRESSURE FORCE MAIN

PREPARED FOR
LOXAHATCHEE RIVER DISTRICT

MARTIN COUNTY, FLORIDA
SECTION 21, TOWNSHIP 40S, RANGE 42E



VICINITY MAP

NTS

**LOXAHATCHEE RIVER
DISTRICT GOVERNING BOARD**

CHAIRMAN	DR. MATT H. ROSTOCK
VICE CHAIRMAN	STEPHEN B. ROCKOFF
TREASURER	GORDON M. BOGGIE
SECRETARY	HARVEY M. SILVERMAN
ASST. SEC'Y/TREAS.	JAMES D. SNYDER

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G-2	LEGEND
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C-2	PLAN SHEET - SE COUNTRY ESTATES WAY - STA. 6+40 TO STA. 14+00
C-3	PLAN SHEET - SE COUNTRY ESTATES WAY & SE PEACH WAY
C-4	PLAN SHEET - SE COUNTRY ESTATES WAY & SE RED APPLE LANE
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C-6	PLAN SHEET - SE PEACH WAY
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D-2	DETAILS
D-3	DETAILS

JUNE 2019

FOR BIDDING - NOT FOR CONSTRUCTION

HOLTZ CONSULTING ENGINEERS, INC.
 270 SOUTH CENTRAL BLVD., SUITE 207
 JUPITER, FLORIDA 33458
 PH. (561) 575-2005
 Cert. No. 26960

CHRISTINE J. MIRANDA, P.E.
 License No: 60906

G-1

ISLAND COUNTRY ESTATES LOW PRESSURE FORCE MAIN

GENERAL ABBREVIATIONS

ABND	Abandon or Abandoned	MAX	Maximum
ACP	Asbestos Cement Pipe	MB	Mailbox
ADD'L	Additional	MECH	Mechanical
AL, Alum	Aluminum	MH	Manhole
APPROX	Approximate	MIN	Minimum
ARV	Air Release Valve	MISC	Miscellaneous
ASP, Asph	Asphalt	MJ	Mechanical Joint
BFP	Backflow Preventer	N/D	Nail and Disk
BFV	Butterfly Valve	No	Number
B/L	Base Line	NTS	Not to Scale
BLDG	Building	OC,O/C	On Center
BM	Benchmark	OD	Outside Diameter
BO	Blowoff	OHW	Overhead Wire
BOP	Bottom of Pipe	ORB	Official Records Book
CATV	Cable Television	PB	Plat Book
CB	Catch Basin	PGL	Profile Grade Line
CO	Cleanout	PVC	Polyvinyl Chloride/Polyvinyl Chloride Pipe
CL	Center Line	RC	Reinforced Concrete
CLF	Chain Link Fence	RCP	Reinforced Concrete Pipe
CIP	Cast Iron Pipe / Cast in Place	RCW	Reclaimed Water
CMP	Corrugated Metal Pipe	RED	Reducer
CONC	Concrete	REINF	Reinforce/Reinforced
CONST	Construct/Construction	RJ	Restrained Joint
DE	Drainage Easement	RWM	Raw Water Main
DI	Ductile Iron	R/W,ROW	Right of Way
DIP	Ductile Iron Pipe	S=	Slope (FT/FT)/(Rise/Run)
DIA	Diameter	SAN	Sanitary
DR	Dimensional Ratio/Drainage	SCH/SCHED	Schedule
DWY	Driveway	SEC	Section
EL	Elevation	SF	Silt Fence
EOP	Edge of Pavement	SP	Sample Point
ESMT	Easement	SS	Sanitary Sewer
EOW	Edge of Water	SS	Sanitary Sewer
EX, EXIST	Existing	STA	Station
FDOT	Florida Department of Transportation	TBM	Temporary Benchmark
FH	Fire Hydrant	TEMP	Temporary
FM	Force Main	TOB	Top of Bank
FND	Found	TON	Top of Nut
FNPT	Female Nominal Pipe Thread	TOP	Top of Pipe
FPL	Florida Power and Light	TOS	Toe of Slope
FW	Finished Water	TYP	Typical
GPS	Global Positioning System	UE	Utility Easement
GV	Gate Valve	UEC	Underground Electric Conduit
HB	Hose Bibb	UEE	Underground Electric
HDD	Horizontal Directional Drill	UGT	Underground Telephone
HDPE	High Density Polyethylene	UNK	Unknown
HYD	Hydrant	W/	With (Combined Form)
ID	Identification	WF	Wood Fence
INV	Invert/Invert Elevation	WM	Water Main or Water Meter
IRC	Iron Rod & Cap	WPB	Wire Pullbox
IRR	Irrigation	WTP	Water Treatment Plant
LAE	Limited Access Easement	WV	Water Valve
LF	Linear Feet	WWTP	Waste Water Treatment Plant
LP	Light Pole		
LS	Lift Station		
LSA	Landscape Area		

LINETYPES

	EXISTING*	PROPOSED*
CABLE TV	--- CATV --- CATV ---	---
CENTER LINE	---	---
DRAIN	--- DR --- DR ---	--- DR --- DR ---
EASEMENT	---	---
ELECTRIC	--- E --- E ---	---
FENCE	--- X --- X ---	--- X --- X ---
FIBER OPTIC	--- FOC --- FOC ---	--- FOC --- FOC ---
FIRE MAIN	--- FIRE --- FIRE ---	--- FIRE --- FIRE ---
FORCE MAIN	--- FM --- FM ---	--- FM --- FM ---
GAS	--- GAS --- GAS ---	---
GUARDRAIL	---	---
IRRIGATION	--- IRR --- IRR ---	---
OVERHEAD UTILITIES	--- OHU --- OHU ---	---
RAILROAD TRACK	---	---
RAW WATER MAIN	--- RWM --- RWM ---	--- RWM --- RWM ---
RECLAIMED WATER MAIN	--- ROW --- ROW ---	--- RCW --- RCW ---
RIGHT-OF-WAY	---	---
SANITARY SEWER	--- S --- S --- S ---	--- S --- S --- S ---
SANITARY SEWER SERVICE	--- SS --- SS ---	--- SS --- SS ---
SILT FENCE	--- SF --- SF ---	--- SF --- SF ---
STORM DRAINAGE	--- ST --- ST --- ST ---	--- ST --- ST ---
TELEPHONE	--- T --- T --- T ---	---
TOP OF BANK	---	---
TOE OF SLOPE	---	---
TRAFFIC SIGNAL	--- TS --- TS --- TS ---	--- TS --- TS ---
TURBIDITY BARRIER	---	--- TB --- TB ---
UNKNOWN	--- UNK --- UNK ---	---
VACUUM SEWER	--- VS --- VS --- VS ---	--- VS --- VS ---
WATER MAIN	--- WM --- WM ---	--- WM --- WM ---
WATER SERVICE	--- WS --- WS ---	--- WS --- WS ---
WOOD FENCE	--- WF --- WF ---	--- WF --- WF ---

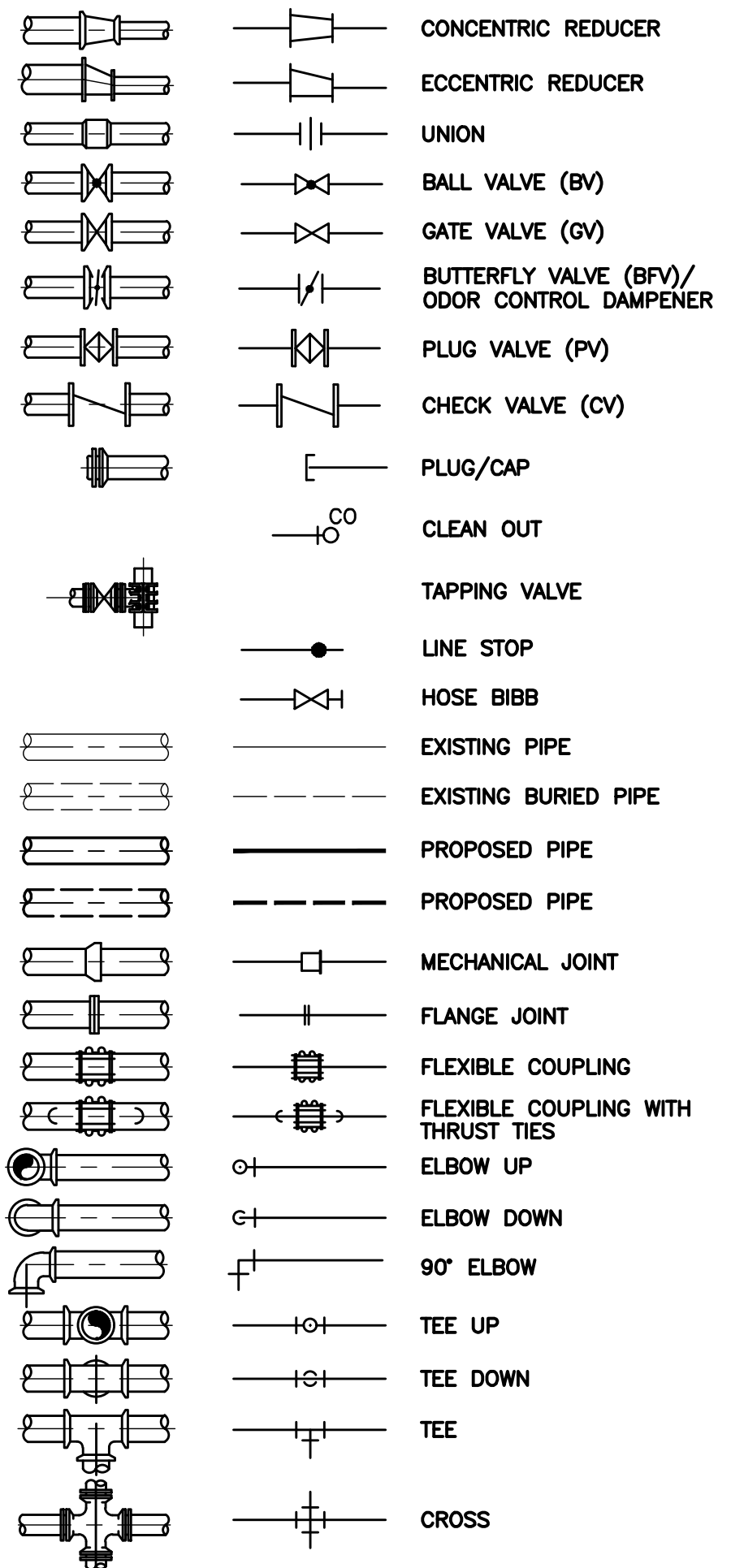
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 * DEPICTS BELOW GRADE --- TEXT --- TEXT --- TEXT ---

LOW-PRESSURE SYSTEM LEGEND

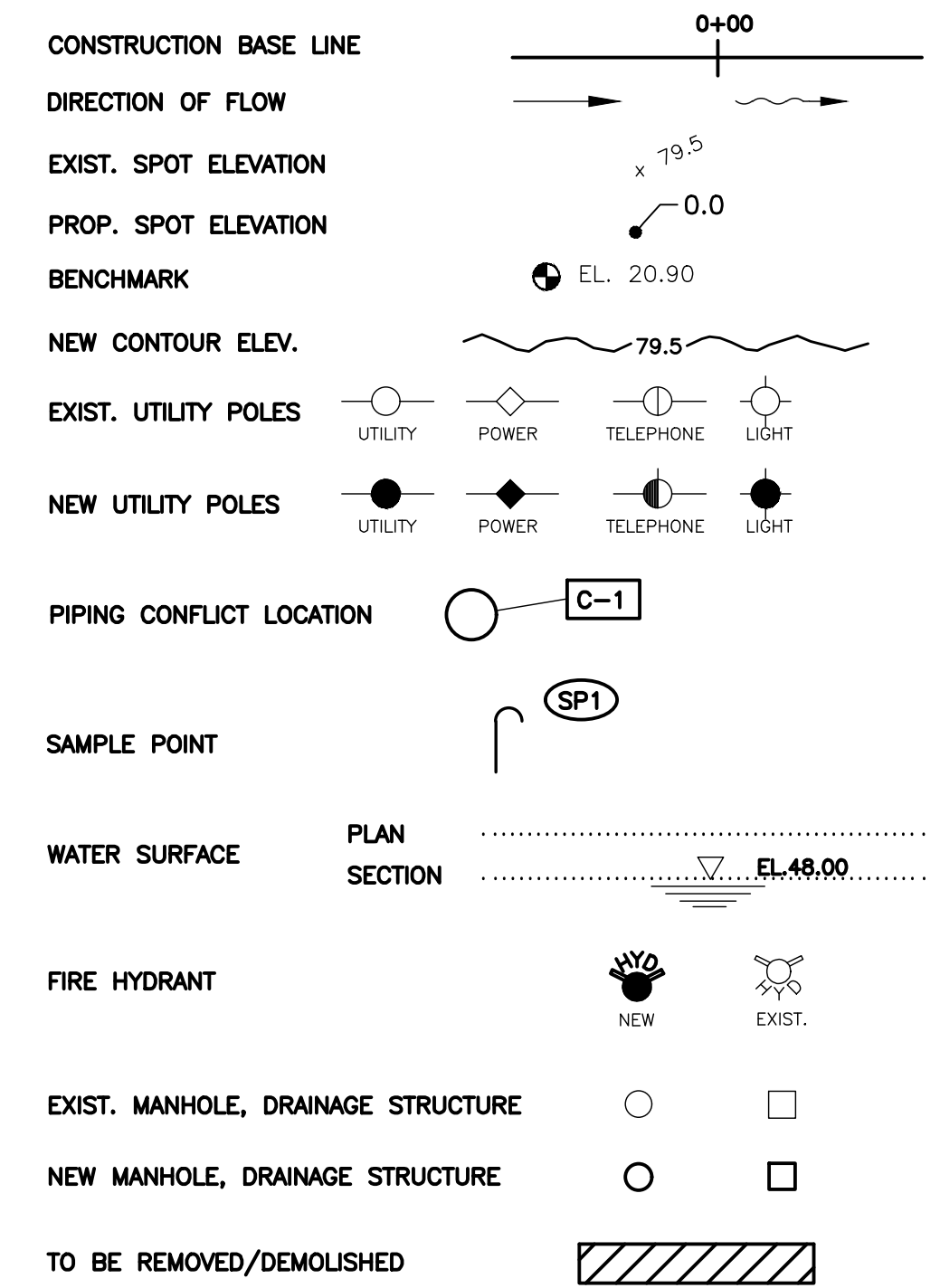


NOTE: ACTUAL LOCATION SHALL BE FIELD VERIFIED BY CONTRACTOR WITH PROPERTY OWNER, LRD STAFF, AND ENGINEER PRIOR TO CONSTRUCTION.

