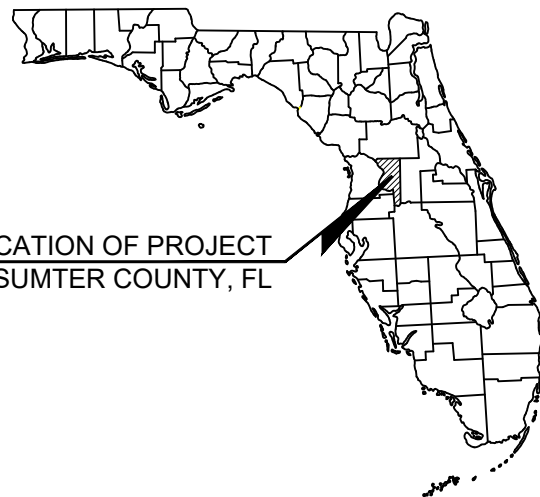


# ST. CLAIR STREET IMPROVEMENTS CITY OF WILDWOOD

SECTION 5 TOWNSHIP 19 SOUTH; RANGE 23 EAST  
CITY OF WILDWOOD, SUMTER COUNTY, FLORIDA



LOCATION OF PROJECT  
SUMTER COUNTY, FL



BID SET  
OCTOBER 2023

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- TOPOGRAPHIC SURVEY BY CLYMER FARNER BARLEY, INC.  
(UNDER A SEPARATE COVER)

**GOVERNING STANDARDS AND SPECIFICATIONS:**  
THE 2018 FLORIDA GREENBOOK, THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION DATED FY 2023-24, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED FY 2023-24, AS AMENDED BY CONTRACT DOCUMENTS.

#### UTILITY AGENCY OWNERS:

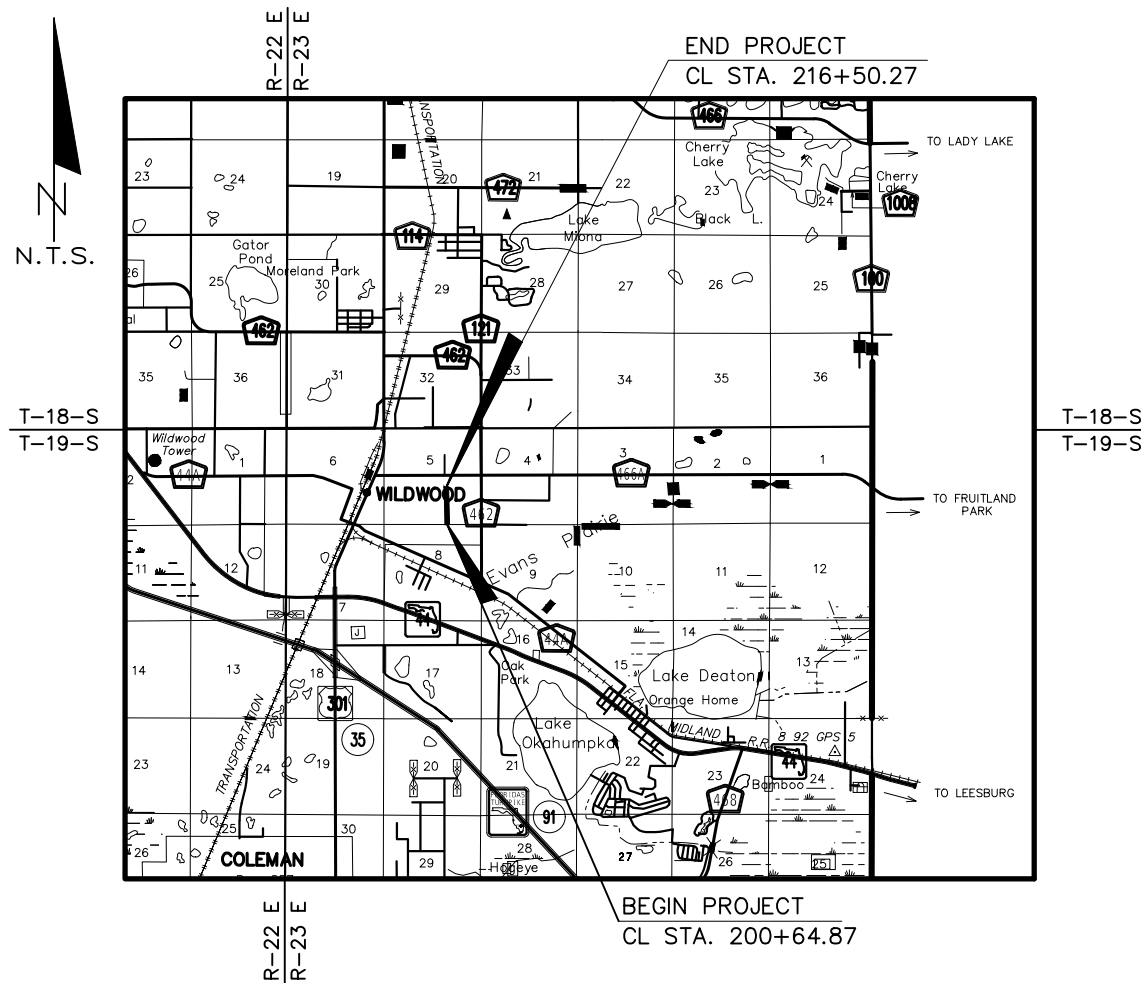
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PLANS PREPARED BY:

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NOTE: THE SCALE OF THESE PLANS MAY  
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KHA PROJECT	142173391
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	KHA
CHECKED BY	KHA
DATE:	
LICENSED PROFESSIONAL	MARIO PETROLA VEGA
FLORIDA LICENSE NUMBER	89603

## COVER SHEET

ST. CLAIR STREET  
IMPROVEMENTS  
PREPARED FOR  
CITY OF WILDWOOD  
SUMTER COUNTY  
FLORIDA

SHEET NUMBER  
01

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CALL 2 WORKING DAYS  
BEFORE YOU DIG

IT'S THE LAW!  
DIAL 811

Know what's below.  
Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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**GENERAL NOTES:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EMPLOYING A FLORIDA LICENSED SURVEYOR AND MAPPER FOR CONDUCTING THE FOLLOWING DESCRIBED WORK: EXISTING SECTION CORNERS AND OTHER LAND MARKERS OR MONUMENTS (INCLUDING INDIVIDUAL LOT CORNERS) WHICH ARE LOCATED WITHIN PROPOSED CONSTRUCTION AREA ARE TO BE REFERENCED PRIOR TO CONSTRUCTION AND RESET IN ACCORDANCE WITH CHAPTERS 177 AND 472 OF THE FLORIDA STATUTES AND 5J17.050 OF THE FLORIDA ADMINISTRATIVE CODE.
2. ANY SURVEY MARKER, INCLUDING BUT NOT LIMITED TO SECTION MARKERS, BENCHMARKS, LOT CORNERS, ETC., WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE PRIOR TO FINAL PAYMENT. RESETTING OF MONUMENTS AND MARKERS SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE IN THE STATE OF FLORIDA.
3. VERTICAL DATA IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88).
4. ALL STATIONS AND OFFSETS ARE REFERENCED TO CENTERLINE OF CONSTRUCTION.
5. STAGING AND MATERIAL STORAGE SHALL NOT BE CONDUCTED ON ABUTTING PRIVATE PROPERTY WITHOUT WRITTEN APPROVAL FROM THE OWNER.
6. THE CONTRACTOR IS TO MAINTAIN AND KEEP STREET NAME IDENTIFICATION SIGNS VISIBLE DURING CONSTRUCTION OPERATIONS, IN ORDER TO FACILITATE EMERGENCY VEHICLE TRAFFIC. PLACEMENT OF CHANNELIZING DEVICES ARE TO BE IN ACCORDANCE WITH FDOT'S STANDARD PLANS FOR ROAD CONSTRUCTION (INDEX 102-600 SERIES).
7. EROSION CONTROL ITEMS ARE ESTIMATED FOR PREVENTION, CONTROL, ABATEMENT OF EROSION, SEDIMENTATION, AND WATER POLLUTION. THESE ITEMS ARE TO BE USED AT THE LOCATIONS DESCRIBED IN THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN OR AS DIRECTED BY THE PROJECT ENGINEER TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
8. ALL SYNTHETIC BALES, ROCK BAGS AND SILT FENCE, ETC. SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.
9. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN, CONDITIONS WHICH NOW EXIST, AS DETERMINED BY THE ENGINEER AND CITY. ALL DISTURBED AREAS ARE TO BE SODDED. DISTURBED AREAS OUTSIDE OF THE PROJECT LIMITS, AS ILLUSTRATED IN THE PLANS, SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
10. MATCH SOD TYPES TO ADJACENT PROPERTIES, IF NO PARTICULAR TYPE IS EVIDENT THEN BAHIA SHALL BE USED.
11. THE CONTRACTOR SHALL FURNISH THE ENGINEER, PRIOR TO INCORPORATION INTO THE PROJECT, A CERTIFICATION FROM THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES DIVISION OF PLANT INDUSTRY, STATING THAT THE SOD, STRAW AND MULCH MATERIALS ARE FREE OF NOXIOUS WEEDS, INCLUDING TROPICAL SODA APPLE.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
13. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. UTILITIES SHALL REMAIN UNLESS OTHERWISE NOTED.
14. THE CONTRACTOR SHALL HAND EXCAVATE WHEN CONSTRUCTION IS WITHIN 18 INCHES OF EXISTING UTILITIES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES, STRUCTURES, AND PROPERTY ON AND ADJACENT TO THE SITE CAUSED BY CONSTRUCTION ACTIVITIES.
16. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE STATE ONE CALL OF FLORIDA (1-800-432-4770) AND UTILITY OWNERS LISTED ON THE COVER SHEET AT LEAST TWO BUSINESS DAYS (OR 10 DAYS IF DIGGING UNDER WATER) IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.



17. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
18. CONTRACTOR SHALL ADJUST ALL UTILITY LIDS, COVERS, AND MARKERS TO FINISHED GRADE AS REQUIRED.
19. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE, SUBMIT, AND OBTAIN APPROVAL OF THE REPRODUCIBLE AS-BUILT DRAWINGS FOR ANY JURISDICTIONAL AGENCIES AS MAY BE REQUIRED. THE AS-BUILTS SHALL BE SIGNED AND SEALED BY A SURVEYOR LICENSED TO PRACTICE IN THE STATE OF FLORIDA.
20. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, EQUIPMENT SPECIFICATIONS, AND DESIGN DATA FOR MATERIALS PROPOSED FOR THE PROJECT AS REQUIRED PER THE FDOT STANDARD SPECIFICATIONS.
21. TEMPORARY TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH FY 2023-24 FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
22. THE CONTRACTOR SHALL SUBMIT THEIR TEMPORARY TRAFFIC CONTROL PLAN TO THE CITY OF WILDWOOD FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARLY IDENTIFYING THE AREA OF CONSTRUCTION AND SAFELY ROUTING ALL VEHICULAR AND PEDESTRIAN TRAFFIC AROUND THE CONSTRUCTED AREA. THE CONSTRUCTION AREA SHALL BE CLEARLY MARKED AT ALL TIMES.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE OF THE TRAVELWAY AT ALL TIMES.
25. PROJECT AREAS THAT ARE NOT ACTIVE CONSTRUCTION AREAS ARE TO BE KEPT FREE OF CONSTRUCTION DEBRIS AND UNNECESSARY OR CONFLICTING TRAFFIC CONTROL DEVICES.
26. THE TRAFFIC AND TRAVELWAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR, EQUIPMENT, AND MATERIALS ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
27. IN THE EVENT OF A HURRICANE OR OTHER EVACUATION NEED, THE CONTRACTOR, UPON NOTIFICATION BY CITY OF WILDWOOD, SHALL COORDINATE THE SECURING OF ALL LOOSE MATERIAL, OPEN CLOSED LANES, BACKFILL EXCAVATION, REMOVE OBSTRUCTIONS TO DRAINAGE AND WATER FLOW, AND TAKE OTHER MEASURES AS DIRECTED BY THE CITY NECESSARY TO PROTECT THE PUBLIC.
28. BURNING WITHIN THE LIMITS OF THE PROPOSED PROJECT IS NOT ALLOWED.
29. CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING AND LITTER REMOVAL AND DISPOSAL WITHIN THE RIGHT-OF-WAY AND CONSTRUCTION AREAS UNTIL PROJECT IS ACCEPTED BY THE CITY OF WILDWOOD. MOWING AND LITTER REMOVAL AND DISPOSAL CYCLES SHALL NOT BE LONGER THAN 30 DAYS.
30. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC ACCESS TO RESIDENCES DURING THE CONSTRUCTION OF THE PROJECT.
31. ALL EXISTING STORM WATER DRAINAGE PATTERNS AND CHANNELS OUTSIDE THE CONSTRUCTION AREAS SHOWN ON THESE PLANS ARE TO BE MAINTAINED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF THE WORK APPEARS TO INTERRUPT AN EXISTING STORM WATER DRAINAGE PATTERN. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION SUCH THAT IMPACT TO CONSTRUCTION AND/OR SURROUNDING FACILITIES IS MINIMIZED.
32. CONTRACTOR SHALL CLEAR AND GRUB CONSTRUCTION AREAS BEFORE FILL IS PLACED. ALL AREAS TO RECEIVE FILL SHALL BE STRIPPED OF ALL VEGETATION AND TOPSOIL AND PROOF ROLLED PRIOR TO PLACING CLEAN FILL.
33. THE CONTRACTOR SHALL HAUL EXCESS MATERIALS OFF THE JOB SITE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DISPOSE OF ALL EXCESS MATERIAL AFTER IT IS DETERMINED THAT IT IS NO LONGER NEEDED ON THE JOB.

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LICENSED PROFESSIONAL	MARIO PETROLA VEGA	FLORIDA LICENSE NUMBER 891603
KHA PROJECT 142173391	DATE OCTOBER 2023	SCALE AS SHOWN
DESIGNED BY KHA	DRAWN BY KHA	CHECKED BY KHA
GENERAL NOTES		
ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILDWOOD		
SUNTER COUNTY FLORIDA		
SHEET NUMBER 02A		

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


**GENERAL NOTES CONT.:**

34. IF A SINKHOLE IS ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY OF WILDWOOD AND THE ENGINEER OF RECORD. WITHIN 48 HOURS OF DISCOVERY, THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) SHALL BE NOTIFIED. A LICENSED QUALIFIED GEOTECHNICAL PROFESSIONAL MUST PROVIDE A REPAIR PLAN TO THE DISTRICT FOR APPROVAL PRIOR TO THE SINKHOLE BEING REPAIRED. UPON COMPLETION OF THE SINKHOLE REPAIR, A LICENSED QUALIFIED PROFESSIONAL MUST CERTIFY THE REPAIR COMPLETE IN ACCORDANCE WITH THE APPROVED REPAIR PLAN.
35. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH OTHER WORK WHICH MAY BE ONGOING ADJACENT TO, OR AFFECTING, THIS CONSTRUCTION. CONTRACTOR SHALL COOPERATE WITH OTHER CONTRACTORS AND ALL AFFECTED UTILITY COMPANIES.

**TREE PROTECTION:**

1. CONSTRUCTION ACTIVITY SHALL NOT DESTROY OR IRREVERSIBLY HARM THE ROOT SYSTEM OF PROTECTED TREES. POST HOLES AND TRENCHES LOCATED CLOSE TO PROTECTED TREES SHALL BE ADJUSTED TO AVOID DAMAGE TO MAJOR ROOTS.
2. WHEN THE TREE ROOT ZONE WILL BE DISTURBED, AFFECTED ROOTS MUST BE SEVERED BY CLEAN PRUNING CUTS AT THE POINT WHERE CONSTRUCTION IMPACTS THE ROOTS.

**QUANTITY & PAY ITEMS (TO BE INCLUDED IN FUTURE SUBMITTAL):**

BID NUMBER	FDOT PAY ITEM NUMBER	ITEM DESCRIPTION	QUANTITY	UNIT
GENERAL & ROADWAY IMPROVEMENTS				
1	101-1	MOBILIZATION	1	LS
2	102-1	MAINTENANCE OF TRAFFIC	1	LS
3	N/A	AS-BUILT PLANS AND CONSTRUCTION LAYOUT SURVEY	1	LS
4	N/A	POLLUTION PREVENTION AND CONTROL	1	LS
5	N/A	UNSUITABLE MATERIAL REMOVAL	50.0	CY
6	104-10-3	SEDIMENT BARRIER	3,186	LF
7	110-1-1	CLEARING AND GRUBBING	0.85	AC
8	285-706	OPTIONAL BASE, BASE GROUP 06	1,090	SY
9	327-70-4	MILLING EXISTING ASPHALT PAVEMENT (3" AVG DEPTH)	3,490	SY
10	334-1-53A	SUPERPAVE ASPHALTIC CONCRETE (TRAFFIC C) (PG 76-22) (SP-9.5) (1")	200.0	TN
11	334-1-53B	SUPERPAVE ASPHALTIC CONCRETE (TRAFFIC C) (PG 76-22) (SP-12.5) (2")	400.0	TN
12	711-11-125	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (24" FOR STOP BAR AND CROSSWALK)	10	LF
13	711-16-201	THERMOPLASTIC (STANDARD-OTHER SURFACES) (YELLOW) (SOLID) (6")	0.569	GM
UTILITY IMPROVEMENTS				
14	N/A	12" PVC C-900 DR-18 REUSE MAIN (INCLUDES FITTINGS, RESTRAINTS, APPURTENANCES, ETC)	1,680	LF
15	N/A	8" PVC C-900 DR-18 REUSE MAIN (INCLUDES FITTINGS, RESTRAINTS, APPURTENANCES, ETC)	30	LF
16	N/A	6" PVC C-900 DR-18 FORCE MAIN (INCLUDES FITTINGS, RESTRAINTS, APPURTENANCES, ETC)	73	LF
17	N/A	8" GATE VALVE 	1	EA
18	N/A	12" GATE VALVE 	2	EA
19	N/A	AIR RELEASE VALVE 	1	EA

**PAY ITEM FOOTNOTES**

BID ITEM NO.	FDOT ITEM NO.	PAY ITEM NOTE
2	102-1	THE CONTRACTOR IS REQUIRED TO SUBMIT A DETAILED TEMPORARY TRAFFIC CONTROL PLAN SIGNED & SEALED BY A FLORIDA PROFESSIONAL ENGINEER WHICH DEFINES THE PROPOSED TRAFFIC PATTERNS FOR ALL PHASES OF CONSTRUCTION. PROVISIONS FOR TEMPORARY DRAINAGE AS WELL AS MAINTAINING ACCESS TO ALL PROPERTIES SHALL BE INCLUDED AND DEFINED WITHIN THE PLAN. THE COST OF THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL AND AND TEMPORARY TRAFFIC CONTROL EQUIPMENT NECESSARY TO IMPLEMENT AND MAINTAIN THE APPROVED TEMPORARY TRAFFIC CONTROL PLAN INCLUDING BUT NOT LIMITED TO DETOURS, TRAFFIC CONTROL OFFICERS, TEMPORARY PAVEMENT, TEMPORARY SIGNALIZATION AND MAINTENANCE AND TEMPORARY DRAINAGE. TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF MUTCD, FDOT FY 2022-23 STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION AND THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION JULY 2022. THIS PAY ITEM ALSO INCLUDES LITTER REMOVAL AND DISPOSAL AND MOWING AS REQUIRED PER SECTION 107 OF THE JANUARY 2023 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
7	110-1-1	PAY ITEM INCLUDES THE CONTRACTOR'S ADHERENCE TO THE GUIDANCE REGARDING EASTERN INDIGO SNAKES AS STATED IN THE ST CLAIR STREET IMPROVEMENTS ENVIRONMENTAL EVALUATION MEMORANDUM DATED JUNE 22, 2023.
14-19	N/A	ALL UTILITY CONSTRUCTION SHALL BE DONE TO MEET THE CITY OF WILDWOOD CONSTRUCTION STANDARDS AND SPECIFICATIONS.

