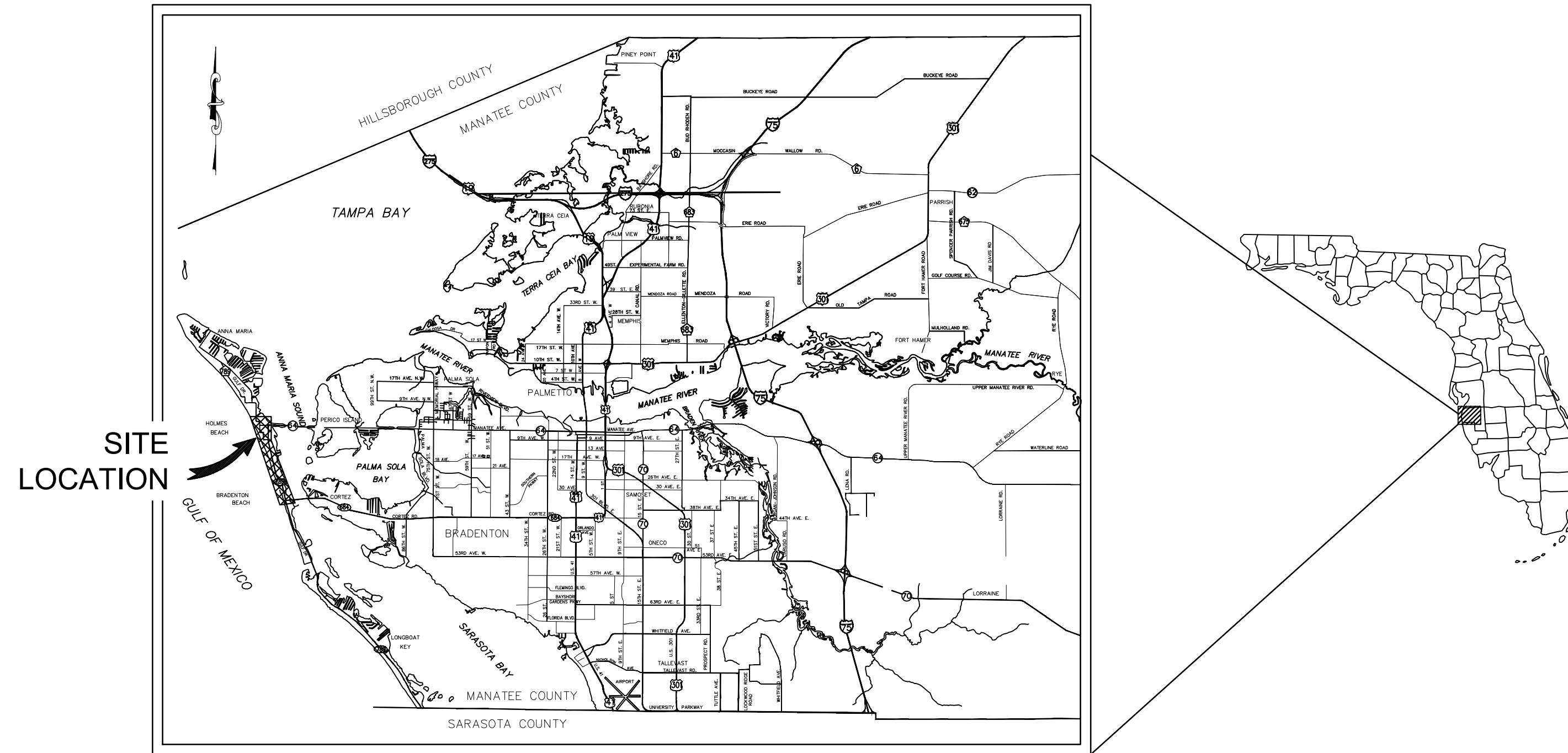
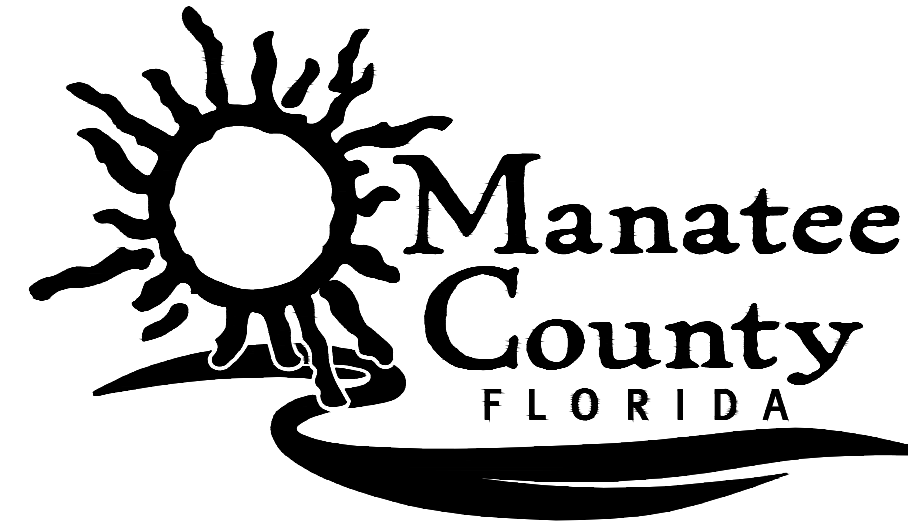


# CONSTRUCTION PLANS FOR FORCE MAIN 5 REPLACEMENT

MANATEE COUNTY, FLORIDA

FEBRUARY 2017

MANATEE COUNTY PROJECT #6041585



PROJECT VICINITY MAP  
N.T.S.

**100% SUBMITTAL  
NOT FOR CONSTRUCTION**

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PREPARED BY

**Kimley»Horn**

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THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

No.	REVISIONS	DATE	BY

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WADE W. WOOD, P.E.  
FLORIDA LICENSE NUMBER:  
69051  
DATE:

DATE  
FEB, 2017  
KHA PROJECT NO.  
148400012  
SHEET NUMBER  
1



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GENERAL

- 1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS:TAHA ATAYA AND CAN BE REACHED AT (941) 708-7450 X7329
2. SITE VISITS ARE MANDATORY FOR ALL BIDDERS. THESE SITE VISITS CAN BE ARRANGED THROUGH THE PROJECT MANAGER.
3. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE, AND LOCAL AGENCIES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS THAT ARE NOT PROVIDED IN THE BID DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.
5. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATION THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY SUNSHINE 811 (1-800-432-4770) AT LEAST 2 FULL BUSINESS DAYS PRIOR TO CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING UTILITIES FROM DAMAGE. EXPLORATORY EXCAVATION MAY BE REQUIRED PRIOR TO CONNECTION TO EXISTING UTILITIES.
8. NO WORK, EXCEPT FOR EMERGENCY TYPE, SHALL BE PERFORMED AFTER 7:00 PM AND BEFORE 7:00 AM. FOR ADDITIONAL PROJECT RESTRAINTS, REFER TO SECTION 01310 OF THE SPECIFICATIONS.
9. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS AS OUTLINED IN THE SPECIFICATIONS. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APPLICATION SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. PAYMENT WILL NOT BE MADE TO CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS. THE MOST CURRENT SET OF RED-LINE DRAWINGS SHALL ALSO BE BROUGHT TO EACH MONTHLY PROGRESS MEETING.
10. THE CONTRACTOR SHALL INCLUDE IN HIS BID:BY-PASS PUMPING FACILITIES, PUMPS, FITTINGS, LABOR, ETC. AS NECESSARY, BASED ON METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING SEWER SERVICE OPERATIONS AT ALL TIMES.
11. THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH A DETAILED CONSTRUCTION PHASING PLAN BASED ON THE CONNECTION SEQUENCING BELOW, FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. EXISTING FORCE MAIN SA SHALL REMAIN IN SERVICE UNTIL ALL CONNECTIONS TO THE PROPOSED FORCE MAIN ARE CONSTRUCTED.
11.1. THE CONTRACTOR SHALL ACCOUNT FOR IN THE PHASING PLAN THE CCCL PERMIT EXPIRATION DATE OF 5/26/17. ALL WORK WITHIN THIS AREA SHALL BE CONSTRUCTED BY THIS DATE. REFER TO THE SPECIFICATIONS FOR A COPY OF THE CCCL PERMIT.
12. ALL PROPOSED WORK SHALL BE COORDINATED WITH MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
13. THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR REVIEW OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIAL APPURTENANCES PRIOR TO FABRICATION OR DELIVERY TO THE JOB SITE.
14. UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND DUCTILE IRON PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND DUCTILE IRON PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED PER THE DETAILS IN THESE PLANS.
15. SANITARY SEWERS AND FORCEMAINS CROSSING OVER OR UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER OR FORCE MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10" BETWEEN ANY TWO JOINTS. AS AN ALTERNATIVE, THE SEWER OR FORCE MAIN MAY BE PLACED IN A WATERTIGHT CASING PIPE, CONSISTENT WITH F.A.C. RULE 62-555.314.
16. ALL BELOW-GRADE FITTINGS 4-INCHES AND GREATER IN DIAMETER SHALL BE MECHANICAL JOINT DUCTILE IRON WITH PROTECTO 401 LINING FOR THEIR INTERIOR SURFACES AND COAL TAR ENAMEL COATING ON EXTERIOR SURFACES, AS NOTED IN SECTION 02615 OF SPECIFICATIONS.
17. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SECURE PROPERTY FOR STAGING MATERIALS AND EQUIPMENT.
18. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE, OR ENTER INTO AGREEMENTS, FOR LANDS FOR LAY DOWN AREAS AND STAGING. THE COUNTY WILL COORDINATE AND ADVISE, TO HELP IDENTIFY POSSIBLE PARCELS. IT IS FINALLY THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE NEEDED AREAS, AND THE COUNTY TAKE NO RESPONSIBILITY FOR DELAYS IN THIS REGARD.
19. COORDINATION AND PUBLIC INFORMATION FOR AND WITH AREA RESIDENTS ARE OF THE UTMOST IMPORTANCE. CONTRACTOR WILL INSURE ADHERENCE TO THE COUNTY'S NOISE ORDINANCE, HAZARD AND SAFETY, AND NUISANCE ABATEMENT DIRECTIONS, PLANS, OBJECTIONS AND ORDINANCES. THE ENGINEER WILL HAVE THE FINAL DISCRETION IN THIS REGARD, AS REPRESENTED ONSITE BY THE COUNTY INSPECTOR AND ENGINEER'S STAFF.
SAFETY
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90-96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P, AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS FOR COMPLIANCE WITH THESE REGULATIONS.
18. THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
19. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
20. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.
ENVIRONMENTAL
21. WHEN A BENTONITE SPILL OR FRACK-OUT OCCURS OR THERE IS A LOSS OF RETURN INDICATING EXCESSIVE SEEPAGE OR LOSS OF DRILLING FLUID, DRILLING MUST BE STOPPED UNTIL THE LOCATION OF THE SPILL IS IDENTIFIED. UNDER NO CIRCUMSTANCES WILL DRILLING CONTINUE WHEN A SPILL IS APPARENT.
22. ONCE LOCATED, THE BENTONITE SPILL MUST BE ISOLATED AND SEEPAGE INTO ANY NEARBY WATER BODIES WILL BE BLOCKED DEPENDING ON THE DEGREE OF THE SPILL. THE ISOLATED BENTONITE MUST BE REMOVED MANUALLY OR MECHANICALLY AND DISPOSED OF BY APPROPRIATE MEANS OR REUSED.
23. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDPF "FLORIDA STORM WATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND TO DITCHES DURING CONSTRUCTION.
24. STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON-SITE DRAINAGE CONTROLS WHICH PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILES IS REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL ANY STOCKPILED MATERIAL REMAIN AFTER THIRTY (30) CALENDAR DAYS.
25. STORM WATER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS, AND WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. THIS WILL BE MAINTAINED TO PREVENT DEGRADATION OF THE WATERS OF THE COUNTY AND STATE.
26. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING BODIES OF WATER, MUST BE INSTALLED, CONSTRUCTED, OR IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS. EARTHEN STRUCTURES INCLUDING BUT NOT LIMITED TO BERMS, EARTH FILTERS, DAMS OR DIKES SHALL BE STABILIZED AND PROTECTED FROM DRAINAGE DAMAGE OR EROSION WITHIN ONE (1) WEEK OF INSTALLATION.
27. ALL SWALES, DITCHES, AND CHANNELS LEADING FROM THE SITE SHALL BE PROTECTED FROM SILTATION AND EROSION

- DURING CONSTRUCTION AND BE SODDED WITHIN THREE (3) DAYS OF EXCAVATION.
28. SOIL DISPLACED BY CONSTRUCTION WILL BE REMOVED. EROSION CONTROL SHALL BE IMPLEMENTED IN AREAS WHICH ARE CONSIDERED ENVIRONMENTALLY SENSITIVE. EROSION CONTROL SYSTEMS SHALL BE REQUIRED FOR ALL WORK WITHIN JURISDICTIONAL AREAS. THESE SYSTEMS MAY INCLUDE STAKED HAY BALES, SILT SCREENS, FILTER FABRIC, AND TURBIDITY SCREENS.
29. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
30. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER WETLAND AREAS THAT MAY BE ON OR NEAR THE CONSTRUCTION SITE. ALL WORK IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL REGULATIONS AND/OR PERMITS FOR THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES RESULTING FROM HIS VIOLATION OF ANY REGULATIONS OR PERMIT CONDITIONS.
31. CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
32. CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPLIT PREVENTION PLAN" THAT CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
RIGHT-OF-WAY
33. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FDOT RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS.
34. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO REFERENCE AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
35. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN A RIGHTS-OF-WAY USE PERMIT AND A TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM OTHER GOVERNMENTAL AGENCIES HAVING RELEVANT JURISDICTION. ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION "MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES". A TRAFFIC CONTROL PLAN SHALL BE SUPPLIED BY THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS WHETHER SHOWN ON THE PLANS OR NOT. THE HEADWALLS SHALL BE REPLACED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
37. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT-OF-WAY LINES, BASE LINES, BENCH MARKS (ELEV.), CENTER LINES, AND STATIONINGS AS REQUIRED TO CONSTRUCT THIS PROJECT.
38. THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRIVEWAYS WITH THE PROPERTY OWNER PRIOR TO CUT. ALL DRIVEWAYS WILL BE IN PASSABLE CONDITION AT THE END OF THE WORK DAY AND FULLY RESTORED PER SECTION 02575.
39. A RIGHT OF ENTRY AGREEMENT SHALL BE OBTAINED BY THE CONSTRUCTION MANAGER FROM THE PROPERTY OWNER BEFORE ANY DRIVEWAY CONSTRUCTION WORK IS DONE OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT.
UTILITIES
40. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE NOT BEEN LOCATED OR IDENTIFIED, MAY NOT BE IN THE EXACT LOCATION SHOWN OR RELOCATED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) THAT MAY AFFECT HIS WORK. ALL EXISTING UTILITIES TO BE EXTENDED, CROSSED OR CONNECTION POINTS SHALL BE EXPOSED PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND ELEVATION. ANY DISCREPANCIES OR CONFLICTS FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION.
41. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER LINES, STORM DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAIL BOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENT OR FACILITY IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEM DUE TO HIS CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
42. THE CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED OR OFFERED BY FLORIDA POWER AND LIGHT TO PREVENT UNDERMINING OF POWER POLES DURING CONSTRUCTION. IF HOLDING OF POWER POLES IS RECOMMENDED OR REQUIRED BY THE UTILITY, THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE UTILITY AND BEAR ALL RELATED COSTS.
43. ANY TEMPORARY SHUTDOWNS FOR MODIFICATIONS OF EXISTING UTILITY SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE COORDINATED WITH AND APPROVED BY THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT IS NOTED THAT TEMPORARY SHUTDOWNS MAY BE RESTRICTED TO CERTAIN HOURS AT ANY TIME OF THE DAY OR NIGHT AND WILL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
44. FOR WORK BEING DONE ON EXISTING SANITARY SEWER LINES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE FLOW OF ALL SEWAGE DURING CONSTRUCTION, WHICH MAY REQUIRE BY-PASS PUMPING AND/OR PUMPER TRUCKS. THE CONTRACTOR SHALL SUBMIT A DETAILED BY-PASS PUMPING PLAN PER SECTION 02720.
45. ALL MAINS TO BE ABANDONED IN PLACE SHALL BE GROUTED PER THE SPECIFICATIONS.
46. THE ELEVATIONS OF THE UTILITY SERVICES AND LATERALS HAVE BEEN ASSUMED ON THE BASIS OF TYPICAL ANTICIPATED SOIL COVERAGE. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL UTILITIES CROSSING THE PROPOSED FORCE MAIN. CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT FORCE MAIN CONSTRUCTION, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ATTAIN DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED FORCE MAIN. INTERRUPTIONS OF ANY EXISTING UTILITY SERVICES SHALL BE NOTICED TO EFFECTED CUSTOMERS A MINIMUM OF 48 HOURS IN ADVANCE AND SHALL NOT EXCEED 4 HOURS IN DURATION.
RESTORATION
47. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
48. ALL DISTURBED GRASSSED AREAS SHALL BE SODDED UNLESS OTHERWISE INDICATED. THE TYPE OF SOD USED TO REPLACE OWNER MAINTAINED AREAS IN RIGHT-OF-WAY SHALL BE COORDINATED WITH THE PROPERTY OWNER.
49. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE OPERATION OF THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, AT NO ADDITIONAL COST TO THE OWNER.
50. ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513.
51. CONCRETE DRIVEWAYS OR SIDEWALKS THAT ARE CUT SHALL BE RESTORED TO MATCH EXISTING ACCORDING TO THE CURRENT EDITIONS OF THE F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN, SECTION 522, AND SECTION 310 OF THE F.D.O.T. DESIGN STANDARDS.
52. WHENEVER A PERMANENT ROADWAY SURFACE IS NOT REPLACED IMMEDIATELY AFTER BACKFILLING AND COMPACTION OF THE NEWLY INSTALLED PIPE LINE IN AREAS WHERE TRAFFIC MUST PASS, THE CONTRACTOR SHALL INSTALL A TEMPORARY SURFACE CONSISTING OF NINE INCHES OF COMPACTED LIME ROCK BASE AND A COAT OF ASPHALT EMULSION. PERMANENT ROADWAY REPAIR SHALL BE PERFORMED A MAXIMUM OF TWENTY-ONE CALENDAR DAYS AFTER THE INITIAL OPEN CUTTING.
53. RESTORATION OF CURBS, DRIVEWAYS, SIDEWALKS, AND PLACEMENT OF SOD SHALL BE COMPLETED WITHIN FORTY-FIVE CALENDAR DAYS OF INITIAL DISTURBANCE, OR TWENTY-ONE CALENDAR DAYS OF SUBSTANTIAL COMPLETION, WHICHEVER OCCURS FIRST.
54. ALL EXISTING FEATURES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER UNLESS SHOWN TO BE REMOVED ON CONSTRUCTION PLANS.
55. WHERE CONCRETE REPAIRS ARE NECESSARY AND EXPANSION OR CONTRACTION JOINTS ARE PRESENT, CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE UP TO THE NEXT EXPANSION OR CONTRACTION JOINT.
CONSTRUCTION
56. THE EXHAUST SYSTEM OF ALL GASOLINE AND DIESEL ENGINES SHALL BE EQUIPPED WITH MUFFLERS THAT MEET THE EQUIPMENT MANUFACTURER'S REQUIREMENTS FOR NOISE SUPPRESSION. THE CONTRACTOR SHALL INSTALL NOISE ABATEMENT BAFPLES POSITIONED TO BREAK LINE-OF-SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES, AS APPROVED BY THE ENGINEER.