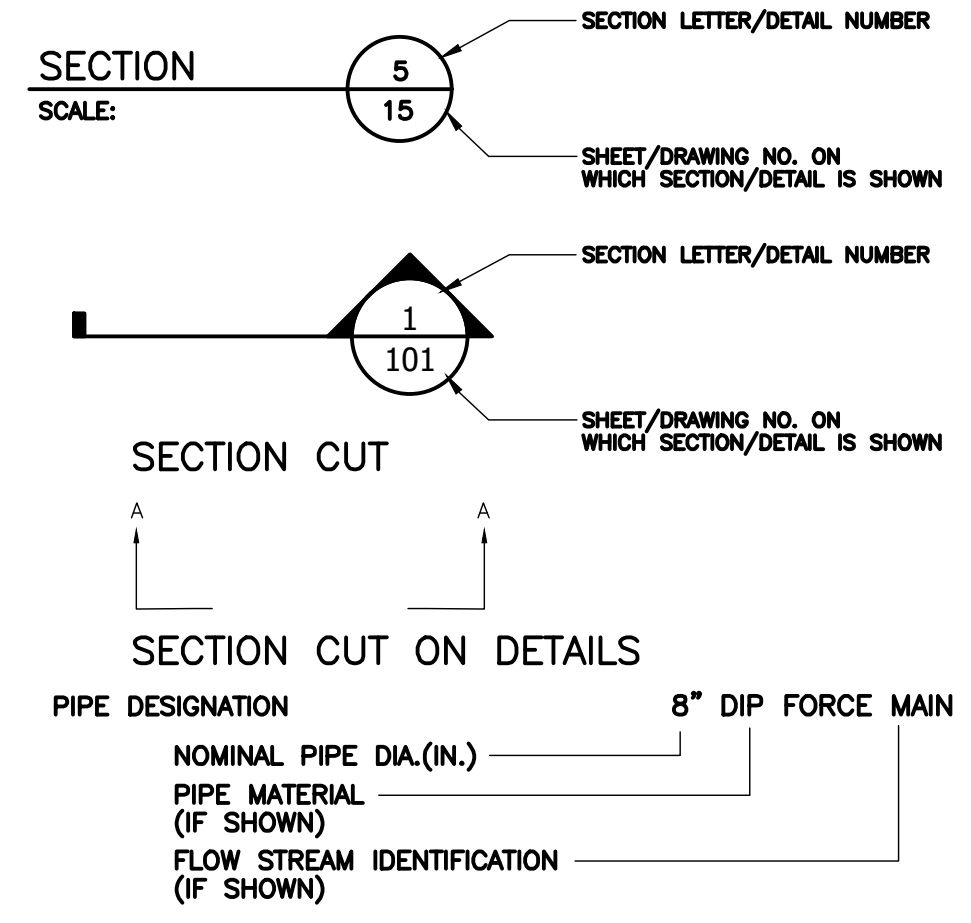
PIPING SYMBOLOGY



CIVIL SYMBOLOGY



SECTION/DETAIL SYMBOL



Symbols:
 # Pounds/Number
 < Angle
 Ø Round/Diameter

NOTE:
 ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88). TO CONVERT FROM NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. 29) ADD 1.50 FEET.



Know what's below.
 Call before you dig.

DATE	BY	REVISIONS

Date: 12-28-18
 Scale: AS NOTED
 Design By: CM
 Drawn By: RR
 Check By: DH

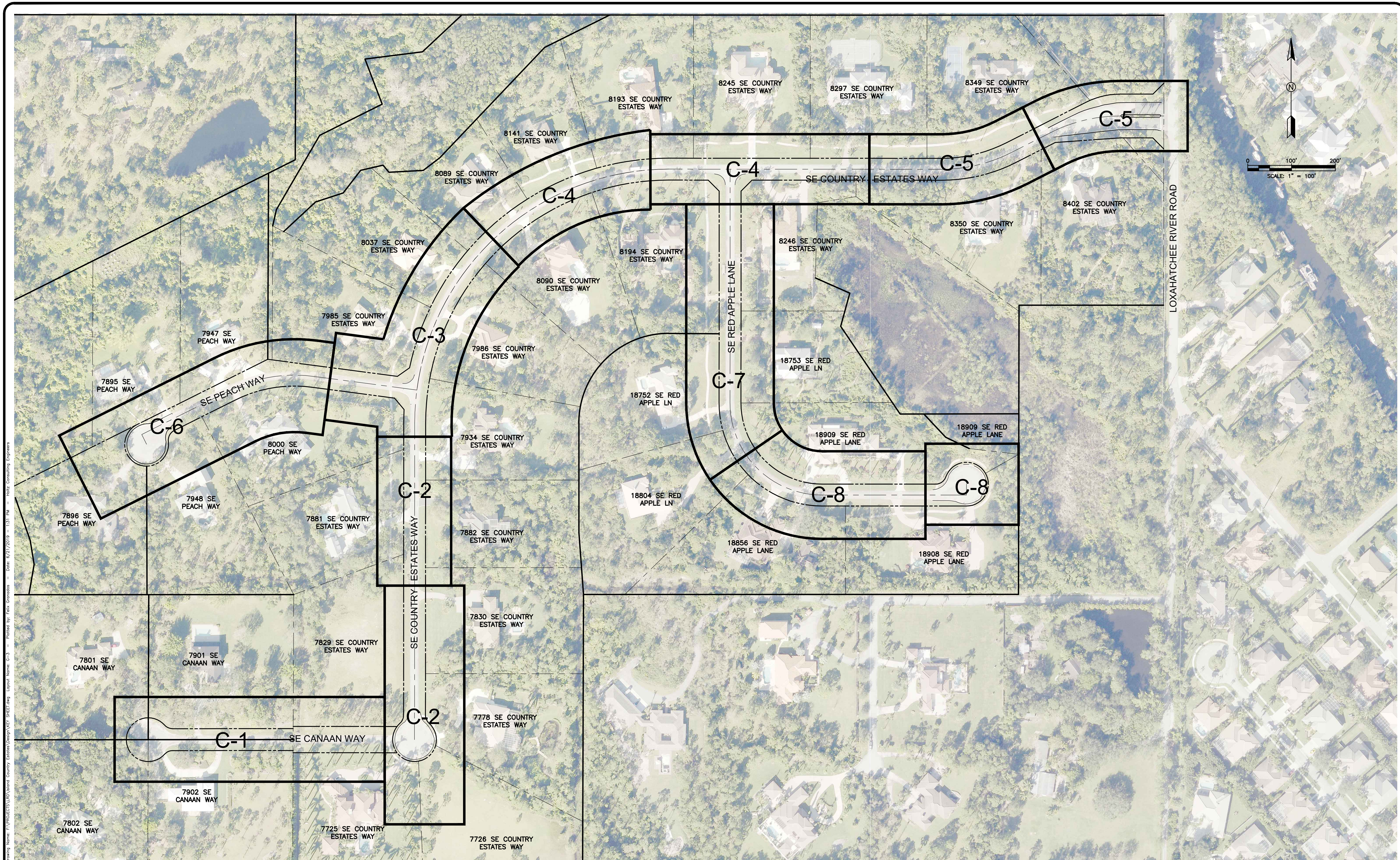
LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

LEGEND

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G-2




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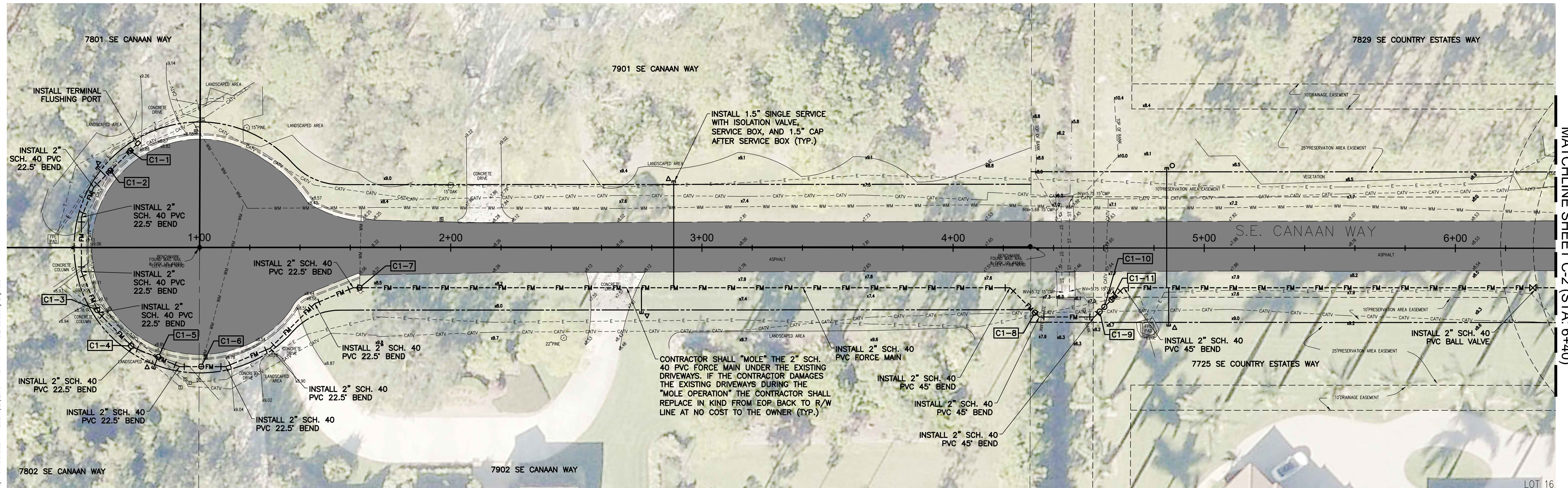
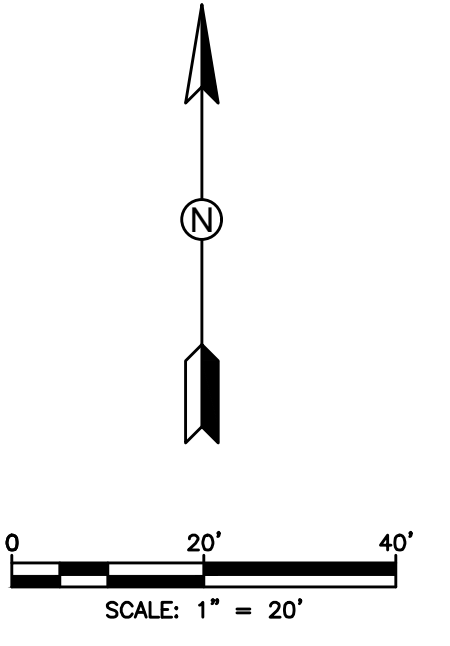
LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

KEY SHEET

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G-3



MATCHLINE SHEET C-2 (STA: 6+40)

LOT 16

C1-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE
C1-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE
C1-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING BURIED ELECTRIC. MAINTAIN MINIMUM 12" CLEARANCE
C1-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE
C1-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV AND EXISTING BURIED ELECTRIC. MAINTAIN MINIMUM 12" CLEARANCE
C1-6	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE
C1-7	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE

C1-8	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV AND BURIED ELECTRIC. MAINTAIN MINIMUM 12" CLEARANCE
C1-9	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE
C1-10	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE
C1-11	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING BURIED ELECTRIC. MAINTAIN MINIMUM 12" CLEARANCE

- NOTES:**
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LEGEND:

	EXISTING CONCRETE DRIVEWAY
	EXISTING STAMPED CONCRETE DRIVEWAY
	EXISTING PAVER DRIVEWAY
	MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

DATE	BY	REVISIONS

Date: 12-28-18
 Scale: AS NOTED
 Design By: CM
 Drawn By: RR
 Check By: DH

LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

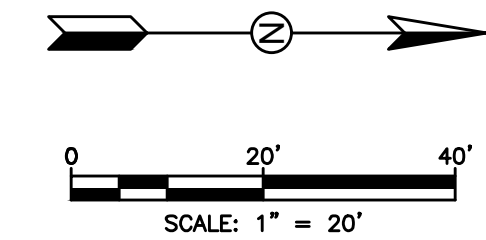
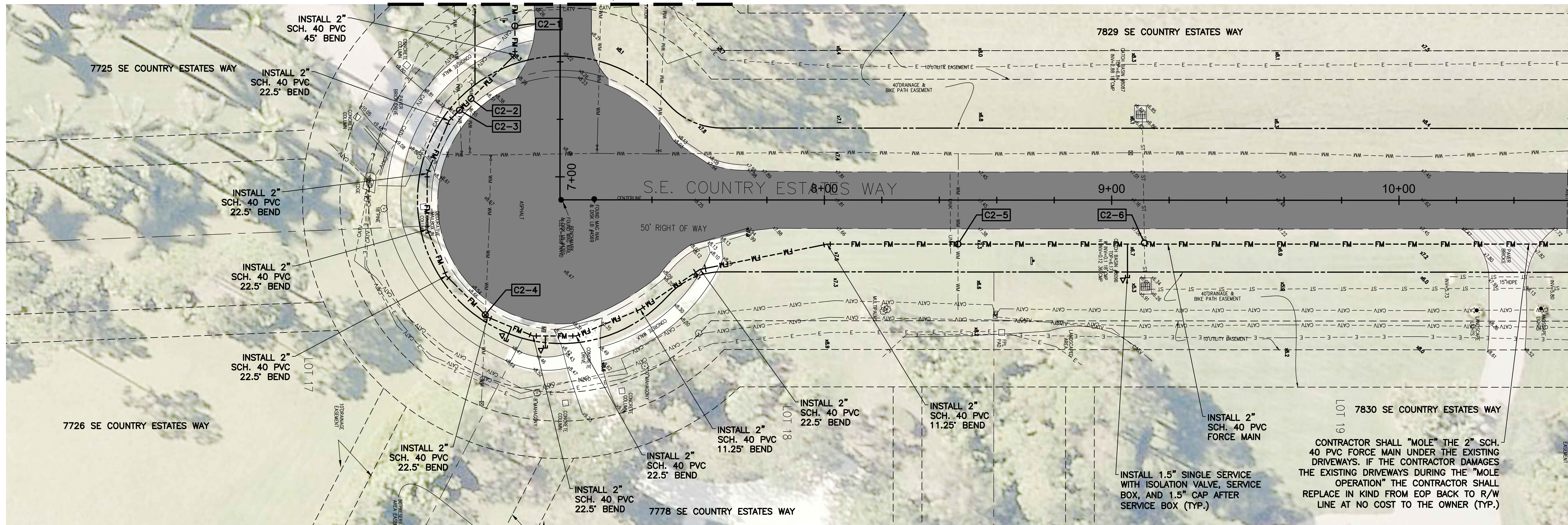
PLAN SHEET
 SE CANAAN WAY