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GENERAL NOTES & SUMMARY OF PAY ITEMS				
ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILDWOOD SUMTER COUNTY FLORIDA				
SHEET NUMBER <b>02B</b>				

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UTILITY NOTES:

1. ALL UTILITY CONSTRUCTION SHALL BE DONE TO MEET THE CITY OF WILDWOOD CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE CITY OF WILDWOOD TWO WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. MATERIALS FOR THE SANITARY SEWER AND WATER SYSTEM ARE SPECIFIED AS FOLLOWS:
  - A. DUCTILE IRON PIPE SHALL CONFORM TO ANSI/ASTM C150/A21.50-81 CLASS 51 OR GREATER. FITTINGS SHALL CONFORM TO AWWA/ANSI C110/A21.10-82 OR AWWA/ANSI C153/A21.53, 350 PSI MINIMUM PRESSURE RATING. FITTINGS SHALL BE COATED ON THE INSIDE WITH PROTECTO 401, A CERAMIC EPOXY LINING, AND A BITUMINOUS COATING ON THE OUTSIDE UNLESS SPECIFIED OTHERWISE. JOINTS SHALL CONFORM TO ANSI/AWWA C111/A21.11-80. NO JOINT DEFLECTION SHALL EXCEED 75% OF MAXIMUM DEFLECTION RECOMMENDED BY THE PIPE MANUFACTURER.
  - B. POLYVINYL CHLORIDE (PVC), PRESSURE PIPE 4"-12" SHALL MEET AWWA C900 CLASS 150, DR 18, CRITERIA AND HAVE A WORKING PRESSURE OF 150 PSI. PVC PRESSURE PIPE 14"-36" SHALL MEET AWWA C905, DR-18. FORCE MAIN PIPE SHALL BE GREEN AND RECLAIMED WATER SHALL BE PURPLE IN COLOR. PIPE JOINTS SHALL BE MADE WITH INTEGRAL BELL AND SPIGOT PIPE ENDS. NO JOINT DEFLECTION SHALL EXCEED 75% OF MAXIMUM DEFLECTION RECOMMENDED BY THE PIPE MANUFACTURER. THE GASKET SHALL MEET THE REQUIREMENTS OF ASTM F-477.
  - C. FUSIBLE POLYVINYL CHLORIDE (PVC) PIPE SHALL BE MANUFACTURED UNDER THE TRADE NAMES FUSIBLE C-900® AND FUSIBLE C-905® FOR UNDERGROUND SOLUTIONS, INC.
  - D. HIGH DENSITY POLYETHYLENE PIPE, (HDPE), SHALL MEET ASTM F-714 AND ASTM D3550 (PE 4710) CRITERIA. ALL JOINTS SHALL BE FIELD-WELDED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION. PIPE SHALL BE IPS SIZED.
  - E. VALVES: VALVES TWO INCHES THROUGH 12 INCHES SHALL BE MUELLER (OR APPROVED ALTERNATIVE) RESILIENT SEAT GATE VALVE, MODIFIED WEDGE DISC TYPE, SUITABLE FOR DIRECT EARTH BURIAL, SUITABLE FOR MECHANICAL JOINT AND TO COMPLY WITH AWWA SPECIFICATIONS. VALVES DEEPER THAN FIVE FEET (5') WILL REQUIRE VALVE NUT EXTENSIONS, MUST BE WELDED AND ONE-PIECE.
  - F. VALVE BOXES (PROVIDED FOR ALL VALVES INSTALLED UNDERGROUND): CAST IRON, WITH A MINIMUM INTERIOR DIAMETER OF 5 INCHES, ADJUSTABLE TO FIT THE DEPTH OF EARTH COVER OVER THE VALVES, DESIGNED TO PREVENT THE TRANSMISSION OF SURFACE LOADS DIRECTLY TO THE VALVE PIPING. PROVIDE COVERS MARKED "SEWER" CONSTRUCTED AS TO PREVENT TIPPING OR RATTLING.
  - G. MECHANICAL JOINT RESTRAINT, FOR PVC PIPE, SHALL BE INCORPORATED INTO THE DESIGN OF THE FOLLOWER GLAND. THE RESTRAINT MECHANISM SHALL CONSIST OF A PLURALITY OF INDIVIDUALLY ACTUATED GRIPPING SURFACES TO MAXIMIZE RESTRAINT CAPABILITY. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536-80. THE GLAND SHALL BE SUCH THAT IT CAN REPLACE THE STANDARDIZED MECHANICAL JOINT GLAND AND CAN BE USED WITH THE STANDARDIZED MECHANICAL JOINT BELL CONFORMING TO ANSI/AWWA C111/A21.11 AND ANSI/AWWA C153/A21.53 OF LATEST REVISION. TWIST OFF NUTS, SIZED SAME AS TEE-HEAD BOLTS, SHALL BE USED TO INSURE PROPER ACTUATING OF RESTRAINING DEVICES. THE RESTRAINING GLAND SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED. THE RESTRAINING GLANDS SHALL HAVE BEEN TESTED TO UNI-B-13-92, BE LISTED BY UNDERWRITERS LABORATORIES, AND BE APPROVED BY FACTORY MUTUAL. THE RESTRAINT SHALL BE THE EBAA IRON SERIES 2000PV OR APPROVED EQUAL.
  - H. RESTRAINT RINGS FOR C-900 PVC PIPE BELLS SHALL BE MADE OF DUCTILE I COMPONENTS. ALL DUCTILE IRON SHALL CONFORM TO ASTM A536. A SPLIT RING SHALL BE USED BEHIND THE BELL AND A SERRATED RESTRAINT RING SHALL BE USED TO GRIP THE PIPE. A SUFFICIENT NUMBER OF BOLTS SHALL BE USED TO CONNECT THE BELL RING AND THE PIPE RING. THE COMBINATION SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 150 PSI. THE RESTRAINT SHALL BE THE SERIES 1500 AS PRODUCED BY THE EBAA IRON, INC. OR APPROVED EQUAL.
4. PIPE LAYING: INSTALL THE PIPING SYSTEMS COMPLETE, TESTED AND READY FOR OPERATION. CLEAN EACH PIPE AND FITTING AND INSPECT FOR DEFECTS. DEFECTIVE PORTIONS OF PIPE WILL BE CUT OFF AT LEAST 12 INCHES BEYOND VISIBLE CRACKS OR DEFECTS. LAY PIPE STRAIGHT AND LEVEL, WITH CHANGES IN GRADE AND/OR ALIGNMENT MADE WITHIN PIPE MANUFACTURER'S TOLERANCES. ANY PIPE THAT IS NOT IN TRUE ALIGNMENT OR WHICH SHOWS ANY SETTLEMENT AFTER LAYING WILL BE REMOVED AND RE-LAID BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION. SECURELY CLOSE ALL OPEN ENDS OF PIPES AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. USE CARE TO PREVENT FLOATATION. LAY PIPE DIRECTLY ON THE TRENCH BOTTOM. SHAPE THE BOTTOM OF THE TRENCH TO PROVIDE FIRM SUPPORT FOR THE PIPE ALONG ITS ENTIRE LENGTH. EXCAVATE SUITABLE HOLES FOR JOINTS TO ALLOW THE MAKING AND ASSEMBLING OF THE JOINTS. PIPING SHALL BE MARKED IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS.

UTILITY NOTES CONT:

5. THE BACKFILLING OPERATION SHALL BE IN ACCORDANCE WITH SECTION 125.8 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. PIPE DEPTH AND PROTECTION: THE STANDARD MINIMUM COVER FOR SANITARY SEWER AND WATER SYSTEMS SHALL BE 3 FEET FROM THE TOP OF THE PIPE TO FINISH GRADE. SHOULD THIS DESIGN NOT BE FEASIBLE, DUCTILE IRON PIPE, CLASS 52, SHALL BE SUBSTITUTED. WHERE WATERWAYS, CANALS, DITCHES OR OTHER CUTS ARE CROSSED, DUCTILE IRON PIPE OR OTHER APPROVED METHODS SHALL BE CONSTRUCTED. WHERE A WATER MAIN CROSSES EITHER ABOVE OR BELOW AN EXISTING OR PROPOSED SANITARY HAZARD (STORM, SANITARY OR REUSE PIPE) WITH LESS THAN 12 INCHES OF CLEARANCE, THEN EITHER THE WATER MAIN OR THE SANITARY HAZARD SHALL BE (1) A SOLID LENGTH OF CLASS 52 DIP FOR 18 FEET CENTERED ON THE POINT OF CROSSING OR (2) ENCASED IN CONCRETE CENTERED ON THE POINT OF CROSSING. THE MINIMUM HORIZONTAL SEPARATION BETWEEN A WATER MAIN AND A SANITARY HAZARD SHALL BE 10 FEET. WHERE A SEPARATION OF 10 FEET BETWEEN A WATER MAIN AND A SANITARY HAZARD CAN NOT BE MAINTAINED, THEN EITHER THE WATER MAIN OR THE SANITARY HAZARD SHALL BE (1) CLASS 52 DIP OR (2) ENCASED IN CONCRETE.
7. AIR VENTING: WHERE THE FORCE MAIN PROFILE IS SUCH THAT AIR POCKETS OR ENTRAPMENT COULD OCCUR, METHODS FOR AIR RELEASE SHALL BE PROVIDED. AIR VENTING CAPABILITIES SHALL BE PROVIDED FOR FORCE MAINS BY APPROPRIATELY PLACING AIR RELEASE VALVES. AT CRITICAL POINTS ON MAJOR MAINS, AUTOMATIC AIR RELEASE ASSEMBLIES SHALL BE INSTALLED WITH VALVES. SPECIAL CARE SHALL BE TAKEN TO PRECLUDE ANY CROSS-CONNECTION POSSIBILITY IN THE DESIGN OF AUTOMATIC AIR RELEASE VALVE APPLICATION.
8. JOINT RESTRAINING: PRESSURE PIPING FITTINGS AND OTHER ITEMS REQUIRING RESTRAINT, SHALL BE BRACED WITH "MEGALUGS" OR OTHER RESTRAINING ASSEMBLIES, AS SHOWN ON DETAIL SHEET. SAID RESTRAINING DEVICES SHALL BE DESIGNED FOR THE MAXIMUM PRESSURE CONDITION (TESTING) AND THE SAFE BEARING LOADS FOR HORIZONTAL THRUST.
9. VALVES: CAREFULLY INSPECT, OPEN WIDE, THEN TIGHTLY CLOSE EACH VALVE. TEST THE VARIOUS NUTS AND BOLTS FOR TIGHTNESS. TAKE SPECIAL CARE TO PREVENT JOINT MATERIALS, STONES, OR OTHER SUBSTANCES FROM BECOMING LODGED IN THE VALVE SEAT. SET VALVES, UNLESS OTHERWISE SHOWN, WITH THEIR STEMS VERTICALLY ABOVE THE CENTERLINE OF THE PIPE. ADJUST ALL VALVES FOR PROPER OPERATION. DEFECTIVE VALVES WILL BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
10. VALVES BOXES: CAREFULLY CENTER VALVES BOXES OVER THE OPERATING NUTS OF THE VALVES SO AS TO PERMIT A VALVE KEY TO BE EASILY FITTED TO THE OPERATING UNIT. SET THE TOPS OF THE BOXES FLUSH WITH FINISHED GRADE, MAKING ALLOWANCE FOR SETTLEMENT OF THE SURROUNDING BACKFILL OR SURFACE. INSTALL VALVE BOXES SO THAT THEY DO NOT TRANSMIT SURFACE LOADS DIRECTLY TO EITHER THE PIPING OR VALVE. TAKE CARE TO PREVENT EARTH AND OTHER MATERIAL FROM ENTERING THE VALVE BOXES. DIG OUT AND ADJUST TO FINISH GRADE ANY VALVE BOX THAT IS OUT OF ALIGNMENT OR IS NOT FLUSH WITH THE FINISHED SURFACE, AND WHEN REQUIRED, PROVIDE A CONCRETE SUPPORT RING.
11. TESTING:
  - A. THE CONTRACTOR SHALL PERFORM HYDROSTATIC TESTING OF ALL SANITARY SEWER AND WATER SYSTEMS, AS SET FORTH IN THE FOLLOWING, AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF REPRESENTATIVES FROM THE CITY OF WILDWOOD AND THE ENGINEER, WITH 3 DAYS ADVANCE NOTICE PROVIDED. ALL JOINTS WILL REMAIN UNCOVERED UNTIL THE TESTING IS COMPLETE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER. THE ENGINEER AND A REPRESENTATIVE FROM THE ENGINEER AND THE CITY OF WILDWOOD SHALL BE PRESENT DURING TESTING.
  - B. PIPING AND APPURTENANCES TO BE TESTED SHALL BE WITHIN SECTIONS BETWEEN VALVES, UNLESS ALTERNATIVE METHODS HAVE RECEIVED PRIOR APPROVAL FROM THE CITY OF WILDWOOD. TESTING SHALL NOT PROCEED UNTIL ALL RESTRAINING DEVICES ARE INSTALLED. ALL PIPING SHALL BE THOROUGHLY CLEANED AND FLUSHED PRIOR TO TESTING TO CLEAR THE LINES OF ALL FOREIGN MATTER. WHILE THE PIPING IS BEING FILLED WITH WATER, CARE SHALL BE EXERCISED TO PERMIT THE ESCAPE OF AIR FROM EXTREMITIES OF THE TEST SECTION, WITH ADDITIONAL RELEASE COCKS PROVIDED IF REQUIRED.

**Kimley»Horn**

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PHONE: 352-438-3000  
WWW.KIMLEY-HORN.COM, REGISTRY 35106

LICENSED PROFESSIONAL

MARIO PETROCLA VEGA

FLORIDA LICENSE NUMBER 891603

DATE:

KHA PROJECT

142173391

DATE

OCTOBER 2023

SCALE

AS SHOWN

DESIGNED BY

KHA

DRAWN BY

KHA

CHECKED BY

KHA

**UTILITY NOTES**

**ST. CLAIR STREET  
IMPROVEMENTS**  
PREPARED FOR  
CITY OF WILDWOOD

SUMTER COUNTY FLORIDA

SHEET NUMBER

**03A**

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10/05/23 KH  
DATE

NO. REVISIONS

BY

Drawing name: K:\OCA\_Civil\142173391 - Bernick St. Clair Hwy St. Imp\CAD\PlanSheets\St. Clair St\02 GENERAL NOTES.dwg 03B UT NOTES Oct 10, 2023 10:09am by: robert.hickernell  
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**UTILITY NOTES CONT:**

C. 1. HYDROSTATIC TESTING SHALL BE PERFORMED AT 150 PSI. MAINTAIN THE TEST PRESSURE FOR AT LEAST 2 HOURS AND UNTIL ALL EXPOSED PORTIONS OF THE PIPE HAVE BEEN INSPECTED FOR WATER-TIGHTNESS. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS AS SET FORTH IN SECTION 13 OF AWWA STANDARD C600. THE ALLOWABLE RATE OF LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR DETERMINED BY THE FOLLOWING FORMULA:

$$L = \frac{SD \times (P)^{1/2}}{133,200}$$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR

S = LENGTH OF PIPE TESTED, IN FEET

D = NOMINAL DIAMETER OF THE PIPE IN INCHES

P = AVERAGE TEST PRESSURE MAINTAINED DURING THE LEAKAGE TEST IN POUNDS PER SQUARE INCH GAUGE

D. THE TESTING PROCEDURE SHALL INCLUDE THE CONTINUED APPLICATION OF THE SPECIFIED PRESSURE TO THE TEST SYSTEM, FOR THE 2 HOUR PERIOD, BY WAY OF A PUMP TAKING SUPPLY FROM A CONTAINER SUITABLE FOR MEASURING WATER LOSS. THE AMOUNT OF LOSS SHALL BE DETERMINED BY MEASURING THE VOLUME DISPLACED FROM SAID CONTAINER.

E. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER, PUMPS, GAUGES AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED WATER DISTRIBUTION SYSTEM TESTING AND PERFORM NECESSARY REPAIRS. THE CONTRACTOR SHALL BE BILLED FOR ANY AND ALL RE-TESTS.

12. DETECTABLE BURIED WARNING TAPE AND COPPER LOCATION WIRE:

A. DETECTABLE BURIED PIPE WARNING TAPE SHALL BE 2 INCHES MINIMUM WIDTH, LONG LASTING PLASTIC WITH METALIZED FOIL CORE SPECIFICALLY DESIGNED FOR NON-METALLIC PIPES AND SHALL BE PLACED OVER ALL PVC WATER LINES AND FITTINGS. METALIZED CORE SHALL BE DETECTABLE TO DEPTHS OF UP TO 6 FEET BY USE OF COMMERCIALY AVAILABLE PIPE LOCATION EQUIPMENT. TAPE SHALL BE FURNISHED IN MANUFACTURER'S STANDARD COLOR AND ROLL LENGTH AND SHALL BE IMPRINTED CONTINUOUSLY WITH THE FOLLOWING WORDS UNLESS OTHERWISE APPROVED: CAUTION BURIED FORCE MAIN BELOW.

B. IN ADDITION TO THE INSTALLATION OF THE DETECTABLE BURIED WARNING TAPE OVER ALL PVC SEWER LINES, THE CONTRACTOR SHALL INSTALL AN 10 GAUGE INSULATED COPPER WIRE DIRECTLY ON TOP OF ALL PVC SEWER LINES AND TAPED EVERY TEN FEET FOR LOCATION PURPOSES. THE WIRE SHALL BE CONTINUOUS AND ALL CONNECTIONS TAPED. THREE FEET OF EXCESS WIRE SHALL BE LEFT IN ALL VALVE BOXES.

13. ALL DIRECTIONAL DRILLING CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 555 OF THE FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) AND THE CONTRACT SPECIFICATIONS.

14. DISINFECTING:

A. DISINFECTING THE WATER MAIN AND CONDUCTING BACTERIOLOGICAL SURVEYS AN EVALUATIONS MUST BE DONE IN ACCORDANCE WITH AWWA C551.

B. UPON COMPLETION OF THE FLUSHING AND DISINFECTION OF THE WATER LINES. THE CONTRACTOR SHALL HAVE WATER SAMPLES TESTED FOR BACTERIOLOGICAL MAIN CLEARANCE IN ACCORDANCE WITH F.A.C. 62-55.315(6), 62-555.330 AND THE PROJECT SPECIFIC FDEP PERMIT REQUIREMENTS.

15. SEPARATION REQUIREMENTS:

A. THE LOCATION OF PUBLIC WATER SYSTEM MAINS SHOULD BE IN ACCORDANCE WITH F.A.C. RULE 62-55.314.

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

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)			
Vacuum Sanitary Sewer			
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)			
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

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

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

DATE	BY
10/05/23	KH
BID SET	No.
REVISIONS	No.

