

THE CITY OF NAPLES 735 EIGHT ST. S NAPLES, FLORIDA 34102

JOHN SOREY III MAYOR VICE MAYOR MARGARET "DEE" SULICK BILL MOSS **CITY MANAGER BOB MIDDLETON** UTILITIES DIRECTOR

## **CITY COUNCIL**

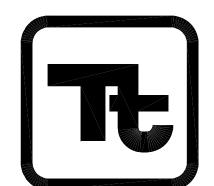
**BILL BARNETT** DOUG FINLAY TERESA HEITMANN LINDA PENNIMAN SAM SAAD III





PHASE 1 PROJECT SITE

31 March 2014



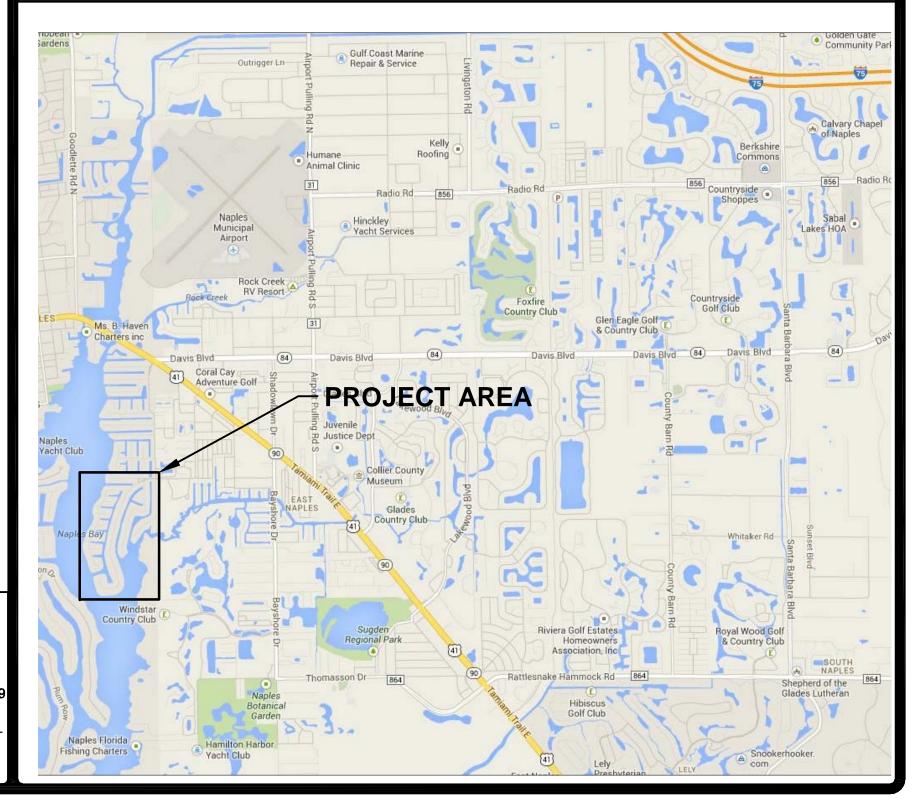
10600 CHEVROLET WAY, SUITE 300 ESTERO, FL 33928 PHONE: 239.390.1467 FAX: 239.390.1769

## **PROJECT LOCATION:**

**ROYAL HARBOR AREA** 

Replace approximately 14,700 LF of asbestos cement (AC) water mains within the Royal Harbor area with 4-inch and 8-inch PVC water mains in order to meet current and projected fire flow requirements. In addition to the replacement of the water main, two (2) 10-inch HDPE directional drills will be installed underneath the canal to "loop" the system. All piping will be installed within the City Right-of-way and easements.

Additionally included in Phase I is the installation of approximately 950 LF of 4-inch PVC force main to replace deteriorating discharge force main from the City's Lift Station. The work will require cutting and capping of the existing force main as well as coring a new manhole penetration with rubber boot system.



## Brett T. Messner, P.E. P.E. No. 77029, FL Tetra Tech Inc. 201 E Pine Street, Suite 1000 Orlando, FL 32801 Engineering Business No. 2429

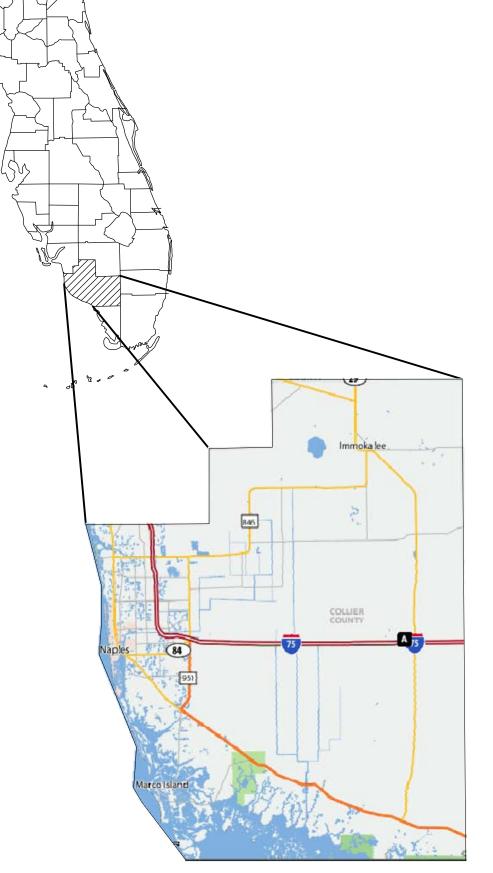
DATE

# PREPARED FOR

# TETRA TECH, INC.

Infrastructure Offices Throughout Florida Orlando \* Fort Myers

10600 CHEVROLET WAY - SUITE 300 - ESTERO - FL 33928 TELEPHONE (239) 390-1467 - FAX (239) 390-1769 - WWW.TETRATECH.COM



**COLLIER COUNTY** 



www.tetratech.com

**CLIENT INFORMATION:** 

**CITY OF NAPLES** 735 EIGHTH STREET SOUTH NAPLES, FL 34102

Tt PROJECT No.:

200-08516-14002

## CLIENT PROJECT No.:

## **PROJECT DESCRIPTION / NOTES:**

# ISSUED: APRIL, 2014 **BID SET**

## VICINITY MAP:

	1 2	3 4 5
	GENERAL NOTES	FITTINGS AND OTHER MATERIALS FOUND DEFECTIVE UNDER THE TEST SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. TESTS SHALL BE REPEATED UNTIL LEAKAGE HAS BEEN ELIMINATED AND THE SYSTEM PASSES A PRESSURE TEST.
	GENERAL:	20. ALL PIPING SHALL HAVE 30 INCHES MINIMUM COVER UNLESS OTHERWISE NOTED. COVER LESS THAN 30 INCHES SHALL BE APP
	1. BENCHMARKS FOR CONSTRUCTION HAVE BEEN PROVIDED AND ARE LABELED ON SHEETS THROUGHOUT THE PLAN SET.	OWNER & ENGINEER. CONTRACTOR SHALL TAKE CARE TO PROVIDE PROPER GRADE ELEVATIONS AND ALIGNMENTS. COVER THAN 5-FT BELOW FINISHED GRADE SHALL BE APPROVED BY OWNER & ENGINEER, WITH DEPTHS NOTED ON AS-BUILT DRAWING PIPE IS INSTALLED VIA DIRECTIONAL DRILL.
F	2. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING CONSTRUCTION STANDARDS ADOPTED BY THE CITY/COUNTY. WHERE CONFLICTS OR OMISSIONS EXIST, THE CITY OF NAPLES ST SHALL DICTATE. SUBSTITUTIONS AND DEVIATION FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.	ANDARDS 21. THE CONTRACTOR SHALL LOCATE WATER AND WASTEWATER MAINS AT PROPOSED TIE-IN LOCATIONS TO VERIFY ACTUAL LOCA ELEVATION, AND MATERIAL PRIOR TO ORDERING MATERIALS FOR SAID WORK.
	<ol> <li>SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATI</li> <li>ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF NAPLES CONSTRUCTION SPECIFICATIONS, LATES</li> </ol>	COUNTY HEALTH DEPARTMENT STANDARDS. A REPRESENTATIVE OF THE OWNER MUST BE PRESENT DURING THE TAKING OF
	<ol> <li>ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF NAPLES CONSTRUCTION SPECIFICATIONS, LATES EDITION, UNLESS OTHERWISE WAIVED.</li> <li>IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN HAND BE</li> </ol>	23. A NOTICE OF TWO FULL WORKING DAYS MUST BE PROVIDED TO THE OWNER'S INSPECTOR PRIOR TO FLUSHING AND TESTING. INS MUST BE PRESENT DURING PRESSURE TESTING, DISINFECTING, PIGGING AND WATER SAMPLING FOR POTABLE WATER M
-	BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORIT ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE, SHALL BE FULLY BORNE BY THE CONTRACTOR.	24. TRACER WIRE SHALL BE PROVIDED AS REQUIRED BY CITY STANDARDS. AT A MINIMUM THE TRACER WIRE SHALL BE BLUE C GAUGE (TWO (2) #4 GAUGE UF TRACER WIRES IF PIPELINE INSTALLED BY DIRECTIONAL DRILL), UF SOLID STRAND FOR POTAE
	6. THE LOCATION OF ALL EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEEN INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSI FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION OF THESE UTILITIES WITH THE OW	BILITYTHROUGH THE ENTIRE RUN OF PIPE BY PROVIDING FULL SIGNAL CONDUCTIVITY (INCLUDING SPLICES) WHEN ENERGIZING FOR 1NOTIFYRUN IN THE PRESENCE OF THE INSPECTOR. DEFECTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. POSITION & 1NOTIFYLOCATOR WIRES AS DEPICTED IN MISCELLANEOUS DETAILS.
E	THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING UNDERGROUND UTILITIES, WHETHER SHOWN ON T OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE BROUT THE ATTENTION OF THE ENGINEER FIRST. ANY FEES ASSOCIATED WITH UTILITY RELOCATIONS SHALL BE BORNE IN ACCORDANCE RESPECTIVE UTILITY COMPANY STANDARDS. IT IS REQUESTED UTILITY COMPANIES MOVE THEIR PARTICULAR UTILITIES. ANY DEL	3HT TO 25. ALL EXISTING POTABLE WATER AND WASTEWATER MAINS SHALL REMAIN OPERATIONAL AND SHALL NOT BE TAKEN OUT O WITH DURING CONSTRUCTION WITHOUT APPROVAL FROM UTILITY. ANY APPROVED REMOVAL FROM SERVICES SHALL NOT EXCEED 3 HO
	INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE C AND NO EXTRA COMPENSATION WILL BE ALLOWED.	26. FLORIDA LAW (F.S. 553.851) REQUIRES THAT PERSONS MAKING EXCAVATIONS IN PUBLIC AND PRIVATE STREETS, ALLEYS, RIGH OR UTILITY EASEMENTS MUST FIRST OBTAIN INFORMATION ON LOCATION OF UNDERGROUND GAS PIPELINES.
	7. THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING TO BE HELD BETWEEN THE CITY OF NAPLES, UTILITIES, ENG RECORD, AND CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.	NEER OF 27. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A REGISTERED FLORIDA PROFESSIONAL LAND SURVEYOR FOR LAYOUT OF AND FOR RESTORING ALL MONUMENTS AND PROPERTY CORNERS DISTURBED DURING CONSTRUCTION. PROOF OF REGISTRAT BE SUBMITTED TO ENGINEER.
	8. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF EVERY KIND SHALL BE PLACED BENEATH THE PAVEMENT AND ITS EDGES PRIOR TO THE CONSTRUCTION OF THE PAVEMENT. THE PAVEMENT SHALL NOT BE CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER.	28. CONTRACTOR WATER MAIN CLEARANCE PACKAGES SHALL CONTAIN AS-BUILT DRAWINGS SIGNED AND SEALED BY A LICENSED S PASSING BACTERIOLOGICAL TEST REPORTS, AND PRESSURE TEST FORMS SIGNED BY THE CITY PROJECT INSPECTOR. SUBMITT INCLUDE FOUR (4) HARDCOPY SETS INCLUDING THE ORIGINAL PASSING BACTERIOLOGICAL SAMPLE REPORTS AND ONE (1) CD C
	9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND AT LEAST 48 HO HOURS BEFORE REQUIRED INSPECTION ON EACH AND EVERY PHASE OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER MINIMUM OF 48 HOURS NOTICE PRIOR TO ANY SCHEDULED TESTING. NO PRESSURE TESTING, OR FINAL TESTING WILL BE ACCEPT UNLESS WITNESSED BY THE ENGINEER'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE WITH CITY AT LEAST 48 HOURS PR CONNECTION TO EXISTING MAINS.	A THE CONTRACT DOCUMENTS ALONG WITH THE LOCATIONS OF THE BACTERIOLOGICAL SAMPLES LABELED TO CORRESPON BACTERIOLOGICAL SAMPLE REPORTS. FAILURE OF THE CONTRACTOR TO PROVIDE THE REQUIRED INFORMATION OR SUBM IOR TO POOR QUALITY AS-BUILT DRAWINGS WILL COUNT AS AN APPLICATION REVIEW. POOR QUALITY AS-BUILT DRAWINGS WILL BE WITH COMMENTS ONE (1) TIME AND SUBSEQUENT REVIEWS OF POOR QUALITY AS-BUILT DRAWINGS SUBMITTED BY THE CO WILL BE COUNTED AS ONE (1) APPLICATION REVIEW PER INSTANCE AND THE CITY AND ENGINEER WILL DEDUCT REVIEW, HAND
D	10. ALL CONTRACTORS, CITY REPRESENTATIVES, AND UTILITY COMPANIES ARE RESPONSIBLE FOR THEIR RESPECTIVE SURVEYING A LAYOUT FROM BENCHMARK PROVIDED ON CONSTRUCTION PLANS. ANY SURVEY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED UPON COMPLETION OF THE WORK BY A REGISTERED LAND SURVEYOR.	
	11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING ANY CONSTRUCTION ACTIVITIES FROM TAKING PLACE OUTSIDE OF LIMITS OF CONSTRUCTION SHOWN ON THE PLANS. ANY ON-SITE OR OFFSITE AREAS DISTURBED SHALL BE RESTORED TO ORIGIN, CONDITION OR BETTER.	
	12. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE JOB SITE DURING ALL F OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF RECORD DRAWINGS TO THE ENGINEER OF RECORD V TWO (2) WEEKS AFTER CONSTRUCTION HAS BEEN COMPLETED ON EACH PHASE.	
	13. TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS WERE TAKEN FROM SURVEY PROVIDED BY: JOHNSON ENGINEERING, INC. JOHNSON STREET, FORT MEYERS, FL 33901.	OR SEWER SERVICE SO THEY CAN REMOVE, RELOCATE, DISCONNECT, CAP OR PLUG THEIR EQUIPMENT IN ORDER TO 2122 DEMOLITION.
	14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY TESTING TO ASSURE THAT THE PROPER COMPACTION BEEN ACHIEVED ON THE SUBGRADE, BASE, AND ALL OTHER PERTINENT AREAS THAT HAVE BEEN COMPLETED. THE CONTRACTOR BEAR ALL COSTS ASSOCIATED WITH TESTING AND RETESTING OF THE AREAS AND SHALL PROVIDE THE OWNER AND THE ENGINE COPIES OF THE CERTIFICATION OF COMPACTION FROM THE TESTING COMPANY.	SHALL DAMAGED DURING CONSTRUCTION AND SHALL MAINTAIN SUFFICIENT PROTECTION FOR ALL UTILITIES REQUIRED TO PROTECT 1
	15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXISTING SITE CONDITIONS OF SOIL PRIOR TO N.T.P. CONSTRUCTION TO DETERMINE IF ANY OFF SITE MATERIALS WILL NEED TO BE IMPORTED TO ACHIEVE THE GRADES SPECIFIED ON THE PLANS.	
С	16. ALL EXCESS FILL FROM SITE SHALL BE STOCKPILED BY THE CONTRACTOR, IN A LOCATION DETERMINED BY THE OWNER OR THE OR REPRESENTATIVE AND THE ENGINEER.	5. THE CONTRACTOR SHALL REMOVE BUILDING STRUCTURES MARKED FOR DEMOLITION WHICH INCLUDES FOOTERS ASSOCIATED WNER'S STRUCTURE, WATER LINES TO THE METER LOCATION, LATERALS TO THE RIGHT-OF-WAY LINE (CAP PRIOR TO BACKFILLING THI AND UNDERGROUND ELECTRICAL WIRING NOT ASSOCIATED WITH THE APPROPRIATE POWER COMPANY.
	17. CLEAR AREAS INDICATED SHALL BE COMPLETELY CLEAR OF ALL TIMBER, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH, AND OTHER DEBRIS AND OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE GROUND.	ALL 6. THE CONTRACTOR SHALL REMOVE PAVING MARKED FOR DEMOLITION WHICH INCLUDES ALL ASPHALT, CONCRETE, BASE, AND WALLS (INCLUDING THE FOOTERS).
	18. PRIOR TO BID PREPARATION, THE CONTRACTOR MUST BECOME FAMILIAR WITH THE OVERALL SITE CONDITIONS AND PERFORM ADDITIONAL INVESTIGATIONS AS DETERMINED NECESSARY TO UNDERSTAND THE LIMIT AND DEPTH OF EXPECTED ORGANIC SILT AREAS, ADEQUACY OF EXISTING MATERIALS AS FILL, DEWATERING REQUIREMENTS, CLEAN FILL REQUIRED FROM OFFSITE, AND	
-	MATERIALS TO BE DISPOSED OF OFFSITE, ALL OF WHICH WILL AFFECT HIS PRICING. ANY DELAY, INCONVENIENCE, OR EXPENSE OF TO THE CONTRACTOR DUE TO INADEQUATE INVESTIGATION OF EXISTING CONDITIONS SHALL BE INCIDENTAL TO THE CONTRACT, EXTRA COMPENSATION WILL BE ALLOWED. THE MATERIALS ANTICIPATED TO BE ENCOUNTERED DURING CONSTRUCTION MAY RE DRYING PRIOR TO USE AS BACKFILL, AND THE CONTRACTOR MAY HAVE TO IMPORT MATERIALS, AT NO EXTRA COST, FROM OFFSI	AND NO ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. QUIRE
	19. IN ORDER TO PROTECT THE WATER SUPPLY FACILITIES, THE LOCATIONS OF UTILITIES MUST BE FIELD VERIFIED BY THE CONTRACTOR MAY HAVE TO IMPORT MATERIALS, AT NO EXTRA COST, FROM OFFSI MEET THE REQUIREMENTS FOR COMPACTION AND PROPER FILL.	PRIOR TO CONNECTING PROPOSED PAVEMENT TO EXISTING PAVEMENT, THE CONTRACTOR SHALL ENSURE THAT THE EDO EXISTING PAVEMENT IS STRAIGHT AND UNIFORM. FOR
	BEFORE CONSTRUCTION. THE FOLLOWING MINIMUM WALL TO WALL SEPARATIONS MUST BE MAINTAINED FROM ALL WATER MAINS	10. CONTRACTOR SHALL REMOVE & REPLACE ALL SIGNS, MAILBOXES, FENCING, DRAINAGE STRUCTURES, ETC. AS REQUIRED TO THIS PROJECT. ALL SUCH RESTORATION SHALL BE COMPLETED IMMEDIATELY FOLLOWING PIPE INSTALLATION & BACK FILLIN BE INCLUDED IN CONTRACTOR'S PRICE FOR PROJECT.
В	GAS         5 FT.         12 IN.           TELEPHONE         2 FT.         12 IN.           CABLE TV         2 FT.         12 IN.	11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ALL REMOVED/DEMOLISHED PIPE, STI EQUIPMENT, AND APPURTENANCES.
	CABLE IV2 F1.12 IN.FIBER OPTICS2 FT.12 IN.	OTHER UTILITY INFORMATION:
	ELECTRIC: UNDERGROUND 5 FT. 12 IN.	1. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES WHICH MAY HAVE THEIR UTILITIES WITHIN THE CONSTRUCTION AREAS THEIR FACILITIES IN THE FIELD FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION.
	UTILITY POLES 2 FT. N/A	2. CHAPTER 553 - 851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY GAS UTILITIES A MINIMUM OF TWO (2 DAYS PRIOR TO EXCAVATING. THE DRAWINGS DO NOT SHOW THE LOCATIONS OF GAS MAINS OR SERVICE LINES.
	STORM SEWER10 FT.18 IN.GRAVITY SANITARY SEWER10 FT.18 IN.	3. LANDSCAPING SHALL NOT BE LOCATED WITHIN 3 FEET OF ANY FIRE HYDRANT AND/OR FIRE DEPARTMENT CONNECTION.
	GRAVITY SANITARY SEWER10 FT.18 IN.SANITARY SEWER FORCE MAIN10 FT.18 IN.	4. CONTRACTOR SHALL PROVIDE SHEETING AND SHORING AS REQUIRED FOR SAFE PIPING INSTALLATION. CONTRACTOR SHAL
	WHEN THE MINIMUM SEPARATION REQUIREMENTS FOR THE CITY(OWNER), THE COLLIER COUNTY HEALTH DEPARTMENT, OR OTHE AGENCIES DIFFER, THE MORE STRINGENT REQUIREMENT MUST BE MET. THE OWNER RESERVES THE RIGHT, WHEN NECESSARY, REQUIRE ADDITIONAL SEPARATION DEPENDING ON THE CIRCUMSTANCES.	R SUPPORT FOR ANY EXISTING POLES, STRUCTURES, ETC. DURING CONSTRUCTION, AND SHEETING AND SHORING FOR EXISTING
	ANY VARIANCES TO THE DISTANCES SHOWN IN THE TABLE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE COLLI COUNTY HEALTH DEPARTMENT AND OWNER PRIOR TO CONSTRUCTION.	
А	TREES ARE NOT TO BE PLANTED OVER WATER LINES AND THERE MUST BE A 5-FT HORIZONTAL SEPARATION BETWEEN TREES AND LINES.	<ol> <li>COMPACT ALL UTILITY TRENCHES WITHIN ROADWAYS TO 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T - 180) A WITHIN OTHER AREAS.</li> <li>ALL ORGANIC SOILS BELOW UTILITY TRENCHES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AND COMPACT</li> </ol>
	THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND LICENSES FOR PERFORMING THE DEMOLITION WORK AND SHALL FU COPY OF SAME TO THE ENGINEER PRIOR TO COMMENCING THE WORK. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREME THE PERMITS.	RNISH A LESS THAN 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T - 180).
	20. ALL PIPE AND FITTINGS SHALL BE PRESSURE TESTED & LEAKAGE TESTED AS SPECIFIED IN SECTION 15044 OF THE PROJECT MAI	4. ASPHALTIC CONCRETE TO FDOT STANDARD SPECIFICATION (LATEST EDITION) SECTION 916.1 AND CITY/COUNTY, WHICHEVER IS G
	BY APPROVED CITY, STATE & FEDERAL STANDARDS. FOR ALL LEAKAGE AMOUNTS GREATER THAN "ALLOWABLE LEAKAGE" AS SE IN CONTRACT DOCUMENTS AND APPROVED CITY STANDARDS, ALL LEAKS SHALL BE UNCOVERED AND REPAIRED AND ALL PIPES.	ECIFIED 5. ALL PAVEMENT MARKINGS SHALL BE REFLECTIVE PAINT. (STOP BARS TO BE THERMOSPLASTIC)

