

LEE COUNTY UTILITIES

ORTIZ AVENUE WIDENING

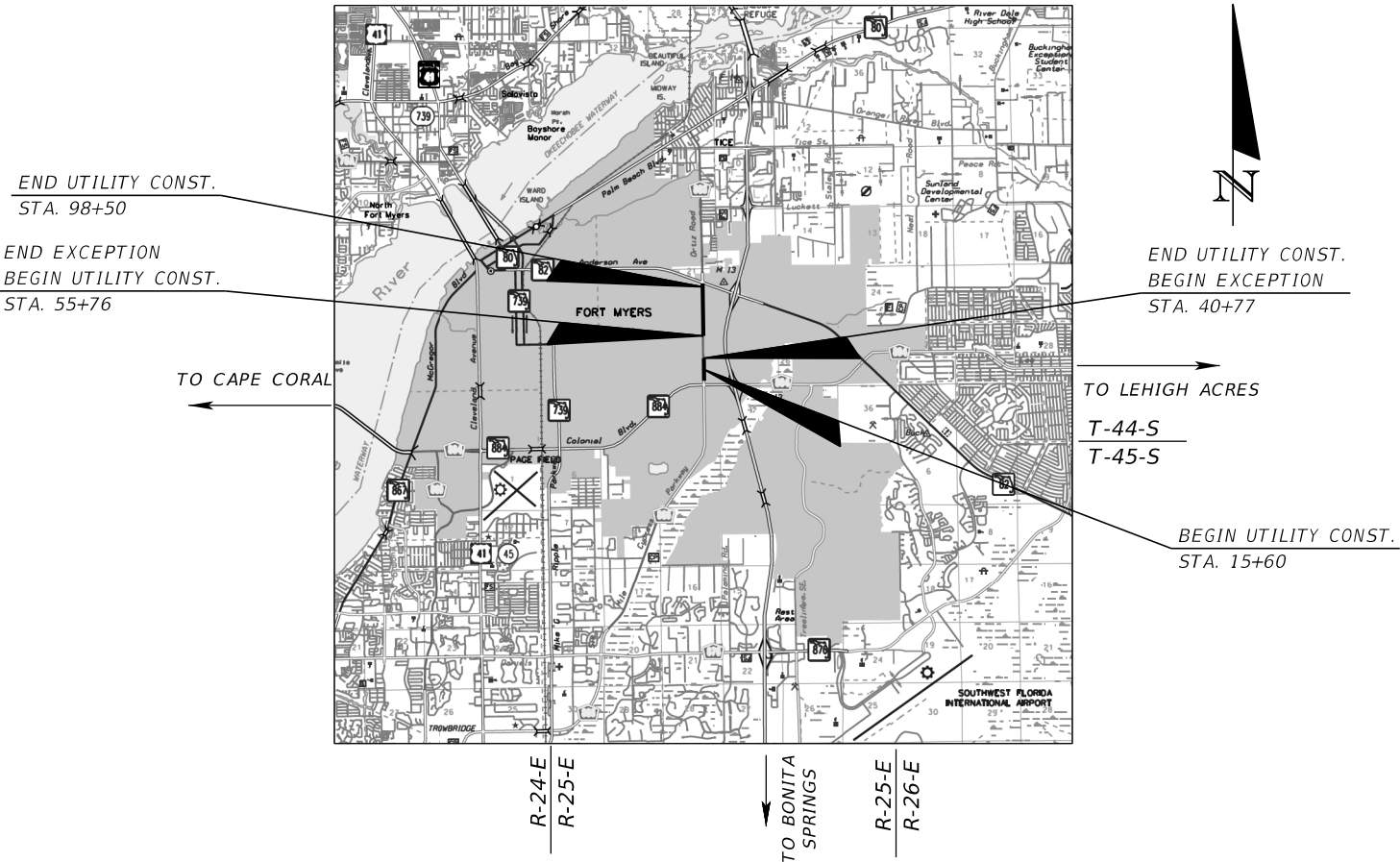
FROM SR 884 TO SR 82

LEE COUNTY
COUNTY ROAD NO. 865

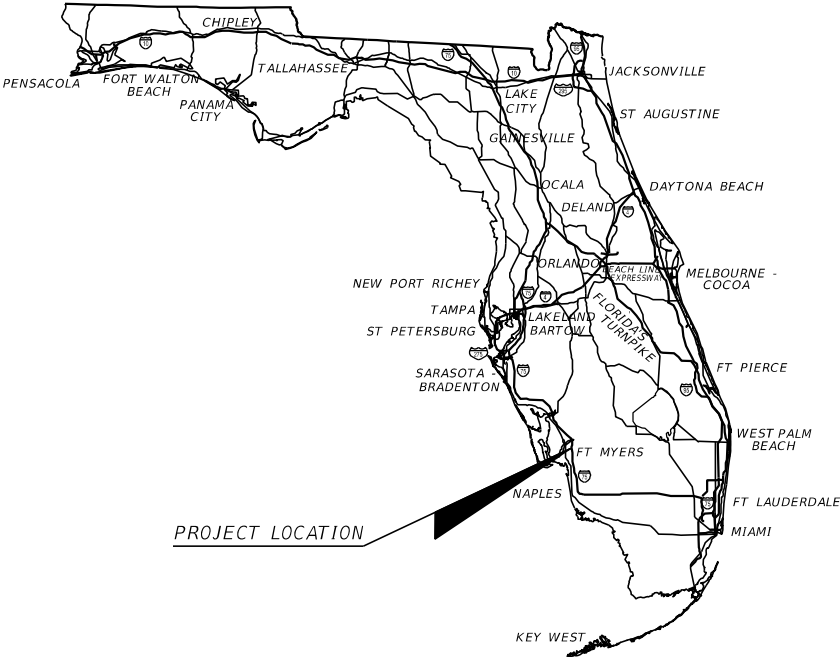
UTILITY PLANS

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PROJECT LOCATION



LEE COUNTY COMMISSIONERS:

District 1: John Manning
District 2: Cecil Pendergrass
District 3: Ray Sandelli
District 4: Brian Hamman
District 5: Frank Mann Sr.

COUNTY MANAGER

Roger Desjarlais

ASSISTANT COUNTY MANAGER (Utilities)

Christine Brady

DIRECTOR OF PUBLIC UTILITIES

Pamela Keyes, P.E.

UTILITY PLANS

ENGINEER OF RECORD:



CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LDOT PROJECT MANAGER:

ROBERT K. PHELAN, P.E.

60% SUBMITTAL
NOT FOR CONSTRUCTION

SHEET
NO.

U-1

SURVEY SYMBOLS LEGEND:

	AIR RELEASE VALVE		FORCE MAIN AIR RELEASE VALVE		SPRINKLER		FOUND CONCRETE MONUMENT
	AUTO VACUUME / AIR PUMP		GAS PIPELINE MARKER		STEEL POST		FOUND DRILL HOLE
	BACKFLOW PREVENTER		GAS VALVE		TELEPHONE BOX OR VAULT		FOUND IRON ROD
	BACTERIAL SAMPLE POINT		GATE KEY PAD		TELEPHONE CANISTER		FOUND IRON ROD & CAP
	BENCH MARK		GATE ARM ACTUATOR BOX		TELEPHONE (BURIED) MARKER POST		FOUND NAIL
	BOLLARD		GROUND LIGHT		TELEPHONE MANHOLE		FOUND NAIL & DISK
	CABLE RISER		GREASE MANHOLE		TELEPHONE RISER		FOUND PARKER KALON NAIL
	CABLE TV BOX		GUARD RAIL		TOE OF SLOPE		FOUND PARKER KALON NAIL & DISK
	CATCH BASIN		GUY POLE		TOP OF BANK		SET CONCRETE MONUMENT
	CENTERLINE		GUY WIRE		TRAFFIC SIGNAL BOX		SET DRILL HOLE
	CLEANOUT		HANDI-CAP PARKING		TRAFFIC SIGNAL POLE		SET 5/8" IRON ROD & CAP "CARDNO LB 7975" U.O.N.
	COORDINATE NUMBER		HOSE BIB		TRAFFIC SIGNAL LIGHT		SET MAG NAIL & DISK "CARDNO LB 7975" U.O.N.
	CONCRETE POWER POLE		IRRIGATION BOX		UNKNOWN UTILITY VAULT		CONCRETE
	CONCRETE POST		IRRIGATION VALVE		UNKNOWN UTILITY MANHOLE		
	DRAINAGE MANHOLE		LIGHT POLE				
	ELECTRICAL BOX		MAIL BOX				
	ELECTRIC OUTLET		METAL POWER POLE		WATER MANHOLE		
	ELECTRIC MANHOLE		MITERED END		WATER LINE FLAG		
	ELECTRIC METER		WELL OR MONITORING WELL		WATER METER		
	ELECTRIC TRANSFORMER W/ PAD				WATER VALVE		
					WOOD POST		
	ELECTRIC FLAG		PARKING PAY METER		WOOD SUPPORT POLE		
	EXISTING ELEVATION		POWER POLE		YARD DRAIN		
	FENCE - BARBED WIRE		POWER POLE w/RISER		CROSS WALK SIGNAL POLE		
	FENCE - CHAIN LINK / U.O.N.		PROPANE VALVE		CROSS WALK BUTTON POLE		
	FENCE - WOOD / U.O.N.				BUSH		
	FIBER OPTIC MARKER / POST		RECLAIM WATER LINE FLAG		CABBAGE PALM		
	FIBER OPTIC BOX		SEWER LINE FLAG		OAK TREE		
	FIRE HYDRANT				PALM TREE		
	FIRE VALVE		SEWER MANHOLE		PINE TREE		
	FLAG POLE		SEWER VALVE		SHADE TREE (VARIOUS TYPE)		
			SECURITY SENSOR				
			SIGN SINGLE POST				
			SIGN DOUBLE POST				

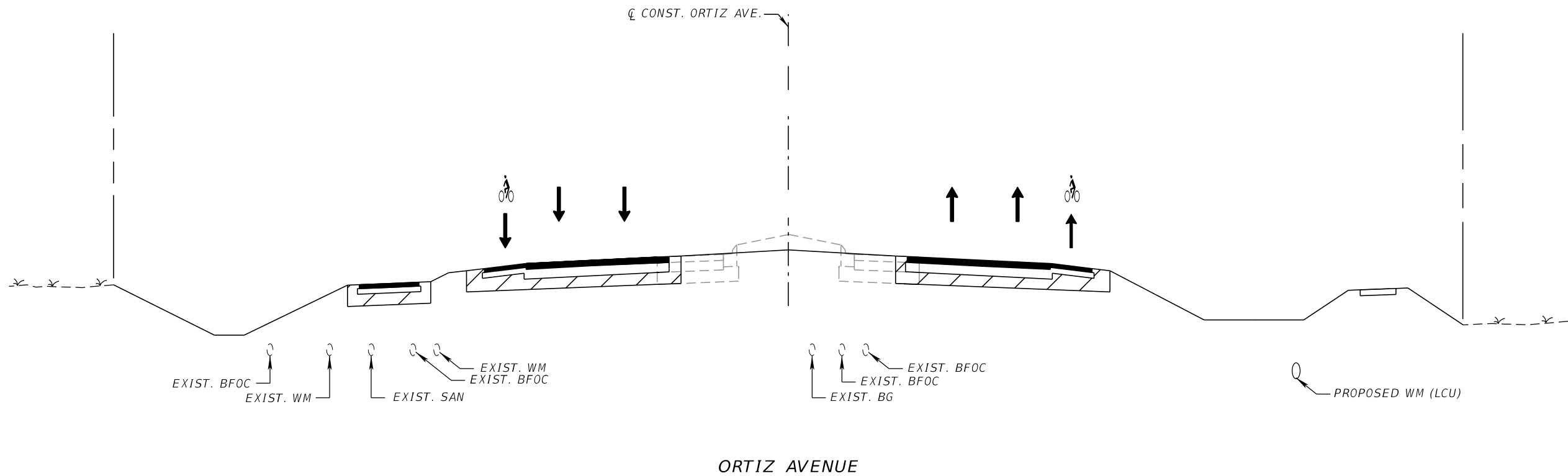
EXISTING UTILITIES LEGEND

<i>G(D)-</i>	- - -	EXISTING GAS MAIN
<i>S(D)-</i>	- - -	EXISTING SANITARY
<i>S(D)-</i>	- - -	EXISTING SANITARY FORCE MAIN
<i>NPW(B)-</i>	-	EXISTING RELCLAIMED WATER
<i>NPW(D)-</i>	-	EXISTING RELCLAIMED WATER
<i>W(D)-</i>	- - -	EXISTING WATER MAIN
<i>OE</i>	- - - -	EXISTING OVERHEAD ELECTRIC
<i>BE(D)-</i>	- -	EXISTING BURIED ELECTRIC
<i>BT(D)-</i>	- -	EXISTING BURIED TELEPHONE
<i>BFOC(D)-</i>	-	EXISTING BURIED FIBER OPTIC

SURVEY ABBREVIATIONS:

AC. = ACRE	MH = MANHOLE
A.C. = AIR CONDITIONER	MHWL = MEAN HIGH WATER LINE
A.K.A. = ALSO KNOWN AS	MISC. = MISCELLANEOUS
ALUM. = ALUMINUM	MON = MONUMENT
APPR. = APPROXIMATE	NAD = NORTH AMERICAN DATUM
ASPH. = ASPHALT	N.A.V.D. = NORTH AMERICAN VERTICAL DATUM
AVE. = AVENUE	NGS = NATIONAL GEODETIC SURVEY
BLDG. = BUILDING	N.G.V.D. = NATIONAL GEODETIC VERTICAL DATUM (1929)
BLVD. = BOULEVARD	No. = NUMBER
BM = BENCHMARK	N.T.S. = NOT TO SCALE
BOC = BACK OF CURB	N.T.T. = NAIL & TIN TAB
BOW = BACK OF WALK	O/H = OVERHANG
BSM = BUREAU OF SURVEYING AND MAPPING	O.H.W.L. = ORDINARY HIGH WATER LINE
(C) = CALCULATED	O.H.W.M. = ORDINARY HIGH WATER MARK
CATV = CABLE TELEVISION	O.R. = OFFICIAL RECORD BOOK / PAGE
CB = CATCH BASIN	(P) = PLAT
CBS = CONCRETE BLOCK STRUCTURE	PB = PLAT BOOK
C.C.R. = CERTIFIED CORNER RECORD	P.C. = POINT OF CURVATURE
CDB = CHORD BEARING	PCP = PERMANENT CONTROL POINT
CH = CHORD	PG (S) . = PAGE(S)
CLF = CHAIN LINK FENCE	P.I. = POINT OF INTERSECTION
CM = CONCRETE MONUMENT	PKN&D = PARKER-KALON NAIL & DISK
CMP = CORRUGATED METAL PIPE	PKWY. = PARKWAY
C.O. = CLEANOUT	PL = PROPERTY LINE
CONC. = CONCRETE	PLS = PROFESSIONAL LAND SURVEYOR
CONT. = CONTROL	P.O.B. = POINT OF BEGINNING
CPP = CORRUGATED PLASTIC PIPE	P.O.C. = POINT OF COMMENCEMENT
COR. = CORNER	P.O.T. = POINT OF TERMINUS
CORP. = CORPORATION	PP = POWER POLE
C.P. = CONTROL POINT	P.R.M. = PERMANENT REFERENCE MONUMENT
C.R. = COUNTY ROAD	PROP. = PROPERTY
CT. = COURT	PSM = PROFESSIONAL SURVEYOR AND MAPPER
C.U.E. = COUNTY UTILITY EASEMENT	PT. = POINT
(D) = DEED	P.T. = POINT OF TANGENCY
D.E. = DRAINAGE EASEMENT	P.U.E. = PUBLIC UTILITY EASEMENT
(DESC.) = DESCRIPTION	PVC = POLY VINYL CHLORIDE
DH = DRILL HOLE	R = RADIUS OR RIGHT
DIA. = DIAMETER	(R) = RECORD
DR. = DRIVE	RCP = REINFORCED CONCRETE PIPE
DWG. = DRAWING	RGE = RANGE
EL. = ELEVATION	RLS = REGISTERED LAND SURVEYOR
ELEC. = ELECTRIC	R.R. = RAILROAD
EOP = EDGE OF PAVEMENT	RT = RIGHT
EQW = EDGE OF WATER	RTA = RIGHT ANGLE
ERCP = ELLIPTICAL REINFORCED CONCRETE PIPE	RTK = REAL TIME KINEMATIC
ESMT. = EASEMENT	R/W = RIGHT-OF-WAY
EXIST. = EXISTING	SEC. = SECTION
(F) = FIELD	S.F. = SQUARE FEET
FDEP = FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	SFWMD = SOUTH FLORIDA WATER MANAGEMENT DISTRICT
FDOT = FLORIDA DEPARTMENT OF TRANSPORTATION	SHT. = SHEET
FEMA = FEDERAL EMERGENCY MANAGEMENT AGENCY	S.R. = STATE ROAD
F.F. = FINISHED FLOOR	S.S. = SANITARY SEWER
FND = FOUND	STA. = STATION
FPL OR FP&L = FLORIDA POWER & LIGHT	ST. = STREET
F.S. = FLORIDA STATUTES	SWFWMD = SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
FT. = FOOT / FEET	T = TANGENT
GLO = GENERAL LAND OFFICE	TEL = TELEPHONE
GPS = GLOBAL POSITIONING SYSTEM	TIIF = TRUSTEES OF THE INTERNAL IMPROVEMENT FUND OF THE STATE OF FLORIDA
I.D. = IDENTIFICATION	TIITF = BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA
I.D.D. = IONA DRAINAGE DISTRICT	TOB = TOP OF BANK
I.N. = INSTRUMENT NUMBER	TOE = TOE OF SLOPE
INC. = INCORPORATED	T.P. = TRAVERSE POINT
INST. = INSTRUMENT	TRANS. = TRANSITION
INV. = INVERT	TWP = TOWNSHIP
I.P. = IRON PIPE	TYP = TYPICAL
IR = IRON ROD (5/8" DIA. U.O.N.)	U.E. = UTILITY EASEMENT
IRC OR IR&C = IRON ROD & CAP	U.O.N. = UNLESS OTHERWISE NOTED
IRR. = IRRIGATION	USGS = UNITED STATES GEOLOGICAL SURVEY
L = LENGTH	VRS = VIRTUAL REFERENCE STATION
LABINS = LAND BOUNDARY INFORMATION SYSTEM (STATE OF FLORIDA)	w/ = WITH
LAT = LATITUDE	Y.D. = YARD DRAIN
LB = LICENSED BUSINESS	Δ = DELTA ANGLE
LN. = LANE	± = MORE OR LESS
LONG = LONGITUDE	# = NUMBER
LS = LICENSED SURVEYOR	" " = STAMPING OF CAP OR DISK
LT = LEFT	
(M) = MEASURED	
MAG = MAGNETIC	
ME = MITERED END	

REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			LEGEND, SYMBOLS, & ABBREVIATIONS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-2
					ORTIZ AVE.	LEE	18-0016		



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-3

LEE COUNTY UTILITIES STANDARD NOTES:

1. ALL WORK SHALL CONFORM TO LATEST REVISION OF THE LCU DESIGN MANUAL WHICH IS AVAILABLE ON OUR WEB-PAGE VIA THE FOLLOWING LINK:
HTTPS://WWW.LEEGOV.COM/UTILITIES/DESIGN-MANUAL

2. ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH AS WELL.

3. ANY QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY LCU.

4. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS THAT MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.

5. ALL CONSTRUCTION WORK PERFORMED MUST BE DONE BY A CONTRACTOR LICENSED IN THE STATE OF FLORIDA TO DO THE WORK INTENDED.

6. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE WORK MAY BEGIN. REQUIRED ATTENDEES INCLUDE BUT ARE NOT LIMITED TO; THE ENGINEER OF RECORD OR HIS DESIGNEE, THE UNDERGROUND CONTRACTOR AND THE LCU INSPECTOR ASSIGNED TO THE PROJECT. LCU IS TO BE NOTIFIED TWO (2) WORKING DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING.

7. ONE COPY OF THE LCU APPROVED/STAMPED CONSTRUCTION PLANS, ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND TECHNICAL DOCUMENTS SUBMITTED MUST BE KEPT AT THE SITE AND MAINTAINED IN GOOD ORDER.