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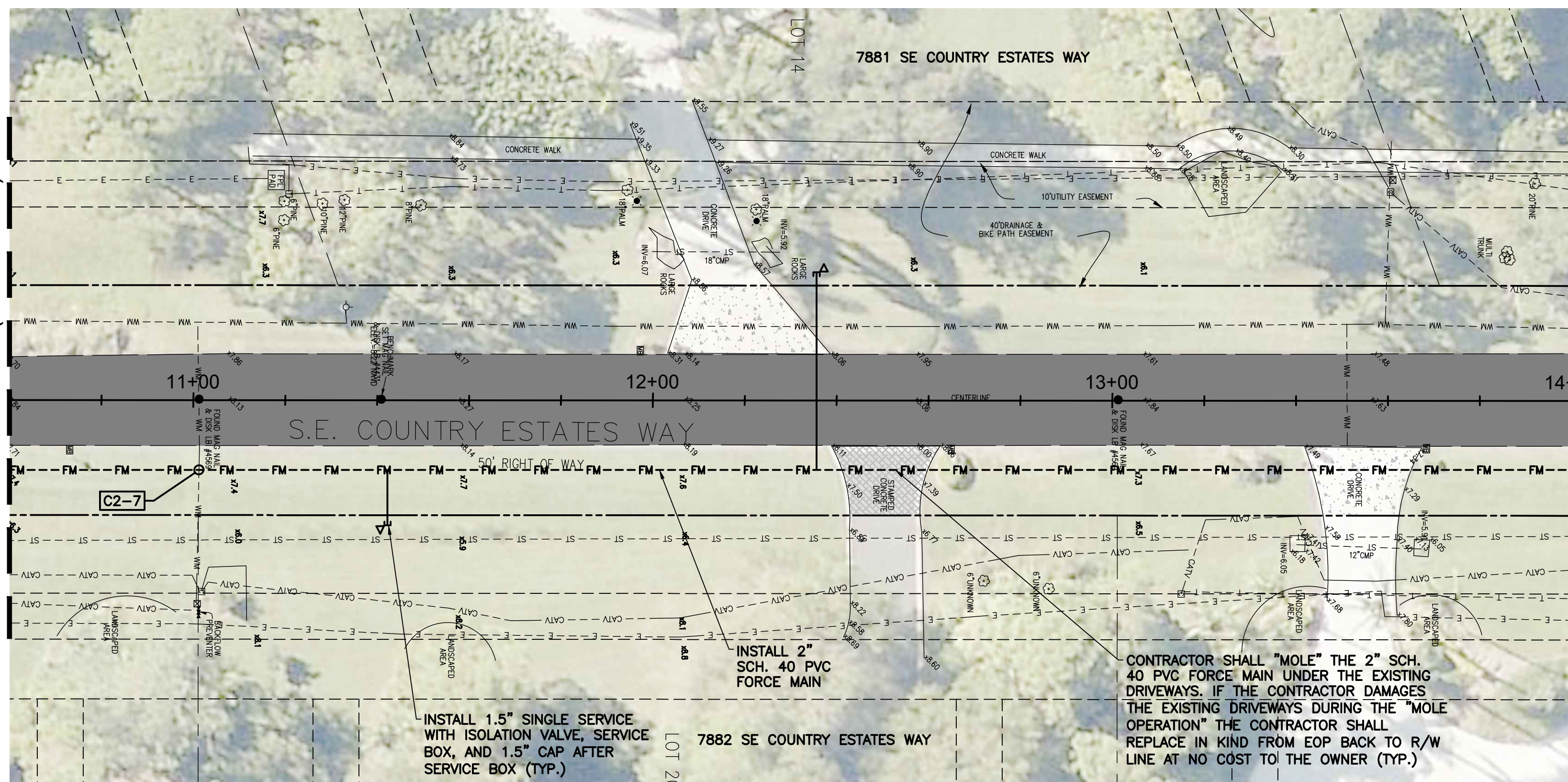
C-1

MATCHLINE SHEET C-1 (STA: 6+40)



MATCHLINE BELOW (STA: 10+60)

MATCHLINE ABOVE (STA: 10+60)



MATCHLINE SHEET C-3 (STA: 14+00)

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LEGEND:

- EXISTING CONCRETE DRIVEWAY
- EXISTING STAMPED CONCRETE DRIVEWAY
- EXISTING PAVER DRIVEWAY
- MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

C2-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C2-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE
C2-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE
C2-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE
C2-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE
C2-6	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE
C2-7	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE

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**LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN**

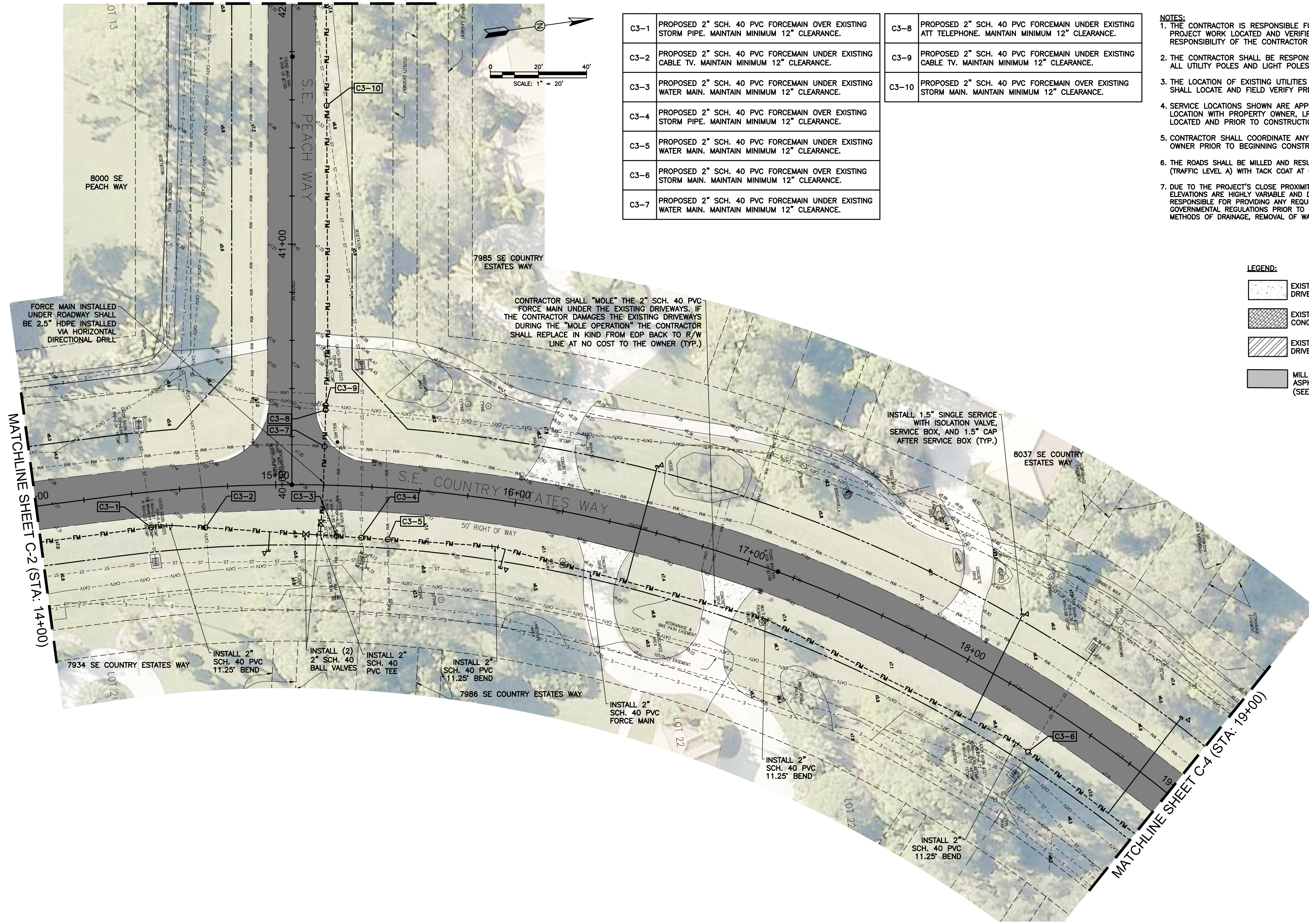
**PLAN SHEET
 SE COUNTRY ESTATES WAY
 STA. 6+40 TO STA. 14+00**

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C-2

MATCHLINE SHEET C-6 (STA: 42+00)



C3-1	PROPOSED 2" SCH. 40 PVC FORCE MAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C3-2	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C3-3	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C3-4	PROPOSED 2" SCH. 40 PVC FORCE MAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C3-5	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C3-6	PROPOSED 2" SCH. 40 PVC FORCE MAIN OVER EXISTING STORM MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C3-7	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.

C3-8	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C3-9	PROPOSED 2" SCH. 40 PVC FORCE MAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C3-10	PROPOSED 2" SCH. 40 PVC FORCE MAIN OVER EXISTING STORM MAIN. MAINTAIN MINIMUM 12" CLEARANCE.

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- LEGEND:**
- EXISTING CONCRETE DRIVEWAY
 - EXISTING STAMPED CONCRETE DRIVEWAY
 - EXISTING PAVER DRIVEWAY
 - MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

CONTRACTOR SHALL "MOLE" THE 2" SCH. 40 PVC FORCE MAIN UNDER THE EXISTING DRIVEWAYS. IF THE CONTRACTOR DAMAGES THE EXISTING DRIVEWAYS DURING THE "MOLE OPERATION" THE CONTRACTOR SHALL REPLACE IN KIND FROM EOP BACK TO R/W LINE AT NO COST TO THE OWNER (TYP.)

INSTALL 1.5" SINGLE SERVICE WITH ISOLATION VALVE, SERVICE BOX, AND 1.5" CAP AFTER SERVICE BOX (TYP.)

INSTALL 2" SCH. 40 PVC 11.25' BEND

INSTALL (2) 2" SCH. 40 BALL VALVES

INSTALL 2" SCH. 40 PVC TEE

INSTALL 2" SCH. 40 PVC 11.25' BEND

INSTALL 2" SCH. 40 PVC FORCE MAIN

INSTALL 2" SCH. 40 PVC 11.25' BEND

INSTALL 2" SCH. 40 PVC 11.25' BEND

MATCHLINE SHEET C-2 (STA: 14+00)

MATCHLINE SHEET C-4 (STA: 19+00)

DATE	BY	REVISIONS

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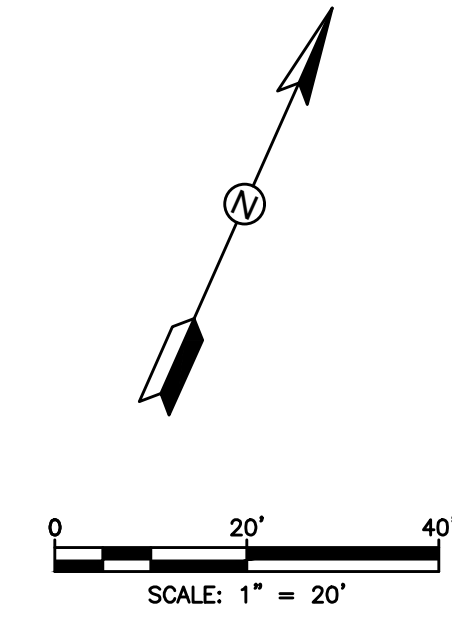
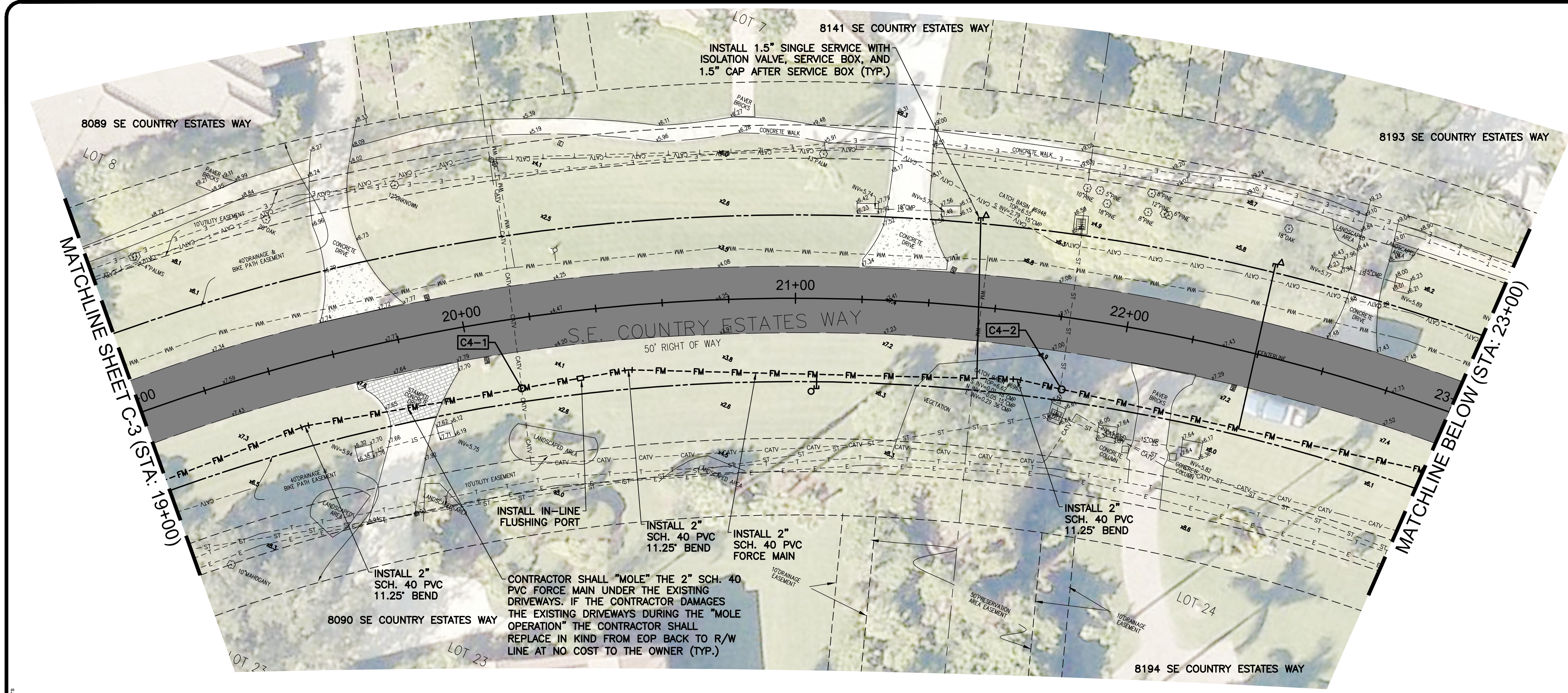
LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