PROVED BY R GREATER GS, UNLESS

ATION, SIZE,

**REVISION OF** S & COLLIER ALL WATER

SPECTOR

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LL PROVIDE ROADWAY AVE UTILITY R ALL COSTS

AND TO 95%

CTED TO NO

GREATER.

6. ALL CONCRETE FLUMES, WALKS,

- 7. ALL ON-SITE AREAS DISTURBED BETTER) OR APPROVED EQUAL.
- REQUIRED FOR DEWATERING ACTIVITIES.
- COMPACTION TESTS WILL BE BORNE BY THE CONTRACTOR.
- STEEPER SHALL BE STAKED.
- FLORIDA ADMINISTRATIVE CODE.
- REPLACED WITH LIKE TREES OF SIMILAR SIZE.

## **EROSION CONTROL NOTES:**

- 3. REQUIRED INSPECTIONS BY CONTRACTOR DURING CONSTRUCTION:
- b. REPAIR ALL DAMAGED AREAS WITHIN 24 HRS OF DISCOVERY.
- FROM POSTS.

CONDUCT ALL INSPECTIONS AND MAINTAIN REPORTS. g. DATES OF ALL MAJOR GRADING ACTIVITIES MUST BE RECORDED AND MAINTAINED WITH SITE INSPECTIONS WHEN MAJOR GRADING HAS CEASED IN ANY AREA, THE DATE MUST ALSO BE RECORDED.

- FOLLOWING ITEMS ARE ADDRESSED. • AN EFFORT TO STORE ONLY WHAT IS NEEDED ON THE SITE.

  - INSPECT DAILY TO INSURE WASTE MATERIAL IS DISPOSED OF PROPERLY.

	Sheet List Table
Sheet Number	Sheet Title
	COVER
G-002	GENERAL NOTES
G-003	LEGEND & ABBREVIATIONS
G-101	KEY PLAN
G-102	FIRE HYDRANT OVERLAY
C-101	SANDPIPER ST & SHEEPSHEAD DR
C-102	SHEEPSHEAD DR STA 4+50 TO STA 15+00
C-103	SNOOK DR STA 0+00 TO STA 22+00
C-104	SNOOK DR STA 22+00 TO STA 29+44
C-105	TARPON RD STA 10+00 TO STA 28+00
C-106	TARPON RD STA 28+00 TO STA 45+00
C-107	KINGFISH RD STA 0+00 TO STA 12+00
C-108	KINGFISH RD STA 12+00 TO STA 23+50
C-109	KINGFISH RD STA 23+50 TO STA 33+00
C-110	KINGFISH RD & TARPON ROAD
C-111	SNOOK DRIVE FORCEMAIN - CITY REFERENCE DRAWING
D-101	DETAILS
D-102	DETAILS
D-103	DETAILS
D-104	DETAILS
D-105	DETAILS

PIPING WATERIAL SCHEDULE											
MARK	SERVICE	BU	BURIED FITTINGS								
	SERVICE	MATERIAL CLASS		LINING	MATERIAL	LINING					
PW	POTABLE (8-INCH & BELOW)	PVC	DR18	NA	DI	CEMENT					
PW	POTABLE (DIRECTIONAL DRILL)	HDPE	DR11	NA	NA	NA					
FM	WASTEWATER (4-INCH)	PVC	DR14	NA	DI	CEMENT					
SD	STORM DRAIN	CORRUGATED PVC		NA	DI	CEMENT					
NOTE:											

- PROJECT TO BE COMPLETED IN A SINGLE PHASE.

- 5. REFER TO SHEET G-101 FOR AREA DESIGNATIONS.

AND CURBS SHALL BE CONSTRUCTE	ED WITH 3000 PSI CONC	CRETE.	
BY THE CONSTRUCTION SHALL BE	STABILIZED WITH SOI	D (SAME AS SURROUNDING	AREA OF

8. ALL DEWATERING COSTS ASSOCIATED WITH THE INSTALLATION AND CONSTRUCTION OF THE UNDERGROUND UTILITIES SHALI BE INCLUDED AS PART OF THE CONSTRUCTION BID COSTS. THE CONTRACTOR SHALL SUBMIT FOR WATER USE PERMITS I

9. PLANS AND SPECIFICATIONS REQUIRE THAT COMPACTED BACKFILL BE PLACED ALONG SIDE OF AND OVER ALL UTILITIES. THI ENGINEER MAY REQUIRE THAT COMPACTION TESTS BE TAKEN TO VERIFY BACKFILL COMPACTION. THE COST OF SUCH

10. THE CONTRACTOR MUST INSTALL AND MAINTAIN GRASS OR SOD ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETED FINAL GRADES, AS NOTED ON PLANS, AND AT ANY OTHER TIME AS NECESSARY TO PREVENT EROSION, SEDIMENTATION OF TURBID DISCHARGES TO ANY DOWNSTREAM WATER BODY, WETLAND, OR OFF-SITE PROPERTY. SODDING ON SLOPES 3:1 ANI

MAINS, RAW 11. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONTROL TURBIDITY AND SEDIMENT INCLUDING, BUT NO LIMITED TO, THE INSTALLATION OF TURBIDITY BARRIERS AND SILT FENCES AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY AND SEDIMENT BARRIERS MUST BE MAINTAINED AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFFSITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTERS 62-302 AND 62-4

12. SOD SHALL BE OF EXISTING GRASS TYPE, WELL MATTED WITH ROOTS, OF SUFFICIENT THICKNESS TO WITHSTAND ALI NECESSARY HANDLING AND REASONABLY FREE OF WEEDS AND OTHER GRASSES. SOD SHALL BE FRESHLY CUT, HEALTHY AND GREEN IN APPEARANCE AND BE IN COMMERCIAL SIZE RECTANGLES, PREFERABLY TWELVE INCHES (12") BY TWENTY-FOUR (24"), OR LARGER. SOD SHALL BE PLACED WITHIN TWENTY-FOUR (24) HOURS OF ARRIVAL TO THE JOB SITE WHERE THE SOD IS PLACED ON SLOPES 3:1 OR STEEPER THE SEAMS SHALL BE STAGGERED OR STAKED. TREES SHALL BE

1. TEMPORARY STABILIZATION IS REQUIRED OF ALL SOIL LEFT BARE FOR GREATER THAN 14 DAYS.

2. PERMANENT SOIL STABILIZATION REQUIRED. SEE LANDSCAPE PLANS FOR SOD AND PROTECTION LOCATIONS.

a. ONCE EACH WEEK OR WITHIN 24 HRS OF A STORM EVENT (GREATER THAN 1/2 IN.) INSPECT ALL CONTROL MEASURES.

c. REMOVE ANY BUILT-UP SEDIMENT AROUND FENCES THAT REACHES 1/3 OF THE SILT FENCE HEIGHT.

d. SILT FENCES SHOULD BE INSPECTED FOR DEPTH OF SEDIMENT AND TEARS TO INSURE FABRIC HAS NOT PULLED AWAY

e. INSPECT ALL TEMPORARY AND PERMANENT SOIL STABILIZATION FOR WASHOUTS OR BARE SPOTS.

f. INSPECTION REPORTS MUST BE AVAILABLE FOR INSPECTION AT ALL TIMES. THE SITE SUPERINTENDENT SHALL

5. GOOD HOUSEKEEPING - THE SITE SHOULD BE KEPT IN AN ORDERLY FASHION, THE CONTRACTOR SHALL INSURE THE

• KEEP ALL STORED MATERIALS IN A NEAT AND ORDERLY FASHION IN THE ORIGINAL CONTAINERS WHEN POSSIBLE. • FOLLOW ALL MANUFACTURERS RECOMMENDED PROCEDURES FOR DISPOSAL OF WASTE MATERIAL.