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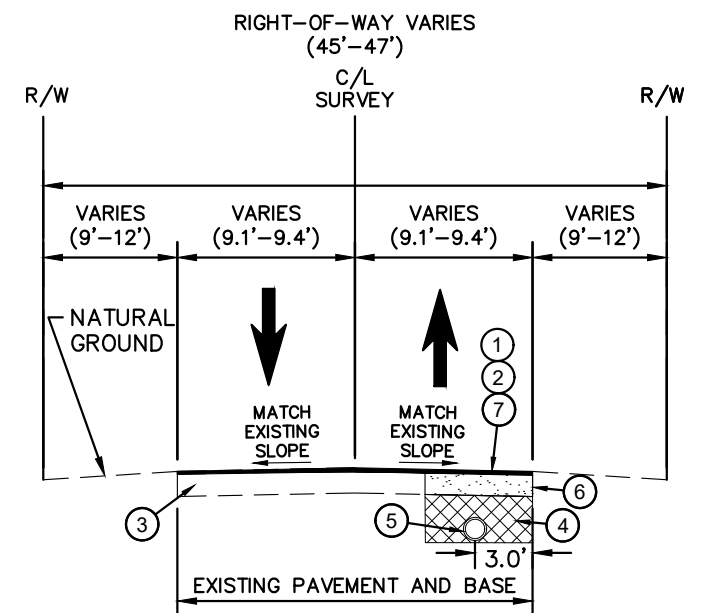
LICENSED PROFESSIONAL  
 MARIO PETROLA VEGA  
 FLORIDA LICENSE NUMBER 891603  
 DATE:

**UTILITY NOTES**

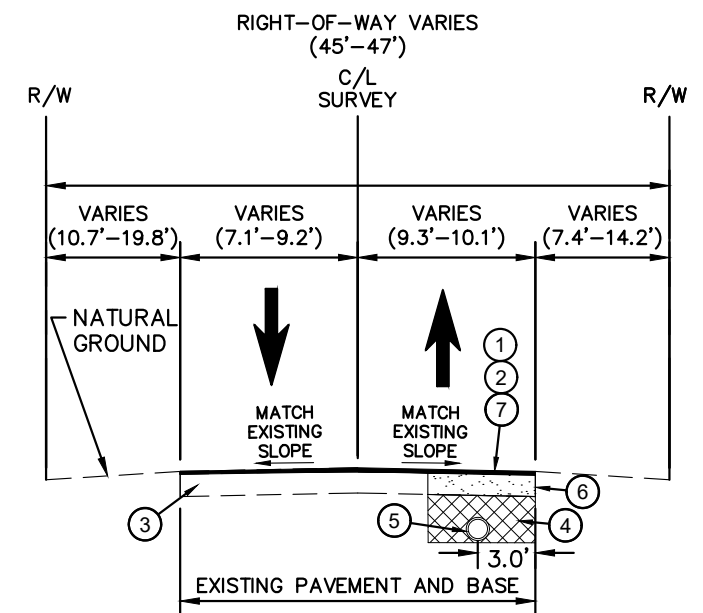
ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILWOOD  
 SUMTER COUNTY FLORIDA  
 SHEET NUMBER 03B

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

Drawing name: K:\OCA\_Civil\142173391 - Borwick St. Clair Imp\CAD\PlanSheets\St. Clair St\05 TYPICAL SECTION.dwg 05 TYPICAL SECTION Oct 10, 2023 10:09am by: robert.hickernell  
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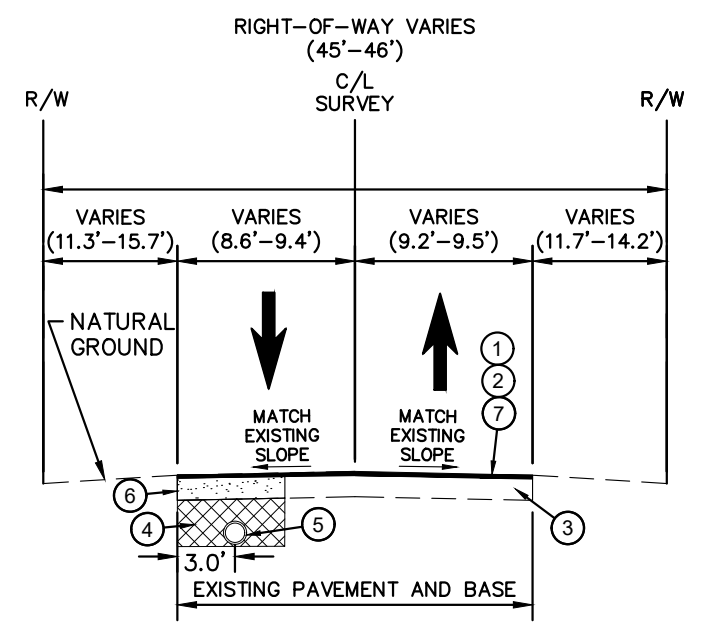


PROPOSED TYPICAL SECTION  
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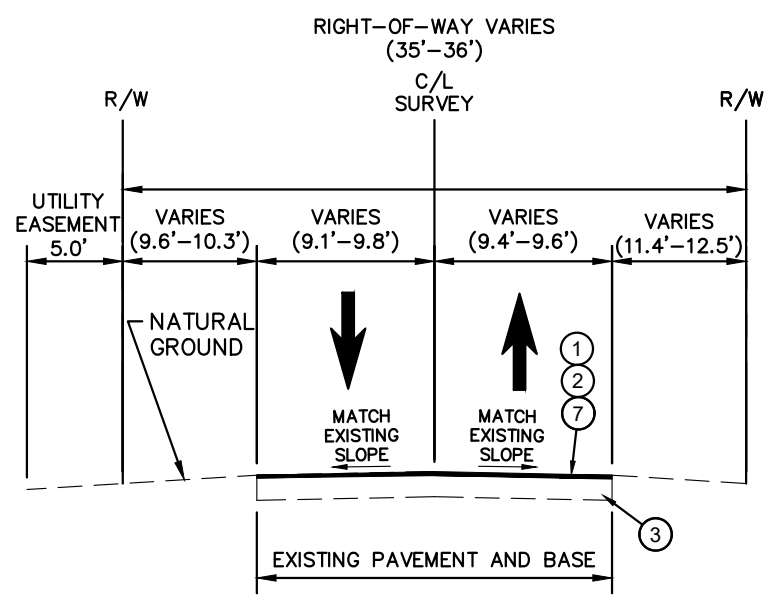


PROPOSED TYPICAL SECTION  
 ST. CLAIR STREET  
 STA. 207+26.24 TO STA. 213+17.05

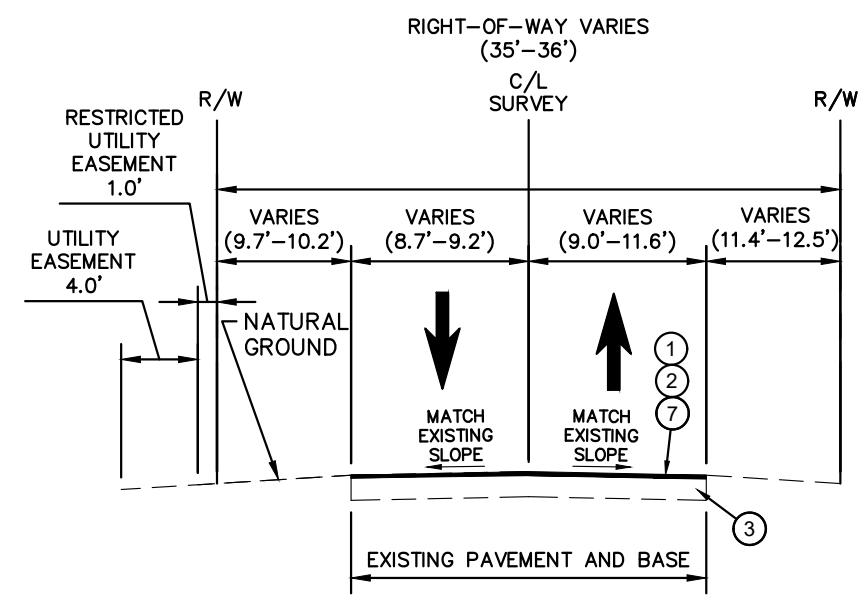
- ① TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) (PG 76-22) (1.0") (ON TOP)
- ② TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) (PG 76-22) (2.0")
- ③ EXISTING LIMEROCK BASE (DEPTH VARIES, AVG. 7.1")
- ④ SELECT BACKFILL MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180
- ⑤ 12" PVC REUSE MAIN W/ TYPE B BEDDING DETAIL (TO BE INSTALLED AT A MINIMUM 36" COVER DEPTH)
- ⑥ 8" THICK LIMEROCK BASE WITH A MINIMUM LBR OF 100.
- ⑦ REMOVE FULL DEPTH OF THE EXISTING ASPHALT AND A PORTION OF THE LIMEROCK BASE MATERIAL TO A TOTAL DEPTH OF 3" BELOW EXISTING ASPHALT GRADE ELEVATION. COMPACT THE EXPOSED DISTURBED BASE LAYER TO AT LEAST 98% OF THE MATERIAL'S MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY.



PROPOSED TYPICAL SECTION  
 ST. CLAIR STREET  
 STA. 213+17.05 TO STA. 213+86.57



PROPOSED TYPICAL SECTION  
 ST. CLAIR STREET  
 STA. 213+86.57 TO STA. 215+39.67

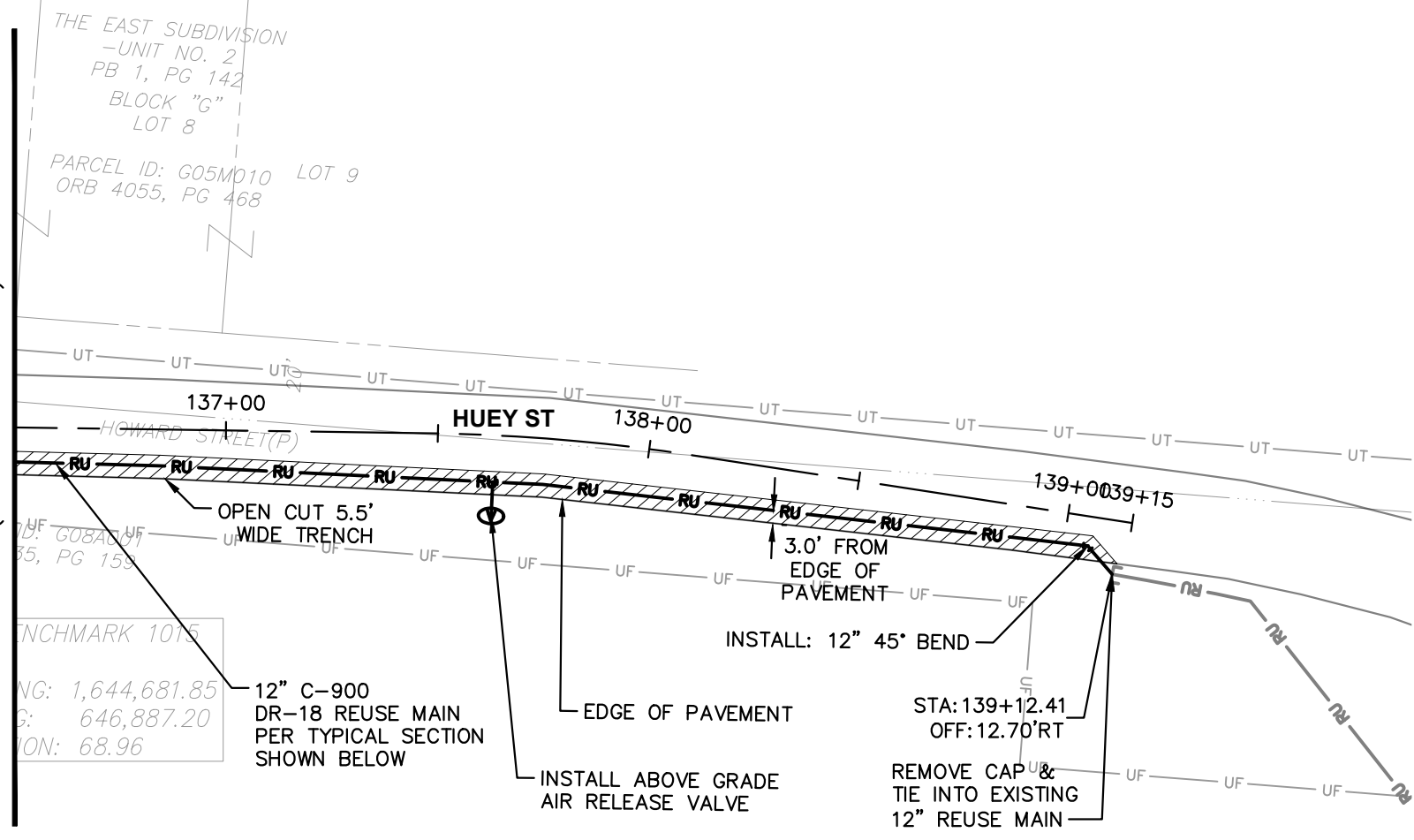


PROPOSED TYPICAL SECTION  
 ST. CLAIR STREET  
 STA. 215+39.67 TO STA. 216+50.27

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LICENSED PROFESSIONAL	MARIO PETROLA VEGA						
DATE	OCTOBER 2023						
SCALE	AS SHOWN						
DESIGNED BY	KHA						
DRAWN BY	KHA						
CHECKED BY	KHA						
FLORIDA LICENSE NUMBER	891603						
DATE:							
TYPICAL SECTION							
ST. CLAIR STREET IMPROVEMENTS							
PREPARED FOR	CITY OF WILDWOOD						
SUMTER COUNTY	FLORIDA						
SHEET NUMBER	04						
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.							

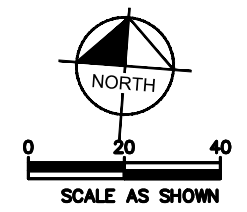
Drawing name: K:\OCA\_Civil\142173391 - Barwick St Clair Huey St Imp\CAD\PlanSheets\St Clair St\06 PLAN&PROFILE - 1.dwg C-05 PLAN VIEW Oct 10, 2023 10:10am by: robert.hickernell  
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HUEY ST ALIGNMENT  
 MATCH LINE STA 136+50  
 (SEE SHEET 06)

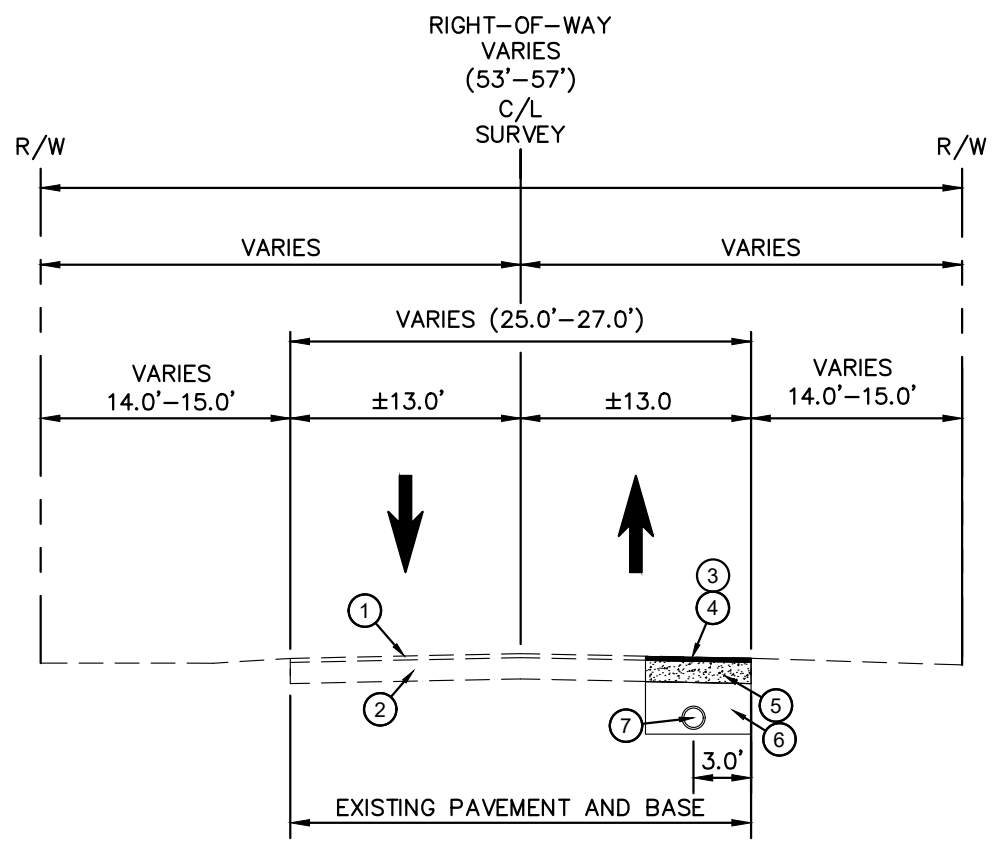


MARKER  
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 NORTHING: 646,887.20  
 WESTING: 68.96

**LEGEND**  
 RECONSTRUCT PAVEMENT PER  
 DETAIL BELOW



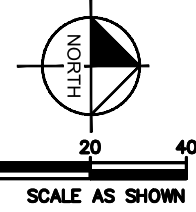
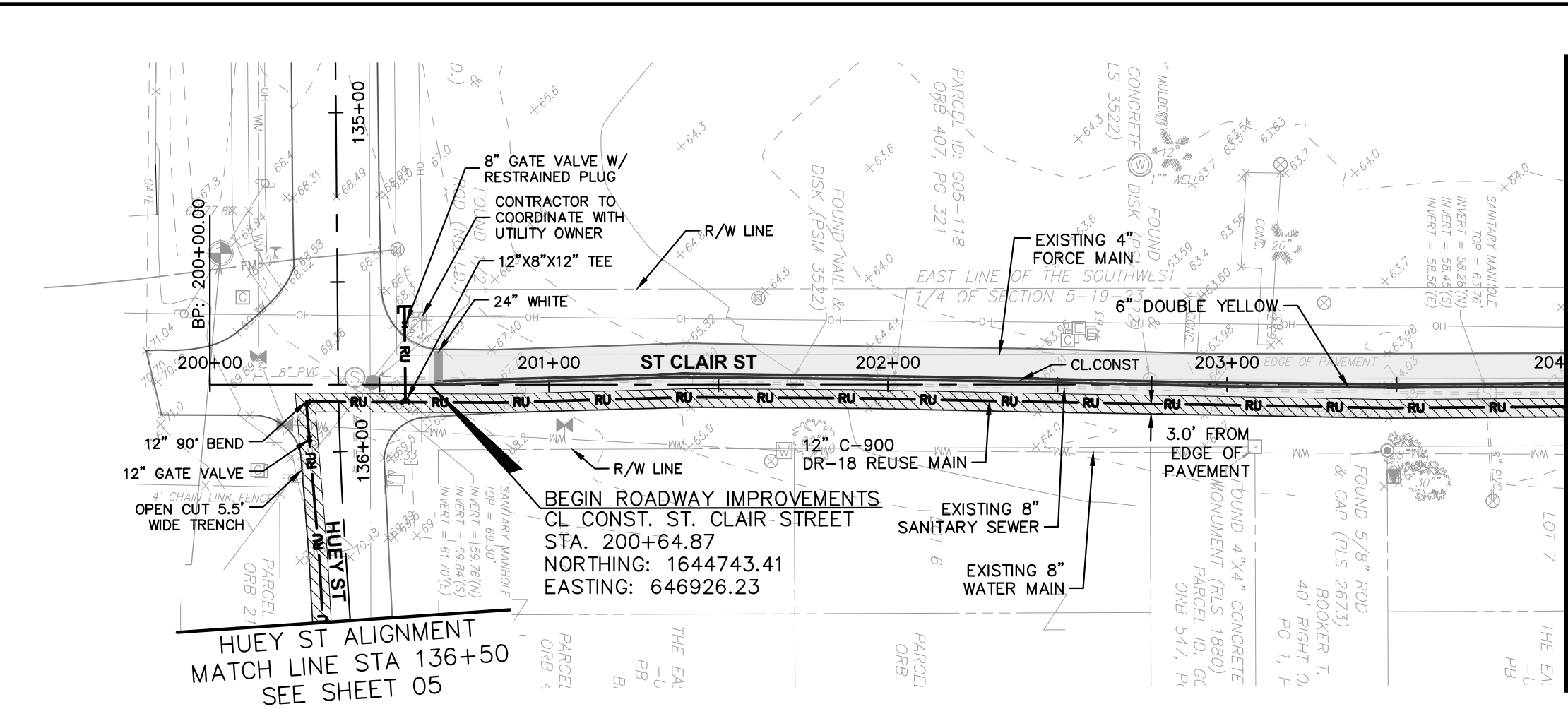
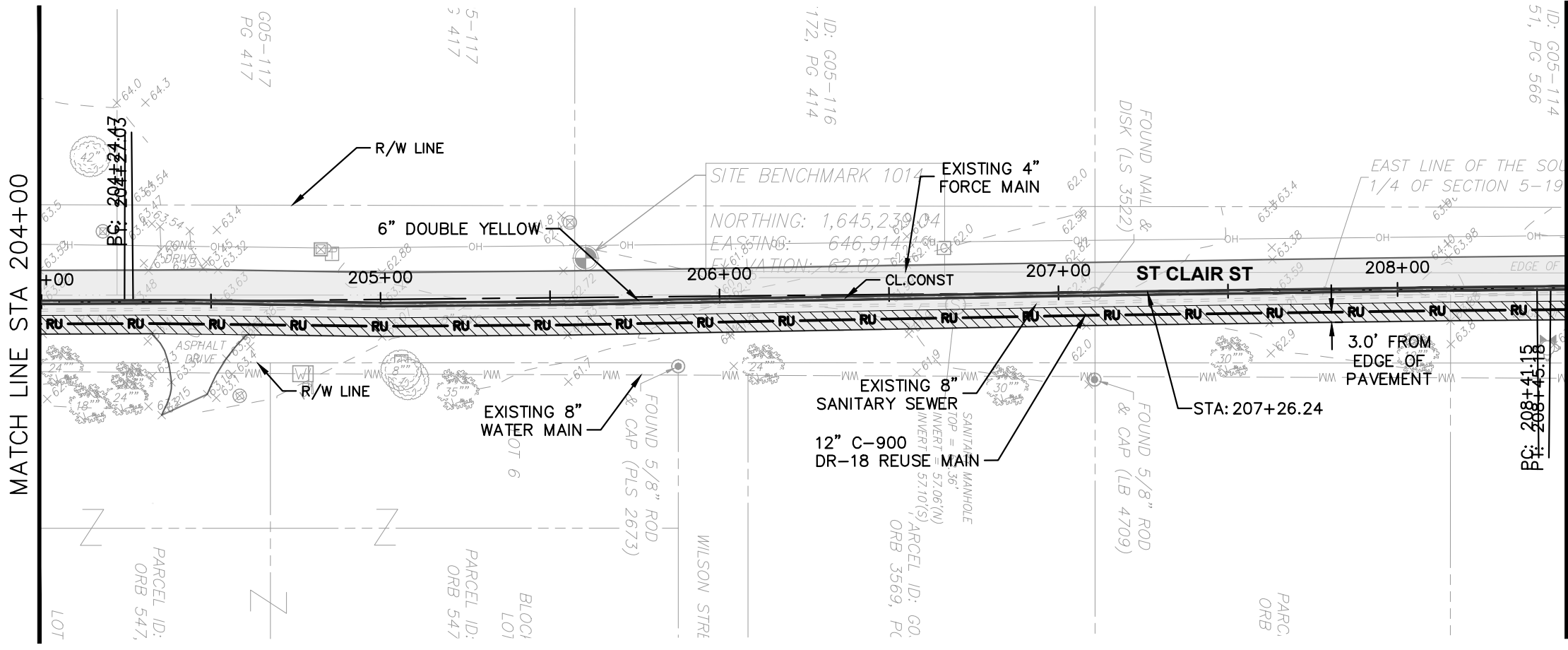
- NOTES**
1. CONTRACTOR TO FIELD VERIFY HIGH POINT LOCATION WITH ENGINEER PRIOR TO ARV INSTALLATION
  2. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS. CONTRACTOR TO COORDINATE ANY CONFLICTS WITH APPROPRIATE UTILITY OWNER.



