

CONSTRUCTION PLANS  
FOR  
END OF SERVICE LIFE FY-18  
FORCEMAIN 29A/OLD TAMPA ROAD FM/FM 10M  
/DESOTO MEMORIAL WATERMAIN  
MANATEE COUNTY, FLORIDA

MAY 2019

MANATEE COUNTY PROJECTS #5150380, #5150480, #5150580, #6092370



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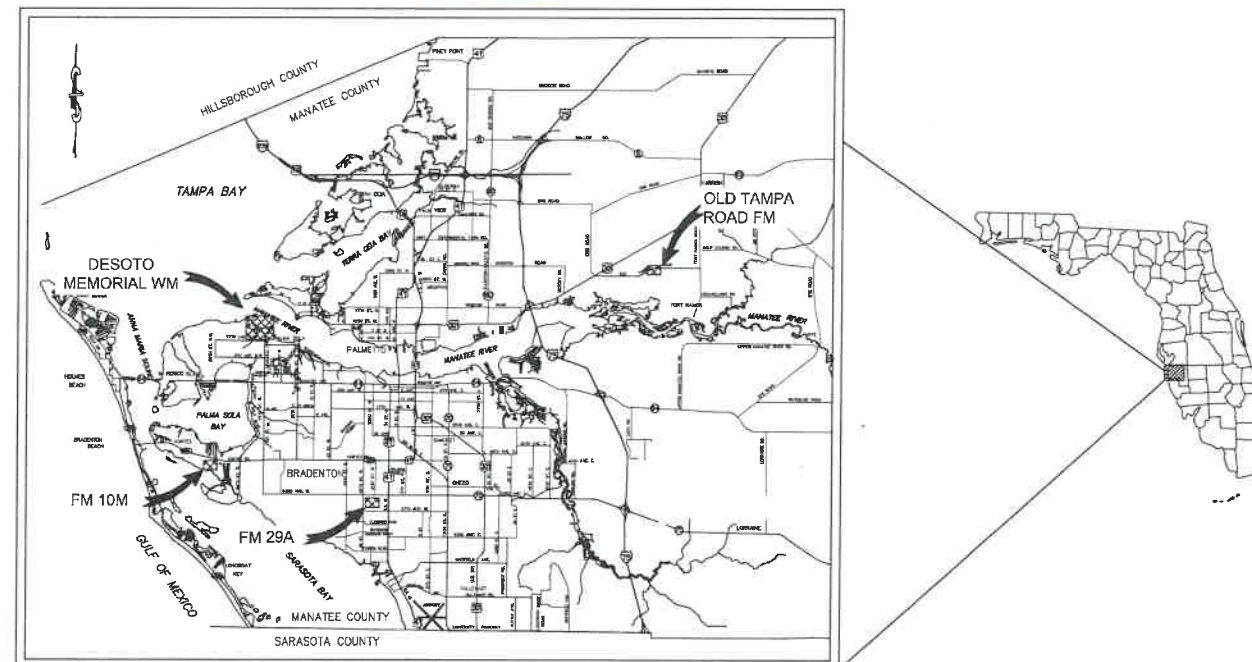
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PROJECT VICINITY MAP  
N.T.S.

100% PLANS

PREPARED BY  
**Kimley»Horn**

2019 KIMLEY-HORN AND ASSOCIATES, INC.  
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SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	FM 29A KEY SHEET
4	FM 29A PLAN & PROFILE
5	FM 29A PLAN & PROFILE
6	OLD TAMPA ROAD KEY SHEET
7	OLD TAMPA ROAD PLAN & PROFILE
8	FM 10M KEY SHEET
9	FM 10M PLAN & PROFILE
10	DESOTO MEMORIAL KEY SHEET
11	DESOTO PLAN & PROFILE
12	DESOTO PLAN & PROFILE
13	DESOTO PLAN & PROFILE
14	DESOTO PLAN & PROFILE
15	CONSTRUCTION DETAILS
16	CONSTRUCTION DETAILS
17	CONSTRUCTION DETAILS
18	CONSTRUCTION DETAILS
19	AERIAL CROSSING DETAIL

THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES SHALL 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 THE STAKEOUT.

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KHA PROJECT NO. 18400025  
SHEET NUMBER 1



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GENERAL

- ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS: ALEX GONZALEZ, P.E. AND CAN BE REACHED AT (941) 708-7450 X7338
- IF THE CONTRACTOR WANTS A SITE VISIT PRIOR TO BIDDING, THESE SHALL BE ARRANGED THROUGH THE COUNTY'S PURCHASING DIVISION.
- ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FOOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 SERVICE OPERATIONS AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH A DETAILED CONSTRUCTION PHASING PLAN BASED ON THE CONNECTION SEQUENCING BELOW. EXISTING FORCE MAIN 28A, OLD TAMPA ROAD FORCE MAIN, FORCE MAIN 10M, AND DESOTO MEMORIAL WATER MAIN SHALL REMAIN IN SERVICE UNTIL ALL CONNECTIONS TO THE PROPOSED FORCE MAIN/WATER MAIN IS CONSTRUCTED.
- ALL PROPOSED WORK SHALL BE COORDINATED WITH MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
- 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.
- UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND PVC PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND PVC PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED PER THE DETAILS IN THESE PLANS.
- SANITARY SEWERS AND FORCE MAINS 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.
- 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.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SECURE PROPERTY FOR STAGING MATERIALS AND EQUIPMENT.
- 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.
- 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 ON-SITE BY THE COUNTY INSPECTOR AND ENGINEER'S STAFF.

SAFETY

- 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.
- THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
- THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.

ENVIRONMENTAL

- 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.
- 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.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDP "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.
- 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.
- 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.
- 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.
- 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.

- 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.
- ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
- 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.
- CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
- CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPILL PREVENTION PLAN" THAT SHALL CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.

RIGHT-OF-WAY

- ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY RIGHT-OF-WAY, OTHER PUBLIC RIGHT-OF-WAYS OR EASEMENTS SHOWN ON THE DRAWINGS.
- 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.
- THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN ANY REQUIRED RIGHTS-OF-WAY USE PERMITS 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, PER SPECIFICATIONS 01570.
- 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, OR THE APPLICABLE JURISDICTION.
- 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 STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRIVEWAYS WITH THE PROPERTY OWNER PRIOR. ALL DRIVEWAYS MUST BE IN PASSABLE CONDITION AT THE END OF THE WORK DAY AND FULLY RESTORED.
- 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

- 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 HAVEN'T BEEN IDENTIFIED 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 EFFECT 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.
- 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.
- 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.
- 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.
- 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.
- 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/WATER 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

- ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
- ALL DISTURBED GRASSED 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.
- 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.
- ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513.
- 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 OF THE F.D.O.T. DESIGN STANDARDS.
- 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.
- 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.
- ALL EXISTING FENCES 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.
- 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

- 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 Baffles POSITIONED TO BREAK LINE-OF-SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES, AS APPROVED BY THE ENGINEER.
- NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEEPED DAILY AS PART OF DAILY CLEAN UP.

- THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
- INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
- PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OR TRIMMING OF ANY TREE WITHIN THE CONSTRUCTION AREA.
- THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
- ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.
- 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.
- 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.
- 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.
- ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES AND PUMP STATIONS ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
- THE CONTRACTOR, PRIOR TO ANY TEMPORARY WATER SHUT-OFFS DURING WATER MAIN TE-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, AMI 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.
- 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.
- 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 AND CAPPED. REFER TO SECTION 02064 OF THE SPECIFICATIONS FOR CUT AND CAPPING ABANDONED PIPE.
- FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER.
- 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.
- THE MUDC OFFICE OF INDUSTRIAL COMPLIANCE WILL DETERMINE WHETHER A LETTER OF APPROVAL, A DISCHARGE AUTHORIZATION, OR A DISCHARGE PERMIT IS REQUIRED.
- FOR SITES SUSPECTED OF CONTAMINATED GROUNDWATER MANATEE COUNTY WILL REQUIRE AN APPLICANT TO DEMONSTRATE THAT THE DISCHARGE MEETS THE MANATEE COUNTY SEWER USE ORDINANCE.
- 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. SERVICES SHALL BE REPLACED FROM THE COLD STOP TO THE METER.

TRAFFIC CONTROL NOTES

- TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH F.D.O.T. STANDARD PLAN INDICES NO. 600, 601, 602 603, 604, 605, AND 660 DEPENDING ON THE OPERATION BEING PERFORMED.  
FOR ALL TWO-LANE WORK, TWO-WAY, WORK OUTSIDE OF SHOULDER UTILIZE INDEX 102-601.  
FOR ALL TWO-LANE WORK, TWO-WAY, WORK ON SHOULDER UTILIZE INDEX 102-602.  
FOR ALL TWO-LANE WORK, TWO-WAY, WORK WITHIN TRAVEL LANE UTILIZE INDEX 102-603.  
FOR ALL TWO-LANE WORK, TWO-WAY, WORK WITH IN INTERSECTION UTILIZE INDEX 102-604.  
FOR ALL TWO-LANE WORK, TWO-WAY, WORK NEAR INTERSECTION UTILIZE INDEX 102-605.  
FOR PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALK, UTILIZE INDEX 102-660.
- CONTRACTOR TO COORDINATE WITH ED HERNDON (941) 708-4438 AT FDOT FOR ALL WORK DONE ON A STATE FACILITY.
- TO AVOID DISRUPTION DUE TO INCLEMENT WEATHER, THE CONTRACTOR SHOULD PERFORM ANY MILLING AND PAVING OPERATIONS DURING THE SAME WORK PERIOD.
- 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.
- LANE CLOSURES SHALL OCCUR BETWEEN 9:00 P.M. AND 6:00 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.
- 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.
- PEDESTRIAN AND WHEELCHAIR TRAFFIC SHALL BE ACCOMMODATED UTILIZING STANDARD INDEX 680.
- 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"
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORMWATER FROM ROADWAYS UTILIZED FOR TRAFFIC CONTROL IN A MANNER APPROVED BY THE ENGINEER.
- AT THE END OF EACH WORKING DAY'S ACTIVITY, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RPM'S SHALL BE INSTALLED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.
- ALL PAVEMENT MARKINGS, SIGNS, MARKERS, CHAINING AND REQUIRED TO PHASE WORK OR SHIFT TRAFFIC, SHALL UTILIZE INDICES FOR PLACEMENT.
- 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.
- MILLING AND RESURFACING SHALL BE ACCOMPLISHED DURING THE OFF-PEAK HOURS.

- 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 MUKUNDA GOPALAKRISHNA, P.E., PTOE, COUNTY TRAFFIC ENGINEER, AT 941-749-3500, EXT. 7613.
- CONTRACTOR TO MAINTAIN VEHICLE DETECTION IN OPERATION FOR LANES THAT WILL REMAIN OPEN. CONTRACTOR TO COORDINATE ALL VEHICLE DETECTION ISSUES WITH CLARKE DAVIS OF MANATEE COUNTY AT 941-708-7450, EXT. 7272 OR CLARKE.DAVIS@MANATEE.ORG
- MAINTENANCE OF TRAFFIC AND ANY SIGNAL RETIMING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 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.
- 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.

ABBREVIATIONS

RJ	-	RESTRAINED JOINT	ST	-	STORM DRAIN
R/W	-	RIGHT-OF-WAY	EX	-	EXISTING
HDD	-	HORIZONTAL DIRECTIONAL DRILL	BT	-	BURIED TELEPHONE
RCF	-	REINFORCED CONCRETE PIPE	UC	-	UNDERGROUND CONDUIT
ARV	-	AIR RELEASE VALVE	DSC	-	DIRECT BURIED CABLE
HDPE	-	HIGH DENSITY POLYETHYLENE	FOC	-	FIBER OPTIC CABLE
PVC	-	POLYVINYL CHLORIDE	SS	-	SANITARY SEWER
NC	-	NATURAL GROUND	FM	-	FORCE MAIN
			WM	-	WATER MAIN
			RW	-	RECLAIM WATER MAIN
			ECF	-	ELLIPTICAL CONCRETE PIPE

KIMLEY HORN LEGEND

EX. FORCEMAIN	-----FM-----FM-----FM-----FM-----
PROPOSED FORCEMAIN/ WATERMAIN	=====
EX. WATERMAIN	-----WM-----WM-----WM-----WM-----
EX. SANITARY SEWER	-----SS-----SS-----SS-----
EX. STORM	-----STM-----STM-----STM-----
EX. BURIED TELEPHONE/FIBER	-----BT-----BT-----BT-----
EX. FIBER OPTIC CABLE	-----FOC-----FOC-----FOC-----
EX. DIRECT BURIED CABLE	-----DBC-----DBC-----DBC-----
EX. UNDERGROUND CONDUIT	-----UC-----UC-----UC-----
EX. BURIED ELECTRIC	-----BE-----BE-----BE-----
EX. GAS	-----GAS-----GAS-----GAS-----GAS-----
EX. RECLAIM WATER	-----RW-----RW-----RW-----
EX. OVERHEAD UTILITIES	-----CHU-----CHU-----CHU-----
PROPOSED FULL ROADWAY RESTORATION	[Pattern: Dashed lines with cross-hatching]
PROPOSED ASPHALT DRIVEWAY REPAIR	[Pattern: Diagonal lines]
PROPOSED BRICK DRIVEWAY REPAIR	[Pattern: Brick pattern]
PROPOSED SHELL DRIVEWAY REPAIR	[Pattern: Shell pattern]
PROPOSED SIDEWALK/ CONCRETE DRIVEWAY REPAIR	[Pattern: X's]
PROPOSED CURB REPAIR	[Pattern: Diagonal lines with dots]
PROPOSED MILLING AND RESURFACING	[Pattern: Stars]

EX. CONCRETE DRIVEWAY

EX. ASPHALT DRIVEWAY

EX. BRICK DRIVEWAY


EX. SHELL DRIVEWAY

No.	REVISIONS	DATE	BY



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KHA PROJECT  
148400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR



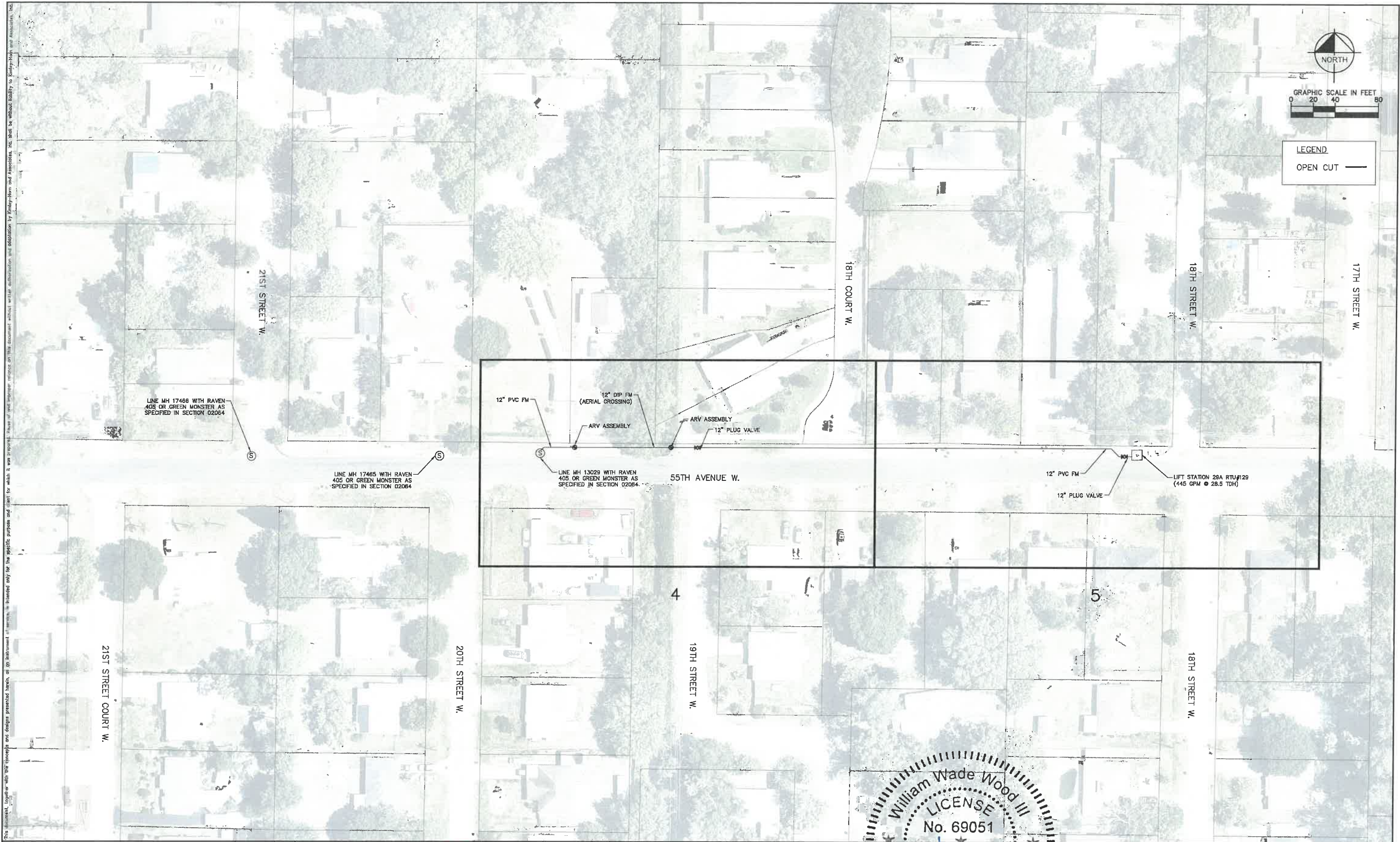
END OF SERVICE LIFE: FY-18  
SAN REMO SHORES WM REPLACEMENT