PLAN SHEET
 SE COUNTRY ESTATES WAY
 & SE PEACH WAY

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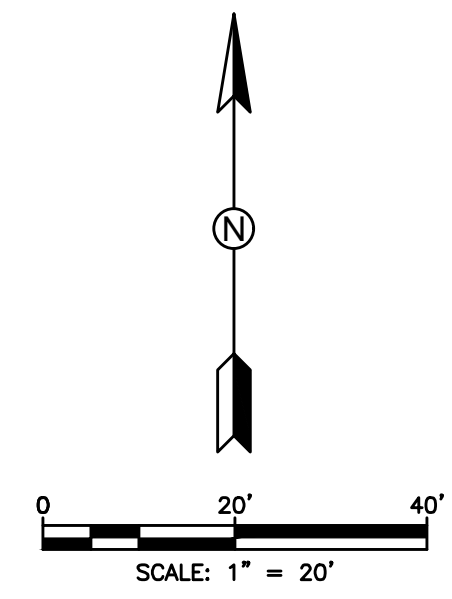
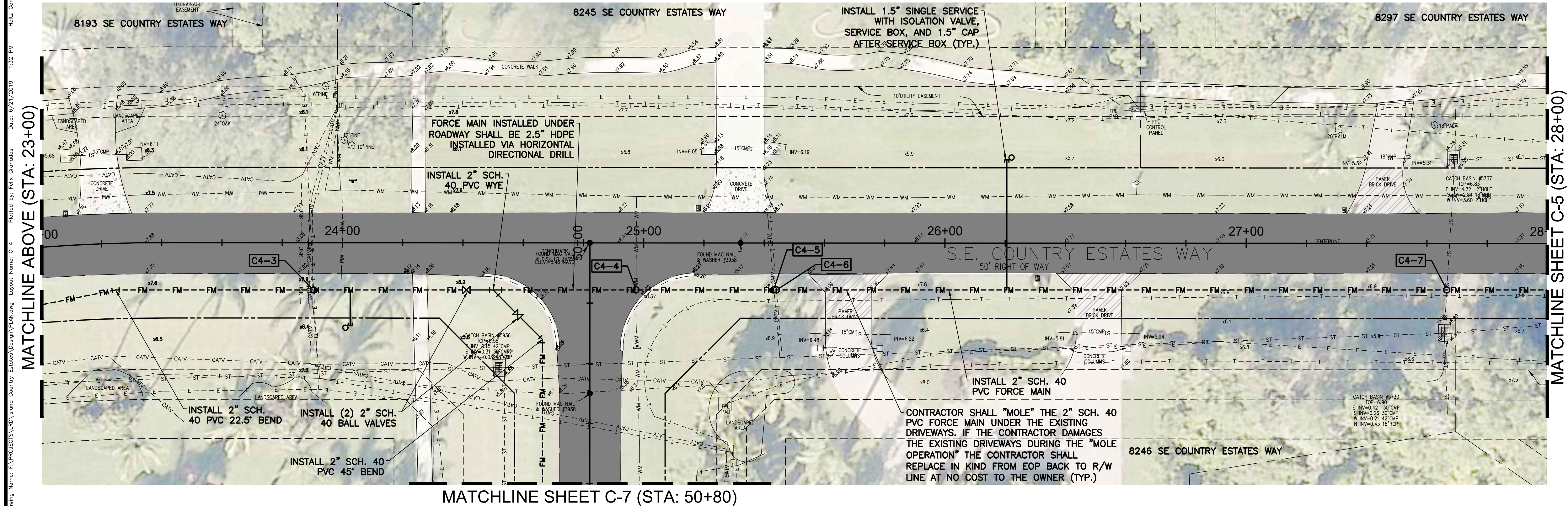
C-3



LEGEND:

	EXISTING CONCRETE DRIVEWAY
	EXISTING STAMPED CONCRETE DRIVEWAY
	EXISTING PAVER DRIVEWAY
	MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

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C4-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C4-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM. MAINTAIN MINIMUM 12" CLEARANCE.
C4-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV, EXISTING BURIED ELECTRIC, EXISTING ATT TELEPHONE AND UNKNOWN. MAINTAIN MINIMUM 12" CLEARANCE.
C4-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C4-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C4-6	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C4-7	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.

DATE	BY	REVISIONS

Date: 12-28-18
 Scale: AS NOTED
 Design By: CM
 Drawn By: RR
 Check By: DH

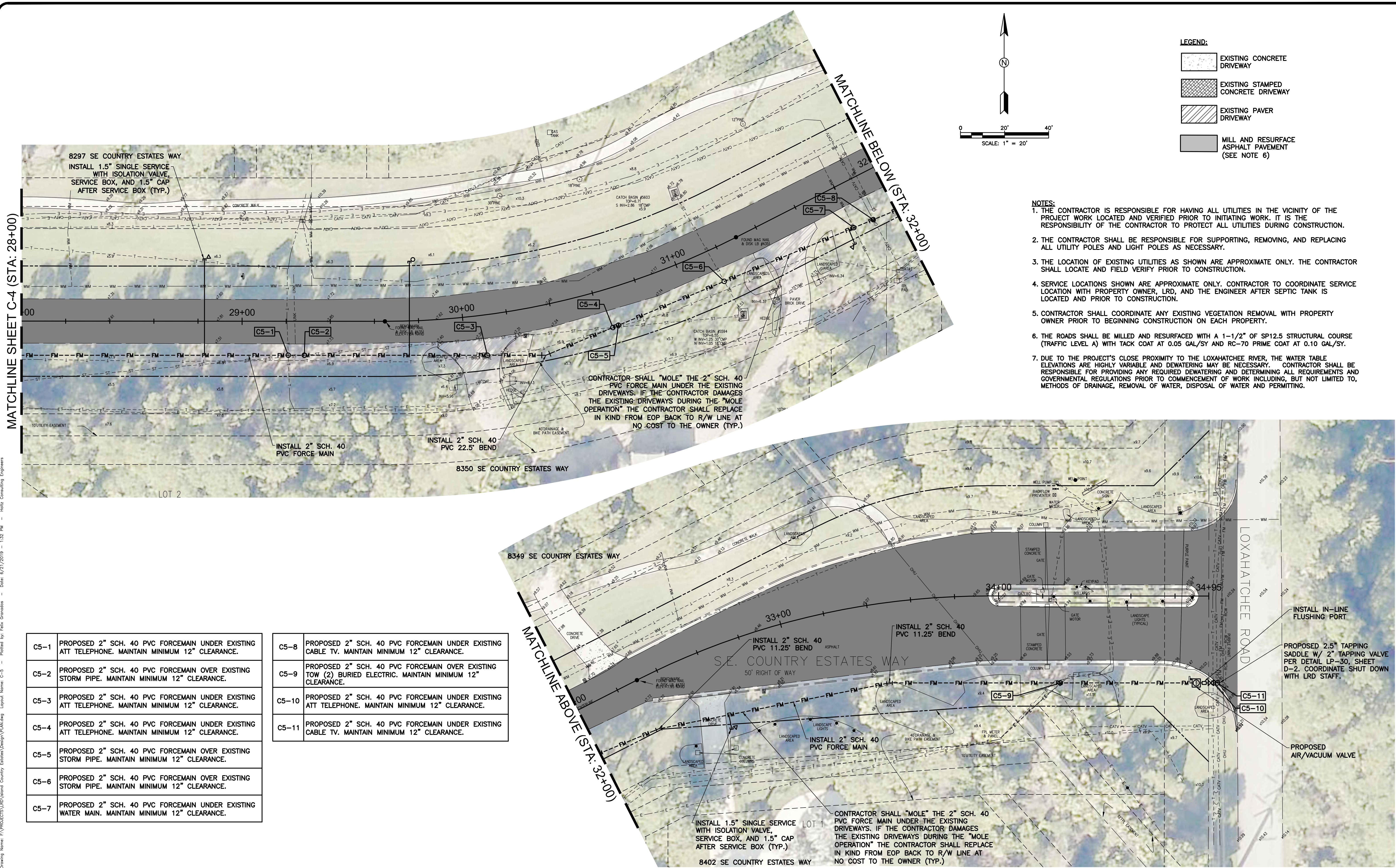
**LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN**

**PLAN SHEET
 SE COUNTRY ESTATES WAY
 & SE RED APPLE LANE**

HOLTZ CONSULTING ENGINEERS, INC.
 270 SOUTH CENTRAL BLVD., SUITE 207
 JUPITER, FLORIDA 33458
 PH. (561) 575-2005

CHRISTINE J. MIRANDA, P.E.
 License No: 60906

C-4

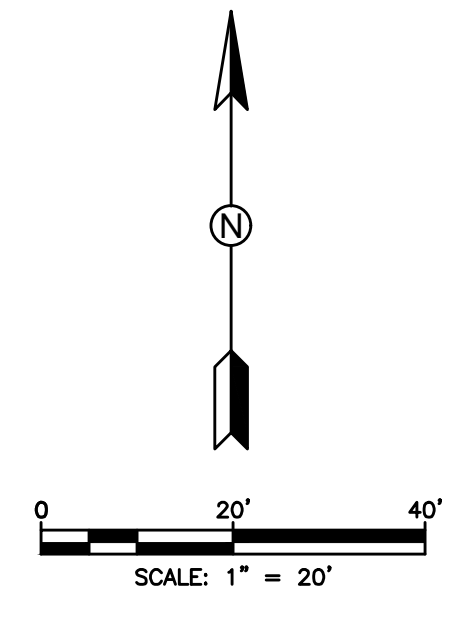


MATCHLINE SHEET C-4 (STA: 28+00)

MATCHLINE ABOVE (STA: 32+00)

C5-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-6	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-7	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.

C5-8	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C5-9	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING TOW (2) BURIED ELECTRIC. MAINTAIN MINIMUM 12" CLEARANCE.
C5-10	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C5-11	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.



LEGEND:

	EXISTING CONCRETE DRIVEWAY
	EXISTING STAMPED CONCRETE DRIVEWAY
	EXISTING PAVER DRIVEWAY
	MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

- NOTES:**
1. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UTILITIES IN THE VICINITY OF THE PROJECT WORK LOCATED AND VERIFIED PRIOR TO INITIATING WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITIES DURING CONSTRUCTION.
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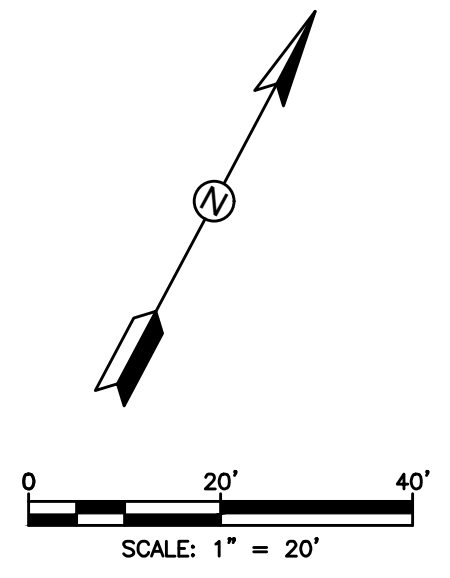
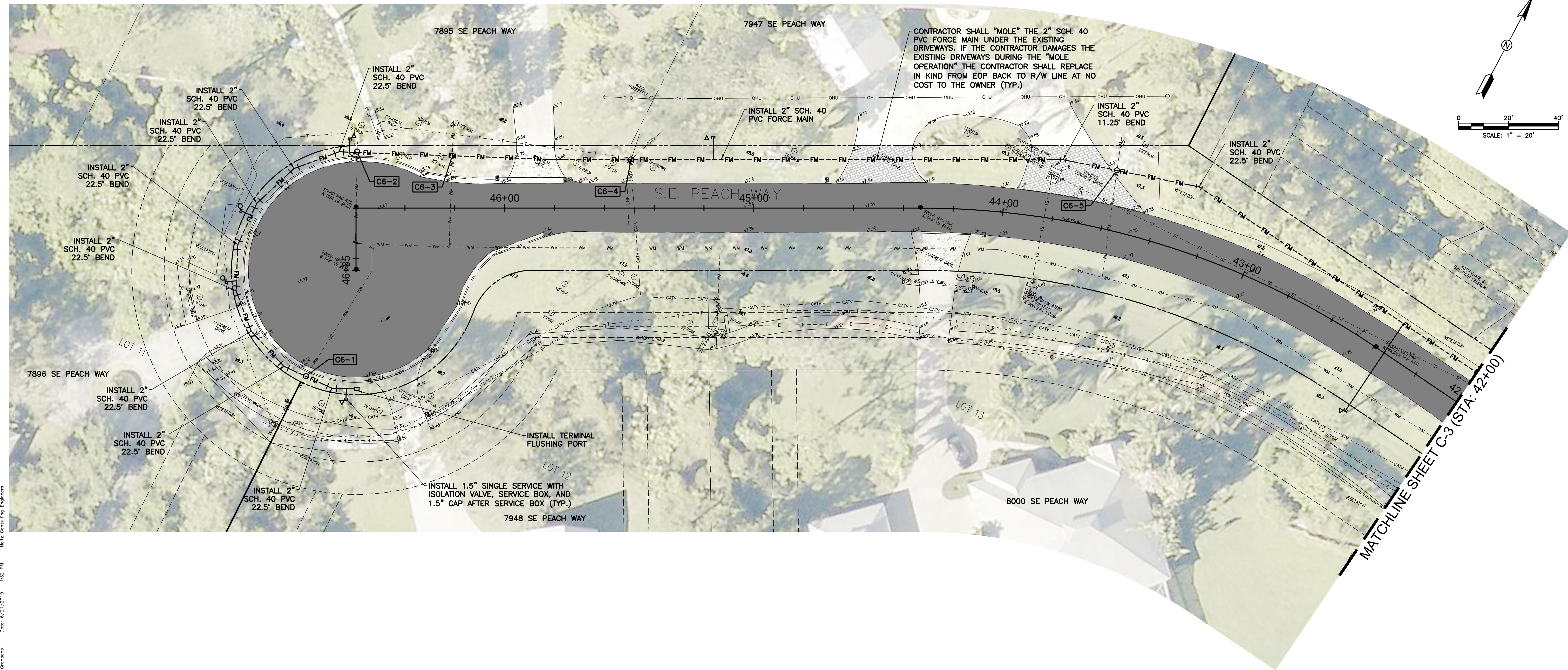
**LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN**

**PLAN SHEET
 SE COUNTRY ESTATES WAY
 STA. 28+00 TO STA. 34+95**

HOLTZ CONSULTING ENGINEERS, INC.
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CHRISTINE J. MIRANDA, P.E.
 License No: 60906

C-5


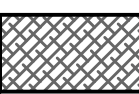
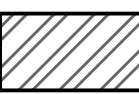



C6-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C6-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C6-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C6-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV AND EXISTING TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
C6-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.

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LEGEND:

-  EXISTING CONCRETE DRIVEWAY
-  EXISTING STAMPED CONCRETE DRIVEWAY
-  EXISTING PAVER DRIVEWAY
-  MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

DATE	BY	REVISIONS

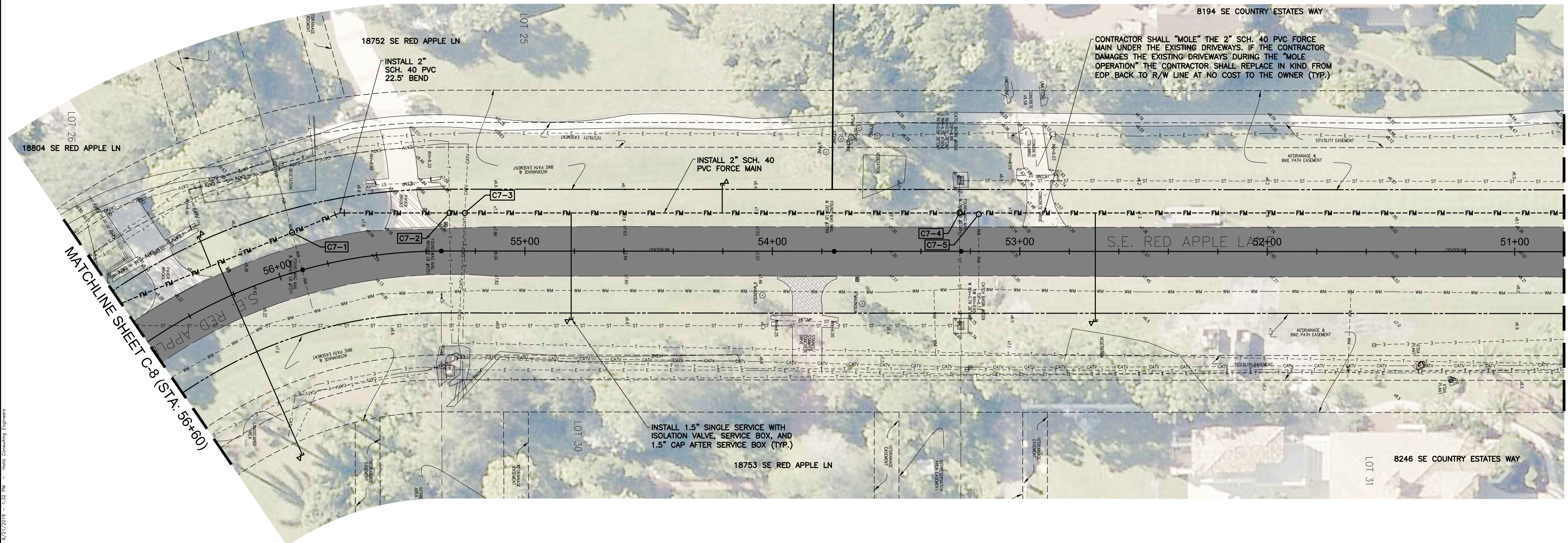
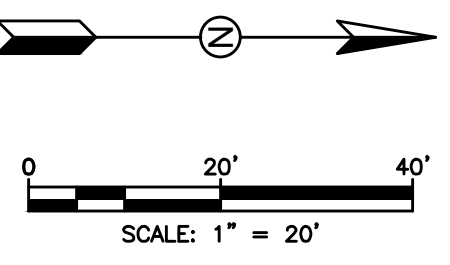
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LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

PLAN SHEET
 SE PEACH WAY





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 Cert. No. 26960

CHRISTINE J. MIRANDA, P.E.
 License No: 60906



C7-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.
C7-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING ATT TELEPHONE MAINTAIN MINIMUM 12" CLEARANCE.
C7-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV. MAINTAIN MINIMUM 12" CLEARANCE.
C7-4	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
C7-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING WATER MAIN. MAINTAIN MINIMUM 12" CLEARANCE.