**PROPOSED TYPICAL SECTION  
 HUEY STREET**

- ① EXISTING ASPHALT SURFACE COURSE (DEPTH VARIES, AVG 3.5")
- ② EXISTING LIMEROCK BASE (DEPTH VARIES, AVG. 7.1")
- ③ TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC C) (PG 76-22) (1.0") (ON TOP)
- ④ TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) (PG 76-22) (2.0")
- ⑤ 8" THICK LIMEROCK BASE WITH A MINIMUM LBR OF 100.
- ⑥ SELECT BACKFILL MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180
- ⑦ 12" PVC REUSE MAIN W/ TYPE B BEDDING DETAIL (TO BE INSTALLED AT A MINIMUM 36" COVER DEPTH)

		LICENSED PROFESSIONAL MARIO PETROLA VEGA FLORIDA LICENSE NUMBER 891603 DATE:	
		KHA PROJECT 142173391 DATE OCTOBER 2023 SCALE AS SHOWN DESIGNED BY KHA DRAWN BY KHA CHECKED BY KHA	
<b>PLAN VIEW</b>		FLORIDA SUMTER COUNTY CITY OF WILDWOOD PREPARED FOR <b>ST. CLAIR STREET IMPROVEMENTS</b>	
SHEET NUMBER <b>05</b>		REVISIONS No. DATE BY 10/05/23 KH BID SET	



- LEGEND**
- MILL & RESURFACE PAVEMENT
  - RECONSTRUCT PAVEMENT PER DETAIL ON SHEET 04

NO.	REVISIONS	DATE	BY
1	BID SET	10/05/23	KH

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LICENSED PROFESSIONAL	MARIO PETROLA VEGA
DATE	OCTOBER 2023
SCALE AS SHOWN	
DESIGNED BY	KHA
DRAWN BY	KHA
CHECKED BY	KHA
DATE:	

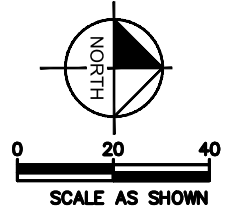
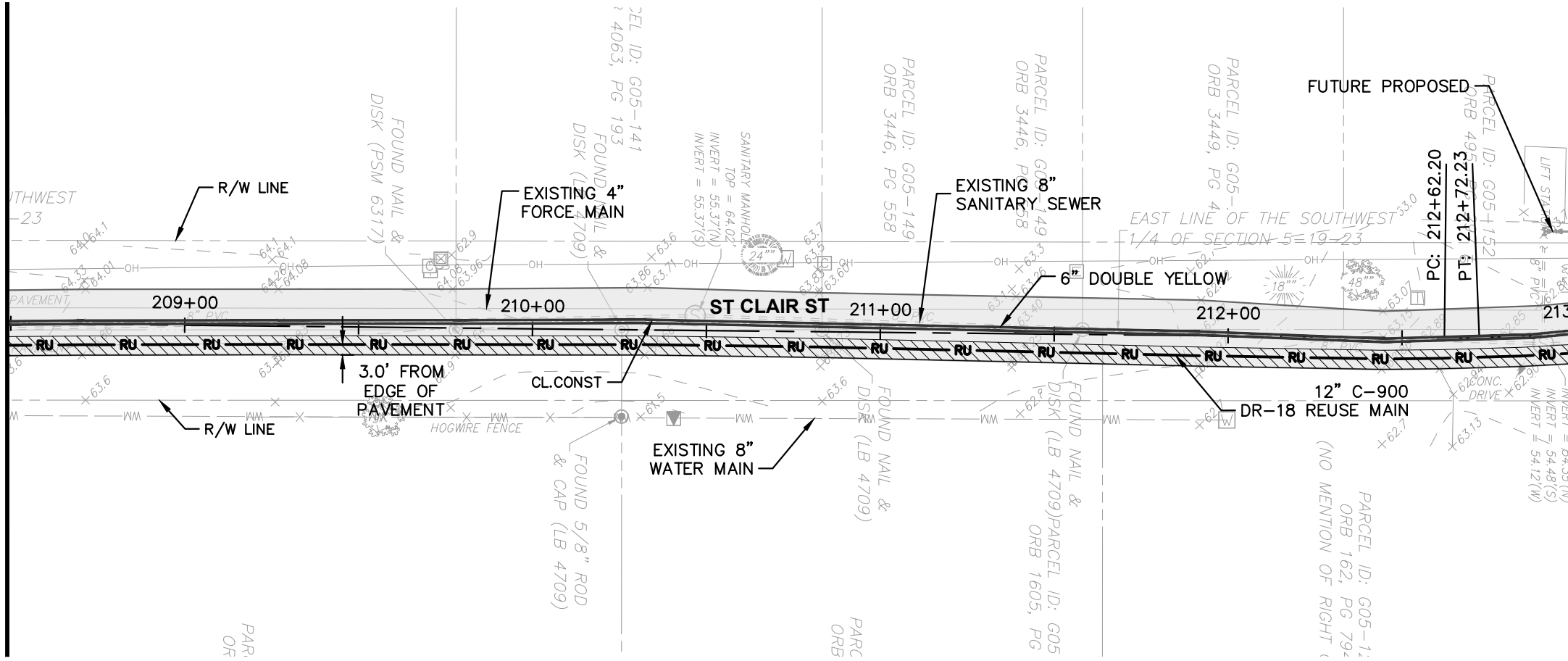
**PLAN VIEW**

**ST. CLAIR STREET IMPROVEMENTS**  
 PREPARED FOR  
 CITY OF WILDWOOD  
 SUMNER COUNTY FLORIDA

SHEET NUMBER  
**06**

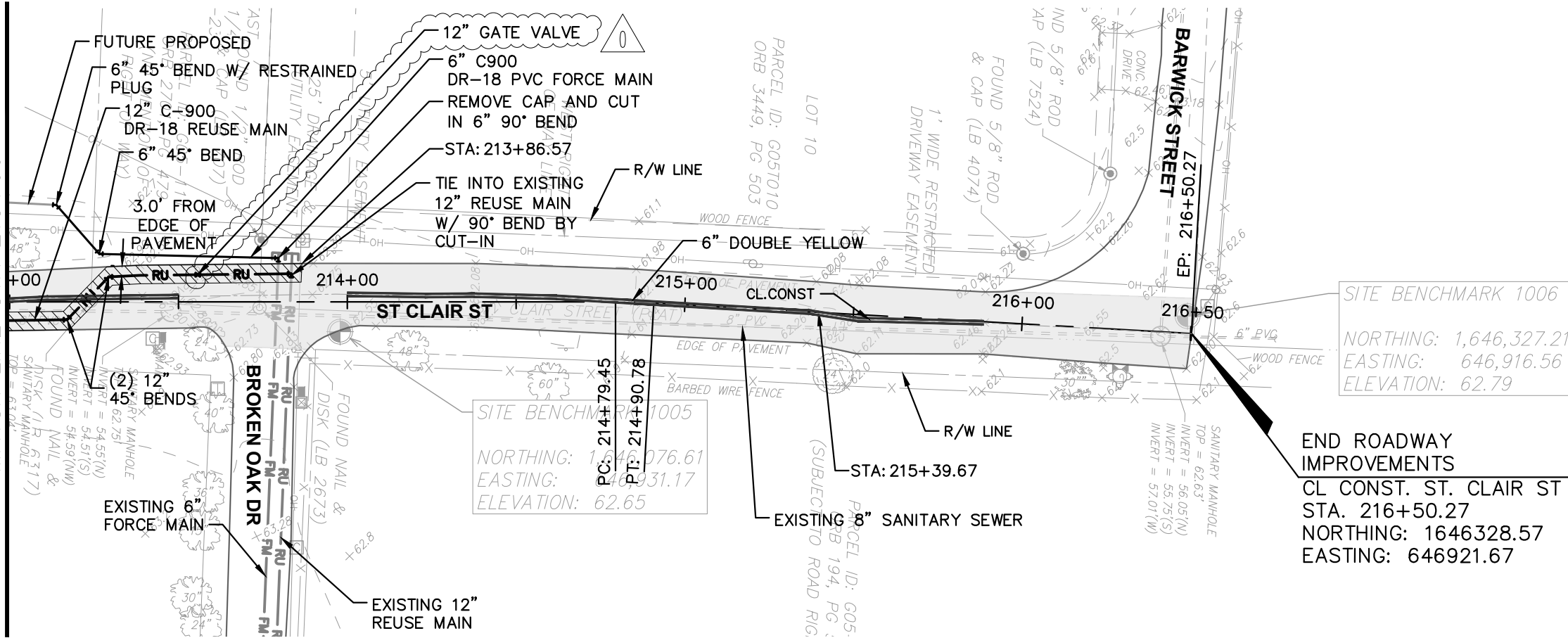


MATCH LINE STA 208+50



MATCH LINE STA 213+00

MATCH LINE STA 213+00



- LEGEND**
- MILL & RESURFACE PAVEMENT
  - RECONSTRUCT PAVEMENT PER DETAIL ON SHEET 04

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KHA PROJECT	142173391
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	KHA
CHECKED BY	KHA
DATE:	
LICENSED PROFESSIONAL	MARIO PETROLA VEGA
FLORIDA LICENSE NUMBER	89603

**PLAN VIEW**

**ST. CLAIR STREET IMPROVEMENTS**  
 PREPARED FOR  
 CITY OF WILDWOOD  
 SUMTER COUNTY FLORIDA

SHEET NUMBER  
**07**

No.	REVISIONS	DATE	BY
1	ADDITION OF 12" GATE VALVE	10/10/23	KH
2	BID SET	10/05/23	KH

Drawing name: K:\OCA\_Civil\142173391 - Barrick St. Clair Hwy St. Imp\CAD\PlanSheets\St. Clair St.\08 EROSION CONTROL.dwg ER-01 EROSION CONTROL Oct 10, 2023 10:10am by: robert.hickernell

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**TIMING OF SEDIMENT - CONTROL PRACTICES:**

SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL THROUGHOUT EARTH-DISTURBING ACTIVITY.

SETTLING FACILITIES, PERIMETER CONTROLS, AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABILIZED.

**STABILIZATION OF NON STRUCTURAL PRACTICES:**

CONTROL PRACTICES SHALL PRESERVE EXISTING VEGETATION WHERE ATTAINABLE AND DISTURBED AREAS SHALL BE RE-VEGETATED AS SOON AS PRACTICAL AFTER GRADING OR CONSTRUCTION, BUT NO LATER THAN SEVEN DAYS.

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, AND SHALL ALSO BE APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT UNDISTURBED FOR LONGER THAN SEVEN DAYS.

**SEDIMENT BARRIERS:**

SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SEDIMENT BARRIERS.

SEDIMENT BARRIERS SUCH AS SEDIMENT FENCE OR DIVERSIONS TO SETTLING FACILITIES SHALL PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED BY SHEET FLOW.

**INLET PROTECTION:**

ALL STORM SEWER INLETS WHICH ACCEPT WATER RUNOFF FROM THE CONSTRUCTION AREA SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER WILL NOT ENTER THE STORM SYSTEM WITHOUT FIRST BEING FILTERED.

**MAINTENANCE:**

TEMPORARY EROSION CONTROL FEATURES SHALL BE ACCEPTABLY MAINTAINED AND SHALL BE REMOVED OR REPLACED AT COMPLETION IN ACCORDANCE WITH THE NPDES GENERAL PERMIT CONDITIONS. MAINTENANCE SHALL BE PAID FOR UNDER THE "POLLUTION PREVENTION AND CONTROL" LINE ITEM.

**STOCKPILES:**

ALL SOIL STOCKPILES SHALL BE PROTECTED FROM EROSION BY PERIMETER CONTROL DEVICES SUCH AS SYNTHETIC BALE DIKES OR FILTER FABRIC FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.

**PERMANENT VEGETATION:**

PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL GROUND COVER IS ACHIEVED WHICH, IN THE OPINION OF CITY OF WILDWOOD, PROVIDES ADEQUATE COVER AND IS MATURE ENOUGH TO CONTROL SOIL EROSION SATISFACTORILY AND TO SURVIVE ADVERSE WEATHER CONDITIONS.

**CONSTRUCTION ACCESS ROUTES:**

MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES OR PUBLIC ROADS.

**INSPECTION SCHEDULE:**

- DIVERSION SWALE AND STRUCTURAL PROTECTION:  
INSPECT EVERY 7 DAYS AND AFTER EACH RAINSTORM 1/2" OR GREATER. REPAIR AS REQUIRED.
- INLET PROTECTION:  
INSPECT FOR SEDIMENT ACCUMULATION EVERY 7 DAYS AND AFTER EACH RAINFALL 1/2" OR GREATER, AND DAILY DURING CONTINUED RAINFALL. REPAIR OR REPLACE WHEN WATER FLOW IS RESTRICTED BY SEDIMENT.
- VEGETATIVE PLANTING:  
INSPECT AFTER SPROUTING OCCURS AND REPLANT BARE AREAS. INSPECT ESTABLISHED COVER EVERY 15 DAYS FOR DAMAGE; REPLANT AS REQUIRED. MAINTAIN ESTABLISHED COVER AT MAXIMUM 6" HEIGHT. IRRIGATE AS REQUIRED DURING DRY PERIODS TO MAINTAIN LIVE VEGETATION.

**CONSTRUCTION SEQUENCE:**

- INSTALL SEDIMENT CONTROL MEASURES
- ROUGH GRADE SITE & STOCKPILE TOPSOIL. PERFORM DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE OVERALL CONSTRUCTION AND TRAFFIC CONTROL SEQUENCE.
- TEMPORARY VEGETATION
- CONSTRUCT IMPROVEMENTS
- FINAL GRADING
- PERMANENT VEGETATION
- PERFORM CONTINUING MAINTENANCE

THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

**MAINTENANCE:**

SEDIMENT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH ONE-HALF INCH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SHOULD THE FABRIC ON A SEDIMENT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SEDIMENT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED OR SODDED AS PER PLAN.

**POLLUTION PREVENTION:**

THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM IS REGULATED THROUGH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP). IF CONSTRUCTION ACTIVITY MEETS THE FOLLOWING CRITERIA, THEN THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A NOTICE OF INTENT (NOI) AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP). FOR MORE INFORMATION PLEASE VISIT FDEP'S WEBSITE AT WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES:

- CONTRIBUTES STORMWATER DISCHARGE TO SURFACE WATERS OF THE STATE OR INTO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4); AND
- DISTURBS ONE OR MORE ACRES OF LAND INCLUDING LESS THAN ONE ACRE IF ACTIVITY IS PART OF A LARGE COMMON PLAN OF DEVELOPMENT OR SALE THAT WILL MEET OR EXCEED A ONE ACRE THRESHOLD. DISTURBANCE INCLUDES CLEARING, GRADING AND EXCAVATING.

AN FDEP NPDES CONSTRUCTION PERMIT WILL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE APPROPRIATE NPDES PERMIT FOR THIS PROJECT.

**TREE PROTECTION:**

FOR ALL TREES SHOWN TO REMAIN:

- INSTALL BARRICADES AND OBTAIN A TREE PERMIT PRIOR TO ANY CLEARING.
- NO BUILDING MATERIALS, TRASH, EQUIPMENT, WASTE OR OTHER OBJECTS SHALL BE PLACED, PARKED, DUMPED, OR STORED INSIDE TREE BARRIERS. NO VEHICULAR TRAFFIC OR PARKING IS ALLOWED WITHIN THE ROOT ZONES OF THE TREES BEFORE, DURING OR AFTER CONSTRUCTION.

**SEDIMENT FENCE:**

THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.

- THE HEIGHT OF A SEDIMENT FENCE SHALL NOT EXCEED 36-INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).

- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
- POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1-INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8-INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
- THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
- SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

**ADDITIONAL MEASURES:**

THIS PLAN AND NARRATIVE REPRESENTS THE MINIMUM AMOUNT OF EROSION AND SEDIMENT CONTROL MEASURES, IN THE OPINION OF THE ENGINEER, THAT MAY BE NECESSARY UNDER FAVORABLE WEATHER CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL MEASURES OR PRACTICES THAT MAY BE NECESSARY TO CONTROL EROSION, TURBID DISCHARGE, FUGITIVE PARTICULATES, ETC. TO FULLY COMPLY WITH ALL GOVERNMENTAL RULES AND/OR PERMIT REQUIREMENTS.

**EROSION AND SEDIMENT CONTROL NARRATIVE:**

ENGINEER:  
KIMLEY-HORN AND ASSOCIATES INC.  
1700 SE 17TH ST, SUITE 200  
OCALA, FLORIDA 34471  
PHONE: 352-438-3000

OWNER:  
CITY OF WILDWOOD  
100 N MAIN ST  
WILDWOOD, FLORIDA 34785

**SITE DESCRIPTION:**

1.A. NATURE OF CONSTRUCTION ACTIVITY:

THE PROJECT CONSISTS OF ROADWAY AND UTILITY IMPROVEMENTS. THE PROJECT IS LOCATED IN SECTION 5, TOWNSHIP 19 SOUTH, RANGE 23 EAST.

1.B. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

THE FOLLOWING SEQUENCE OF MAJOR ACTIVITIES SHALL BE FOLLOWED UNLESS THE CONTRACTOR CAN PROPOSE AN ALTERNATIVE THAT IS EQUAL TO OR BETTER AT CONTROLLING EROSION AND SEDIMENT AS DETERMINED BY THE ENGINEER. THE EROSION CONTROL PLAN CALLS FOR TWO MAJOR PHASES:

- PHASE I:  
CONSTRUCT UTILITY & ROADWAY IMPROVEMENTS.
- PHASE II:  
FINAL STABILIZE ALL DISTURBED AREAS.

1.C. SITE MAP:

THE CONSTRUCTION PLAN AND PROFILE SHEETS WILL BE USED AS THE SITE MAP. THE SHEET NUMBERS FOR ALL THE ITEMS DISCUSSED ARE IDENTIFIED ON THE COVER SHEET OF THE CONSTRUCTION PLANS IF THE PAGE NUMBERS ARE NOT REFERENCED BELOW.