8. ALL WORK AND MATERIALS, WHICH DO NOT CONFORM TO LCU SPECIFICATIONS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

9. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF LCU IS SUBJECT TO RE-EXCAVATION, REMOVAL AND REPLACEMENT OF SAME TO BE DONE AT THE CONTRACTOR'S EXPENSE.

10. LCU INSPECTION STAFF IS TO BE PRESENT FOR ALL HOT TAPS, PRESSURE TESTS, LIFT STATION START-UPS AND FOR ANY NECESSARY INSPECTION. THE CONTRACTOR IS TO PROVIDE A MINIMUM OF TWO (2) WORKING DAYS NOTICE PRIOR TO SCHEDULING ANY OF THE ABOVE WITH THE EXCEPTION OF THE LIFT STATION START-UP WHICH REQUIRES ONE-WEEK NOTICE.

11. TRAFFIC MUST BE MAINTAINED AT ALL TIMES AS PER LEE COUNTY DEPARTMENT OF TRANSPORTATION (LCDOT) AND PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

12. THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE BEGINNING CONSTRUCTION.

13. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. LCU WILL NOT GUARANTEE ANY LOCATIONS AS SHOWN ON THESE PLANS OR THOSE OMITTED FROM THESE PLANS.

14. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND PROVIDE AT LEAST TWO (2) WORKING DAYS NOTICE TO THE INDIVIDUAL UTILITY COMPANIES, FDOT AND LCDOT PRIOR TO CONSTRUCTION.

15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND TAKE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO ALL UNDERGROUND PIPELINES, TELEPHONE, CABLE TV, ELECTRIC LINES/CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY OCCUR DUE TO HIS FAILURE TO EXACTLY LOCATE AND PROTECT EXISTING UTILITIES AND STRUCTURES.

16. ANYTHING NOT SHOWN ON THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT CONSTITUTE AN EXTRA, UNLESS APPROVED BY THE ENGINEER OF RECORD.

17. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND LCU IMMEDIATELY CONCERNING ANY CONFLICTS WITH LCU UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.

18. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCIES IN QUANTITIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND LCU.

19. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, ETC., WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION TO ITS ORIGINAL CONDITION, OR BETTER.

20. WITHIN THE FDOT AND LCDOT RIGHT-OF-WAY, ALL DISTURBED AREAS SHALL RECEIVE GRASSING (SEEDING) OR SODDING MATERIALS IN ACCORDANCE WITH FDOT SPECIFICATIONS. THOSE AREAS THAT ARE CLASSIFIED AS DRAINAGE DITCHES SHALL RECEIVE FULL SOLID SOD.

21. ALL FRAMES, COVERS VALVE BOXES, METER BOXES AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF PAVING OR RELATED CONSTRUCTION. ALL VALVE PADS SHALL BE POURED IN PLACE. NO PRE-FORMED VALVE PADS WILL BE ALLOWED.

22. APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BALES) WILL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH LEE COUNTY'S NPDES PERMIT.

23. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.

24. LCU REQUIRES 30" OF COVER FOR ALL UNDERGROUND PIPING EXCEPT UNDER PAVEMENT, WHERE 36" OF COVER IS REQUIRED. IF LCU REQUIRED COVER CANNOT BE MAINTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHODS OF CONSTRUCTION OR PIPE PROTECTION, WHICH SHALL FIRST BE APPROVED BY LCU AND THE ENGINEER, AT NO ADDITIONAL COST TO THE COUNTY. IF STATE AGENCIES REQUIRE ADDITIONAL COVER, MEETING THE REQUIREMENTS SHALL BE DONE AT NO ADDITIONAL COST TO THE COUNTY.

25. LCU REQUIRES THERE TO BE A MINIMUM OF TEN (10) FEET HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN POTABLE WATER & SANITARY SEWER MAINS. LCU ALSO REQUIRES MINIMUM OF TEN (10) FEET HORIZONTAL SEPARATION BETWEEN OTHER PUBLIC AND/OR PRIVATE UTILITIES, STRUCTURE(S), BUILDING(S), WALL(S), FOUNTAIN(S), FENCE(S) AND LCU INFRASTRUCTURE UNLESS SPECIFICALLY APPROVED BY LCU.

26. LCU REQUIRES THERE TO BE A MINIMUM OF FIVE (5) FEET HORIZONTAL SEPARATION BETWEEN LCU INFRASTRUCTURE AND DRAINAGE INFRASTRUCTURE, MITERED END SECTIONS, INLETS, ETC. LCU ALSO REQUIRES MINIMUM OF FIVE (5) FEET HORIZONTAL SEPARATION BETWEEN LCU INFRASTRUCTURE AND ALL NEW LIGHT POLE FOUNDATIONS.

27. THE ROOT BALL OF PALM TREES SHALL BE A MINIMUM OF FIVE (5) FEET AND THE ROOT BALL OF SHADE TREES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXISTING OR PROPOSED LCU OWNED AND MAINTAINED PIPE/INFRASTRUCTURE.

28. AS THE WORK PROGRESSES THE CONTRACTOR SHALL RECORD ALL CHANGES AND DEVIATIONS FROM THE LCU STAMPED/APPROVED CONSTRUCTION PLANS. IN ADDITION, HE SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT WITH COORDINATES WITH RESPECT TO THE NAVD 1988 STATE PLANE FLORIDA WEST COORDINATE SYSTEM AS WELL AS ALL REQUIREMENTS SET FORTH IN THE LCU DESIGN MANUAL. THIS INFORMATION IS TO BE FORWARDED TO THE ENGINEER OF RECORD WHO PREPARED, SIGNED AND SEALED THE APPROVED CONSTRUCTION PLANS SO THAT HE CAN PREPARE 'RECORD DRAWINGS' PER THE REQUIREMENTS SET FORTH IN THE LCU DESIGN MANUAL.

UTILITY OWNERS:

COMPANY

AT&T

CENTURY LINK

CITY OF FORT MYERS

COMCAST

CROWN CASTLE

FP&L DISTRIBUTION

LEE COUNTY UTILITIES

LEE COUNTY TECHNOLOGY

LEE COUNTY TRAFFIC

SUMMIT BROADBAND

TECO PEOPLES'S GAS

CONTACT

MICHAEL GAMBOA

EZEKIEL J. REID

ANGELO THOMAS

TIMOTHY GREEN

MATTHEW JONES

JUAN CRUZ

DAVID REYCRAFT

RICHARD PARKER

MICHAEL PADGETT

DEAN HUDDLESTUN

ANTHONY BAUBLITZ

TELEPHONE NO.

863-888-8300

239-791-1299

239-321-7463

239-318-1524

786-610-7059

941-423-4842

239-533-8150

239-533-7370

239-533-9500

239-404-8289

941 342 4025

POTABLE WATER LINE NOTES

1. THE ENDS OF ALL CAPPED POTABLE WATERLINES SHALL BE MARKED WITH ELECTRONIC MARKERS AND 2"x4" STAKES 5' IN LENGTH WITH 2' ABOVE GROUND.

2. ALL PVC POTABLE WATERLINES SHALL BE AWWA C-900, DR18 CLASS 150 PVC RUBBER GASKETED PIPE WITH BELL AND SPIGOT ENDS UNLESS NOTED OTHERWISE.

3. ALL WATER SERVICES UNDER ROADWAY SHALL BE PLACED IN A SCHEDULE 40 CLASS 160 PVC CASING PIPE, UNLESS OTHERWISE NOTED.

4. THE CONTRACTOR SHALL PROVIDE AND INSTALL REFLECTIVE PAVEMENT MARKERS AS REQUIRED NEAR PROPOSED FIRE HYDRANTS. COST TO BE INCLUDED WITH FIRE HYDRANT ASSEMBLY.

5. THE CONTRACTOR SHALL PLACE PROPOSED VALVES AS SHOWN. THE VALVE BOX SHALL NOT BE LOCATED IN PAVEMENT, DRIVEWAY AREAS OR CURB LINES, UNLESS OTHERWISE NOTED.

6. PROPOSED WATERLINE FITTINGS ARE SHOWN AT BENDS IN WATERLINE. ADDITIONAL FITTINGS MAY BE REQUIRED TO BEND WATERLINE AS SHOWN. THESE ADDITIONAL FITTINGS SHALL BE SUPPLIED AS NEEDED AT NO ADDITIONAL EXPENSE TO THE OWNER.

7. ALL WATERLINES SHALL HAVE A MINIMUM COVER OF 30" AND A MAXIMUM OF 48" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.

8. ALL COMPONENTS OF THE POTABLE WATER SYSTEM SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL STANDARD NO. 61. ALL COMPONENTS, INSTALLATION AND TESTING OF THE POTABLE WATER SYSTEM SHALL BE IN ACCORDANCE WITH ALL APPLICABLE AWWA STANDARDS.

9. REMOVAL OF VALVES, FITTINGS, AND APPERTUNACES SHALL BE INCIDENTAL TO THE COST OF THE ASSOCIATED PIPE REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE MADE.

GENERAL UTILITY NOTES:

1. B.M. DATA IS NATIONAL AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

2. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE ENGINEER SHOULD NOTIFY LCU WITHOUT DELAY, BY TELEPHONE.

3. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY THROUGH SUNSHINE ONE-CALL OF FLORIDA, INC. (1-800-432-4770) AND SHALL ALSO NOTIFY THOSE UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN (2) FULL BUSINESS DAYS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION ON THE JOB SITE.

4. SHOP DRAWINGS FOR ALL WATER AND SEWER SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER IN CONJUNCTION WITH LCU FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.

5. ALL PROPOSED WATER MAINS AND RELATED SERVICES MUST BE INSTALLED, CHLORINATED, TESTED, CERTIFIED BY ENGINEER OF RECORD TO D.O.H. OR F.D.E.P. AND PLACED INTO SERVICE PRIOR TO EXISTING LINES BEING PLACED OUT OF SERVICE AND/OR REMOVED.

6. LEE COUNTY AND FDOT RIGHT OF WAY PERMITS WILL BE REQUIRED PRIOR TO ANY UTILITY WORK BEING PERFORMED WITHIN THE LEE COUNTY AND FDOT RIGHT OF WAY. THE LEE COUNTY RIGHT OF WAY PERMIT APPLICATION WILL REQUIRE A LDO APPROVED STAMPED SET OF PLANS TO BE PROVIDED BY LEE COUNTY UTILITIES. PERMIT FEES AND BONDING COSTS ARE AT THE CONTRACTOR'S EXPENSE WITH NO COMPENSATION FROM THE UTILITY OWNER.

7. THE CONTRACTOR AND/OR SUBCONTRACTOR MUST MEET OSHA, NEC AND ANY OTHER GOVERNING CRITERIA REGARDING CLEARANCE REQUIREMENTS FOR ENERGIZED POWER LINES.

8. CONTRACTOR SHALL ANTICIPATE DEWATERING FOR PIPE INSTALLATION IS NECESSARY. COST FOR DEWATERING SHALL BE INCLUDED IN THE COST OF THE WATERMAIN ITEMS. TRENCH BACKFILL INSTALLATION AND DEWATERING SHALL BE IN ACCORDANCE WITH LCU SPECIFICATIONS.

9. IF THE CONTRACTOR CHOOSES TO IMPLEMENT APPURTENANCES OR TECHNIQUES SUCH AS TRENCH BOXES, SHEET PILING, DEWATERING, FLATTEN TRENCH SLOPES, ETC. TO FACILITATE CONSTRUCTION, THESE ITEMS SHALL BE INCORPORATED INTO THE COST OF THE RELATED AVAILABLE PAY ITEM AND NO ADDITIONAL COMPENSATION WILL BE MADE BY THE OWNER.

10. THE CONTRACTOR SHALL BE AWARE OF THE POSSIBLE PRESENCE OF ROCK WITHIN THE PROJECTS LIMITS THAT MAY BE ENCOUNTERED WHILE PERFORMING EXCAVATIONS AND UNDERGROUND INSTALLATIONS. GEOTECHNICAL REPORTS WITH BORINGS ARE INCLUDED IN THE CONTRACT DOCUMENTS FOR INFORMATIONAL PURPOSES ONLY, AS THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR FINAL SUBSURFACE DETERMINATION. THE CONTRACTOR SHALL CONSIDER THE INCREASE IN COST FOR ALL UNDERGROUND WORK ACTIVITIES AND INCLUDE SUCH COSTS IN HIS BID. ALL COSTS ASSOCIATED WITH ENCOUNTERED ROCK OR ROCK-LIKE MATERIAL SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF WORK CONTAINED WITHIN THE CONTRACT. NO ADDITIONAL COMPENSATION WILL BE MADE.

REVISIONS

DATE

DESCRIPTION

DATE

DESCRIPTION

CARDNO, Inc.

1821 Victoria Avenue

Fort Myers, FL 33901

Ph. 239-337-3330

Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAME

COUNTY

DDAI PROJ. NO.

ORTIZ AVE.

LEE

18-0016

SHEET NO.

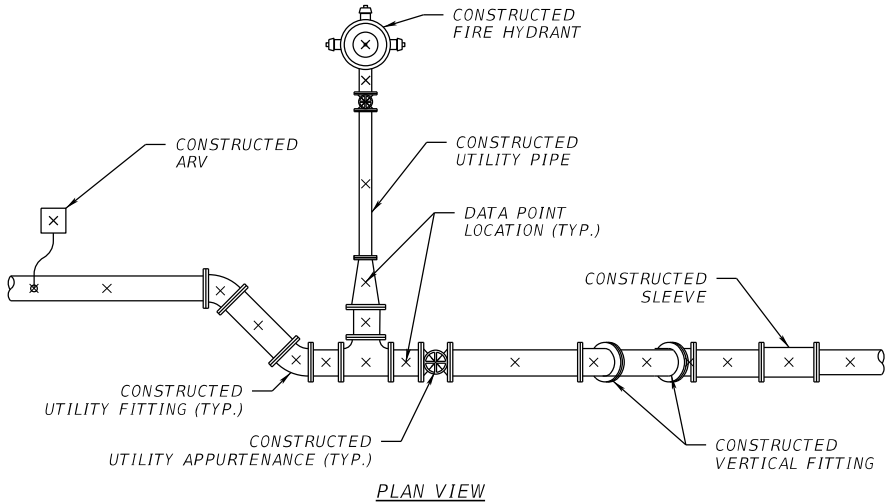
U-4

60% SUBMITTAL NOT FOR CONSTRUCTION

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4/27/2021 10:09:20 AM C:\Project\18-0016\utils\GNNTUW10.dgn

joann.winter



AS-BUILT COLLECTION NOTES:

- CONTRACTOR SHALL COLLECT POINT DATA AT:

ALL CONSTRUCTED UTILITY PIPE FITTINGS, APPURTENANCES, CHANGE IN DIRECTION, ETC.

ALL CONSTRUCTED UTILITY PIPE BETWEEN FITTINGS, APPURTENANCES, ETC.

ALONG CONSTRUCTED UTILITY PIPE AT NO MORE THAN 100' INTERVALS ALONG CONTINUOUS CONSTRUCTED UTILITY PIPE TO REPRESENT HORIZONTAL AND VERTICAL LOCATION.
- ALL COLLECTED POINT DATA SHALL INCLUDE UTILITY PIPE SIZE, TYPE, WALL THICKNESS (I.E. DR14, DR18, DR9, CL200, ETC.) & VERTICAL ELEVATION AS WELL AS MANUFACTURER AND DATE INSTALLED.

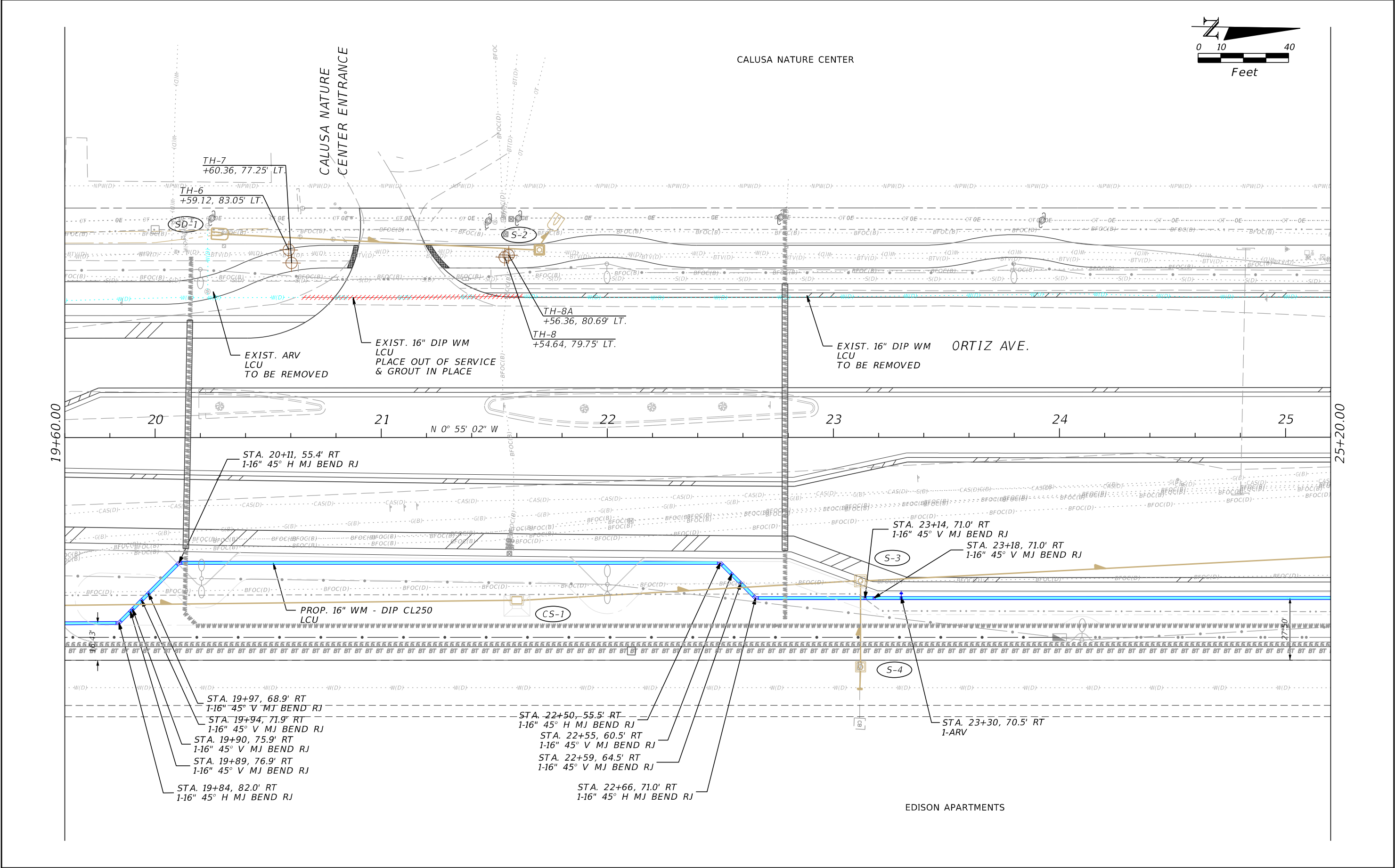
NOTE:
THE ABOVE SAMPLE EXHIBIT IS FOR REFERENCE ONLY, AS-BUILT POINT DATA COLLECTION SHALL COMPLY WITH TECHNICAL SPECS PROVIDED IN THE CONTRACT DOCUMENTS AND UTILITY COMPANY'S REQUIRED SPECIFICATIONS, WHICHEVER IS MORE INCLUSIVE.