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- LEGEND:**
-  EXISTING CONCRETE DRIVEWAY
 -  EXISTING STAMPED CONCRETE DRIVEWAY
 -  EXISTING PAVER DRIVEWAY
 -  MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

DATE	BY	REVISIONS

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LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

PLAN SHEET
 SE RED APPLE LANE
 STA. 50+80 TO STA. 56+60

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 270 SOUTH CENTRAL BLVD., SUITE 207
 JUPITER, FLORIDA 33458
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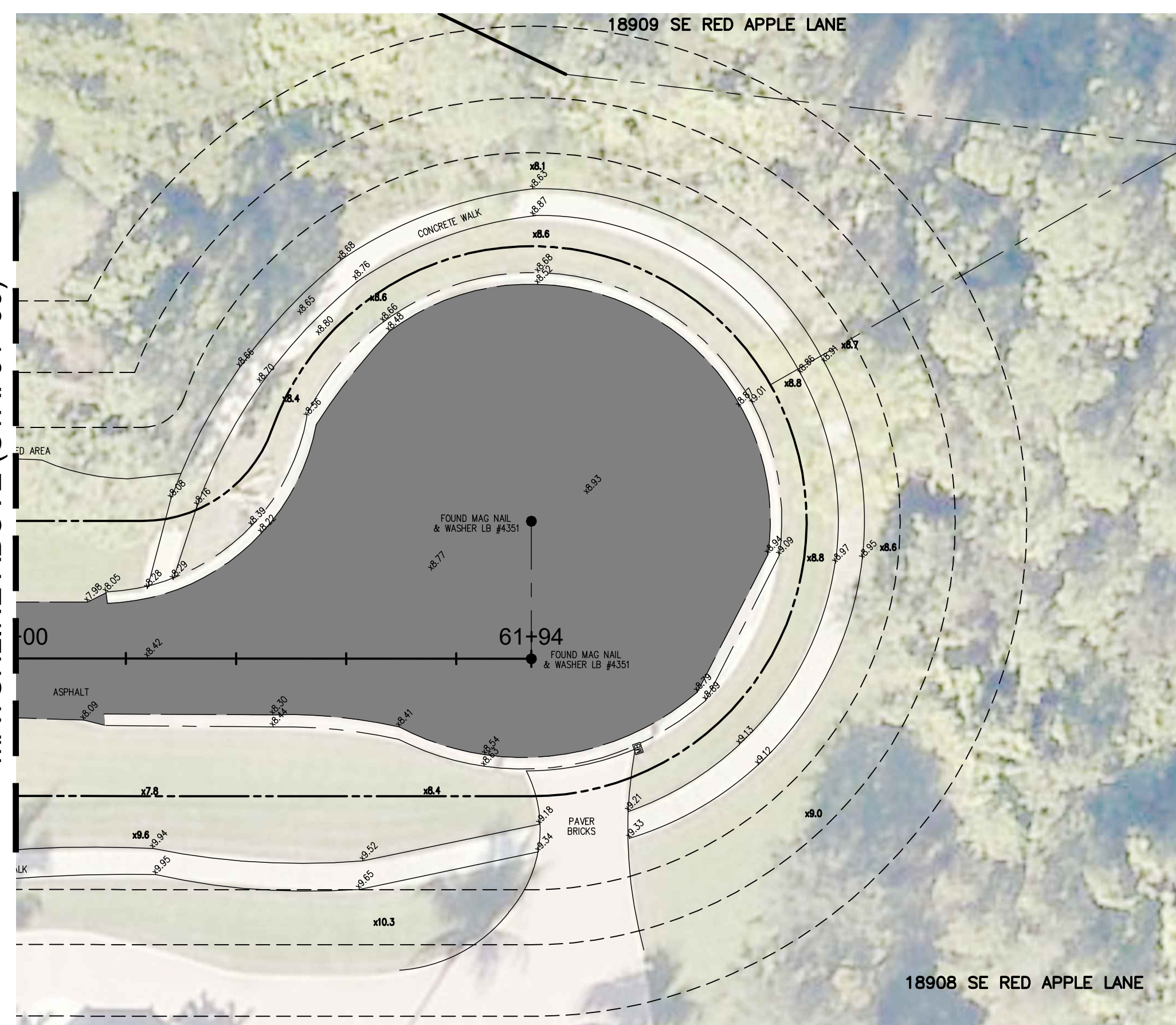
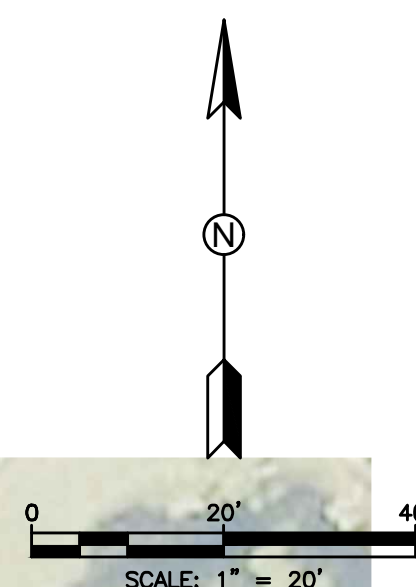
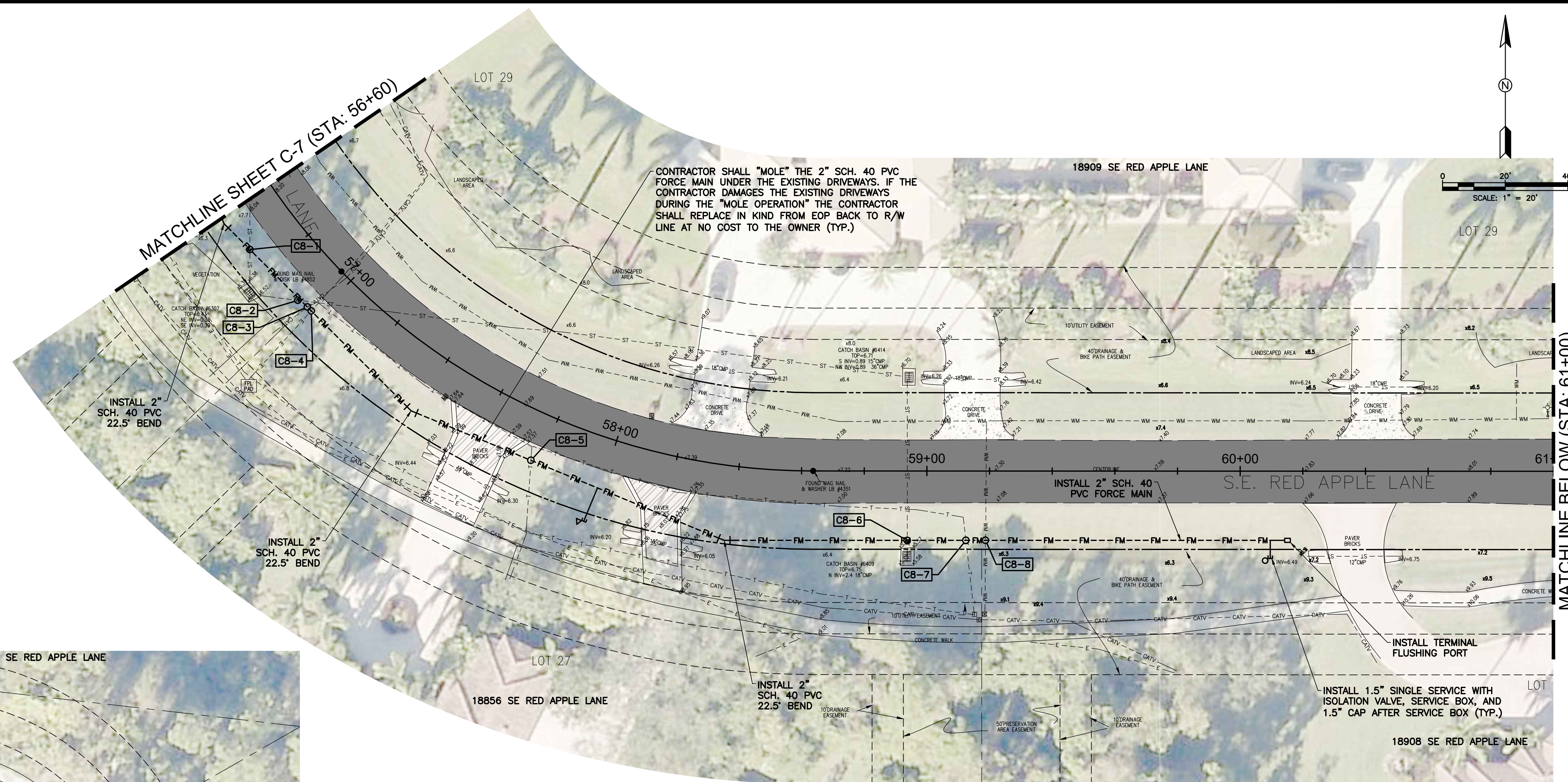
CHRISTINE J. MIRANDA, P.E.
 License No: 60906

C-7

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MATCHLINE SHEET C-4 (STA: 50+80)

MATCHLINE SHEET C-8 (STA: 56+60)



CB-1	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
CB-2	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING STORM PIPE. MAINTAIN MINIMUM 12" CLEARANCE.
CB-3	PROPOSED 2" SCH. 40 PVC FORCEMAIN UNDER EXISTING CABLE TV AND EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
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CB-5	PROPOSED 2" SCH. 40 PVC FORCEMAIN OVER EXISTING ATT TELEPHONE. MAINTAIN MINIMUM 12" CLEARANCE.
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- LEGEND:**
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 - MILL AND RESURFACE ASPHALT PAVEMENT (SEE NOTE 6)

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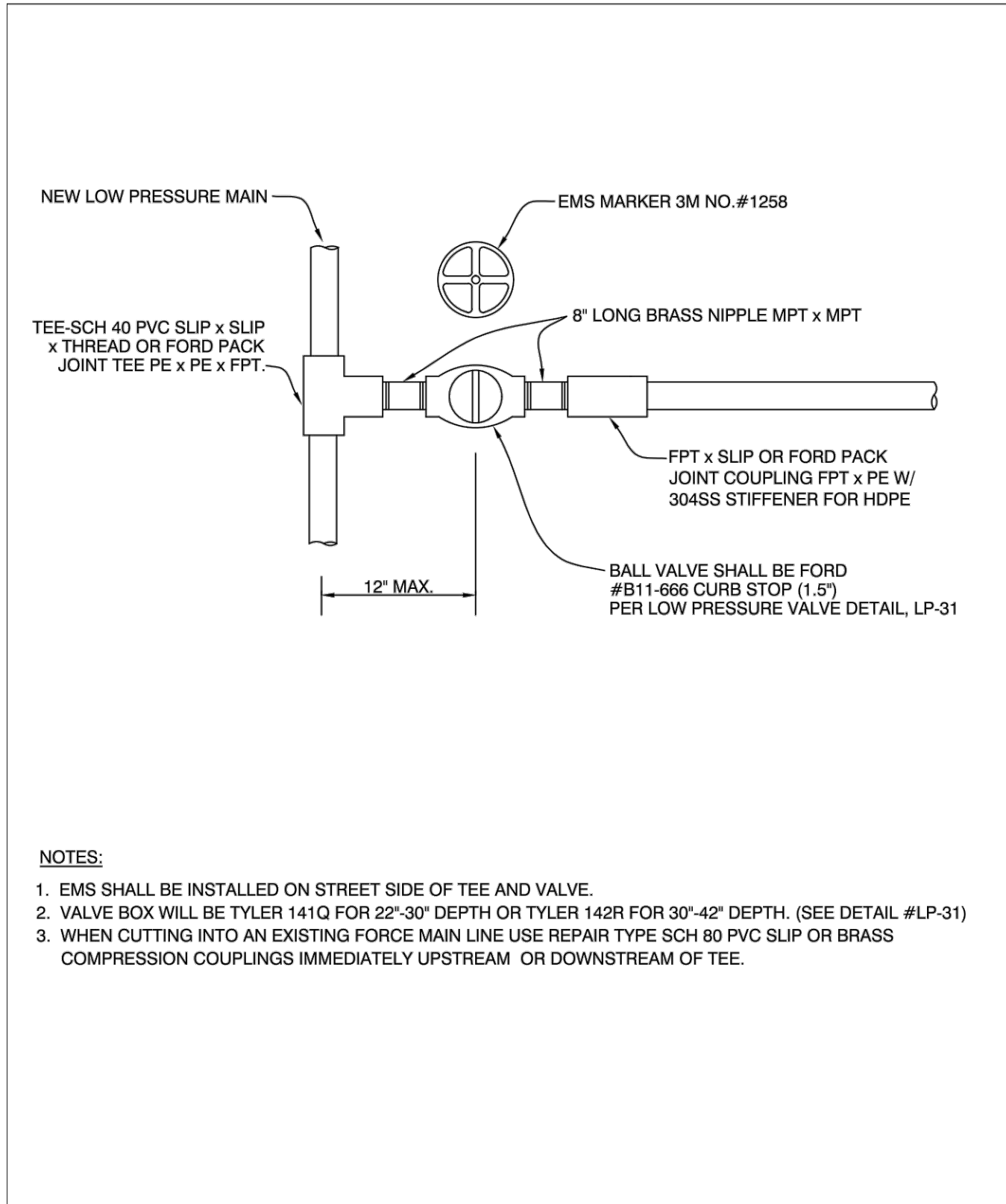
LOXAHATCHEE RIVER DISTRICT
 ISLAND COUNTRY ESTATES
 LOW PRESSURE FORCE MAIN