1.D. RECEIVING WATERS:  
PARTIALLY CONTAINED

KIMLEY-HORN AND ASSOCIATES, INC. 1700 SE 17TH STREET, SUITE 200, OCALA, FL 34471 PHONE: 352-438-3000 WWW.KIMLEY-HORN.COM, REGISTRY 35106		10/05/23 KH	DATE
KIMLEY-HORN		10/05/23 KH	DATE
LISCENSED PROFESSIONAL		10/05/23 KH	DATE
MARIO PETROLA VEGA		10/05/23 KH	DATE
FLORIDA LICENSE NUMBER 89603		10/05/23 KH	DATE
KHA PROJECT 142173391		10/05/23 KH	DATE
DATE OCTOBER 2023		10/05/23 KH	DATE
SCALE AS SHOWN		10/05/23 KH	DATE
DESIGNED BY KHA		10/05/23 KH	DATE
DRAWN BY KHA		10/05/23 KH	DATE
CHECKED BY KHA		10/05/23 KH	DATE
EROSION CONTROL NOTES		10/05/23 KH	DATE
ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILDWOOD		10/05/23 KH	DATE
SUMTER COUNTY FLORIDA		10/05/23 KH	DATE
SHEET NUMBER ER-01		10/05/23 KH	DATE

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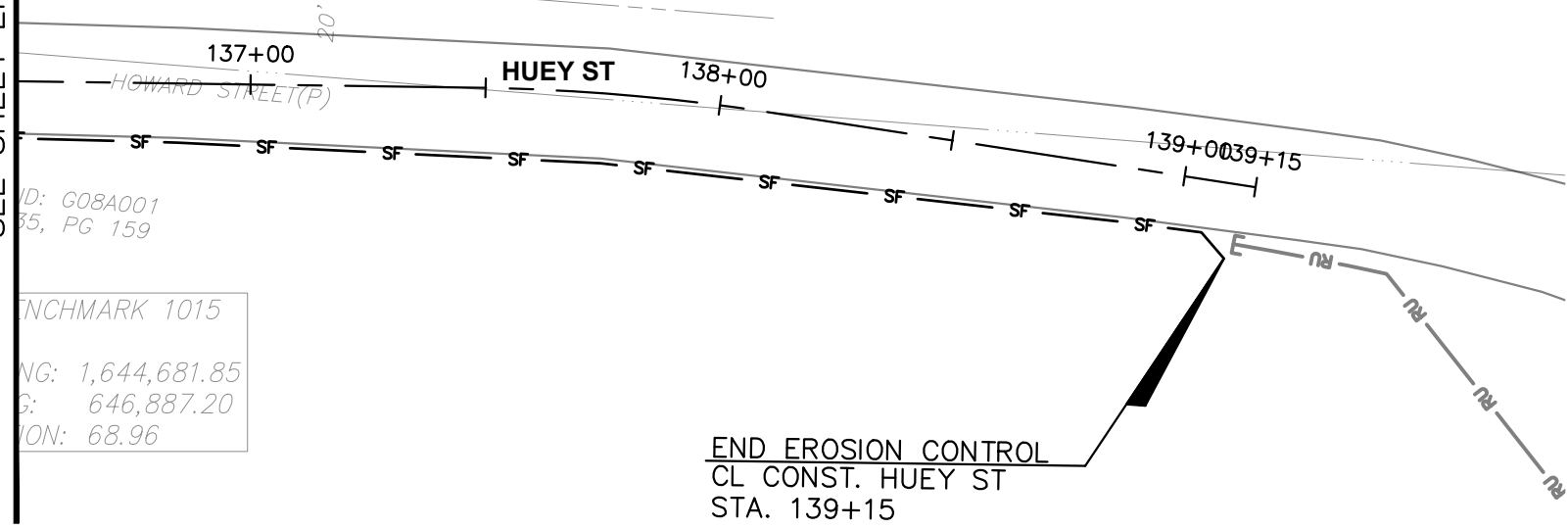
Drawing name: K:\OCA\_Civil\142173391 - Barrick St. Clair. Huey St. Imp\CAD\PlanSheets\St. Clair. St\08. EROSION CONTROL-1.dwg ER-02. EROSION CONTROL. Oct 10, 2023 10:11am by: robert.hickernell

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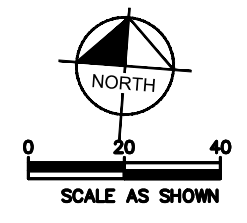
HUEY ST ALIGNMENT  
MATCH LINE STA 136+50  
SEE SHEET ER-03

THE EAST SUBDIVISION  
- UNIT NO. 2  
PB 1, PG 142  
BLOCK "G"  
LOT 8  
PARCEL ID: G05M010 LOT 9  
ORB 4055, PG 468

MARKER ID: G08A001  
PG 159  
BENCHMARK 1015  
ELEVATION: 1,644,681.85  
NORTHING: 646,887.20  
EASTING: 68.96



**LEGEND:**  
 — SF — DENOTES SEDIMENT BARRIER  
 OFFSET 3.0' FROM EDGE OF  
 PAVEMENT  
 (STAKED SILT FENCE)  
 PER FDOT EROSION &  
 SEDIMENT CONTROL MANUAL



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KHA PROJECT: 142173391  
 DATE: OCTOBER 2023  
 SCALE: AS SHOWN  
 DESIGNED BY: KHA  
 DRAWN BY: KHA  
 CHECKED BY: KHA  
 DATE:

LICENSED PROFESSIONAL  
 MARIO PETROLA VEGA  
 FLORIDA LICENSE NUMBER  
 89603

**EROSION CONTROL**

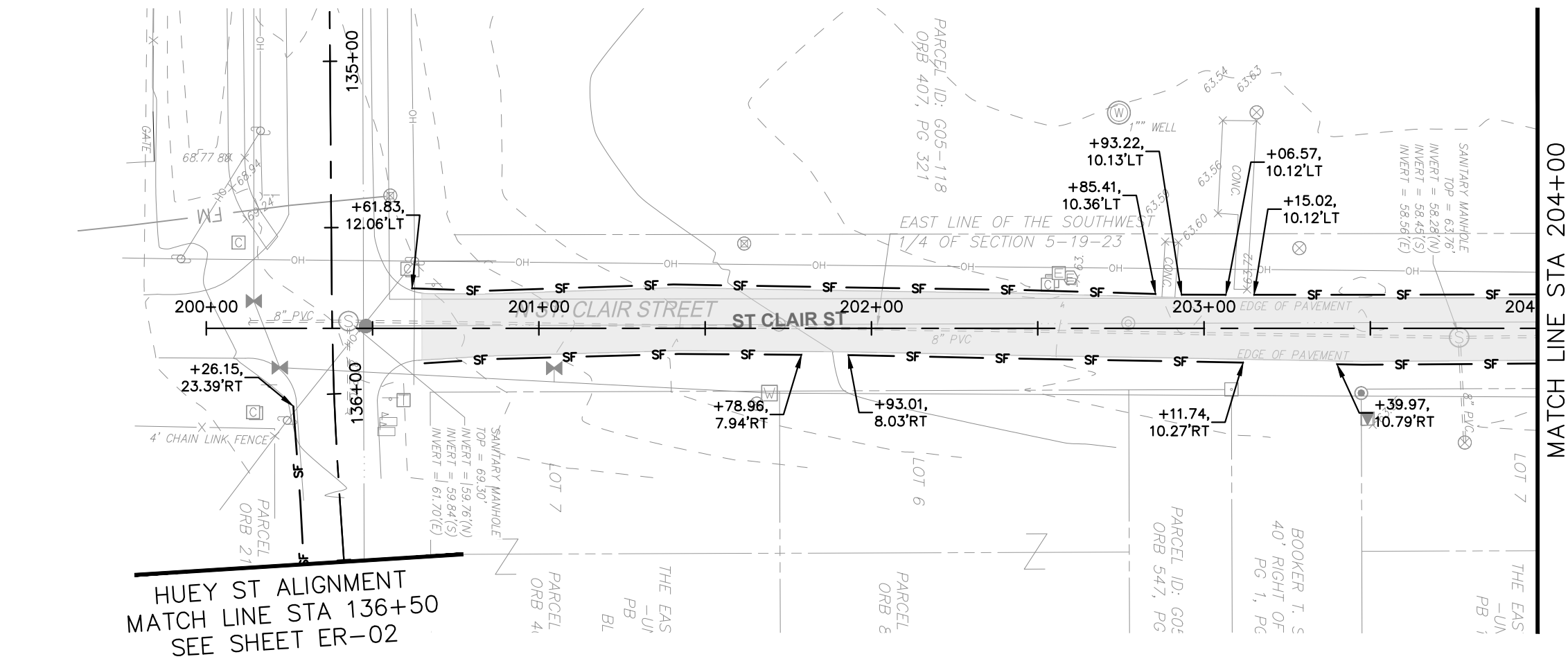
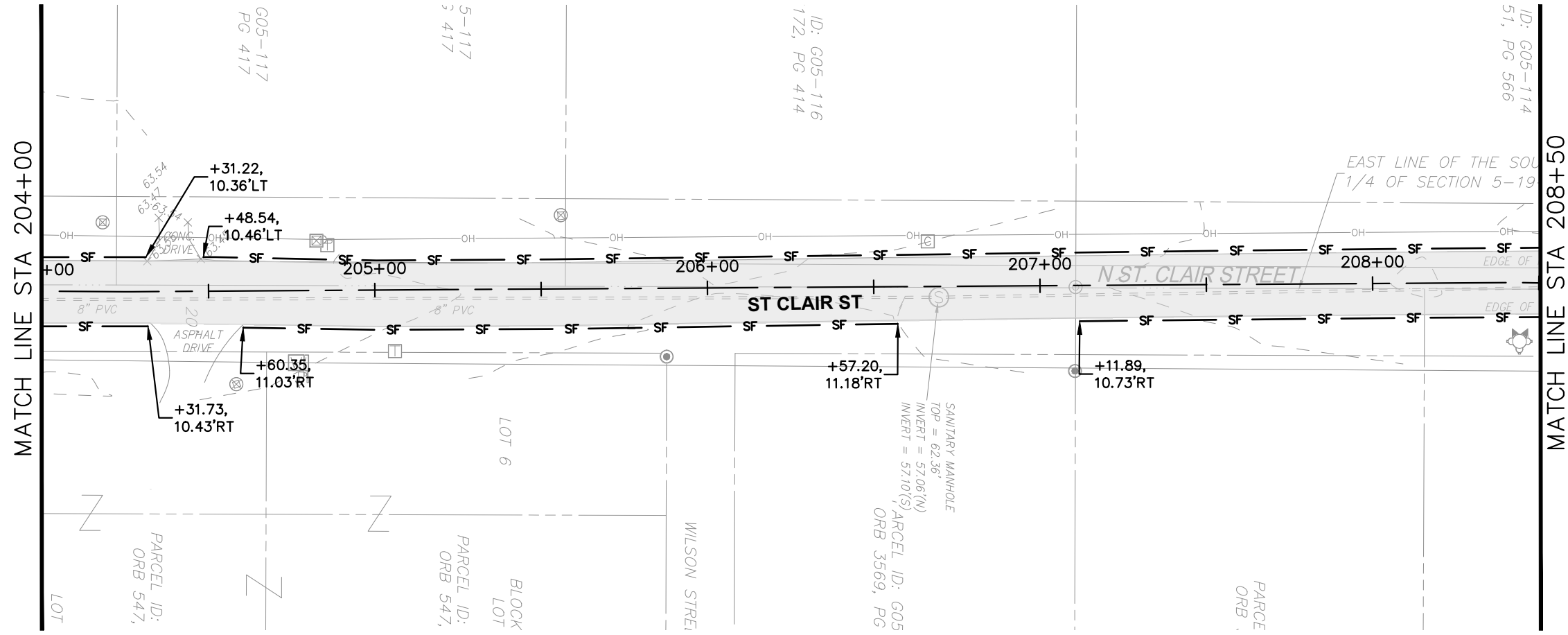
**ST. CLAIR STREET IMPROVEMENTS**  
 PREPARED FOR  
 CITY OF WILDWOOD  
 SUMTER COUNTY FLORIDA

NO.	REVISIONS	DATE	BY
1	BID SET	10/05/23	KH

SHEET NUMBER  
**ER-02**

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Drawing name: K:\OCA\_Civil\142173391 - Borwick St. Clair - Huey St. Imp\CAD\PlanSheets\St. Clair St\08 EROSION CONTROL.dwg ER-03 EROSION CONTROL Oct 10, 2023 10:11am by: robert.hickernell  
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**LEGEND:**  
 — SF — DENOTES SEDIMENT BARRIER  
 OFFSET 3.0' FROM EDGE OF  
 PAVEMENT  
 (STAKED SILT FENCE)  
 PER FDOT EROSION &  
 SEDIMENT CONTROL MANUAL

MATCH LINE STA 204+00

MATCH LINE STA 208+50

HUEY ST ALIGNMENT  
 MATCH LINE STA 136+50  
 SEE SHEET ER-02

MATCH LINE STA 204+00

NO.	REVISIONS	DATE	BY
1	BID SET	10/05/23	KH

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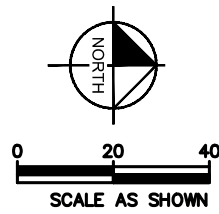
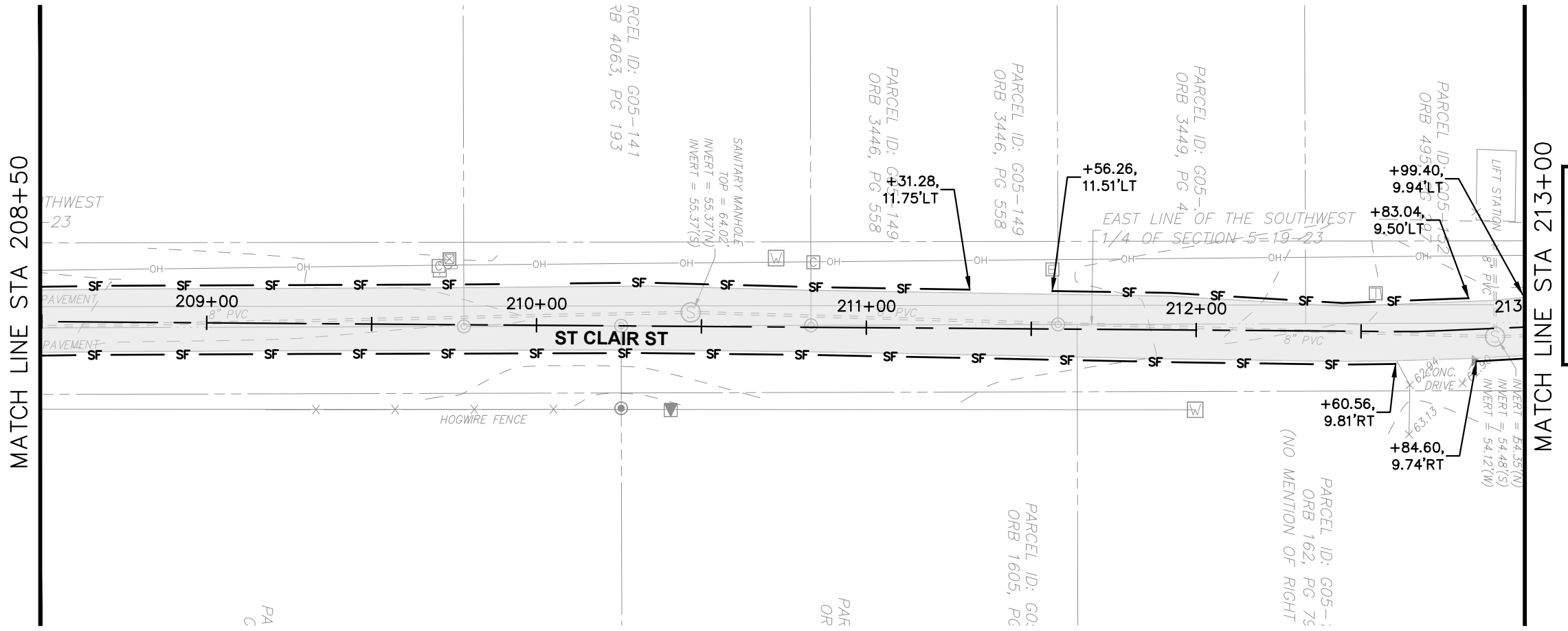
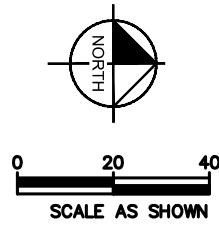
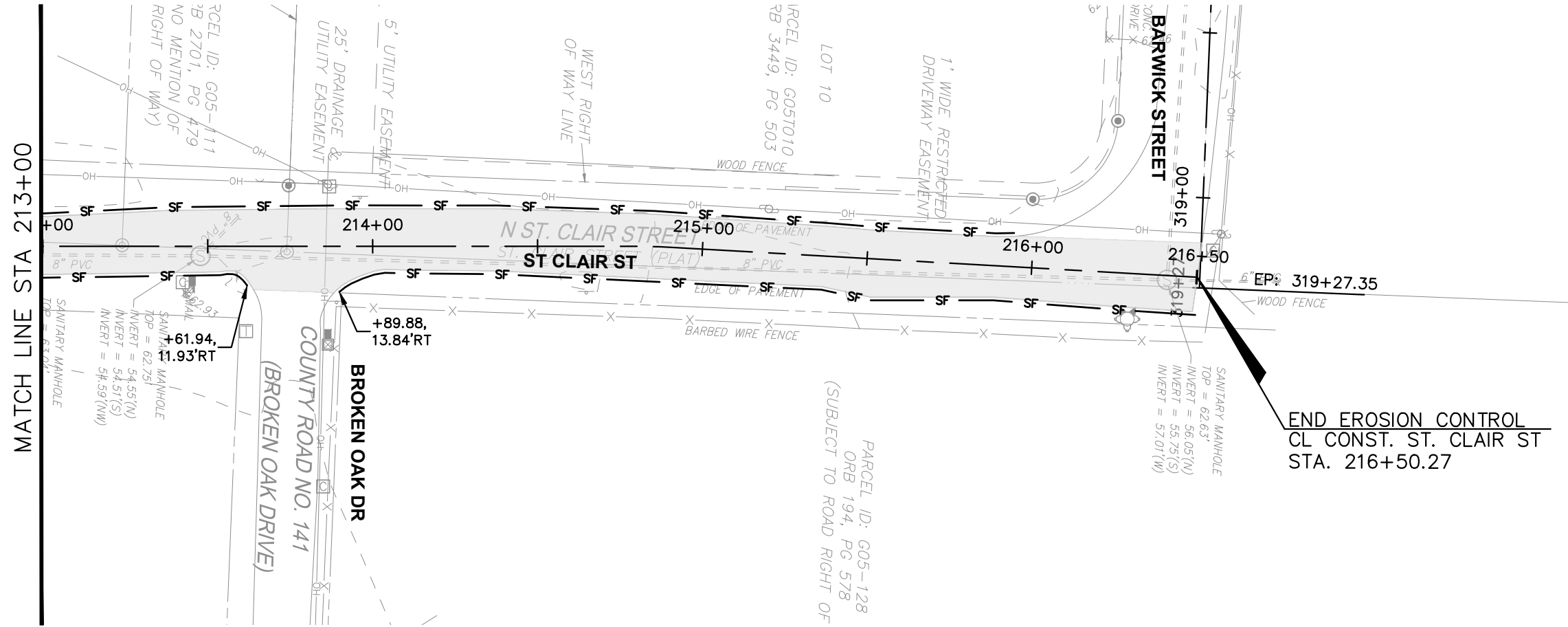
LICENSED PROFESSIONAL	MARIO PETROLA VEGA	FLORIDA LICENSE NUMBER	89603
KHA PROJECT	142173391	DATE	OCTOBER 2023
SCALE	AS SHOWN	DESIGNED BY	KHA
DRAWN BY	KHA	CHECKED BY	KHA

**EROSION CONTROL**

**ST. CLAIR STREET IMPROVEMENTS**  
 PREPARED FOR  
 CITY OF WILDWOOD  
 SUMTER COUNTY FLORIDA

SHEET NUMBER  
**ER-03**

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KHA PROJECT 142173391		LICENSED PROFESSIONAL	
DATE OCTOBER 2023	SCALE AS SHOWN	MARIO PETROLA VEGA	
DESIGNED BY KHA	DRAWN BY KHA	FLORIDA LICENSE NUMBER 89603	
CHECKED BY KHA	DATE	WWW.KIMLEY-HORN.COM, REGISTRY 35106	
ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILDWOOD		SUMTER COUNTY FLORIDA	
SHEET NUMBER <b>ER-04</b>		EROSION CONTROL	
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Drawing name: K:\OCA\_Civil\142173391 -- Barwick St. Clair Hwy St. Imp\CAD\PlanSheets\St. Clair Hwy St. Imp\UT-01 UTILITY DETAILS.dwg UT-01 UTILITY DETAILS Oct. 10, 2023 10:11am by: robert.hicknell  
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**NON-POTABLE WATER DISTRIBUTION SYSTEM**

SCOPE  
THE WORK TO BE PERFORMED UNDER THIS SECTION CONSISTS OF FURNISHING ALL TOOLS, EQUIPMENT, MATERIAL, LABOR AND TRANSPORTATION AND PERFORMING ALL WORK NECESSARY FOR THE COMPLETE INSTALLATION OF ALL PIPE, FITTINGS, VALVES, VALVE BOXES, AND FIRE HYDRANTS NECESSARY FOR A COMPLETE AND WORKABLE UNIT AS DETAILED ON THE DRAWINGS AND FURTHER DESCRIBED IN THESE SPECIFICATIONS.