AS-BUILT POINT COLLECTION LOCATION

AS-BUILT REQUIREMENTS:

- AT THE SITE KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER. AS THE WORK PROGRESSES THE CONTRACTOR IS TO RECORD ONE SET OF REPRODUCIBLE DRAWINGS NOTING ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL PLANS.
- INSTALLATION/REMOVAL/PLUGGING OF THE UTILITY PIPELINES IS TO INCLUDE AS-BUILT PLAN INFORMATION FURNISHED TO THE ENGINEER. THE AS-BUILT PLANS MUST IDENTIFY AND SATISFY THE LEE COUNTY AS-BUILT/RECORD DRAWING REQUIREMENTS WHICH INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT, TYPE OF MATERIAL, AND LOCATIONS OF MATERIAL CHANGES FOR ALL WATER, RECLAIMED WATER, AND SEWER LINES, CASINGS, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, CASINGS, SERVICE SIZE CONNECTIONS, GROUTING LIMITS, METER BOXES AND/OR PAD, AND OTHER PERTINENT STRUCTURES. PIPELINE RUNS IN EXCESS OF 100 FEET, WITHOUT FITTINGS, ARE TO INCLUDE VERTICAL ALIGNMENT INFORMATION AT 100 FOOT INTERVALS. SAID ALIGNMENT IS TO BE TIED TO STATE PLANE COORDINATES AND IS TO BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. ALL POINTS (X,Y,Z) PROVIDED ARE TO INDICATE THE SIZE, ELEVATION AND TYPE AND MATERIAL (INCLUDING CLASS OR DR) OF ITEM BEING IDENTIFIED. THE CONTRACTOR IS TO CONNECT THE AS-BUILT POINTS AND ENSURE THE ACCURACY OF THE DATA PRIOR TO PROVIDING THE DATA/DRAWINGS TO THE ENGINEER. CONTRACTOR SHALL PERFORM A QUALITY CONTROL REVIEW OF ALL INFORMATION PROVIDED TO THE ENGINEER. ENGINEER WILL RETURN ALL DRAWINGS AND DATA TO THE CONTRACTOR IF ANY INACCURACIES ARE FOUND AN/OR CORRECTIONS ARE NEEDED.
- AS-BUILTS WILL NOT BE DETERMINED ACCEPTABLE UNTIL LEE COUNTY ACCEPTS THE RECORD DRAWINGS. PAYMENT FOR AS-BUILTS WILL NOT BE MADE UNTIL LEE COUNTY ACCEPTANCE OCCURS. PAYMENT FOR THE AS-BUILTS WILL BE REDUCED IN ACCORDANCE WITH TIME SPENT BY THE ENGINEER TO PROVIDE A QA/QC ON THE CONTRACTORS INFORMATION BEYOND THE INITIAL RECEIPT & REVIEW OF THE INFORMATION AND DATA.
- PROVIDE GEO-REFERENCED OR STATION/OFFSET REFERENCED DIGITAL PICTURES (NO MORE THAN TWO PER LOCATION) FOR ALL TIE-INS AND FITTINGS PRIOR TO BACK FILL. SUBMIT TO THE ENGINEER ALL AS-BUILT INFORMATION OF CONSTRUCTED WORK ON NO MORE THAN A BIWEEKLY BASIS. IF DATA IS MISSING AND/OR INACCURATE, RE-EXCAVATE SUBJECT AREA TO OBTAIN REQUIRED INFORMATION AND RESTORE AREA AT NO ADDITIONAL EXPENSE TO LEE COUNTY. LIMITS OF RESTORATION WILL BE SUBJECT LEE COUNTY APPROVALS.

REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-5
					ORTIZ AVE.	LEE	18-0016		



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-7

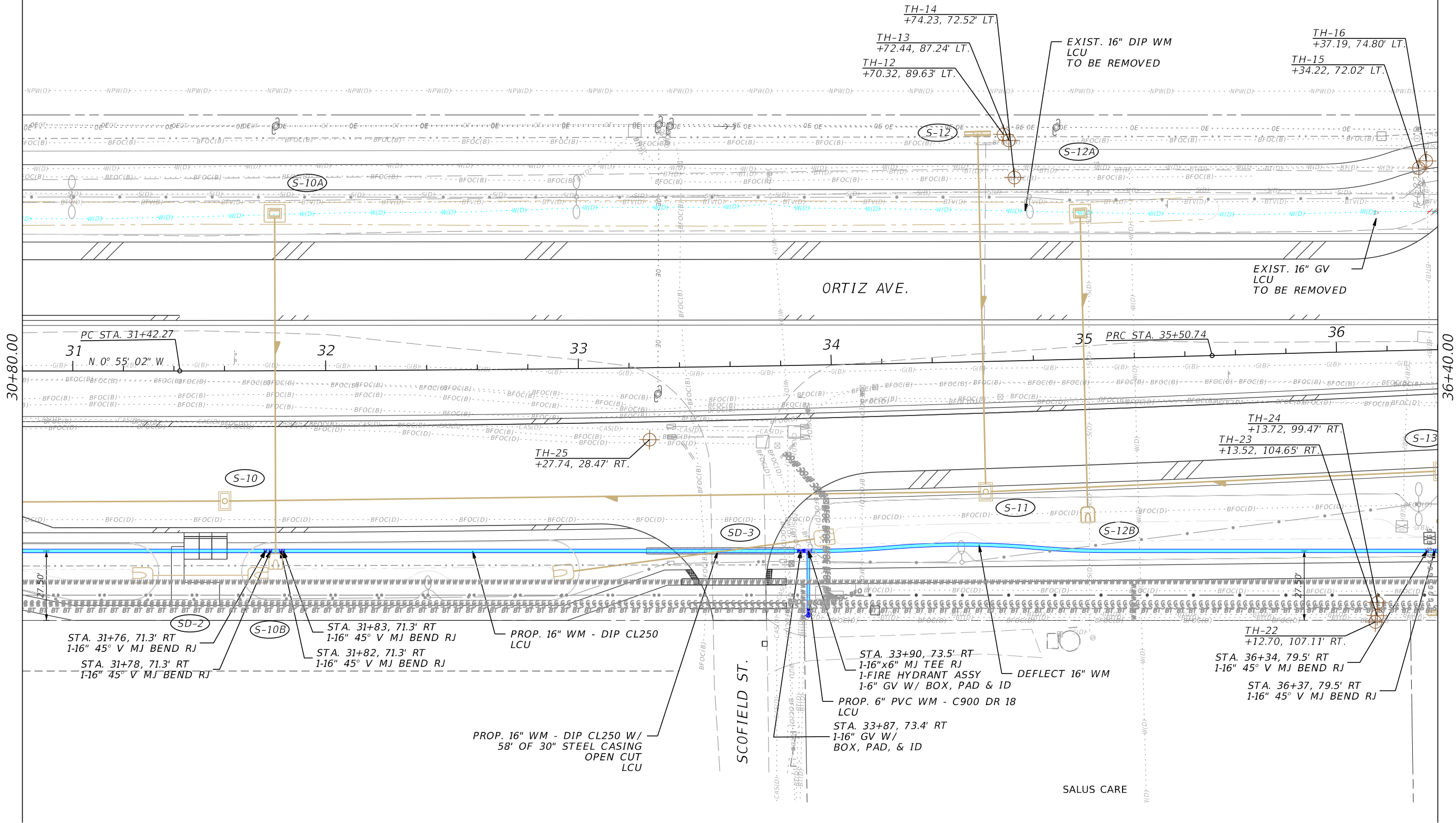
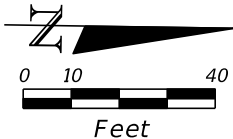
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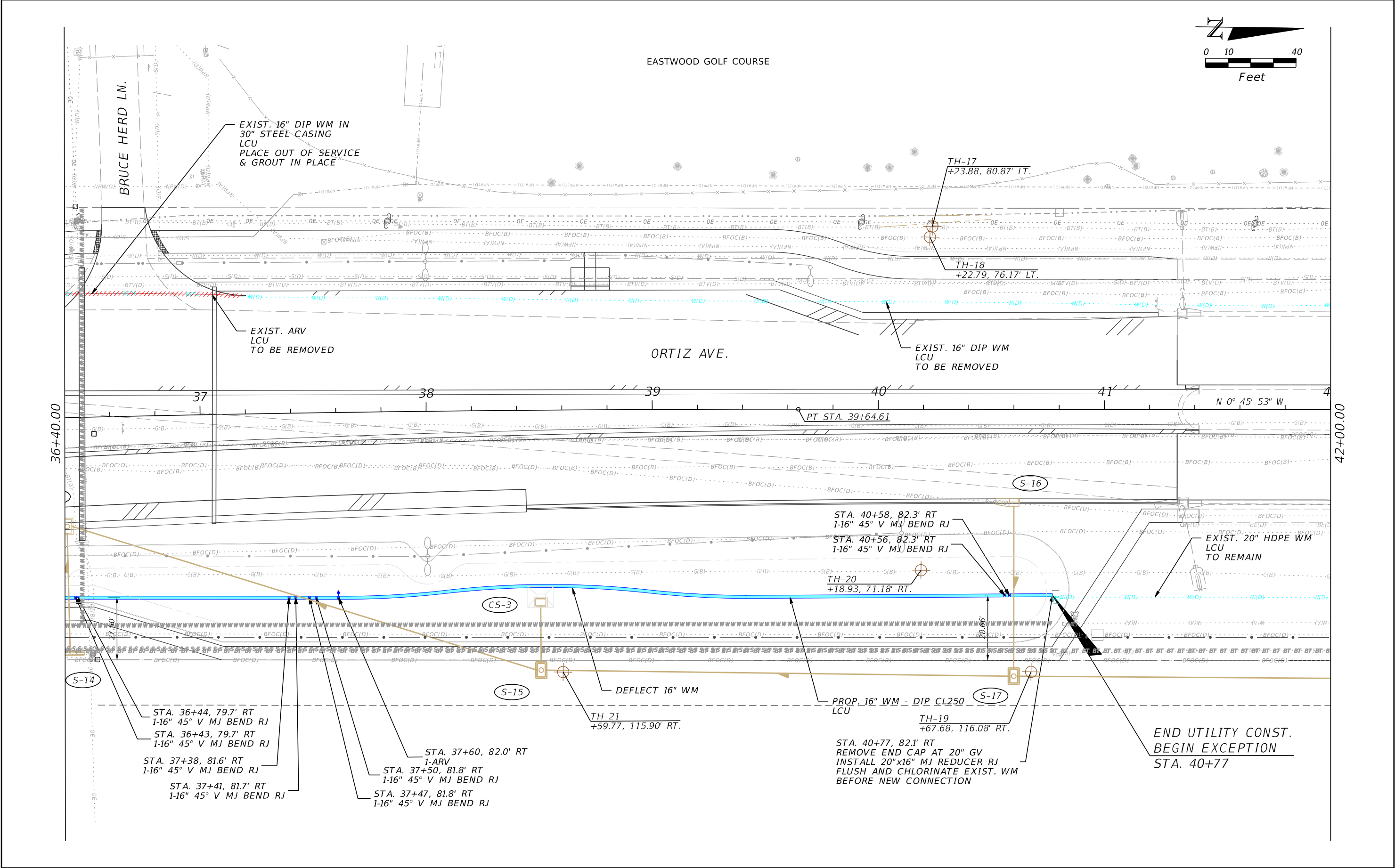


REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-8
					ORTIZ AVE.	LEE	18-0016		

CALUSA NATURE CENTER



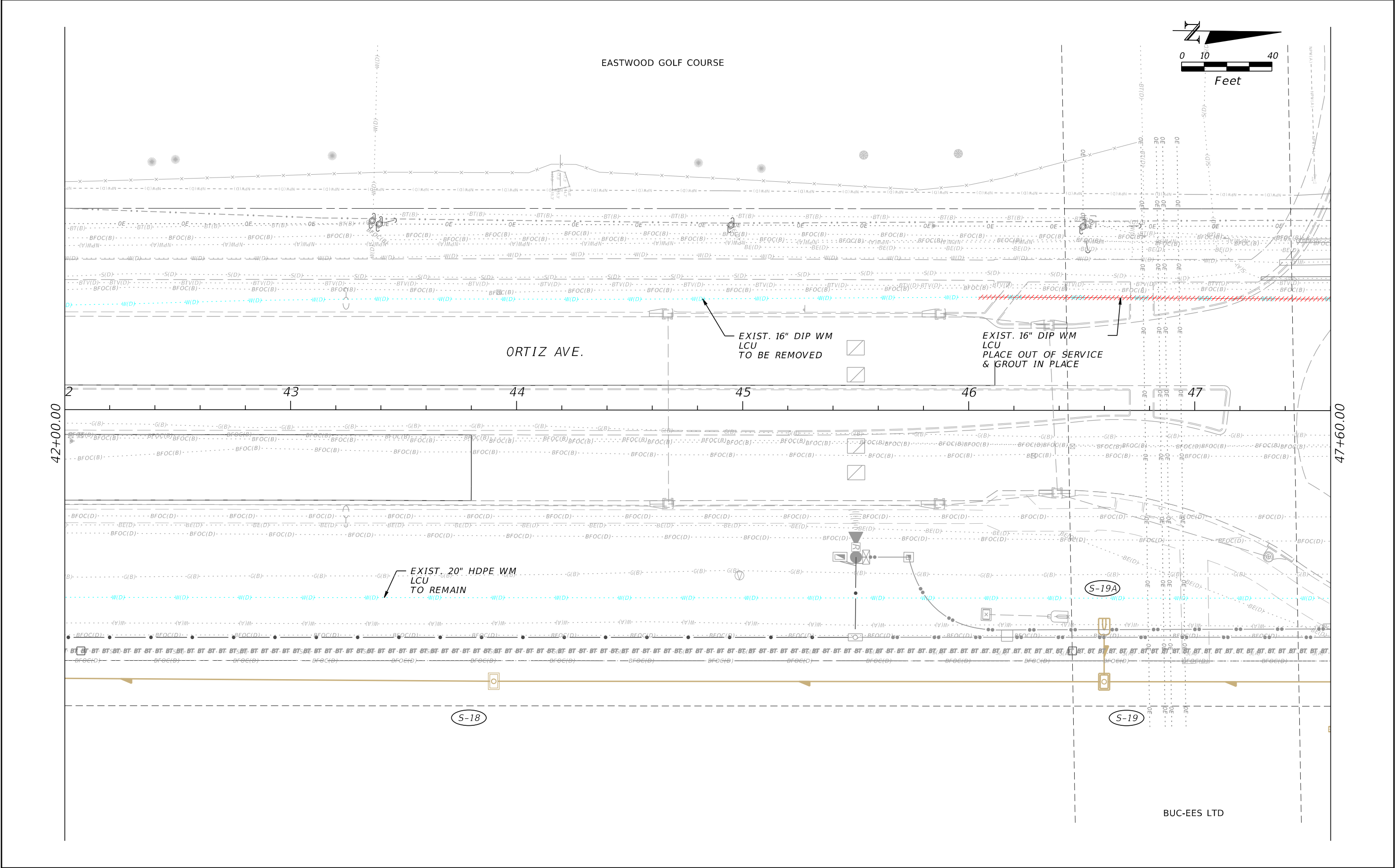
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO. U-9
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016	U-10	

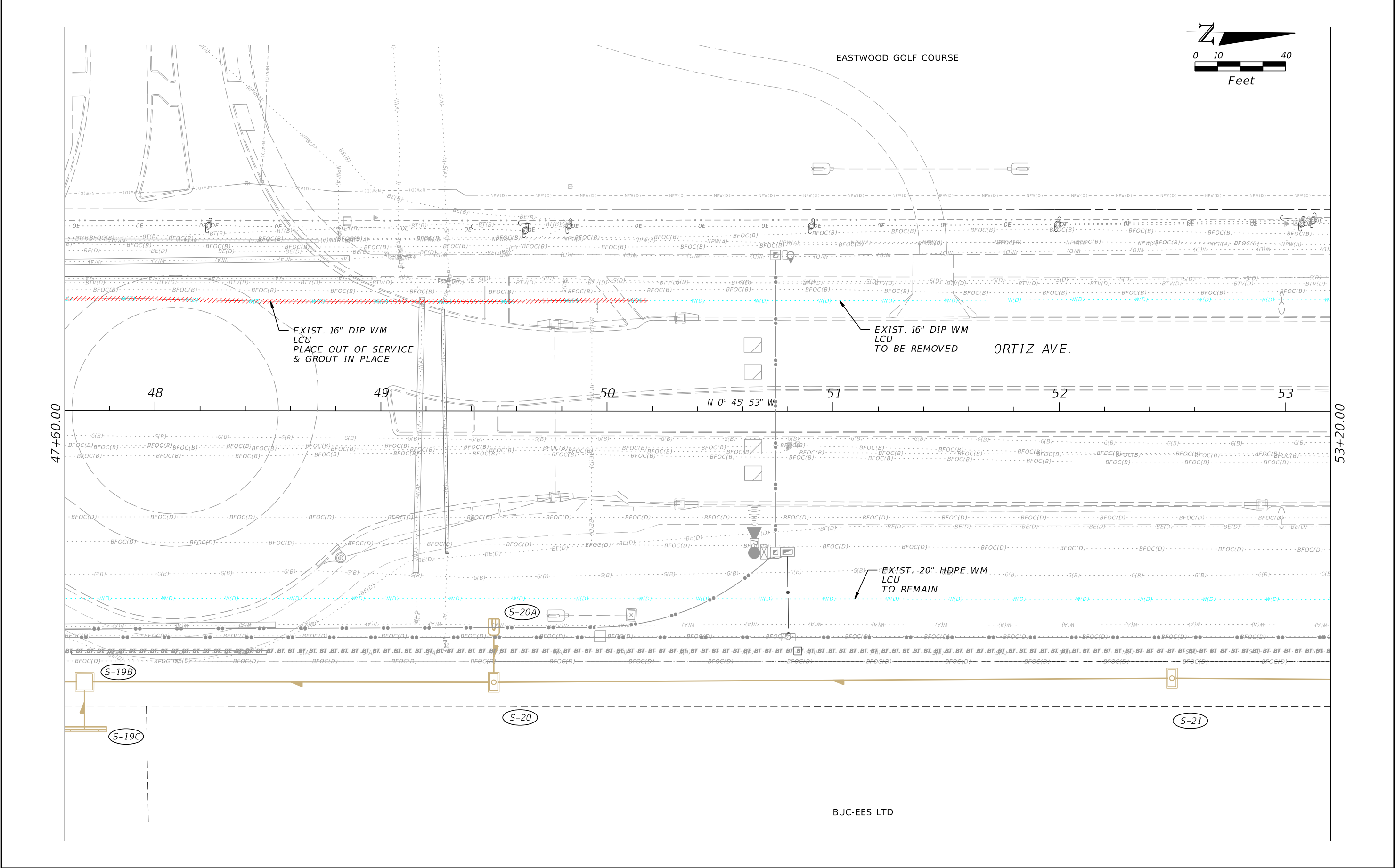
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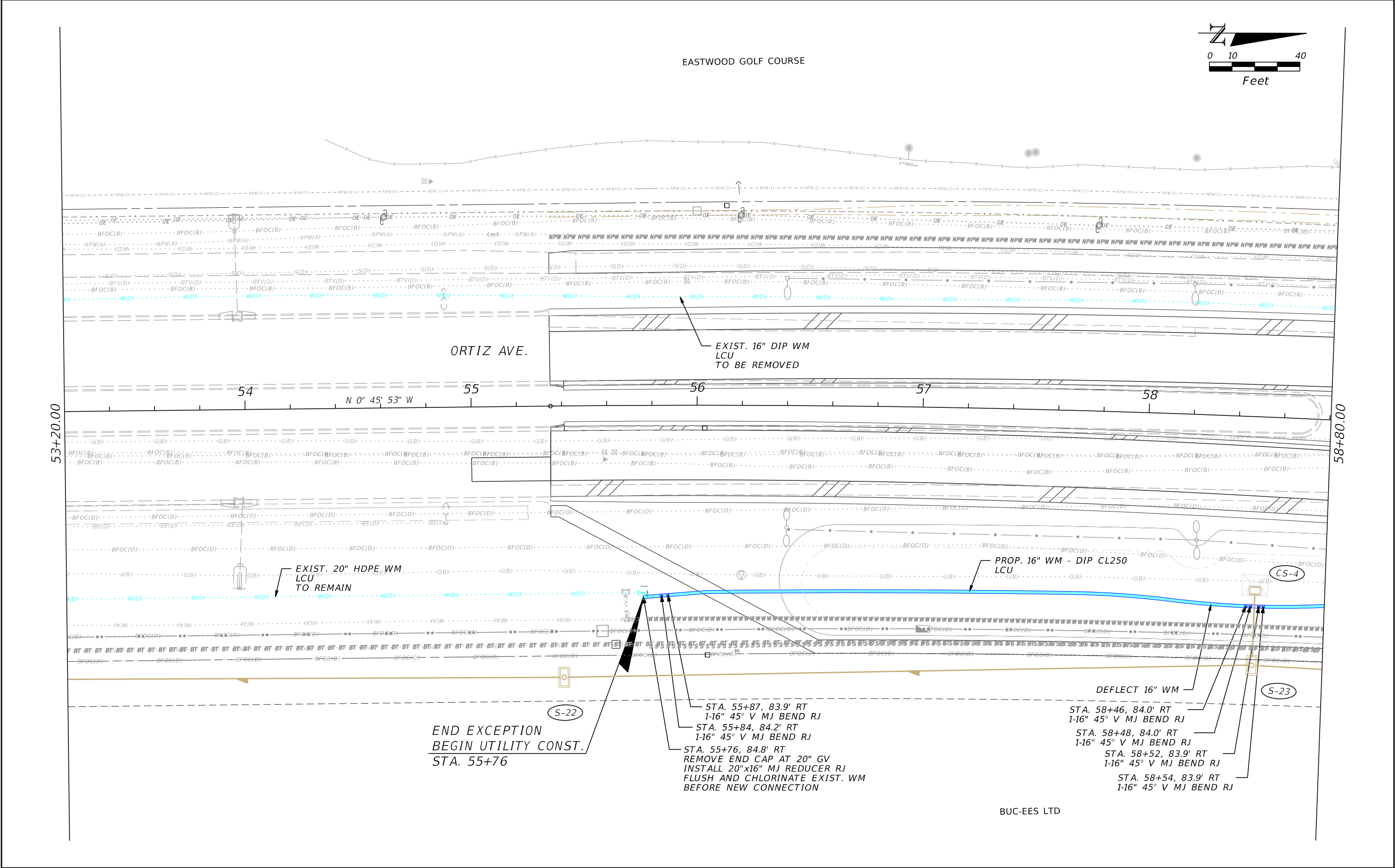
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-11