## DIDING MATERIAL SCHEDULE

2. ALL MAIN PIPING UNDER ROADWAYS SHALL BE DR14.

3. DURING CONSTRUCTION, WHEN COMBUSTIBLES ARE BROUGHT ONTO THE SITE IN SUCH QUANTITIES AS DEEMED HAZARDOUS BY THE FIRE OFFICIAL, STABILIZED ACCESS ROADS AND A SUITABLE TEMPORARY SUPPLY OF WATER ACCEPTABLE TO THE FIRE DEPARTMENT SHALL BE PROVIDED AND MAINTAINED.

4. ADDRESS NUMBERS SHALL BE PROVIDED IN ACCORDANCE WITH LAND DEVELOPMENT CODE ARTICLE 14.

6. ALL MATERIALS THAT COME INTO CONTACT WITH POTABLE WATER SHALL BE NSF STANDARD 61 APPROVED.

7. ALL PVC POTABLE WATER PIPING SHALL BE BLUE AND WASTEWATER PIPING SHALL BE GREEN.

		THE TETRA TECH		)	www.tetratech.com	10600 CHEVROLET WAY, SUITE 300	ESTERO, FL 33928	PHONE: 239.390.1467 FAX: 239.390.1769
Brett T Messner D F	P.E. No. 77029. FL	Tetra Tech Inc. 201 E Dine Street Suite 1000	Orlando, FL 32801	Engineering Business No. 2429			DATE	
BY								
MARK DATE DESCRIPTION								
CITY OF NAPI ES		ROYAL HARBOR		PHASE 1		GENERAL NOIES		
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## LIST OF STANDARD ABBREVIATIONS

ALARM ANNUNCIATOR PANEL AAP AARV AUTOMATIC AIR RELEASE VALVE AAV AUTOMATIC AIR VENT ANCHOR BOLT AB ABAN ABANDON(ED) ABRSV ABRASIVE ABS ACRYLONITRILE BUTADIENE STYRENE ABV ABOVE AC ALTERNATING CURRENT ACCMP ASPHALT-COATED CORRUGATED METAL PIPE ACP ASBESTOS CEMENT PIPE ADDM ADDENDUM ADH ADHESIVE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AFS ABOVE FINISHED SLAB AHD AHEAD ALUMINUM AL ALT ALTERNATE AMP AMPERE AMT APRX AMOUNT APPROXIMATE(LY) ARCH ARCHITECT(URAL) AS ALUM SOLUTION ASPH ASPHALT ASSY ASSEMBLY AVE AVENUE A/C AIR CONDITIONING AIR/VACUUM AIR VALVE A/VV В BAFFLE BAF BCV BALL CHECK VALVE BF BLIND FLANGE BFV BUTTERFLY VALVE BHP BRAKE HORSEPOWER BLACK IRON BI BITUM BITUMINOUS OR BITUMASTIC B/L BASELINE BLDG BUILDING BLK BLOCK BM BENCH MARK BOC BACK OF CURB BOT BOTTOM BP BASE PLATE BRG BEARING BSP BLACK STEEL PIPE ΒV BALL VALVE BW BOTH WAYS BWW BACKWASH WATER CAP CAPACITY COMPRESSED AIR CA CAV COMBINATION AIR VALVE CB CATCH BASIN CCC CHLORINE CONTACT CHAMBER CHLORINATED EFFLUENT CE CFM CUBIC FEET PER MINUTE CFS CUBIC FEET PER SECOND CV CHECK VALVE CAST IRON CI CAST IRON PIPE CIP CISP CAST IRON SOIL PIPE CJ CONSTRUCTION JOINT CKT CIRCUIT CENTER LINE C/L CL2 CHLORINE GAS CLF CHAIN LINK FENCE CLR CLEAR OR CLEARANCE CLVT CMP CULVERT CORRUGATED METAL PIPE CMPA CORRUGATED METAL PIPE ARCH CONCRETE MASONRY UNIT CMU CND CONDUIT CNR CORNER CO CLEAN OUT CO2 CARBON DIOXIDE COAG COAGULANT COL COLUMN COM COMMON CONC CONCRETE CONN CONNECTION CONSTR CONSTRUCT(ION) CONT CONTINUOUS CONTR CONTRACT(OR) COORD COORDINATE CO COMPANY CP CONCRETE PIPE CPA CONCRETE PIPE ARCH CPLG COUPLING CPVC CHLORINATED POLYVINYL CHLORIDE CR CONCENTRIC REDUCER CS CHLORINE SOLUTION CSG CASING CABLE TELEVISION CTV CY CUBIC YARD CYL CYLINDER C&G CURB AND GUTTER C/C CENTER TO CENTER D DATUM DAT DBL DC DOUBLE DIRECT CURRENT DEMO DEMOLITION DEPT DEPARTMENT DESC DESCRIPTION DET DETAIL DF DIESEL FUEL DUCTILE IRON DI DIA DIAMETER DIFF DIFFUSER DIM DIMENSION DIP DUCTILE IRON PIPE DISCH DISCHARGE DIR DIRECTION DMH DROP MANHOLE DN DOWN DR DRAIN DIAPHRAGM VALVE DV DRIVEWAY DW DWG DRAWING DRAIN, WASTE, AND VENT DWV

E		LEN LB
E	EAST	LF
EA	EACH	LP
ECC	ECCENTRIC	LS
EF	EACH FACE	LSS
EFF	EFFLUENT	LVR
E/L	EASEMENT LINE	LWL
ELAST ELEC	ELEVATION ELASTOMERIC ELECTRICAL	M M
EMER	EMERGENCY	MAI
EMC	ENCASE(MENT)	MAN
ENGR	ENGINEER	MAS
EP EPDM	EDGE OF PAVEMENT ETHYLENE PROPYLENE DIENE MONOMER	MAT MAX MCC
EPRF	EXPLOSION PROOF	ME
EQUIP	EQUIPMENT	MEC
ER	ECCENTRIC REDUCER	MEC
ESTM	EASEMENT	MFF
EST	ESTIMATE(D)	MG
EW	EACH WAY	MGE
EXC	EXCAVATE	MH
EXP	EXPANSION	MI
	EXISTING EXISTING GRADE EXTERIOR	MIN MIS MJ
EXTN F	EXTENSION	ML MO MON
FAB	FABRICATE(D)	MPH
FCA	FLANGED COUPLING ADAPTER	MPT
FB	FLAT BAR	MS
FCV	FLOW-CONTROL VALVE	MSF
FD	FLOOR DRAIN	MTE
FDN	FOUNDATION	M∨
FE	FILTER(ED) EFFLUENT	MW
FHY	FIRE HYDRANT	MWI
FIG FIN FIN FLR	FIGURE FINISH(ED) FINISH FLOOR	MWI <u>N</u>
FIN GR	FINISH GRADE	N
FL	FLUORIDE	NaC
FLG	FLANGE(D)	NE
FLL	FLOW LINE	NIC
FLTR	FILTER	NO
FM	FORCE MAIN	NON
FPM FPS FRP	FEET PER MINUTE FEET PER SECOND FIBERGLASS REINFORCED	NPF NPT
FT FUT	PLASTIC FOOT OR FEET FUTURE	NPV NRS NTS
FV	FOOT VALVE	NW
FW	FINISHED WATER	N/A
FWP	FACTORY WIRED PANEL	<b><u>0</u></b>
F/F	FACE TO FACE	02
<b>G</b> GA GAL	GAUGE GALLON(S)	OC OD ODF
GALV	GALVANIZED	OF
GIP	GALVANIZED IRON PIPE	OH
GJ	GROOVE JOINT	OHV
GND	GROUND	OPF
GPD	GALLONS PER DAY	OPT
GPH	GALLONS PER HOUR	OR
GPM GPS GR	GALLONS PER MINUTE GALLONS PER SECOND GRADE	OSY O&N
GRTG	GRATING	P
GS	GALVANIZED STEEL	PA
GSP	GALVANIZED STEEL PIPE	PC
GSR GST	GROUND STORAGE RESERVOIR GROUND STORAGE TANK	PCM
GT GV	GROUT GATE VALVE	PE PG PI
HB HD	HOSE BIBB HEAVY-DUTY	PL P/L PNV
HDPE	HIGH-DENSITY POLYETHYLENE	POE
HDR	HYDRAULIC	POJ
HFA	HYDROFLUOSILICIC ACID	POL
HGR	HANGER	PP
HGT	HEIGHT	PPD
HNDRL	HAND RAIL	PPM
	HAND-OFF-AUTO HORIZONTAL HORSEPOWER	PRE PRE PRV
HPA	HIGH PRESSURE AIR	PRV
HR	HOUR	PSF
HVAC	HEATING, VENTILATION, AND AIR	PSI
HWL	CONDITIONING HIGH WATER LEVEL	PSIA
HWY	HIGHWAY	PSIC
HZ	HERTZ	PT
ID IN	INSIDE DIAMETER INCH(ES)	PV PVC PVM
INF INT INTR	INFLUENT INTERSECTION INTERIOR	PW PWF
INV	INVERT	<b>Q</b>
IP	IRON PIPE	Q
IPS	INTERNATIONAL PIPE	QTY
IR IW	STANDARD INTERNAL RECYCLE IRRIGATION WATER	<b>R</b> Rad
<u>J</u> JB	JUNCTION BOX	RAS RC RCE
JT K	JOINT	RCF
K	KIP (1,000 LB)	RD
KPL	KICK PLATE	RDC
KV	KILOVOLT	REB
KVA	KILOVOLT-AMPERE	REF
KW	KILOWATT	REII
KWH	KILOWATT-HOUR	REII
		REN REC RF RJ
LAB LAM	LEFT LABORATORY LAMINATE OR LAMINATION	RJ RM RPB
LATL LAV	LATERAL LAVATORY	RPM