No. 69051  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
FL DATE

GENERAL NOTES

SHEET NUMBER





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END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

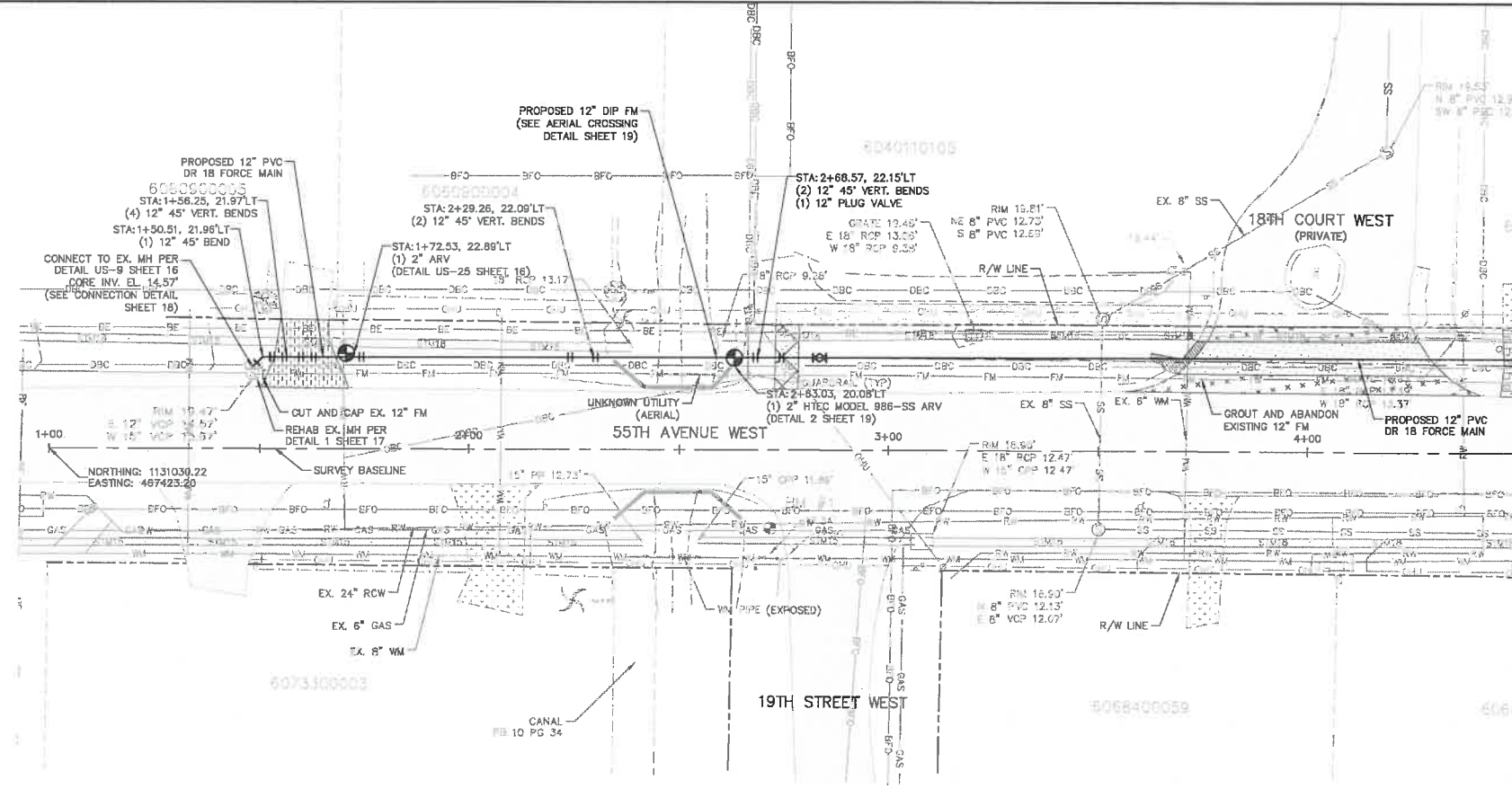


FM 29A KEY SHEET

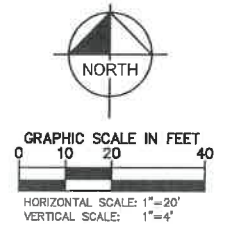
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MATCH LINE STA 4+50  
SEE SHEET 5 FOR CONTINUATION



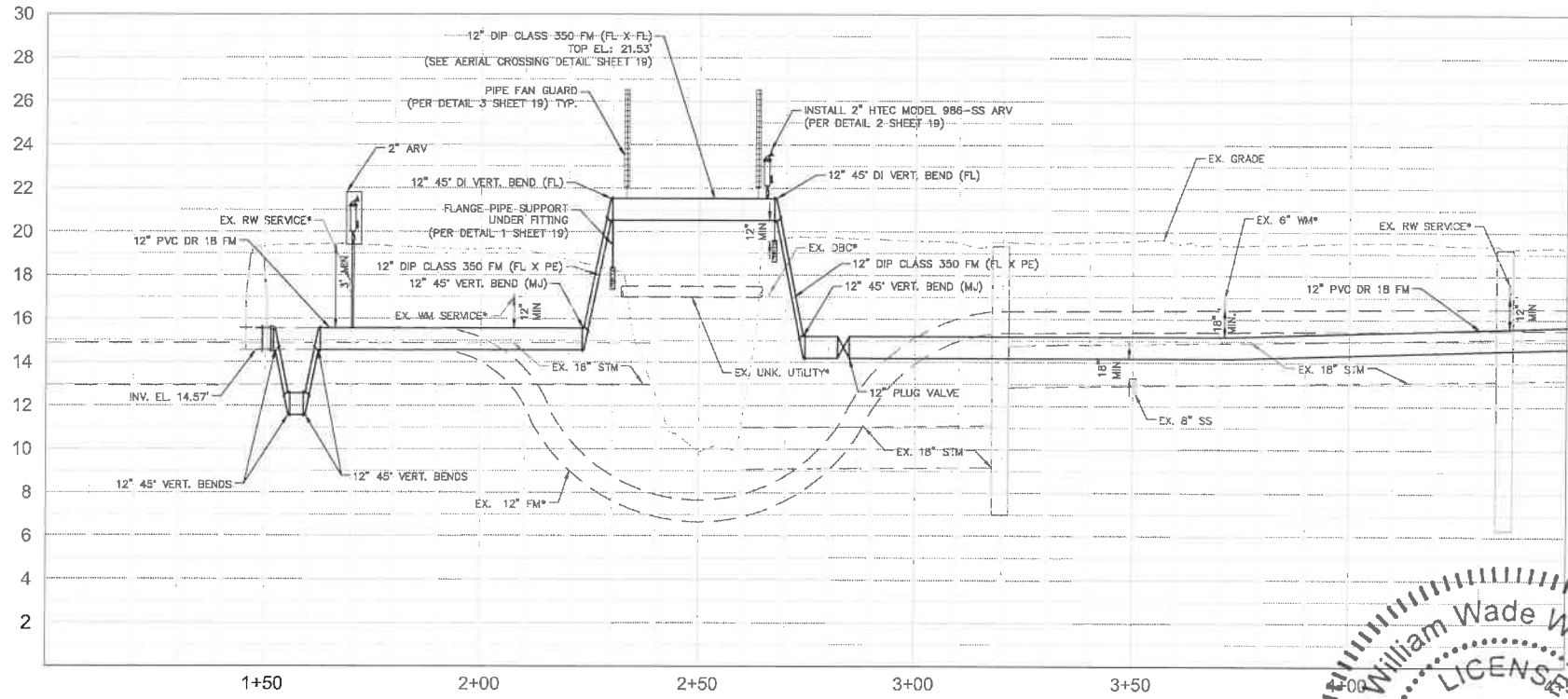
- LEGEND**
- ASPHALT DRIVEWAY RESTORATION
  - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
  - BRICK DRIVEWAY RESTORATION
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  - FULL ROADWAY RESTORATION
  - MILLING AND RESURFACING
  - REMOVE & REPLACE CURB

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KHA PROJECT  
148400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR

Manatee County  
END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

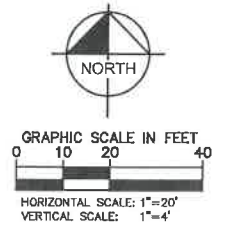
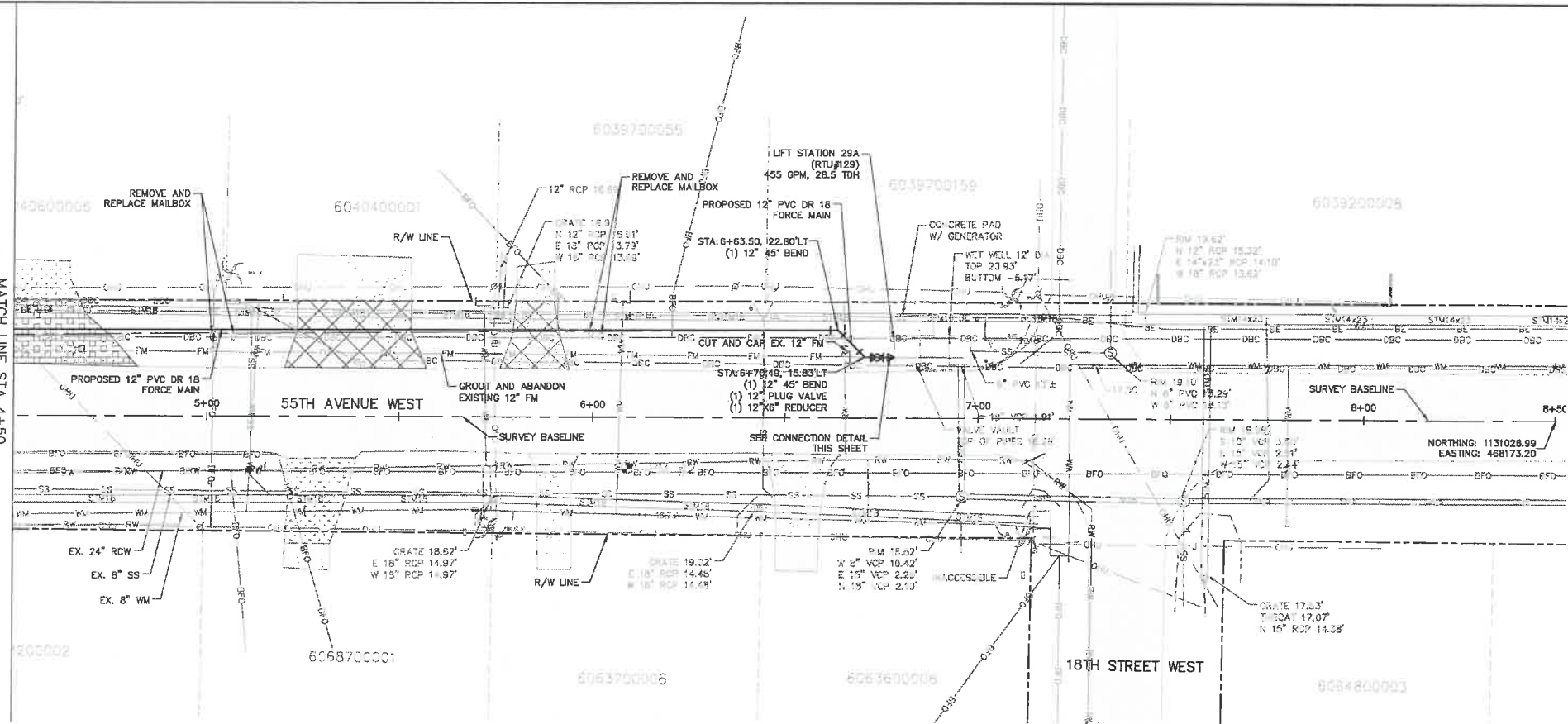
William Wade Wood III  
LICENSE  
No. 69051  
PROFESSIONAL ENGINEER  
FL DATE: 5/16/19

FM 29A PLAN & PROFILE

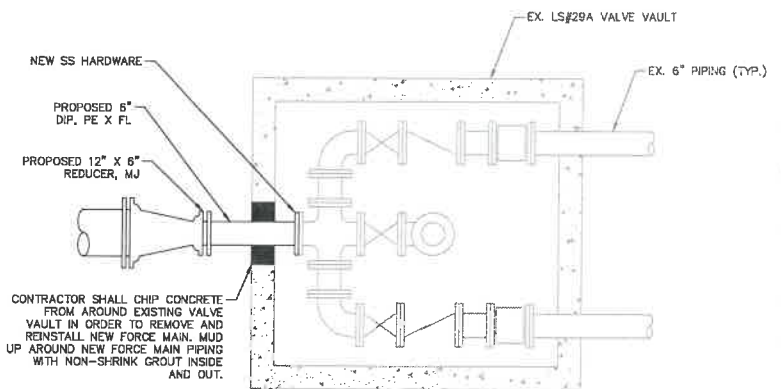
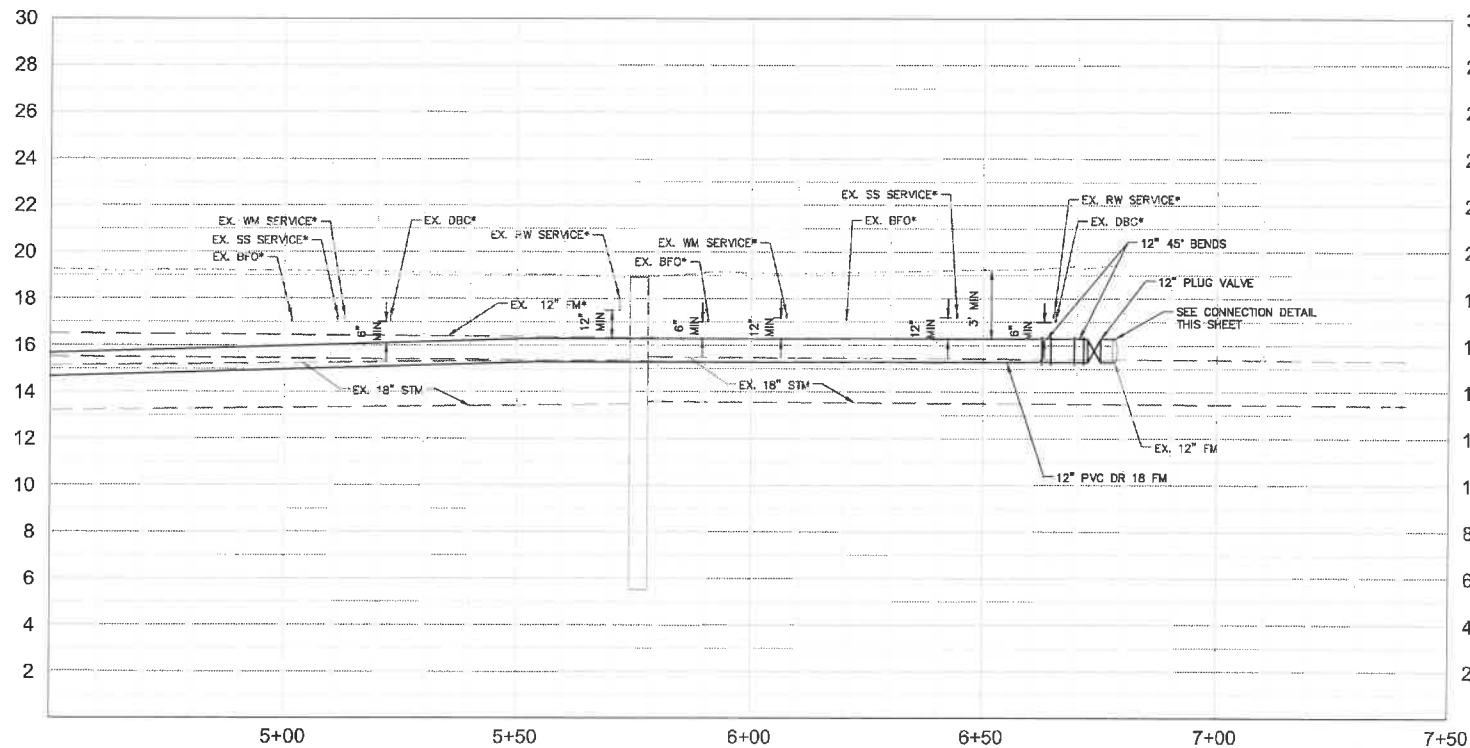
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SEE SHEET 4 FOR CONTINUATION