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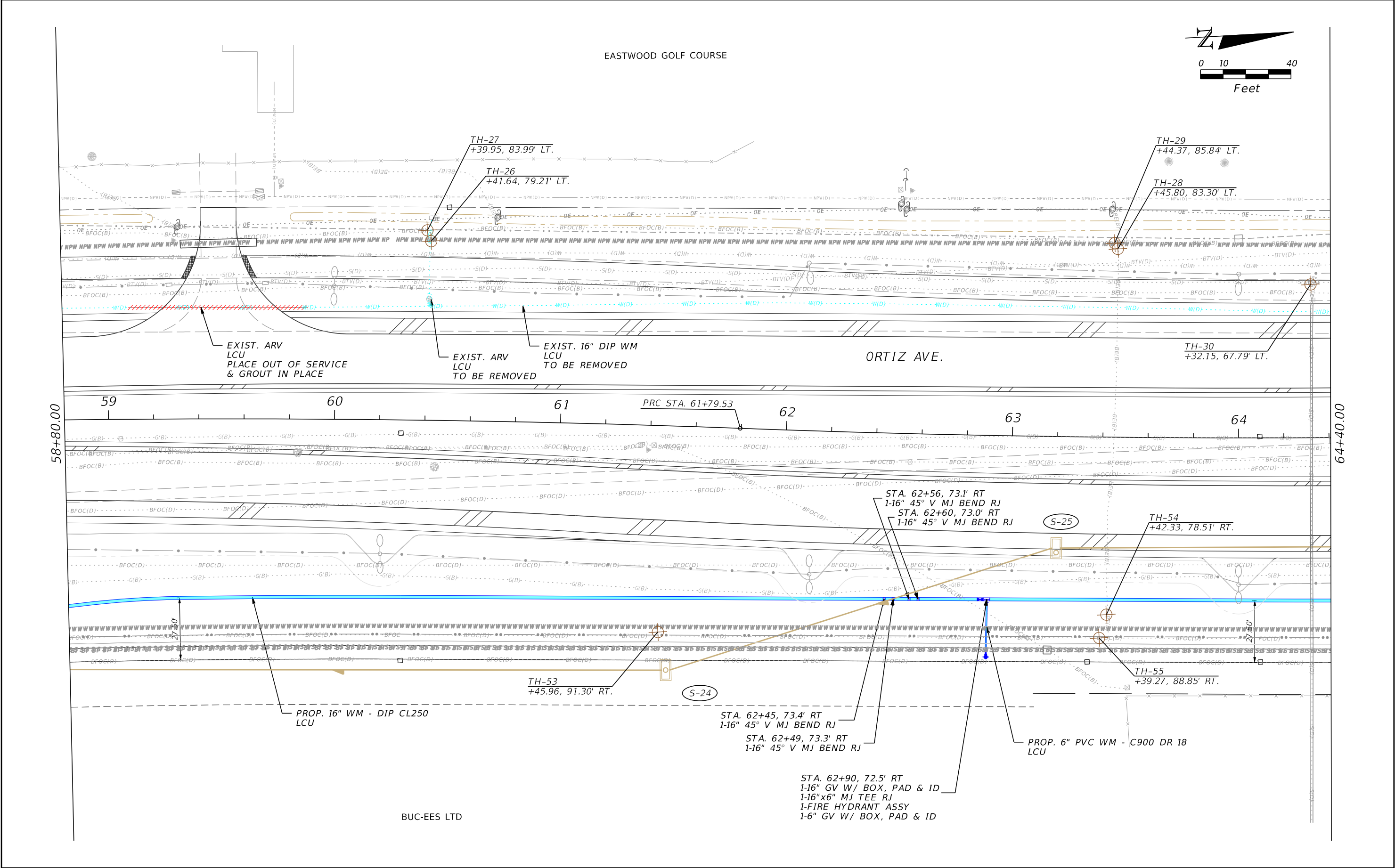


REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-12

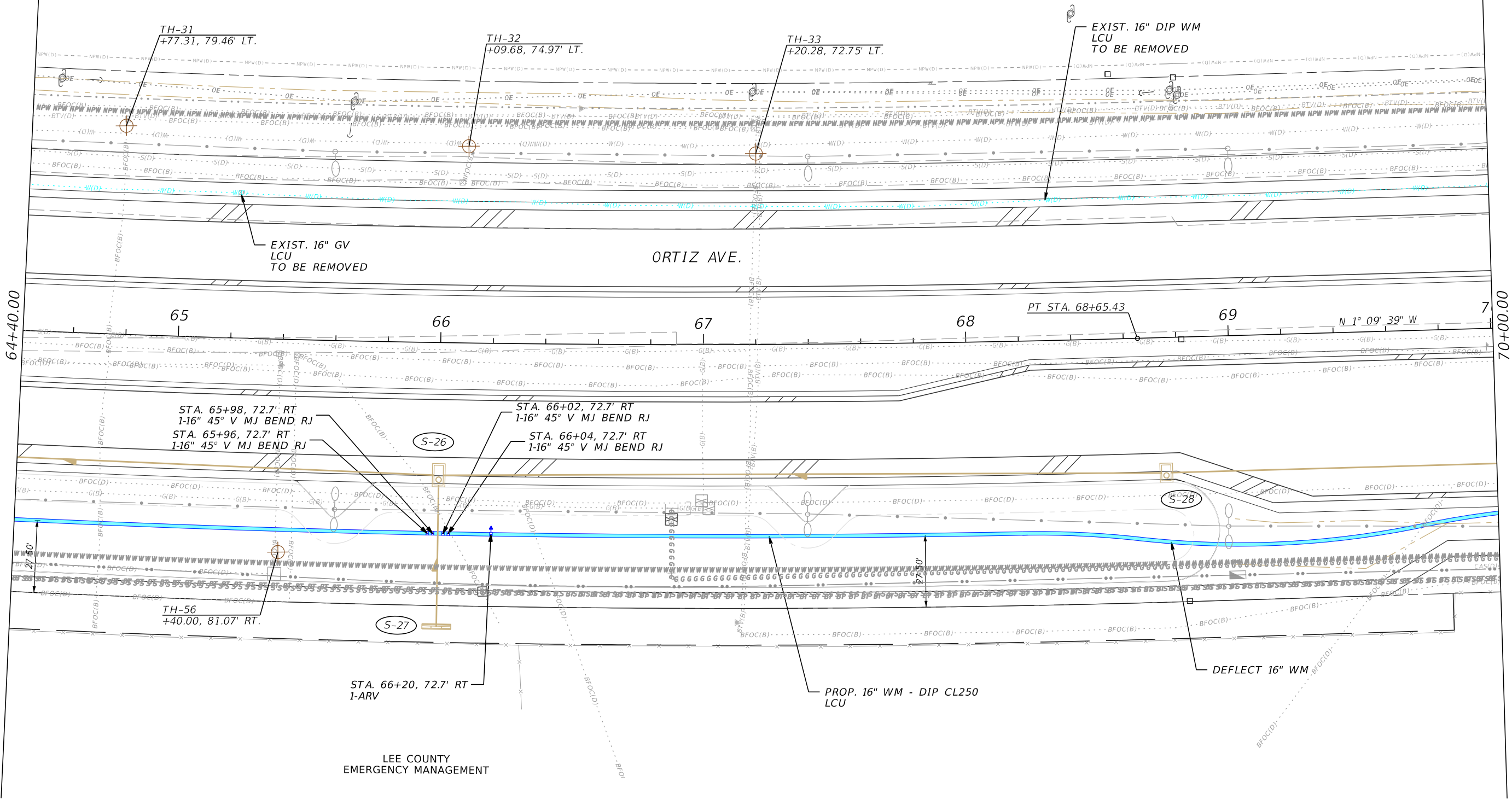
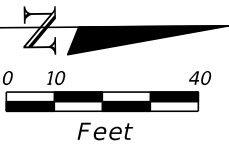
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016	U-13	

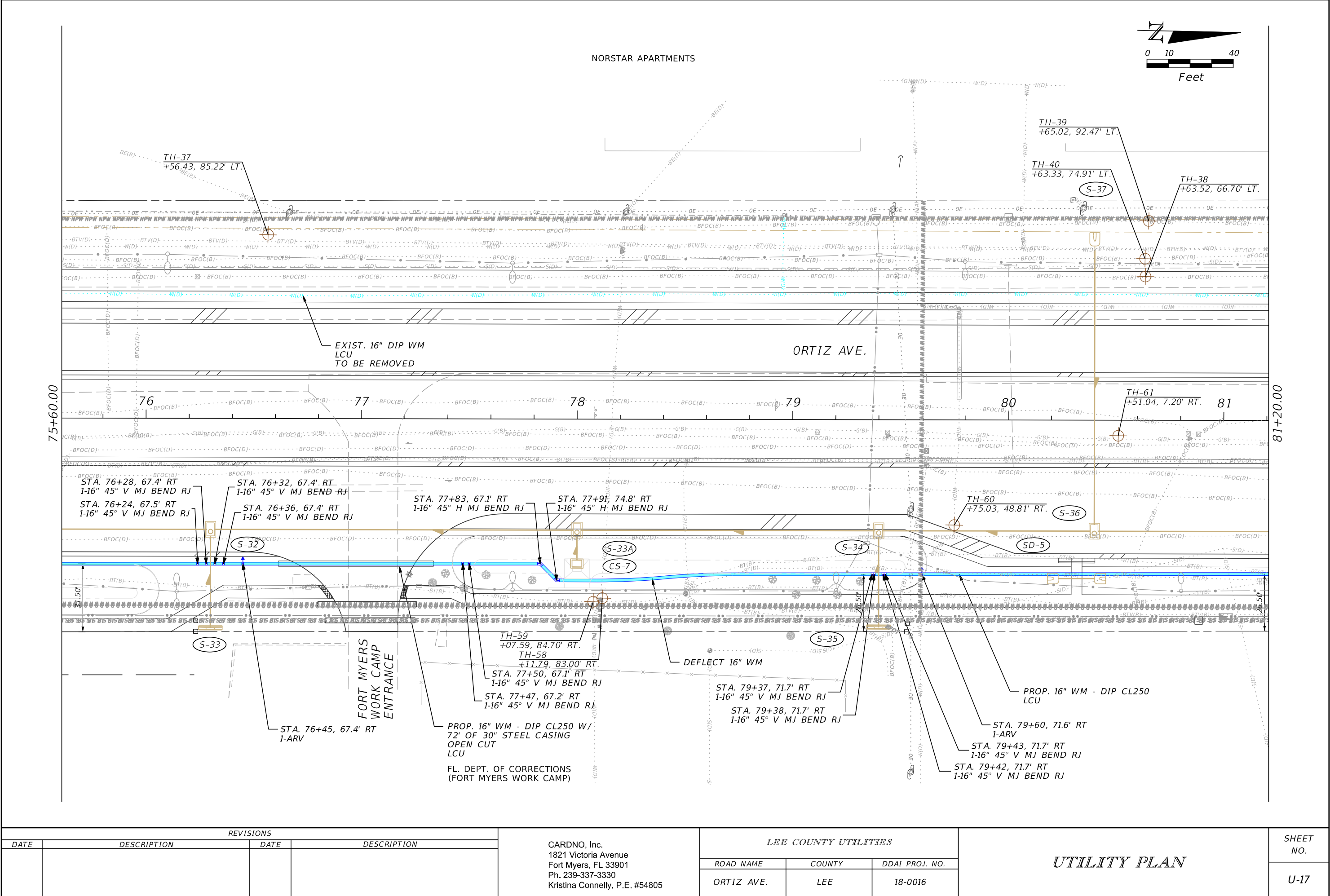


EASTWOOD GOLF COURSE



LEE COUNTY
EMERGENCY MANAGEMENT

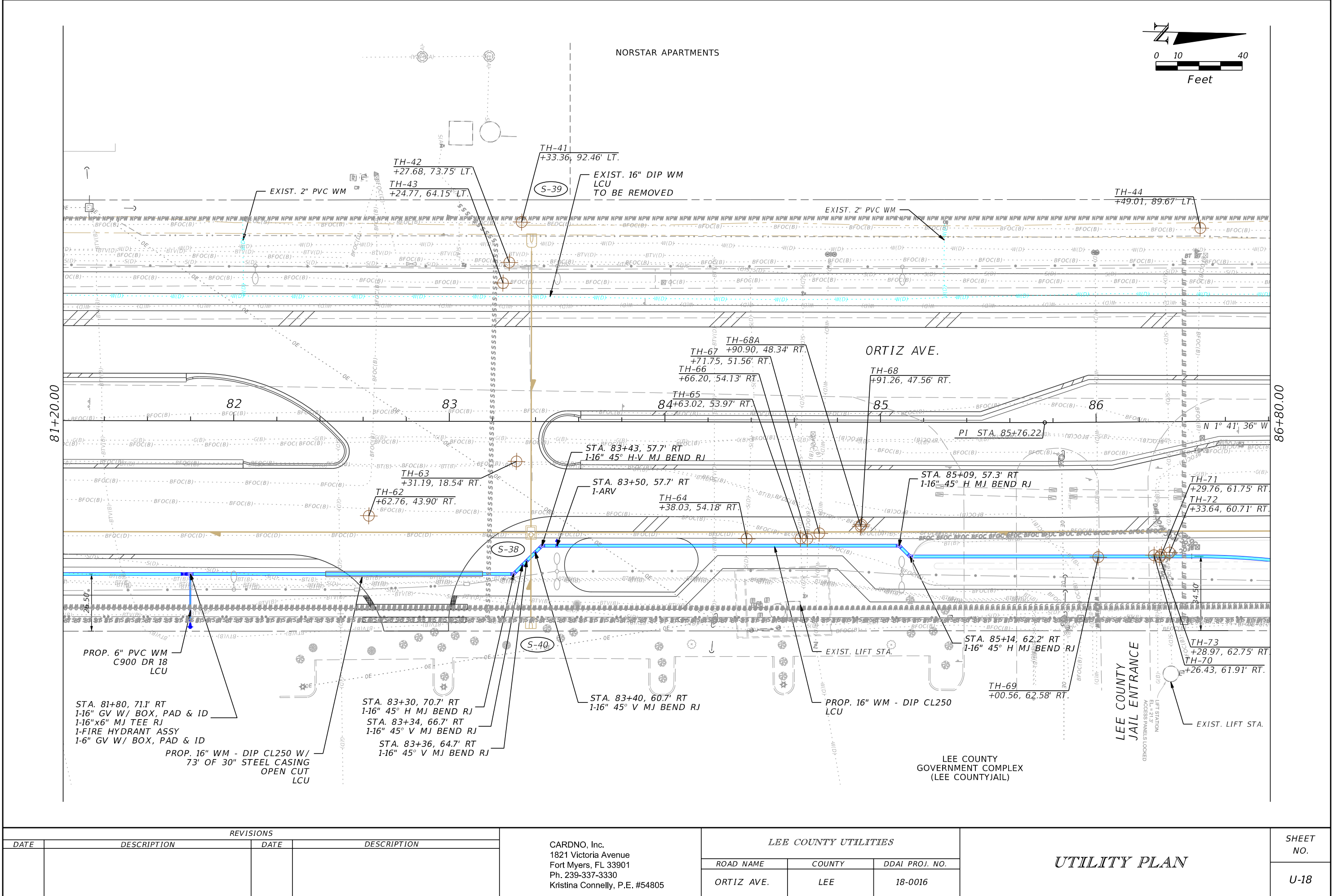
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-15
					ORTIZ AVE.	LEE	18-0016		



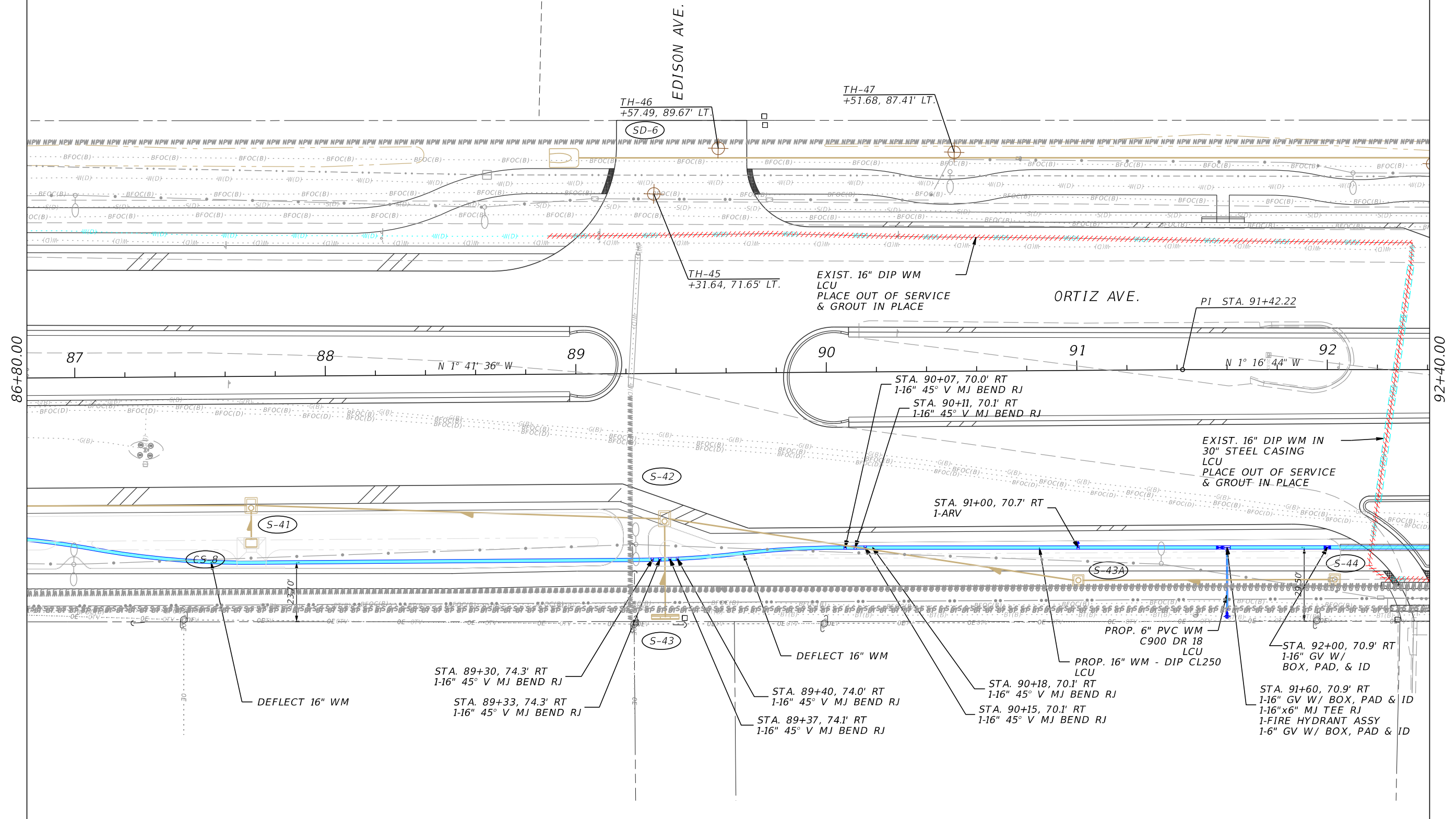
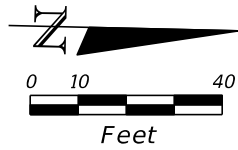
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO. U-17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		