- 57. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEEP DAILY AS PART OF DAILY CLEAN UP.
58. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
59. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
60. PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OR TRIMMING OF ANY TREE WITHIN THE CONSTRUCTION AREA.
61. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
62. ALL PIPING AND FITTINGS USED ON THIS PROJECT SHALL BE AS NOTED ON THE PLANS AND IN THE CONTRACT DOCUMENT AND SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS AND PROFILES.
63. ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.
64. ALL FITTINGS FOR PRESSURE CLASS-RATED PIPE SHALL BE RESTRAINED DUCTILE IRON. RESTRAINED LENGTHS OF PIPE SHALL ADHERE TO THE REQUIREMENTS AS SHOWN ON THE DETAIL SHEETS.
65. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE RECOMMENDED DEFLECTION.
66. ALL ROCKS OR STONES LARGER THAN SIX INCH DIAMETER SHALL BE REMOVED FROM THE BACKFILL MATERIAL. BACKFILL MATERIAL PLACED WITHIN ONE FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO INCH DIAMETER.
67. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES AND PUMP STATIONS ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
68. THE CONTRACTOR, PRIOR TO ANY TEMPORARY WATER SHUT-OFFS DURING WATER MAIN TIE-IN, ETC., SHALL NOTIFY THE AFFECTED RESIDENTS BY POSTING INFORMATIONAL SIGNS IN THE NEIGHBORHOOD AT LEAST TWO DAYS (48 HRS) PRIOR TO THE WATER SHUT-OFF. REFERENCE SECTION 01580, PARAGRAPH 1.03 OF THE SPECIFICATIONS. WHEN FEASIBLE, "DOOR HANGERS" SHALL BE DELIVERED TO AFFECTED RESIDENCES AT LEAST TWO DAYS (48 HRS) PRIOR TO WATER SHUT-OFF. FOR LARGE PROJECTS WITH HUNDREDS OF HOMES AFFECTED, THE CONTRACTOR SHALL ALSO MAKE EXTENSIVE USE OF THE MEDIA AND SHALL HAVE PRIOR CONTACT WITH HOMEOWNER'S ASSOCIATIONS AND THE RESPECTIVE CITY'S. WRITTEN NOTIFICATIONS SHALL ALSO BE FAXED TO THE TAMPA TRIBUNE, BRADENTON HERALD, MIAMI SUN, ISLANDER, SARASOTA HERALD TRIBUNE, WBRD RADIO, EMERGENCY COMMUNITY CENTERS, INSPECTIONS, WATER TREATMENT PLANT, WATER MANAGER, HELPLINE, CUSTOMER SERVICE, AND THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT.
69. ALL TEST POINT PIPING SHALL BE CUT LOOSE FROM THE CORPORATION STOP AND COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE. A CORPORATION STOP PLUG SHALL BE INSTALLED AND THE CORPORATION STOP SHALL REMAIN IN PLACE.
70. ALL EXISTING MAINS THAT ARE BEING REPLACED SHALL BE ABANDONED IN PLACE UPON ACCEPTANCE AND ACTIVATION OF THE NEW MAINS. ABANDONED MAINS SHALL BE CUT, FILLED WITH GROUT, AND CAPPED. REFER TO SECTION 02064 OF THE SPECIFICATIONS FOR GROUTING OF ABANDONED PIPE.
71. FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER.
72. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM THE MANATEE COUNTY UTILITIES DEPARTMENT (MCUD) OFFICE OF INDUSTRIAL COMPLIANCE PRIOR TO DEWATERING. COMPLETION OF A CONSTRUCTION DEWATERING AUTHORIZATION TO DISCHARGE APPLICATION IS REQUIRED. FILL OUT FORM AS COMPLETELY AS POSSIBLE AS MISSING INFORMATION DELAYS THE APPROVAL PROCESS.
73. THE MCUD OFFICE OF INDUSTRIAL COMPLIANCE WILL DETERMINE WHETHER A LETTER OF APPROVAL, A DISCHARGE AUTHORIZATION, OR A DISCHARGE PERMIT IS REQUIRED.
74. FOR SITES SUSPECTED OF CONTAMINATED GROUNDWATER MANATEE COUNTY WILL REQUIRE AN APPLICANT TO DEMONSTRATE THAT THE DISCHARGE MEETS THE MANATEE COUNTY SEWER USE ORDINANCE.
75. IF ANY RECLAIMED OR WATER MAINS INCLUDING SERVICE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED FROM THE VALVE TO THE OTHER POINT OF CONNECTION OUTSIDE OF THE ROADWAY PER MANATEE COUNTY'S STANDARDS.
FDOT NOTES
ALL WORK PERFORMED WITHIN THE FDOT R/W SHALL CONFORM TO:
1. FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (2016) (A.K.A. STANDARD SPECS).
2. FDOT DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND OPERATIONS ON THE STATE HIGHWAY SYSTEM, 2016, (A.K.A. STANDARD INDEX). COMPLIANCE WITH ALL APPLICABLE INDICES IS REQUIRED.
3. FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY PLANS PREPARATION MANUAL, VOLUME 1, CHAPTERS 2 AND 25. (REVISED 2013).
4. FLORIDA DEPARTMENT OF TRANSPORTATION FLEXIBLE PAVEMENT DESIGN MANUAL FOR NEW CONSTRUCTION AND PAVEMENT REHABILITATION, JANUARY 2015.
5. ALL TRAFFIC STRIPES AND MARKINGS ARE TO BE LEAD FREE, NON-SOLVENT BASED THERMOPLASTIC. THE PERMITTEE SHALL FURNISH THE DEPARTMENT WITH THE MANUFACTURER'S CERTIFICATION THAT THE THERMOPLASTIC IS "LEAD FREE".
6. LANE CLOSURE MAY NEED TO BE ALTERED DEPENDING ON THE AREA THE WORK IS TAKING PLACE.
TRAFFIC CONTROL NOTES
1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARDS INDICES NO. 600, 603, 605, 611, 612, 613, 616, AND 660 DEPENDING ON THE OPERATION BEING PERFORMED. FOR ALL TWO-LANE WORK, TWO-WAY, WORK WITHIN TRAVEL LANE UTILIZE INDEX 603. FOR ALL TWO-LANE WORK, TWO-WAY, WORK NEAR INTERSECTION UTILIZE INDEX 605. FOR ALL MULTILANE WORK OUTSIDE SHOULDER UTILIZE INDEX NO. 611. FOR ALL MULTILANE WORK ON SHOULDER UTILIZE INDEX NO. 612. FOR ALL MULTILANE WORK WITHIN TRAVEL WAY MEDIAN OR OUTSIDE LANE UTILIZE INDEX NO. 613. FOR ALL MULTILANE WORK NEAR INTERSECTION MEDIAN OR OUTSIDE LANE UTILIZE INDEX NO. 616. FOR PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALK, UTILIZE FDOT INDEX NO. 660.
2. CONTRACTOR TO COORDINATE WITH ED GIDDENS (941) 708-4434 AT FDOT FOR ALL WORK DONE ON A STATE FACILITY.
3. TO AVOID DISRUPTION DUE TO INCLEMENT WEATHER, THE CONTRACTOR SHOULD PERFORM ANY MILLING AND PAVING OPERATIONS DURING THE SAME WORK PERIOD.
4. ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE CONSTRUCTION LIMITS THAT HAVE BEEN ALTERED BECAUSE OF CONSTRUCTION OPERATIONS SHALL BE REPLACED UPON THE COMPLETION OF THE PROJECT AT THE CONTRACTORS EXPENSE.
5. LANE CLOSURES SHALL OCCUR BETWEEN 9:00 P.M. AND 5:00 A.M., UNLESS LANE CLOSURE CALCULATIONS ARE PROVIDED AND APPROVED OR APPROVAL IS GRANTED BY THE DISTRICT PERMIT ENGINEER.
THE CONTRACTOR SHALL SCHEDULE WORK OPERATIONS SO THAT ALL LANES CAN BE RE-OPENED TO TRAFFIC WITHIN A PERIOD OF 24 HOURS IN CASE OF AN EMERGENCY.
6. PEDESTRIANS, BICYCLES, AND WHEELCHAIRS: AT THE END OF EACH WORKDAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP-OFF ADJACENT TO A SIDEWALK SHALL BE BACKFILLED AT A SLOPE NOT TO EXCEED 1:4, OR SHALL BE PROTECTED IN ACCORDANCE WITH STANDARD INDEX 600.
7. PEDESTRIAN AND WHEELCHAIR TRAFFIC SHALL BE ACCOMMODATED UTILIZING STANDARD INDEX 660.
8. ONE PORTABLE VARIABLE MESSAGE SIGN SHALL BE USED IN ADVANCE OF EACH LANE CLOSURE. THE FOLLOWING ARE SUGGESTED MESSAGES TO USE IN THE APPROPRIATE SITUATIONS:
MESSAGE 1
"RIGHT" OR "CENTER" OR "LEFT"
"LANE" "LANE" "LANE"
"CLOSED" "CLOSED" "CLOSED"
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORMWATER FROM ROADWAYS UTILIZED FOR TRAFFIC CONTROL IN A MANNER APPROVED BY THE ENGINEER.

- 10. AT THE END OF EACH WORKING DAY'S ACTIVITY, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RPM'S SHALL BE INSTALLED PRIOR TO OPENING THE LANES UP FOR TRAFFIC.
11. ALL PAVEMENT MARKINGS, SIGNS, MARKERS, CHANNELIZATION REQUIRED TO PHASE WORK OR SHIFT TRAFFIC, SHALL UTILIZE INDICES FOR PLACEMENT.
12. THE CONTRACTOR SHALL RESTRICT THE OPERATIONS SO THAT THE FIRST LIFT OF ASPHALT IS PLACED ON THE SAME DAY THAT THE LANES ARE MILLED, BEFORE OPENING THE LANES TO TRAFFIC. INSTALL TEMPORARY PAVEMENT MARKINGS AFTER THE FIRST LIFT AND PRIOR TO OPENING.
13. MILLING AND RESURFACING SHALL BE ACCOMPLISHED DURING THE OFF-PEAK HOURS.
14. THE CONTRACTOR IS RESPONSIBLE TO RETIME THE TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS (INCLUDING LIMITS OF WORK ZONE TRAFFIC CONTROL) THAT ARE POTENTIALLY AFFECTED DURING VARIOUS PHASES OF CONSTRUCTION. COORDINATE ALL SIGNAL RETIME EFFORTS WITH VISHAD KAKKAD, P.E., PTOE, COUNTY TRAFFIC ENGINEER, AT 941-749-3500, EXT. 7812.
15. CONTRACTOR TO MAINTAIN VEHICLE DETECTION IN OPERATION FOR LANES THAT WILL REMAIN OPEN. CONTRACTOR TO COORDINATE ALL VEHICLE DETECTION ISSUES WITH PAUL VILLALUZ OF MANATEE COUNTY AT 941-749-3500, EXT. 7859 OR PAUL.VILLALUZ@MYMANATEE.ORG
16. MAINTENANCE OF TRAFFIC AND ANY SIGNAL RETIMING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
17. ANY SIGNAL RETIMING REQUIRED FOR THE INTERSECTIONS IMPACTED BY THE PROJECT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. SIGNAL TIMING MODIFICATIONS TO BE SUBMITTED TO MANATEE COUNTY TRAFFIC DESIGN, ATTENTION MR. MUKUNDA GOPALAKRISHNA FOR REVIEW AND APPROVAL AT LEAST 15 WORKING DAYS BEFORE PROPOSED CHANGES. THIS DOES NOT GOVERN EMERGENCY SITUATIONS, PENDING THE APPROVAL OF THE ENGINEER.
18. A DETAILED MAINTENANCE OF TRAFFIC PLANS ARE TO BE SUBMITTED TO MANATEE COUNTY AND THE ENGINEER, BY THE CONTRACTOR, FOR REVIEW AND APPROVAL A MINIMUM OF 21 WORKING DAYS PRIOR TO PROPOSED IMPLEMENTATION.

FDOT ASPHALT REPAIR NOTES

- 1. THE FOLLOWING ASPHALT REPAIRS WITHIN FDOT R/W SHOULD BE AS FOLLOWS: COMPACTED AND DENSITY TESTED SOL IN 6 INCH LIFTS WITH A 100% INCLUDING UP TO A DEPTH OF 10 INCHES, THEN PLACE 10 INCHES OF SP 12.5 STRUCTURAL ASPHALT IN 2 INCH LIFTS, AND THEN MILL THE WIDTH OF THE NORTHBOUND LANE TO A DEPTH OF 1.5 INCHES AND RESURFACE WITH 1.5 INCHES OF FC 12.5 FRICTION COURSE.

ABBREVIATIONS

- RJ - RESTRAINED JOINT
R/W - RIGHT-OF-WAY
HDD - HORIZONTAL DIRECTIONAL DRILL
RCP - REINFORCED CONCRETE PIPE
AR - AIR RELEASE VALVE
HDPE - HIGH DENSITY POLYETHYLENE
PVC - POLYVINYL CHLORIDE
ST - STORM DRAIN
EX - EXISTING
BT - BURIED TELEPHONE
SS - SANITARY SEWER
FM - FORCE MAIN
WM - WATER MAIN
RW - RECLAIM WATER MAIN
ECP - ELLIPTICAL CONCRETE PIPE

KIMLEY HORN LEGEND

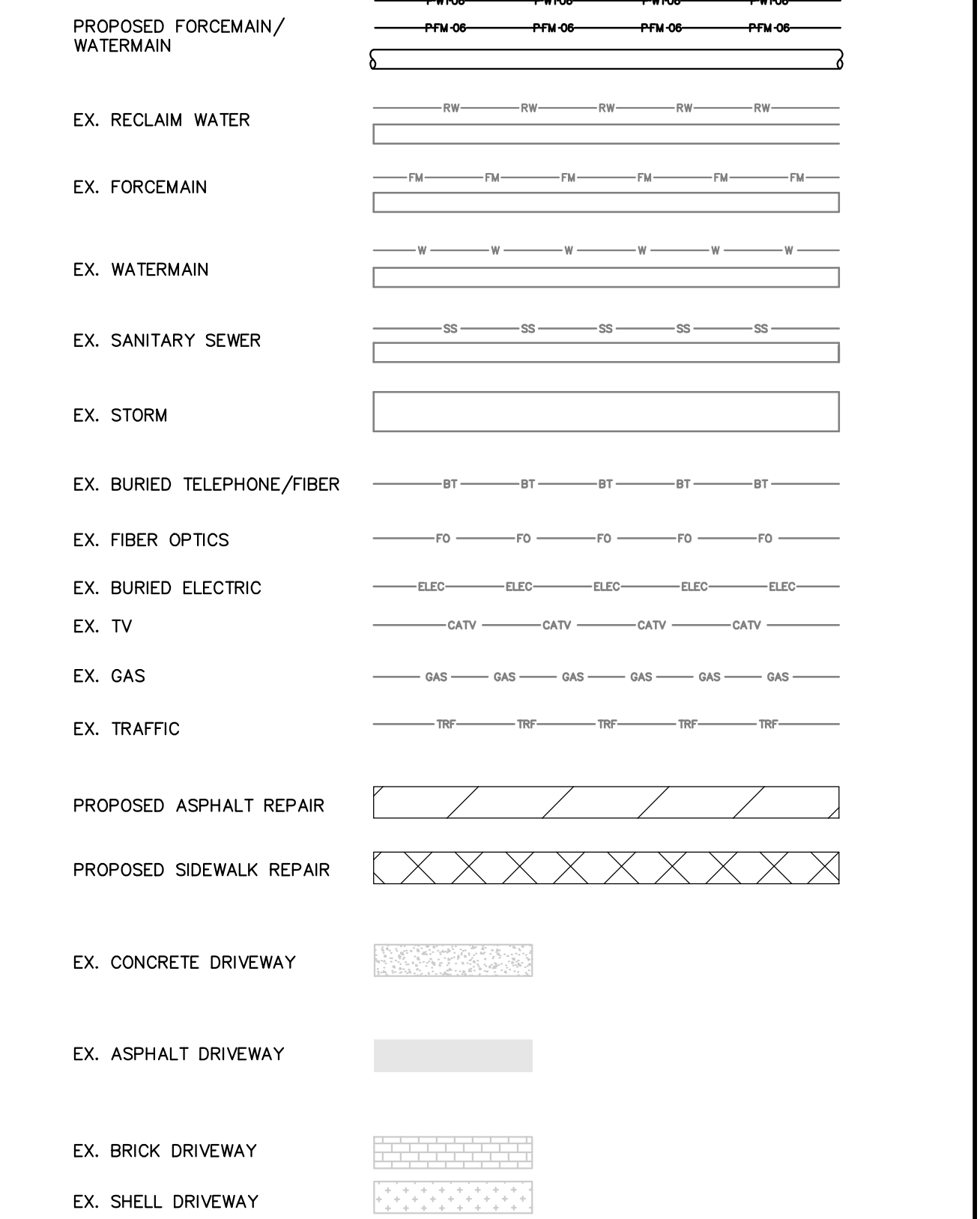


Table with 4 columns: No., REVISIONS, DATE, BY

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Table with 2 columns: PROJECT INFO, CHECKED BY. KHA PROJECT 148400012, DATE 2/14/2017, SCALE AS SHOWN, DESIGNED BY WWW, DRAWN BY JRT, CHECKED BY WEW, MANATEE COUNTY

Manatee County Florida logo. FORCE MAIN 5 REHABILITATION. LICENSED PROFESSIONAL W. WADE WOOD, P.E. FL LICENSE NUMBER 69051. DATE:

GENERAL NOTES SHEET NUMBER 2





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**SURVEY LEGEND**

- IRON ROD W/ CAP
- ⊙ PK NAIL W/ DISC
- CONCRETE MONUMENT
- R/W RIGHT-OF WAY
- PID PARCEL IDENTIFICATION
- PB PLAT BOOK
- ORB OFFICIAL RECORD BOOK
- PG PAGE
- BM SITE CONTROL POINT
- P/O PORTION OF
- ⊕ SITE BENCHMARK SIGN
- ◇ UTILITY POLE
- ⊖ GUY WIRE
- WATER METER
- ⊙ SANITARY MANHOLE
- ⊙ STORM MANHOLE
- ⊙ MAILBOX
- ✱ LIGHT POLE
- ⊕ FIRE HYDRANT
- ⊖ BACKFLOW PREVENTER
- 🌳 TREES

**SURVEY NOTES**

1. THE FOLLOWING NGS VERTICAL CONTROL MONUMENTS WERE RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREIN:  
 "J 254" PID AG1981 NAVD 1988 ELEVATION 13.48" "GIS 103" PID AG9208 NAVD 1988 ELEVATION 4.27"
2. THIS SURVEY IS REFERENCED TO A PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
3. THIS IS NOT A BOUNDARY OR MEAN HIGH WATER SURVEY. TITLE WORK WAS NOT PROVIDED.
4. THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.
5. CERTAIN UTILITY STRUCTURES WERE PARTIALLY OR COMPLETELY FILLED WITH SILT AND/OR WATER WHICH RESULTED IN POTENTIALLY INCOMPLETE AS BUILT INFORMATION.
6. THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF THE PARTY OR PARTIES CERTIFIED TO BELOW FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ORIGINALLY INTENDED WITHOUT WRITTEN CONSENT FROM HYATT SURVEY SERVICES, INC. IS STRICTLY PROHIBITED AND RENDERS THE SURVEYOR'S CERTIFICATION, SIGNATURE AND SEAL NULL AND VOID. ANY QUESTIONS CONCERNING THE CONTENT OR PURPOSE OF THIS DRAWING SHOULD BE DIRECTED TO HYATT SURVEY SERVICES, INC.

**BENCHMARK INFORMATION**

DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION	STA/OFS
# 1	1140014.24	429637.80	8.43'	PKD (LB 7203)	2+06.14 32.83 L
# 2	1140090.59	429255.90	5.07'	IRC (LB 7203)	10+99.84 36.27 L
# 3	1140811.60	429099.33	4.66'	PKD (LB 7203)	201+22.42 8.83 L
# 4	1140788.43	429380.23	3.45'	PKD (LB 7203)	204+03.55 11.34 R
# 5	1140684.36	429604.15	4.46'	PKD (LB 7203)	206+54.35 9.24 R
# 6	1140664.40	429830.05	4.49'	IRC (LB 7203)	208+75.12 38.92 L
# 7	1140524.75	429916.70	4.54'	PKD (LB 7203)	210+38.19 18.41 L
# 8	1141465.79	428859.84	4.31'	PKD (LB 7203)	23+30.78 14.44 L
# 9	1142130.16	428694.99	3.38'	CM (R 29A)	32+14.46 19.12 R
# 10	1142831.57	428445.39	3.38'	IRC (LB 7203)	37+57.97 19.17 L
# 11	1143452.41	428315.59	3.32'	PKD (LB 7203)	45+91.24 11.42 R
# 12	1143989.07	428187.47	3.59'	PKN (LB 7203)	51+42.99 11.90 R
# 13	1144521.12	428038.10	2.96'	PKD (LB 7203)	56+95.19 9.35 L
# 14	1145080.64	427924.28	2.75'	PKD (LB 7203)	62+65.84 10.37 R
# 15	1145814.48	427778.99	2.45'	PKD (LB 7203)	70+30.98 5.64 R
# 16	1145523.23	427560.40	4.29'	PKD (LB 7203)	72+65.77 25.77 L
# 17	1146104.74	427421.05	4.18'	PKD (LB 7203)	85+95.20 13.23 R
# 18	1146694.52	427541.34	1.95'	PKD (LB 7203)	105+84.92 9.67 R
# 19	1147236.18	427408.85	2.27'	PKD (LB 7203)	111+22.54 5.82 R
# 20	1147798.59	427260.94	2.09'	PKD (LB 7203)	117+03.90 8.24 L
# 21	1148243.31	427150.61	2.87'	PKD (LB 7203)	121+62.07 12.91 L
# 23	1148412.65	426461.95	4.65'	IRC (LB 7203)	140+11.46 0.44 L
# 24	1148272.69	426441.37	2.59'	PKD (LB 7203)	148+71.68 10.56 L
# 25	1148288.50	425946.81	6.00'	PKD (LB 7203)	160+34.76 6.07 L
# 26	1148802.51	425934.97	4.33'	PKD (LB 7203)	165+48.88 10.33 L
# 27	1150264.31	425924.84	3.16'	PKD (LB 7203)	170+10.78 13.69 R
# 28	1150281.37	425701.34	4.72'	PKN (LB 7203)	180+41.08 17.84 R
# 29	1150789.00	425699.87	3.75'	PKD (LB 7203)	195+09.69 19.68 R
# 30	1150887.21	425545.96	4.72'	IRC (LB 7203)	197+34.48 18.14 L
# 31	1148421.44	426912.82	2.98'	IRC (LB 7203)	132+07.91 4.23 L
# 32	1147137.53	427132.97	3.09'	PKD (LB 7203)	223+15.35 14.81 L
# 33	1147088.50	426880.24	4.45'	PKD (LB 7203)	230+18.36 7.38 L
# 34	1147366.30	426847.99	4.95'	PKD (LB 7203)	232+99.19 11.50 R
# 35	1147618.44	426789.29	4.66'	PKD (LB 7203)	235+58.07 11.46 R
# 36	1148147.72	426544.17	3.36'	PKD (LB 7203)	241+06.47 9.96 L
# 38	1148625.20	427253.94	3.27'	IRC (LB 7203)	256+78.28 12.30 R
# 39	1146555.58	427021.89	6.16'	PKD (LB 7203)	260+45.20 8.19 L
# 40	1146833.01	426974.62	5.60'	PKD (LB 7203)	263+25.95 11.47 R
# 100	1145162.78	427867.26	2.74'	IRC (LB 7203)	63+59.00 25.93 L