PLAN SHEET
 SE RED APPLE LANE
 STA. 56+60 TO STA. 61+94

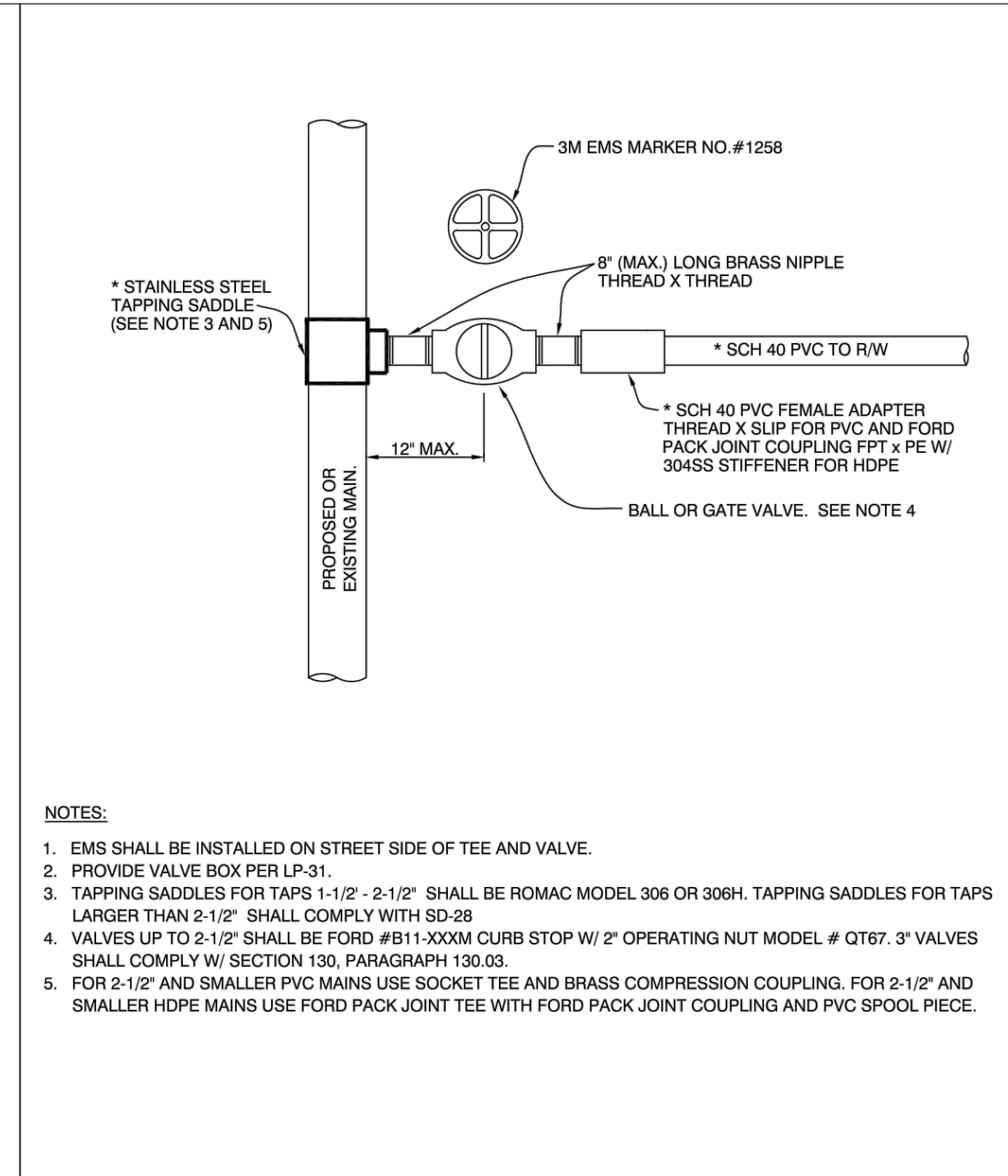
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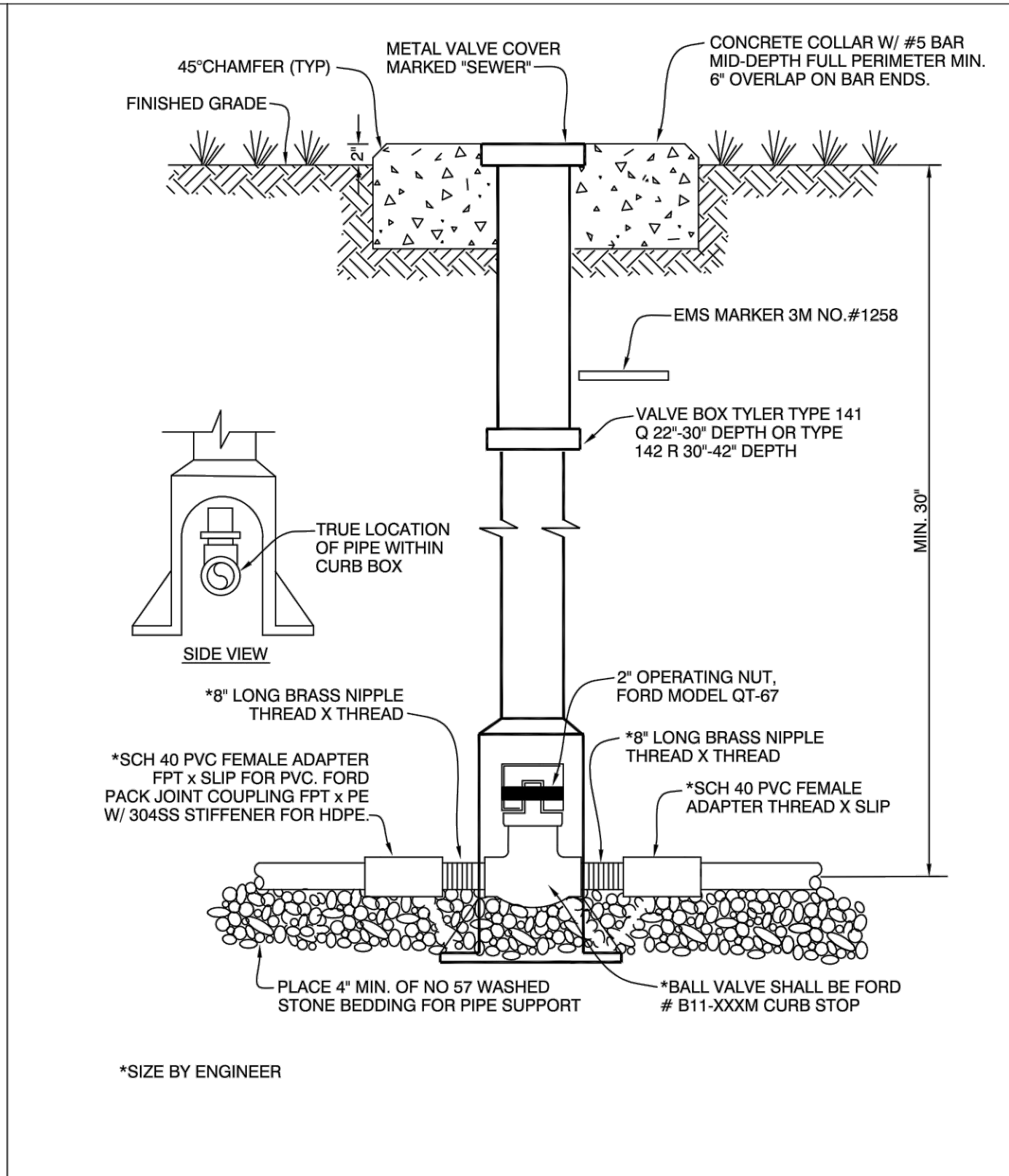
C-8



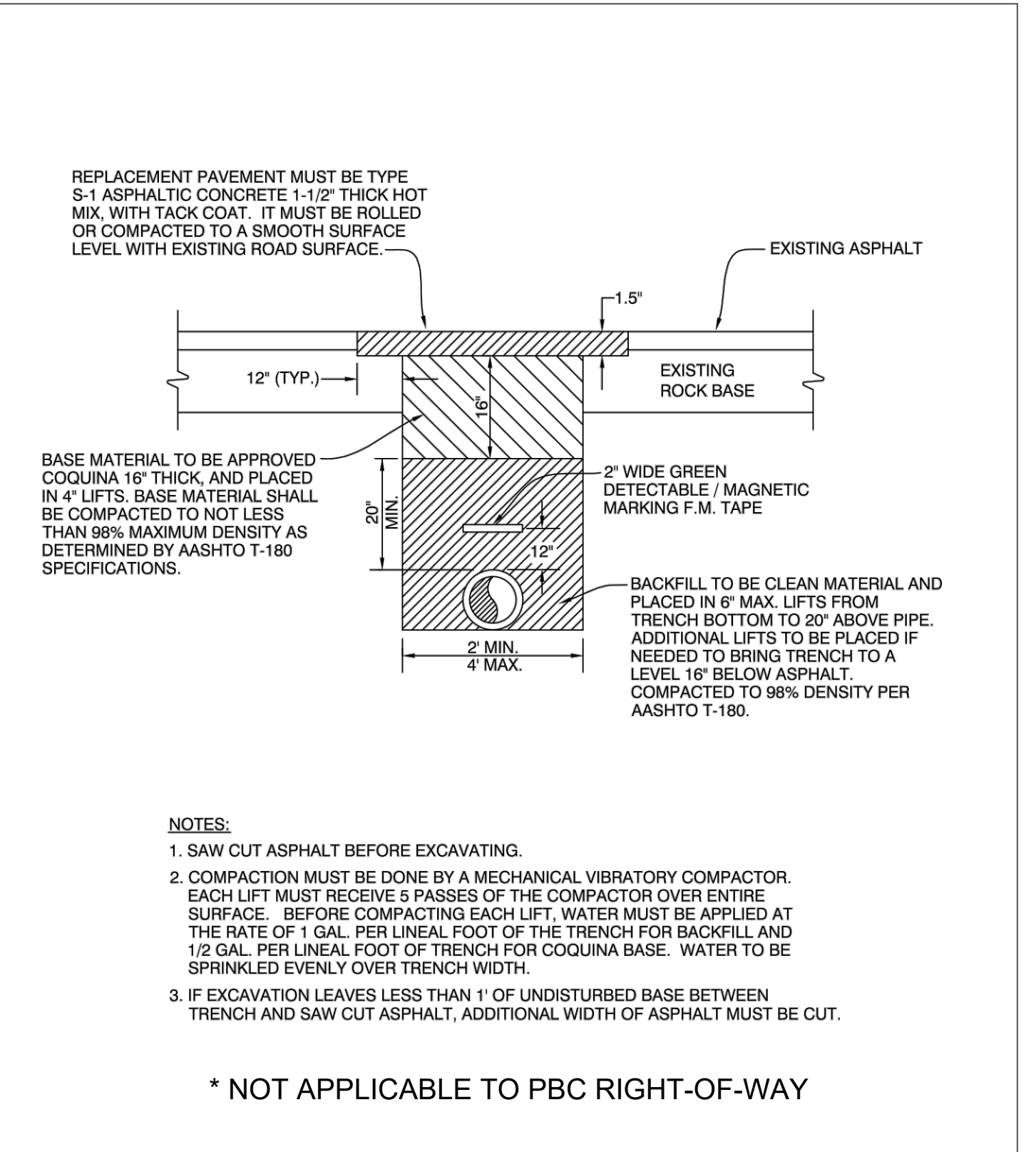
- NOTES:**
- EMS SHALL BE INSTALLED ON STREET SIDE OF TEE AND VALVE.
 - VALVE BOX WILL BE TYLER 141Q FOR 22'-30" DEPTH OR TYLER 142R FOR 30'-42" DEPTH. (SEE DETAIL #LP-31)
 - WHEN CUTTING INTO AN EXISTING FORCE MAIN LINE USE REPAIR TYPE SCH 80 PVC SLIP OR BRASS COMPRESSION COUPLINGS IMMEDIATELY UPSTREAM OR DOWNSTREAM OF TEE.



- NOTES:**
- EMS SHALL BE INSTALLED ON STREET SIDE OF TEE AND VALVE.
 - PROVIDE VALVE BOX PER LP-31
 - TAPPING SADDLES FOR TAPS 1-1/2" - 2-1/2" SHALL BE ROMAC MODEL 306 OR 306H. TAPPING SADDLES FOR TAPS LARGER THAN 2-1/2" SHALL COMPLY WITH SD-28
 - VALVES UP TO 2-1/2" SHALL BE FORD #B11-XXXM CURB STOP W/ 2" OPERATING NUT MODEL # QT67. 3" VALVES SHALL COMPLY WITH SECTION 130, PARAGRAPH 130.03.
 - FOR 2-1/2" AND SMALLER PVC MAINS USE SOCKET TEE AND BRASS COMPRESSION COUPLING. FOR 2-1/2" AND SMALLER HDPE MAINS USE FORD PACK JOINT TEE WITH FORD PACK JOINT COUPLING AND PVC SPOOL PIECE.



- NOTES:**
- SAW CUT ASPHALT BEFORE EXCAVATING.
 - COMPACTION MUST BE DONE BY A MECHANICAL VIBRATORY COMPACTOR. EACH LIFT MUST RECEIVE 5 PASSES OF THE COMPACTOR OVER ENTIRE SURFACE. BEFORE COMPACTING EACH LIFT, WATER MUST BE APPLIED AT THE RATE OF 1 GAL. PER LINEAL FOOT OF THE TRENCH FOR BACKFILL AND 1/2 GAL. PER LINEAL FOOT OF THE TRENCH FOR COQUINA BASE. WATER TO BE SPRINKLED EVENLY OVER TRENCH WIDTH.
 - IF EXCAVATION LEAVES LESS THAN 1" OF UNDISTURBED BASE BETWEEN TRENCH AND SAW CUT ASPHALT, ADDITIONAL WIDTH OF ASPHALT MUST BE CUT.