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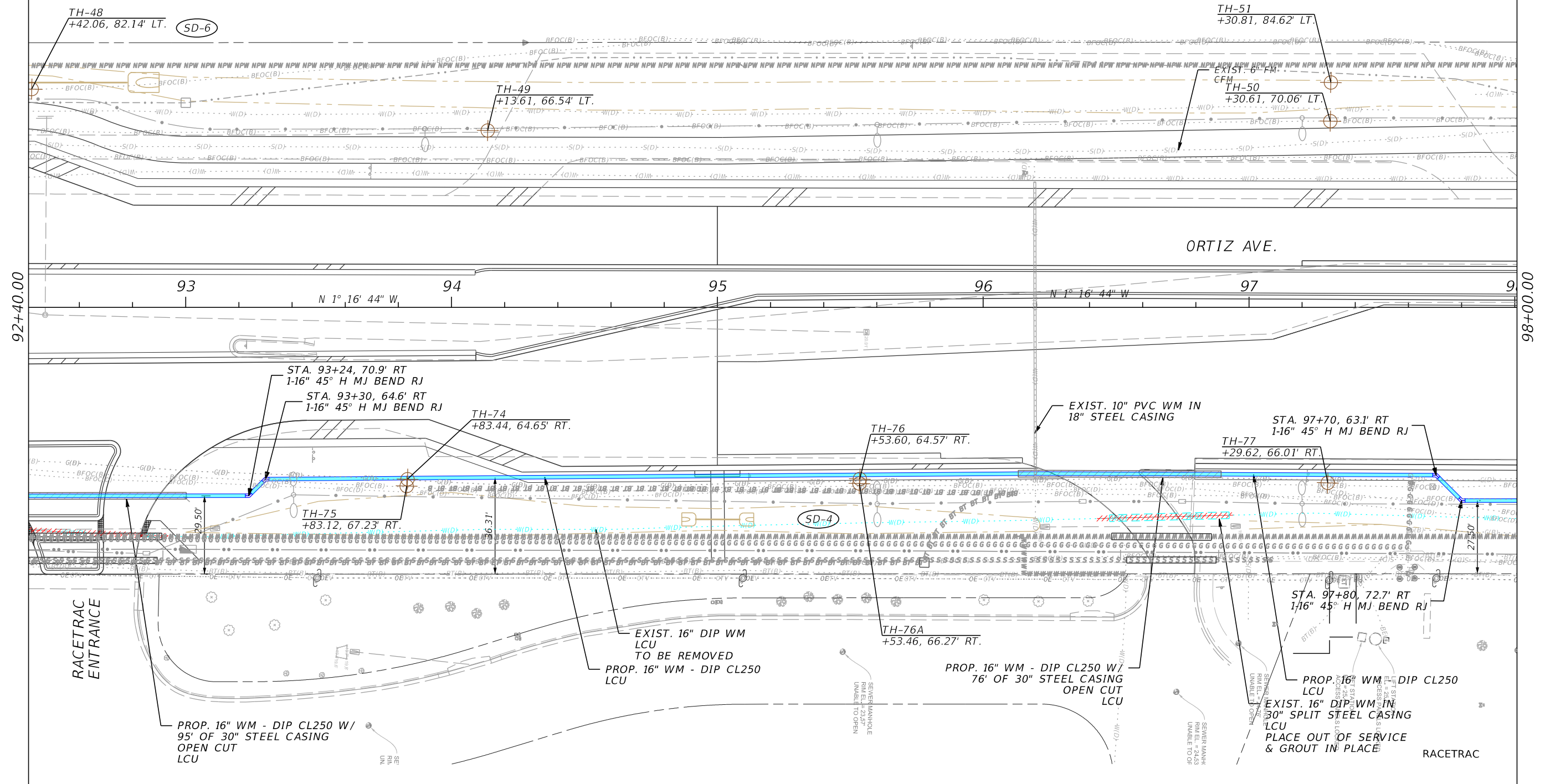
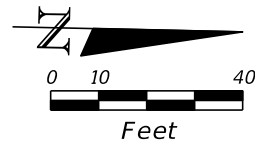
60% SUBMITTAL NOT FOR CONSTRUCTION



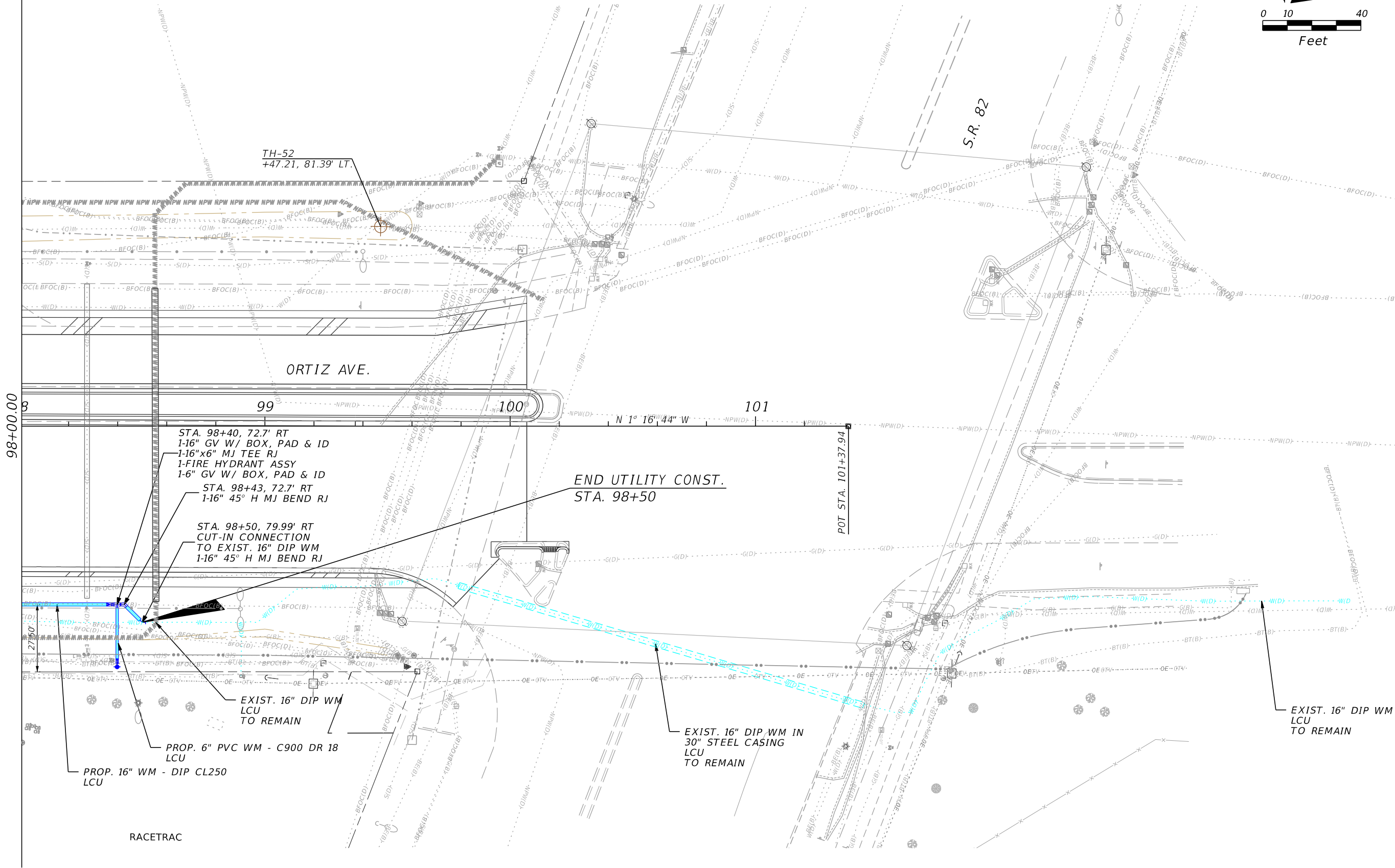
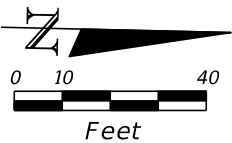
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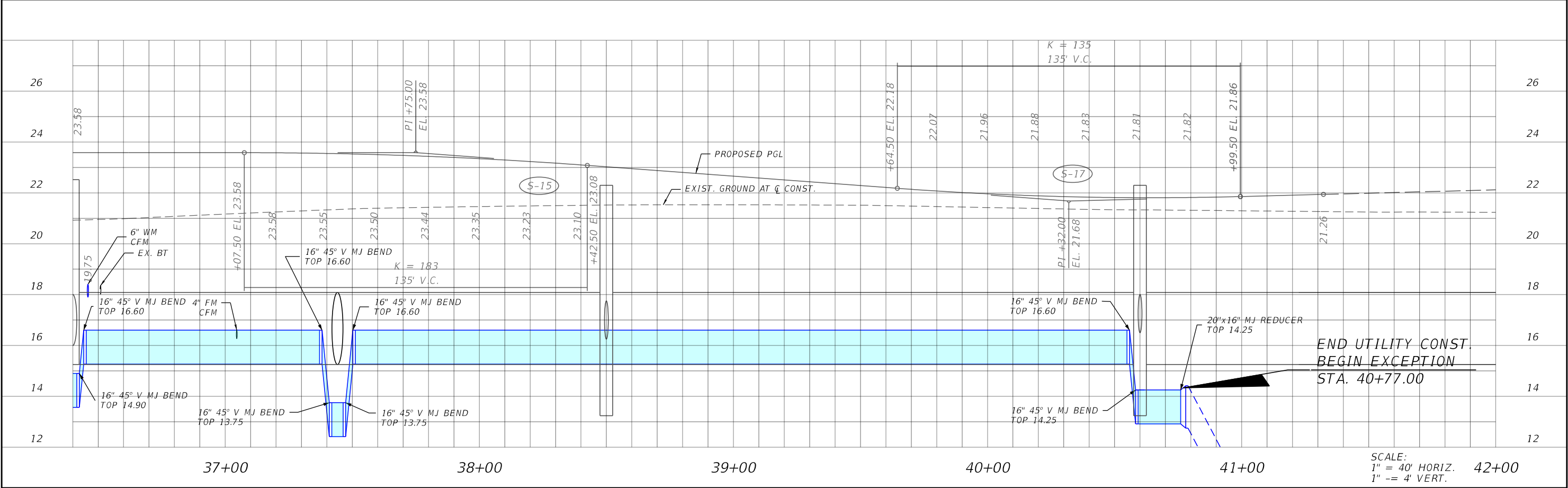
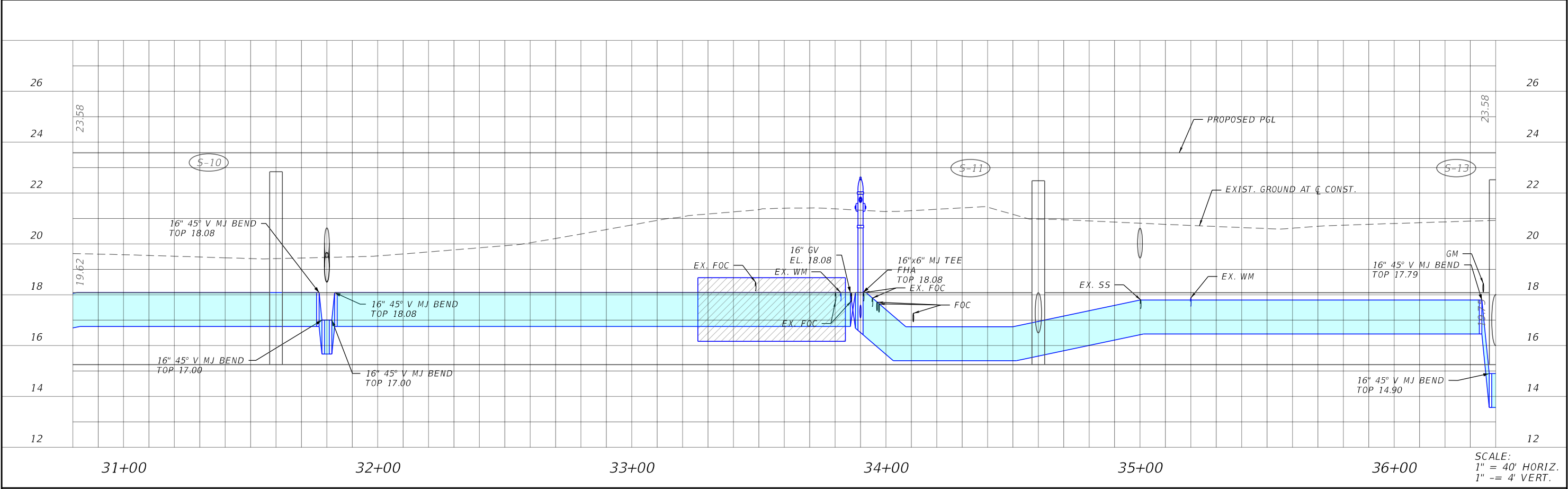
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-19



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO. U-20
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		



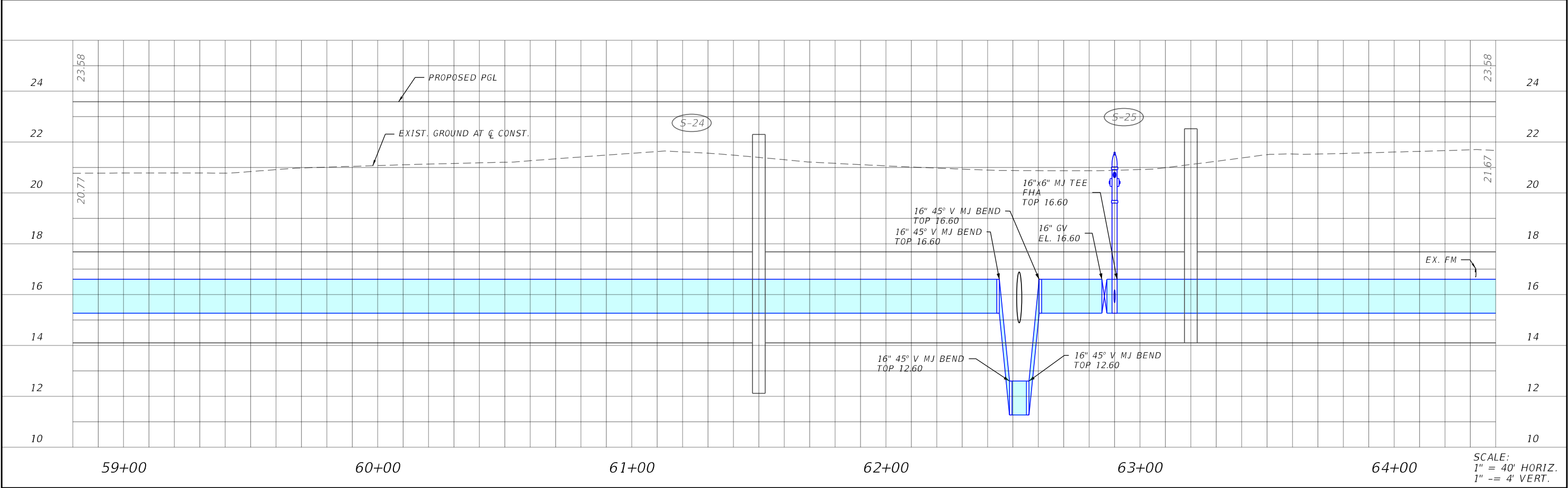
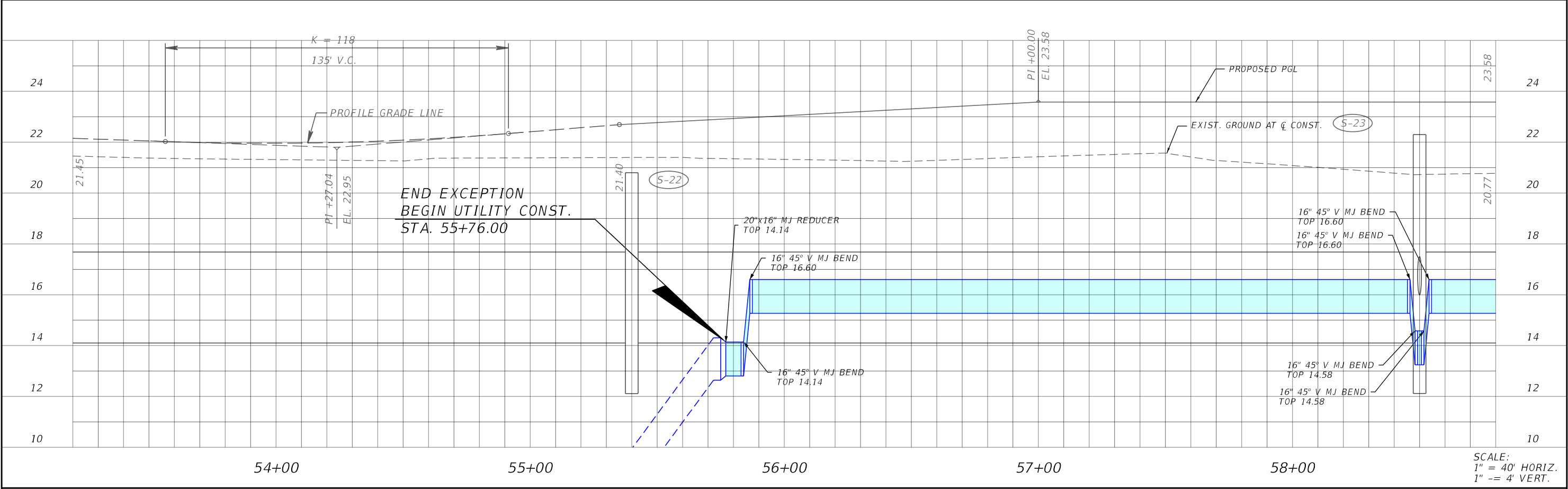
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PLAN	SHEET NO. U-21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PROFILE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		
					ORITZ AVE.	LEE	18-0016		U-24