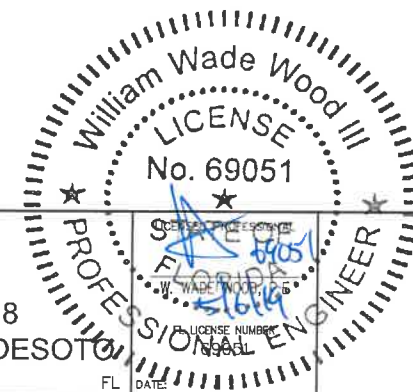
- LEGEND
- ASPHALT DRIVEWAY RESTORATION
  - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
  - BRICK DRIVEWAY RESTORATION
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LIFT STATION #29A CONNECTION  
SCALE: 1/2"=1'



**GROUNDWATER / DEWATERING NOTE:**  
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KHA PROJECT  
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DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR



END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

FM 29A PLAN & PROFILE

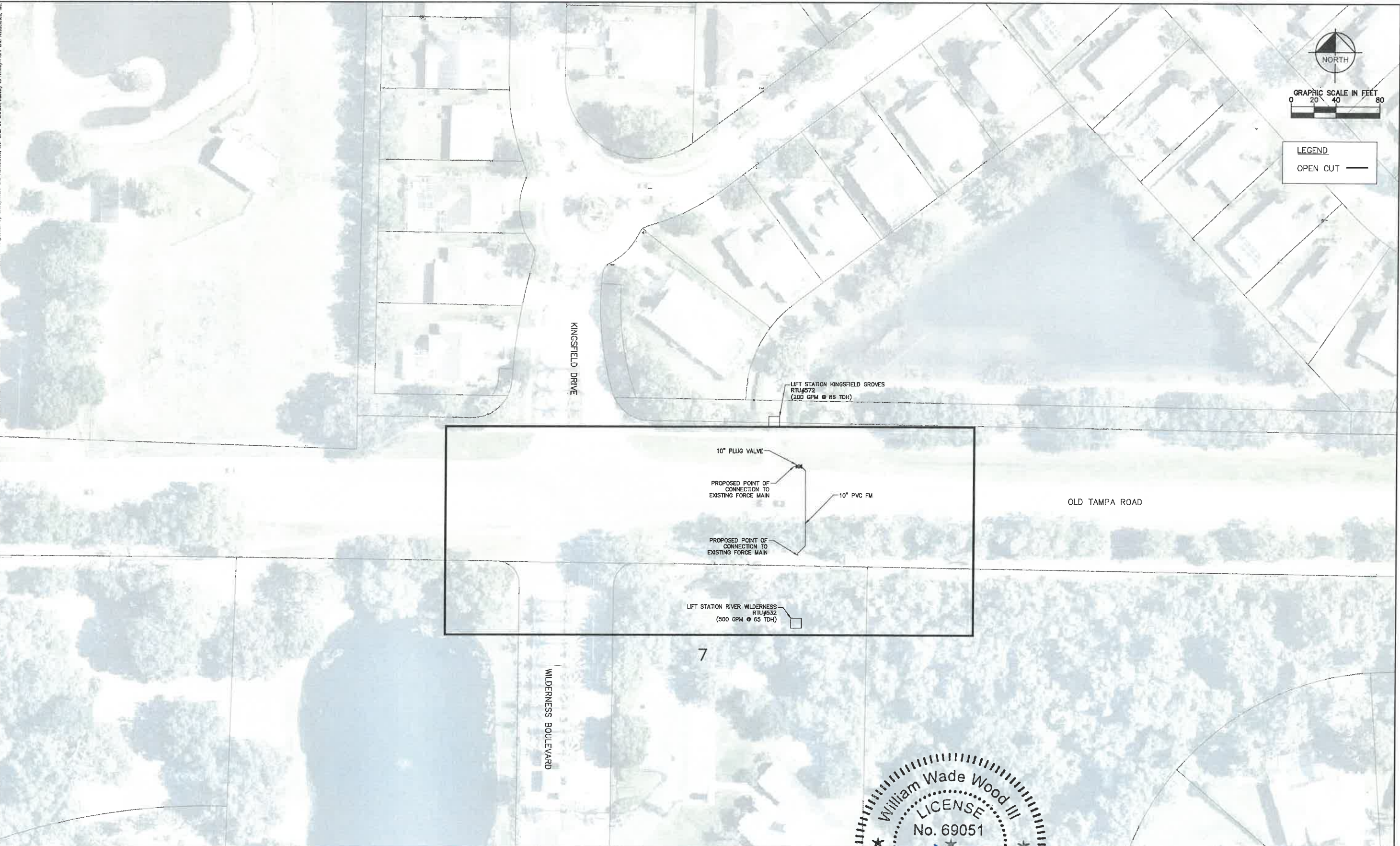
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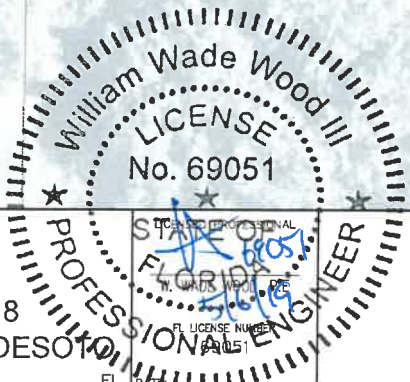


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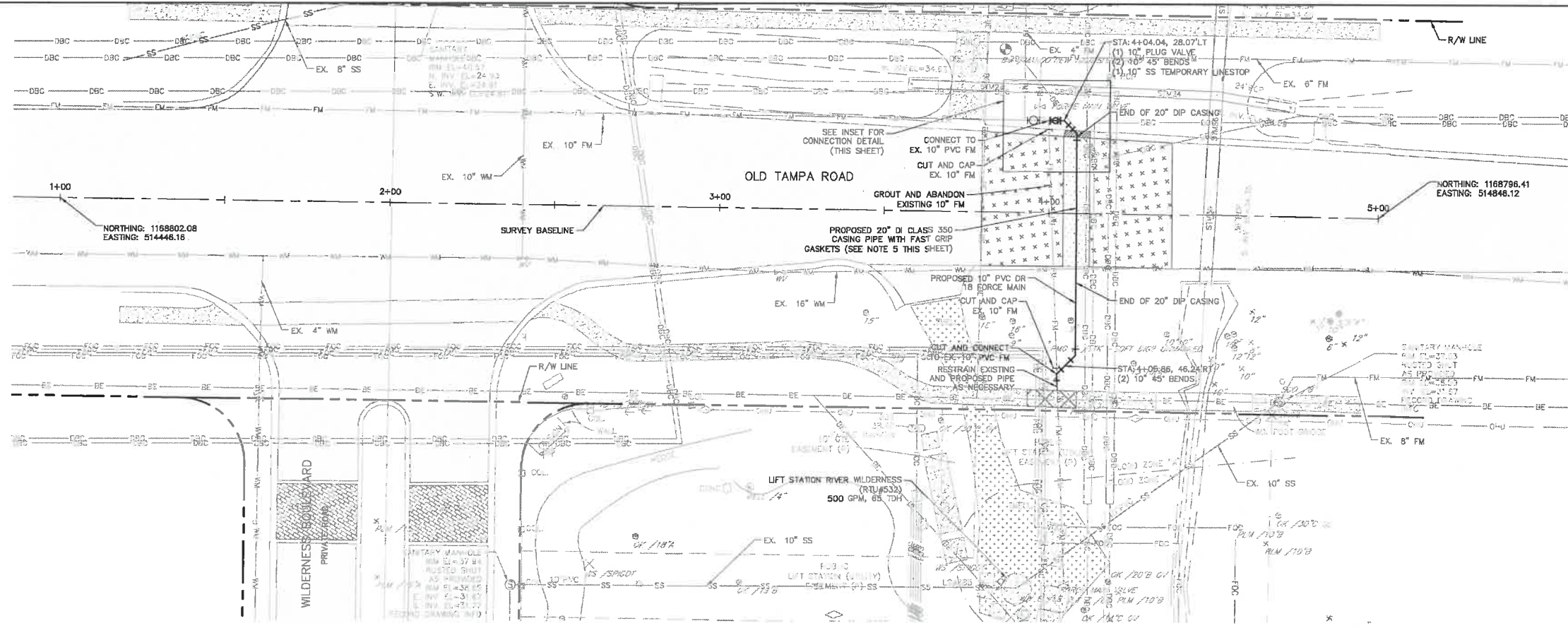
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FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO



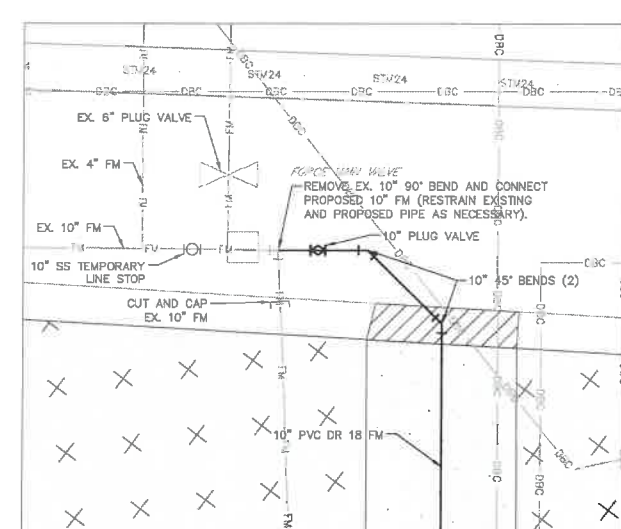
OLD TAMPA ROAD  
KEY SHEET

SHEET NUMBER
6



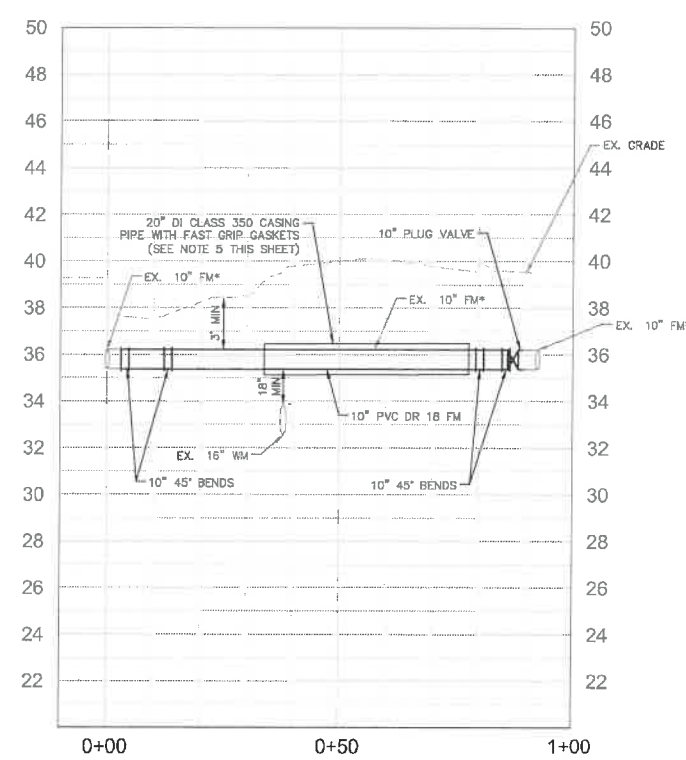


- LEGEND**
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  - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
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  - REFER TO DETAIL UC-3 ON SHEET 18 FOR CASING SPACER INFORMATION.



NOTE: CONTRACTOR SHALL INSTALL TEMPORARY SS LINE STOP AND COORDINATE WITH COUNTY TO CLOSE EXISTING 10" AND 6" PLUG VALVES TO MAKE CONNECTION.

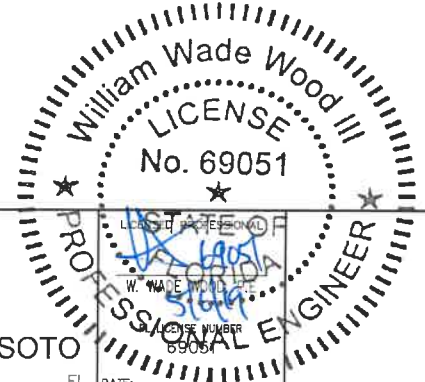
**CONNECTION DETAIL**  
SCALE 1"=5'-0"



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END OF SERVICE LIFE: FY-18  
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MANATEE COUNTY

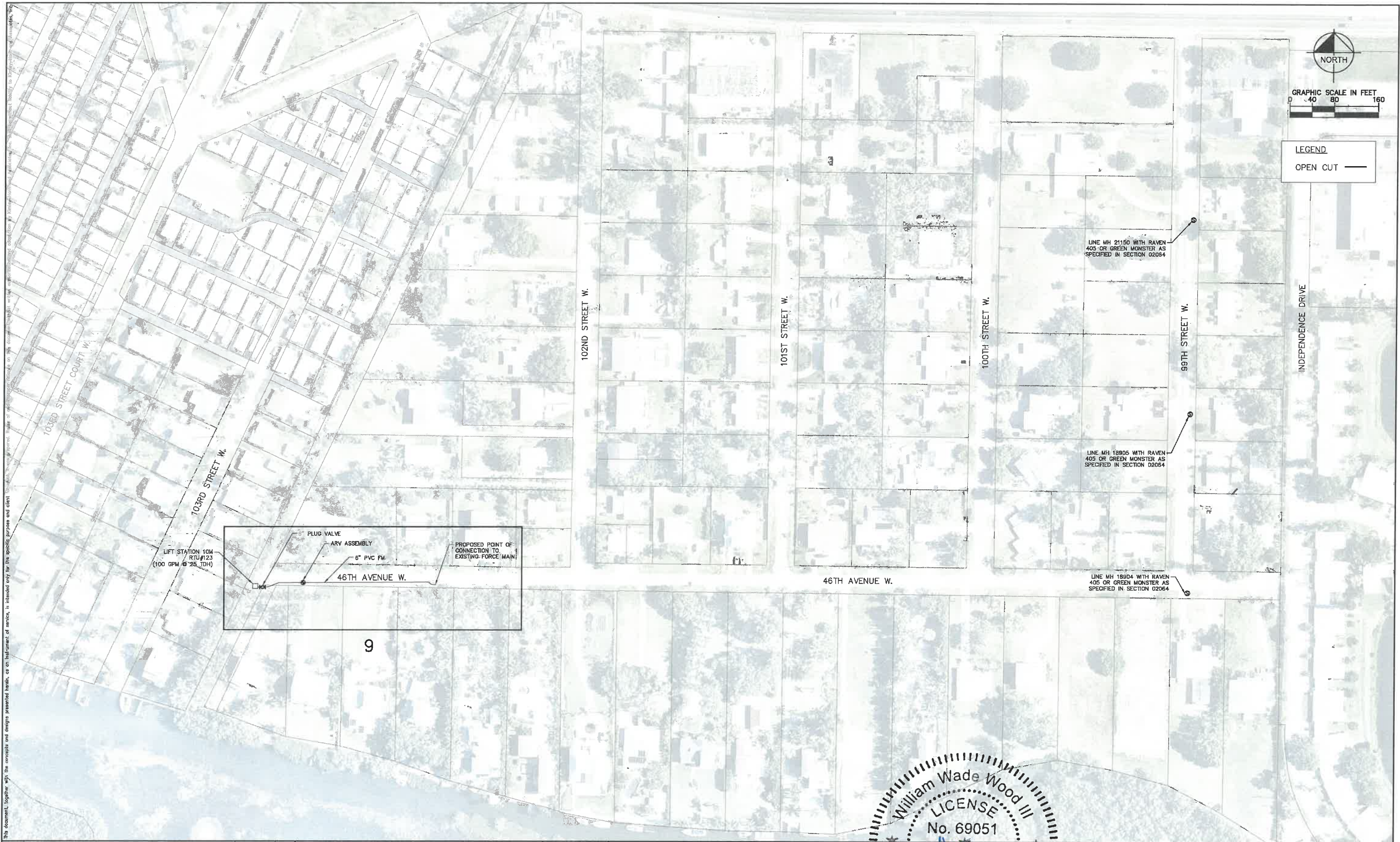
# OLD TAMPA ROAD PLAN & PROFILE

SHEET NUMBER

7

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PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	148400025
DATE	5/3/2019
SCALE	AS SHOWN
DESIGNED BY	WWW
DRAWN BY	LMB
CHECKED BY	SNR