THE PIPING AND OTHER MATERIAL AND EQUIPMENT SHALL BE OF THE SIZE, TYPE AND NUMBER SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN. ITEMS DESCRIBED HEREIN AND NOT INCLUDED ON THE DRAWINGS SHALL BE DISREGARDED.

PIPE  
PLASTIC PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN PVC COMPOUND, WITH A CELL CLASSIFICATION OF 12454-B, WITH PLASTIC PIPE INSTITUTE (PPI). THE PIPE SHALL BE CONNECTED WITH RING-TITE COMPRESSION RING IN WHICH THE BELL IS AN INTEGRAL PART OF THE PIPE. NO SOLVENT WELDED JOINTS WILL BE ALLOWED FOR PIPES 2" AND OVER. DISTRIBUTION SYSTEM PIPING 3" AND LARGER SHALL BE AWMA C900 OR C905, DR-25, DEDICATED FIRE LINES SERVING BUILDING STRUCTURE SPRINKLER SYSTEMS SHALL BE AWMA C900 OR C904, DR14. DEDICATED FIRE LINES SHALL BE INSTALLED BY A CONTRACTOR LICENSED IN FLORIDA TO INSTALL FIRE LINES. PIPES SMALLER THAN 3" SHALL BE ASTM D2241, SDR-21, WITH A PRESSURE RATING OF 200 PSI. ALL PIPE SHALL BE COLOR-CODED WITH PANTONE PULSE 522C.

POLYETHYLENE WATER SERVICE PIPE SHALL BE USED FOR SINGLE AND MULTIPLE SERVICES OF 2" AND LESS DIAMETER. THE PE PIPE OR TUBING SHALL BE HOMOGENEOUS THROUGHOUT AND FREE OF VISIBLE CRACKS, HOLES, FOREIGN INCLUSIONS OR OTHER DEFECTS. IT SHALL BE UNIFORM IN COLOR, OPACITY, DENSITY AND OTHER PHYSICAL PROPERTIES. ALL POLYETHYLENE PIPE AND TUBING SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS IN THE LATEST REVISION OF THE FOLLOWING STANDARDS UNLESS OTHERWISE SPECIFIED:  
AWMA C901 - STANDARD FOR POLYETHYLENE (PE) PRESSURE PIPE, TUBING AND FITTINGS, 1/2" THROUGH 3", FOR WATER  
ASTM D1248 - STANDARD SPECIFICATION FOR POLYETHYLENE MOLDING AND EXTRUSION MATERIALS  
ASTM D2737 - STANDARD SPECIFICATION FOR POLYETHYLENE (PE) PLASTIC TUBING (CTS - 0.0).  
PE 4710 RESIN, ENDOT ENDOCORE ONLY, PURPLE WITH VIRGIN CLEAR CENTER

THE PE PIPE OR TUBING SHALL BE RATED FOR USE WITH WATER AT 73.40 F AT A HYDROSTATIC DESIGN STRESS OF 830 PSI AND A MAXIMUM WORKING PRESSURE OF 160 PSI. THE DIMENSIONS AND TOLERANCES SHALL COMPLY WITH COPPER TUBE SIZE (DR-9) ASTM D2737. PE PIPE SHALL BE ENDOT INDUSTRIES, RECLAIMED WATER PE-4710 CTS TUBING, (DR-9), 250 PSI, FITTINGS AND VALVES FOR USE WITH POLYETHYLENE PIPE SHALL BE BRONZE BODY IN ACCORDANCE WITH THE LATEST EDITION OF AWMA C900 AND SHALL HAVE COMPRESSION TYPE JOINT COMPATIBLY DESIGNED FOR USE WITH POLYETHYLENE PIPE. VALVES SHALL BE OF THE BALL VALVE TYPE WITH MOLDED BUNA-N RUBBER SEATS TO SUPPORT THE BALL DOUBLE BUNA-N RUBBER O-RINGS IN THE STEM. STAINLESS STEEL INSERT STIFFENERS SHALL BE USED WITH ALL FITTINGS AND VALVES.

GALVANIZED STEEL WATER PIPE SHALL BE GALVANIZED STEEL MEETING FEDERAL SPECIFICATION WW-P406, CLASS 2 ZINC COATED STANDARD WEIGHT UNLESS OTHERWISE SPECIFIED. FITTINGS SHALL BE GALVANIZED MALLEABLE IRON MEETING FEDERAL SPECIFICATION WW-P-521D.

DUCTILE IRON PIPE  
DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH ANSI STANDARD A21.51-86 (AWMA C151-86) LATEST DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS. PIPE SHALL HAVE DESIGN VALUES OF 60,000 PSI TENSILE STRENGTH, 42,000 PSI YIELD STRENGTH, AND 10% MINIMUM ELONGATION. PIPE SHALL BE CEMENT-LINED AND SHALL UTILIZE PUSH-ON JOINTS CONFORMING TO THE REQUIREMENTS OF ANSI A21.11 (AWMA C111). THE PRESSURE RATING, METAL THICKNESS CLASS, NET WEIGHT OF PIPE WITHOUT LINING, LENGTH OF PIPE, AND NAME OF MANUFACTURER SHALL BE CLEARLY MARKED ON EACH LENGTH OF PIPE. FOR DUCTILE IRON PIPE, ANSI WALL THICKNESS SHALL BE A MINIMUM OF THICKNESS CLASS 50.

ALL UNDERGROUND FITTINGS 3" AND LARGER FOR DUCTILE IRON PIPE AND PVC PIPE SHALL BE DUCTILE IRON FITTINGS AND HAVE MECHANICAL JOINT ENDS, SHALL BE CEMENT MORTAR LINED AND BITUMINOUS SEALED, SHALL BE CLASS 250 MINIMUM AND SHALL CONFORM TO ANSI A21.10 (AWMA C110) -LATEST OR ANSI A21.53 (AWMA C153) LATEST. APPROVED MANUFACTURERS: TYLER-UNION

ALL UNDERGROUND FITTINGS LESS THAN 3" SHALL BE SCHEDULE 40 PVC PUSH-ON JOINTS.

CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330  
SCALE NONE  
CITY OF WILDWOOD WATER DETAIL  
NON-POTABLE WATER DISTRIBUTION SPECIFICATIONS  
W-02  
1 OF 4

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

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM.	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	10 FT. PREFERRED 3 FT. MINIMUM	12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM

ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM  
10 FT. MINIMUM 10 FT. MINIMUM |  |  |

NOTES:  
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.  
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER ROADWAYS) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.  
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.  
4. (\*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.  
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.  
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.  
7. FINAL RESTORATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES.

CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330  
SCALE NONE  
CITY OF WILDWOOD WATER DETAIL  
TYPE B BEDDING AND TRENCHING DETAIL  
W-04  
1 OF 1

VALVES  
GATE VALVES SMALLER THAN 2" SHALL MEET FEDERAL SPECIFICATION WW-V-54 TYPE I, CLASS A. VALVES SHALL HAVE THREADED ENDS, ROUGH BODIES AND FINISHED TRIMMINGS, RISING STEMS AND 2" OPERATING NUTS.

GATE VALVES 2" AND OVER IN SIZE SHALL BE RESILIENT-WEDGE WITH CAST IRON OR DUCTILE IRON BODIES MEETING AWMA C509 OR AWMA C515 - LATEST. VALVES SHALL HAVE EITHER THREADED OR MECHANICAL JOINT CONNECTIONS, NON-RISING STEMS, AND 2" SQUARE OPERATING NUTS. RESILIENT-WEDGE GATE VALVES SHALL BE MUELLER #2360 SERIES OR EJ FLOWMASTER SERIES.

TAPPING SLEEVES AND VALVES  
FOR TAPS 4" AND LARGER ON MAIN LINES 6" AND LARGER, THE TAPPING SLEEVE SHALL BE A FORD FAST, ROMAC OR APPROVED EQUAL, AND THE TAPPING VALVE SHALL BE A MUELLER T2360 OR EJ FLOWMASTER SERIES.

FOR TAPS SMALLER THAN 4" ON MAIN LINES LARGER THAN 2" AND LESS THAN 8", THE SADDLE SHALL BE A DOUBLE STRAP, IRON BODY SADDLE WITH STEEL BANDS, FORD F202 OR APPROVED EQUAL. THE TAPPING VALVE SHALL BE A BRASS CORPORATION STOP OR A RESILIENT SEATED GATE VALVE. FOR A SERVICE LINE, THE TAPPING VALVE SHALL BE A BRASS CORPORATION STOP, FORD FB 1100-NL OR APPROVED EQUAL.

WHEN TAPPING A MAIN LINE 3" OR LESS, THE SADDLE SHALL BE FORD S71 OR APPROVED EQUAL. THE TAPPING VALVE SHALL BE A BRASS CORPORATION STOP, FORD FB100-NL OR APPROVED EQUAL.

VALVE BOXES  
VALVE BOXES FOR VALVES SHALL BE TYLER-UNION FOUNDRY DOMESTIC #461-S, FINE GRAIN CAST IRON ROADWAY BOXES WITH A 5-1/4" SHAFT, ADJUSTABLE HEIGHT BY SCREWING FOR THE TRENCH DEPTH. GATE VALVE W/ 2" OPERATING NUT, CAP, FITTINGS, INTER-CONNECTING PIPING AND THRUST BLOCKING. SIZES SHALL BE AS SHOWN IN THE DETAIL DRAWING. PIPE AND FITTINGS SHALL BE AS SPECIFIED IN THE PRECEDING PARAGRAPHS.

NON-POTABLE METER BOX ASSEMBLY  
THE CONTRACTOR SHALL FURNISH AND INSTALL METER BOX ASSEMBLIES IN THE LOCATIONS SHOWN ON THE DRAWINGS. EACH ASSEMBLY SHALL INCLUDE AN ANGLE METER VALVE, A U-BRANCH OR Y-BRANCH AS APPLICABLE, A DUAL CHECK VALVE OR DOUBLE CHECK VALVE AS APPLICABLE, AND A WATER METER BOX.

ACCEPTABLE MANUFACTURERS SHALL BE:  
DUAL BOX - DFW ROTEC #39F PURPLE COMPLETE W/ CI READER, DFW PLASTICS 1200 OR 1500, OR APPROVED EQUAL.

SINGLE BOX - DFW ROTEC #36F PURPLE COMPLETE W/ CI READER, DFW PLASTICS 1200 OR 1500, OR APPROVED EQUAL.

ALL WATER METERS SHALL BE INSTALLED BY THE CITY.

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MECHANICAL JOINT RESTRAINTS

DI FITTING RESTRAINTS:  
TYLER-UNION 1000 TUF GRIP  
OR  
EBBA SERIES 1100 MEGALUG

DI PIPE BELL RESTRAINTS:  
EBBA SERIES 1700 SPLIT BELL RESTRAINT

PVC C800 FITTING RESTRAINTS:  
TYLER-UNION 2000 TUF GRIP  
OR  
EBBA SERIES 2000 MEGALUG

PVC PIPE BELL RESTRAINTS:  
TYLER SERIES 3000 SPLIT BELL RESTRAINT  
OR  
EBBA SERIES 1900 SPLIT BELL RESTRAINT

ALL JOINTS WITHIN LENGTH "L" OF FITTING MUST BE RESTRAINED.

RESTRAIN ALL JOINTS BETWEEN FITTINGS

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PIPE LAYING  
THE APPROXIMATE LOCATION OF THE WATER LINES WILL BE STAKED IN THE FIELD BY THE SURVEYOR, BUT INSTALLATION OF THE WATER LINE WILL BE ROUTED AROUND ANY AND ALL TREES, ROOTS AND OTHER OBSTRUCTIONS ON LINE.

UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS, OR SO ORDERED BY THE ENGINEER, THE PIPE SHALL BE BURIED TO A DEPTH TO OBTAIN AT LEAST 48" OF COVER.

BEFORE THE PIPE IS LAID IN THE TRENCH THE EARTH FORMING THE BED SHALL BE CAREFULLY FREED OF ALL STONES, ROOTS, ETC. THE BOTTOM OF THE TRENCH WILL BE EXCAVATED BY HAND AND A FIRM FULL-LENGTH SUPPORT FORMED FOR ALL PIPE, VALVES AND FITTINGS. THE PIPE SHALL BE LAID BY SNAKING IN THE TRENCH.

PREPARATORY TO MAKING PIPE JOINTS ALL SURFACES OF THE PORTIONS OF THE PIPE AND JOINTING MATERIAL TO BE JOINED SHALL BE CLEAN AND DRY. FOR THE INSTALLATION OF PIPE WITH THE "COMPRESSION RING" FITTING, A BELL RING LUBRICANT SHALL BE APPLIED TO THE BEVELED PORTION OF THE SPIGOT END. SUCH LUBRICANT SHALL BE OF THE TYPE AND QUALITY AS RECOMMENDED BY THE PIPE MANUFACTURER. CARE SHALL BE EXERCISED TO INSURE THAT THE COMPRESSION RING IS PROPERLY SEATED AND THE PIPE IS COMPLETELY INSERTED SO THAT THE REFERENCE MARKS ON THE SPIGOT END CAN JUST BE SEEN.

THRUST BLOCKS SHALL BE PROVIDED AT ALL POINTS WHERE THE LINE BENDS GREATER THAN 10° AND AT ALL WYES, TEES, CAPS, VALVES, HYDRANTS AND REDUCERS.

AT THE END OF EACH WORK DAY AND/OR WHEN THE PIPE IS LEFT OPEN FOR LONG PERIODS, ALL OPEN ENDS OF THE PIPE WILL BE SUFFICIENTLY COVERED TO PREVENT ENTRANCE OF TRASH OR WILDLIFE.

ANY LENGTH OF PIPE THAT HAS BEEN REJECTED BY THE ENGINEER WILL BE PROMPTLY REMOVED FROM THE JOB SITE OR DESTROYED.

CONNECTIONS WILL BE MADE TO THE EXISTING AND/OR CONSTRUCTED FACILITIES IN ACCORDANCE WITH STANDARD PLUMBING PRACTICE. ANY CONNECTIONS MADE BETWEEN ANY WATER PIPE AND ANY OTHER TUBE PIPE SHALL BE MADE USING CONNECTORS AND ADAPTERS DESIGNED FOR THE PURPOSE OF CONNECTING THE TWO TYPES OF PIPE.

SINGLE AND MULTIPLE SERVICES SHALL BE AS SPECIFIED AND SHALL BE MADE BY INSTALLING A DOUBLE STRAP SADDLE OF THE APPROPRIATE SIZE FOR THE MATERIAL USED AND A CTS THREAD ADAPTER DESIGNED FOR USE WITH THE POLYETHYLENE PIPE. THE POLYETHYLENE PIPE SHALL THEN BE INSTALLED TO THE PROPER ALIGNMENT AND DEPTH AND CONNECTED TO THE METER BOX ASSEMBLY WITH A COMPRESSION TYPE ADAPTER DESIGNED FOR USE WITH PE TUBING.

VALVE BOXES SHALL BE SET TO CONFORM ACCURATELY TO THE FINISHED PAVEMENT SURFACE. ALL ADJUSTMENTS REQUIRED FOR GRADE SHALL BE DONE AFTER ALL BASE CONSTRUCTION HAS BEEN COMPLETED. IMMEDIATELY BEFORE THE PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE, THE VALVE SHALL BE UNCOVERED AND THE VALVE BOX SO PLACED AS TO ACCURATELY MEET THE FINISHED PAVEMENT GRADE. THE AREA EXCAVATED IN THE LIMEROCK BASE COURSE TO ALLOW FOR ADJUSTMENT OF THE VALVE BOX TO GRADE SHALL BE BACKFILLED WITH LIMEROCK AND COMPACTED TO THE SAME DENSITY AS THE LIMEROCK BASE COURSE.

ANY PIPE INSTALLED AND SUBSEQUENTLY REMOVED SHALL NOT BE REINSTALLED AND SHALL IMMEDIATELY BE REMOVED FROM THE JOB SITE.

CLEARANCE REQUIREMENTS  
WHEN A RECLAIMED WATER/NON-POTABLE IRRIGATION LINE IS TRANSPORTING WATER FOR PUBLIC ACCESS IRRIGATION OR FIRE PROTECTION, THE MAXIMUM OBTAINABLE SEPARATION OF RECLAIMED WATER/NON-POTABLE IRRIGATION LINES AND POTABLE WATER LINES SHALL BE PRACTICED. MINIMUM SEPARATION REQUIREMENTS ARE SPECIFIED UNDER POTABLE WATER.

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TESTING  
AFTER THE PIPE HAS BEEN CONNECTED AND LAID IN THE TRENCHES, ENOUGH BACKFILL BETWEEN JOINTS WILL BE MADE TO INSURE THE ANCHORAGE OF THE PIPE IN THE TRENCH AND THE LINES PRESSURE TESTED. THE CONTRACTOR SHALL FILL THE LINE WITH WATER AND INSTALL THE NECESSARY FIXTURES, PUMPS, GAUGES, ETC. TO SUBJECT THE LINES TO A HYDROSTATIC GAUGE PRESSURE OF 150 PSI.

EACH INDIVIDUAL BRANCH LINE OF LOOP SHALL BE SUBJECT TO THE 150 PSI PRESSURE AND MAINTAINED FOR AT LEAST 15 MINUTES WITH NO LOSS OF PRESSURE. ANY DEFECTS OR LEAKS REVEALED WILL BE LOCATED AND REPAIRED AND ANOTHER PRESSURE TEST RUN BEFORE BACKFILLING.

AFTER THE TESTING OF THE INDIVIDUAL BRANCH LINES, THOSE PORTIONS OF THE LINE WILL BE APPROVED FOR BACKFILL, BUT THE JOINTS WHERE EACH BRANCH LINE CONNECTS TO A MAIN OR ANOTHER BRANCH LINE SHALL REMAIN OPEN. AFTER TESTING OF ALL BRANCH LINES AND THE COMPLETE CONNECTION OF THE ENTIRE DISTRIBUTION SYSTEM, A PRESSURE TEST WILL BE RUN ON THE ENTIRE SYSTEM. A PRESSURE OF 150 PSI WILL BE PUT ON THE SYSTEM AND WILL BE MAINTAINED FOR AT LEAST 2 HOURS WITH NO LOSS IN PRESSURE IN ACCORDANCE WITH THE PROCEDURES SPECIFIED IN AWMA MANUAL NO. 23. AFTER THE SYSTEM MAINTAINS THE TEST PRESSURE, THE ENTIRE SYSTEM MAY BE BACKFILLED.

ALL NON-POTABLE WATER DISTRIBUTION SYSTEM PRESSURE TESTING SHALL BE COMPLETED A MINIMUM OF 30 DAYS PRIOR TO THE SUBSTANTIAL COMPLETION DATE OR AS REQUIRED BY THE CITY ENGINEER.

BACKFILLING  
TRENCHES SHALL BE BACKFILLED WITH THE EXCAVATED MATERIALS FROM WHICH LARGE CLOUDS OR STONES HAVE BEEN REMOVED AND SHALL BE CAREFULLY DEPOSITED IN LAYERS NOT TO EXCEED 12" AND THOROUGHLY AND CAREFULLY RAMPED UNTIL ENOUGH FILL HAS BEEN PLACED TO PROVIDE A COVER OF NOT LESS THAN 2" ABOVE THE PIPE. THE REMAINDER OF THE BACKFILL MATERIAL MAY THEN BE PLACED AND SHOULD BE MOISTENED AND TAMPED TO INSURE PROPER COMPACTION.

BACKFILL SHALL NOT BE PLACED OVER ANY PLASTIC PIPE WHILE IT IS IN A HEATED CONDITION. BEFORE BACKFILLING THE PIPE, THE TEMPERATURE SHALL BE BROUGHT TO THE APPROXIMATE TEMPERATURE OF THE GROUND EITHER BY RUNNING WATER THROUGH IT OR BY BACKFILLING IN THE EARLY MORNING WHEN THE PIPE AND GROUND ARE AT THE SAME TEMPERATURE.

WHENEVER THE TRENCHES HAVE NOT BEEN PROPERLY FILLED, OR IF SETTLEMENT OCCURS, THEY SHALL BE REFILLED, COMPACTED, SMOOTHED OFF, AND FINALLY MADE TO CONFORM TO THE SURFACE OF THE GROUND. BACKFILL IN OPEN TRENCHES ACROSS ROADWAYS OR OTHER AREAS WHICH ARE TO BE REPAVED SHALL BE MADE AS SPECIFIED ABOVE EXCEPT THAT THE ENTIRE FILL ABOVE PIPE SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 12" IN THICKNESS, MOISTENED AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 SO THAT WHEN BACKFILLING IS COMPLETED, THE ROADWAY PAVING MAY BE PLACED IMMEDIATELY.