2

LEN

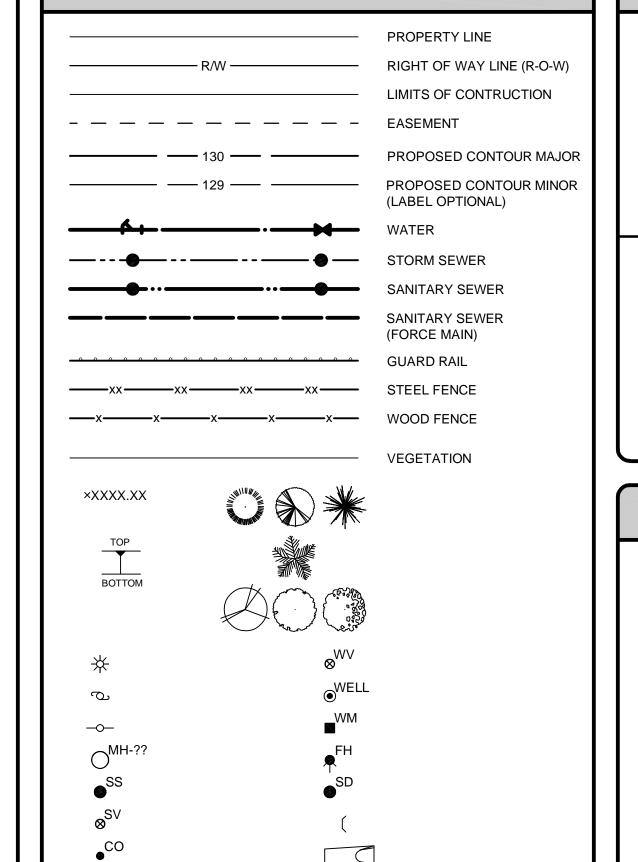
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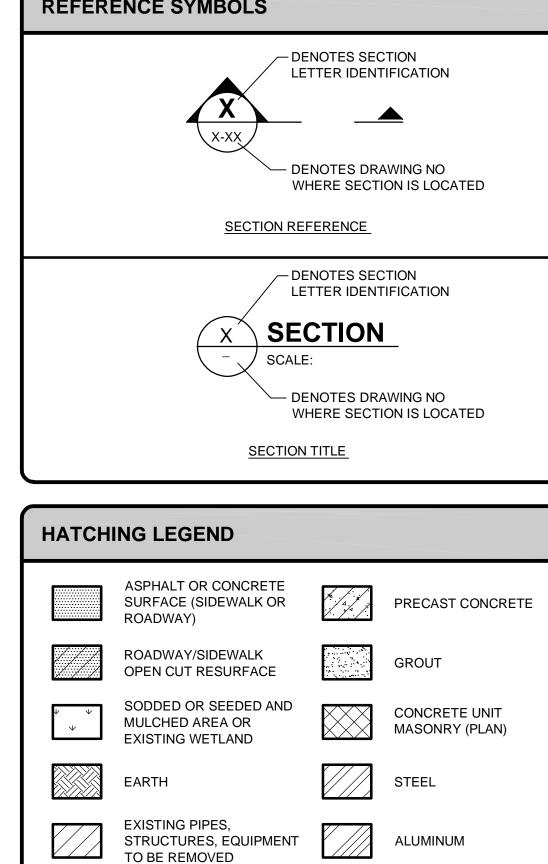
LB LF	POUND(S) LINEAR FEET	RT RVT	RIGHT RIVETED
LP	LIGHT POLE	RW	RAW WATER
LS LSS	LIME SLURRY LIME STABILIZED SLUDGE	RWW R/W	RAW WASTEWATER RIGHT-OF-WAY
LVR	LOUVER		
LWL	LOW WATER LEVEL	<u>s</u>	SOUTH
M		SA	SAMPLE LINE
M MAINT	METER MAINTAIN OR MAINTENANCE	SAN SCHED	SANITARY SCHEDULE
MAN	MANUAL(LY)	SD	STORM DRAIN
MAS	MASONRY	SE SECT	SOUTHEAST
MATL MAX	MATERIAL MAXIMUM	SEFF	SECTION SECONDARY EFFLUENT
MCC	MOTOR CONTROL CENTER	SF	SQUARE FOOT OR FEET
ME MECH	MITERED END MECHANICAL	SHT SIG	SHEET(ED)(ING) SIGNAL
MEG	MATCH EXISTING GRADE	SIM	SIMILAR
MFR MG	MANUFACTURE(R) MILLION GALLONS	SL SLV	SLUDGE SLEEVE
MGD	MILLION GALLONS PER DAY	SM	SHEET METAL
MH MI	MANHOLE	SOLN SP	SOLUTION
MIN	MILE(S) MINIMUM, MINUTE(S)	SPEC	SOIL PIPE, SPACE(ING) SPECIFICATION
MISC	MISCELLANEOUS	SPRT	SUPPORT
MJ ML	MECHANICAL JOINT MIXED LIQUOR	SQ SS	SQUARE SANITARY SEWER
MO	MASONRY OPENING	SSE	SUBSTANDARD EFFLUENT
MON MPH	MONUMENT MILES PER HOUR	SST ST	STAINLESS STEEL STREET
MPT	MALE PIPE THREAD	STA	STATION
MS MSP	MOTOR STARTER MOTOR STARTER PANEL	STD STK	STANDARD STAKE
MTD	MOUNTED	STL	STEEL
MV MW	MOTORIZED VALVE MANWAY	STR STRUCT	STRAIGHT STRUCTURAL
MWL	MEAN WATER LEVEL	SURF	SURFACE
MWP	MAXIMUM WORKING PRESSURE	SV	SOLENOID VALVE
<u>N</u>		SVCE SVW	SERVICE SERVICE WATER
Ν	NORTH	SW	SOUTHWEST
NaOCl NE	SODIUM HYPOCHLORITE NORTHEAST	SWD SWSH	SIDEWATER DEPTH SURFACE WASH
NIC	NOT IN CONTRACT	SYM	SYMBOL
NO NOM	NUMBER NOMINAL	SYMM S/W	SYMMETRICAL SIDEWALK
NPF	NATIONAL PIPE THREAD		
NPT	NATIONAL PIPE TAPER (THREAD)	<u>Т</u> ТАN	TANGENT
NPW	NON-POTABLE WATER	TB	TOP OF BEAM
NRS	NON-RISING SYSTEM	TBM	TEMPORARY BENCH MARK
NTS NW	NOT TO SCALE NORTHWEST	TB-xx TD	TEST BORING-xx (e.g. TB-1) TRENCH DRAIN
N/A	NOT APPLICABLE	TDH	TOTAL DYNAMIC HEAD
0		TE TEFC	TOTALLY ENCLOSED TOTALLY ENCLOSED FAN
02	OXYGEN	TETO	COOLED
OC OD	ON CENTER OUTSIDE DIAMETER	TEL TENV	TELEPHONE TOTALLY ENCLOSED
OD	OPEN DRIP PROOF	IEINV	NON-VENTILATED
OF	OUTSIDE FACE	THD	THREAD(ED)
OH OHW	OVER HEAD OVER HEAD WIRE	THK TLM	THICK(NESS) TELEMETRY
OPP	OPPOSITE	TOB	TOP OF BANK
OPT OR	OPTIONAL OFFICIAL RECORDS	TOC TOS	TOP OF CURB TOE OF SLOPE
OSY	OUTSIDE SCREW AND YOKE	TOT	TOTAL
O&M	OPERATION AND MAINTENANCE	TP TS	TELEPHONE POLE THICKENED SLUDGE
P		TV	TELEVISION
PA	PROCESS AIR	TYP	TYPICAL
PC PCM	POINT OF CURVE PERMANENT CONTROL	T&B	TOP AND BOTTOM
	MONUMENT	<u>U</u>	
PE PG	PLAIN END PRESSURE GAGE		UNDERDRAIN UNDERGROUND
PI	POINT OF INTERSECTION	ULT	ULTIMATE
PL P/L	PLATE PROPERTY LINE	UN UON	UNION UNLESS OTHERWISE NOTED
P/L PNV	PINCH VALVE	UGE	UNDERGROUND ELECTRIC
POB		UTC	
POJ POL	PUSH-ON JOINT POLYMER	UTIL	CABLE UTILITY
PP	POWER POLE		
PPD PPM	POUNDS PER DAY PARTS PER MILLION	$\frac{\mathbf{v}}{\mathbf{v}}$	VOLT(S)
PREFAB	PREFABRICATED	VAC	VACUUM
PRESS PRV	PRESSURE PRESSURE REDUCING VALVE	VAR VC	VARIES VERTICAL CURVE
PRW	PROCESS WATER	VCP	VITRIFIED CLAY PIPE
PSF PSI	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH	VEL VERT	VELOCITY VERTICAL
PSIA	POUNDS PER SQUARE INCH	VFD	VARIABLE FREQUENCY DRIVE
PSIG	ABSOLUTE POUNDS PER SQUARE INCH	VOL	VOLUME
	GAGE	w	
PT PV	POINT OF TANGENCY PLUG VALVE	W	WATT, WEST WASTE ACTIVATED SLUDGE
PV PVC		WAS WCO	WASTE ACTIVATED SLODGE WALL CLEAN OUT
PVMT	PAVEMENT	WF	WIDE FLANGE
PW PWR	POTABLE WATER POWER	WH WL	WALL HYDRANT WATER LINE
		WM	WATER MAIN
<u>Q</u>		WP	WATER PROOF(ING), WORKING POINT
QTY	FLOW		WORKING PRESSURE
R	QUANTITY	WPR	
		WS	WATER SURFACE
RAD	QUANTITY	WS WSP WT	WATER SURFACE WELDED STEEL PIPE WEIGHT
RAS	QUANTITY RADIUS RETURN ACTIVATED SLUDGE	WS WSP WT WTP	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT
	QUANTITY	WS WSP WT	WATER SURFACE WELDED STEEL PIPE WEIGHT
RAS RC RCB RCP	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE	WS WSP WT WWP WWF WWF	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH
RAS RC RCB	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX	WS WSP WT WTP WW WWF	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC
RAS RC RCB RCP RCPA	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH ROAD	WS WSP WT WW WWF WWF WWM WWTP	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH
RAS RC RCB RCP RCPA RD RDCR	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH ROAD REDUCER	WS WSP WT WW WWF WWF WWM WWTP	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT
RAS RC RCB RCP RCPA RD RDCR REBAR REF	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH ROAD REDUCER REINFORCING STEEL REFERENCE	WS WSP WT WW WWF WWF WWTP W/ W/O X	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH WITH
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RAS RC RCB RCP RCPA RD RDCR REBAR REF REINF REINF REQ'D RF	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE ARCH ROAD REDUCER REINFORCING STEEL REFERENCE REINFORCE(D)(ING)(MENT) REMOVE(ABLE) REQUIRED RAISED FACE	WS WSP WT WWP WWF WWM WWTP W/ W/O XFER YD	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH WITHOUT TRANSFER YARD(S)
RAS RC RCB RCP RCPA RD RDCR REBAR REF REINF REINF REM REQ'D	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH ROAD REDUCER REINFORCING STEEL REFERENCE REINFORCE(D)(ING)(MENT) REMOVE(ABLE) REQUIRED	WS WSP WT WWF WWF WWF W/WTP W/ W/O XFER	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH WITHOUT TRANSFER YARD(S) YARD HYDRANT
RAS RC RCP RCPA RD RDCR REBAR REF REINF REM REQ'D RF RJ	QUANTITY RADIUS RETURN ACTIVATED SLUDGE REINFORCED CONCRETE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH ROAD REDUCER REINFORCING STEEL REFERENCE REINFORCE(D)(ING)(MENT) REMOVE(ABLE) REQUIRED RAISED FACE RESTRAINED JOINT	WS WSP WT WWP WWF WWM WWTP W/ W/O XFER XFER YD YH	WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH WITHOUT TRANSFER YARD(S)

RR RAILROAD

PIPING LEGI	END															
		FLAN	NGED			MECHANI	CAL JOINT			GROO	/E JOINT			SOLVE	ENT WELD	
FITTING/ APPURTENANCE	SINGL	1		-E-LINE		LE-LINE		LE-LINE		_E-LINE		_E-LINE		LE-LINE	-	BLE-LINE
BEND			EXISTING	PROPOSED			EXISTING	PROPOSED		PROPOSED	EXISTING	PROPOSED			EXISTING	PROPOSED
DEND	⊤	<b>†</b> ∣			+	+ +										 ₽
TEE				€		┤┷┽						₽ <b>₽</b> ₽				e Par
WYE				<b>T</b>			e p					E				E B
REDUCER								E <b>E</b>								-€:∋
CAP/ BLIND FLANGE			2	€	N/A	N/A	N/A	N/A			2				2	-E-D-
PLUG	N/A	N/A	N/A	N/A	(			_ <u></u>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTTERFLY VALVE				₽	);(	).(		₽₽₽								
BALL VALVE				-Ex-	N/A	N/A	N/A	N/A		- <b>b</b> ⊗ <b>1</b>		E <b>I</b> SIE		-181-	· []&[]	
CHECK VALVE				-E-B-	N/A	N/A	N/A	N/A								
GATE VALVE				€				EXE								
PLUG VALVE				-E-KA						- <b>K</b> X						
AUTOMATIC									e T a							<b></b>
CONTROL VALVE				₽₽₽₽₽₽	N/A	N/A	N/A	N/A				₽₽₽				
PINCH VALVE				₽₽₩₽₽	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
	ID				RI	EFERENCE	SYMBOL	S								
	— R/W — — —			INE AY LINE (R-O-W) DNTRUCTION			X	- DENOTES LETTER IE					(	/	ENOTES DETAIL ENTIFICATION	- NUMBER
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●<sup>MW-X</sup>





GRATING

CAST-IN-PLACE

CONCRETE

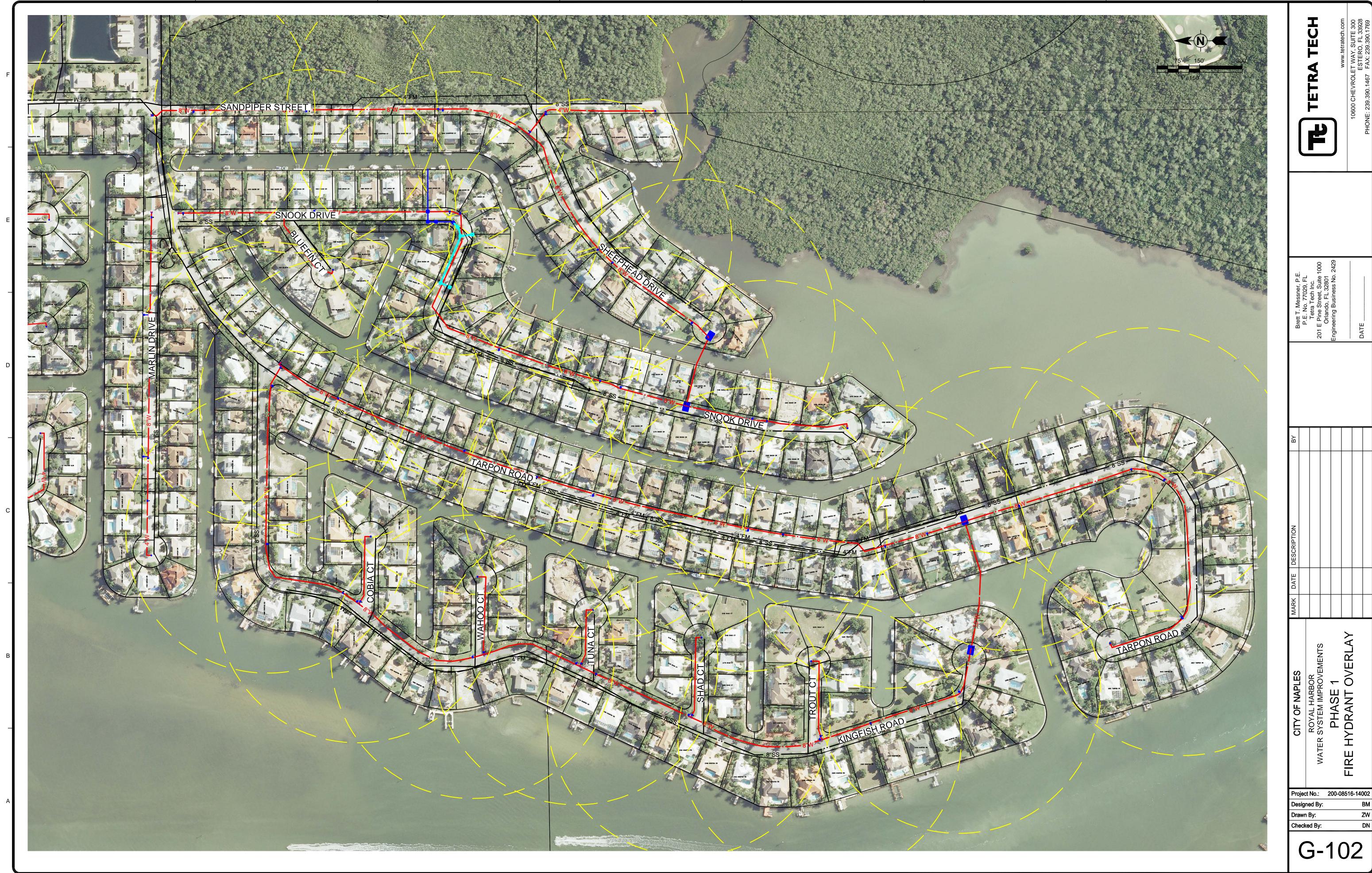
 $(X \setminus DEIAIL)$ SCALE: DENOTES DRAWING NO WHERE DETAIL IS LOCATED DETAIL TITLE

LEGEND AND ABBREVIATIONS NAPLE ЧŐ **MECHANICAL/DRAFTING LEGEND** Ь PROPOSED EXISTING CIT√ VISIBLE LINE Ś Ľ ATE HIDDEN LINE \_\_\_\_\_  $\geq$ CENTER LINE PHANTOM LINE Project No.: 200-08516-14002 MATCHLINE Designed By: Drawn By: WV BREAK LINE Checked By: DN 1 3/32" DIMENSION LINES AND LEADERS NOTE -G-003