**SUBSURFACE UTILITY ENGINEERING INFORMATION**

Test Hole Date	Test Hole Number	Utility Size, Material & Type (Size measured in inches and is O.D.)	Station	Offset	Ground Elevation	Manual Depth (Top)	Utility Elevation (Top)	Utility Owner	Surface Type
9/21/2015	VH101	Force Main (Size/Material NFV)	18+00.21'	17.23' RT	4.67'	4.75'	-0.08'	Manatee Co.	ASPH
9/21/2015	VH102	16" Cast-Iron Water Main	18+04.96'	20.85' RT	4.67'	3.00'	1.67'	Manatee Co.	ASPH
9/21/2015	VH103	4" PVC Unknown	18+04.85'	22.15' RT	4.61'	2.13'	2.48'	Unknown	ASPH
9/21/2015	VH104	Unknown (Size/Material NFV)	32+57.44'	14.31' RT	3.25'	9.90'	-6.65'	Unknown	ASPH
9/21/2015	VH105	16" Cast-Iron Water Main	32+60.50'	19.04' RT	3.11'	3.00'	0.11'	Manatee Co.	CDNC
9/21/2015	VH106	16" Cast-Iron Water Main	38+61.77'	17.84' RT	3.20'	3.20'	0.00'	Manatee Co.	CDNC
9/21/2015	VH107	6" Asbestos Cement Water Main	51+70.17'	13.99' LT	3.86'	3.45'	0.41'	Manatee Co.	ASPH
9/21/2015	VH108	16" Cast-Iron Water Main	51+73.25'	7.18' LT	3.71'	3.00'	0.71'	Manatee Co.	ASPH
9/21/2015	VH109	PVC Sanitary (Size NFV)	32+64.13'	24.18' RT	3.36'	3.54'	-0.18'	Manatee Co.	SOIL
9/21/2015	VH110	Polyethylene Gas (Size NFV)	43+65.12'	22.10' LT	4.13'	3.92'	0.21'	TECO Peoples Gas	SOIL
9/21/2015	VH111	16" Cast-Iron Water Main	43+65.99'	12.20' LT	4.08'	3.48'	0.60'	Manatee Co.	SOIL
9/21/2015	VH112	4" PVC Water	62+69.22'	9.26' LT	2.85'	2.09'	0.76'	Manatee Co.	ASPH
9/21/2015	VH113	4" PE BT (x2) + 2" PE BT (x1)	54+26.83'	51.03' RT	4.57'	3.16'	1.41'	Verizon	SOIL
9/21/2015	VH114	Water Main (Size/Material NFV)	54+12.77'	57.95' RT	4.57'	4.10'	0.47'	Manatee Co.	SOIL
9/21/2015	VH115	Steel Water Main (Size NFV)	N/A	N/A	4.30'	4.68'	-0.38'	Manatee Co.	SOIL
9/21/2015	VH116	8" PVC Force Main	N/A	N/A	7.98'	4.82'	3.16'	Manatee Co.	SOIL
9/21/2015	VH117	20" Polyethylene Force Main	N/A	N/A	8.21'	5.65'	2.56'	Manatee Co.	SOIL
9/21/2015	VH118	16" Cast-Iron Water Main	72+68.80'	18.70' LT	4.56'	3.08'	1.48'	Manatee Co.	ASPH
9/21/2015	VH119	Polyethylene Gas (Size NFV)	72+63.92'	21.80' LT	4.14'	6.62'	-2.48'	TECO Peoples Gas	ASPH
9/21/2015	VH120	4" Polyethylene Gas	80+83.22'	25.40' LT	5.46'	2.00'	3.46'	TECO Peoples Gas	SOIL
9/21/2015	VH121	Force Main (Size/Material NFV)	80+77.34'	18.14' LT	5.52'	3.85'	1.67'	Manatee Co.	SOIL
9/21/2015	VH122	1" PVC Water	85+93.04'	28.92' LT	5.00'	2.00'	3.00'	Manatee Co.	SOIL
9/21/2015	VH123	4" Polyethylene Gas	85+92.92'	26.95' LT	4.91'	5.20'	-0.29'	TECO Peoples Gas	SOIL
9/21/2015	VH124	Sanitary (Size/Material NFV)	85+95.91'	22.91' LT	4.84'	4.00'	0.84'	Manatee Co.	SOIL
9/21/2015	VH125	Force Main (Size/Material NFV)	85+98.27'	18.29' LT	4.51'	3.20'	1.31'	Manatee Co.	SOIL
9/21/2015	VH126	16" Cast-Iron Water Main	85+84.64'	12.30' RT	4.27'	3.45'	0.82'	Manatee Co.	SOIL
9/21/2015	VH127	6" Polyethylene Water	90+59.92'	20.32' LT	3.87'	3.95'	-0.08'	Manatee Co.	SOIL
9/21/2015	VH128	Polyethylene Water (Size NFV)	92+56.17'	14.14' LT	3.28'	3.90'	-0.62'	Manatee Co.	SOIL
9/30/2015	VH129	6" Polyethylene Water	92+64.97'	19.70' LT	2.60'	2.10'	0.50'	TECO Peoples Gas	SOIL
9/30/2015	VH130	Metal Joint (NFV)	220+53.13'	1.20' RT	2.53'	3.80'	-1.27'	Unknown	ASPH
9/30/2015	VH131	6" Polyethylene Water	220+51.72'	2.25' RT	2.51'	2.48'	0.03'	Manatee Co.	ASPH
9/30/2015	VH132	6" Polyethylene Water	220+57.66'	16.43' RT	2.42'	3.10'	-0.68'	Manatee Co.	SOIL
9/30/2015	VH133	6" Polyethylene Water	121+76.25'	14.98' LT	2.92'	2.84'	0.08'	Manatee Co.	ASPH
9/30/2015	VH134	1" Polyethylene Gas	138+16.21'	13.80' LT	4.49'	2.40'	2.09'	TECO Peoples Gas	SOIL
9/30/2015	VH135	Steel Force Main (Size NFV)	136+43.34'	14.10' RT	4.21'	3.20'	1.01'	Manatee Co.	ASPH
9/30/2015	VH136	2" PVC Water	140+67.28'	10.98' LT	4.21'	2.50'	1.71'	Manatee Co.	ASPH
9/30/2015	VH137	Wrapped Steel Force Main (Size NFV)	148+79.65'	3.97' LT	2.85'	3.14'	-0.29'	Manatee Co.	ASPH
9/30/2015	VH138	2" PVC Water	150+35.32'	9.67' LT	2.63'	2.31'	0.32'	Manatee Co.	ASPH
9/30/2015	VH139	Water Main (Size/Material NFV) (On Joint)	192+02.85'	28.26' LT	5.06'	2.28'	2.78'	Manatee Co.	SOIL
9/30/2015	VH140	Steel Unknown (Size NFV)	192+10.03'	22.36' LT	4.69'	3.23'	1.46'	Unknown	CDNC
4/14/2016	VH201	1/2" Direct Buried BT	230+38.66'	17.50' LT	5.23'	2.40'	2.83'	Verizon/Frontier	GRASS
4/14/2016	VH202	4" Poly GM	230+37.97'	8.64' LT	4.39'	2.85'	1.54'	TECO Peoples Gas	GRASS
4/14/2016	VH203	2" Steel WM	230+37.23'	7.42' LT	4.48'	1.90'	2.58'	Manatee Co.	ASPH
4/14/2016	VH204	12" DIP UNK	230+38.18'	9.75' RT	4.56'	3.10'	1.46'	Unknown	ASPH
4/14/2016	VH205	6" DIP UNK	225+33.06'	13.40' RT	4.36'	4.10'	0.26'	Unknown	ASPH
4/14/2016	VH206	6" Poly WM	230+39.05'	20.13' RT	4.35'	3.15'	1.20'	Manatee Co.	GRASS
4/14/2016	VH207	4" AC WM	261+41.07'	16.27' LT	6.00'	1.93'	4.07'	Manatee Co.	GRASS
4/14/2016	VH208	1/4" Direct Buried BT	258+33.82'	14.81' LT	5.65'	1.84'	3.81'	Verizon/Frontier	GRASS
4/14/2016	VH209	2" Steel GM	258+37.13'	20.53' LT	6.07'	1.90'	4.17'	TECO Peoples Gas	GRASS
4/14/2016	VH210	8" AC WM	255+16.35'	19.72' RT	2.85'	2.31'	0.54'	Manatee Co.	ASPH
4/14/2016	VH211	4" PVC BT (x4) + 2" PVC BT	255+14.82'	22.54' RT	2.75'	2.57'	0.18'	Verizon/Frontier	ASPH
4/14/2016	VH212	4" PVC BT	255+12.32'	25.65' RT	2.58'	2.55'	0.03'	Verizon/Frontier	ASPH
4/14/2016	VH213	NFV GM	253+09.25'	23.83' LT	4.38'	5.65'	-1.27'	TECO Peoples Gas	GRASS
4/14/2016	VH214	4" PVC FOC (Grey)	253+09.91'	20.42' LT	4.55'	3.37'	1.18'	Unknown	GRASS
4/15/2016	VH215	NFV Size GP FM	253+06.87'	15.42' LT	3.99'	3.40'	0.59'	Manatee Co.	ASPH
4/15/2016	VH216	1" Head BT (x2)	253+09.28'	13.99' LT	4.02'	2.23'	1.79'	Verizon/Frontier	ASPH
4/15/2016	VH217	4" PVC FOC (x3) (Grey)	254+93.87'	22.74' LT	3.56'	3.13'	0.43'	Unknown	GRASS
4/15/2016	VH218	4" Poly GM (Yellow)	254+93.61'	25.48' LT	3.59'	2.30'	1.29'	TECO Peoples Gas	GRASS

**NOTE:**  
THE SURVEY AND SUE INFORMATION WAS PROVIDED BY:  
HYATT SURVEY SERVICES, INC.

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KHA PROJECT 148400012
DATE 2/14/2017
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY JRT
CHECKED BY WEW

**Manatee County FLORIDA**  
**FORCE MAIN 5 REHABILITATION**

LICENSED PROFESSIONAL
W. WADE WOOD, P.E.
FL LICENSE NUMBER 69051

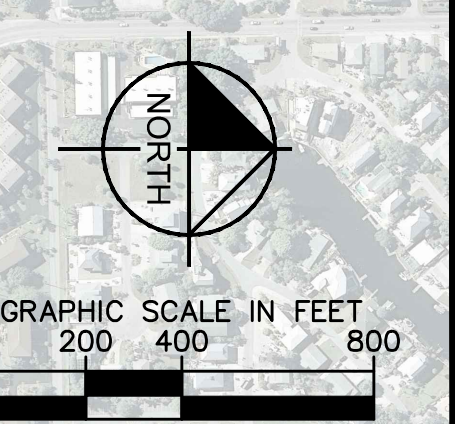
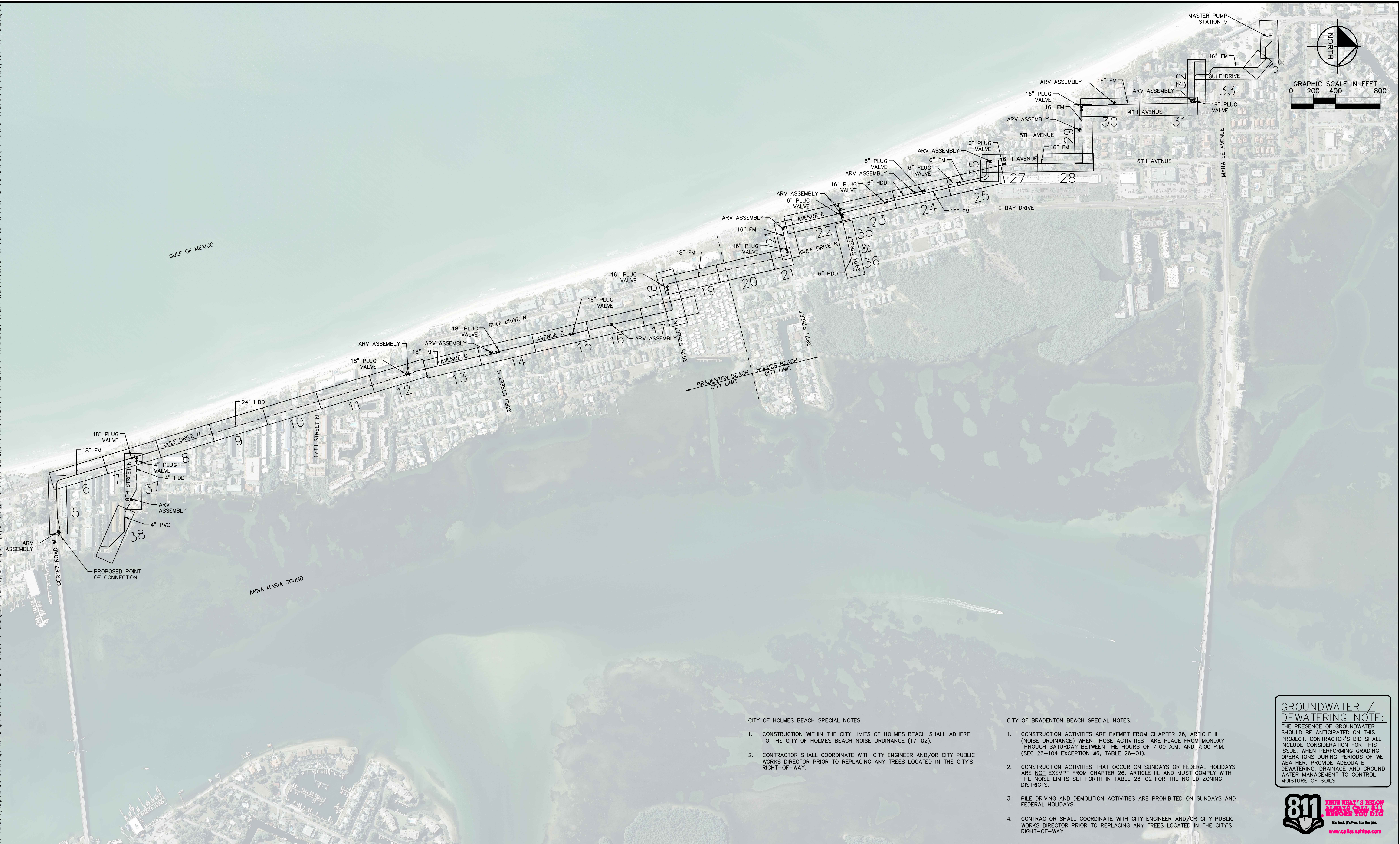
**SURVEY & BENCHMARK INFORMATION**

SHEET NUMBER
3





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**CITY OF HOLMES BEACH SPECIAL NOTES:**

- CONSTRUCTION WITHIN THE CITY LIMITS OF HOLMES BEACH SHALL ADHERE TO THE CITY OF HOLMES BEACH NOISE ORDINANCE (17-02).
- CONTRACTOR SHALL COORDINATE WITH CITY ENGINEER AND/OR CITY PUBLIC WORKS DIRECTOR PRIOR TO REPLACING ANY TREES LOCATED IN THE CITY'S RIGHT-OF-WAY.

**CITY OF BRADENTON BEACH SPECIAL NOTES:**

- CONSTRUCTION ACTIVITIES ARE EXEMPT FROM CHAPTER 26, ARTICLE III (NOISE ORDINANCE) WHEN THOSE ACTIVITIES TAKE PLACE FROM MONDAY THROUGH SATURDAY BETWEEN THE HOURS OF 7:00 A.M. AND 7:00 P.M. (SEC 26-104 EXCEPTION #6, TABLE 26-01).
- CONSTRUCTION ACTIVITIES THAT OCCUR ON SUNDAYS OR FEDERAL HOLIDAYS ARE NOT EXEMPT FROM CHAPTER 26, ARTICLE III, AND MUST COMPLY WITH THE NOISE LIMITS SET FORTH IN TABLE 26-02 FOR THE NOTED ZONING DISTRICTS.
- PILE DRIVING AND DEMOLITION ACTIVITIES ARE PROHIBITED ON SUNDAYS AND FEDERAL HOLIDAYS.
- CONTRACTOR SHALL COORDINATE WITH CITY ENGINEER AND/OR CITY PUBLIC WORKS DIRECTOR PRIOR TO REPLACING ANY TREES LOCATED IN THE CITY'S RIGHT-OF-WAY.

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KHA PROJECT	148400012
DATE	2/14/2017
SCALE	AS SHOWN
DESIGNED BY	WWW
DRAWN BY	JRT
CHECKED BY	WEW

**Manatee County**  
 FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

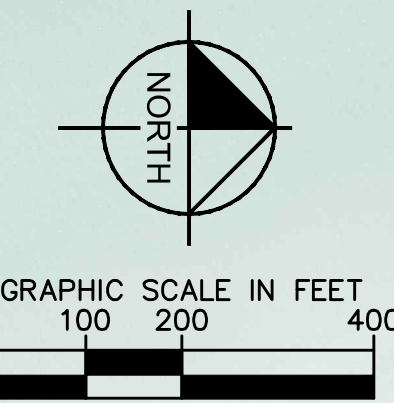
LICENSED PROFESSIONAL	W. WADE WOOD, P.E.
FL LICENSE NUMBER	69051

**KEY SHEET**

SHEET NUMBER	4
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LEGEND	
GROUT	—————
REMOVE OR ABANDON	- - - - -
EX. FORCE MAIN TO REMAIN ACTIVE	- - - - -



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**Manatee County**  
**FLORIDA**  
**FORCE MAIN 5 REHABILITATION**  
 MANATEE COUNTY

LICENSED PROFESSIONAL  
 W. WADE WOOD, P.E.  
 FL LICENSE NUMBER  
 69051

**GROUT PLAN**

SHEET NUMBER  
**4A**

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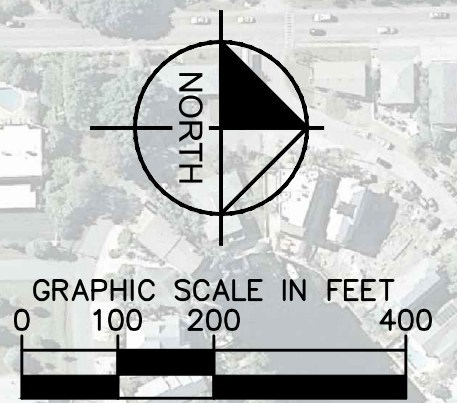
MATCH LINE SHEET 4B



**LEGEND**

GROUT	———
REMOVE OR ABANDON	- - - - -
EX. FORCE MAIN TO REMAIN ACTIVE	- · - · -

LENGTH OF PIPE TO BE GROUTED		
PIPE DIAMETER	LENGTH	VOLUME
6"	2,082	15 CY
16"	740	39 CY
18"	13,292	870 CY



MATCH LINE SHEET 4A

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**Manatee County**  
 FLORIDA