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

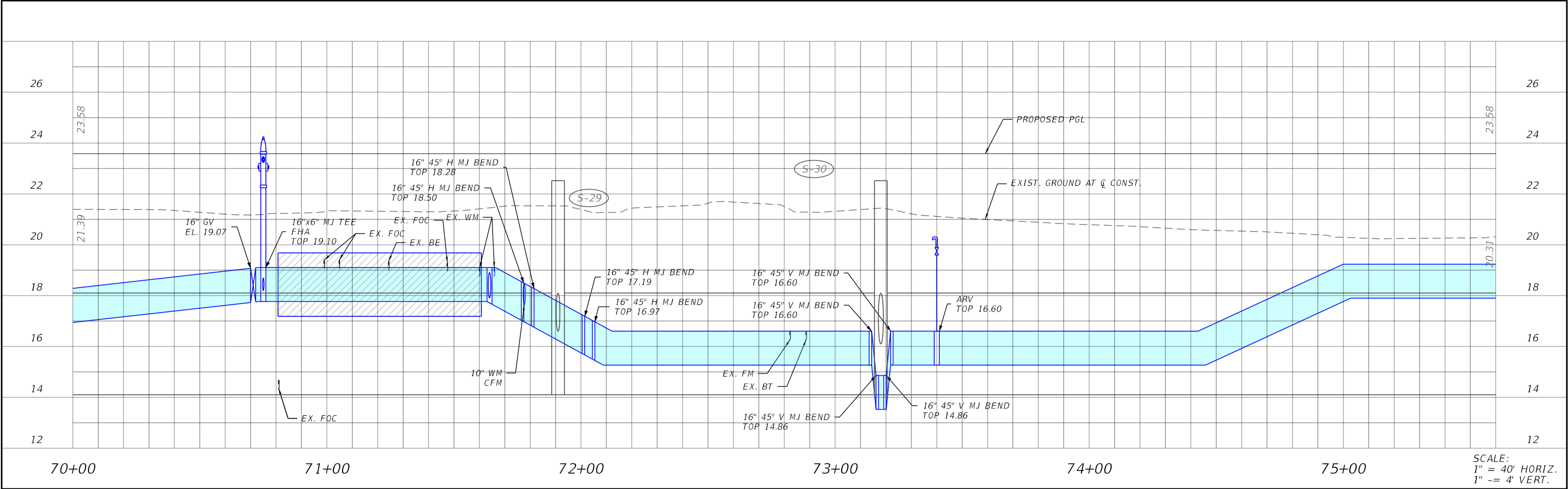
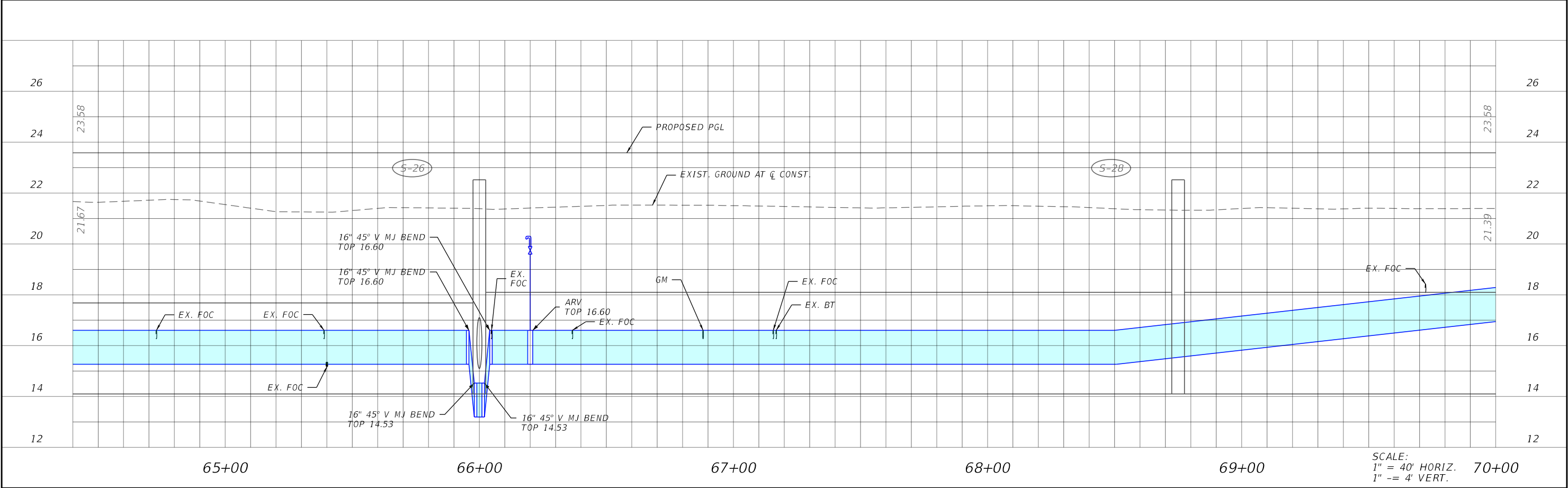
60% SUBMITTAL NOT FOR CONSTRUCTION



REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PROFILE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		U-25
					ORITZ AVE.	LEE	18-0016		

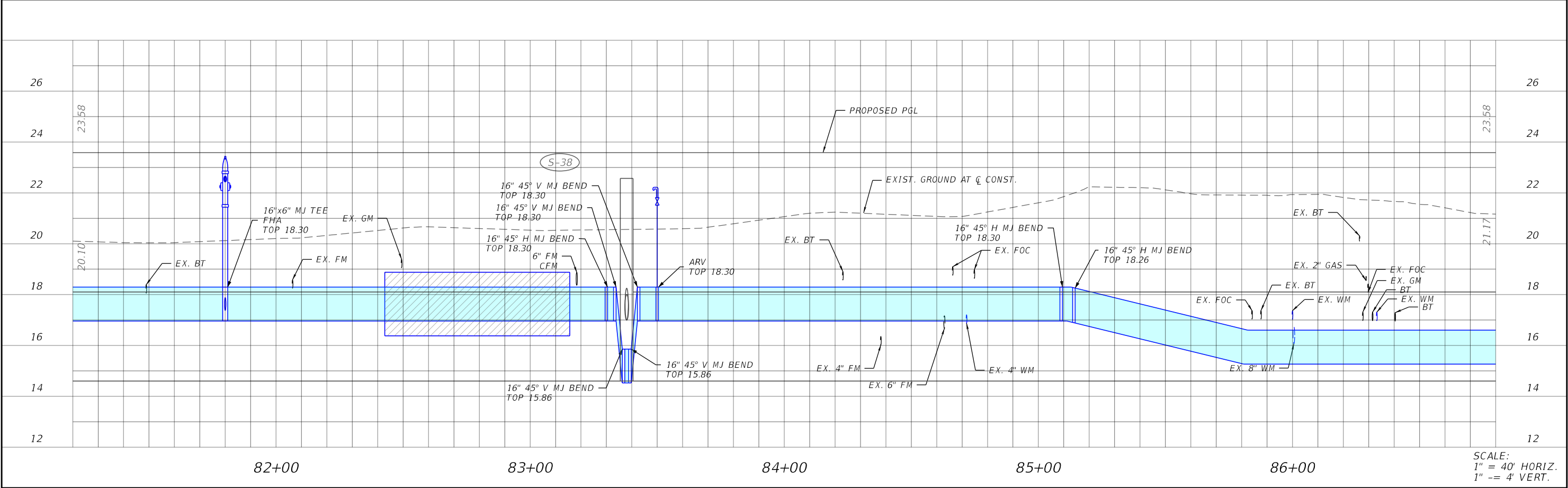
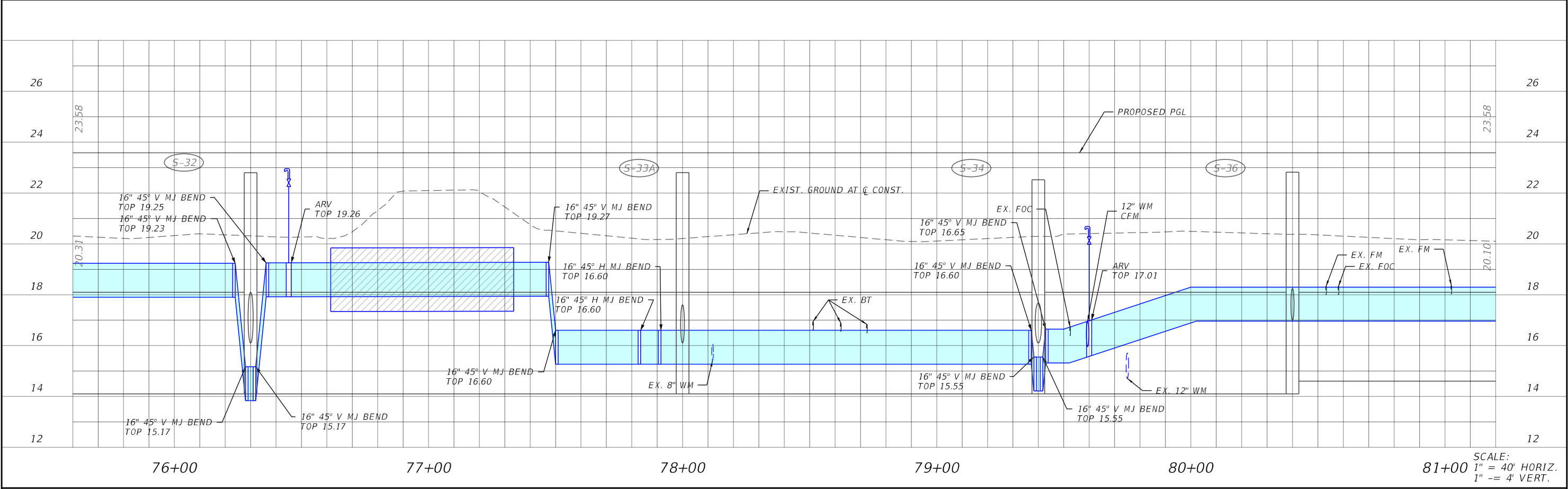
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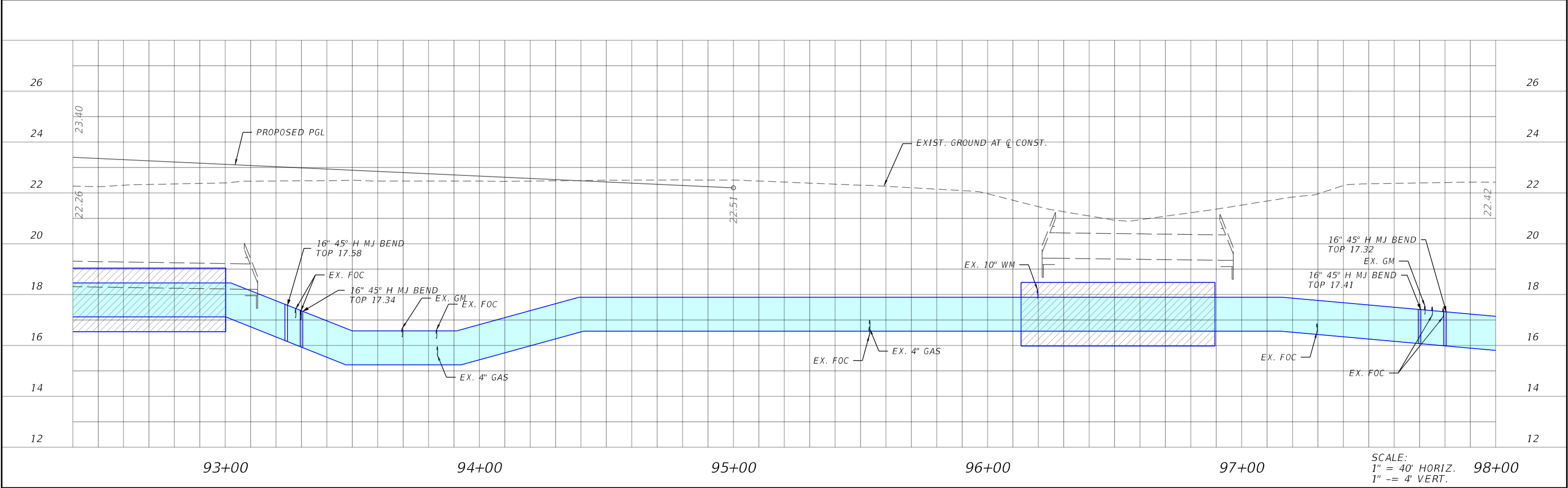
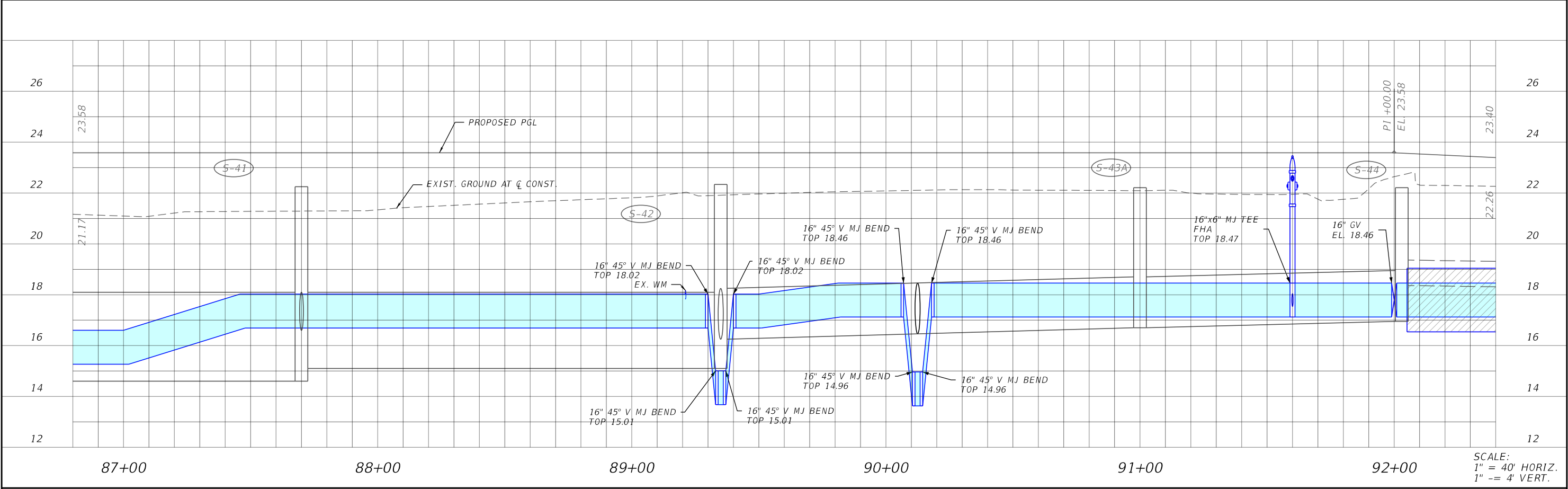
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PROFILE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		
					ORITZ AVE.	LEE	18-0016		U-26

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C. 60% SUBMITTAL NOT FOR CONSTRUCTION



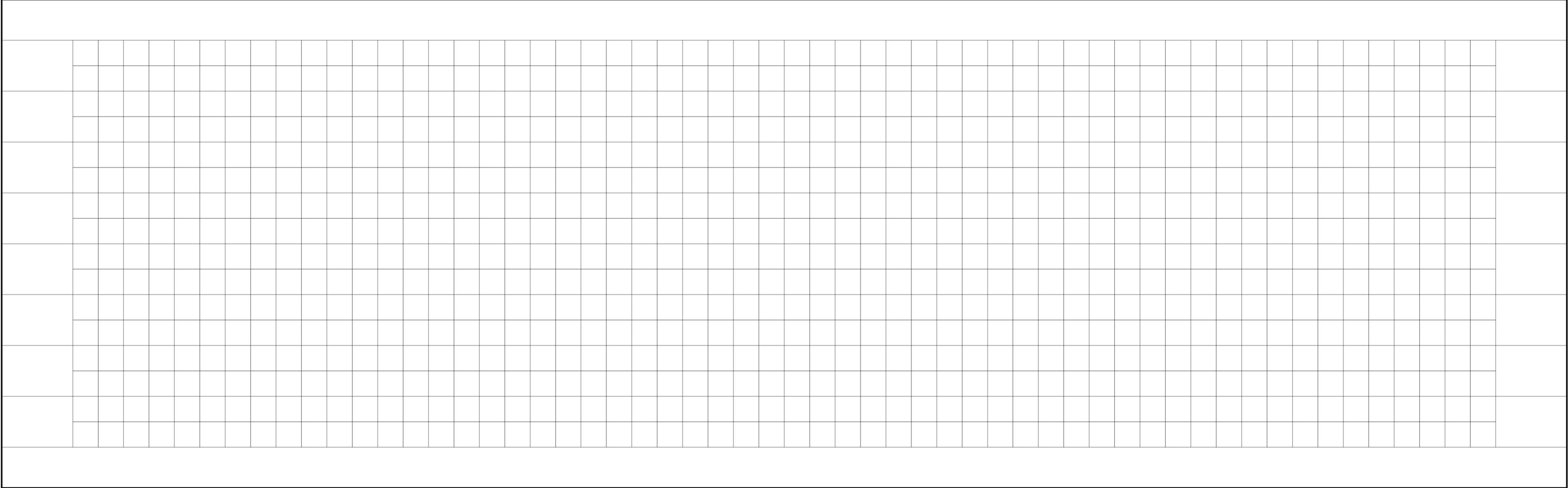
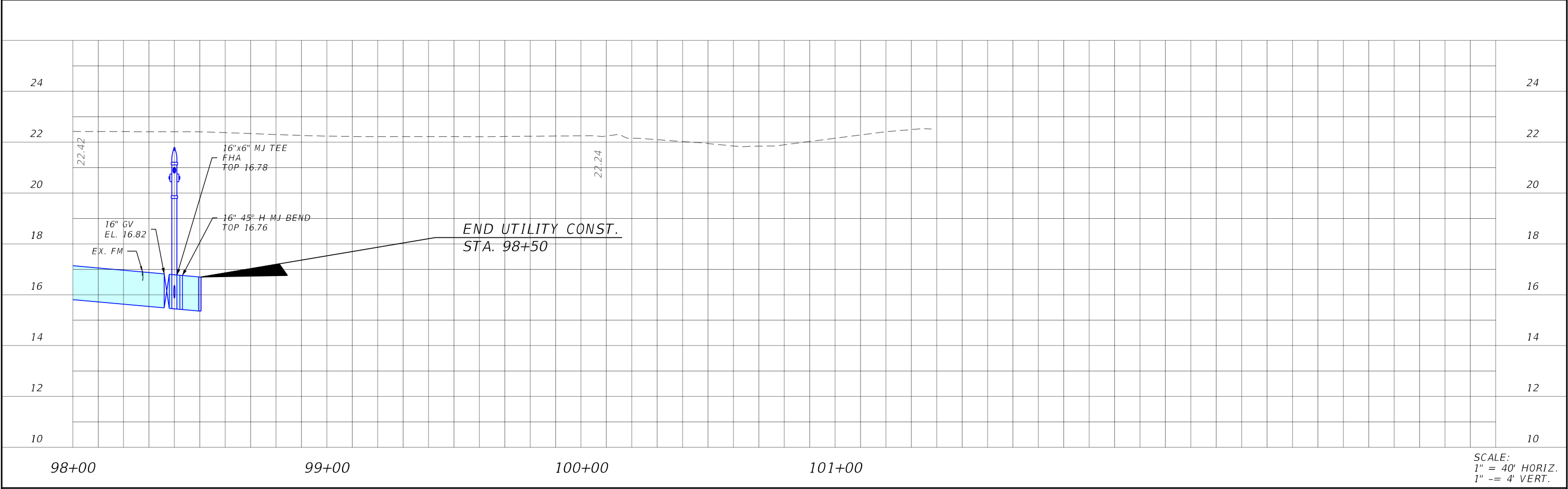
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connolly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY PROFILE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		
					ORITZ AVE.	LEE	18-0016		U-27

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		
					ORITZ AVE.	LEE	18-0016		U-28

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	PROJECT NO.		U-29
					ORITZ AVE.	LEE	18-0016		

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T2 UES, Inc

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz

Proj. Location:Fort Myers

City , County, State:Lee, Florida

Date:3/3/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., J.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

AC (Transite)CMP (Corrugated Metal Pipe)

CI (Cast Iron)CPP (Corrugated Plastic Pipe)

Conc. (Concrete)DBC (Direct Buried Cable)

CopperDIP (Ductile Iron Pipe)

DuctHDPE (High Density PE)

Fg (Fiberglass)PE (Polyethylene Pipe)

Galv. (Galvanized)PVC (Polyvinyl Chloride)

LeadRCP (Reinforced Concrete Pipe)

STL (Steel)VCP (Vitrified Clay Pipe)

UNK (Unknown)PL Petroleum

Utility Type:

BE - ElectricalBT - Buried Telephone

EXP - ExploratoryCTV - Cable Television

FL - Fuel LineCW - Chilled Water

FM - Force MainFOC - Fiber Optic Cable

GM - Gas LineRAW - Raw Water

HW - Hot WaterRCW - Reclaimed Water

IRR. - IrrigationSAN - Sanitary Sewer

SL - Street LightSTM - Storm Sewer

TS - Traffic SignalWM - Water Main

UNK - Unknown

Station & Offset Measured From:

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L
33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground
RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)
23 - "X" in Concrete 24 - Iron Rod & Cap (See below)
* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"
* Note: 24 = Set Iron Rod & Cap Stamped "T2 Test Hole"

Utility Owner

Test Hole Date

Test Hole Number

Utility Size, Material & Type
(Size measured in inches and is O.D.)