END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO



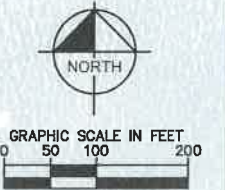
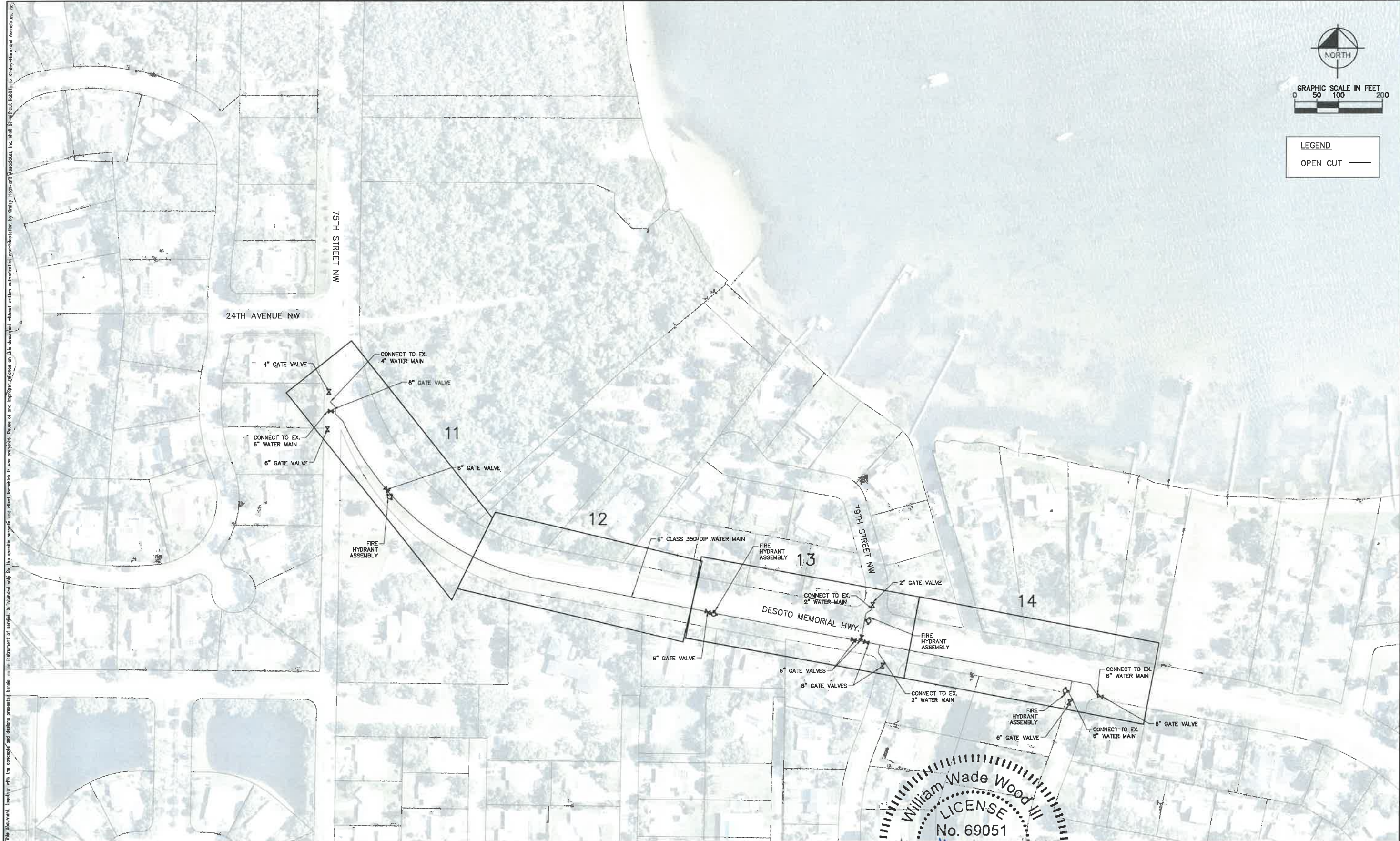
FM 10M KEY SHEET

SHEET NUMBER  
8









LEGEND  
OPEN CUT —

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END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY



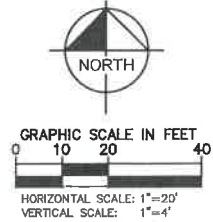
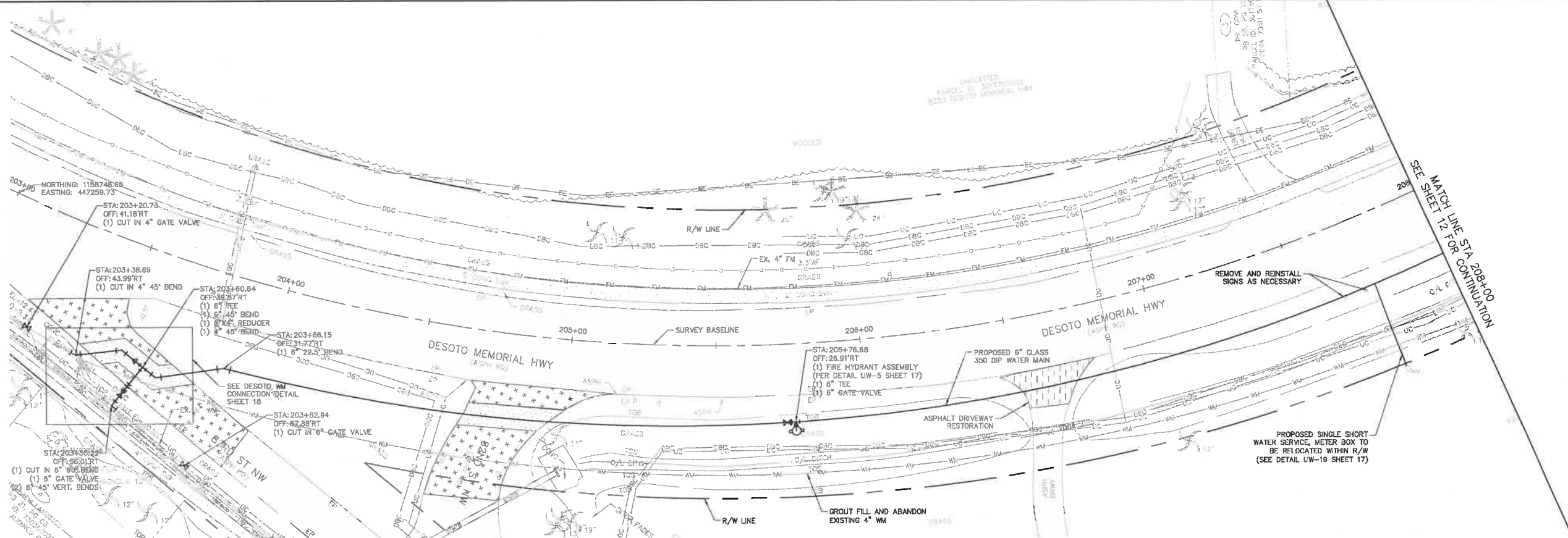
WILLIAM WADE WOOD III  
LICENSE  
No. 69051  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

DESOTO MEMORIAL  
KEY SHEET

SHEET NUMBER  
10

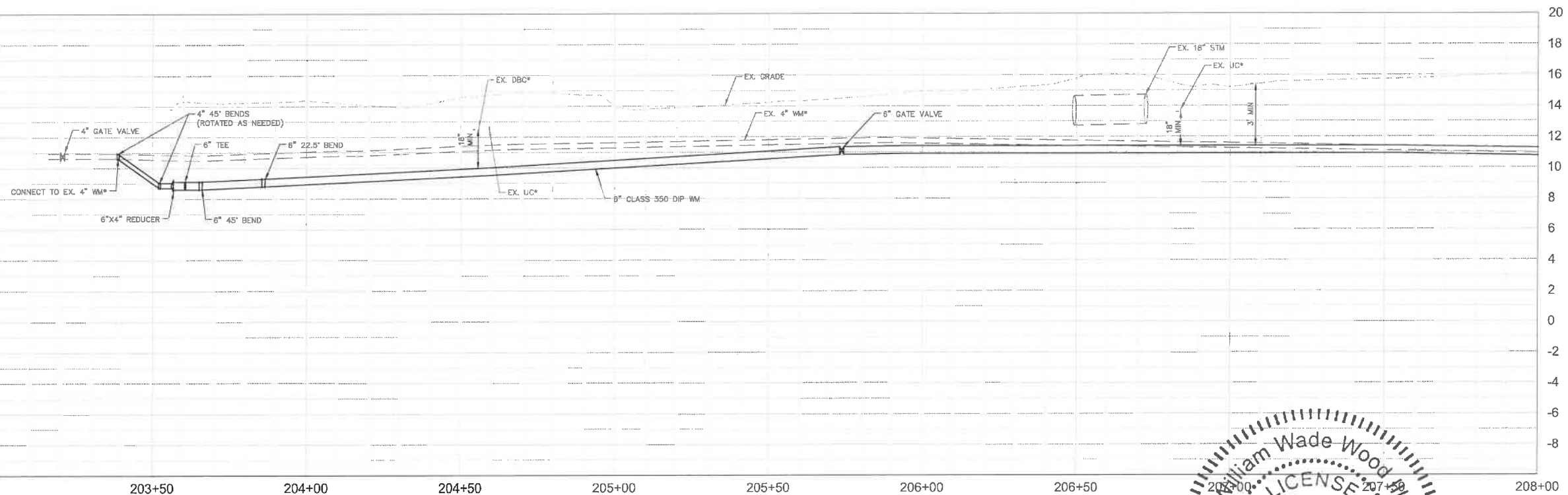


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- LEGEND**
- ASPHALT DRIVEWAY RESTORATION
  - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
  - BRICK DRIVEWAY RESTORATION
  - SHELL DRIVEWAY RESTORATION
  - FULL ROADWAY RESTORATION
  - MILLING AND RESURFACING
  - REMOVE & REPLACE CURB

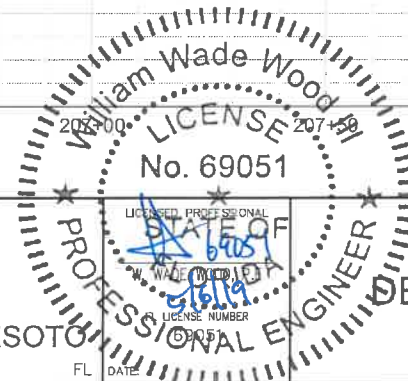
- NOTES:**
1. CONTRACTOR TO FOLLOW RESTRAINED LENGTHS SET IN RESTRAIN LENGTH DETAILS ON SHEET 15 & 17.
  2. CONSTRUCTION DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO CHAPTERS 62-621.300 AND 62-620 OF THE FLORIDA ADMINISTRATIVE CODE (FAC).
  3. REFER TO DETAIL UG-12 SHEET 15 FOR COUNTY ROADWAY REPAIR REQUIREMENTS



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THE ELEVATIONS OF THE UTILITIES MARKED WITH AN ASTERISK (\*) 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.

WHERE CONCRETE REPAIRS ARE NECESSARY AND EXPANSION JOINTS ARE PRESENT, CONTRACTOR TO REMOVE AND REPLACE CONCRETE UP TO THE NEXT EXPANSION JOINT; OTHERWISE, REPLACE CONCRETE AS NECESSARY.

**GROUNDWATER / DEWATERING NOTE:**  
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT JOINT TO CONTROL MOISTURE OF SOILS.



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KHA PROJECT  
14B400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR

END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

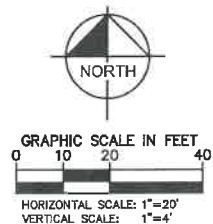
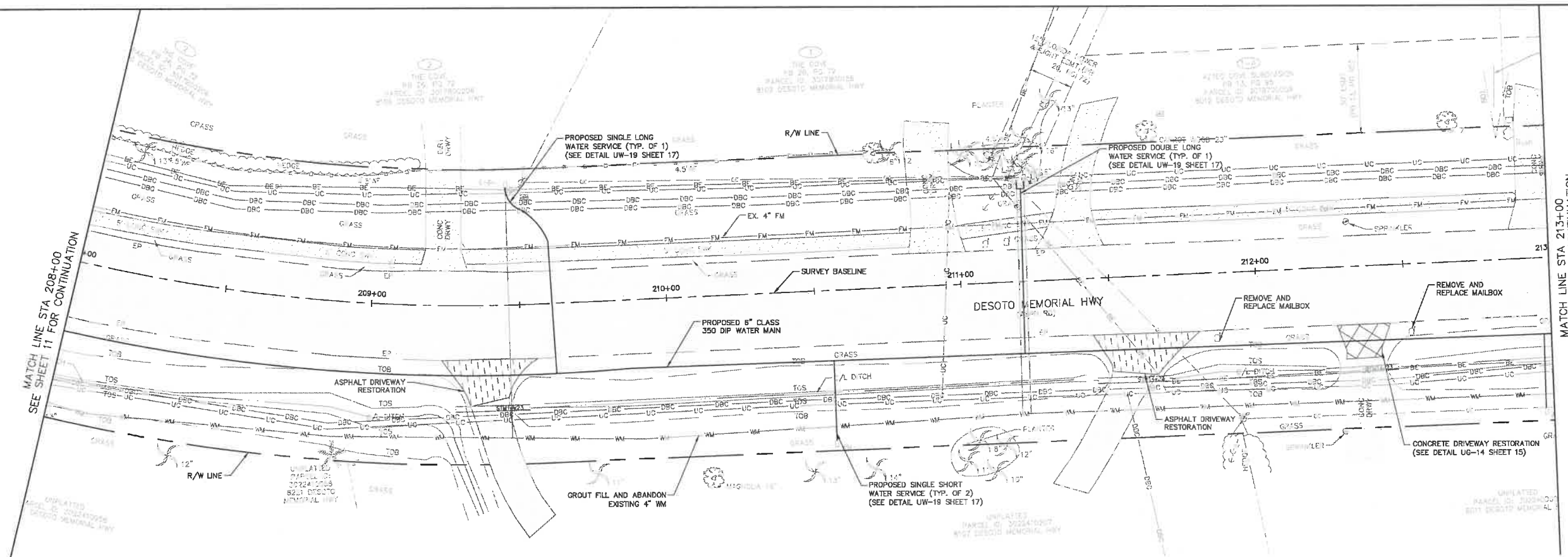
**DESOTO PLAN & PROFILE**

SHEET NUMBER

11



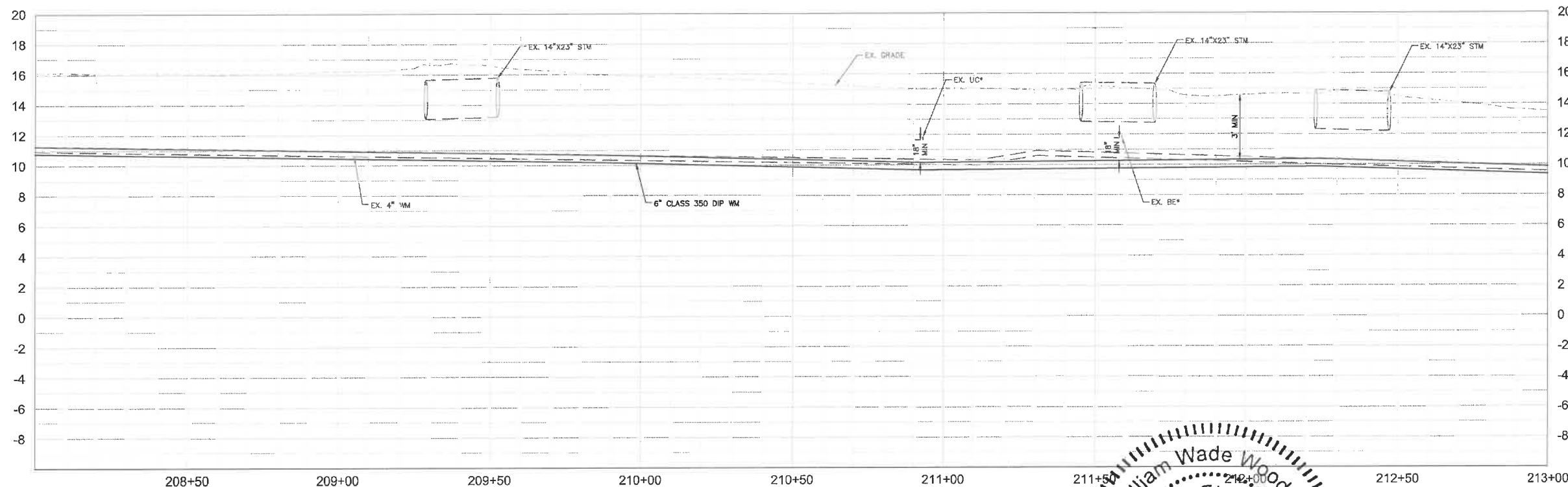
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MATCH LINE STA 213+00  
SEE SHEET 13 FOR CONTINUATION

- LEGEND**
- ASPHALT DRIVEWAY RESTORATION
  - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
  - BRICK DRIVEWAY RESTORATION
  - SHELL DRIVEWAY RESTORATION
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  - MILLING AND RESURFACING
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THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