PLUMBING CODE  
ALL PIPING AND RELATED FITTING SHALL BE INSTALLED ACCORDING TO THE PLUMBING CODE OF THE STATE OF FLORIDA, LOCAL AUTHORITIES AND MANUFACTURER'S RECOMMENDATIONS. WHEREVER THESE SPECIFICATIONS AND/OR DRAWINGS EXCEED THE REQUIREMENTS OF SAID CODES, THESE DOCUMENTS TAKE PRECEDENCE. THE PIPING MUST BE INSTALLED IN A STRONG, NEAT AND WORKMANLIKE MANNER, SUBJECT TO THE RESTRICTIONS INDICATED.

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MINIMUM LENGTH OF PIPE "L" (FEET) TO BE RESTRAINED  
(SOURCE: EBBA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE	PIPE SIZE									
	4"	6"	8"	10"	12"	14"	16"	20"	24"	
90° HORIZ. BEND	17	24	31	37	43	49	55	66	76	
45° HORIZ. BEND	7	10	13	15	18	20	23	28	32	
22.5° HORIZ. BEND	3	5	6	7	9	10	11	13	15	
11.25° HORIZ. BEND	2	2	3	4	5	6	7	8		
45° VERT. OFFSET	UPPER BEND: 7	UPPER BEND: 10	UPPER BEND: 13	UPPER BEND: 15	UPPER BEND: 18	UPPER BEND: 20	UPPER BEND: 23	UPPER BEND: 28	UPPER BEND: 32	
22.5° VERT. OFFSET	UPPER BEND: 7	UPPER BEND: 12	UPPER BEND: 15	UPPER BEND: 17	UPPER BEND: 20	UPPER BEND: 22	UPPER BEND: 25	UPPER BEND: 31	UPPER BEND: 36	
11.25° VERT. OFFSET	UPPER BEND: 4	UPPER BEND: 5	UPPER BEND: 6	UPPER BEND: 7	UPPER BEND: 8	UPPER BEND: 11	UPPER BEND: 12	UPPER BEND: 14	UPPER BEND: 16	
PLUG (DEAD END)	38	53	69	83	98	112	129	153	179	
VALVE	38	53	69	83	98	112	129	153	179	
TEE (BRANCH REST.)	4"x	19	-	-	-	-	-	-	-	
	6"x	10	36	-	-	-	-	-	-	
	8"x	1	28	51	-	-	-	-	-	
	10"x	1	28	46	64	-	-	-	-	
	12"x	1	15	40	60	79	-	-	-	
	14"x	1	8	35	56	75	92	-	-	
	16"x	1	1	29	51	71	90	108	-	
	20"x	1	1	18	42	64	85	101	133	
	24"x	1	1	5	32	55	77	95	128	
	158									
REDUCER (LARGER PIPE RESTRAINT)	6"x	27	-	-	-	-	-	-	-	
	8"x	50	29	-	-	-	-	-	-	
	10"x	88	51	28	-	-	-	-	-	
	12"x	85	71	52	48	-	-	-	-	
	14"x	101	89	73	69	29	-	-	-	
	16"x	117	106	92	89	54	29	-	-	
20"x	146	138	126	113	96	77	54	-		
24"x	173	166	157	146	132	98	77	54		

NOTES:  
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:  
SOIL TYPE - SP TRENCH TYPE - 3' TEST PRESSURE - 150 PSI  
SAFETY FACTOR - 1.5 DEPTH OF BURIAL - 3' VERTICAL OFFSET - 3'  
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.  
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.  
4. RESTRAINED PIPE LENGTHS FOR VALVES APPLY TO PIPE ON BOTH SIDES OF VALVES.  
5. THIS TABLE IS FOR SP SOILS. THE ENGINEER IS TO BE NOTIFIED IF OTHER TYPE SOILS ARE ENCOUNTERED.  
6. ALL PIPES SHALL BE RESTRAINED PER THE LENGTHS AS CALLED FOR IN THE ABOVE REFERENCED TABLE. THE COSTS FOR THESE RESTRAINED JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.  
7. ANY CALL OUTS AS NOTED ON THE PLANS FOR "TUF GRIP" RESTRAINTS OR "MEGALUGS" ARE IN ADDITION TO THOSE AS NOTED AND CALLED FOR IN THE ABOVE TABLE.

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2023 KIMLEY-HORN AND ASSOCIATES, INC.  
1700 SE 17TH STREET, SUITE 400, GCLA, FL 34471  
WWW.KIMLEY-HORN.COM, REGISTRY 35106

PROFESSIONAL  
MARIO PETROLA VEGA  
FLORIDA LICENSE NUMBER 89603

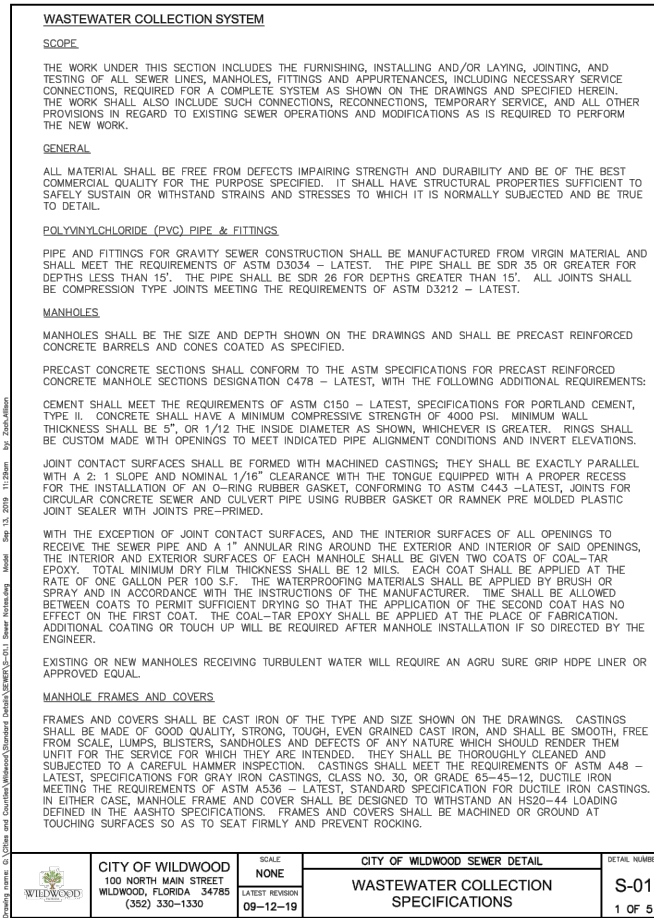
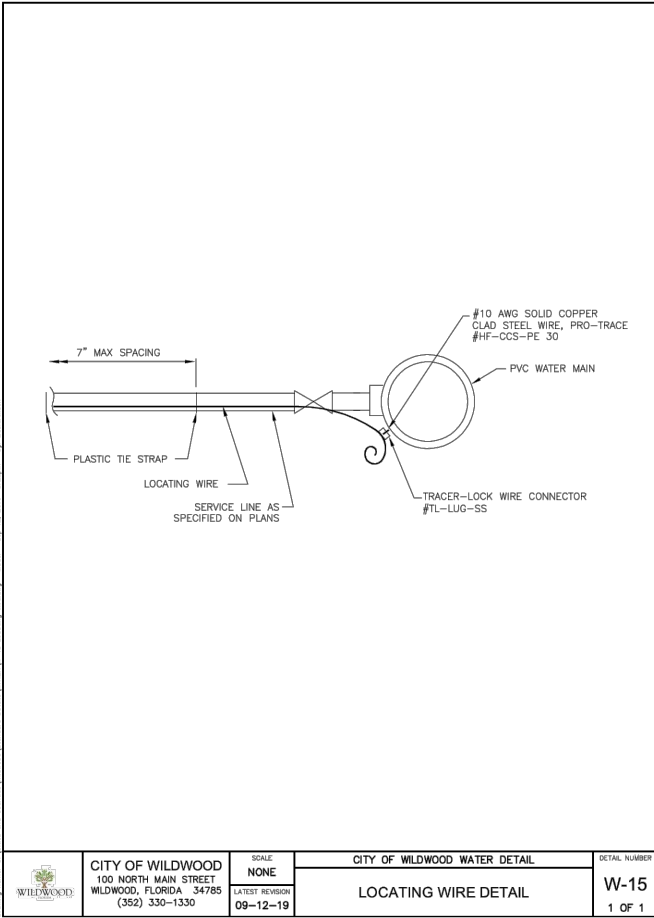
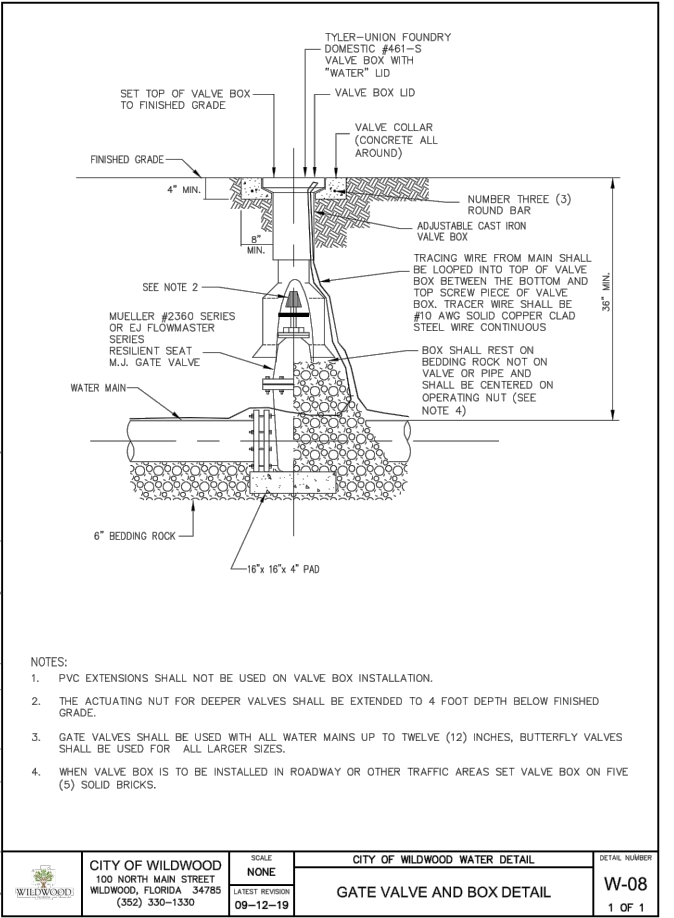
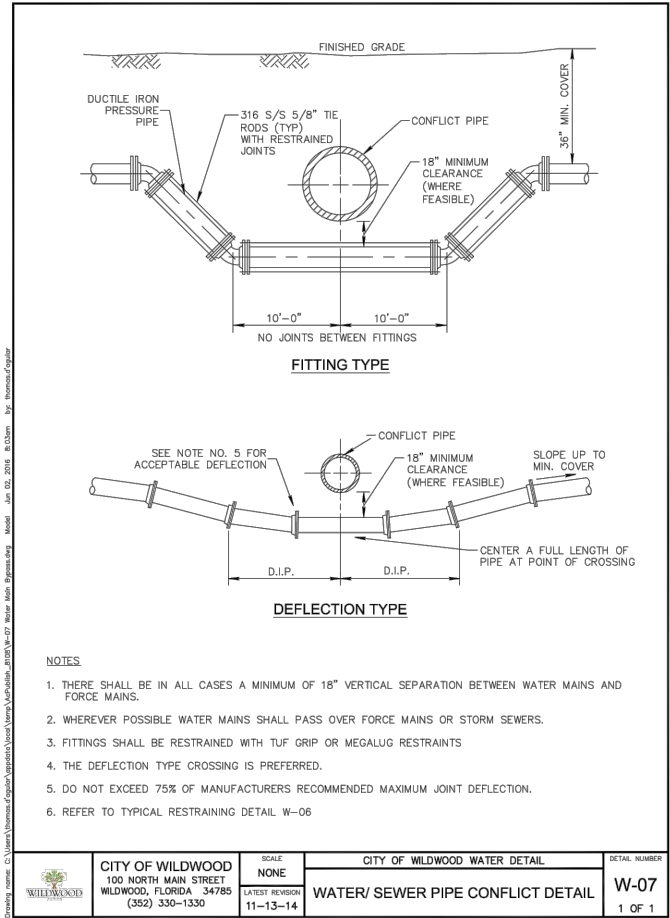
KHA PROJECT 142173391  
DATE OCTOBER 2023  
SCALE AS SHOWN  
DESIGNED BY KHA  
DRAWN BY KHA  
CHECKED BY KHA  
DATE: FLORIDA SUMTER COUNTY

UTILITY DETAILS

ST. CLAIR STREET IMPROVEMENTS PREPARED FOR CITY OF WILDWOOD

SHEET NUMBER UT-01

10/05/23 KH  
BY  
REVISIONS  
No.  
DATE



### EXCAVATION AND BACKFILL

EXCAVATION AND BACKFILL CONSISTS OF EXCAVATING FOR SANITARY SEWER, AND ALL OTHER PIPELINES, MANHOLES, AND SIMILAR STRUCTURES WITH THE FOLLOWING AMENDMENTS TO SECTION 125 OF F.D.O.T. STANDARD SPECIFICATIONS.

WHEN SOIL BORINGS ARE PROVIDED BY THE ENGINEER OR OWNER, THEY SHALL BE CONSIDERED AS SUPPLEMENTAL INFORMATION AND SHALL NOT BE CONSIDERED AS DEFINITIVE OF THE SUBSOIL CONDITIONS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ASSESSING SUBSOIL CONDITIONS FOR THE ENTIRE PROJECT.

SECT. 125.8 BACKFILLING - THE REQUIREMENTS SPECIFIED SHALL ALSO INCLUDE THE SANITARY SEWER, MANHOLES, FORCE MAIN AND RELATED FACILITIES.

SECT. 125.8.3.3 COMPACTION - THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 12" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

WHERE PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE OR WITHIN 4' THEREOF, THE BACKFILL FOR THE THIRD STAGE (MIN. 4' BELOW FINISH GRADE) SHALL BE PLACED IN THE MANNER REQUIRED FOR THE FIRST AND SECOND STAGES AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. WHERE THE CONSTRUCTION IS OUTSIDE THESE LIMITS, THE THIRD STAGE SHALL BE COMPACTED TO A FIRMNESS APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL AND NO TESTING WILL BE REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TESTING OF THE BACKFILL COMPACTION. THE TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY. DENSITY TESTS SHALL BE TAKEN ON EACH 12" LAYER AT INTERVALS NOT TO EXCEED 300 LF. AND AT EACH TRANSVERSE SECTION OF PIPELINE.

**PIPE LAYING**

PIPE LAYING SHALL BE DONE ONLY AFTER A CAREFUL INSPECTION OF EACH PIECE HAS BEEN CONDUCTED AND DEFECTIVE PIPE DISCARDED AND REPLACED IMMEDIATELY. THE PIPE GRADE MAY BE ESTABLISHED BY USE OF LASER BEAM EQUIPMENT, OR BY USE OF BATTER BOARDS PLACED AT NOT GREATER THAN 25' INTERVALS.

THE LAYING OF PIPE SHALL COMMENCE AT THE LOWEST POINT, WITH THE SPIGOT ENDS POINTED THE DIRECTION OF FLOW, AND PROCEED UPWARD IN GRADIENT WITH THE ENDS ABUTTING AND TRUE TO LINE AND GRADE.

UNDER NO CIRCUMSTANCES SHALL PIPE BE LAID IN WATER, AND NO PIPE SHALL BE LAID WHEN THE TRENCH CONDITIONS OR WEATHER IS UNSUITABLE FOR WORKING IN DRY CONDITIONS. AT ALL TIMES WHEN WORK IS NOT IN PROGRESS, ALL OPEN ENDS OF PIPE AND FITTINGS SHALL BE SECURELY CLOSED SO THAT NO TRENCH WATER, EARTH, OR OTHER SUBSTANCE CAN ENTER THE PIPE. ANY TRENCH WATERING (WELL POINT, ETC.) REQUIRED FOR PROPER ALIGNMENT OF PIPE SHALL BE DONE BY THE CONTRACTOR AT HIS OWN EXPENSE, AND NO PIPE SHALL BE LAID IN THE DEWATERED TRENCH UNTIL APPROVAL IS MADE BY THE ENGINEER.

OPENINGS SUCH AS STUBS, WYES, TEES OR OTHER SERVICES ALONG THE LINES SHALL BE SECURELY CLOSED BY MEANS OF AN APPROVED STOPPER THAT FITS INTO THE BELL OF THE PIPE AND IS RECOMMENDED BY THE PIPE MANUFACTURER. THIS STOPPER SHALL BE JOINTED IN SUCH A MANNER THAT IT MAY BE REMOVED AT SOME FUTURE TIME WITHOUT INJURY TO THE PIPE ITSELF. AT THE CLOSE OF EACH DAY'S WORK, AND AT OTHER TIMES WHEN PIPE IS NOT BEING LAID, THE END OF THE PIPE SHALL BE TEMPORARILY CLOSED WITH A CLOSE-FITTING STOPPER APPROVED BY THE ENGINEER.

ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT THE ENTRANCE OF MUD, SAND OR OTHER OBSTRUCTING MATERIAL INTO THE PIPELINES, AS THE WORK PROGRESSES, THE INTERIOR OF THE SEWER SHALL BE CLEANED OF ALL DIRT, JOINTING MATERIAL, AND SUPERFLUOUS MATERIALS OF EVERY DESCRIPTION. THE CONTRACTOR SHALL FLUSH ALL SEWER LINES CONSTRUCTED UNDER THIS CONTRACT WITH CLEAN WATER, PRIOR TO FINAL INSPECTION TO ASSURE COMPLETE REMOVAL OF ALL DEBRIS AND FOREIGN MATERIAL, AND TO THE SATISFACTION OF THE ENGINEER.

**SEWER SERVICE CONNECTION**

TYPES OF SERVICE CONNECTIONS SHALL BE SHOWN ON THE DRAWINGS. ALTHOUGH THE GENERAL LOCATION OF CONNECTIONS MAY BE SHOWN ON THE DRAWINGS, THE ACTUAL LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO APPROVAL BY THE ENGINEER. EACH SERVICE CONNECTION SHALL BE ACCURATELY RECORDED BY STATIONING ON THE AS-BUILT DRAWINGS AND SHALL BE FURNISHED TO THE ENGINEER.

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SERVICE LINES SHALL BE CONNECTED TO THE SEWER LINES BY MEANS OF A WYE FITTING WITH A BRANCH AS SHOWN ON THE STANDARD DRAWINGS. IN THE ABSENCE OF AN EXISTING WYE, CONNECTIONS OF NEW SERVICE LINES TO EXISTING MAINS SHALL BE MADE BY INSTALLING A SADDLE TYPE FITTING OF THE SAME MANUFACTURER AS THE PIPE. THE BRANCH OF THE WYE FITTING WILL BE ELEVATED AS DIRECTED DEPENDING ON THE DEPTH OF THE SEWER AND THE ELEVATION OF THE PROPERTY TO BE SERVED. EIGHT BENDS WILL BE USED TO CONNECT SERVICE LINE AT THE WYE BRANCH.

SERVICE LINES SHALL EXTEND FROM THE SEWER TO THE PROPERTY LINE AND BE PLUGGED, UNLESS OTHERWISE SHOWN. ALL SERVICE LINES SHALL BE 4" IN DIAMETER UNLESS A DOUBLE SERVICE. MARKERS SHALL BE INSTALLED AT THE END OF EACH SERVICE OR OPPOSITE WYES AND THEIR LOCATIONS RECORDED.

INSTALLATION OF PLUGGED WYES WHERE INDICATED ON THE DRAWINGS WILL BE MADE AS DIRECTED. PLUGS SHALL BE OF THE TYPE AND SIZE REQUIRED TO MATCH THE PIPE AND SHALL BE WATER-TIGHT AND REMOVABLE WITHOUT BREAKING THE PIPE.

AN EMS SANITARY MARKER #1253 (GREEN) MANUFACTURED BY AUTOMATION PRODUCTS COMPANY, AUSTIN, TEXAS, SHALL BE INSTALLED OVER EACH SANITARY SEWER SERVICE LATERAL, IF SO REQUIRED BY THE CONSTRUCTION DETAILS OF THE DRAWINGS. THE CONSTRUCTION DETAILS SHALL INDICATE IF THESE MARKERS ARE REQUIRED, AND, IF SO, THE REQUIRED LOCATION AND DEPTH.