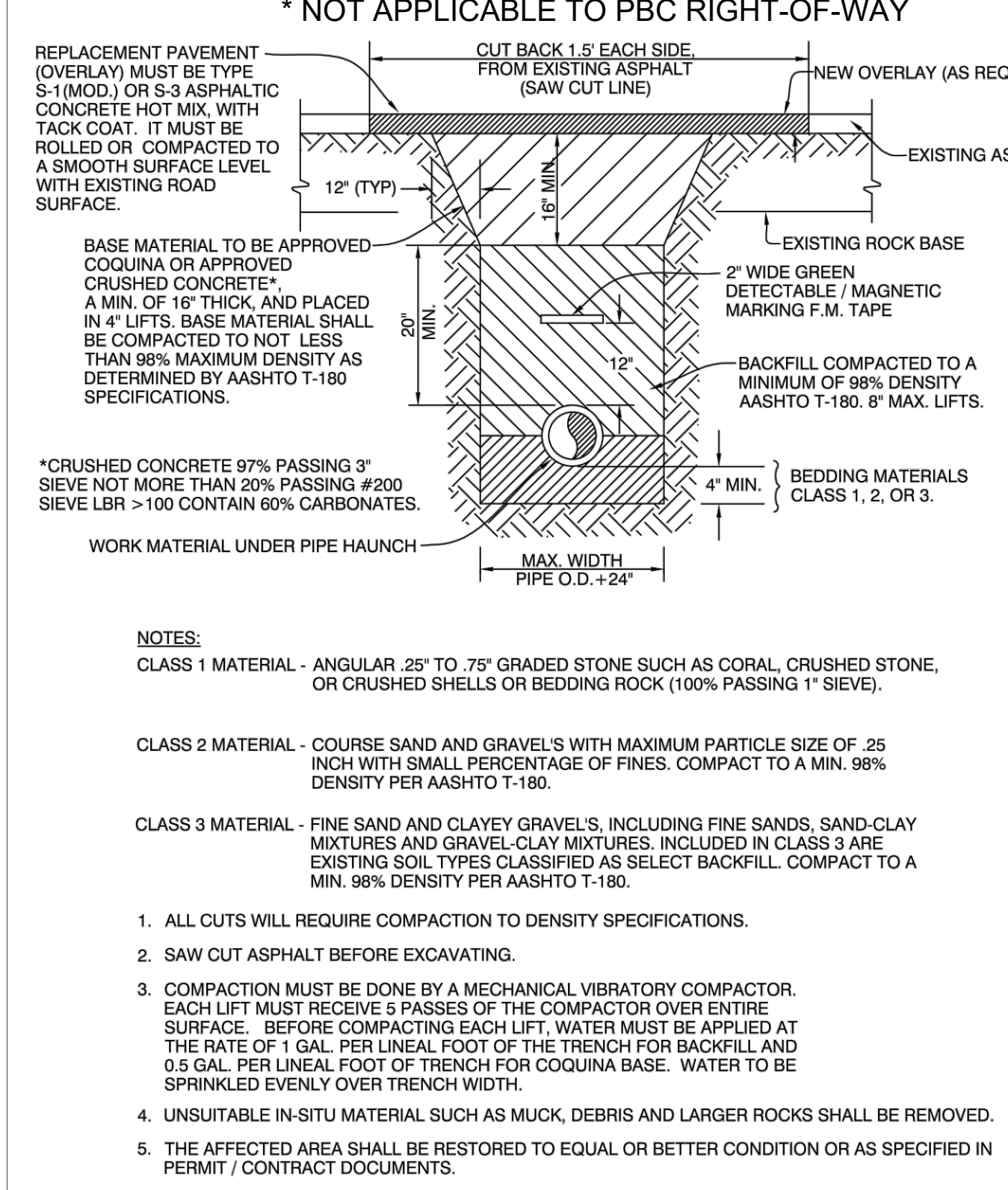
- NOTES:**
- REPLACEMENT PAVEMENT MUST BE TYPE S-1 ASPHALTIC CONCRETE 1-1/2" THICK HOT MIX WITH TACK COAT. IT MUST BE ROLLED OR COMPACTED TO A SMOOTH SURFACE LEVEL WITH EXISTING ROAD SURFACE.
 - BASE MATERIAL TO BE APPROVED COQUINA 16" THICK AND PLACED IN 4" LIFTS. BASE MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 SPECIFICATIONS.

LOXAHATCHEE RIVER DISTRICT
TYPICAL ISOLATION VALVE DETAIL
LP-29

LOXAHATCHEE RIVER DISTRICT
LOW PRESSURE TIE - IN DETAIL
LP-30

LOXAHATCHEE RIVER DISTRICT
LOW PRESSURE VALVE DETAIL
LP-31

LOXAHATCHEE RIVER DISTRICT
TYPICAL ROAD CROSSING REPAIR DETAIL
LP-32



- NOTES:**
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 - COMPACTION MUST BE DONE BY A MECHANICAL VIBRATORY COMPACTOR. EACH LIFT MUST RECEIVE 5 PASSES OF THE COMPACTOR OVER ENTIRE SURFACE. BEFORE COMPACTING EACH LIFT, WATER MUST BE APPLIED AT THE RATE OF 1 GAL. PER LINEAL FOOT OF THE TRENCH FOR BACKFILL AND 0.5 GAL. PER LINEAL FOOT OF TRENCH FOR COQUINA BASE. WATER TO BE SPRINKLED EVENLY OVER TRENCH WIDTH.
 - UNSATURABLE IN-SITU MATERIAL SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
 - THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT / CONTRACT DOCUMENTS.

THE FOLLOWING SHALL BE USED AS A GUIDE FOR SUBMITTAL OF RECORD DRAWINGS TO THE LOXAHATCHEE RIVER DISTRICT

- TWO (2) SETS OF PRINTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW 48 HOURS PRIOR TO REQUESTING INSPECTIONS SUCH AS: FINAL INSPECTION, PRESSURE TESTS, SANITARY SEWER LAMPING OR ANY OTHER ELEMENT OF THE SYSTEM WHICH IS DETERMINED BY THE DISTRICT TO REQUIRE CLARIFICATION.
- THE DRAWINGS WILL BE REVIEWED BY THE DISTRICT FOR DEFICIENCIES. DEFICIENCIES WILL BE INDICATED ON ONE (1) SET OF PRINTS WHICH WILL BE RETURNED TO THE E.O.R. OR CONTRACTOR FOR NECESSARY CORRECTIVE ACTION.
- UPON CORRECTION, TWO (2) SETS OF PRINTS (SIGNED/SEALED BY A FLORIDA LICENSED SURVEYOR) SHALL BE SUBMITTED.
- NO DISCLAIMERS ON DRAWINGS WILL BE ACCEPTED.
- UPON FINAL SUBMITTAL OF RECORD DRAWINGS, AN AUTOCAD VER. 2009 OR LATER AND ADOBE PDF (24"X36") ELECTRONIC DATA FILE SHALL BE FURNISHED ON A CD-R DISK TO THE DISTRICT. ONLY ONE CAD FILE WITH ALL SHEETS OF RECORD DRAWINGS ALLOWED.
- ALL SEWER ITEMS SHALL BE CATEGORIZED AND ASSIGNED TO THE DRAWING LAYERS SUCH AS: AB-MANHOLES, AB-FORCEMAIN, AB-VALVE, AB-GRAVITY MAIN, ETC.
- REDRAW ALL SEWER LINES AND INFRASTRUCTURE ON RECORD DRAWINGS AS CONSTRUCTED HORIZONTALLY & VERTICALLY. USING ORIGINAL DESIGN LINEWORK & ONLY UPDATING THE CORRESPONDING TEXT CALLOUTS WILL NOT BE ACCEPTED AS RECORD DRAWINGS.

REQUIRED INFORMATION ON RECORD DRAWINGS

GENERAL

- DRAWINGS ON 24" X 36" BOND PAPER THAT WILL REPRODUCE LEGIBLY.
- LABEL DRAWINGS "RECORD DRAWINGS" WITH DATE, COMPLETE TITLE BLOCK WITH CURRENT FILE NAME.
- DRAWINGS SHALL BE SIGNED / SEALED BY A FLORIDA LICENSED PROFESSIONAL LAND SURVEYOR.
- CORRECT STREET/ROAD NAMES AND LOT AND BLOCK NUMBERS.
- SHOW AS-BUILT CONSTRUCTED SEWER FACILITIES HEAVED UP, BOLD OR BOXED OUT TO STAND OUT FROM REST OF EACH DRAWING.
- ALL ITEMS LISTED BELOW MUST BE CORRECTLY GEOREFERENCED WITH NORTHINGS/EASTINGS CLEARLY SHOWN. THE AS BUILTS SHALL BE GEOREFERENCED TO THE STATE PLANE COORDINATES IN NAD 83, FLORIDA EAST ZONE, WHILE THE VERTICAL DATUM SHALL BE NGVD 29.

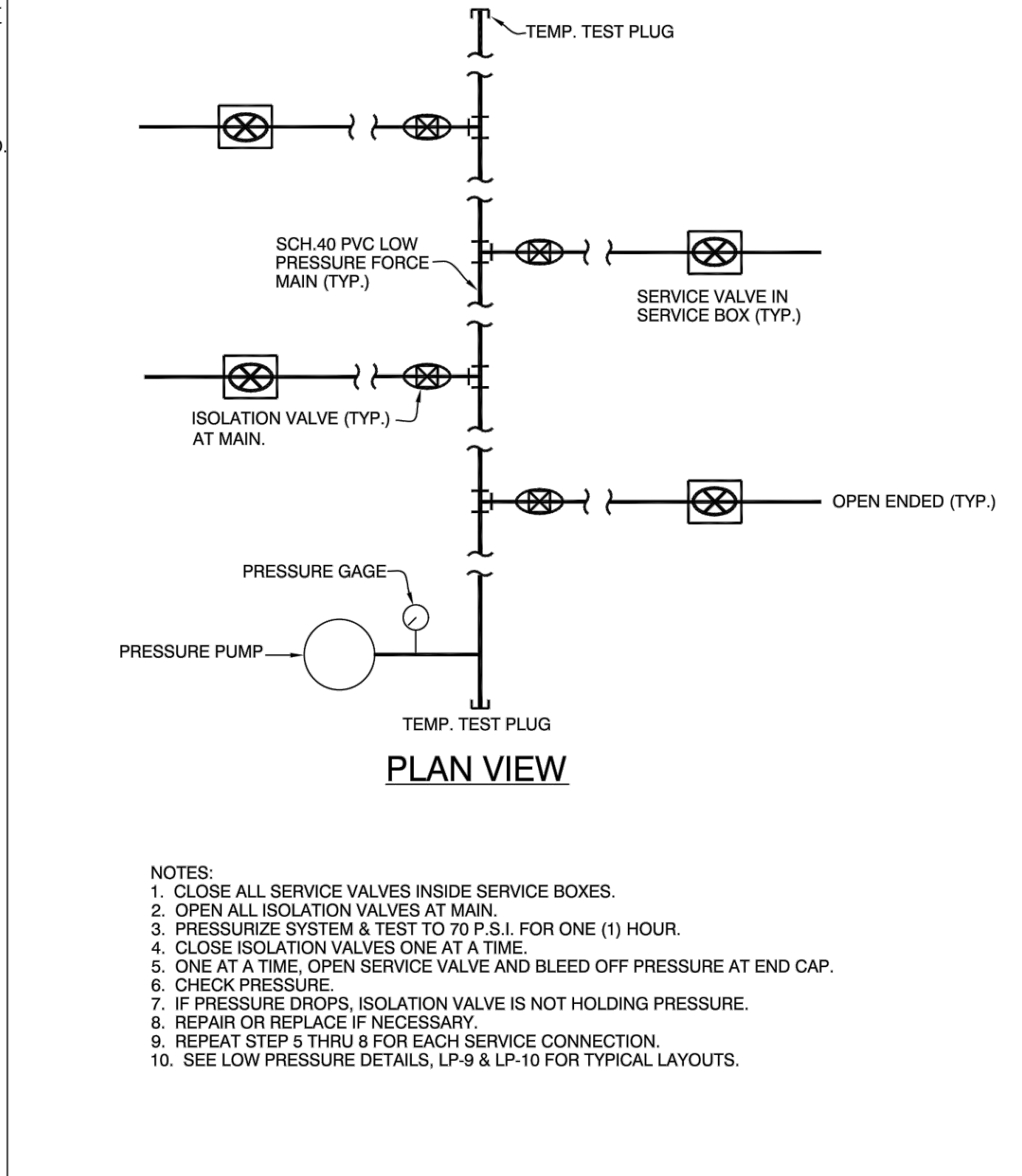
GRAVITY SEWER

- AS-BUILT DISTANCE OF GRAVITY MAIN FROM CENTER LINE OF ROAD OR EASEMENT RIGHT-OF-WAY LINE, BUILDINGS, OR AS DETERMINED BY THE LOXAHATCHEE RIVER DISTRICT. EXTENSIONS OF AN IMAGINARY LINE WILL NOT BE ACCEPTABLE AS REFERENCED POINTS.
- TYPE OF MATERIALS INSTALLED - MAINS AND SERVICES.
- SHOW EACH SEWER SERVICE LATERAL INCLUDING THE CONNECTION TO THE MAIN AND PROVIDE THE NORTHING & EASTING POINTS FOR EACH CLEANOUT & INDICATE CLEANOUT DIAMETER.
- AS-BUILT LOCATIONS OF MANHOLES WITH A NORTHING & EASTING PROVIDED.
- AS-BUILT ELEVATIONS, RIM ELEVATION, EACH INVERT AND PIPE SLOPE.
- UPDATE LIFT STATION DETAILS/ELEVATIONS INCLUDING START UP DATA.
- LIFT STATION AND UTILITY EASEMENTS, INCLUDING LOCATION OF F.P.&L. SERVICE TO CONTROL PANEL.

PRESSURE PIPE

- AS-BUILT DISTANCE OF MAINS AT 100' INTERVALS FROM CENTER LINE OF ROAD, EASEMENT, RIGHT-OF-WAY LINE, BUILDINGS, SEWER MAINS OR AS DETERMINED BY THE LOXAHATCHEE RIVER DISTRICT. EXTENSIONS OF AN IMAGINARY LINE WILL NOT BE ACCEPTABLE AS REFERENCED POINTS.
- SHOW ELEVATIONS, NORTHING/EASTING OF EACH VALVE, FITTING, AIR RELEASE VALVE, SERVICE LINE, TAP, ETC., AND RADIAL DIMENSIONS (TIES) FROM A NEARBY PERMANENT OBJECT WHERE POSSIBLE. (SEE NOTE NO. 6 IN GENERAL).
- TYPE OF MATERIALS INSTALLED - PIPE AND APPURTENANCES. INDICATE ALL LOCATIONS OF CHANGE OF MATERIAL INCLUDING JOINT TYPE (M.J., SLIP, RESTRAINED).
- VALVE TYPE (BUTTERFLY, GATE, PLUG) INCLUDING THE NORTHING & EASTING POINT.
- AS-BUILT LENGTH OF ALL JACK AND BORE CASINGS INDICATING DISTANCE FROM CENTER LINE OF PAVING TO EACH END OF CASING. THE AS-BUILT INVERT ELEVATION OF EACH END OF CASING, INCLUDING NORTHING/EASTING AND AS-BUILT DISTANCE FROM EACH END OF CASING TO LIMITS OF MECHANICAL JOINT PIPE IS ALSO REQUIRED.
- AS-BUILT ELEVATIONS AT 100' INTERVALS AS WELL AS ANY MAJOR CHANGES IN DIRECTION AND/OR ELEVATION. ELEVATIONS SHOWN AT THESE INTERVALS AND CHANGES MUST SHOW TOP OF PIPE ELEVATION, NORTHING/EASTING AND FINISHED GRADE ELEVATION AT THAT LOCATION. SHOW LOCATION OF EMS MARKERS.
- UTILITY EASEMENTS SHALL BE CORRECTLY SHOWN AND DIMENSIONED WITH REFERENCED SEWER FACILITY.