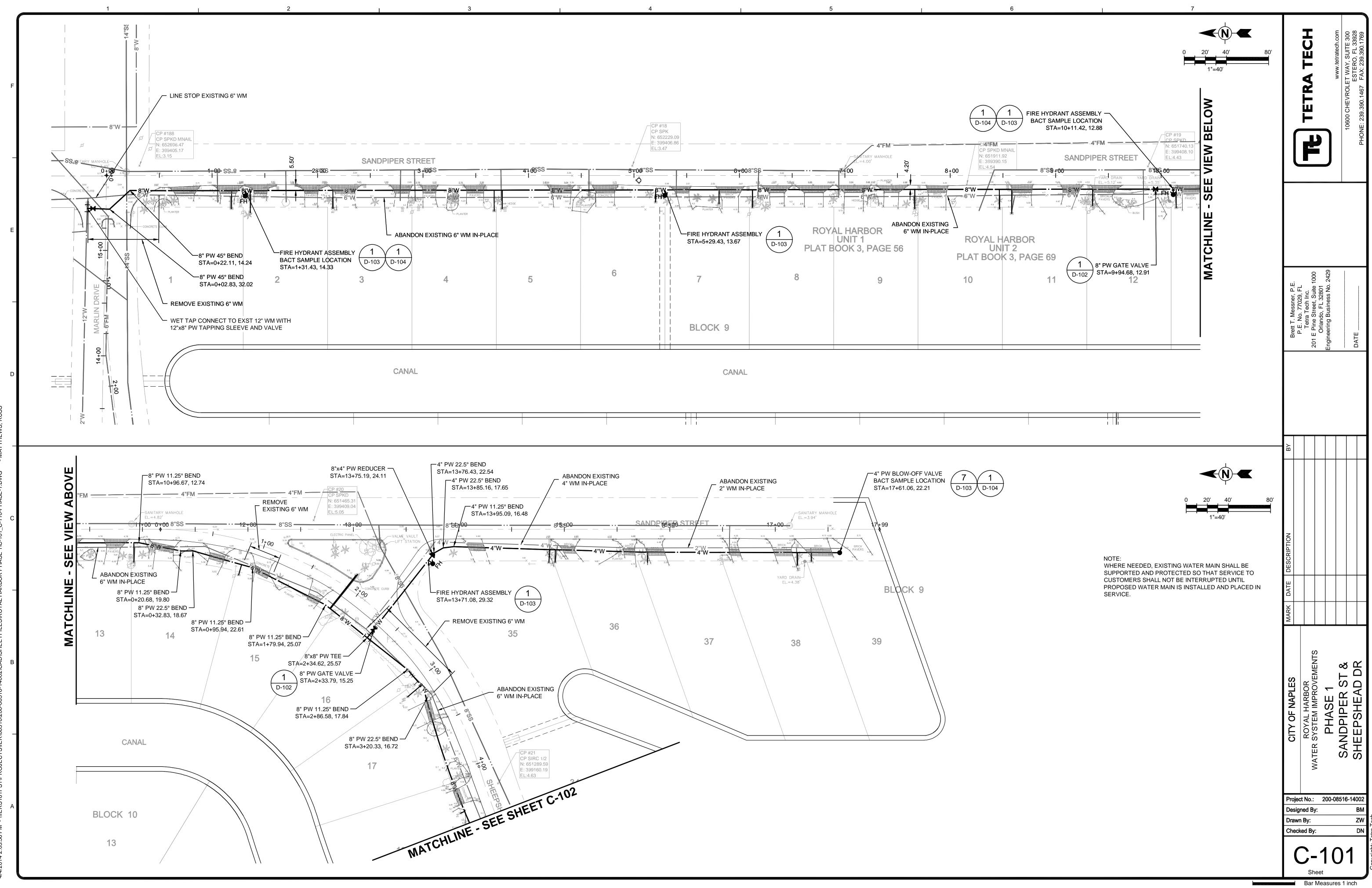
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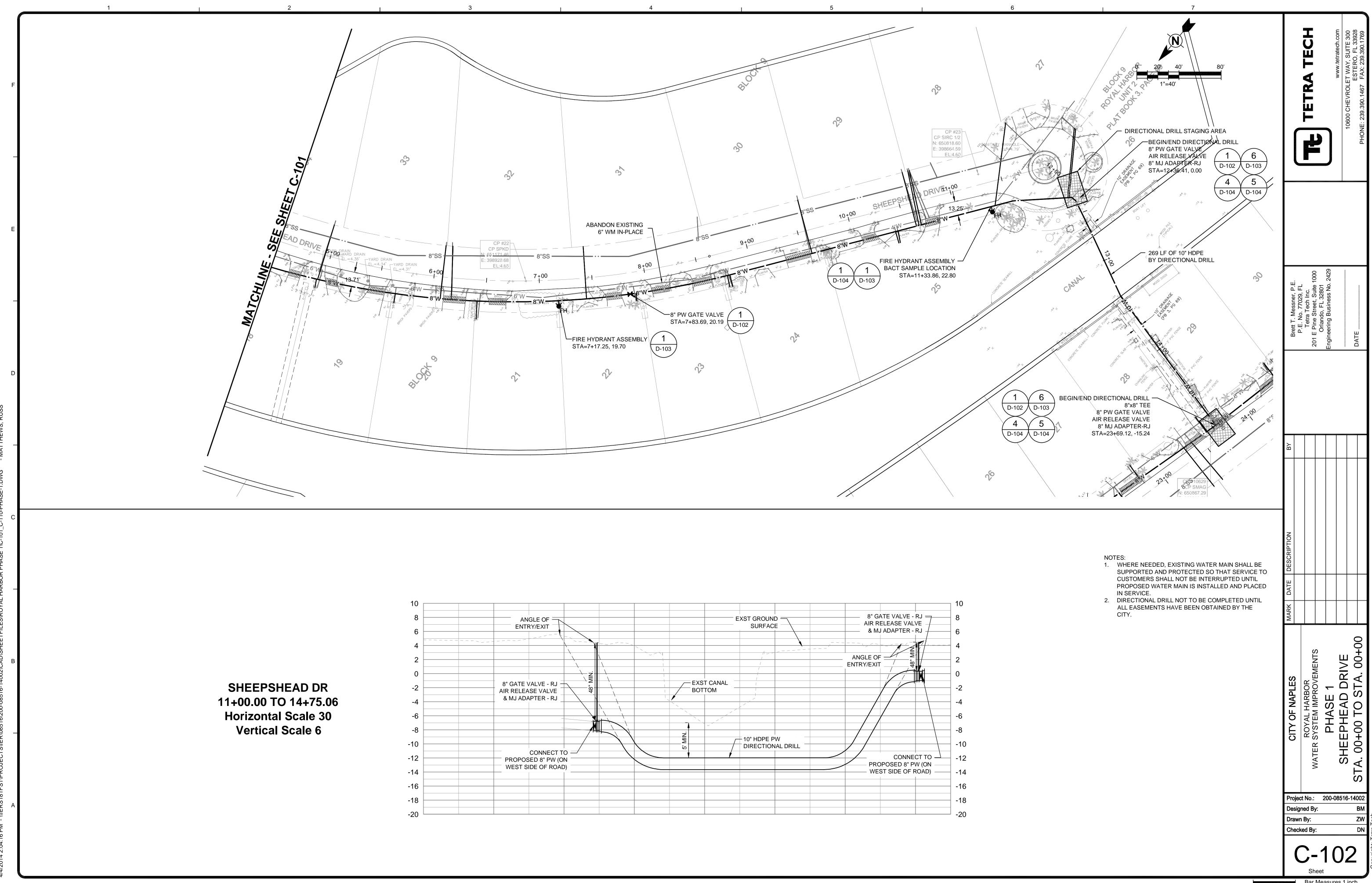


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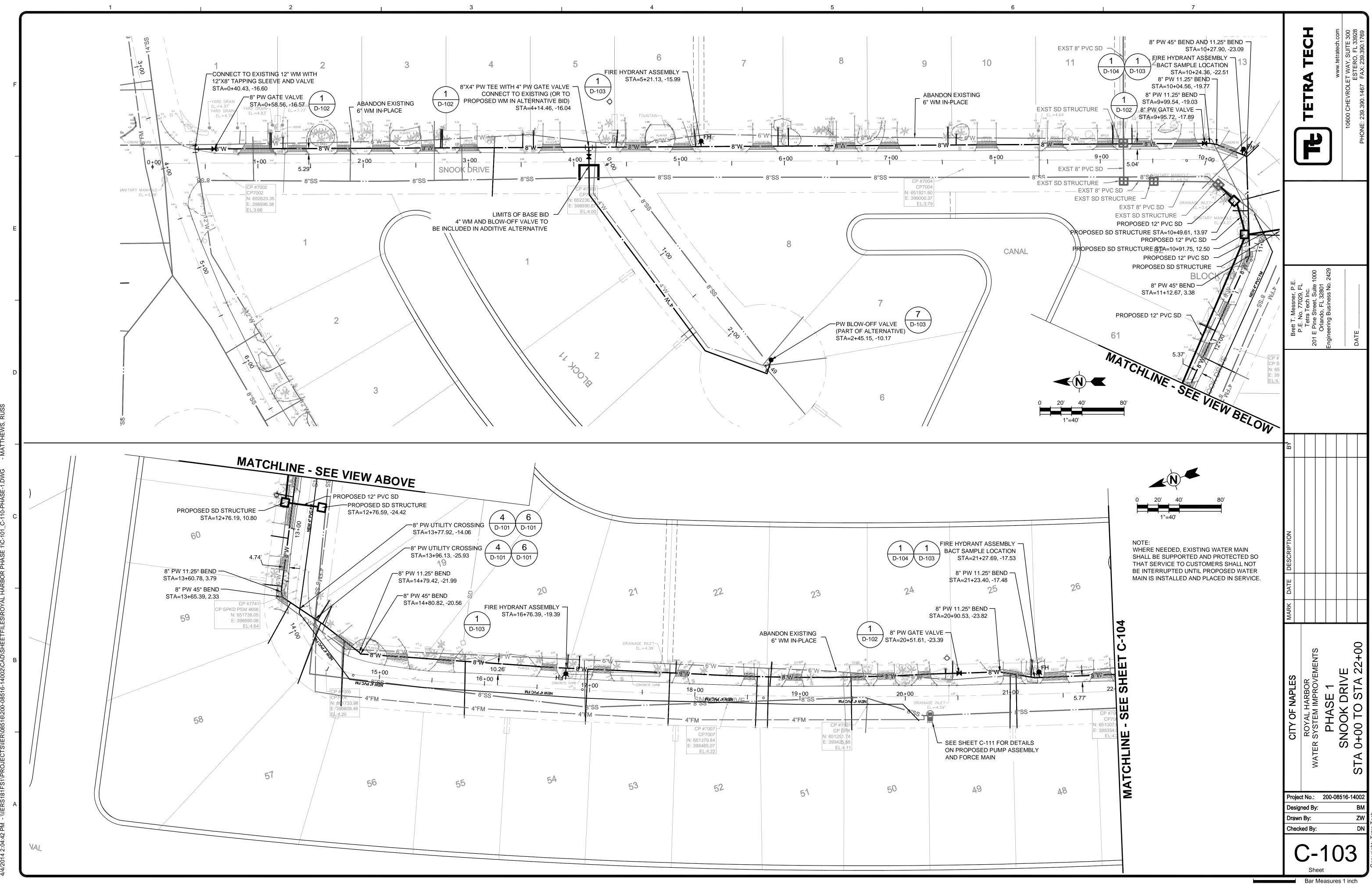