**FORCE MAIN 5  
 REHABILITATION**

MANATEE COUNTY

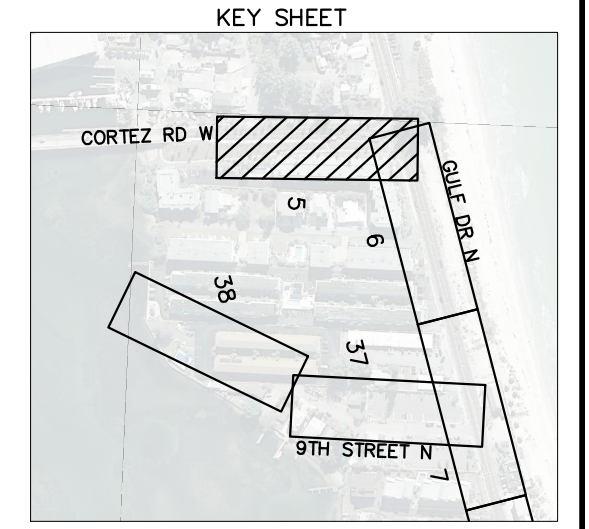
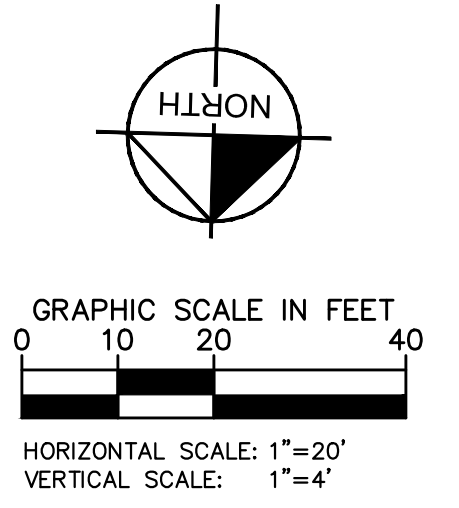
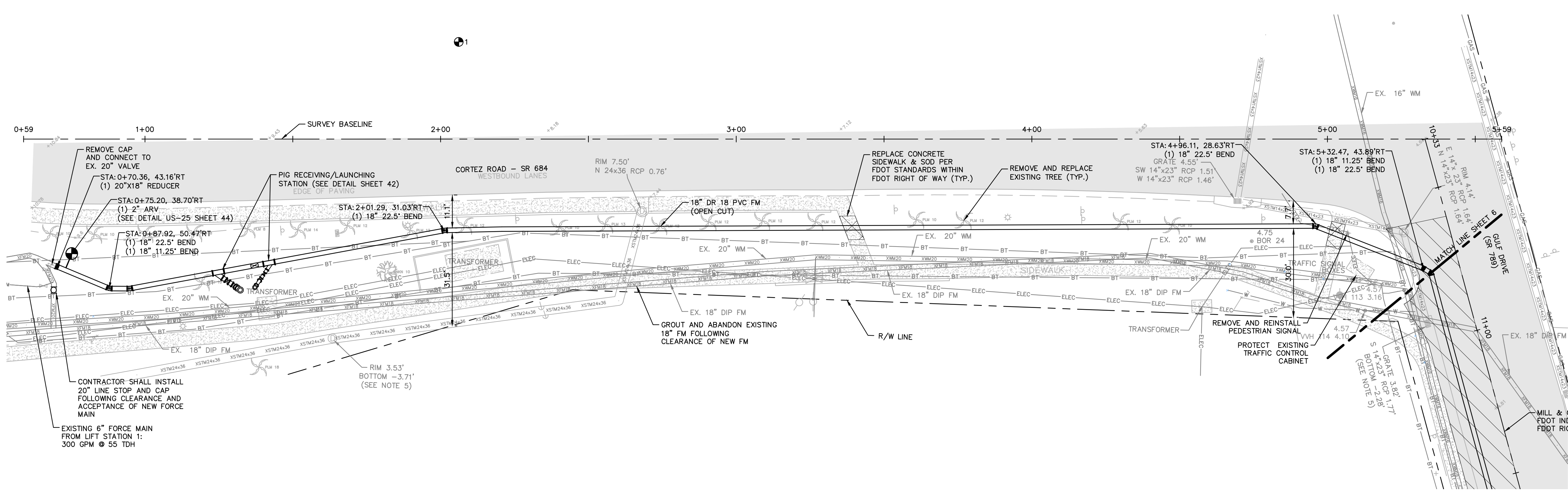
LICENSED PROFESSIONAL
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FL LICENSE NUMBER 69051

**GROUT PLAN**

SHEET NUMBER
<b>4B</b>



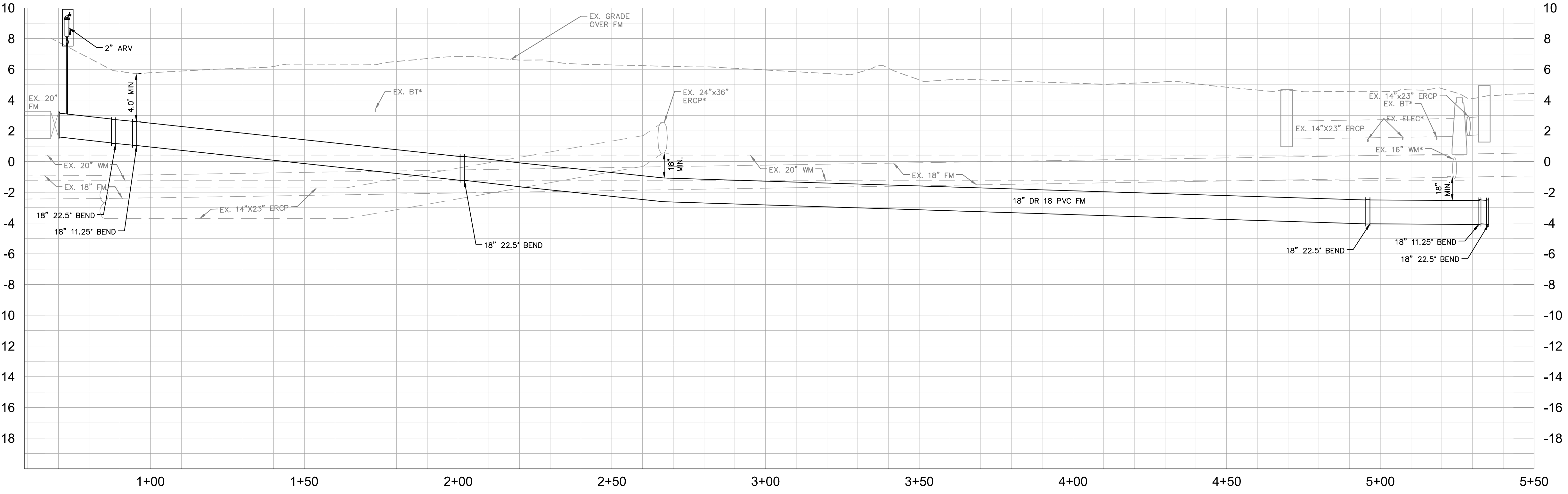
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**Kimley & Horn**

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KHA PROJECT 148400012
DATE 2/16/2017
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY JRT
CHECKED BY WEW

**Manatee County**  
FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

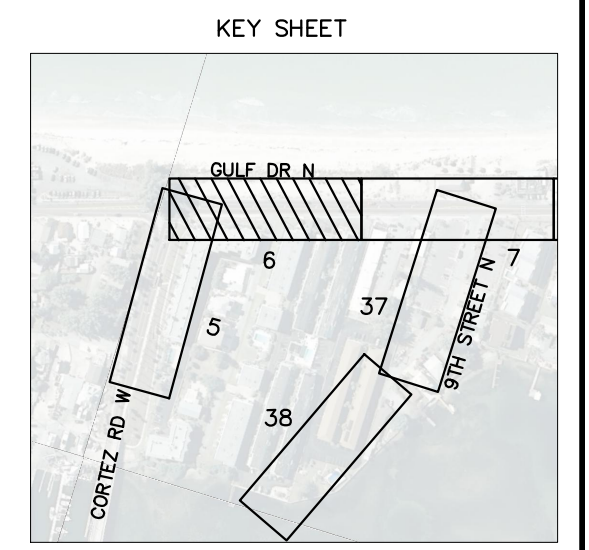
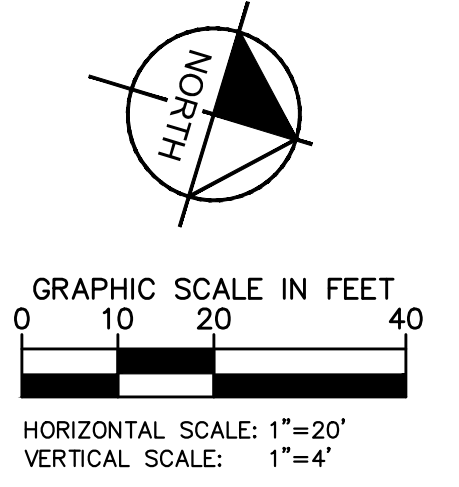
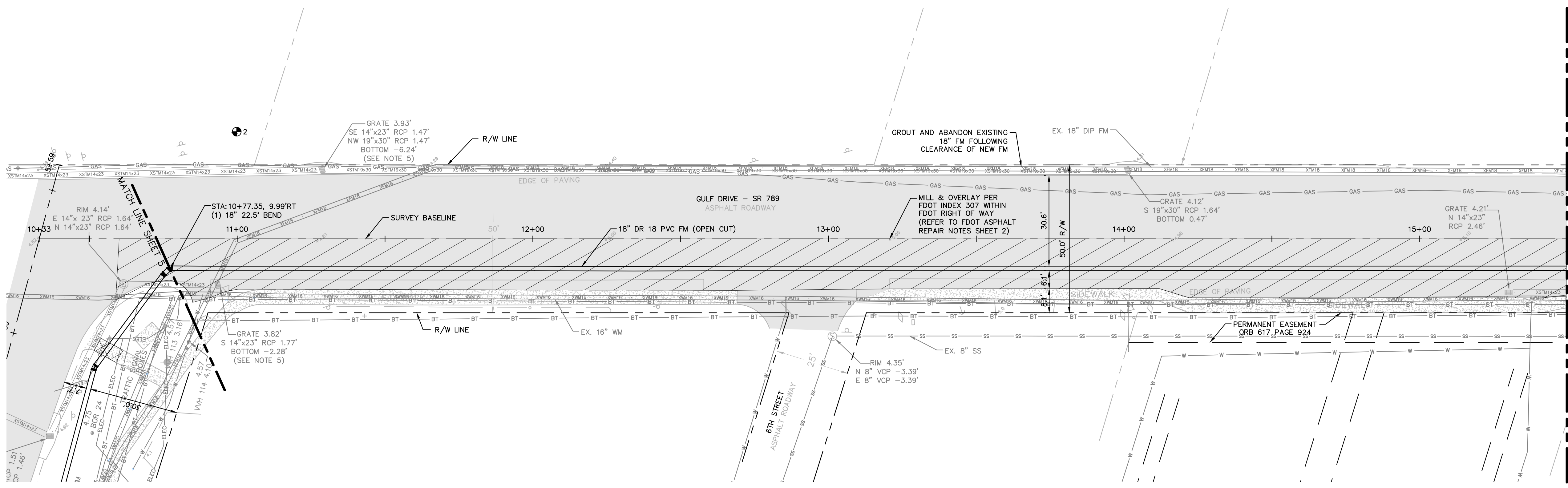
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FL LICENSE NUMBER 69051

**PLAN AND PROFILE  
CORTEZ ROAD**

SHEET NUMBER
<b>5</b>



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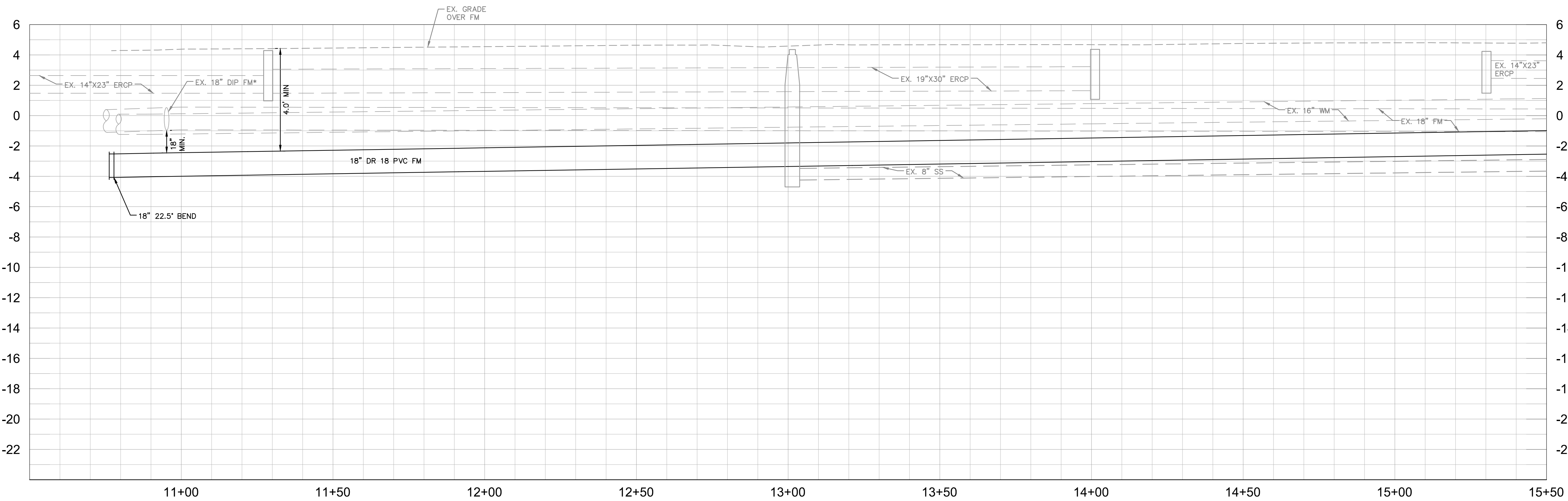


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KHA PROJECT 148400012
DATE 2/14/2017
SCALE AS SHOWN
DESIGNED BY WWW
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**Manatee County Florida**  
**FORCE MAIN 5 REHABILITATION**  
 MANATEE COUNTY

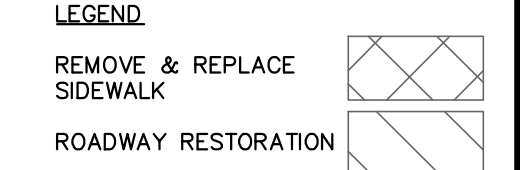
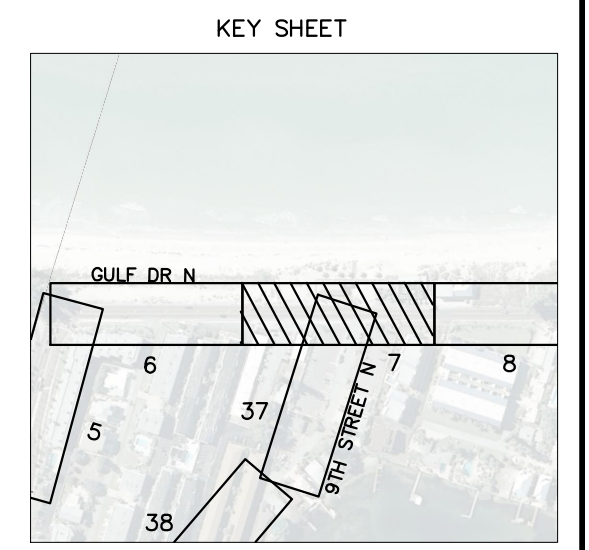
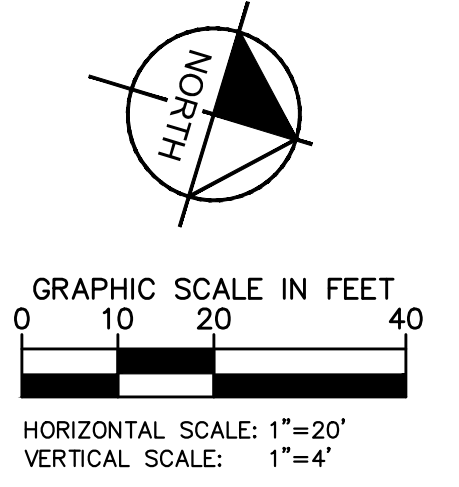
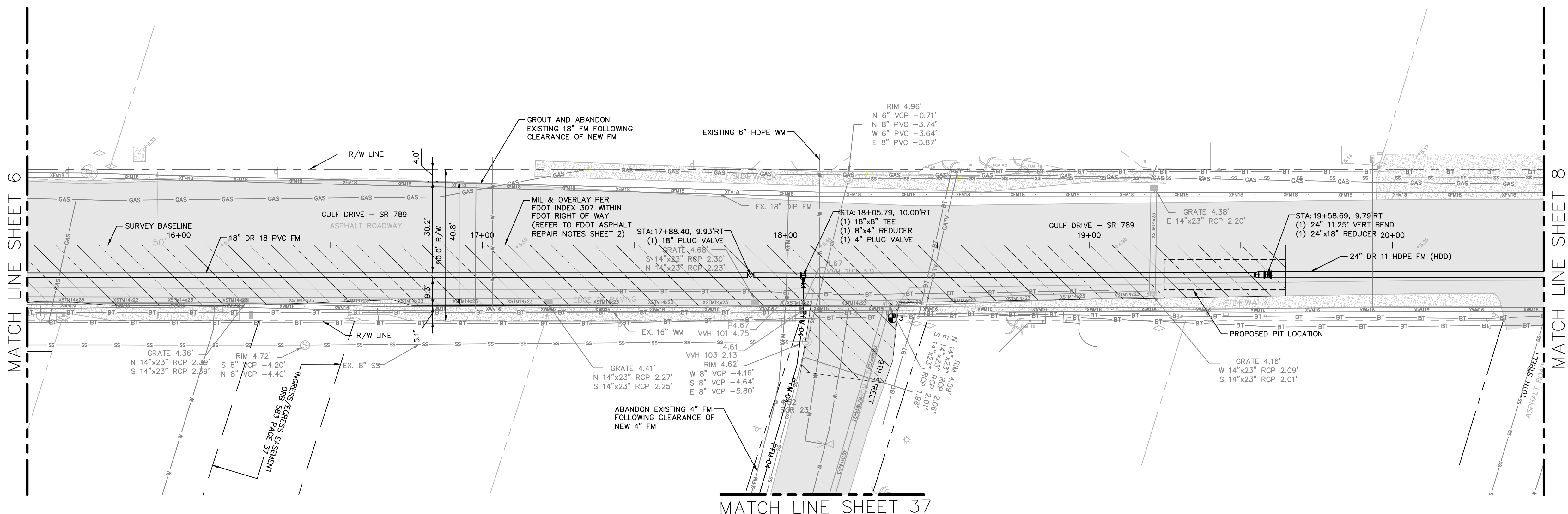
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**PLAN AND PROFILE GULF DRIVE**

SHEET NUMBER
6



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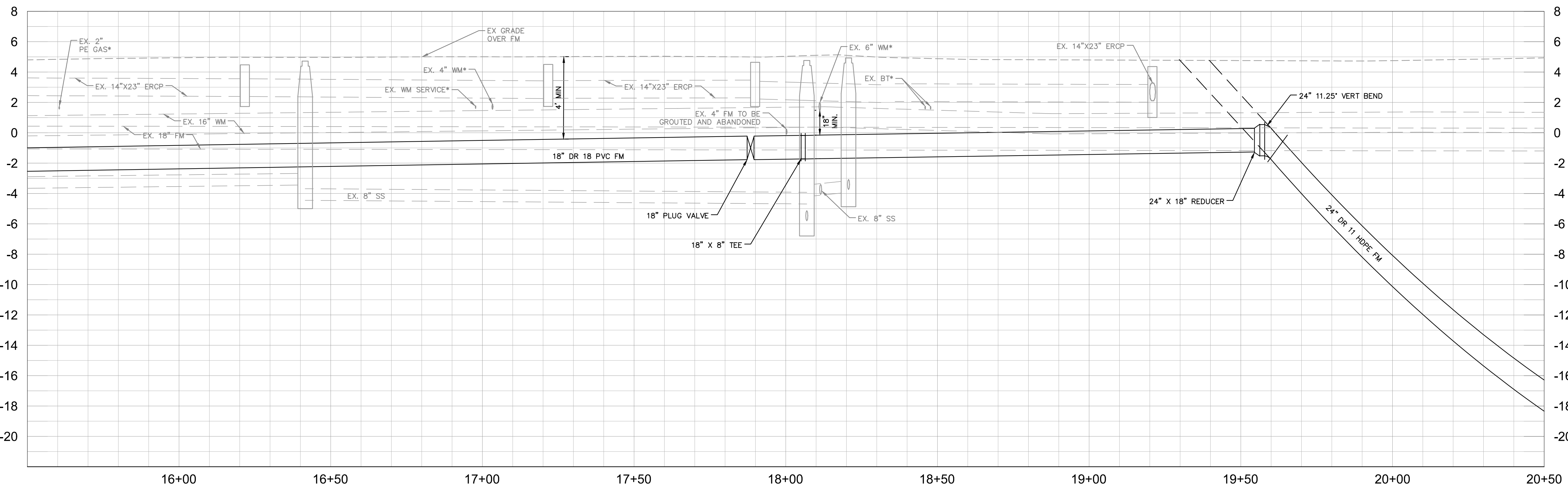


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No.	REVISIONS	DATE	BY

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KHA PROJECT 148400012
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**Manatee County**  
FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