Northing

Easting

Ground Elevation

Manual Depth (Top)

Utility Elevation (Top)

Offset From

Cross Sectional View

Utility Direction

ID'd By

Surface Type

Pavement Thickness (Inches)

03/03/21

1

2.5", STL, GAS

829168.35

717874.48

20.25

4.40

15.85

N/A

●

↔

23

NG

N/A

03/03/21

1A

.5", DBC, FOC

829167.11

717875.85

20.04

1.40

18.64

N/A

●

↕

24

NG

N/A

03/03/21

2

POSSIBLE 6", PVC, BE

829247.02

717870.54

18.69

5.33

13.36

N/A

●

↔

24

NG

N/A

03/03/21

3

FOUR 1.5", HDPE, FOC

829250.42

717875.07

18.44

1.83

16.61

N/A

●

↔

24

NG

N/A

03/03/21

4

2", PVC, FOC

829250.08

717878.06

18.04

1.72

16.32

N/A

●

↔

24

NG

N/A

03/03/21

5

6", HDPE, BE

829246.64

717737.02

19.56

3.43

16.13

N/A

●

↕

24

NG

N/A

03/03/21

6

6", PVC, WM

829503.50

717726.57

19.36

3.55

15.81

N/A

●

↕

24

NG

N/A

03/03/21

7

4", PVC, UNK

829504.83

717732.35

20.24

3.80

16.44

N/A

●

↔

22

NG

N/A

T2 UES, Inc

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz Ave

Proj. Location:

City , County, State:Fort Myers, Lee, Florida

Date:3/4/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., A.A., J.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

AC (Transite)CMP (Corrugated Metal Pipe)

CI (Cast Iron)CPP (Corrugated Plastic Pipe)

Conc. (Concrete)DBC (Direct Buried Cable)

CopperDIP (Ductile Iron Pipe)

DuctHDPE (High Density PE)

Fg (Fiberglass)PE (Polyethylene Pipe)

Galv. (Galvanized)PVC (Polyvinyl Chloride)

LeadRCP (Reinforced Concrete Pipe)

STL (Steel)VCP (Vitrified Clay Pipe)

UNK (Unknown)PL Petroleum

Utility Type:

BE - ElectricalBT - Buried Telephone

EXP - ExploratoryCTV - Cable Television

FL - Fuel LineCW - Chilled Water

FM - Force MainFOC - Fiber Optic Cable

GM - Gas LineRAW - Raw Water

HW - Hot WaterRCW - Reclaimed Water

IRR. - IrrigationSAN - Sanitary Sewer

SL - Street LightSTM - Storm Sewer

TS - Traffic SignalWM - Water Main

UNK - Unknown

Station & Offset Measured From:

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L
33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground
RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)
23 - "X" in Concrete 24 - Iron Rod & Cap (See below)
* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"
* Note: 24 = Set Iron Rod & Cap Stamped "T2 Test Hole"

Utility Owner	Test Hole Date	Test Hole Number	Utility Size, Material & Type (Size measured in inches and is O.D.)	Northing	Easting	Ground Elevation	Manual Depth (Top)	Utility Elevation (Top)	Offset From	Cross Sectional View	Utility Direction	ID'd By	Surface Type	Pavement Thickness (Inches)
	03/04/21	8	4", PVC, UNK	829599.06	717728.35	18.73	3.10	15.63	N/A	●	↔	24	NG	N/A
	03/04/21	8A	2.5", PVC UNK	829600.77	717727.38	18.72	1.74	16.98	N/A	●	↕	24	NG	N/A
	03/04/21	9	4", PVC, UNK	829974.79	717730.54	19.65	3.88	15.77	N/A	●	↔	22	A	4"
	03/04/21	10	24", CONC CAP, FOC	829977.04	717712.00	17.93	4.56	13.37	N/A	●	↕	24	NG	N/A
	03/04/21	11	TWO-2", HDPE, BE	829999.75	717721.66	18.75	1.85	16.90	N/A	●	↖	24	NG	N/A
	03/04/21	12	1", DBC, BT	830912.22	717693.62	18.17	2.76	15.41	N/A	●	↔	24	NG	N/A
	03/04/21	13	2", PVC, FOC	830914.42	717695.93	18.56	4.39	14.17	N/A	●	↕	24	NG	N/A

T2 UES, Inc.

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz Ave

Proj. Location:

City , County, State:Fort Myers, Lee, Florida

Date:3/5/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., J.A., A.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

AC (Transite)CMP (Corrugated Metal Pipe)

CI (Cast Iron)CPP (Corrugated Plastic Pipe)

Conc. (Concrete)DBC (Direct Buried Cable)

CopperDIP (Ductile Iron Pipe)

DuctHDPE (High Density PE)

Fg (Fiberglass)PE (Polyethylene Pipe)

Galv. (Galvanized)PVC (Polyvinyl Chloride)

LeadRCP (Reinforced Concrete Pipe)

STL (Steel)VCP (Vitrified Clay Pipe)

UNK (Unknown)PL Petroleum

Utility Type:

BE - ElectricalBT - Buried Telephone

EXP - ExploratoryCTV - Cable Television

FL - Fuel LineCW - Chilled Water

FM - Force MainFOC - Fiber Optic Cable

GM - Gas LineRAW - Raw Water

HW - Hot WaterRCW - Reclaimed Water

IRR. - IrrigationSAN - Sanitary Sewer

SL - Street LightSTM - Storm Sewer

TS - Traffic SignalWM - Water Main

UNK - Unknown

Station & Offset Measured From:

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L
33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground
RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)
23 - "X" in Concrete 24 - Iron Rod & Cap (See below)
* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"
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Utility Owner	Test Hole Date	Test Hole Number	Utility Size, Material & Type (Size measured in inches and is O.D.)	Northing	Easting	Ground Elevation	Manual Depth (Top)	Utility Elevation (Top)	Offset From	Cross Sectional View	Utility Direction	ID'd By	Surface Type	Pavement Thickness (Inches)
	03/05/21	14	4", PVC, UNK	830916.79	717710.57	19.71	2.82	16.89	N/A	●	↕	22	A	5"
	03/05/21	15	6", PVC, WM	831076.72	717704.31	20.14	3.53	16.61	N/A	●	↕	24	NG	N/A
	03/05/21	16	1", DBC, BT	831079.60	717701.42	20.14	2.68	17.46	N/A	●	↔	24	NG	N/A
	03/05/21	17	1", DBC, BT	831467.97	717686.02	18.12	3.65	14.47	N/A	●	↔	24	NG	N/A
	03/05/21	18	EXP	831466.94	717690.73	18.39								
	03/05/21	19	4", PVC, FOC	831514.39	717882.37	18.36	2.53	15.83	N/A	●	↕	24	NG	N/A
	03/05/21	20	4", STL, GAS	831465.05	717838.12	18.37	3.92	14.45	N/A	●	↕	24	NG	N/A
	03/05/21	21	4", PVC, FOC	831307.44	717885.37	18.07	2.60	15.47	N/A	●	↔	24	NG	N/A
	03/05/21	22	1", DBC, BT	831062.34	717884.15	18.25	2.08	16.17	N/A	●	↕	24	NG	N/A
	03/05/21	23	1", DBC, BT	831063.05	717881.66	18.25	2.73	15.52	N/A	●	↕	24	NG	N/A
	03/05/21	24	4", HDPE, FOC	831063.04	717876.48	17.82	1.80	16.02	N/A	●	↕	24	NG	N/A

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAME	COUNTY	DDAI PROJ. NO.
ORTIZ AVE.	LEE	18-0016

SUMMARY OF
VERIFIED UTILITIES

SHEET NO.

U-32

joann.winter

4/27/2021

10:09:33 AM

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60% SUBMITTAL NOT FOR CONSTRUCTION

[illegible]

REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			SUMMARY OF VERIFIED UTILITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-34
					ORTIZ AVE.	LEE	18-0016		

T2 UES, Inc.

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz Ave

Proj. Location:

City , County, State:Fort Myers, Lee, Florida

Date:3/11/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., J.A., A.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

AC (Transite)CMP (Corrugated Metal Pipe)
CI (Cast Iron)CPP (Corrugated Plastic Pipe)
Conc. (Concrete)DBC (Direct Buried Cable)
CopperDIP (Ductile Iron Pipe)
DuctHDPE (High Density PE)
Fg (Fiberglass)PE (Polyethylene Pipe)
Galv. (Galvanized)PVC (Polyvinyl Chloride)
LeadRCP (Reinforced Concrete Pipe)
STL (Steel)VCP (Vitrified Clay Pipe)
UNK (Unknown)PL Petroleum

Utility Type:

BE - ElectricalBT - Buried Telephone
EXP - ExploratoryCTV - Cable Television
FL - Fuel LineCW - Chilled Water
FM - Force MainFOC - Fiber Optic Cable
GM - Gas LineRAW - Raw Water
HW - Hot WaterRCW - Reclaimed Water
IRR. - IrrigationSAN - Sanitary Sewer
SL - Street LightSTM - Storm Sewer
TS - Traffic SignalWM - Water Main
UNK - Unknown

Station & Offset Measured From:

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L
33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground
RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)
23 - "X" in Concrete 24 - Iron Rod & Cap (See below)
* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"
* Note: 24 = Set Iron Rod & Cap Stamped "T2 Test Hole"

↑ NORTH

Utility Owner	Test Hole Date	Test Hole Number	Utility Size, Material & Type (Size measured in inches and is O.D.)	Northing	Easting	Ground Elevation	Manual Depth (Top)	Utility Elevation (Top)	Offset From	Cross Sectional View	Utility Direction	ID'd By	Surface Type	Pavement Thickness (Inches)
	03/11/21	34	12", CONC CAP, FOC	834614.13	717706.64	21.07	5.34	15.73	N/A	Π	↕	24	NG	N/A
	03/11/21	34A	1", DBC, UNK	834614.12	717707.30	20.95	5.34	15.61	N/A	●	↕	24	NG	N/A
	03/11/21	35	Possible 24", CONC CAP, FOC	834942.10	717695.80	18.09	3.84	14.25	N/A	Π	↕	24	NG	N/A
	03/11/21	36	Two 3", PVC, BE	834941.21	717689.23	17.99	2.24	15.75	N/A	●●	↕	24	NG	N/A
	03/11/21	36A	1", PVC, BE	834941.15	717689.73	17.96	0.00	17.96	N/A	●	↕	24	NG	N/A
	03/11/21	37	12", WOOD CAP, FOC	835097.90	717696.76	18.46	3.10	15.36	N/A	Π	↕	24	NG	N/A
	03/11/21	38	4", PVC, FOC	835505.28	717707.03	20.47	3.28	17.19	N/A	●	↕	22	A	5"
	03/11/21	39	10", WOOD CAP, FOC	835506.26	717681.23	17.84	3.23	14.61	N/A	Π	↕	24	NG	N/A
	03/11/21	40	4", PVC, UNK	835504.93	717698.83	19.90	4.29	15.61	N/A	●	↕	24	NG	N/A
	03/11/21	41	10", WOOD CAP, FOC	835774.54	717675.81	17.67	3.62	14.05	N/A	Π	↕	24	NG	N/A
	03/11/21	42	4", PVC, UNK	835769.24	717694.63	19.10	3.35	15.75	N/A	●	↕	24	NG	N/A
	03/11/21	43	4", PVC, FOC	835766.53	717704.29	20.42	3.05	17.37	N/A	●	↕	24	A	7"
	03/11/21	44	10", WOOD CAP, FOC	836089.33	717671.55	18.42	3.70	14.72	N/A	Π	↕	24	NG	N/A

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAME

COUNTY

DDAI PROJ. NO.

ORTIZ AVE.

LEE

18-0016

SUMMARY OF
VERIFIED UTILITIES

SHEET NO.
U-35

joann.winter

4/27/2021

10:09:51 AM

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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

60% SUBMITTAL NOT FOR CONSTRUCTION

T2 UES, Inc.

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz Ave

Proj. Location:

City , County, State:Fort Myers, Lee, Florida

Date:3/12/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., J.A., A.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

Utility Type:

Station & Offset Measured From:

AC (Transite)CMP (Corrugated Metal Pipe)

CI (Cast Iron)CPP (Corrugated Plastic Pipe)

Conc. (Concrete)DBC (Direct Buried Cable)

CopperDIP (Ductile Iron Pipe)

DuctHDPE (High Density PE)

Fg (Fiberglass)PE (Polyethylene Pipe)

Galv. (Galvanized)PVC (Polyvinyl Chloride)

LeadRCP (Reinforced Concrete Pipe)

STL (Steel)VCP (Vitrified Clay Pipe)

UNK (Unknown)PL Petroleum

BE - ElectricalBT - Buried Telephone

EXP - ExploratoryCTV - Cable Television

FL - Fuel LineCW - Chilled Water

FM - Force MainFOC - Fiber Optic Cable

GM - Gas LineRAW - Raw Water

HW - Hot WaterRCW - Reclaimed Water

IRR. - IrrigationSAN - Sanitary Sewer

SL - Street LightSTM - Storm Sewer

TS - Traffic SignalWM - Water Main

UNK - Unknown

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L

33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground

RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)

23 - "X" in Concrete 24 - Iron Rod & Cap (See below)

* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"

* Note: 24 = Set Iron Rod & Cap Stamped "T2 Test Hole"

Utility Owner

Test Hole Date

Test Hole Number

Utility Size, Material & Type
(Size measured in inches and is O.D.)

Northing

Easting

Ground Elevation

Manual Depth (Top)

Utility Elevation (Top)

Offset From

Cross Sectional View

Utility Direction

ID'd By

Surface Type

Pavement Thickness (Inches)

03/12/21

45

4", PVC, UNK

836372.37

717681.21

19.67

4.45

15.22

N/A

●

↕

24

NG

N/A

03/12/21

46

UNK, UNK CAP, FOC

836397.68

717662.43

18.55

5.00

13.55

N/A

∏

↕

24

NG

N/A

03/12/21

47

10", WOOD CAP, FOC

836491.90

717661.91

17.90

2.65

15.25

N/A

∏

↕

24

NG

N/A

03/12/21

48

10", CONC CAP, FOC

836682.96

717662.26

18.42

4.05

14.37

N/A

∏

↕

24

NG

N/A

03/12/21

49

4", PVC, UNK

836854.82

717674.02

19.42

3.89

15.53

N/A

●

↕

24

NG

N/A

03/12/21

50

4", PVC, UNK

837171.66

717663.43

18.80

3.19

15.61

N/A

●

↕

22

A

1"

03/12/21

51

EXP

837171.53

717648.87

18.34

6.00

03/12/21

52

Possible 6", PVC, FOC

837387.95

717647.27

19.81

4.40

15.41

N/A

●

↕

24

NG

N/A

DATE

DESCRIPTION

DATE

DESCRIPTION

CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAME

COUNTY

DDAI PROJ. NO.

ORTIZ AVE.

LEE

18-0016

SUMMARY OF
VERIFIED UTILITIES

SHEET NO.

U-36

joann.winter

4/27/2021

10:09:58 AM

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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

60% SUBMITTAL NOT FOR CONSTRUCTION

T2 UES, Inc.

5670 Zip Drive, Fort Myers, FL 33905
Phone: 239 277 0722 / Fax: 239 277 7179

Subsurface Utility Engineering
Test Hole Field Data

T2 Project No.:190901 / CR107002.00

Client Project No.:

Proj. Road Name:Ortiz Ave

Proj. Location:

City , County, State:Fort Myers, Lee, Florida

Date:3/13/2021

Vac Truck/Trailer No.:55589

SUE Crew:R.P., J.A., A.A.

Prepared By:A.C.

Checked By:S.U.

Units:U.S. Survey Feet

Datum(s):Horizontal: NAD 83/11 Vertical: NAVD 88

Utility Material:

AC (Transite)CMP (Corrugated Metal Pipe)

CI (Cast Iron)CPP (Corrugated Plastic Pipe)

Conc. (Concrete)DBC (Direct Buried Cable)

CopperDIP (Ductile Iron Pipe)

DuctHDPE (High Density PE)

Fg (Fiberglass)PE (Polyethylene Pipe)

Galv. (Galvanized)PVC (Polyvinyl Chloride)

LeadRCP (Reinforced Concrete Pipe)

STL (Steel)VCP (Vitrified Clay Pipe)

UNK (Unknown)PL Petroleum

Utility Type:

BE - ElectricalBT - Buried Telephone

EXP - ExploratoryCTV - Cable Television

FL - Fuel LineCW - Chilled Water

FM - Force MainFOC - Fiber Optic Cable

GM - Gas LineRAW - Raw Water

HW - Hot WaterRCW - Reclaimed Water

IRR. - IrrigationSAN - Sanitary Sewer

SL - Street LightSTM - Storm Sewer

TS - Traffic SignalWM - Water Main

UNK - Unknown

Station & Offset Measured From:

30 - Edge Of Pavement 31 - "X" in Concrete 32 - Survey B/L

33 - C/L of Construction 34 - Back of Curb 35 -Swing Tie

Surface Type:

A - Asphalt B - Brick C - Concrete G - Gravel NG - Natural Ground

RR - Riprap R - Rock S - Shell

Identified By :

20 - Sleeve 21 - Hub/Lathe 22 - Nail/Disk (See below)

23 - "X" in Concrete 24 - Iron Rod & Cap (See below)

* Note: 22 = Set Nail and Disk Stamped "T2 Test Hole"

* Note: 24 = Set Iron Rod & Cap Stamped "T2 Test Hole"

Utility Owner

Test Hole Date

Test Hole Number

Utility Size, Material & Type
(Size measured in inches and is O.D.)

Northing

Easting

Ground Elevation

Manual Depth (Top)

Utility Elevation (Top)

Offset From

Cross Sectional View

Utility Direction

ID'd By

Surface Type

Pavement Thickness (Inches)

03/13/21

53

Four 2", HDPE, FOC

833582.23

717860.58

18.05

1.61

16.44

N/A

●

↕

24

NG

N/A

03/13/21

54

EXP

833780.75

717864.12

17.91

6.00

03/13/21

55

Four 2", HDPE, FOC

833776.96

717874.23

18.09

1.79

16.30

N/A

●●●●●

↕

24

NG

N/A

03/13/21

56

Four 2", HDPE, FOC

833980.65

717876.78

17.84

2.49

15.35

N/A

●●●●●

↔

24

NG

N/A

03/13/21

57

Two 4", PVC, FOC

834525.69

717858.34

17.59

2.91

14.68

N/A

●●

↔

24

NG

N/A

03/13/21

58

8", PVC, WM

835256.63

717861.80

18.77

2.69

16.08

N/A

●

↔

24

NG

N/A

03/13/21

59

1", DBC, BT

835252.47

717863.58

18.60

1.79

16.81

N/A

●

↕

24

NG

N/A

03/13/21

60

12", PVC, WM

835419.15

717824.31

18.14

2.43

15.71

N/A

●

↔

24

NG

N/A

03/13/21

61

Two 2", HDPE, FOC

835494.30

717781.17

19.62

2.82

16.80

N/A

●

↕

24

NG

N/A

03/13/21

62

EXP

835706.72

717813.57

17.95

6.00

11.95

N/A

NG

N/A

DATEDESCRIPTIONDATEDESCRIPTION

CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAMECOUNTYDDAI PROJ. NO.

ORTIZ AVE.LEE18-0016

SUMMARY OF
VERIFIED UTILITIES

SHEET NO.