**FIELD TESTING**

ALL WORK CONSTRUCTED SHALL BE SUBJECT TO VISUAL INSPECTION FOR FAULTS OR DEFECTS AND ANY SUCH DEVIATION OR OMISSION SHALL BE CORRECTED AT ONCE. ALL TESTS SHALL BE MADE BY THE CONTRACTOR WHO SHALL PROVIDE NECESSARY EQUIPMENT FOR TESTING AND LAMPING THE SYSTEM IN THE PRESENCE OF, AND UNDER THE SUPERVISION AND INSTRUCTION OF THE ENGINEER. ALL COSTS FOR TESTING DEFINED BELOW SHALL BE BORNE BY THE CONTRACTOR. LAMP TESTS SHALL BE OBSERVED FIRST HAND BY THE ENGINEER. UPON COMPLETION, EACH SECTION OF SEWER LINE SHALL SHOW A FULL CIRCLE OF LIGHT WHEN LAMPED BETWEEN MANHOLES.

FOLLOWING PLACEMENT OF 1" OF TAMPED BACKFILL COVER, THE PIPE SHALL BE SIGHTED BETWEEN SUCCESSIVE MANHOLES TO INSURE PROPER GRADE AND ALIGNMENT. A FULL PIPE CIRCLE SHALL BE OBSERVED. DEFECTS NOTED SHALL BE IMMEDIATELY DUG UP AND CORRECTED AFTER WHICH BACKFILLING MAY PROCEED TO THE TOP OF THE TRENCH. THE CONTRACTOR IS REQUIRED TO MAINTAIN THIS CONDITION, ENSURING AGAINST DISPLACEMENT, FLOTATION, ETC., SO THAT FINAL INSPECTION OF COMPLETED SECTIONS WILL BE FACILITATED.

IF, IN THE OPINION OF THE ENGINEER, INFILTRATION APPEARS EXCESSIVE, THE CONTRACTOR SHALL VIDEO THE SECTIONS IN QUESTION.

FOLLOWING COMPLETION OF THE BACKFILL COVER, THE COMPLETE SEWER LINE SHALL BE TESTED UTILIZING A LOW-PRESSURE AIR TEST. ALL TEST REQUIREMENTS AND PROCEDURES SHALL BE IN STRICT ACCORDANCE WITH UNI-BELL PVC PIPE ASSOCIATION UNI-B-6-90 "RECOMMENDED PRACTICE FOR LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE". THE CONTRACTOR SHALL FURNISH SUITABLE TEMPORARY TESTING PLUGS OR CAPS, PRESSURE GAUGES, AIR PUMPS, ETC. AND ANY OTHER NECESSARY EQUIPMENT AND ALL LABOR REQUIRED, WITHOUT ADDITIONAL COMPENSATION. THE ENGINEER SHALL CALCULATE THE MINIMUM TIME REQUIRED FOR EACH TEST ON EACH SECTION OF LINE AND SHALL SO ADVISE THE CONTRACTOR PRIOR TO THE TEST. IF THE SECTION OF PIPE FAILS TO PASS THE TESTS, THE CONTRACTOR SHALL DO EVERYTHING NECESSARY TO LOCATE, UNCOVER (EVEN TO THE EXTENT OF UNCOVERING THE ENTIRE SECTION) AND REPAIR OR REPLACE THE DEFECTIVE PIPE FITTING, JOINT OR OTHER APPURTENANCE, AND RETEST THE REPAIRED SECTION WITHOUT ADDITIONAL COMPENSATION. UPON SATISFACTORY COMPLETION OF THE TESTS, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY TEST PLUGS OR CAPS AND OTHER EQUIPMENT AND SHALL RESTORE THE PIPE TO A CONDITION READY FOR SERVICE. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF AN AUTHORIZED REPRESENTATIVE OF THE ENGINEER.

ALL SANITARY SEWER AIR TESTING SHALL BE COMPLETED A MINIMUM OF 30 DAYS PRIOR TO THE PROJECT SUBSTANTIAL COMPLETION DATE.

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THE CONTRACTOR IS ADVISED THAT THE OWNER RESERVES THE RIGHT TO USE WHATEVER ADDITIONAL INSPECTION AND TESTING METHODS IT DEEMS APPROPRIATE TO VERIFY THE CONDITION AND ACCEPTABILITY OF THE WORK. THE CONTRACTOR SHALL REPAIR ALL DEFECTS IN THE WORK MADE APPARENT BY ANY AND ALL INSPECTIONS AND TESTS EVEN IF THE WORK OR PARTS OF THE WORK MAY HAVE PASSED OTHER TESTS AND INSPECTIONS. SAID REPAIRS SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER SHALL WITHHOLD FROM PAYMENT DUE THE CONTRACTOR AN AMOUNT EQUAL TO THE COST OF PROVIDING SUCH ADDITIONAL TESTS OR INSPECTIONS. IF PAYMENT DUE CONTRACTOR IS INSUFFICIENT TO COVER SAID COST, THE CONTRACTOR SHALL PAY THE DIFFERENCE TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.

**MANHOLE INSTALLATION**

PRECAST CONCRETE MANHOLES SHALL HAVE EACH SECTION SET SO AS TO BE VERTICAL AND IN TRUE ALIGNMENT. JOINT SURFACES OF THE SECTIONS SHALL BE SEALED WITH PRE MOLDED PLASTIC JOINT SEALER EQUAL TO "RAMNEX", OR HAVE AN O-RING GASKET INSTALLED IN THE PREFORMED RECESS. ALL HOLES IN THE SECTIONS REQUIRED FOR HANDLING AND THE ANNULAR SPACE BETWEEN THE WALLS OF THE MANHOLE AND THE ENTERING PIPES SHALL BE THOROUGHLY PLUGGED WITH NON-SHRINKING GROUT AND SHALL BE FINISHED SMOOTH, AND SHALL BE WATER-TIGHT.

FOR GRADE ADJUSTMENT IN SETTING THE MANHOLE FRAME, PRECAST GRADE ADJUSTMENT RINGS SHALL BE USED ON TOP OF MANHOLE SLABS AND PRECAST CONCRETE MANHOLE CONES IN ACCORDANCE WITH THE DRAWINGS. PRECAST ADJUSTMENT RINGS SHALL BE CONSTRUCTED OF CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. MORTAR FOR JOINTS SHALL BE ONE PART CEMENT AND TWO PARTS SAND; LIME SHALL NOT BE USED. REINFORCEMENT SHALL BE PROVIDED AS NECESSARY TO PREVENT BREAKAGE DURING HANDLING. EACH ADJUSTMENT RING SHALL BE LAID IN A FULL BED AND JOINT OF MORTAR WITHOUT REQUIRING SUBSEQUENT GROUTING, FLUSHING, OR FILLING, AND SHALL BE THOROUGHLY BONDED AS DIRECTED.

MANHOLE FRAMES AND COVERS SHALL BE SET TO CONFORM ACCURATELY TO THE FINISHED PAVEMENT SURFACE. ALL ADJUSTMENTS REQUIRED FOR GRADE SHALL BE DONE WITH PRECAST GRADE ADJUSTMENT RINGS. TO ASSURE A SUFFICIENT BOND BETWEEN THE MANHOLE COVERS AND THE SURROUNDING ASPHALT SURFACE, THE MANHOLE COVERS SHALL BE SET UNTIL ALL BASE CONSTRUCTION HAS BEEN COMPLETED. THE MANHOLES SHALL BE PROTECTED DURING THE ROADWAY CONSTRUCTION BY COVERING WITH SUFFICIENT MATERIAL TO PREVENT THE ROADWAY MATERIAL FROM ENTERING THE MANHOLE AND TO SUPPORT THE CONSTRUCTION MACHINERY REQUIRED. IMMEDIATELY BEFORE THE PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE, THE MANHOLE SHALL BE UNCOVERED AND THE RING AND COVER SO PLACED TO ACCURATELY MEET THE FINISH PAVEMENT GRADE. THE MANHOLE FRAME SHALL BE SET ON THIS CONCRETE SECTION IN A RING OF MORTAR AT LEAST 1" THICK AND SHAPED TO SHED WATER AWAY FROM THE FRAME. ADDITIONAL MORTAR SHALL BE ADDED TO EXTEND TO THE OUTER EDGE OF THE ADJUSTMENT RINGS AND SHALL BE FINISHED SMOOTH. THE AREA EXCAVATED IN THE IMMEDIATE COURSE TO ALLOW FOR ADJUSTMENT OF THE MANHOLE RING AND COVER TO GRADE SHALL BE BACKFILLED WITH LIMEROCK AND COMPACTED TO THE SAME DENSITY AS THE LIME ROCK BASE COURSE.

ALL MANHOLE COVERS SHALL BE CLEANED TO REMOVE ASPHALT AND DEBRIS, THEN PAINTED WITH BLACK RUST-INHIBITING PAINT. IF THE MANHOLE IS LOCATED IN A PAVED AREA, CLEANING AND PAINTING SHALL OCCUR AFTER THE FINAL ASPHALT SURFACE IS PLACED.

FLOW CHANNELS IN MANHOLE BASE SHALL BE FORMED OF 2500 P.S.I. CONCRETE AND/OR BRICK RUBBLE AND MORTAR WHILE THE MANHOLE IS UNDER CONSTRUCTION. CUT OFF PIPES AT INSIDE FACE OF THE MANHOLE AND CONSTRUCT THE INVERT TO THE SHAPE AND SIZES OF PIPE INDICATED. ALL INVERTS SHALL FOLLOW THE GRADES OF THE PIPE ENTERING THE MANHOLES. CHANGES IN DIRECTION OF THE SEWER AND ENTERING BRANCH OR BRANCHES SHALL BE LAID OUT IN SMOOTH CURVES OF THE LONGEST POSSIBLE RADIUS WHICH IS TANGENT TO THE CENTERLINES OF ADJOINING PIPELINES.

**CONNECTIONS TO EXISTING STRUCTURES**

WHERE SHOWN ON THE DRAWINGS STUB LINES SHALL BE PROVIDED FOR THE CONNECTION OF FUTURE SEWER LINES TO MANHOLES. THE END OF EACH STUB LINE SHALL BE PROVIDED WITH A BELL END WHICH SHALL BE CLOSED BY AN APPROVED STOPPER AS SPECIFIED HEREINBEFORE. EACH STUB LINE SHALL BE ACCURATELY REFERENCED TO THE CENTER OF THE MANHOLE, AND THE ACTUAL INVERT ELEVATION OF EACH OF THE STUB LINE SHALL BE ACCURATELY RECORDED ON THE AS-BUILT DRAWINGS.

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A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF THE SANITARY SEWER PIPE TO PRECAST MANHOLES. THE CONNECTOR SHALL BE THE SALE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATER-TIGHT JOINT. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR INTO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY WITH ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS DESIGNED TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, AND CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE OILS AND PETROLEUM PRODUCTS FROM SPILLS. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NONMAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAKAWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET FOR 60' LBS. THE CONTRACTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE CONNECTOR MANUFACTURER.

WHERE SHOWN ON THE DRAWINGS NEW LINES SHALL BE CONNECTED INTO EXISTING MANHOLES OR STRUCTURES. UNLESS OTHERWISE CORRECT SIZE ARE FOUND TO EXIST, THE CONTRACTOR SHALL CUT SUITABLE OPENINGS INTO THE EXISTING STRUCTURE (WALL AND FLOOR SLAB REQUIRED) OR REMOVE THE EXISTING PIPE TO ACCOMMODATE THE PIPELINES AS INDICATED ON THE DRAWINGS AND AS HEREIN SPECIFIED. THE PORTION OF EACH EXISTING STRUCTURE REMOVED FOR NEW INSTALLATION SHALL BE CONFINED TO THE SMALLEST OPENING POSSIBLE, CONSISTENT WITH THE WORK TO BE DONE.

AFTER THE PIPE IS INSTALLED, CONTRACTOR SHALL CAREFULLY CLOSE UP THE OPENINGS AROUND THE PIPE TO MAKE A WATER-TIGHT JOINT. THE CONTRACTOR SHALL FURNISH SUITABLE TEMPORARY TESTING PLUGS OR CAPS, PRESSURE GAUGES, AIR PUMPS, ETC. AND ANY OTHER NECESSARY EQUIPMENT AND ALL LABOR REQUIRED, WITHOUT ADDITIONAL COMPENSATION. THE ENGINEER SHALL CALCULATE THE MINIMUM TIME REQUIRED FOR EACH TEST ON EACH SECTION OF LINE AND SHALL SO ADVISE THE CONTRACTOR PRIOR TO THE TEST. IF THE SECTION OF PIPE FAILS TO PASS THE TESTS, THE CONTRACTOR SHALL DO EVERYTHING NECESSARY TO LOCATE, UNCOVER (EVEN TO THE EXTENT OF UNCOVERING THE ENTIRE SECTION) AND REPAIR OR REPLACE THE DEFECTIVE PIPE FITTING, JOINT OR OTHER APPURTENANCE, AND RETEST THE REPAIRED SECTION WITHOUT ADDITIONAL COMPENSATION. UPON SATISFACTORY COMPLETION OF THE TESTS, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY TEST PLUGS OR CAPS AND OTHER EQUIPMENT AND SHALL RESTORE THE PIPE TO A CONDITION READY FOR SERVICE. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF AN AUTHORIZED REPRESENTATIVE OF THE ENGINEER.

**ADJUSTING EXISTING STRUCTURES**

EXISTING MANHOLES, WITHIN THE LIMITS OF THE PROPOSED WORK, THAT DO NOT CONFORM TO THE FINISHED GRADE DESIGNATED ON THE DRAWINGS FOR SUCH STRUCTURES, SHALL BE CUT DOWN OR EXTENDED, AND MADE TO CONFORM TO THE GRADE OF THE NEW PAVEMENT, OR TO THE DESIGNATED GRADE OF THE STRUCTURE IF OUTSIDE OF THE PROPOSED PAVEMENT AREA. THE MATERIALS AND CONSTRUCTION METHODS FOR THIS WORK SHALL CONFORM TO THE REQUIREMENTS SPECIFIED ABOVE.

**MISCELLANEOUS CONCRETE IN SEWER TRENCH**

WHERE DIRECTED BY THE ENGINEER AND WHERE THE DEPTH OF PIPE TRENCH IS 10' AND OVER, CONCRETE ENCASEMENT SHALL ALSO BE PLACED AROUND SERVICE WYES TO THE DIMENSIONS SHOWN ON THE DRAWINGS.

**PAVEMENT REPLACEMENT**

WHERE EXISTING PAVEMENT, CURB, CURB AND GUTTER, SIDEWALK OR DRIVEWAY PAVING IS REMOVED ONLY FOR THE PURPOSE OF CONSTRUCTING, REPLACING, OR REMOVING SEWER PIPE, SERVICE LATERALS, MANHOLES, ETC., SUCH PAVEMENT, ETC., SHALL BE REPLACED AND RESTORED TO AS GOOD CONDITION, AS DETERMINED BY THE ENGINEER AS BEFORE REMOVAL. THE REPLACED PAVEMENT SHALL BE OF THE SAME OR SIMILAR TYPE AS THAT REMOVED. THE MANHOLE SHALL BE INSTALLED AS SPECIFIED ON THE DRAWINGS. ALL ROUGH CUTS FOR PAVEMENT CURB AND GUTTER, SIDEWALK, DRIVEWAYS, ETC. SHALL BE TRIMMED BACK WITH A STRAIGHT SAW CUT IN A MANNER SO AS TO PRODUCE AS NEAR AS PRACTICAL A CUT OF UNIFORM WIDTH HAVING PARALLEL SIDES. SPECIFIC REQUIREMENTS FOR THE REPLACEMENT OF PAVEMENT ON PUBLIC ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL GOVERNMENTAL ENTITY HAVING JURISDICTION AND IN ACCORDANCE WITH THE DETAILS AS SHOWN ON THE CONSTRUCTION DRAWINGS.

**CLEARANCE REQUIREMENTS**

MINIMUM SEPARATION REQUIREMENTS ARE SPECIFIED UNDER POTABLE WATER.

**GENERAL DESIGN**

- MANHOLES SHALL BE LOCATED IN THE CENTERLINE OR "CROWN" OF THE STREET TO MINIMIZE INFILTRATION.
- MANHOLE PIPING SHALL MATCH CROWN TO CROWN, INVERTS OVER 2 FEET FROM THE BOTTOM OF MANHOLES SHALL REQUIRE AN EXTERNAL DROP CONNECTION.
- SANITARY LATERALS SHALL BE INSTALLED AT 90 DEGREES WITH THE RIGHT-OF-WAY TO THE GREATEST EXTENT POSSIBLE.
- UNLESS OTHERWISE APPROVED, NO LATERALS SHALL CONNECT DIRECTLY TO A MANHOLE.
- ALL MANHOLES SHALL BE WATER TIGHT WITH A GOLD TAR EXTERIOR COATING.

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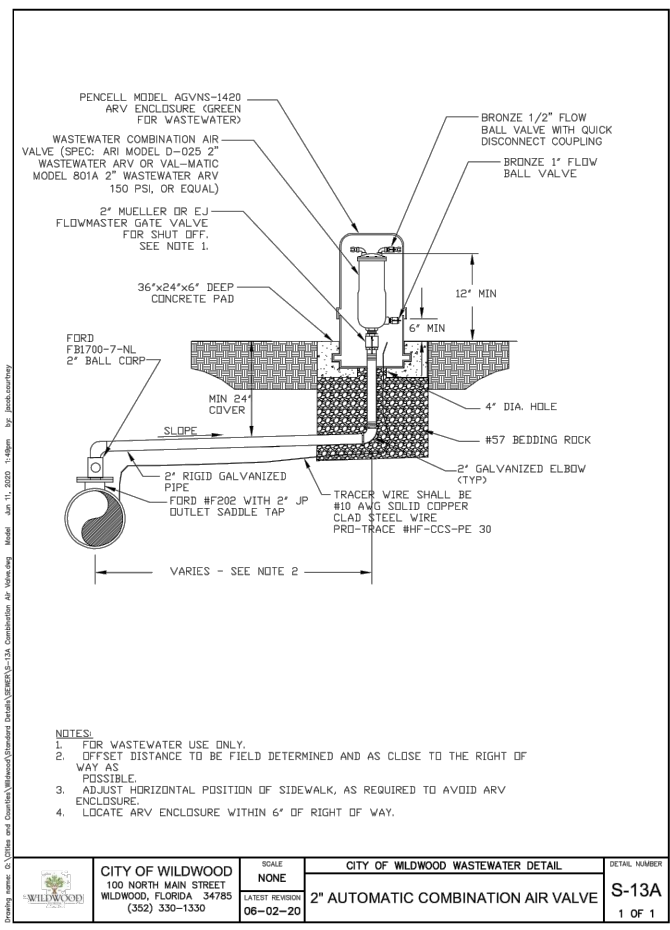
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PHONE: 352-438-3000  
WWW.KIMLEY-HORN.COM, REGISTRY 35106

**UTILITY DETAILS**  
KHA PROJECT 142173390  
DATE OCTOBER 2023  
SCALE AS SHOWN  
DESIGNED BY KHA  
DRAWN BY KHA  
CHECKED BY KHA

**ST. CLAIR STREET IMPROVEMENTS**  
PREPARED FOR CITY OF WILDWOOD  
FLORIDA  
SUMTER COUNTY

SHEET NUMBER UT-02

10/05/23 KH  
REVISIONS DATE BY  
No.



CITY OF WILDWOOD 100 NORTH MAIN STREET WILDWOOD, FLORIDA 34785 (352) 330-1330	SCALE NONE	CITY OF WILDWOOD WASTEWATER DETAIL		DETAIL NUMBER
	LATEST REVISION 06-02-20	2" AUTOMATIC COMBINATION AIR VALVE		S-13A 1 OF 1

No.	REVISIONS	DATE	BY
1	BID SET	10/05/23	KH

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KHA PROJECT 142173390	LICENSED PROFESSIONAL
DATE OCTOBER 2023	MARIO PETROLA VEGA
SCALE AS SHOWN	FLORIDA LICENSE NUMBER 891603
DESIGNED BY KHA	DATE:
DRAWN BY KHA	
CHECKED BY KHA	

**UTILITY DETAILS**

**ST. CLAIR STREET IMPROVEMENTS**  
 PREPARED FOR  
 CITY OF WILDWOOD  
 SUMTER COUNTY FLORIDA

SHEET NUMBER  
**UT-03**