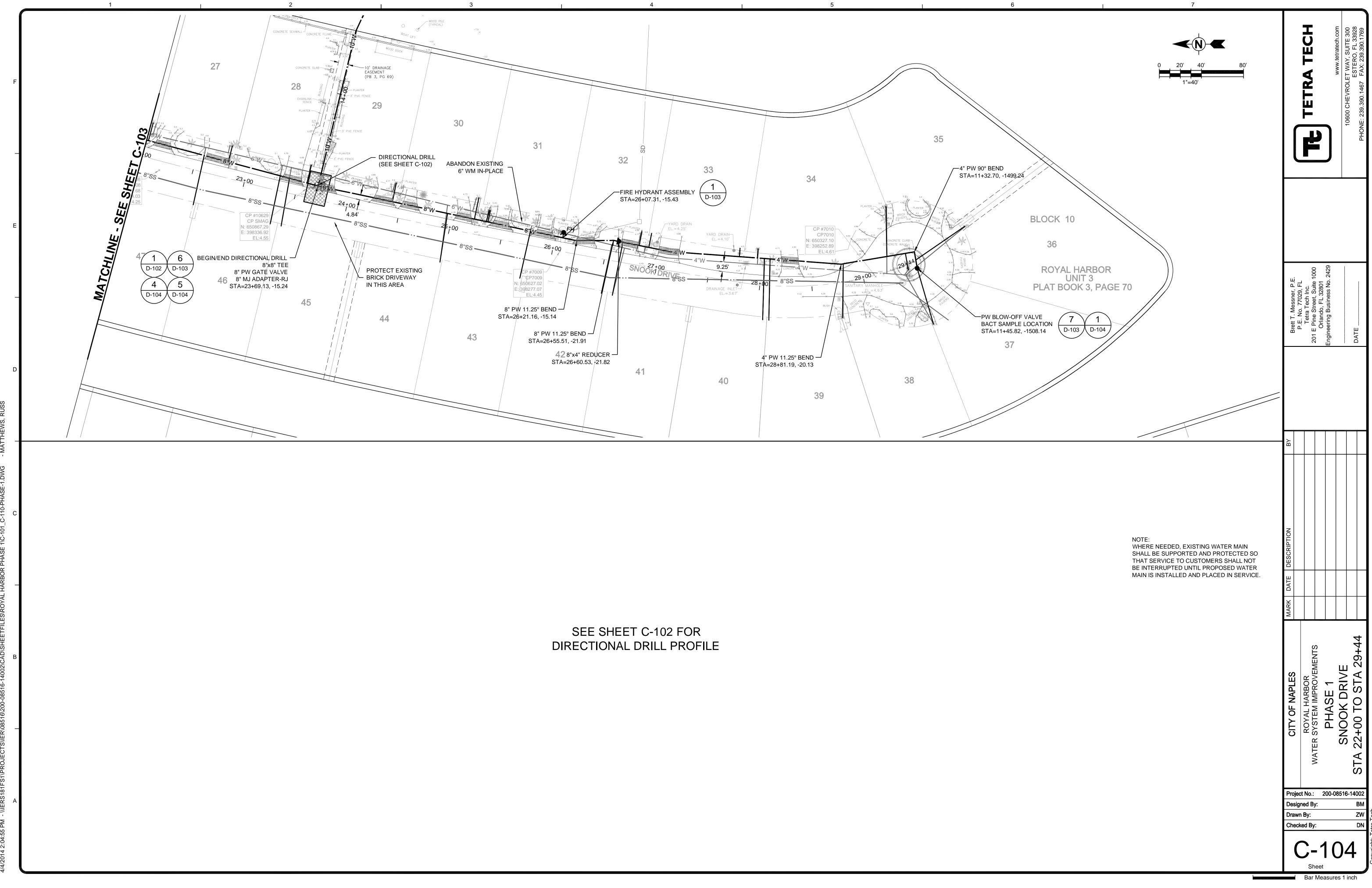
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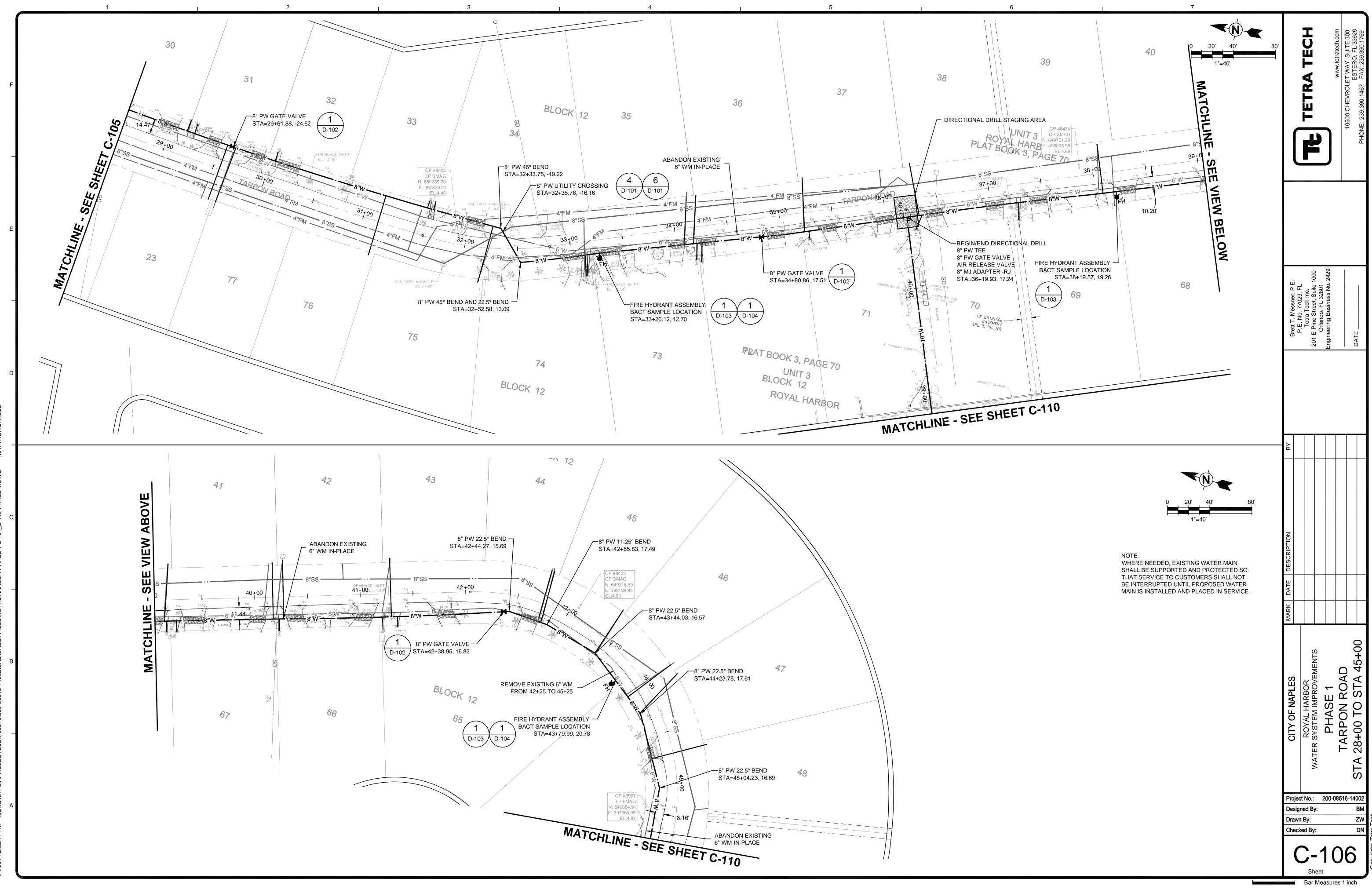