LICENSED PROFESSIONAL
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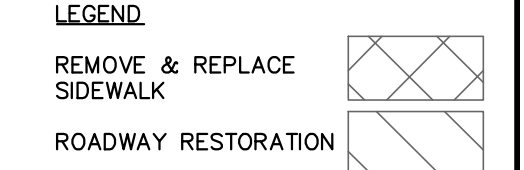
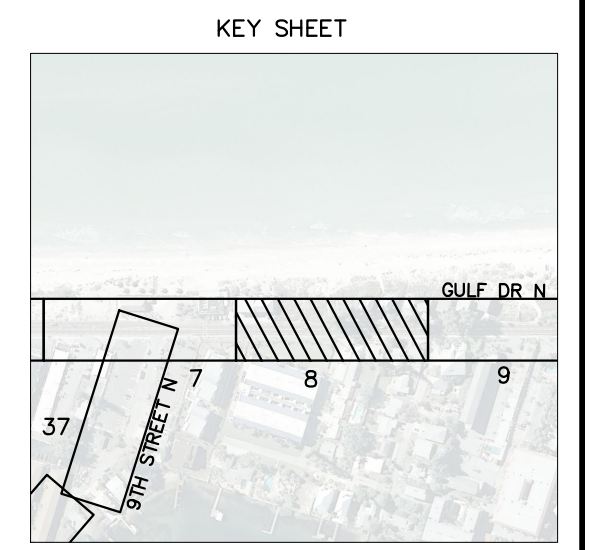
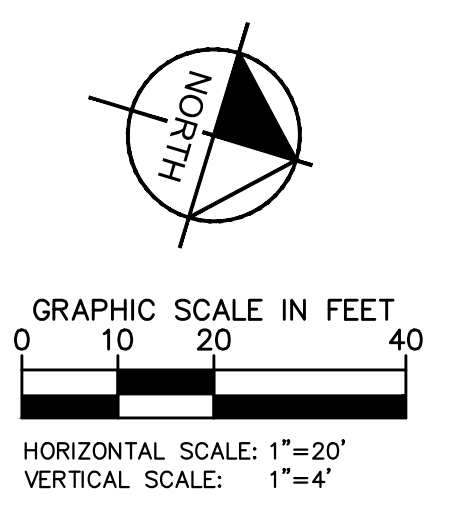
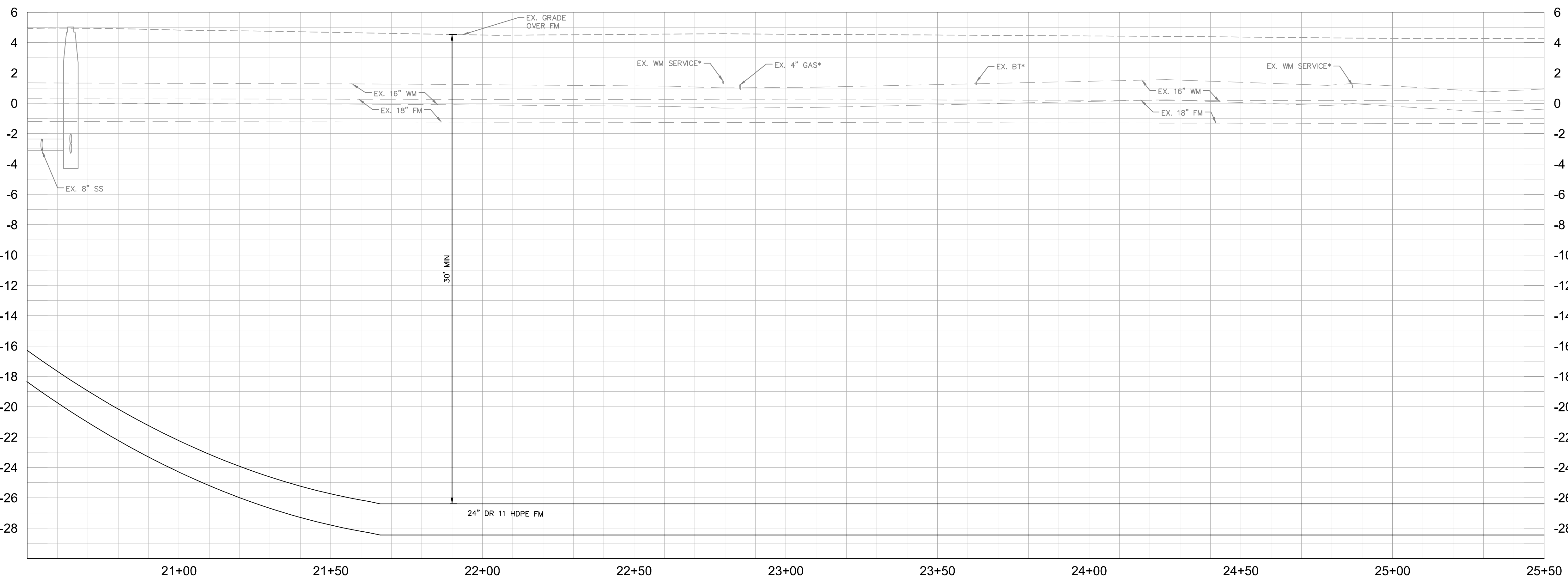
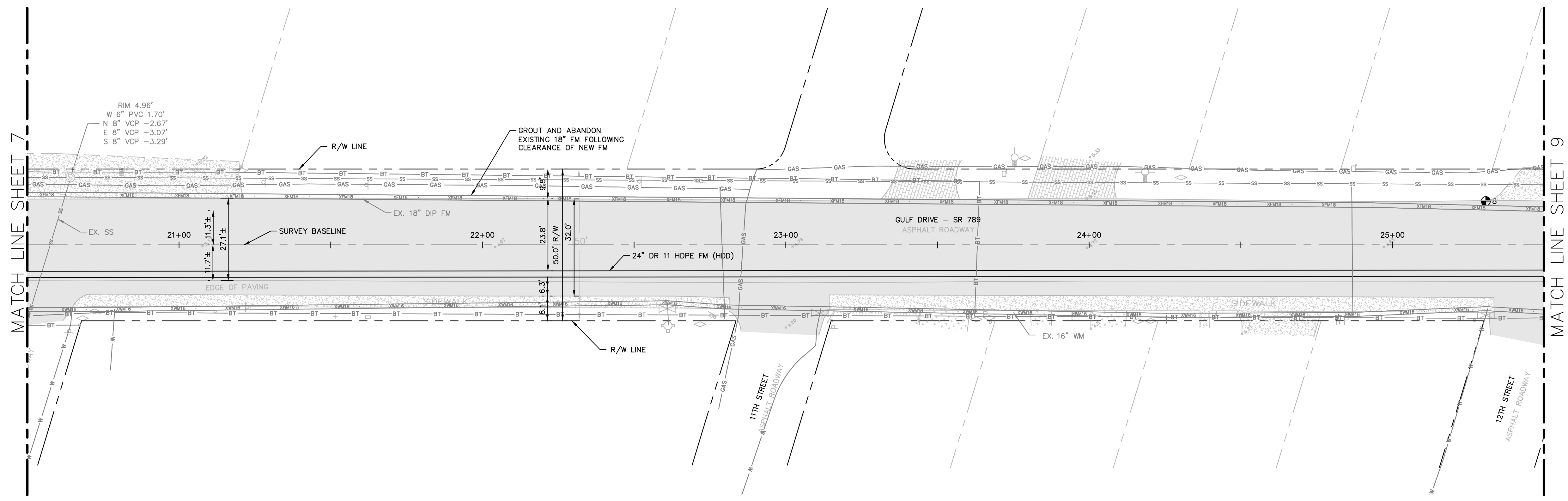
**PLAN AND PROFILE GULF DRIVE**

DATE:

SHEET NUMBER
7



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 CHECKED BY WEW

**Manatee County**  
**FLORIDA**

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

LICENSED PROFESSIONAL  
 W. WADE WOOD, P.E.  
 FL LICENSE NUMBER  
 69051

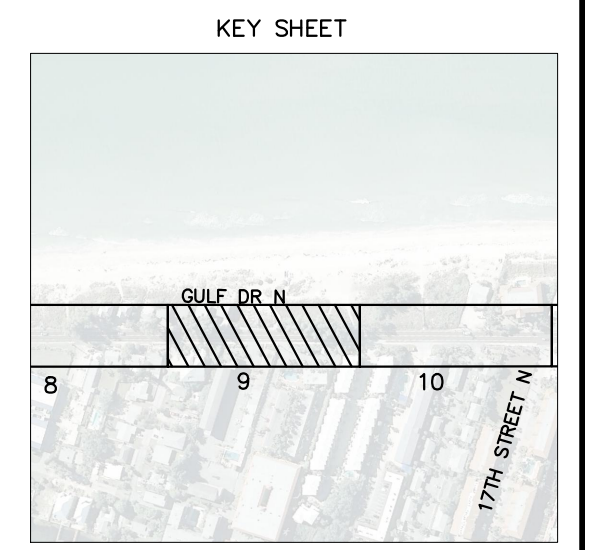
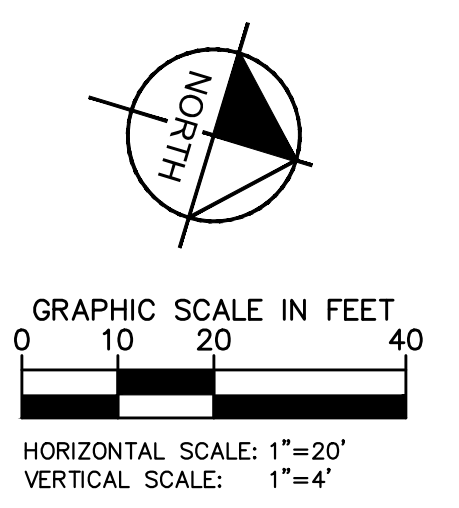
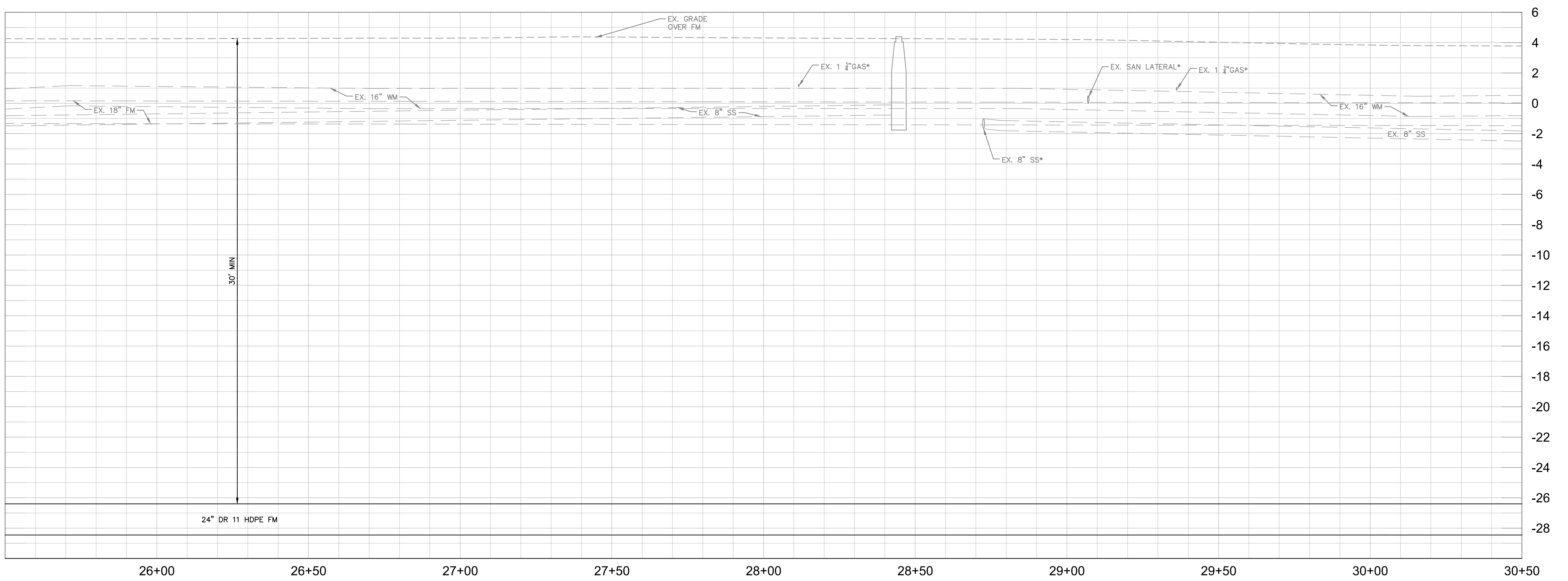
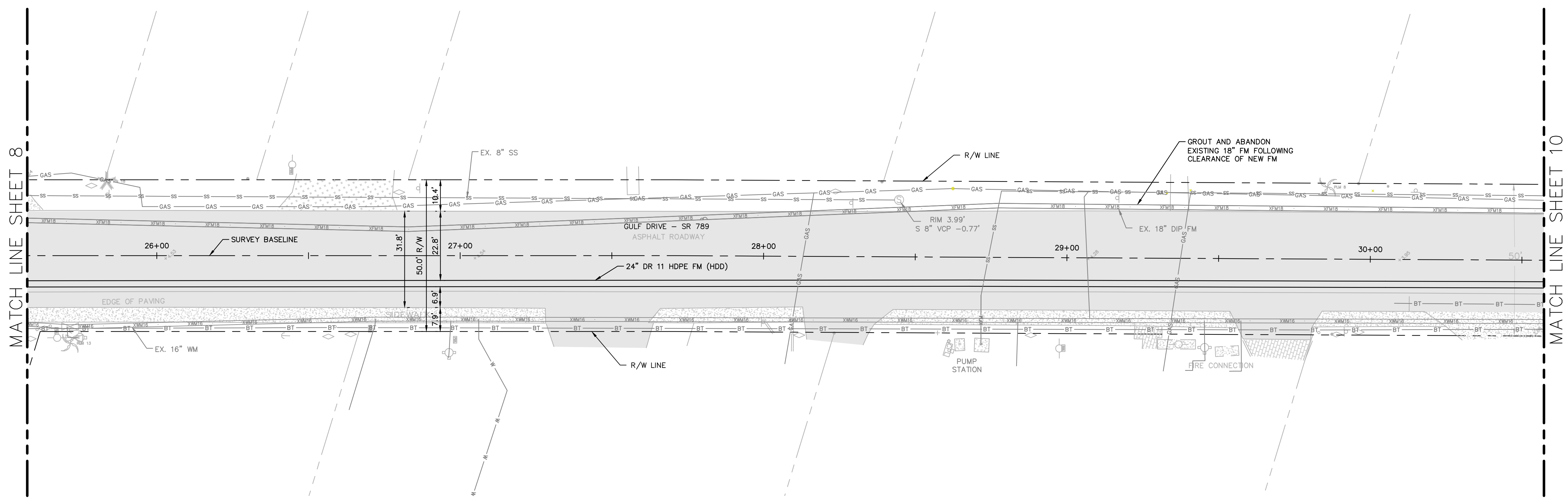
**PLAN AND PROFILE GULF DRIVE**

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**LEGEND**

REMOVE & REPLACE SIDEWALK	
ROADWAY RESTORATION	

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No.	REVISIONS	DATE	BY

**Kimley»Horn**

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 655 NORTH FRANKLIN STREET, SUITE 150, TAMPA, FL 33602  
 PHONE: 813-620-1460  
 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 148400012
DATE 2/14/2017
SCALE AS SHOWN
DESIGNED BY WWW
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**Manatee County**  
 FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

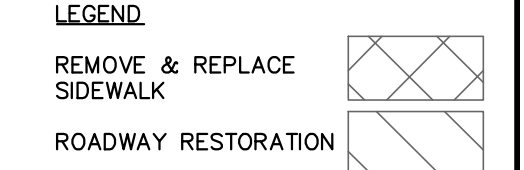
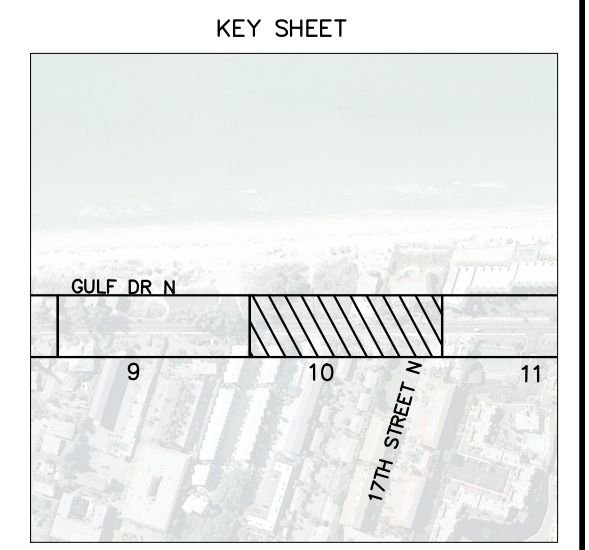
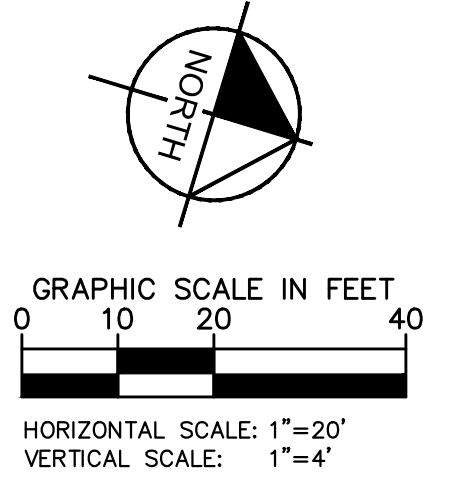
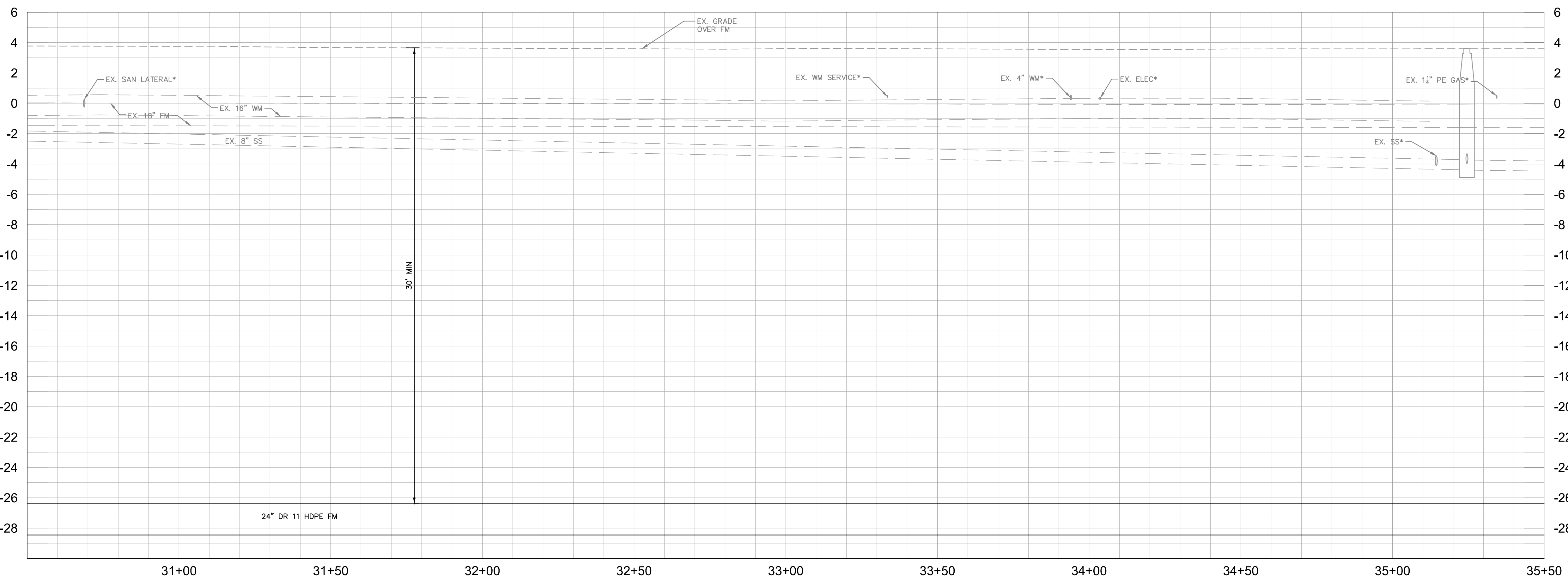
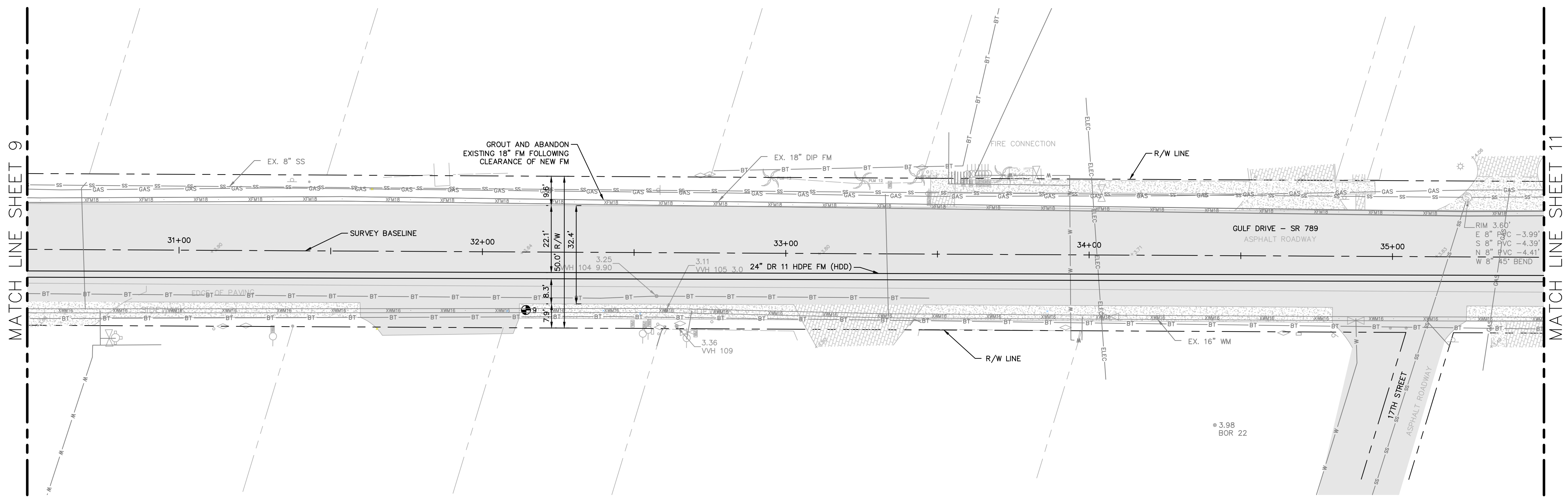
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**Manatee County**  
FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