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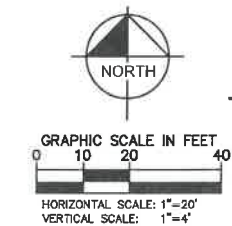
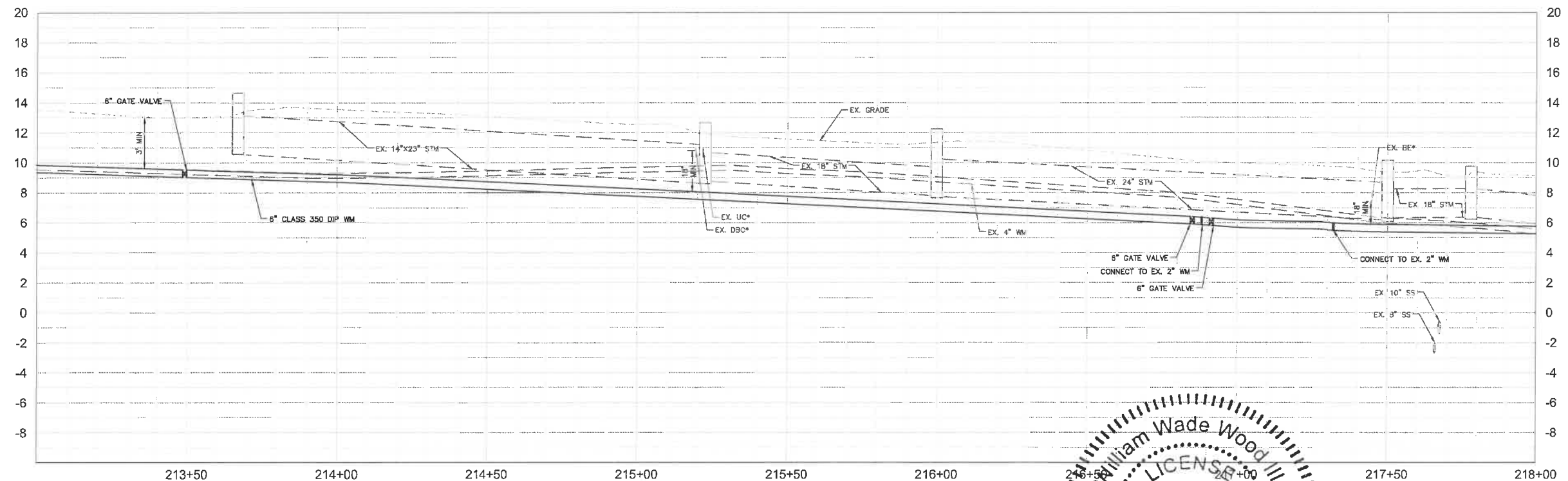
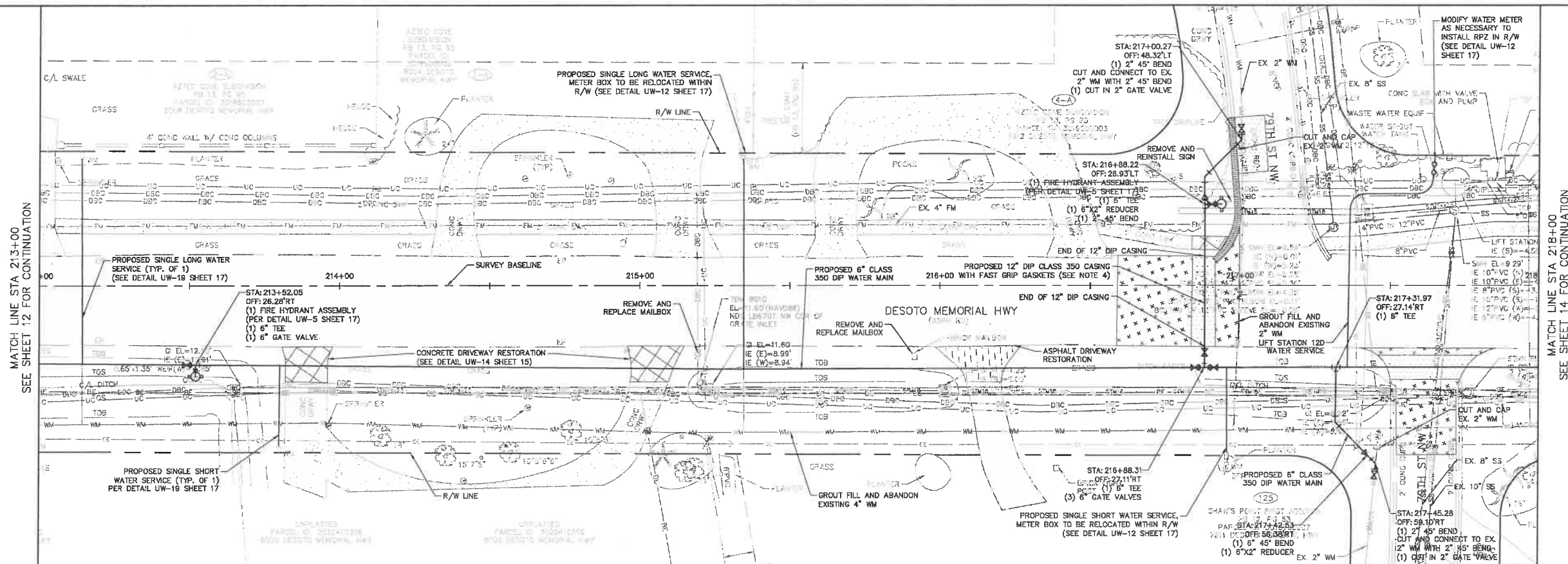
KHA PROJECT  
148400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR

END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO

SHEET NUMBER
12



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LEGEND	
ASPHALT DRIVEWAY RESTORATION	
SIDEWALK/CONCRETE DRIVEWAY RESTORATION	
BRICK DRIVEWAY RESTORATION	
SHELL DRIVEWAY RESTORATION	
FULL ROADWAY RESTORATION	
MILLING AND RESURFACING	
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  3. REFER TO DETAIL UG-12 SHEET 15 FOR COUNTY ROADWAY REPAIR REQUIREMENTS.
  4. REFER TO DETAIL UG-3 ON SHEET 18 FOR CASING SPACER INFORMATION.

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No.	REVISIONS	DATE	BY

**Kimley»Horn**

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KHA PROJECT	148400025
DATE	5/3/2019
SCALE	AS SHOWN
DESIGNED BY	WWW
DRAWN BY	LMB
CHECKED BY	SNR

END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO

MANATEE COUNTY

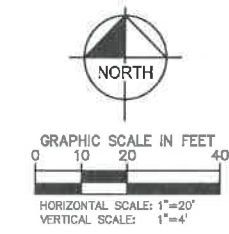
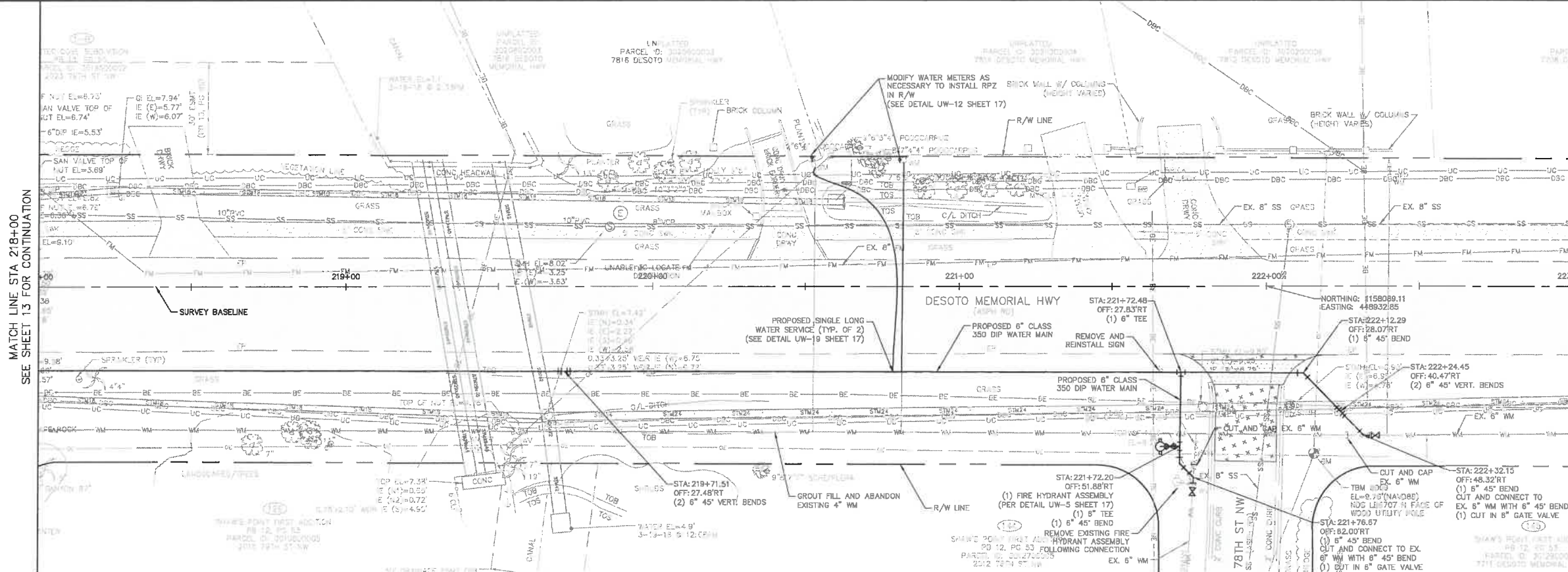
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**DESOTO PLAN & PROFILE**

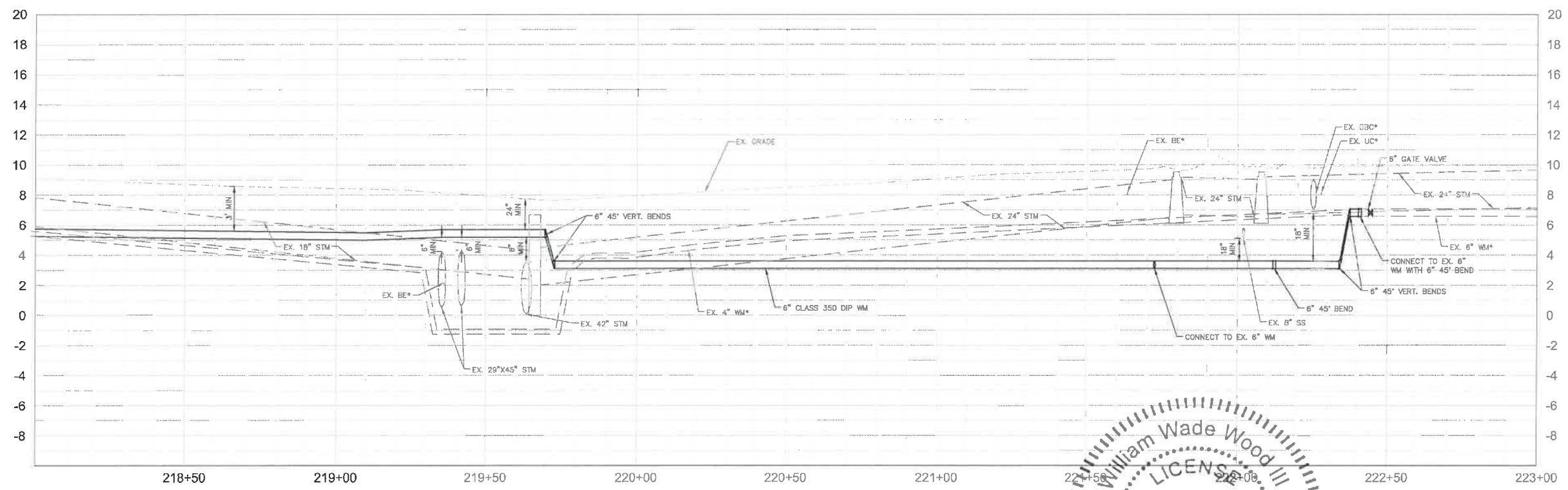
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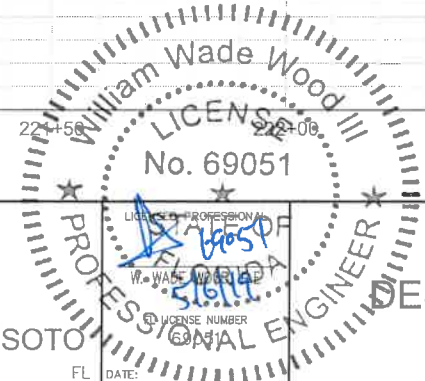
- LEGEND**
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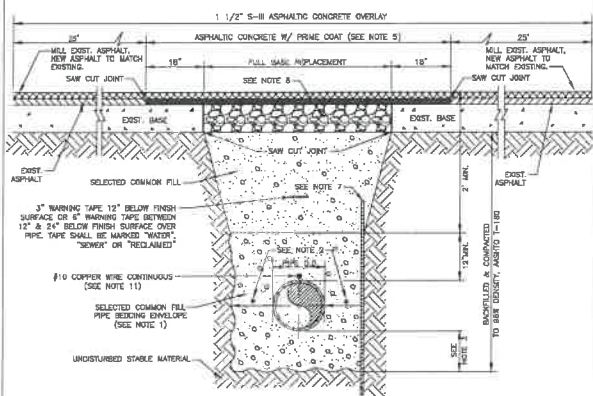




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#### NOTES:

1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW THE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4" INCH, WHICHEVER IS GREATER.
6. MILL 25' BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE BUT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCREPANCY "DUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
7. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
8. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
9. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
10. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
12. NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-12
REV. BY	DATE		
WHT/RE	03/11		
	MAY 10, 2011		
	DATE OF APPROVAL		
			PAGE 112

#### GENERAL NOTES

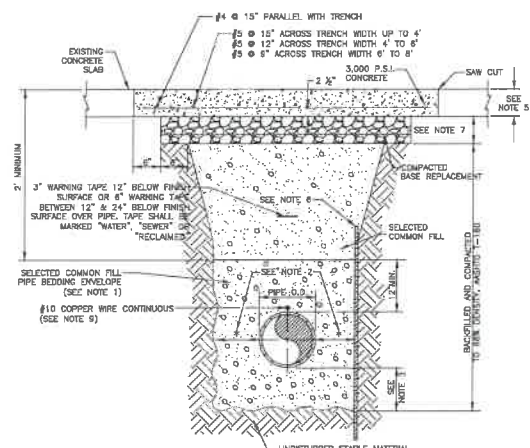
1. SIDEWALK SHALL BE CONSTRUCTED A MINIMUM OF 4" THICK, USING 3000 PSI CONCRETE. WHERE SIDEWALK ADJACENT TO DRIVEWAY, THE MINIMUM SHALL BE 6" OF CLASS 1 CONCRETE REINFORCED WITH 6"x6" #10 WIRE MESH.  
\* SEE SHEETS #101.2 & 101.3.
2. ALL SIDEWALKS SHALL BE CONSTRUCTED TO THE SPECIFICATIONS OF THE MANATEE COUNTY LAND DEVELOPMENT CODE, SECTION 722. A MINIMUM (5) FOOT WIDE SIDEWALK SHALL BE INSTALLED ALONG THE NORTH AND WEST SIDES OF ALL NEW LOCAL STREETS WHICH ARE CONSTRUCTED IN CONJUNCTION WITH A NEW RESIDENTIAL DEVELOPMENT. A SIDEWALK A MINIMUM OF (5) FEET IN WIDTH SHALL BE INSTALLED ON BOTH SIDES OF ALL THROUGHFARES. REFER TO F.D.O.T. ROADWAY AND TRAFFIC STANDARDS, LATEST REVISION FOR CURB CUT RAMP SPECIFICATIONS.
3. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL NOT BE MORE THAN 1/4" UNDER A TEN FOOT STRAIGHTEDGE, NOR MORE THAN 1/8" ON A TWO-FOOT TRAVERSE SECTION. THE EDGE OF THE SIDEWALK SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/2".
4. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE SIDEWALKS AND THE CURB OR DRIVEWAY OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS SHALL BE 1/2" MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213. FOR LONG JOINTS, AN EXPANSION JOINT SHALL BE PLACED AT INTERVALS NOT TO EXCEED 120'.
5. CONTRACTION JOINTS:  
OPEN TYPE JOINTS  
OPEN TYPE CONTRACTION JOINTS SHALL BE FORMED BY STAKING A METAL BULKHEAD IN PLACE AND DEPOSITING THE CONCRETE ON BOTH SIDES. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO PRESERVE THE WIDTH AND THE SHAPE OF THE JOINT, THE BULKHEAD SHALL BE REMOVED. AFTER THE SIDEWALK HAS BEEN FINISHED OVER THE JOINT, THE SLOT SHALL BE FINISHED WITH A TOOL HAVING A 1/2" RADIUS.  
SAWED JOINTS  
A SLOT APPROXIMATELY 3/16" WIDE AND NOT LESS THAN 1" DEEP AT 10' CENTERS SHALL BE CUT WITH A CONCRETE SAW AFTER THE CONCRETE HAS SET.
6. SIDEWALKS ALONG OTHER STREETS SHALL BE CONSTRUCTED AND DEDICATED AS REQUIRED BY THE APPROVING AUTHORITY WHEN NECESSARY TO CONTINUE AN EXISTING OR PROPOSED SIDEWALK.
7. HANDICAP RAMPS SHALL MEET FLORIDA ACCESSIBILITIES STANDARDS, AND SECTIONS 301.5, 301.1 AND 301.2.
8. ALL SIDEWALKS ON R/W WITHIN 10' OF AN EXISTING OR PROPOSED TREE THAT WILL EXCEED 6" IN DIAMETER AT MATURITY SHALL BE 5" THICK AND CONTAIN 2-#3 REBAR CENTERED VERTICALLY AND SPACED 3' ON CENTER. PALMS ARE NOT CONSIDERED TREES.