Bar Measures 1 inch

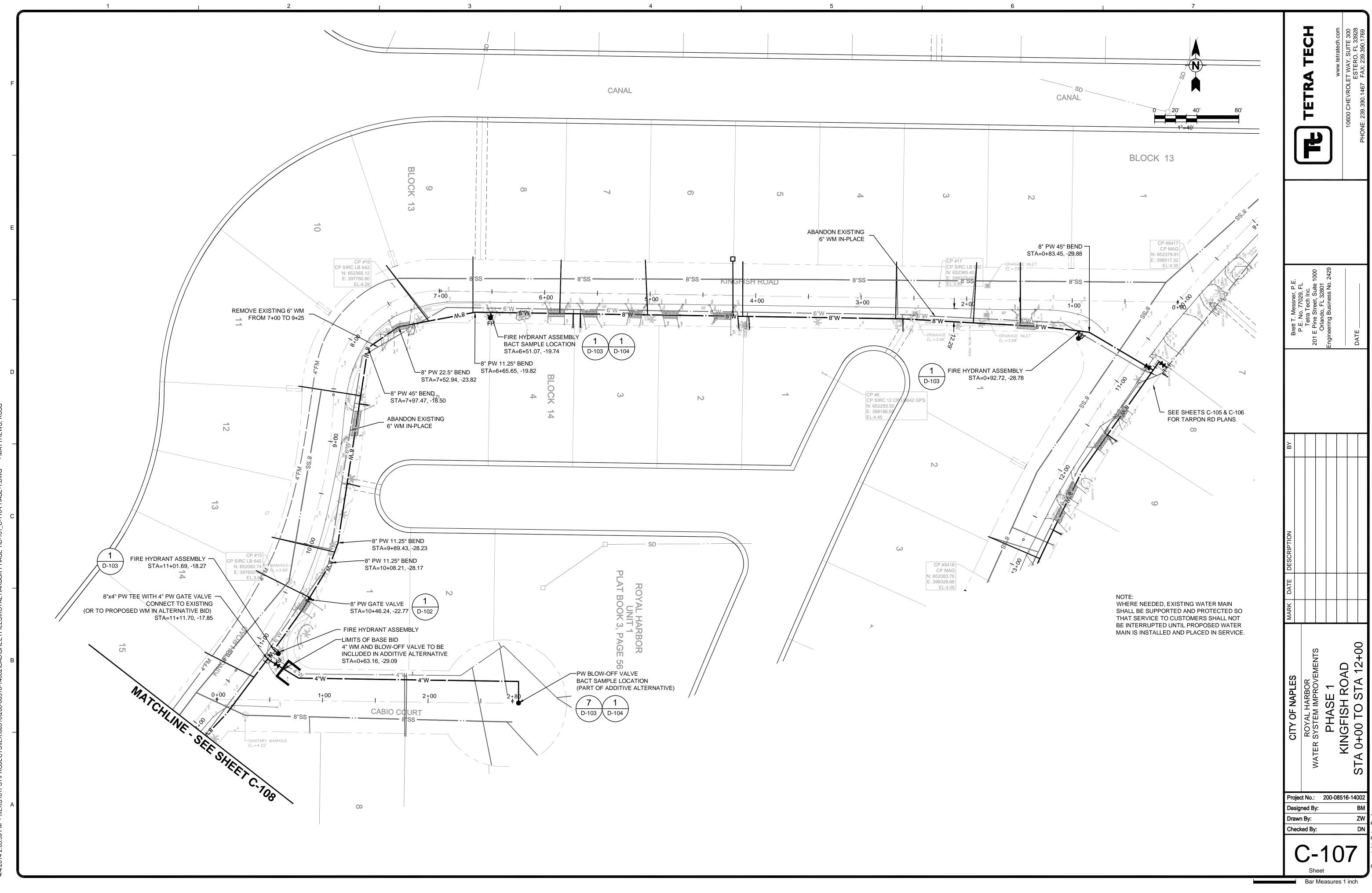


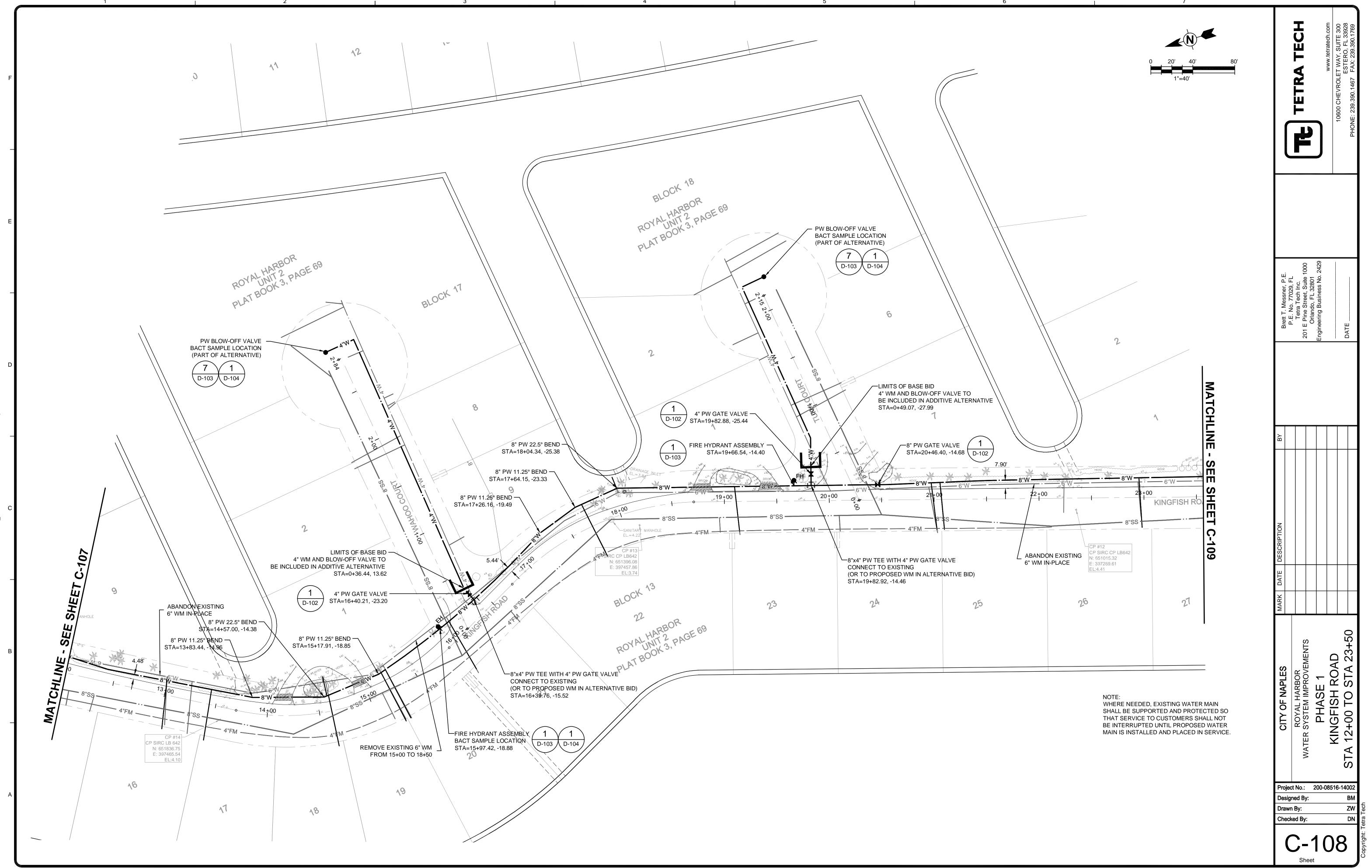




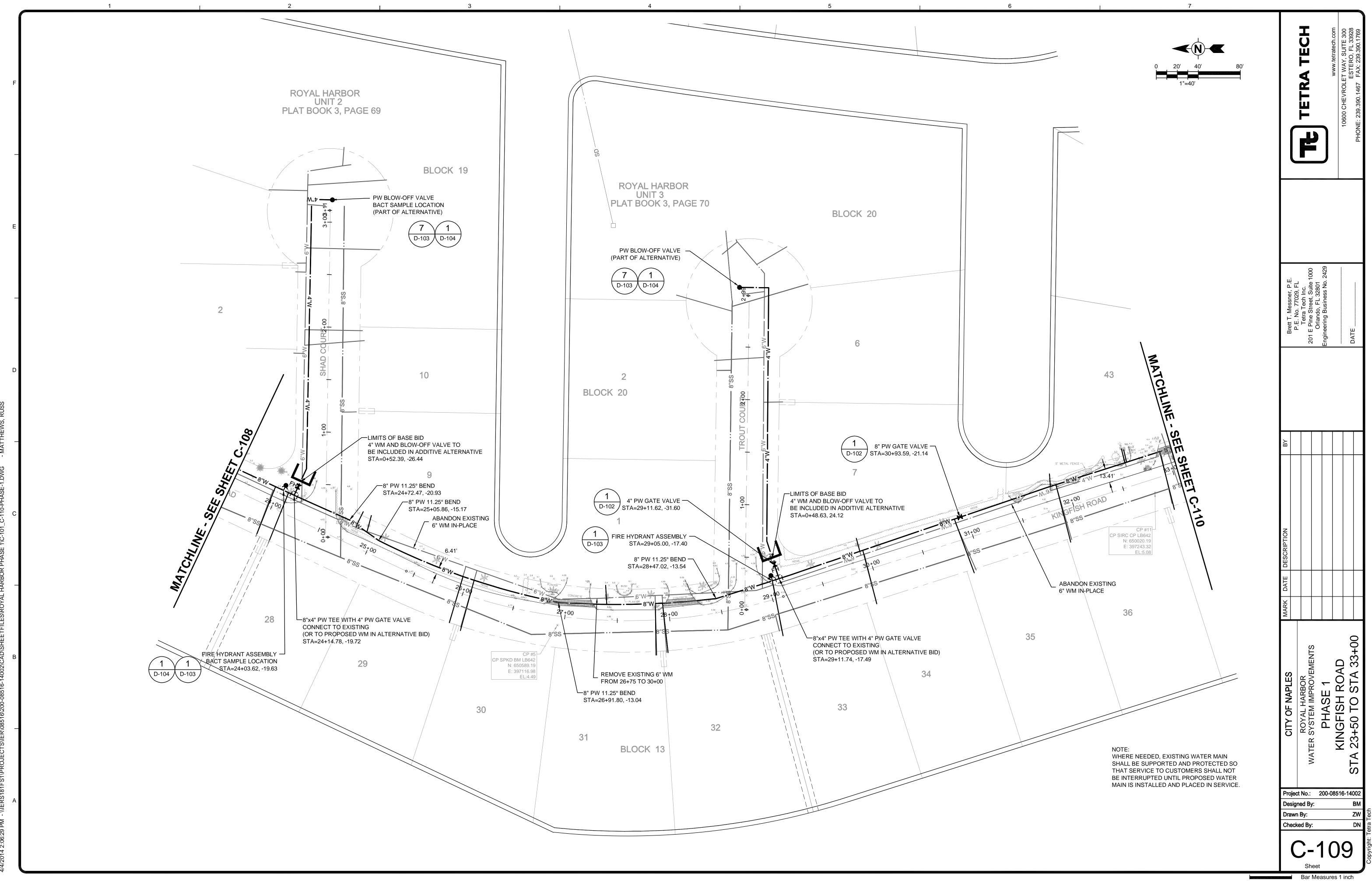


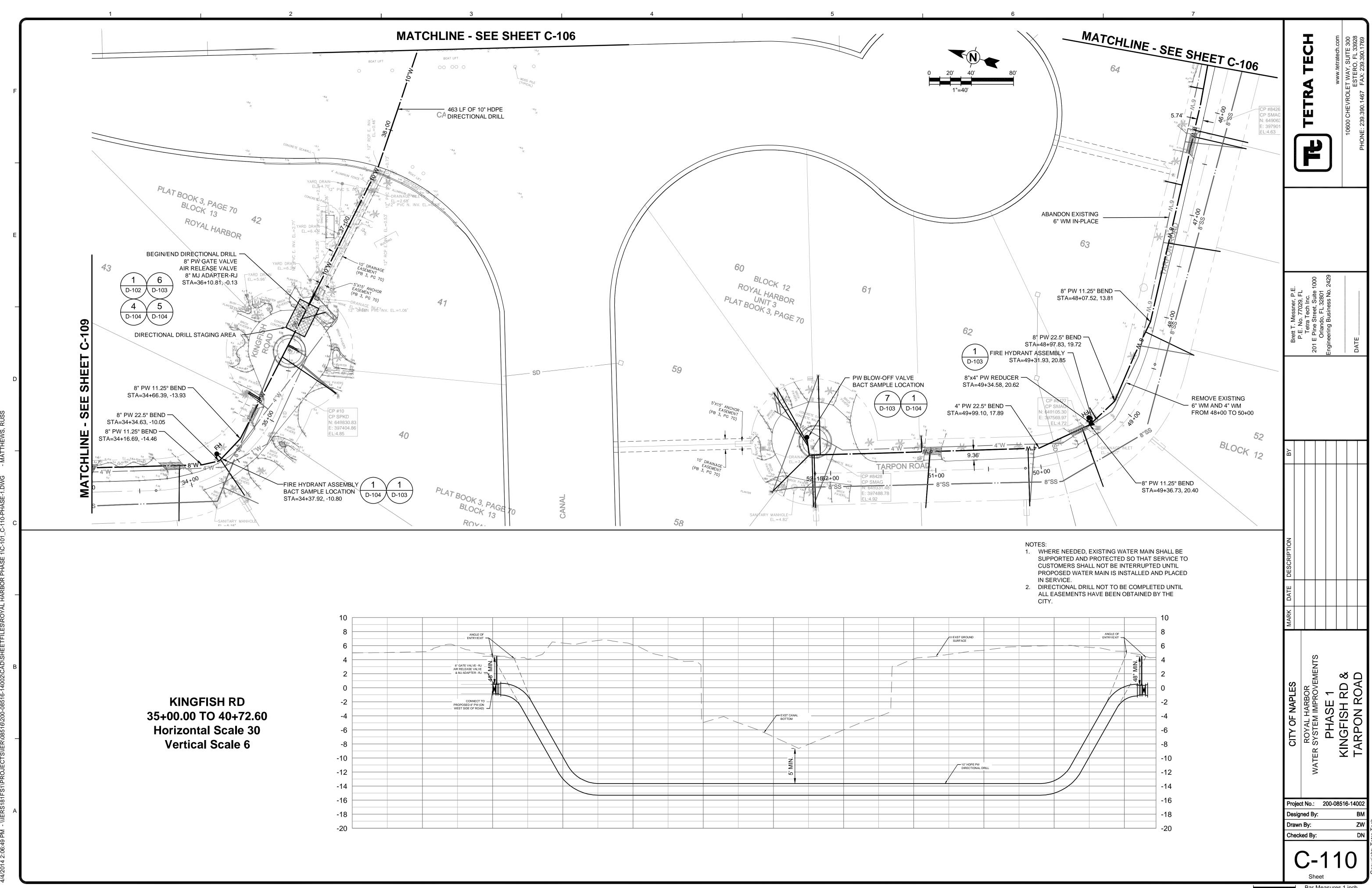
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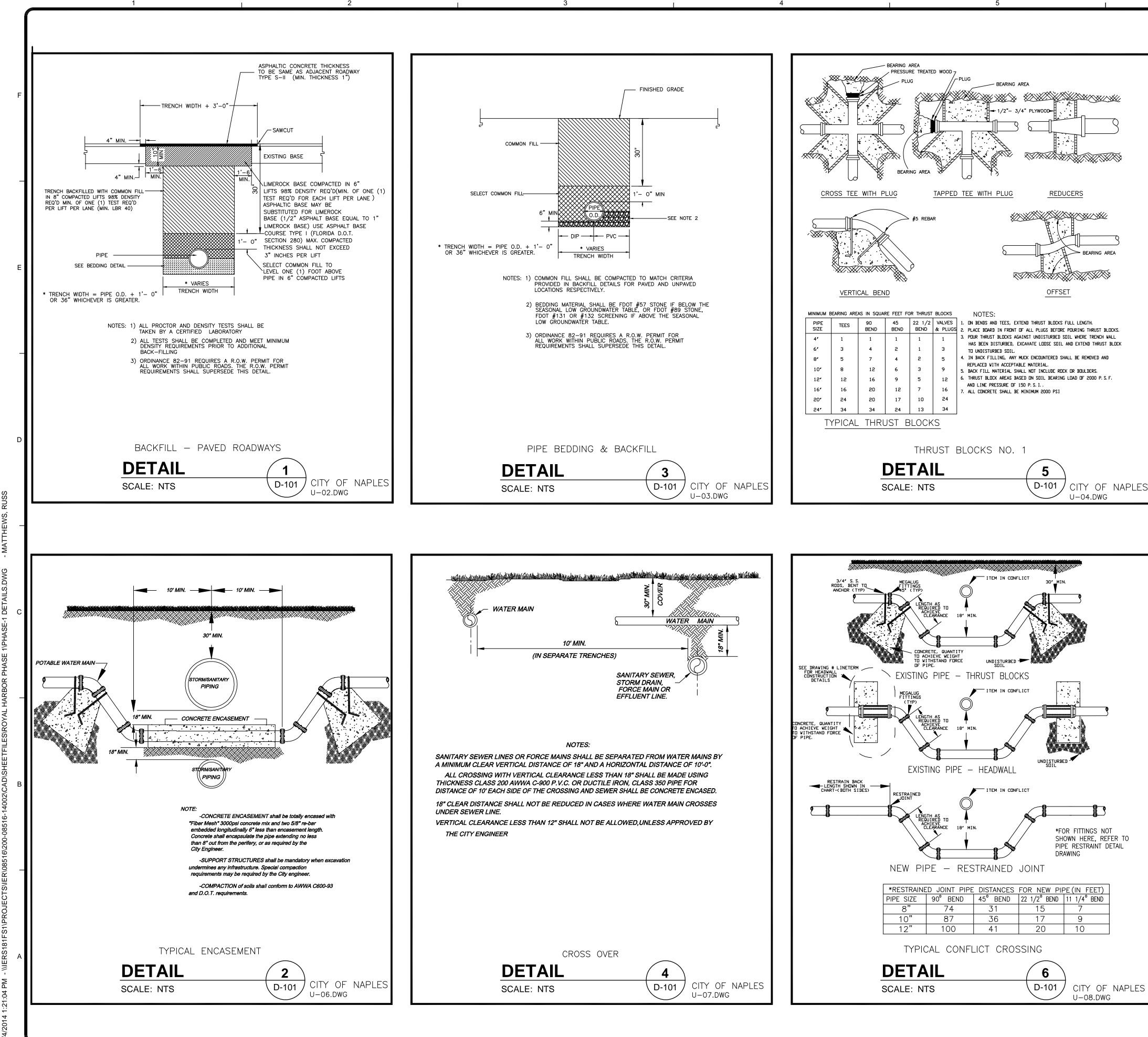
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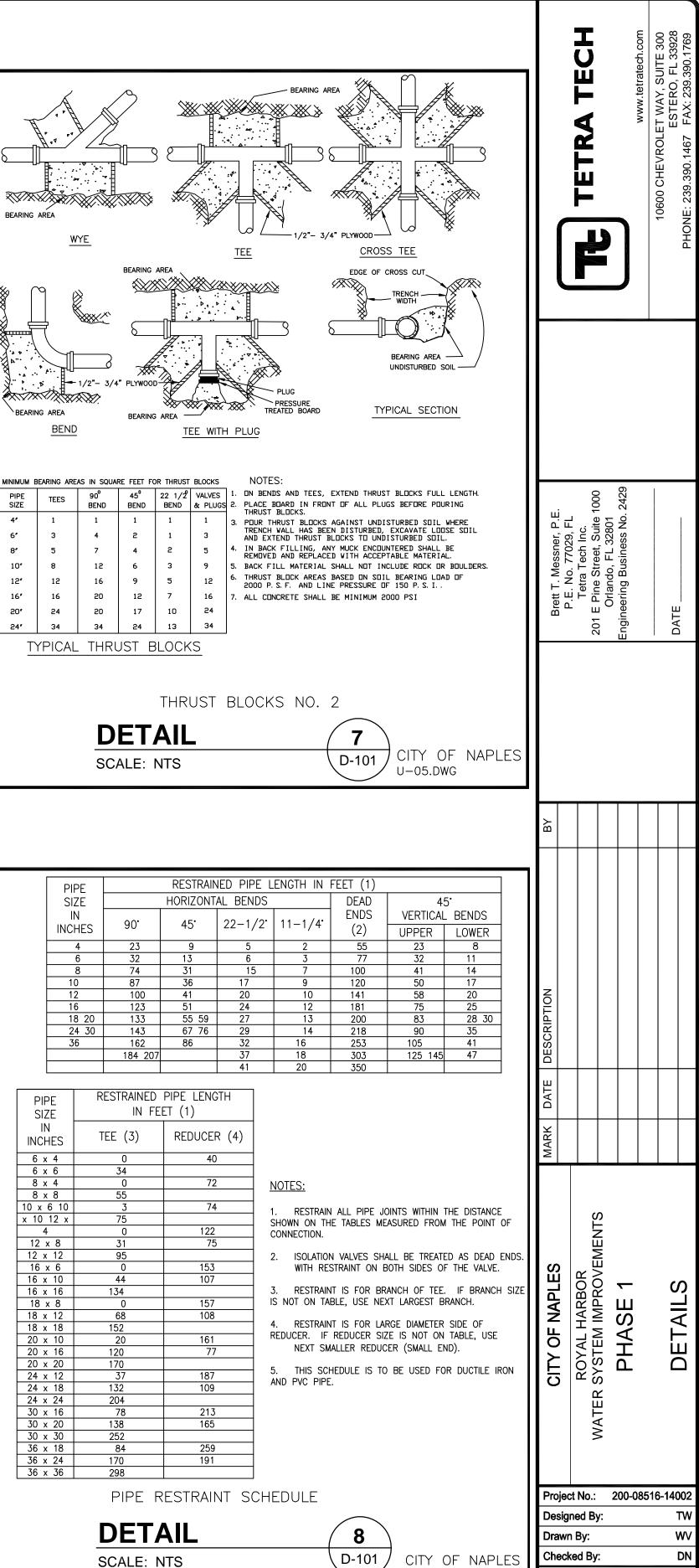
Bar Measures 1 inch