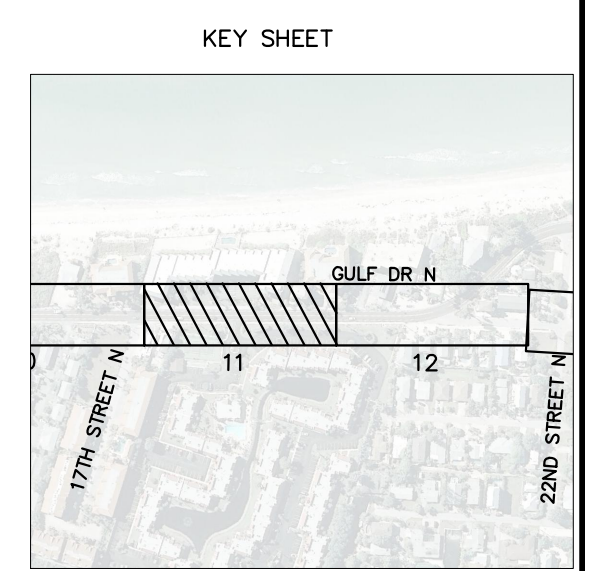
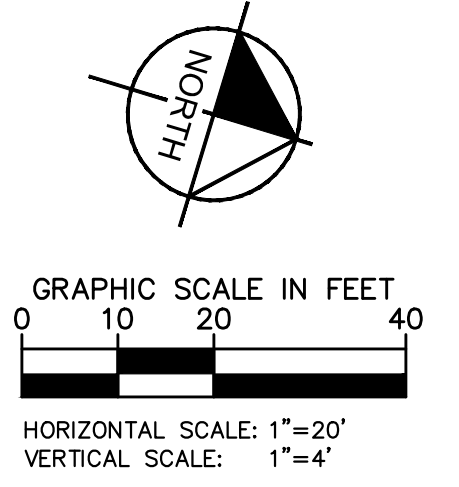
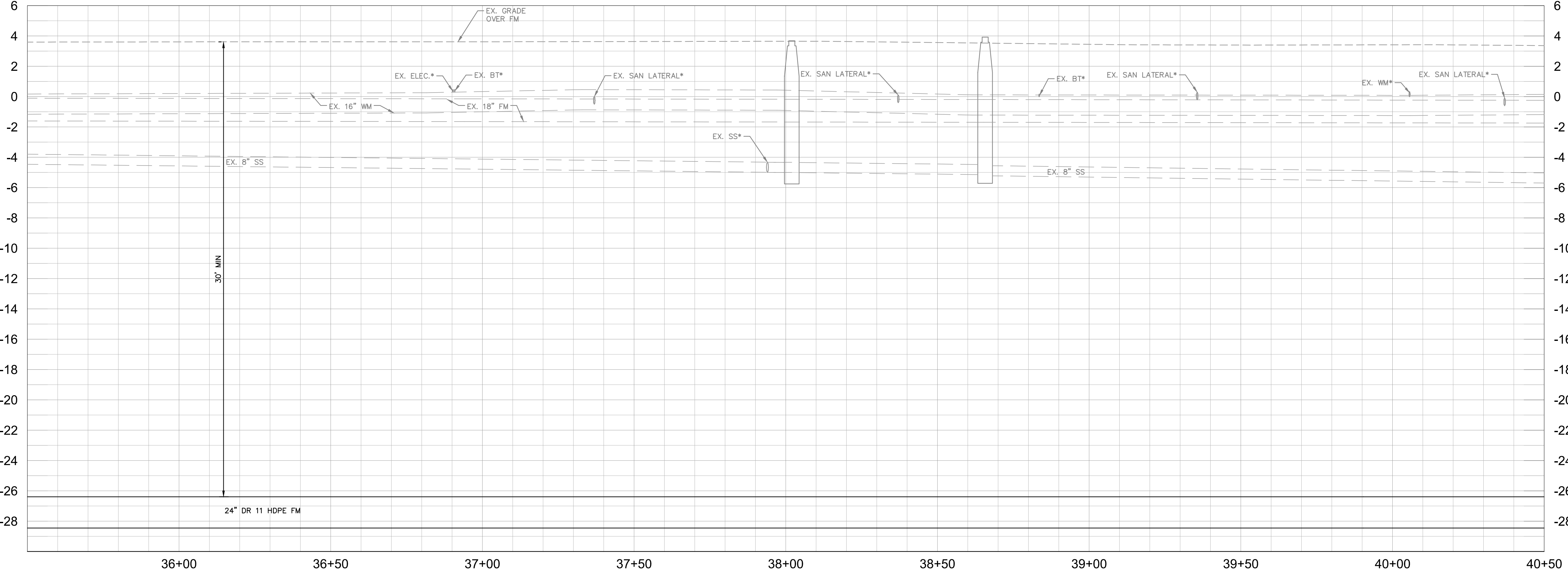
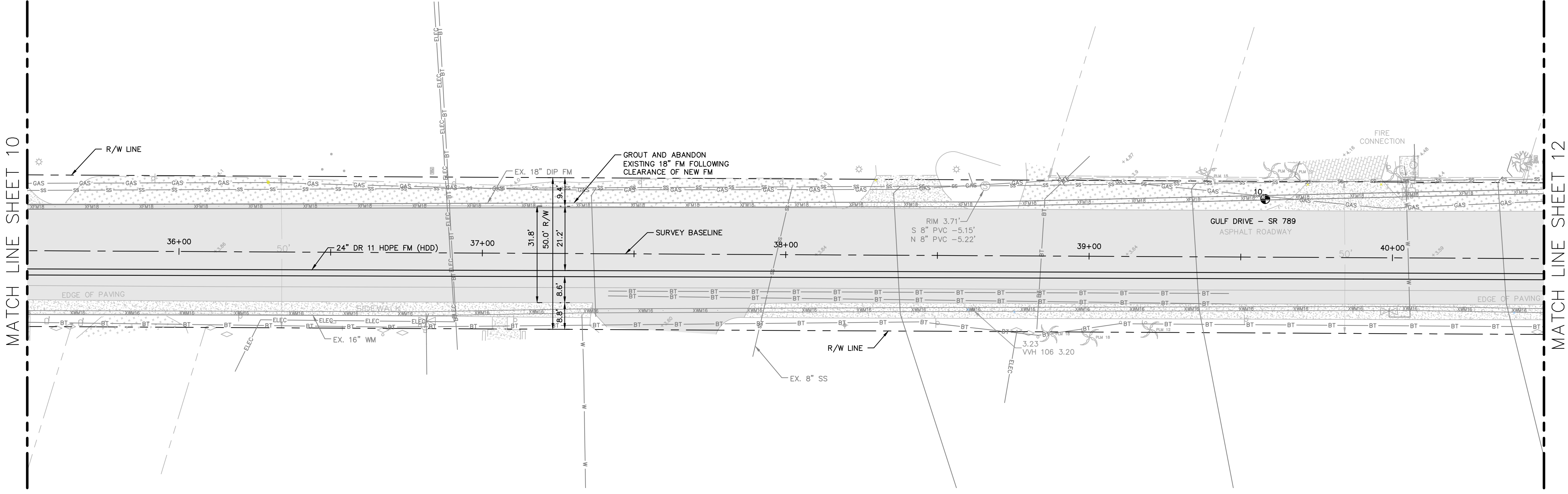
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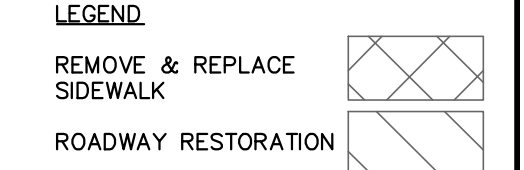
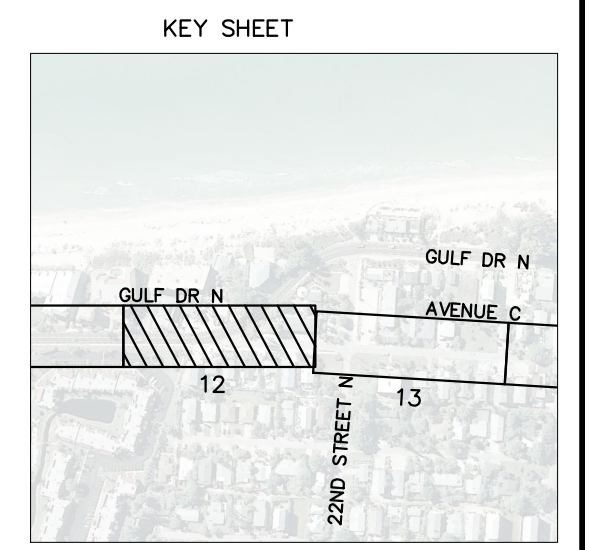
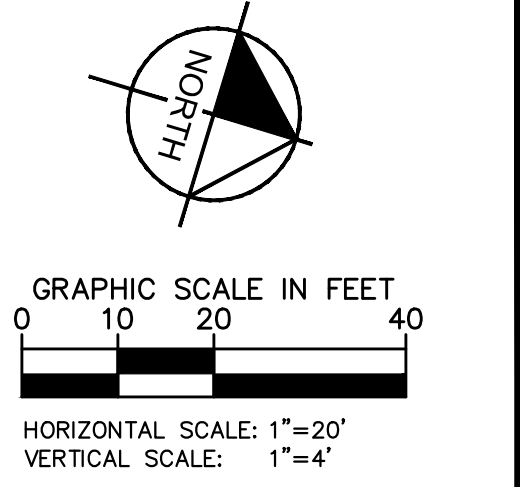
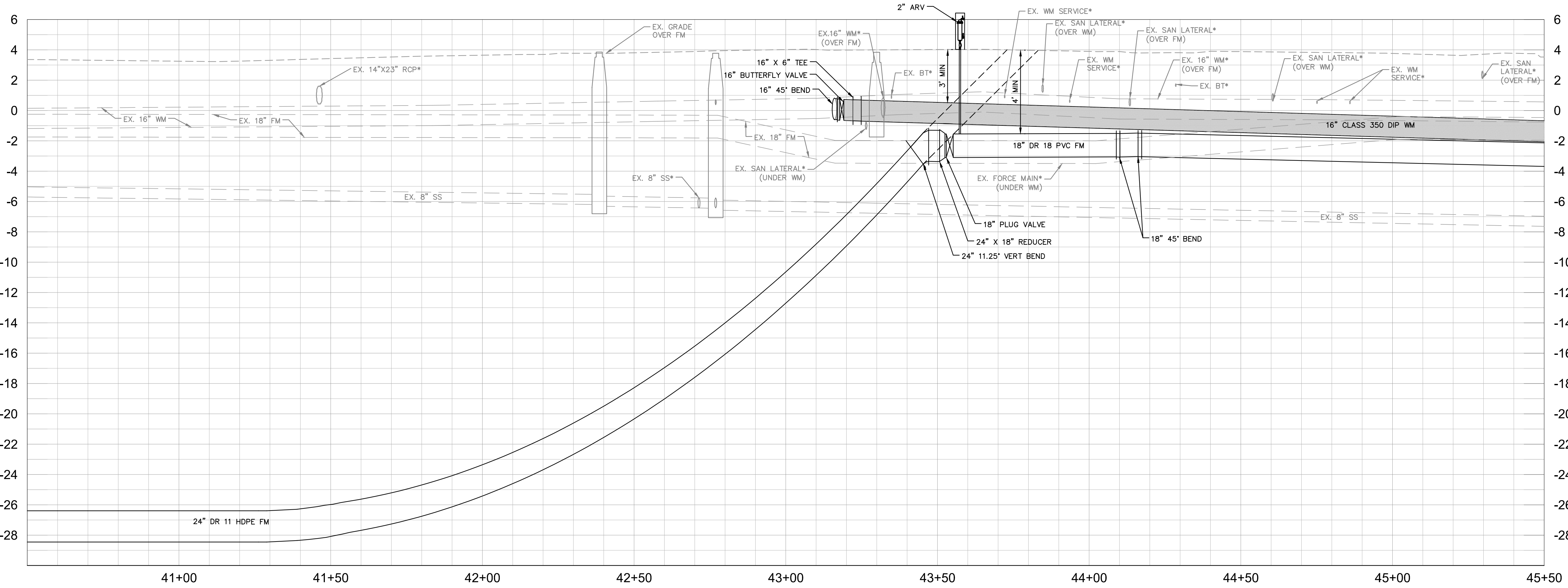
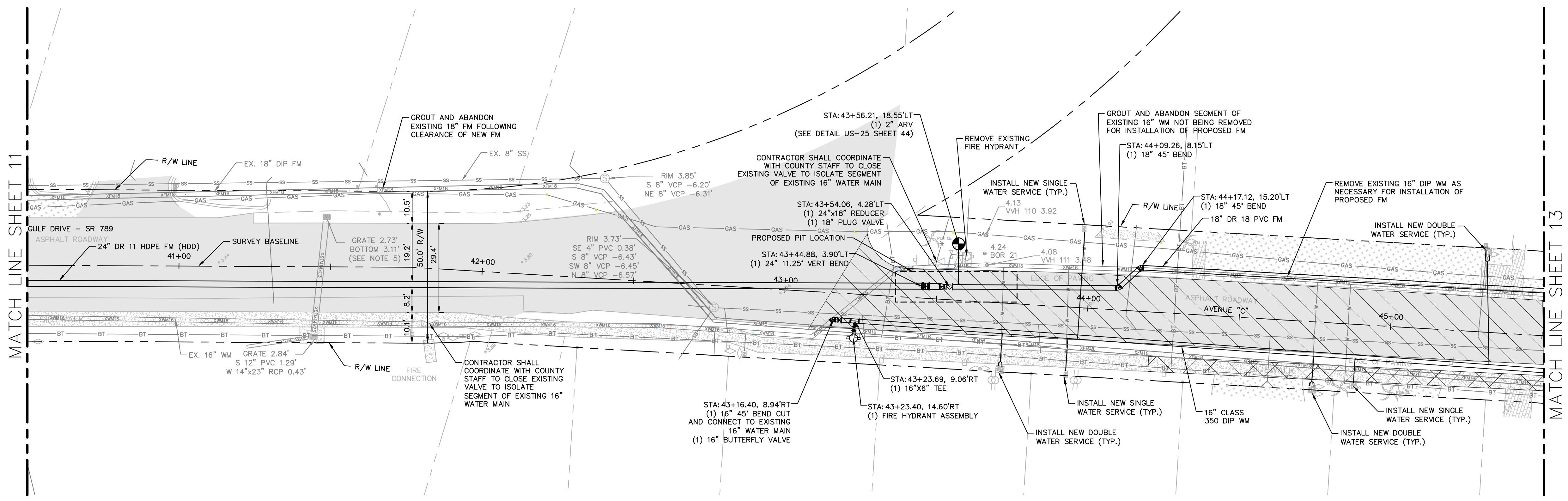
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**Manatee County**  
FLORIDA