\*NOTE: FOR COMPLETE SIDEWALK DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2008 EDITION, INDEX 304, SHEETS 1 THROUGH 6 AND INDEX 310, SHEETS 1 & 2.

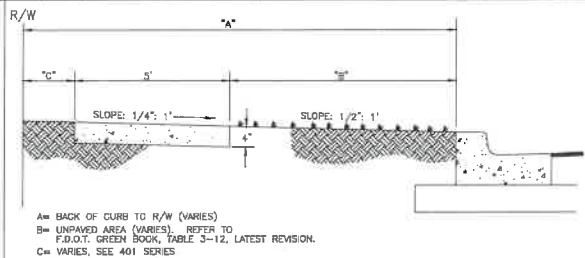
MANATEE COUNTY TRANSPORTATION DEPARTMENT		SIDEWALKS GENERAL NOTES	301.0
REV. BY	DATE		
	6/12/07		
	DATE OF E.C.C.C. APPROVAL		

#### NOTES:

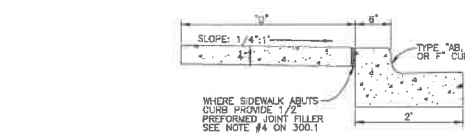
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3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
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MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-13
REV. BY	DATE		
CLB/BR	11/10		
	MAY 10, 2011		
	DATE OF APPROVAL		
			PAGE 113



TYPICAL SIDEWALK LOCATION

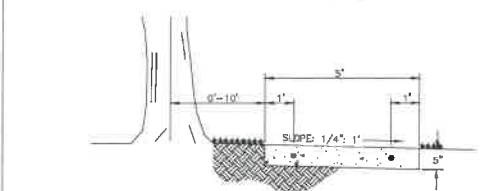


ALTERNATE SIDEWALK LOCATION

D= SIDEWALK WIDTH SHALL BE 6" STANDARD, WHERE WALK ADJUTS TYPE "B, D OR F" CURB. WHERE SPEED LIMIT IS 25 MPH OR LESS, WIDTH CAN BE 5'-8".

\* SEE SHEET 300.1 "GENERAL NOTES" FOR FURTHER INFORMATION

SIDEWALK LOCATION CLOSE TO TREES

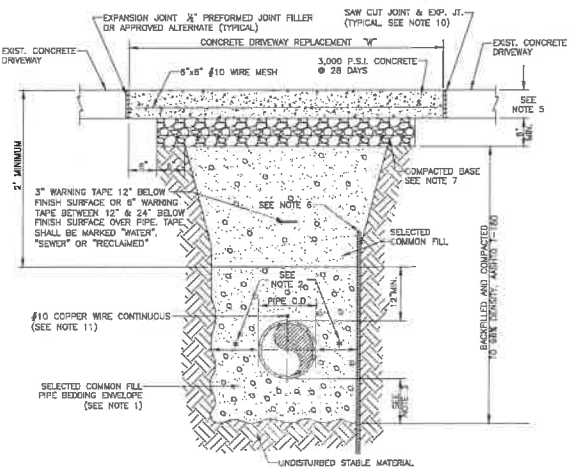


SIDEWALK LOCATION CLOSE TO TREES

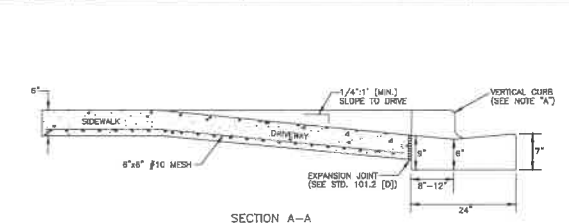
MANATEE COUNTY TRANSPORTATION DEPARTMENT		SIDEWALK REQUIREMENTS	301.1
REV. BY	DATE		
	6/12/07		
	DATE OF E.C.C.C. APPROVAL		

#### NOTES:

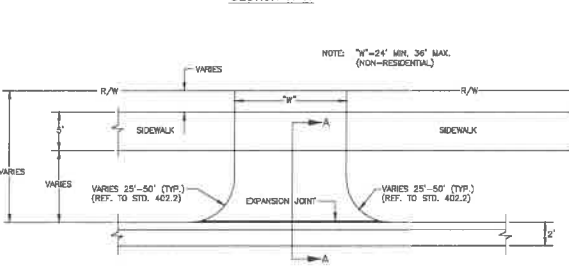
1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW THE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
7. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
8. DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
9. IF THE DRIVEWAY IS 12" OR WIDER, SAW CUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/4" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
10. IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-14
REV. BY	DATE		
CLB/BR	11/10		
	MAY 10, 2011		
	DATE OF APPROVAL		
			PAGE 114



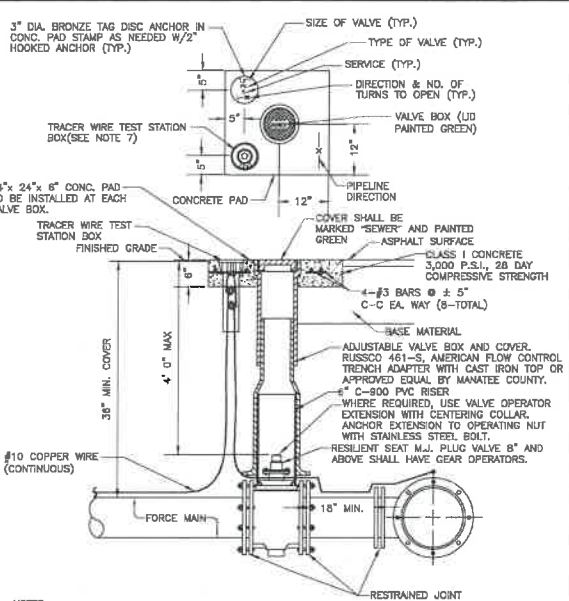
SECTION A-A



PLAN VIEW

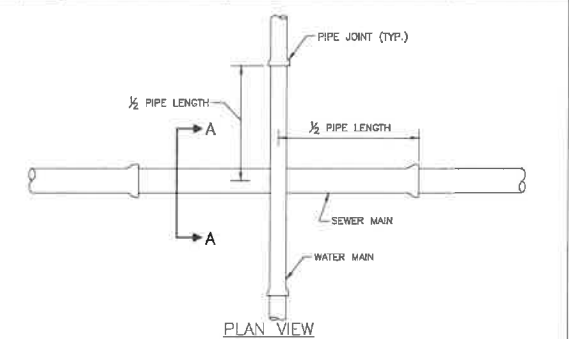
- A) IF REPLACING VERTICAL CURB AND GUTTER, REPLACE WITH MIAMI CURB AND GUTTER.  
\* NO CHANGE WITH 3" VALLEY CROSSING
- B) SIDEWALK, CONSTRUCT WITH 6" CONCRETE, 6"x6" #10 MESH, 3000 PSI AT 28 DAYS.
- C) DRIVEWAY CONSTRUCTED WITH 6" CONCRETE WITH 6"x6" #10 MESH, 3000 PSI AT 28 DAYS.
- D) EXPANSION JOINT 1/2" PREFORMED JOINT FILLER PER FDOT SECTION 932-1.1 OR APPROVED ALTERNATE.  
\* IF DRIVE IS WIDER THAN 12", ADD JOINTS AT 10' CENTERS
- E) 5' SIDEWALK ON LOCAL STREETS, 5' SIDEWALK ON THROUGHFARES.  
(MIXED USE PATHS MAY REQUIRE 6' SIDEWALKS PER LAND DEVELOPMENT CODE.)

MANATEE COUNTY TRANSPORTATION DEPARTMENT		COMMERCIAL & INDUSTRIAL DRIVE	101.3
REV. BY	DATE		
	6/12/07		
	DATE OF E.C.C.C. APPROVAL		

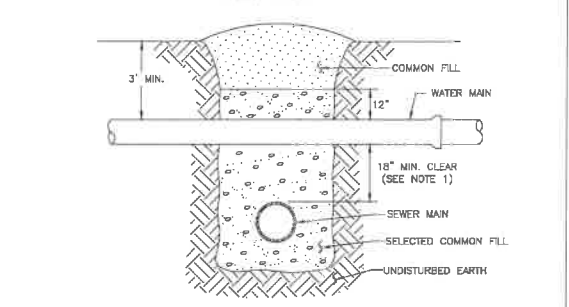


1. "SV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A GREEN DISC WITH "SV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (FT.) FROM THE DISC TO THE VALVE.
2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.
3. SEWER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
4. PRECAST CONCRETE PADS SHALL NOT BE USED.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. PLUG VALVES SHALL NOT BE USED AS A TAPPING VALVE. WHERE AN EXISTING FORCE MAIN IS TO BE TAPPED, USE A TAPPING GATE VALVE PER THE TAPPING SLEEVE AND VALVE DETAIL.
7. TEST BOX TO BE BINGHAM & TAYLOR P200NFG OR EQUAL FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PLUG VALVE, BOX, COVER AND TAG	US-12
REV. BY	DATE		
CLB/BR	11/10		
	MAY 10, 2011		
	DATE OF APPROVAL		
			PAGE 132



PLAN VIEW



SECTION A-A

1. CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE RIGID. FOR FORCE MAIN WHERE FORCE MAIN IS ENCASED A MINIMUM OF 10' EACH SIDE OF CROSSING.
2. WHERE AN ENCASEMENT IS REQUIRED, PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE PROTECTED BY A MINIMUM OF 12" OF CONCRETE. THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.
3. REFER TO THE 2008 & 2009 CROSSING DETAIL FOR CASING AND SPACER REQUIREMENTS.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		TYPICAL NEW WATER & SEWER LINE CROSSING	UG-2
REV. BY	DATE		
CLB/BR	11/10		
	6/12/07		
	DATE OF APPROVAL		
			PAGE 102

**GROUNDWATER /  
DEWATERING NOTE:**  
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



SHEET NUMBER

15

**Kimley»Horn**  
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100 2ND AVENUE SOUTH, SUITE 300S, ST. PETERSBURG, FL 33701  
PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM CA 00000695

KHA PROJECT  
148400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR

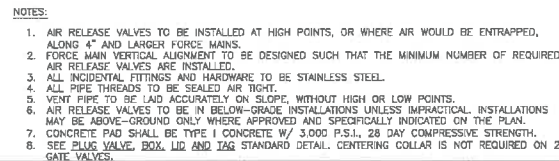
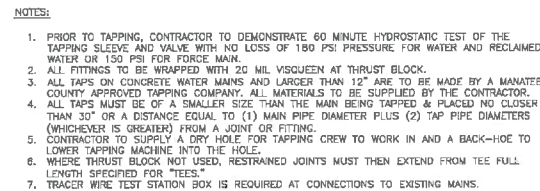
END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY



MANATEE COUNTY  
PUBLIC WORKS DEPARTMENT  
No. 69051  
DATE OF APPROVAL  
6/12/07

CONSTRUCTION DETAILS





**NOTES:**

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:  
SOIL TYPE-SP TEST PRESSURE-150/200 PSI  
TRENCH TYPE-3 SAFETY FACTOR- 1.5  
MINIMUM PIPE LENGTH ALONG THE RUN-5'-5"  
DEPTH OF BURY-3' VERTICAL OFFSET-3'-3"
2. THE RESTRAINED PIPE LENGTHS APPLY TO PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF FITTINGS.
5. CONTRACTOR TO REFER TO MANATEE COUNTY DETAIL UG-6 FOR PVC RESTRAN LENGTHS, IF FITTING TYPE OR PIPE SIZE IS NOT SHOWN, REFER TO THIS DETAIL FOR ADDITIONAL REFERENCE.
6. RESTRAINED JOINTS SHALL EXTEND ONE JOINT BEYOND MIN. LENGTH REQUIRED.

**NOTES:**

1. RESTRAIN 11/25" BENDS 50% OF LENGTH FOR 22.5" BENDS.
2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
3. ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
4. PIPE SIZES ARE GIVEN IN INCHES.
5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
6. LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
7. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURIAL CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.
9. IF FITTING TYPE OR PIPE SIZE IS NOT SHOWN, REFER TO THE ADDITIONAL RESTRAINED LENGTHS DETAIL FOR SECONDARY REFERENCE ON THIS SHEET.



<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PVC PIPE	UG-8  PAGE 108
SY BR	DATE 11/10		
MAY 10, 2011			
DATE OF APPROVAL			

\*PERFORM AS THE BEND AND APPROACHES 90°; LATERAL MOVEMENT OF THE OUTER LEGS APPROACHES 200% OF THE CONDITION, RESTRAIN ALL PIPE BETWEEN THE FITTINGS AND RESTRAIN THE OUTER LEGS AS DEAD ENDS.

ADDITIONAL RESTRAIN LENGTHS DETAIL

(SOURCE: FRANKLIN RESTRAIN LENGTH CALCULATION PROGRAM FOR A/C PIPE RELEASE 7.1.2)

**GROUNDWATER /  
DEWATERING NOTE:**  
THE PRESENCE OF GROUNDWATER  
SHOULD BE ANTICIPATED ON THIS  
PROJECT. CONTRACTOR'S BID SHALL  
INCLUDE CONSIDERATION FOR THIS  
ISSUE. WHEN PERFORMING GRADING  
OPERATIONS DURING PERIODS OF WET  
WEATHER, PROVIDE ADEQUATE  
DEWATERING, DRAINAGE AND GROUND  
WATER MANAGEMENT TO CONTROL  
MOISTURE OF SOILS.



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SHEET NUMBER

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# Kimley»Horn

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100 2ND AVENUE SOUTH, SUITE 300S, ST. PETERSBURG, FL 33701  
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KHA PROJECT 148400025	
DATE 5/3/2019	
SCALE AS SHOWN	
DESIGNED BY	WWW
DRAWN BY	LMB
CHECKED BY	SNR

END OF SERVICE LIFE: FY-18

FM 29A/ OLD TAMPA RD/ FM 10M/ DESOT

MANATEE COUNTY

LICENSED PROFESSIONAL  
STATE OF  
W. WADE MOORE, D-1  
FL LICENSE NUMBER  
89051

## CONSTRUCTION DETAILS

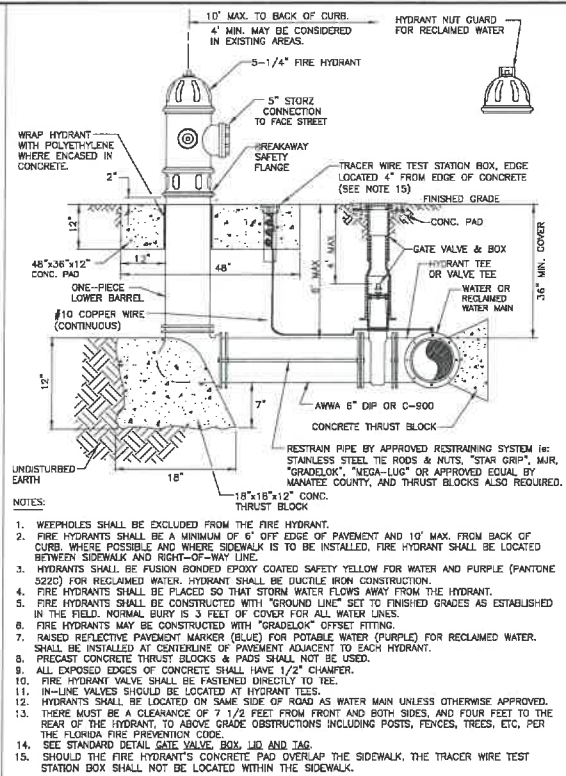
ADDITIONAL RESTRAINT LENGTHS DETAIL FOR PVC