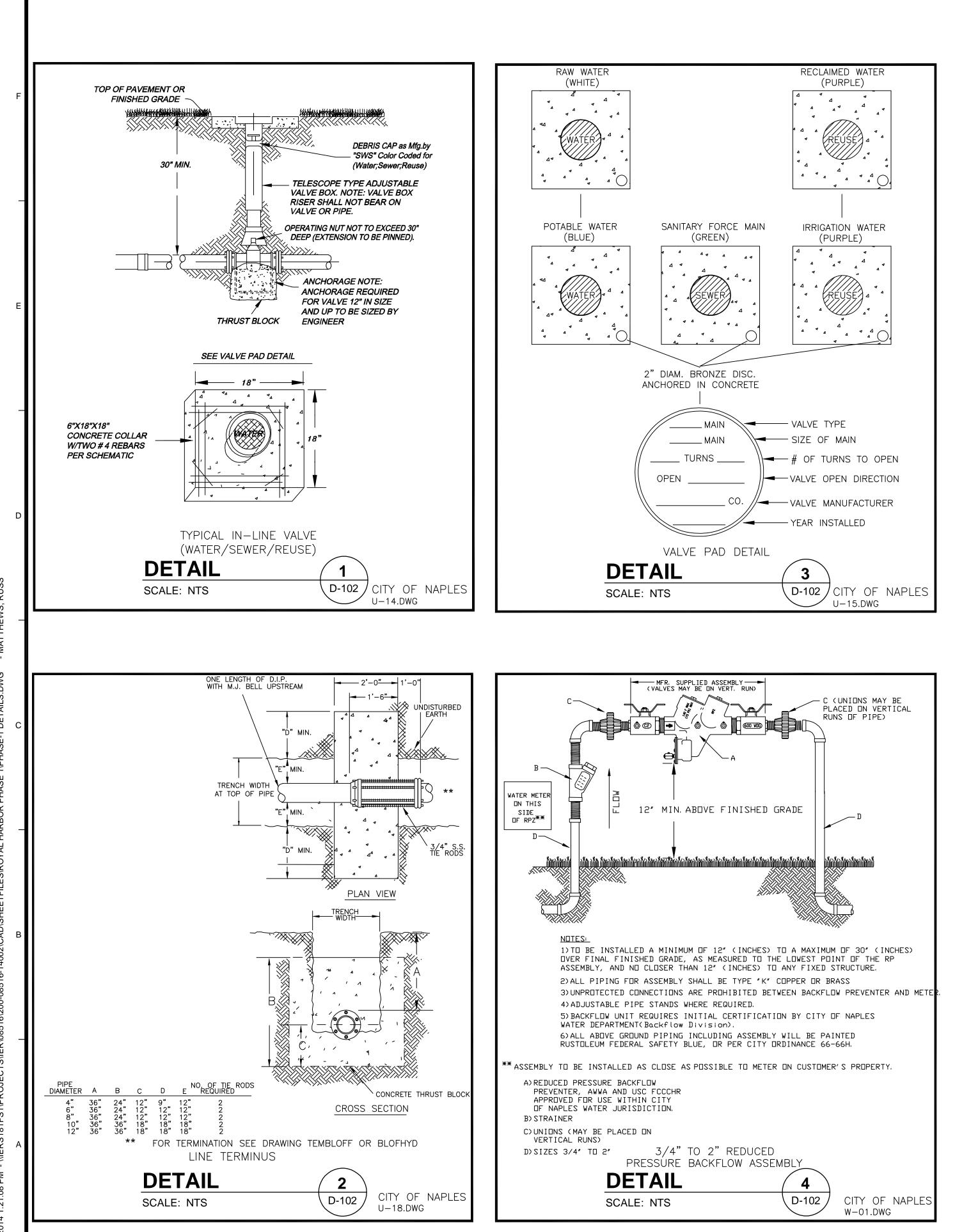


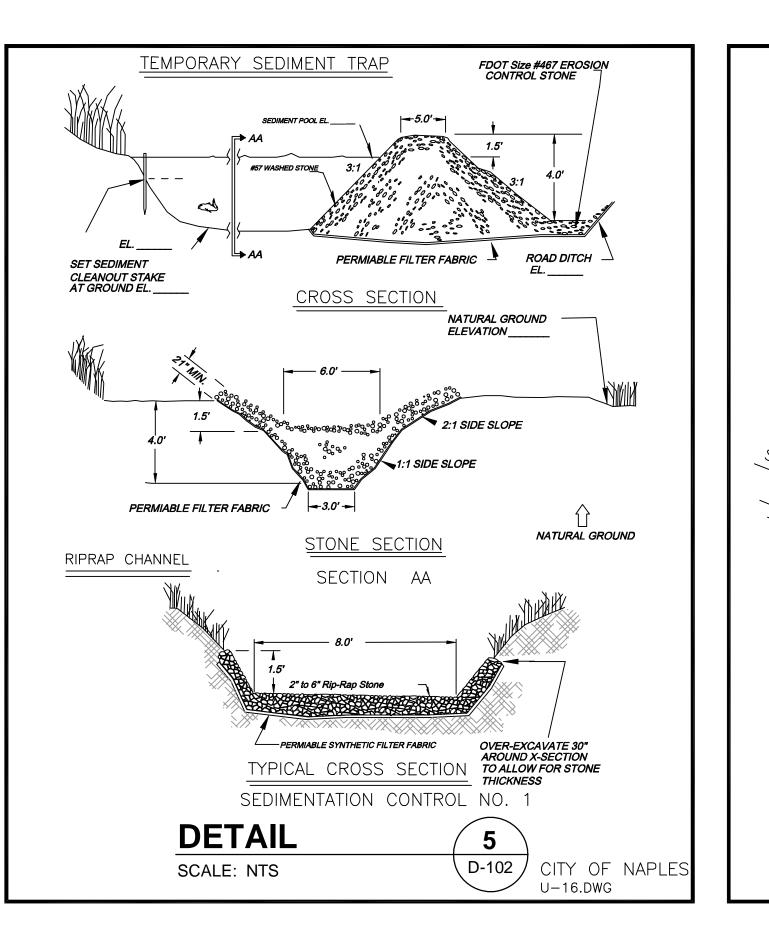
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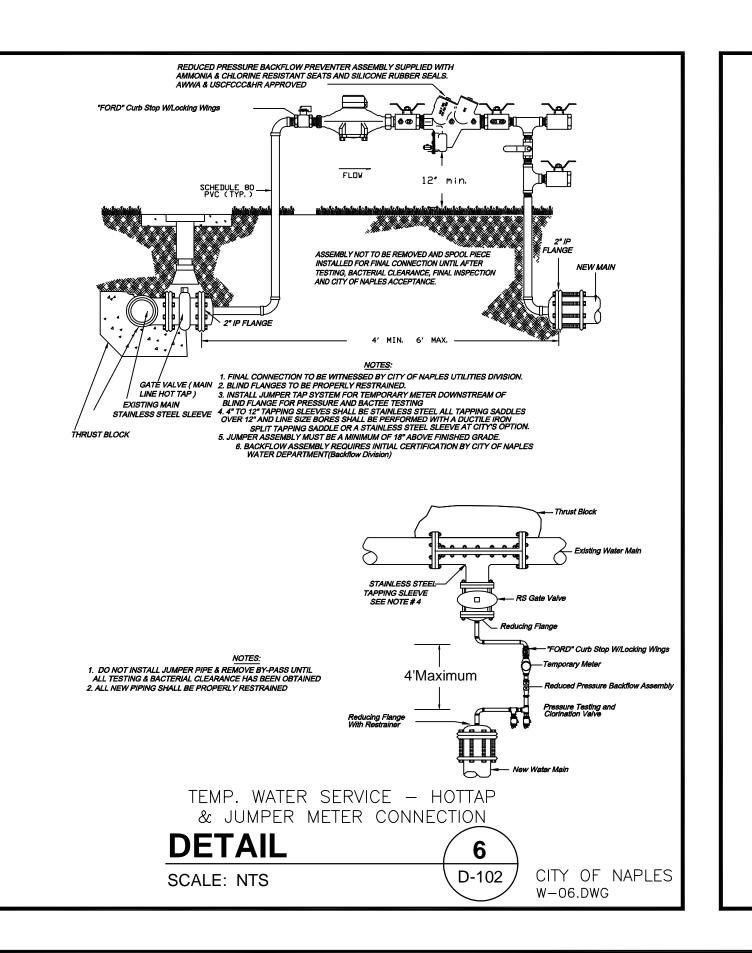
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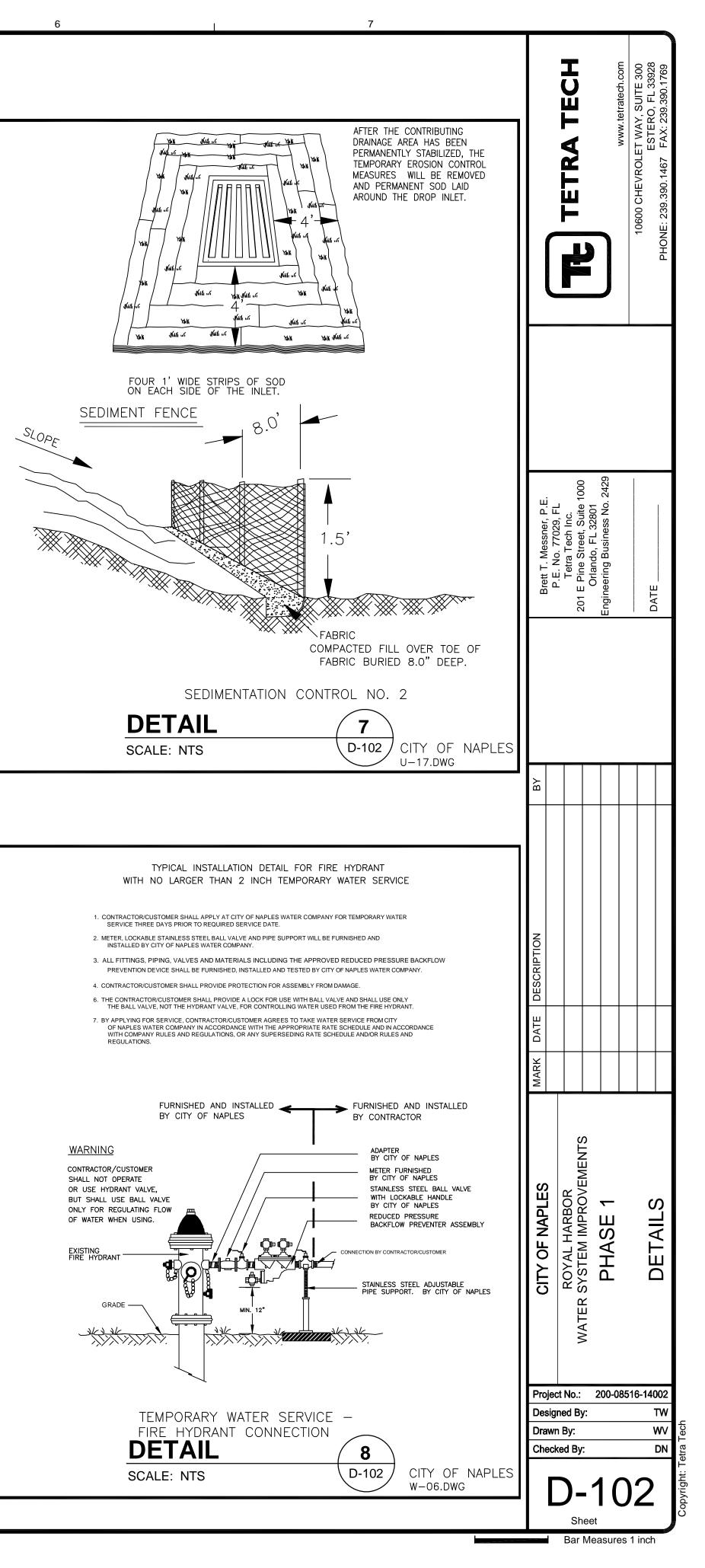
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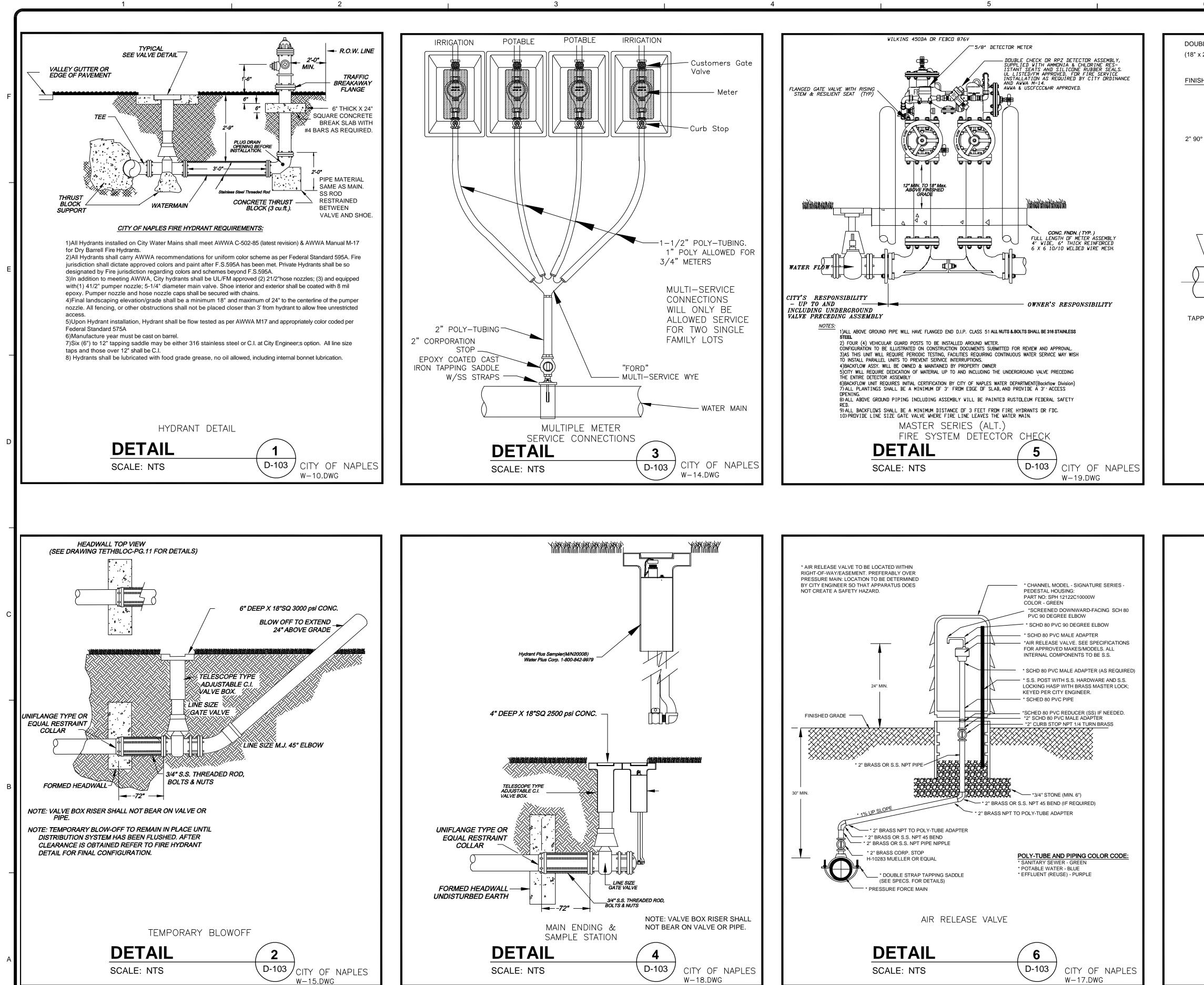
U-09.DWG

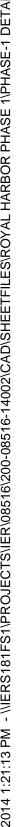
















6			7				Res.
BLE METER BOX			—2" GATE VALVE W/ 2-INCH SQUARE NUT	DRIVE		www.tetratech.com	T WAY, SUITE 300 ESTERO, FL 33928 FAX: 239.390.1769
24" MIN.)		/ г	- 2" QUICK DISCONNEC			tetrate	
° BEND							10600 CHEVROLET WAY, 5 ESTERO PHONE: 239.390.1467 FAX: 239
- WATER MAIN			- 6" BEDDING ROCK				
<u>1</u> 2	NOTES: 1. ALL 2" PIPE AND FITTII THREADED (NPT) JOINTS 2. TAPPED CAP SHALL B RESTRAINED JOINT DETA	E RESTRAINED AS F			Brett T. Messner, P.E. P.E. No. 77029, FL Tetra Tech Inc.	E Pine Sti Orlando, neering Bu	TE
BL	OWOFF VAI		AIL			201 Engir	DATE
DE	TAIL	(	7				
SCAL	E: NTS		-103				
	METALLIC LOCATING WIRE	FORC	DE_ WATER MAIN OR ZE MAIN		MARK DATE DESCRIPTION BY		
GAUGE ( SHALL B 5 TIMES 2. LOCATIN AND BE INTERFE	E SHALL REQUIRE INSULATE COPPER) CAPABLE OF DETE SE ATTACHED TO THE TOP O PER JOINT. NG ROD SHALL TERMINATE A CAPABLE OF EXTENDING AE RE WITH VALVE OPERATION	ECTION BY A CABLE LO F PIPE WITH DUCT TAI AT THE TOP OF EACH V BOVE TOP BOX $\frac{1}{2}$ " SO / N.	DCATOR AND PE AT LEAST /ALVE BOX AS NOT TO		CITY OF NAPLES ROYAL HARBOR	WATER SYSTEM IMPROVEMENTS PHASE 1	DETAILS
DE	TAIL	$\left( \right)$	8		Project No		16-14002
	E: NTS		-103		Designed Drawn By	-	BM ZW
			-		Checked		DN
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Bar Measures 1 inch

Sheet