**FORCE MAIN 5 REHABILITATION**

MANATEE COUNTY

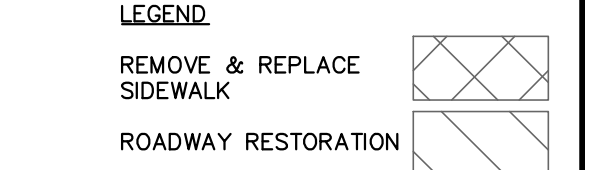
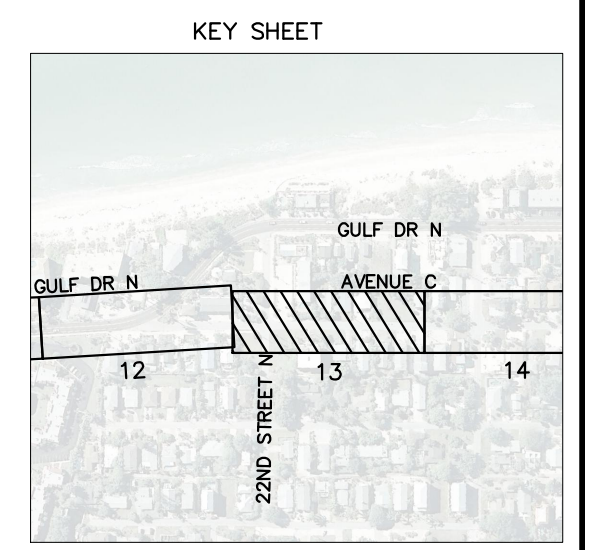
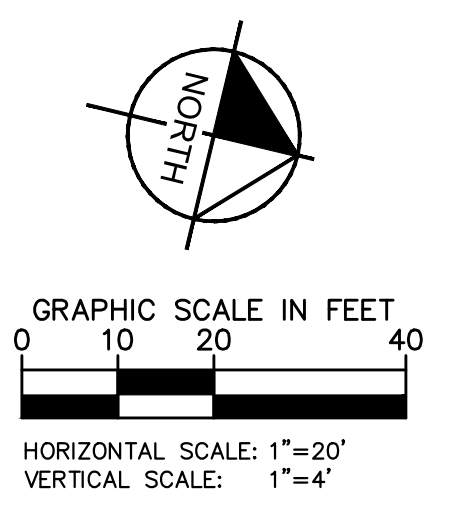
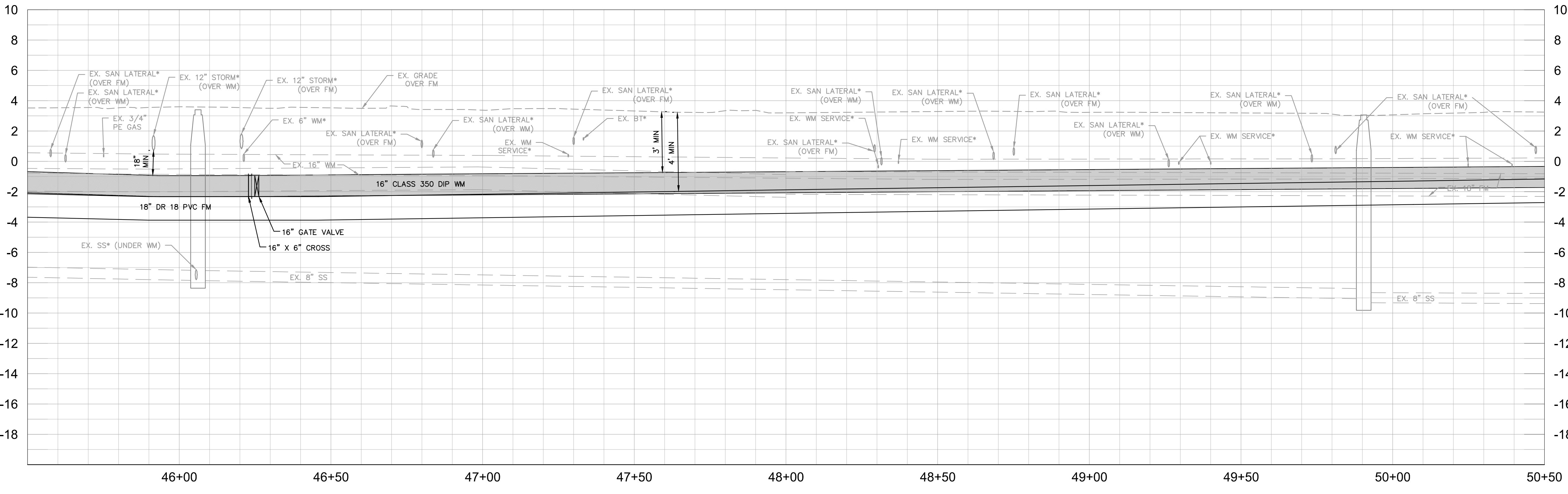
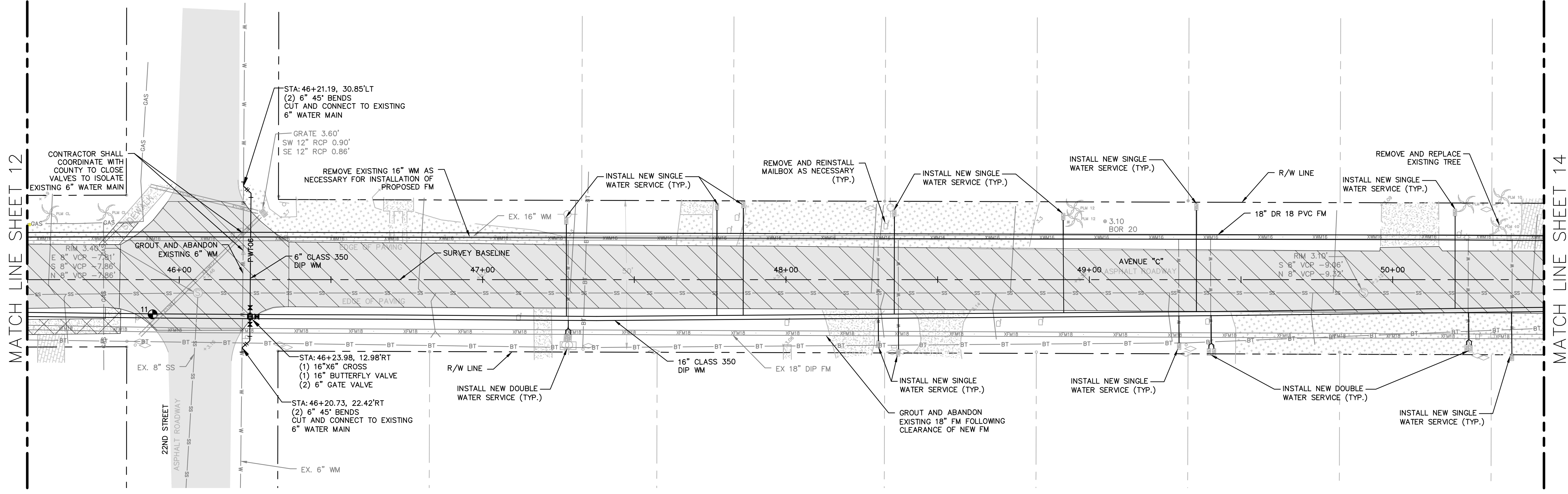
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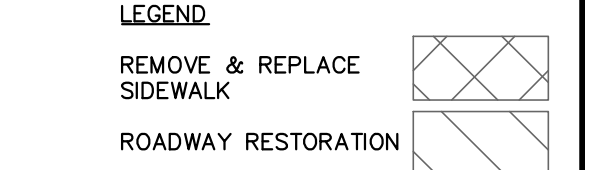
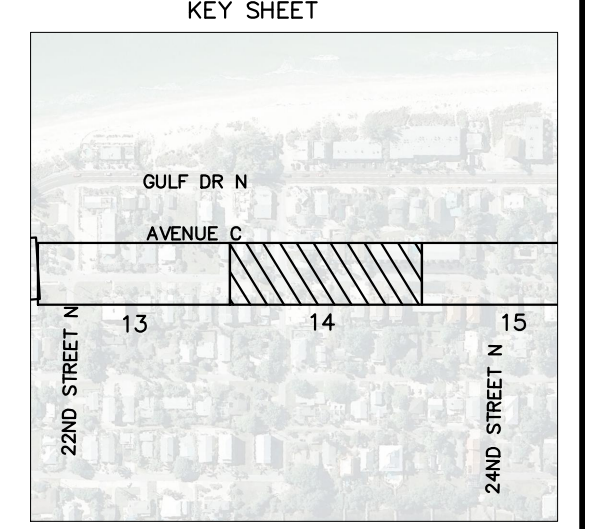
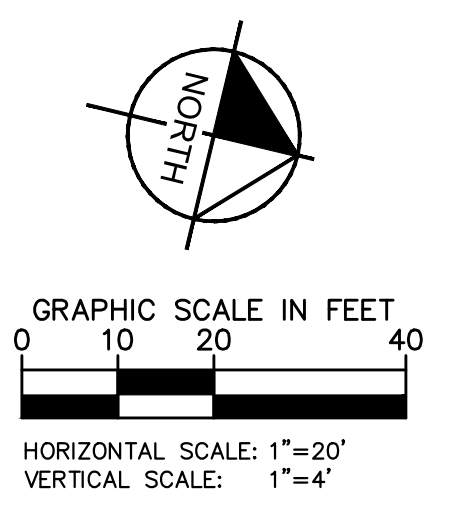
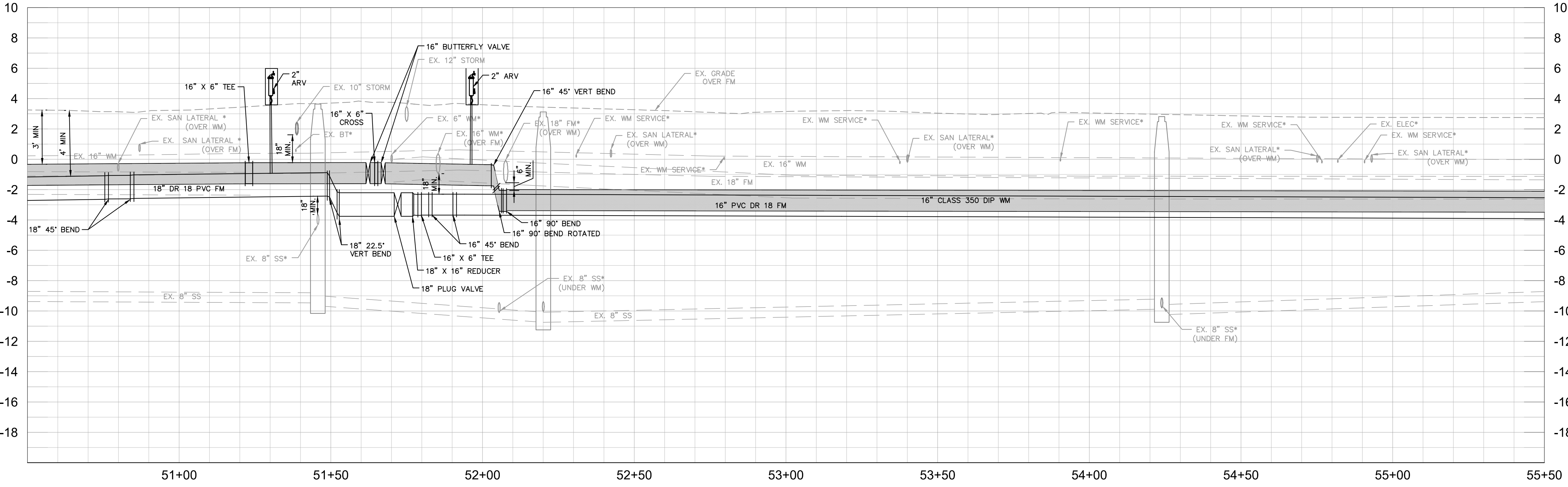
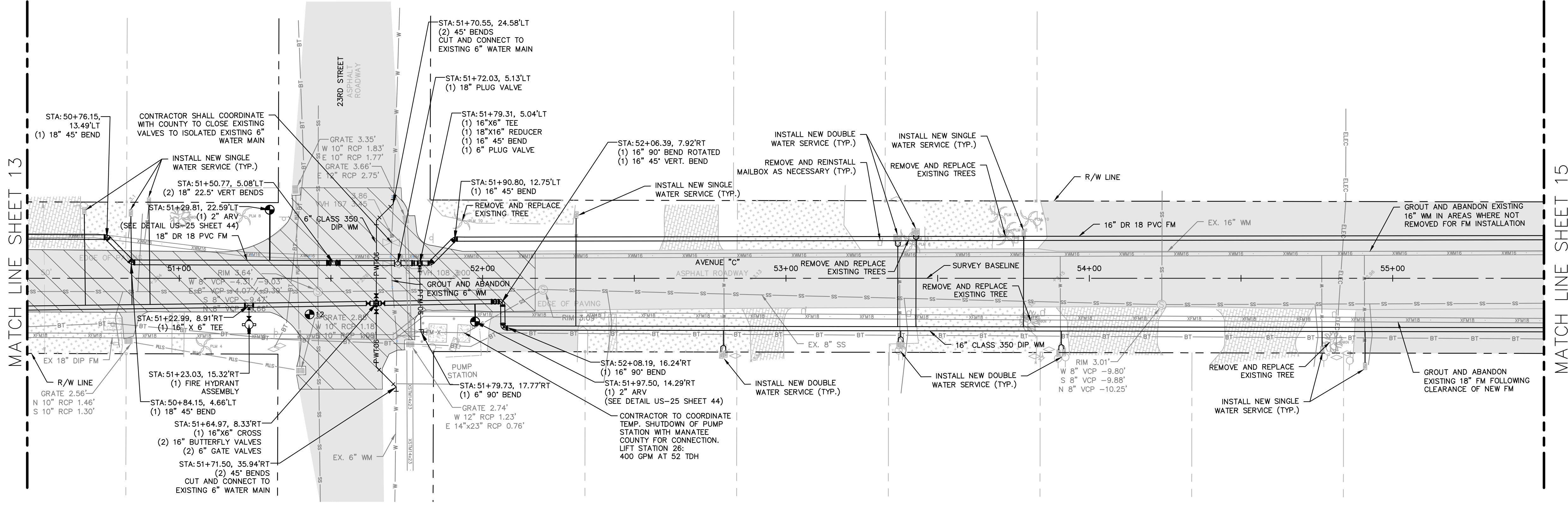
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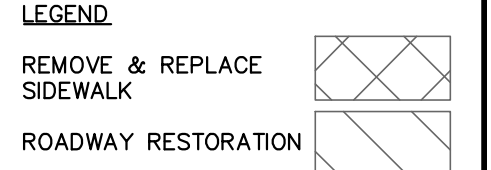
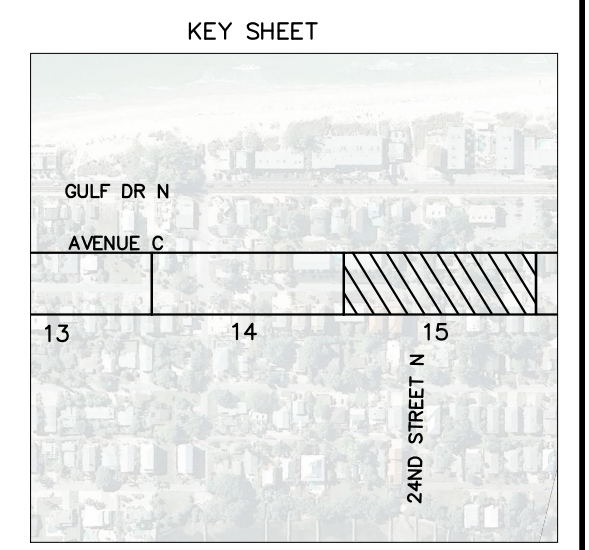
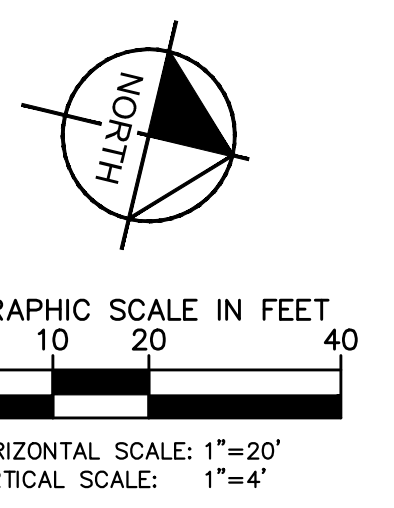
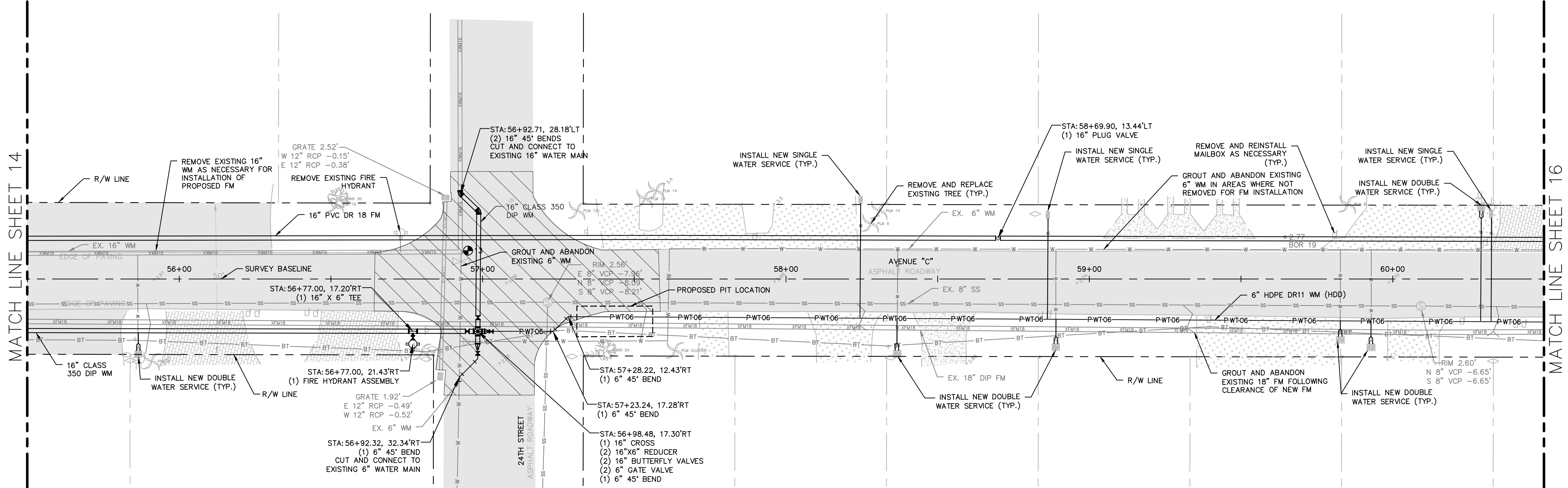
**PLAN AND PROFILE  
AVENUE C**

FL DATE:

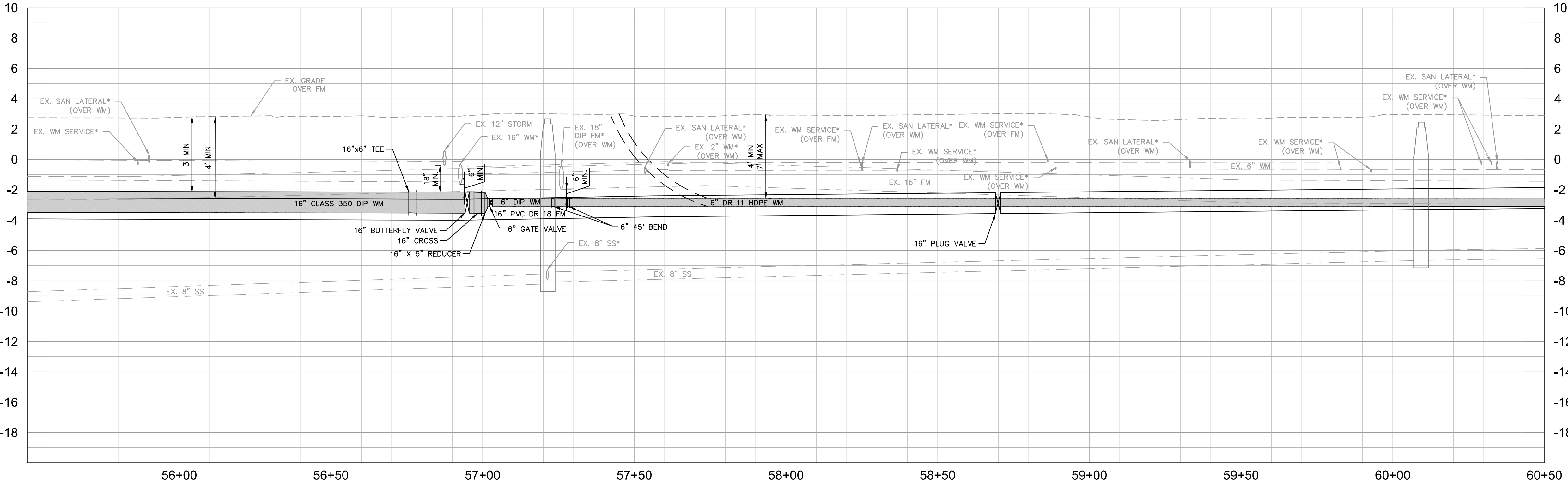
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**14**



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No.	REVISIONS	DATE	BY

**Kimley»Horn**

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 655 NORTH FRANKLIN STREET, SUITE 150, TAMPA, FL 33602  
 PHONE: 813-620-1460  
 WWW.KIMLEY-HORN.COM CA 0000696

KHA PROJECT 148400012
DATE 2/14/2017
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY JRT
CHECKED BY WEW

**Manatee County**  
 FLORIDA

**FORCE MAIN 5  
 REHABILITATION**

MANATEE COUNTY

LICENSED PROFESSIONAL
W. WADE WOOD, P.E.
FL LICENSE NUMBER 69051

**PLAN AND PROFILE  
 AVENUE C**

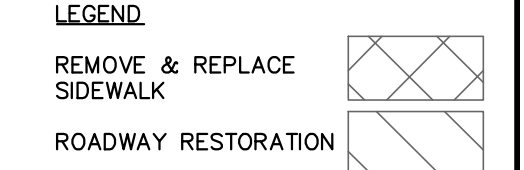
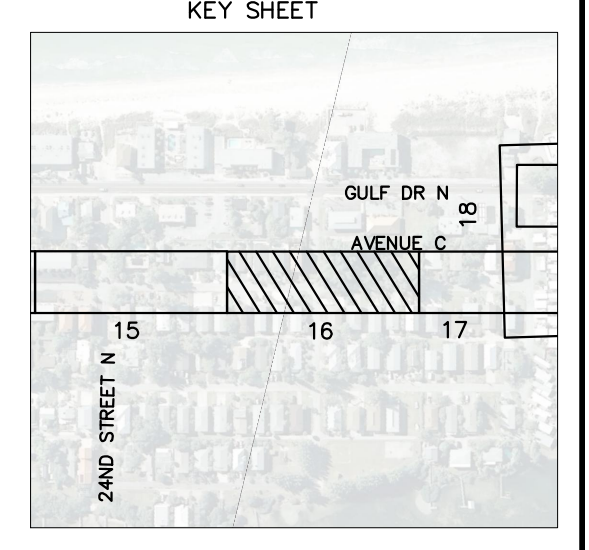
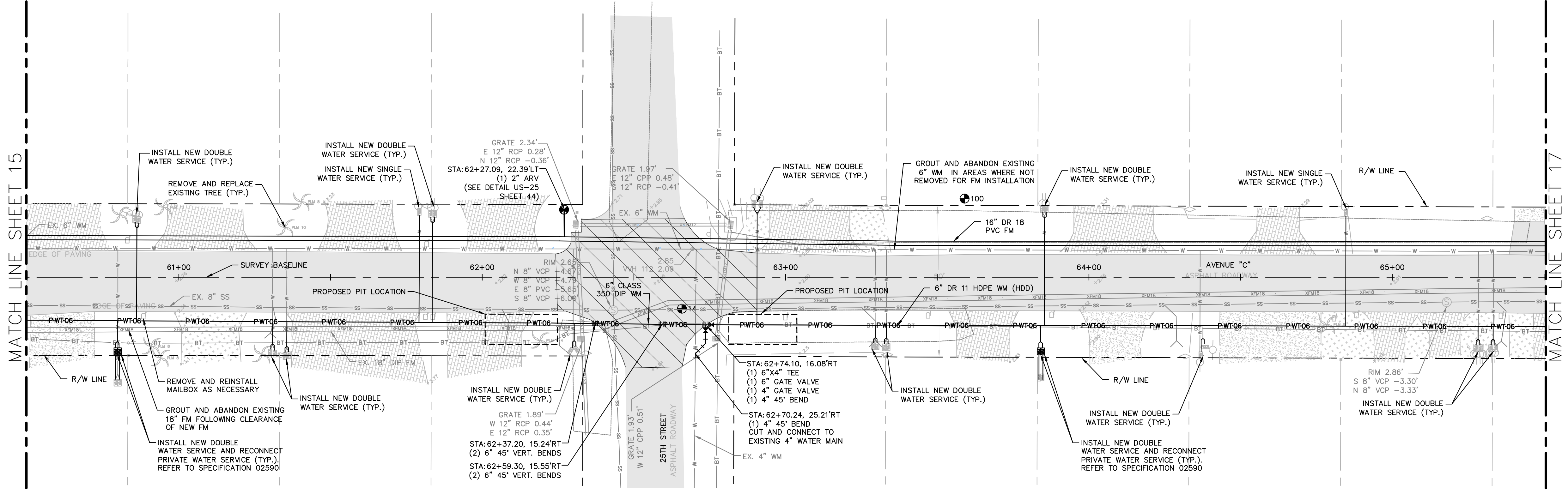
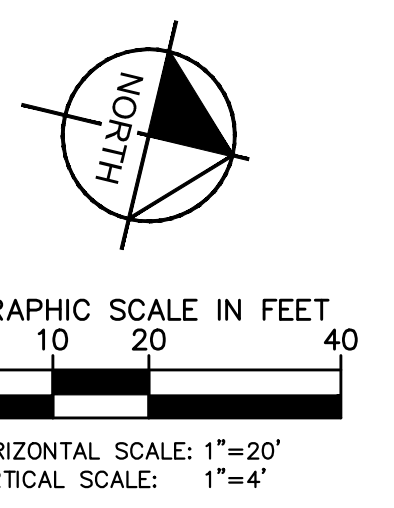
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MATCH LINE SHEET 15