U-37

joann.winter4/27/202110:10:04 AMC:\Project\18-0016\utils\SBVHUU10.dgn

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

60% SUBMITTAL NOT FOR CONSTRUCTION

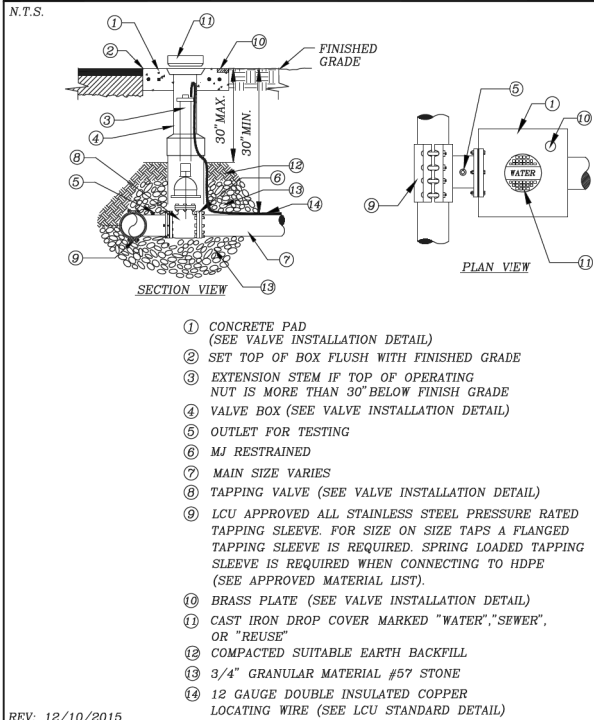
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REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			SUMMARY OF VERIFIED UTILITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-38
					ORTIZ AVE.	LEE	18-0016		

[illegible]

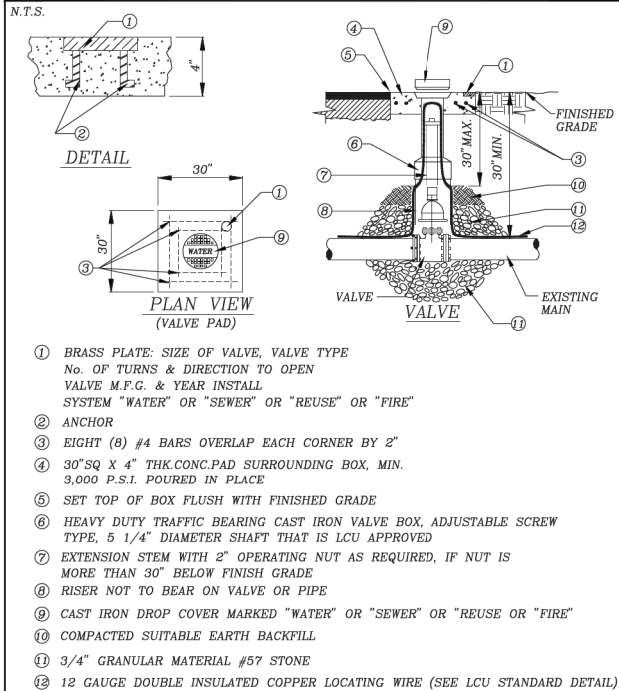
REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			SUMMARY OF VERIFIED UTILITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		U-39
					ORTIZ AVE.	LEE	18-0016		

STANDARD DETAIL NO. 6.1
LEE COUNTY UTILITIES
TAPPING SLEEVE AND VALVE



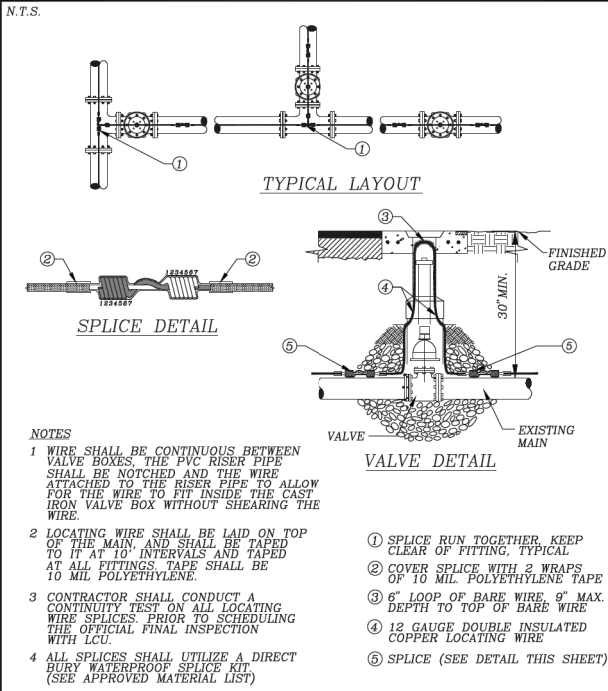
REV: 12/10/2015

STANDARD DETAIL NO. 6.2
LEE COUNTY UTILITIES
VALVE INSTALLATION



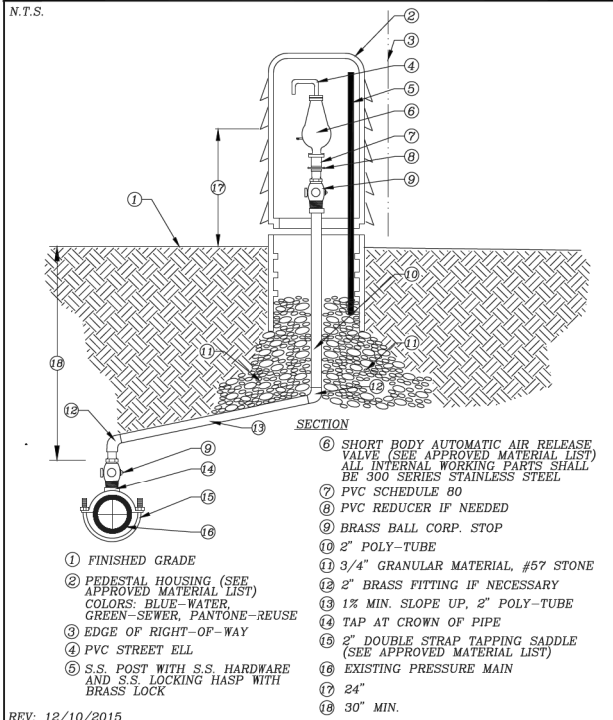
REV: 12/10/2015

STANDARD DETAIL NO. 6.3
LEE COUNTY UTILITIES
LOCATING WIRE FOR PRESSURE MAINS



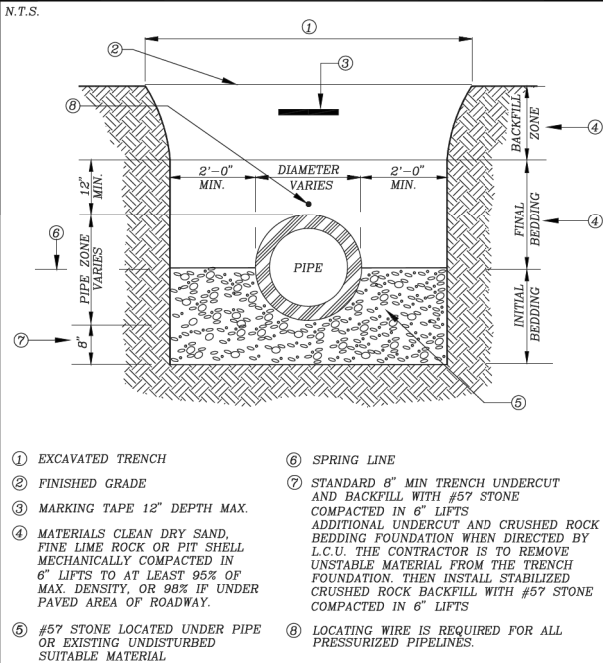
REV: 12/10/2015

STANDARD DETAIL NO. 6.4
LEE COUNTY UTILITIES
AUTOMATIC AIR RELEASE VALVE



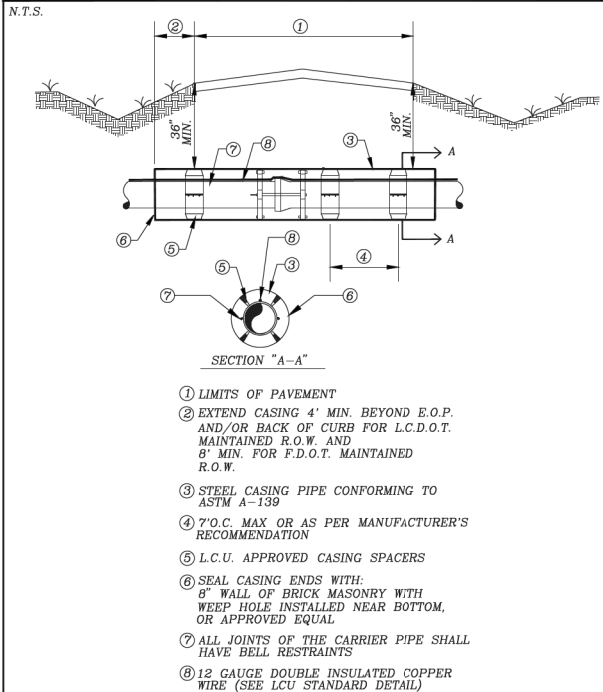
REV: 12/10/2015

STANDARD DETAIL NO. 6.5
LEE COUNTY UTILITIES
TRENCH CROSS SECTION



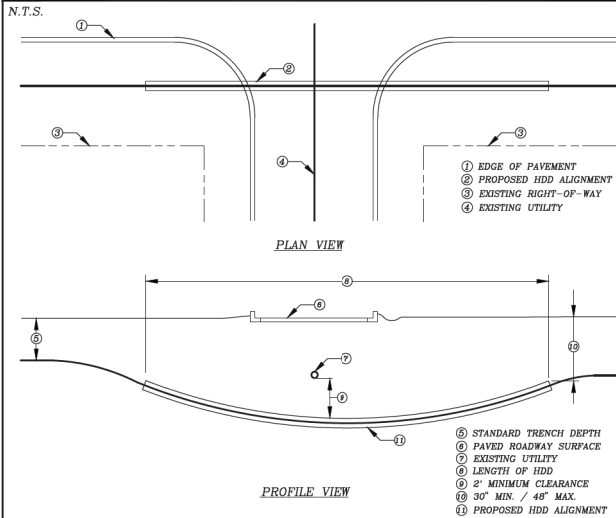
REV: 12/10/2015

STANDARD DETAIL NO. 6.6
LEE COUNTY UTILITIES
JACK AND BORE



REV: 12/10/2015

STANDARD DETAIL NO. 6.7
LEE COUNTY UTILITIES
HORIZONTAL DIRECTIONAL DRILL UNDER A ROADWAY

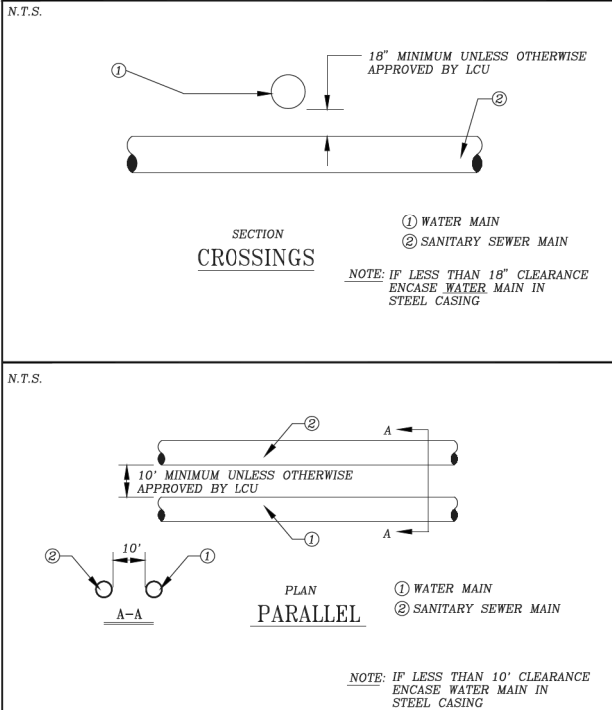


HDD INSTALLATION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LEE COUNTY UTILITIES DESIGN MANUAL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED AGENCIES AND COORDINATION WITH ALL UTILITIES PRIOR TO CONSTRUCTION.
3. ALL CONSTRUCTION MATERIALS, INCLUDING DRILLING FLUID, SHALL BE REMOVED FROM THE SITE PRIOR TO RESTORATION OF DISTURBED AREAS.
4. ALL RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
5. CASING DIAMETER SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
6. NO CASING SPACERS REQUIRED.
7. WHEN CASING IS REQUIRED INSTALL 1\"/>

REV: 12/10/2015

STANDARD DETAIL NO. 6.8
LEE COUNTY UTILITIES
WATER AND SEWER CROSSING DETAIL

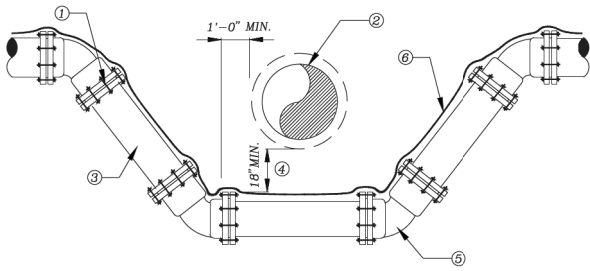


REV: 12/10/2015

REVISIONS				CARDNO, Inc. 1821 Victoria Avenue Fort Myers, FL 33901 Ph. 239-337-3330 Kristina Connelly, P.E. #54805	LEE COUNTY UTILITIES			UTILITY DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NAME	COUNTY	DDAI PROJ. NO.		
					ORTIZ AVE.	LEE	18-0016		U-40

STANDARD DETAIL NO. 6.10
LEE COUNTY UTILITIES
WATER PRESSURE LINE VERTICAL OFFSET
W/ DUCTILE IRON MJ FITTINGS & PIPE

N.T.S.



- ① LCU APPROVED JOINT RESTRAINT FOR D.I., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
- ② CONFLICT PIPE
- ③ LCU APPROVED DUCTILE IRON PIPING PRESSURE CLASS 350
- ④ 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
- ⑤ 45° MECHANICAL JOINT FITTING, TYPICAL
- ⑥ 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.12
LEE COUNTY UTILITIES
RESTRAINED LENGTH SCHEDULE

N.T.S.

DUCTILE IRON PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					HORIZONTAL TEE
	HORIZONTAL BENDS				DEAD END	
	90°	45°	22-1/2°	11-1/4°		
4	17	7	4	2	29	6
6	23	10	5	2	40	17
8	29	12	6	3	53	29
10	35	14	7	4	63	38
12	41	17	8	4	74	49
16	51	21	11	5	94	68
24	69	29	14	7	131	105
30	81	34	17	8	156	129

PVC PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					HORIZONTAL TEE
	HORIZONTAL BENDS				DEAD END	
	90°	45°	22-1/2°	11-1/4°		
4	20	8	4	2	45	8
6	29	12	6	3	63	25
8	36	15	8	4	83	43
10	44	18	9	5	99	58
12	51	21	11	5	116	74
16	63	26	13	7	149	103
24	87	36	18	9	208	158
30	102	42	21	10	248	194

A COMPLETE JOINT RESTRAINING SCHEDULE FOR ALL ENCOUNTERED VERTICAL & HORIZONTAL BENDS, VERTICAL OFFSETS, TEES, AND DEAD ENDS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER.

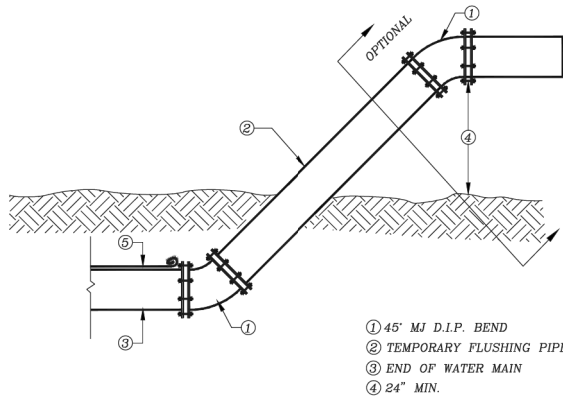
LENGTH FIGURES BASED ON FOLLOWING:

Pressure = 150 psi, FS = 1.5, trench type = 3, 30" cover on Bare pipe, Soil type = GP & SP

REV: 12/10/2015

STANDARD DETAIL NO. 6.13
LEE COUNTY UTILITIES
WATER MAIN FLUSHING DETAIL

N.T.S.



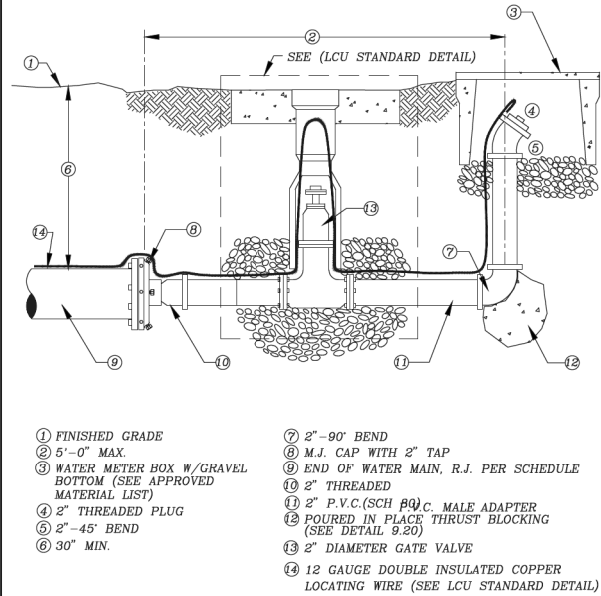
NOTES:

- 1. FLUSHING DETAIL TO BE USED ON WATER LINES 8" DIAMETER OR GREATER.
- 2. FLUSHING PIPE SHALL BE THE SAME DIAMETER AS WATER MAIN.
- 3. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE FOR FLUSHED WATER.
- 4. PROVIDE M.J. CAP IF ASSEMBLY IS LEFT IN PLACE UNATTENDED.
- 5. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.14
LEE COUNTY UTILITIES
BLOW OFF DETAIL

N.T.S.



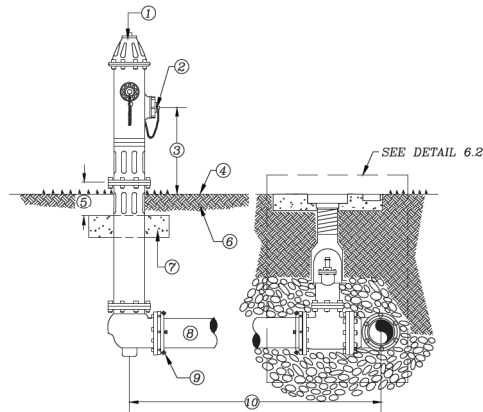
NOTE:

ALL PIPING TO BE 2" P.V.C. (SCH 80) THREADED FITTINGS OR SOLVENT WELDED FITTINGS

REV: 12/10/2015

STANDARD DETAIL NO. 6.24
LEE COUNTY UTILITIES
FIRE HYDRANT ASSEMBLY

N.T.S.

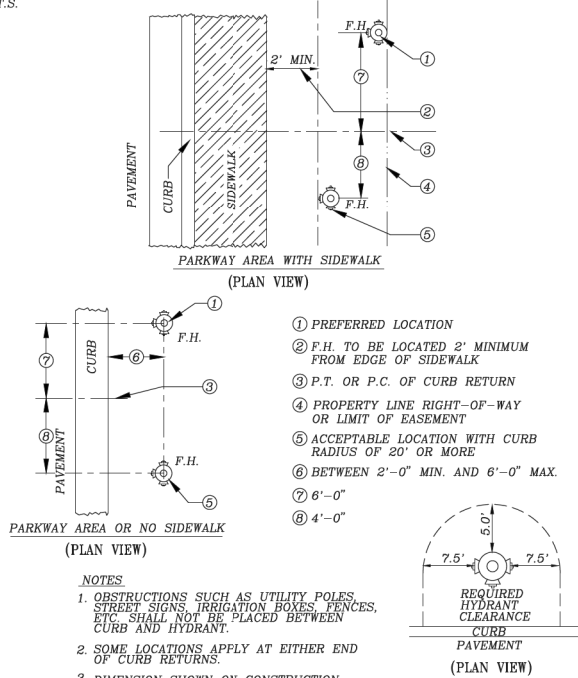


- ① FIRE HYDRANT: STANDARD A.W.W.A. SAFETY YELLOW (SEE APPROVED MATERIAL LIST)
- ② PUMPER CONNECTION FACING AS PER FIRE DISTRICT RECOMMENDATION
- ③ 18" MIN. - 24" MAX.
- ④ FINISHED GRADE
- ⑤ 6" MIN. CLEARANCE
- ⑥ COMPACTED FILL
- ⑦ 30" X 30" X 4" CONCRETE BREAK AWAY CONCRETE PAD, 3000 P.S.I.
- ⑧ PIPE TO BE D.I.P., PRESSURE CLASS 350
- ⑨ RESTRAINED JOINTS, FROM HYDRANT TO WATER MAIN
- ⑩ VARIABLE DISTANCE, IF GREATER THAN 100' A VALVE SHALL BE INSTALLED AT HYDRANT BASE

REV: 12/10/2015

STANDARD DETAIL NO. 6.25
LEE COUNTY UTILITIES
FIRE HYDRANT LOCATIONS/CLEARANCE

N.T.S.



NOTES

- 1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC. SHALL NOT BE PLACED BETWEEN CURB AND HYDRANT.
- 2. SOME LOCATIONS APPLY AT EITHER END OF CURB RETURNS.
- 3. DIMENSION SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.

REV: 12/10/2015

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

CARDNO, Inc.
1821 Victoria Avenue
Fort Myers, FL 33901
Ph. 239-337-3330
Kristina Connelly, P.E. #54805

LEE COUNTY UTILITIES

ROAD NAME	COUNTY	DDAI PROJ. NO.
ORTIZ AVE.	LEE	18-0016

UTILITY DETAILS

SHEET NO.

U-41