(SOURCES: FBI IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR

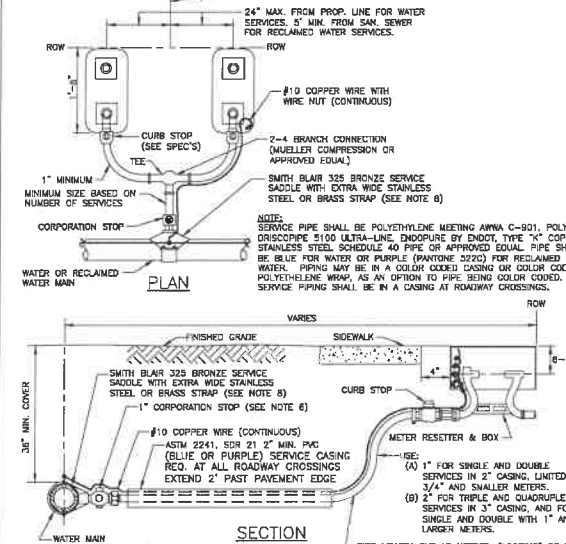
FL ESOTERIC PROFESSIONAL ESTATE PLANNING  
DATE: 11/11/2011  
FL LICENSE NUMBER 100001  
W. WADE WOODWARD  
STATE OF FLORIDA  
LICENSED PROFESSIONAL ESTATE PLANNING



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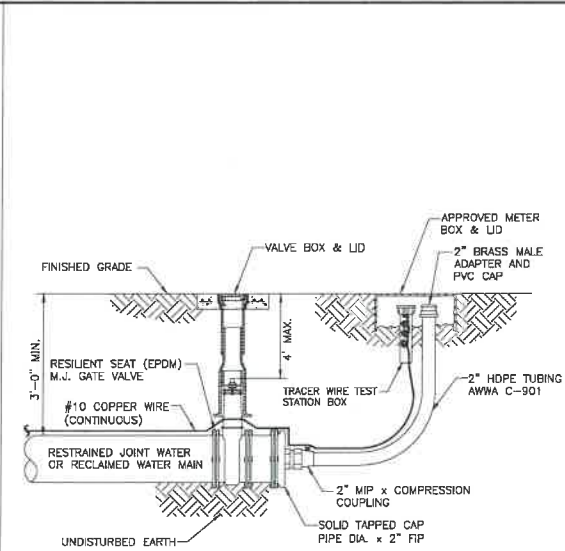


MANATEE COUNTY PUBLIC WORKS DEPARTMENT		FIRE HYDRANT ASSEMBLY		UW-5
REV. BY	DATE	DATE OF APPROVAL		PAGE 123
CLB/BR	11/10	MAY 10, 2011		



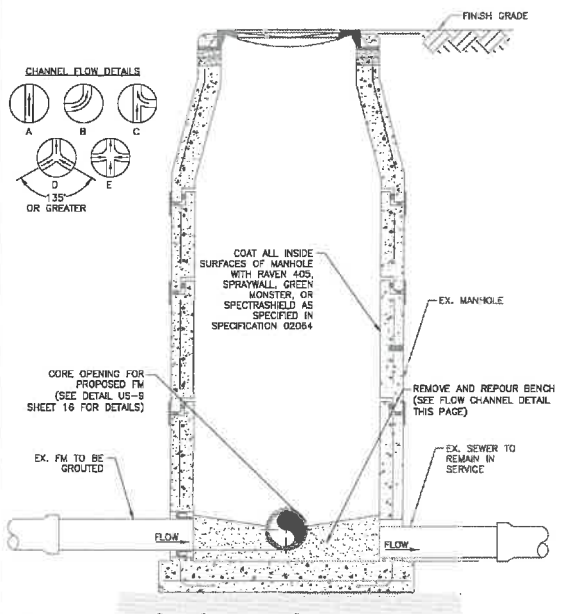
- NOTES:
1. ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPOT EXITS.
  2. METER BOXES & RESETTERS ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS.
  3. "WM" OR "RM" TO BE IMPRESSED INTO THE NEWLY POURED CONCRETE CURB ALONG WITH DISTANCE IN FEET TO THE METER. IF NO CURB, INSTALL A BLUE DISC WITH "WM" OR A PURPLE DISC WITH "RM" AND A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (IN FEET) FROM THE DISC TO THE METER.
  4. #10 COPPER WIRE SHALL BE INSTALLED WITH WATER AND RECLAIMED MAIN AND ALL SERVICES. SERVICE WIRE SHALL BE CONNECTED TO THE TRACER WIRE ALONG THE MAIN.
  5. WATER AND RECLAIMED WATER SERVICE LINES TO BE 5' MINIMUM FROM SEWER SERVICE PIPES.
  6. FOR 2" SERVICES REPLACE CORPORATION STOP WITH 2" RESILIENT WEDGE PP GATE VALVE W/BOX, LID & TAG.
  7. WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE ROW IS ONE FOOT (CUL-DE-SAC W/MEDIAN) A 10'-0" WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
  8. FOR HOPE MAINS, USE ROMAC 306H SS OR CENTRAL PLASTICS ELECTRO FUSION CORP SADDLE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL SERVICE CONNECTION		UW-19
REV. BY	DATE	DATE OF APPROVAL		PAGE 137
CLB/BR	11/10	MAY 10, 2011		



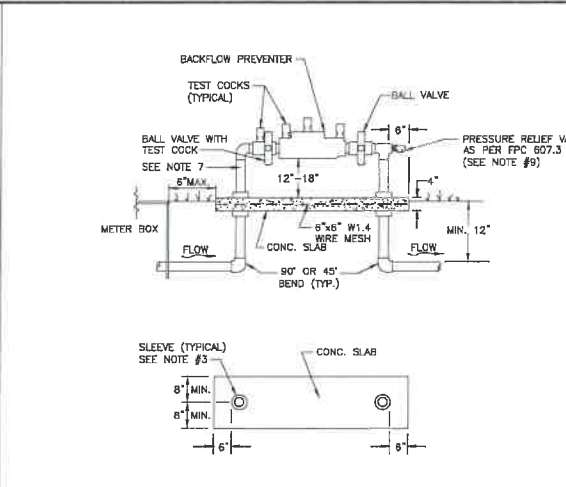
- NOTE:
1. SEE STANDARD DETAIL GATE VALVE, BOX, LID AND TAG.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		2" BLOW-OFF ASSEMBLY FOR 10" MAINS AND SMALLER		UW-7
REV. BY	DATE	DATE OF APPROVAL		PAGE 125
CLB/BR	11/10	MAY 10, 2011		



- NOTE:
1. DROP MANHOLES, MANHOLES WITH OPPOSING FLOW (DETAILS D & E), MANHOLES IMMEDIATELY UPSTREAM OF A LIFT STATION WET WELL, MANHOLES WITH GRAVITY SEWERS GREATER THAN 12 INCHES IN DIAMETER, MANHOLES RECEIVING A FORCE MAIN AND THE FIRST TWO GRAVITY MANHOLES DOWNSTREAM OF MANHOLES RECEIVING A FORCE MAIN SHALL HAVE AN APPROVED LINER.
- FLOW CHANNEL DETAIL:
1. MAINTAIN DESIGN SLOPE ACROSS MANHOLE UNLESS OTHERWISE INDICATED.
  2. DEPTH OF ALL CHANNELS TO BE BOX OF PIPE DIAMETER.
  3. FINISH OF ALL CHANNELS TO ALLOW SMOOTH FLOW.
  4. CONCRETE BENCH SHALL BE POURED BEFORE SHUTTING DOWN DEWATERING OPERATIONS TO PREVENT FLOTATION.
  5. BRICK MAY BE USED TO BUILD UP CONCRETE BENCH.
  6. MINIMUM ANGLE BETWEEN INLET AND OUTLET PIPING IS 90 DEGREES.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		MANHOLE REHAB DETAIL		NTS
REV. BY	DATE	DATE OF APPROVAL		
CLB/BR	11/10	MAY 10, 2011		



- NOTES:
1. BACKFLOW DEVICE MUST BE INSTALLED IMMEDIATELY DOWNSTREAM OF METER, AS SHOWN ABOVE.
  2. COPPER PIPE TYPE "K" OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
  3. PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
  4. THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND THE MANATEE COUNTY BACKFLOW PREVENTION ORDINANCE (LATEST EDITION).
  5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
  6. BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
  7. PRESSURE REDUCING VALVE REQUIRED UPSTREAM OF BACKFLOW IF SYSTEM PRESSURE EXCEEDS 80 PSI.
  8. 3" MINIMUM CLEARANCE FROM LANDSCAPING PLANTS TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
  9. IN ADDITION TO THE PRV, THE BUILDING DEPT. MAY REQUIRE AN APPROVED DEVICE FOR THERMAL EXPANSION CONTROL.
  10. REFER TO DETAIL WATER METER & BACKFLOW PREVENTER FOR LIET STATIONS FOR WATER SERVICE AT SEWAGE PUMPING STATION.

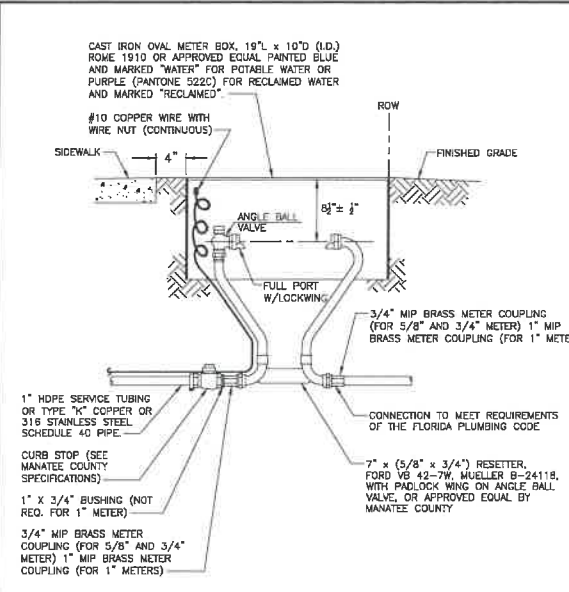
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		3/4" & 1" BACKFLOW PREVENTER		UW-12
REV. BY	DATE	DATE OF APPROVAL		PAGE 130
CLB/BR	11/10	MAY 10, 2011		

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)	
MAIN PIPE SIZE	TEES
36	100 42 20
30	88 37 18
24	75 31 15
20	65 27 13
16	54 22 11
12	43 18 8
10	37 15 7
8	30 13 6
6	24 10 5
4	17 7 3

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)	
MAIN PIPE SIZE	TEES
36	100 42 20
30	88 37 18
24	75 31 15
20	65 27 13
16	54 22 11
12	43 18 8
10	37 15 7
8	30 13 6
6	24 10 5
4	17 7 3

- NOTE:
1. SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.
  2. FOR VERTICAL BENDS, SEE ADDITIONAL RESTRAIN LENGTHS DETAIL FOR DIP THIS PAGE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR DIP		UG-9
REV. BY	DATE	DATE OF APPROVAL		PAGE 109
CLB/BR	11/10	MAY 10, 2011		



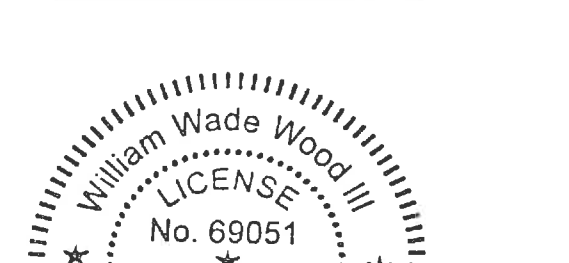
- NOTES:
1. FORD 40 SERIES RESETTERS V843 AND V844 OR EQUAL FOR 3/4" OR 1" METERS ALSO ALLOWED.
  2. METER BOX AND RESETER ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS.
  3. FOR COMPLETE SERVICE CONNECTION ASSEMBLY, SEE DETAIL TYPICAL SERVICE CONNECTION.
  4. WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE R/W IS ONE FOOT (CUL-DE-SAC W/ MEDIAN) A 10'-0" WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
  5. 3" MINIMUM CLEARANCE FROM LANDSCAPING PLANTS TO EDGE OF METER, CLEAR ACCESS OPENING TO STREET.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		METER BOX ASSEMBLY FOR 5/8" x 3/4", 3/4" & 1" METERS		UW-17
REV. BY	DATE	DATE OF APPROVAL		PAGE 135
CLB/BR	11/10	MAY 10, 2011		

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED	
FITTING TYPE	PIPE SIZE
90° VERT. OFFSET	4" 6" 8" 10" 12" 16" 20" 24" 30" 36"
45° VERT. OFFSET	4" 6" 8" 10" 12" 16" 20" 24" 30" 36"
22.5° VERT. OFFSET	4" 6" 8" 10" 12" 16" 20" 24" 30" 36"
1.25° VERT. OFFSET	4" 6" 8" 10" 12" 16" 20" 24" 30" 36"

- (SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR DI PIPE, RELEASE 7.1.2)
- NOTES:
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
    - SOIL TYPE-SP
    - TRENCH TYPE-3
    - MINIMUM PIPE LENGTH ALONG TEE, RUN-4'
    - DEPTH OF BURY-3'
    - VERTICAL OFFSET-3'
  2. THE RESTRAINED PIPE LENGTHS APPLY TO POLYWRAPPED DI PIPE.
  3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
  4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF FITTINGS.
  5. RESTRAINED JOINTS SHALL EXTEND ONE JOINT BEYOND MIN. LENGTH REQUIRED.

### ADDITIONAL RESTRAIN LENGTHS DETAIL FOR DIP



**GROUNDWATER / DEWATERING NOTE:**

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.

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**LICENSE**

**No. 69051**

**PROFESSIONAL ENGINEER**

**FL**

**Manatee County**

**RESTRAINED LENGTHS FOR DIP**

**UG-9**

**PAGE 109**

**Manatee County**

**CONSTRUCTION DETAILS**

**17**

**Manatee County**

**17**

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KHA PROJECT 148400025

DATE 5/3/2019

SCALE AS SHOWN

DESIGNED BY WWW

DRAWN BY LMB

CHECKED BY SNR

**Manatee County**

**END OF SERVICE LIFE: FY-18**

**FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO**

**MANATEE COUNTY**

**Manatee County**

**RESTRAINED LENGTHS FOR DIP**

**UG-9**

**PAGE 109**

**Manatee County**

**CONSTRUCTION DETAILS**

**17**

**Manatee County**

**17**

**Manatee County**

**CONSTRUCTION DETAILS**

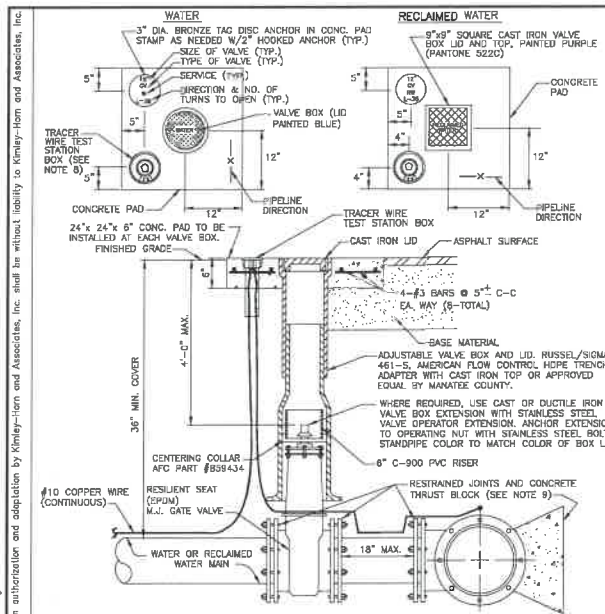
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**Manatee County**

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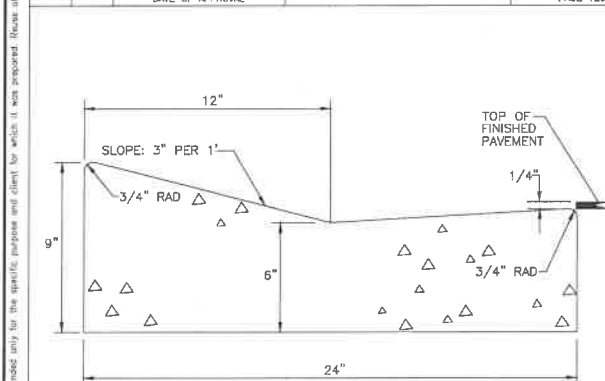
No.	REVISIONS	DATE	BY
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- NOTES:**
1. "WV" OR "RWV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "WV" OR PURPLE DISC WITH "RWV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
  2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
  3. WATER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
  4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
  5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/4".
  6. FOR VALVES 18" AND LARGER, USE BUTTERFLY VALVES.
  7. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY-POURED CONCRETE PAD.
  8. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX.
  9. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPACED FOR "TEES" BINGHAM & TAYLOR PRODUCTS FOR NORMAL YARD SERVICE WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE PIPING CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