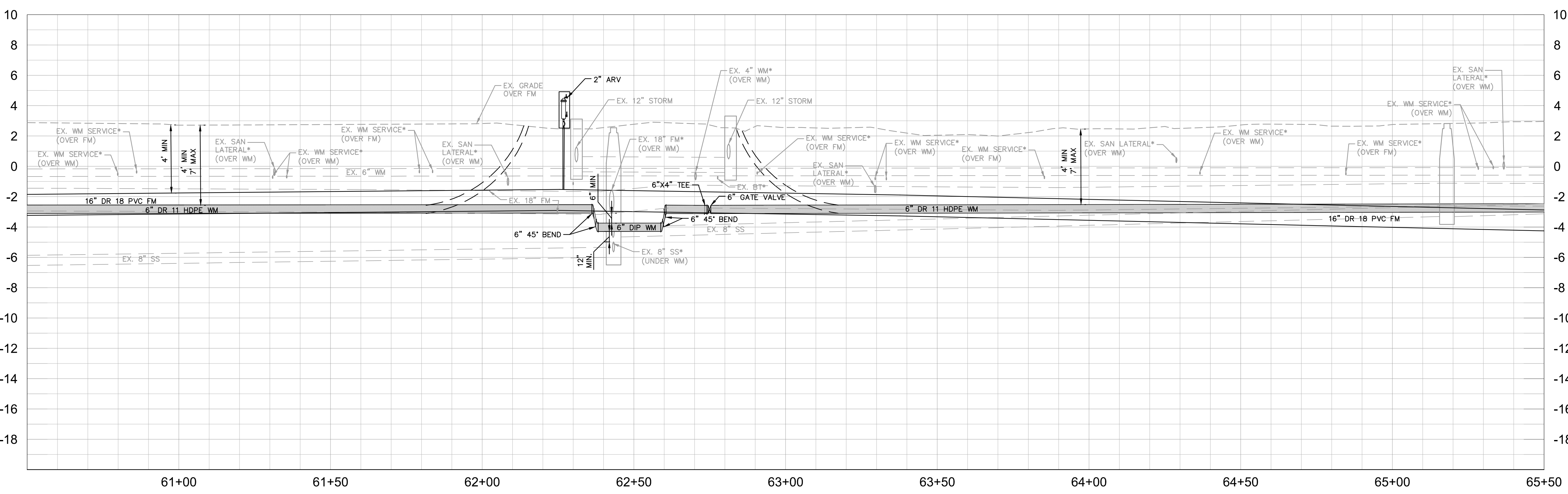


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KHA PROJECT 148400012
DATE 2/16/2017
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY JRT
CHECKED BY WEW

**Manatee County FLORIDA**

**FORCE MAIN 5 REHABILITATION**

LICENSED PROFESSIONAL  
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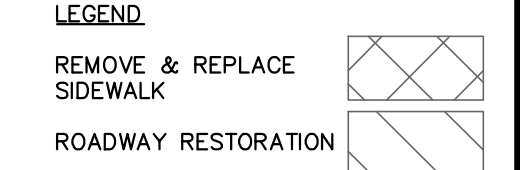
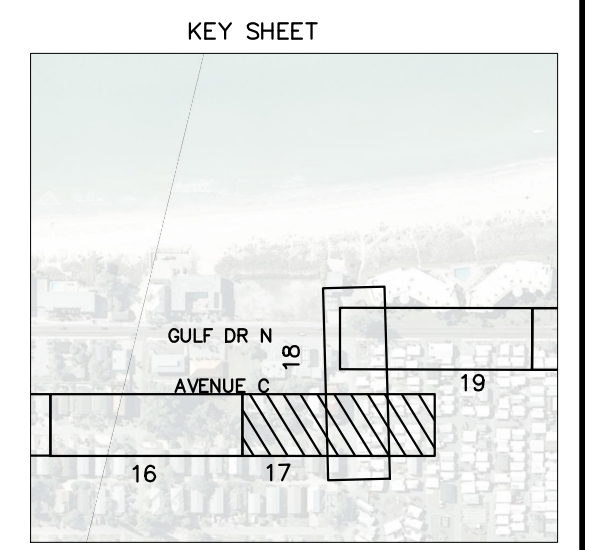
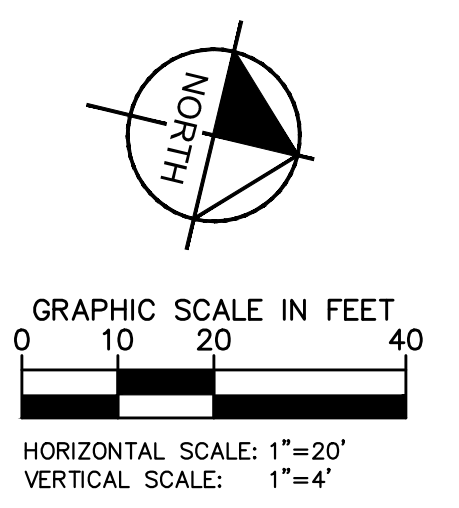
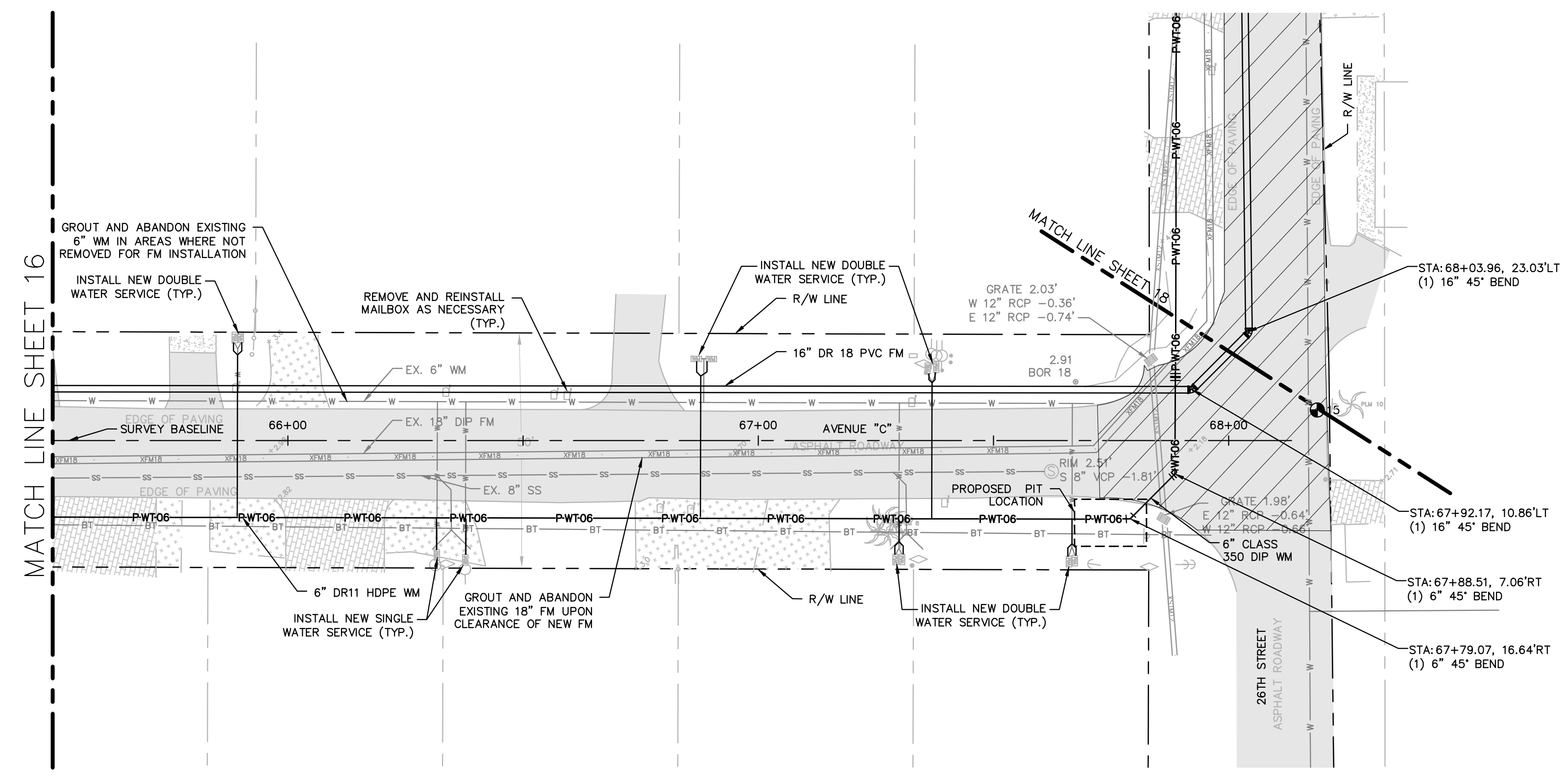
MANATEE COUNTY FL DATE:

**PLAN AND PROFILE AVENUE C**

SHEET NUMBER	16
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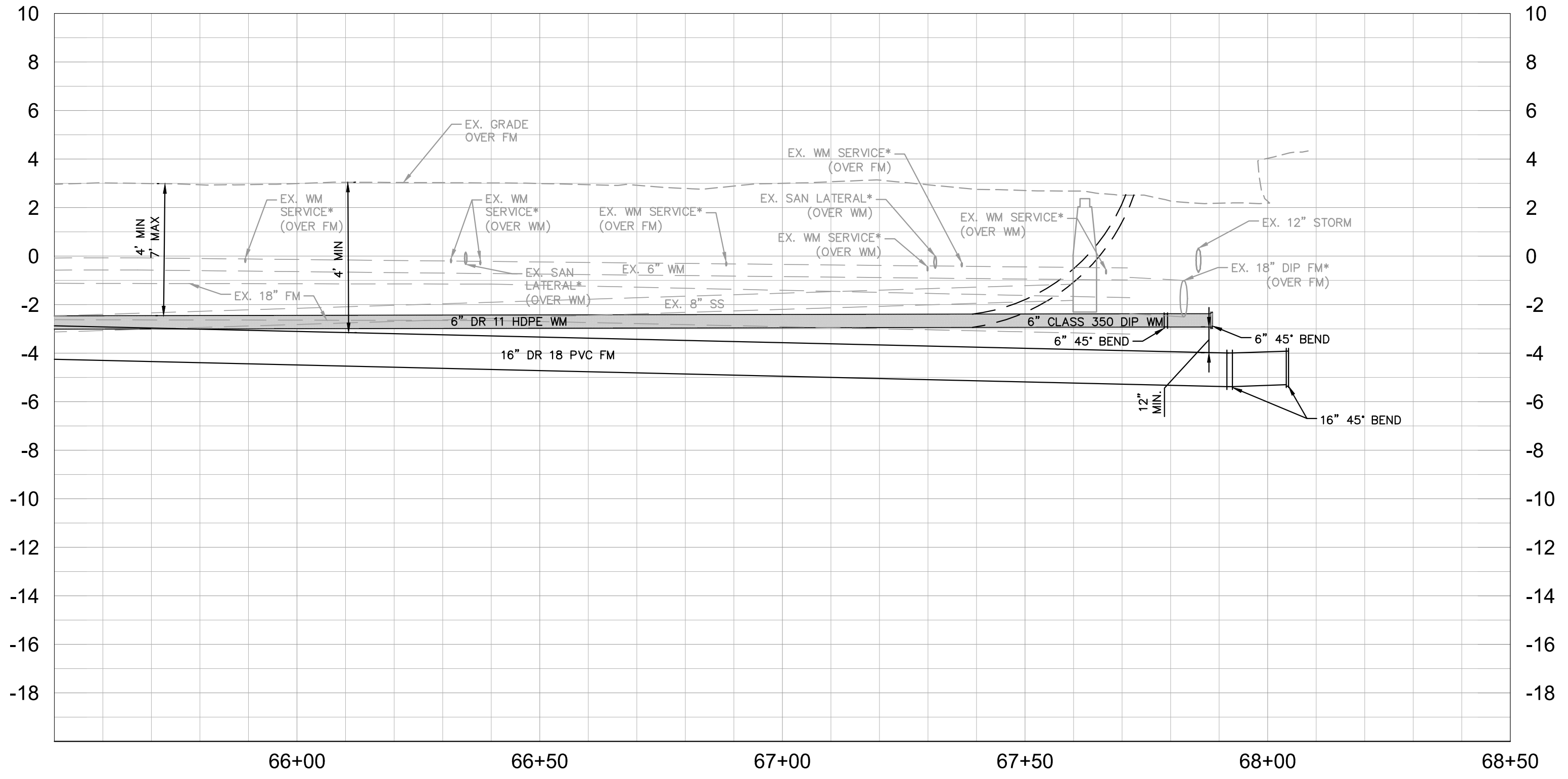
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**Manatee County FLORIDA**  
**FORCE MAIN 5 REHABILITATION**  
MANATEE COUNTY

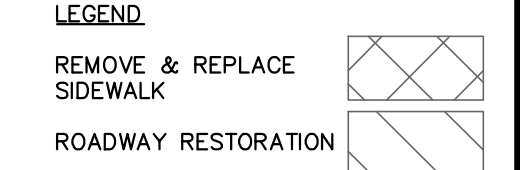
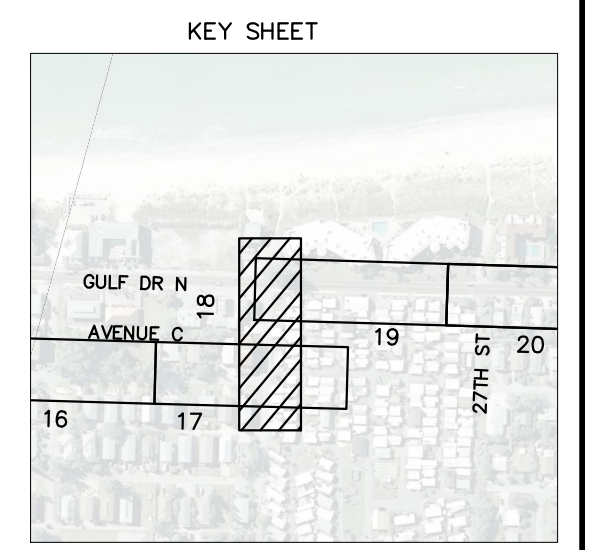
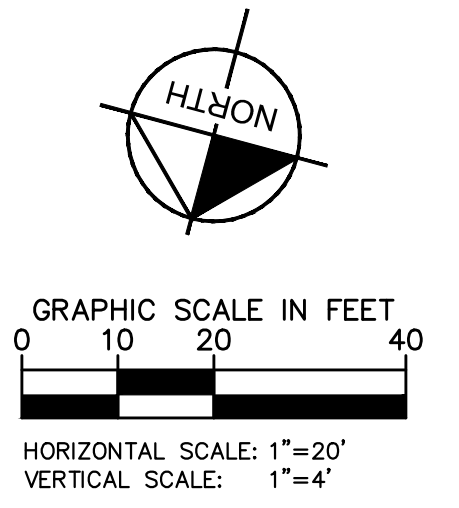
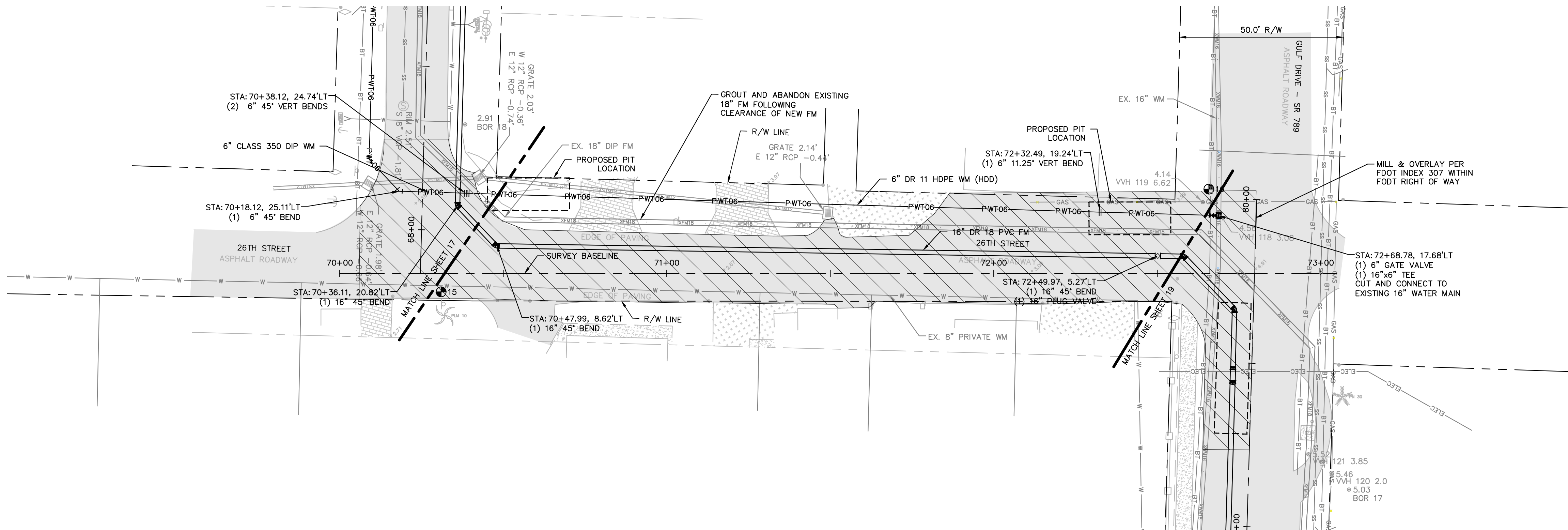
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W. WADE WOOD, P.E.
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FL DATE:

**PLAN AND PROFILE AVENUE C**

SHEET NUMBER
17



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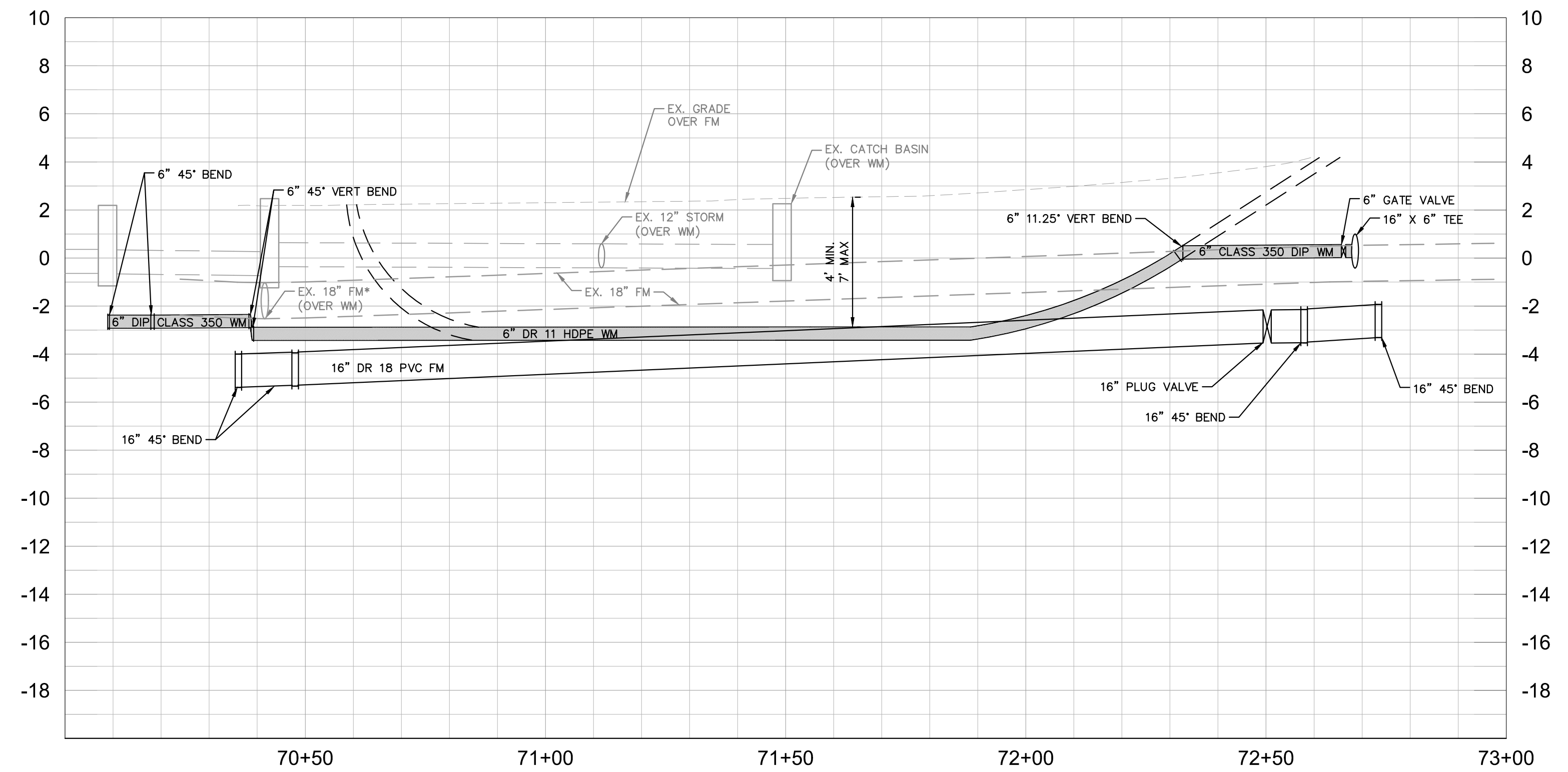


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MANATEE COUNTY

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W. WADE WOOD, P.E.
FL LICENSE NUMBER 69051
FL DATE:

**PLAN AND PROFILE 26TH STREET**

SHEET NUMBER
<b>18</b>