LOXAHATCHEE RIVER DISTRICT
RECORD DRAWING SUBMITTAL GUIDE
SD-29



- NOTES:**
- CLOSE ALL SERVICE VALVES INSIDE SERVICE BOXES.
 - OPEN ALL ISOLATION VALVES AT MAIN.
 - PRESSURIZE SYSTEM & TEST TO 70 P.S.I. FOR ONE (1) HOUR.
 - CLOSE ISOLATION VALVES ONE AT A TIME.
 - ONE AT A TIME, OPEN SERVICE VALVE AND BLEED OFF PRESSURE AT END CAP.
 - CHECK PRESSURE.
 - IF PRESSURE DROPS, ISOLATION VALVE IS NOT HOLDING PRESSURE.
 - REPAIR OR REPLACE IF NECESSARY.
 - REPEAT STEP 5 THRU 8 FOR EACH SERVICE CONNECTION.
 - SEE LOW PRESSURE DETAILS, LP-9 & LP-10 FOR TYPICAL LAYOUTS.

LOXAHATCHEE RIVER DISTRICT
TESTING PROCEDURE
LP-34

LOW PRESSURE PUMPING UNITS SHALL BE LOCATED SO THAT SURFACE WATER RUN OFF SHALL NOT INTERFERE WITH ELECTRICAL COMPONENTS.

- MANUFACTURER SHALL SUPPLY AND ATTACH ELECTRICAL CONTROL PANEL SCHEMATIC TO INSIDE FACE OF CONTROL PANEL DOOR (LAMINATED).
- THE DISTRICT WILL BE CERTIFYING ALL LOW PRESSURE LIFT STATIONS WHEN COMPLETE. MANUFACTURER SHALL SCHEDULE A START UP TEST AND SUBMIT ALL AS-BUILT DATA TO THE DISTRICT FOR CERTIFICATION.
- LIFT STATION AND CONTROL PANEL SHALL BE LOCATED SO THAT BOTH ARE ACCESSIBLE FOR MAINTENANCE.
- WHERE FEASIBLE, HOMEOWNER SHALL PROVIDE WATER HOSE BIB. HOSE FOR MAINTENANCE OPERATIONS.
- AIR RELEASE VALVE AND/OR VACUUM RELIEF VALVES SHALL BE PROVIDED ON ALL LOW PRESSURE FORCE MAIN INSTALLATION IMMEDIATELY UPSTREAM OF DISCHARGE POINT TO REGIONAL GRAVITY OR FORCE MAIN SYSTEMS.
- FORCE MAIN DETECTABLE TAPE & MAGNETIC LOCATING DEVICES WILL BE INSTALLED OVER FORCE MAIN, VALVES, AND SERVICES.

LOXAHATCHEE RIVER DISTRICT
GENERAL NOTES
LP-35

LOXAHATCHEE RIVER DISTRICT
TYPICAL TRENCH & PAVEMENT RESTORATION DETAIL
SD-2

DATE	BY	REVISIONS

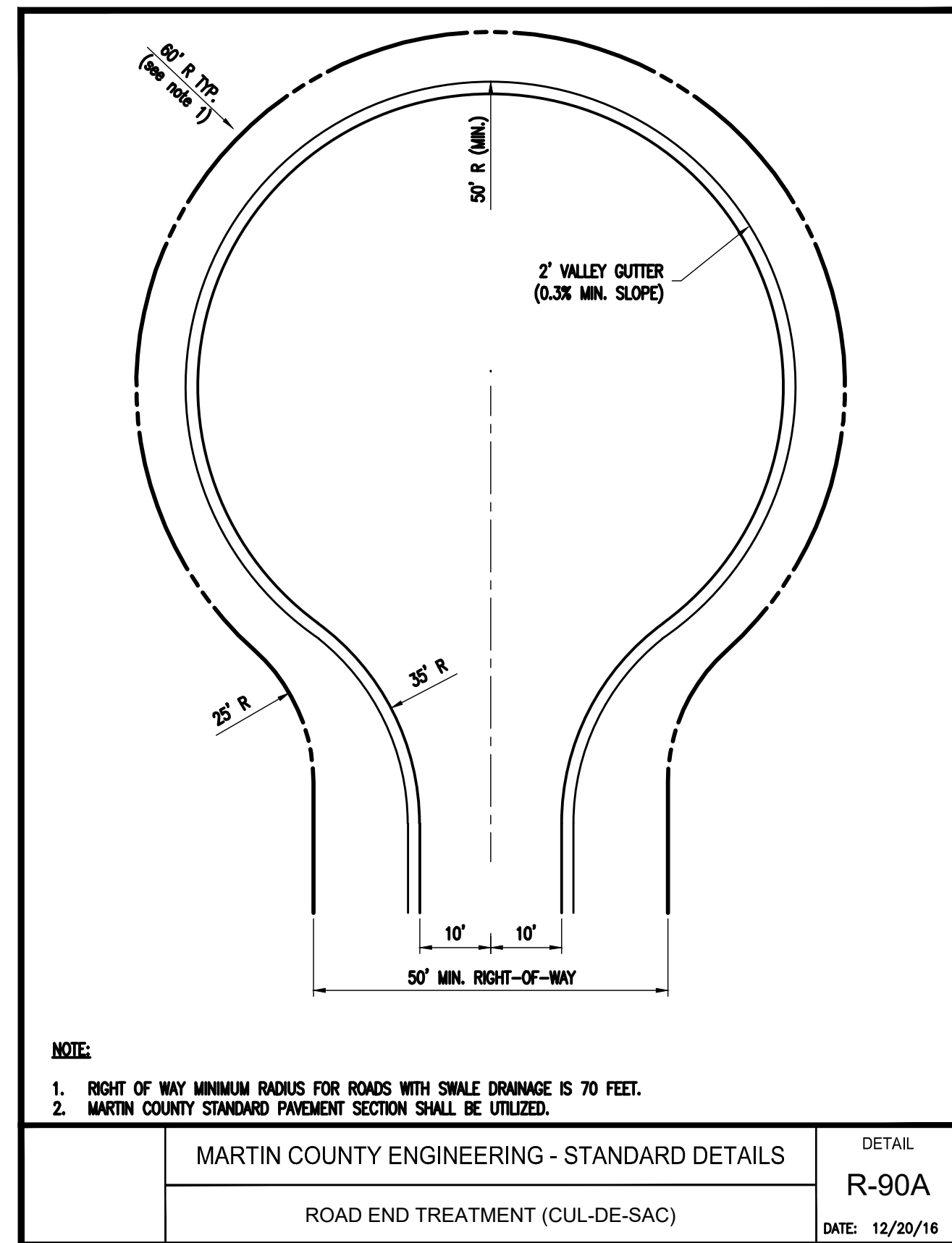
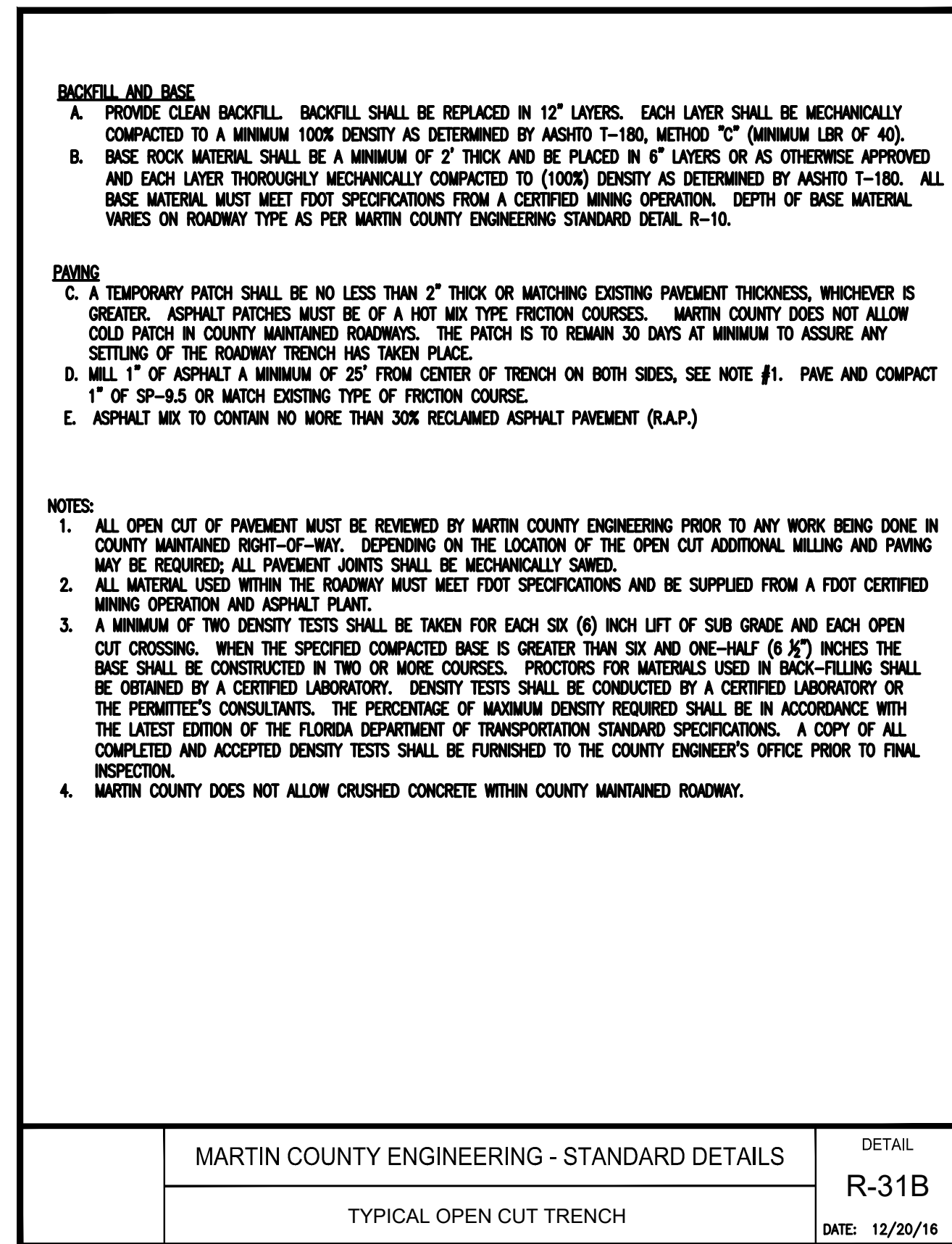
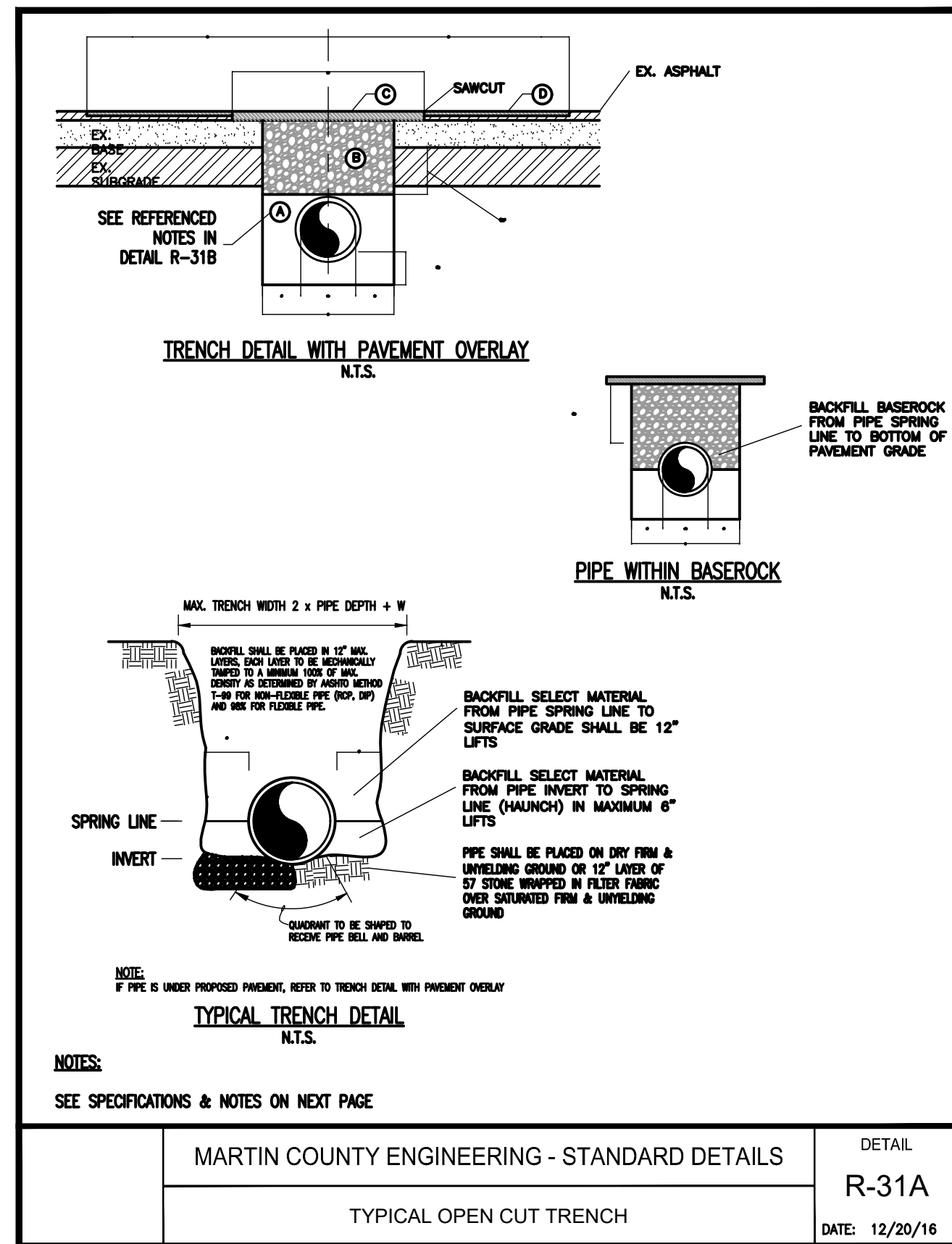
Date: 12-28-18
Scale: AS NOTED
Design By: CM
Drawn By: RR
Check By: DH

LOXAHATCHEE RIVER DISTRICT
ISLAND COUNTRY ESTATES
LOW PRESSURE FORCE MAIN

DETAILS

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270 SOUTH CENTRAL BLVD., SUITE 207
JUPITER, FLORIDA 33458
PH. (561) 575-2005
Cert. No. 26960

CHRISTINE J. MIRANDA, P.E.
License No: 60906



SEPARATION REQUIREMENTS
62-555.314 F.A.C. AUGUST 28, 2003

1. HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

A. NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

C. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART II 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.

2. VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

A. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

C. AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, 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, AT SUCH CROSSINGS, 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 PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

*REQUIRED BY: HRS, STATE OF FLORIDA, PALM BEACH COUNTY PUBLIC HEALTH UNIT

N.T.S.	LOXAHATCHEE RIVER DISTRICT	SD-30
REVISION:	STANDARD WATER AND SEWER	
APRIL, 2012	SEPARATION STATEMENT	

Drawing Name: R-90A(2)CUL-DE-SAC(2) Standard County Attachment: 04/20/16 12:33 PM - 12:33 PM - Holtz Consulting Engineers

DATE	BY	REVISIONS

Date: 12-28-18
Scale: AS NOTED
Design By: CM
Drawn By: RR
Check By: DH

LOXAHATCHEE RIVER DISTRICT
ISLAND COUNTRY ESTATES
LOW PRESSURE FORCE MAIN

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