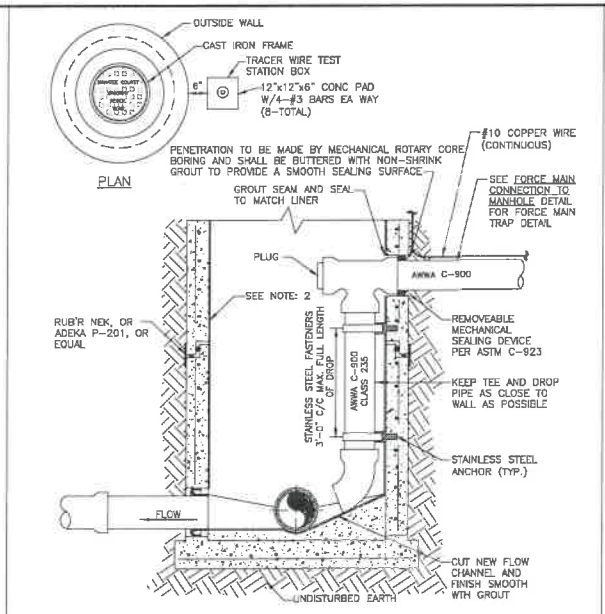
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, LID AND TAG		UW-2	
REV. BY	DATE	REV. BY	DATE	REV. BY	DATE
CLB/RE	11/7/10	CLB/RE	11/7/10	CLB/RE	11/7/10
	MAY 10, 2011		MAY 10, 2011		MAY 10, 2011
	DATE OF APPROVAL		DATE OF APPROVAL		DATE OF APPROVAL



TYPE "A"  
MIAMI CURB & GUTTER

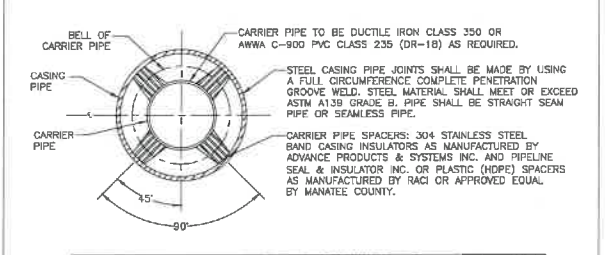
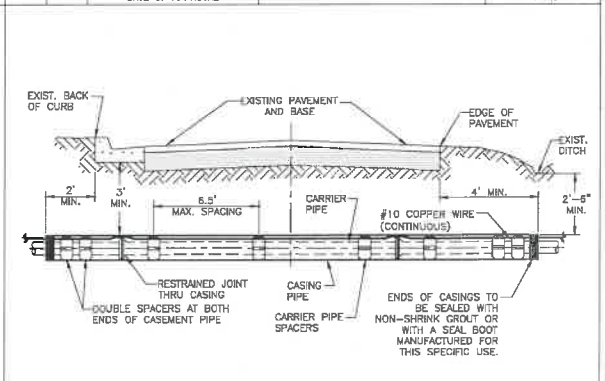
- A) CLASS 1 CONCRETE 3,000 P.S.I. AT 28 DAYS.
- B) CURB AND GUTTER SHALL MEET THE SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T. STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		TYPE A MIAMI CURB & GUTTER		201.1	
REV. BY	DATE	REV. BY	DATE	REV. BY	DATE
CLB/RE	6/12/07	CLB/RE	11/7/10	CLB/RE	11/7/10
	DATE OF B.O.C. APPROVAL		MAY 10, 2011		MAY 10, 2011



- NOTES:**
1. ALL FITTINGS SHALL BE ANNA C-907. DROP PIPE SHALL BE ANNA C-900 (CLASS 235, DR. 18).
  2. THIS IS AN INTERCEPT MANHOLE AND MUST BE LINED WITH AN APPROVED LINER. APPROVED SPRAY-ON LINERS MAY BE USED FOR EXISTING MANHOLES. REFER TO SECTION 1 OF THE MANATEE COUNTY UTILITY STANDARDS.
  3. INSIDE DROP MANHOLES ARE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN THE LOWEST EXISTING MANHOLE INVERT AND THE HIGHEST PIPE INVERT IS 2'-0" OR GREATER.
  4. ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL.
  5. TRAP IS REQUIRED IN FORCE MAIN BEFORE ENTERING MANHOLE.

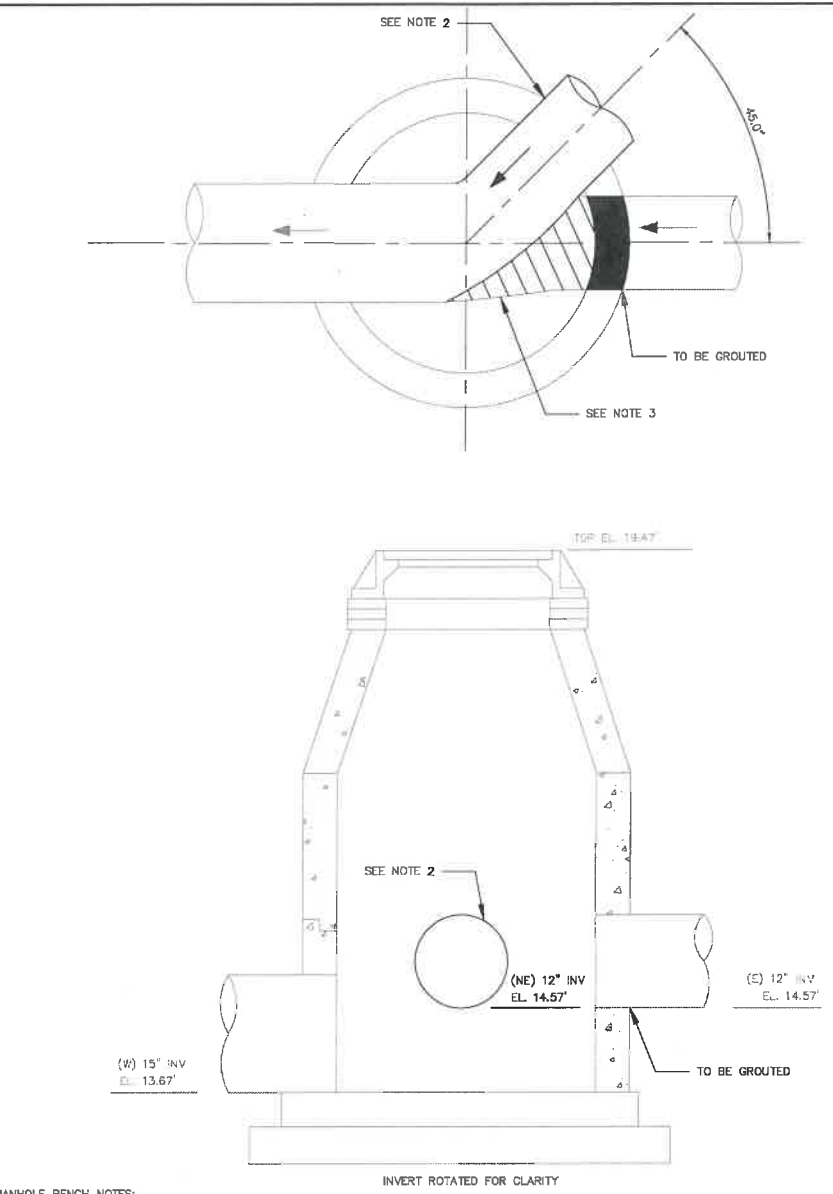
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		FORCE MAIN RETROFIT FOR INSIDE-DROP CONNECTION		US-8	
REV. BY	DATE	REV. BY	DATE	REV. BY	DATE
CLB/RE	11/7/10	CLB/RE	11/7/10	CLB/RE	11/7/10
	MAY 10, 2011		MAY 10, 2011		MAY 10, 2011
	DATE OF APPROVAL		DATE OF APPROVAL		DATE OF APPROVAL



CARRIER SIZE & MINIMUM CASING SIZE	
CARRIER	CASING / WALL THICKNESS
4"	0.186
6"	0.186
8"	0.250
10"	0.250
12"	0.344
14"	0.405
16"	0.405
18"	0.405
20"	0.405

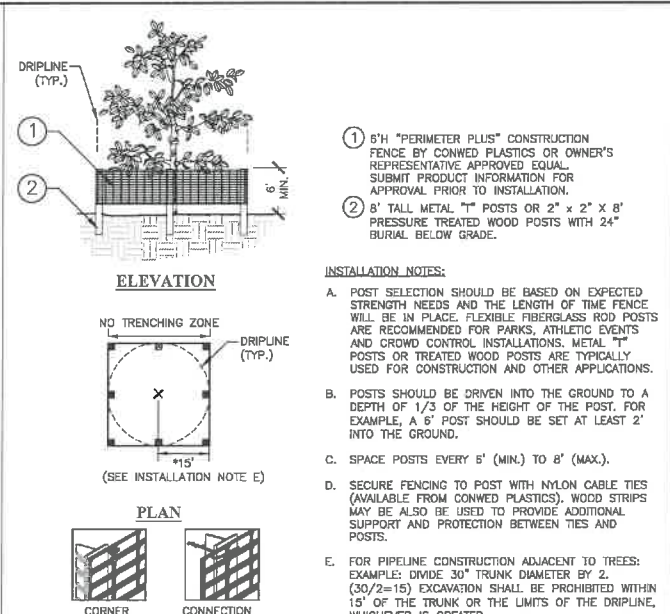
- NOTES:**
1. THE ENGINEER OF RECORD MAY SELECT LARGER CASING DIAMETERS.
  2. FOR JACK & BORE SPECIFICATIONS UNDER STATE ROADS AND RAILROADS REFER TO THE F.D.O.T. UTILITY ACCOMMODATION MANUAL, LATEST EDITION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		JACK & BORE CROSSING		UG-3	
REV. BY	DATE	REV. BY	DATE	REV. BY	DATE
CLB/RE	11/7/10	CLB/RE	11/7/10	CLB/RE	11/7/10
	MAY 10, 2011		MAY 10, 2011		MAY 10, 2011



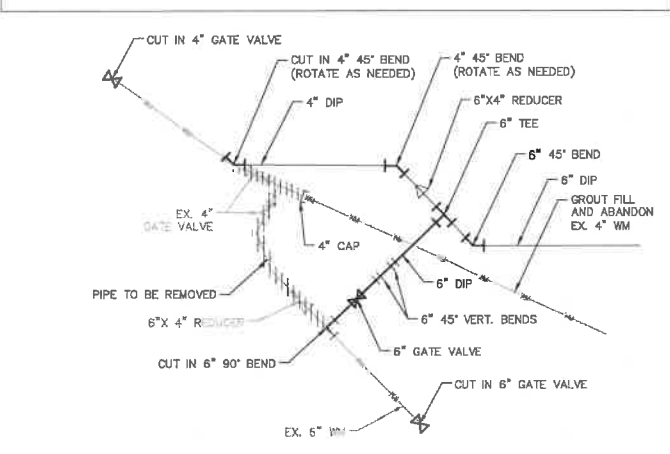
- MANHOLE BENCH NOTES:**
1. MANHOLE SHALL BE COATED PER COUNTY SPECIFICATION 02084 (REFER TO DETAIL 1 SHEET 17)
  2. MORTAR AND BRICK TO CLOSE OPENING AROUND AND BELOW PROPOSED PIPE.
  3. REFER TO DETAIL 1 SHEET 17 FOR MANHOLE REHABILITATION DETAILS.

MANHOLE #13029 CONNECTION DETAIL - FM 29A



- INSTALLATION NOTES:**
- A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.
  - B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.
  - C. SPACE POSTS EVERY 5' (MIN.) TO 8' (MAX.).
  - D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.
  - E. FOR PIPELINE CONSTRUCTION ADJACENT TO TREES: EXAMPLE: DIVIDE 30" TRUNK DIAMETER BY 2. (30/2=15) EXCAVATION SHALL BE PROHIBITED WITHIN 15' OF THE TRUNK OR THE LIMITS OF THE DRIPLINE, WHICHEVER IS GREATER.

1 TREE PROTECTION FENCING  
ELEVATION / PLAN  
NTS



DESOTO WATER MAIN CONNECTION DETAIL  
N.T.S.

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PHONE: 727-547-3999  
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 148400025  
DATE 5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR

Manatee County  
END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

William Wade Wood III  
LICENSE  
No. 69051  
PROFESSIONAL ENGINEER  
DATE:

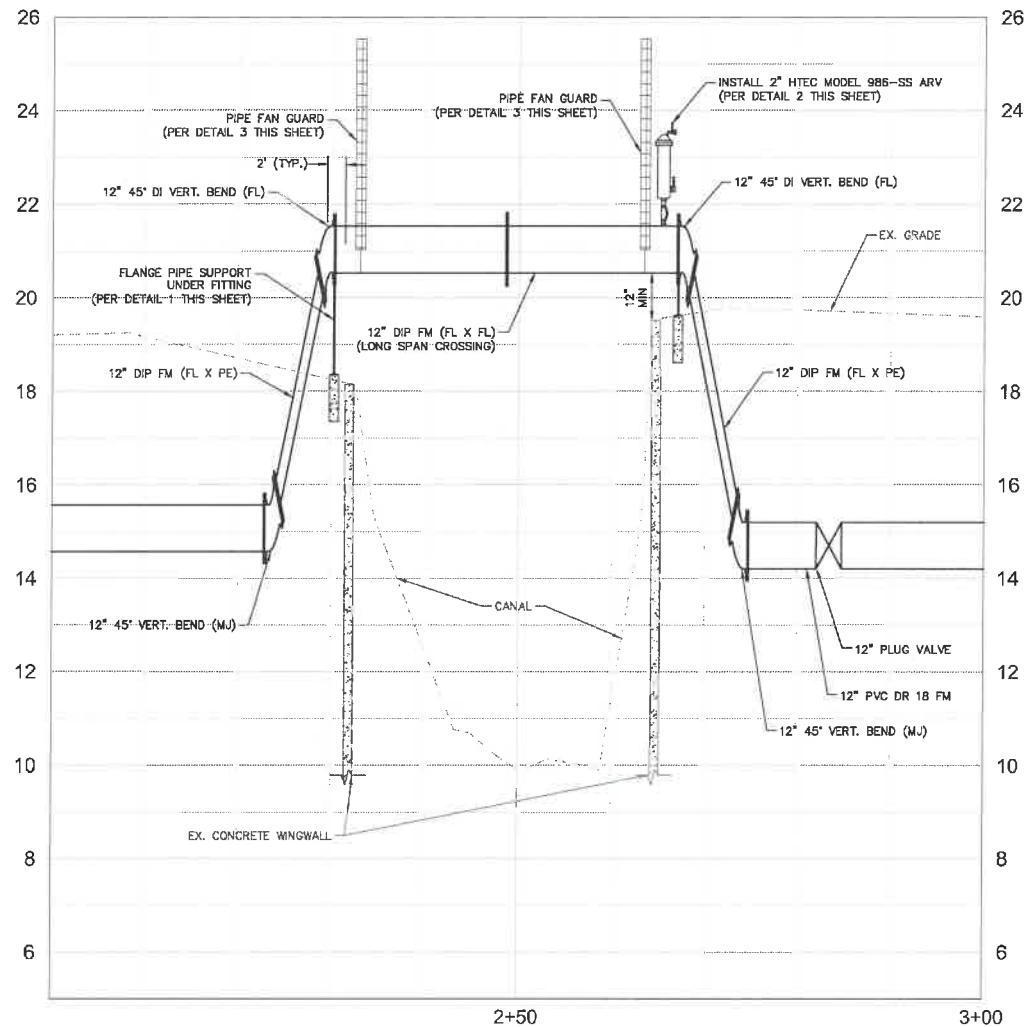
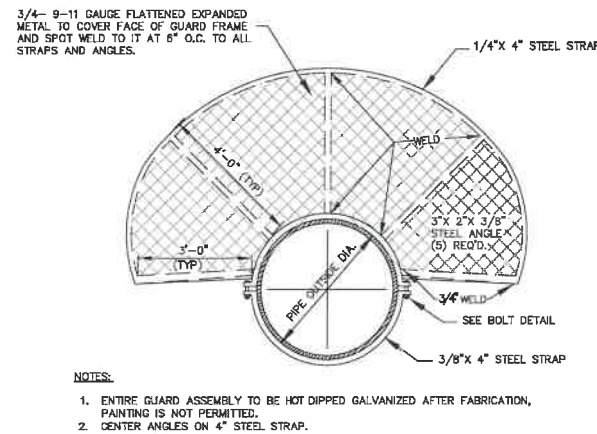
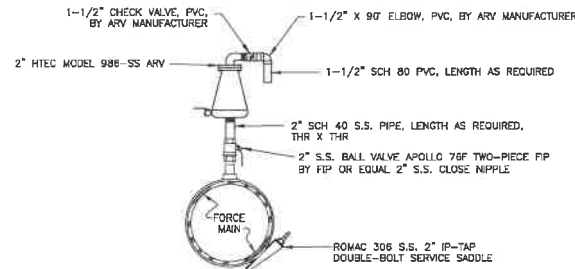
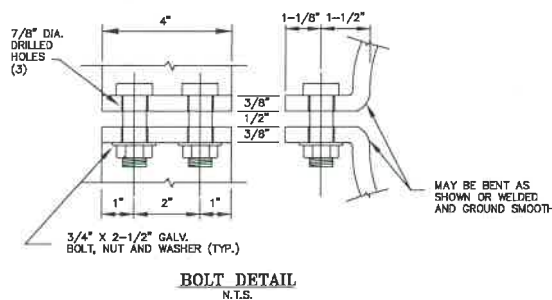
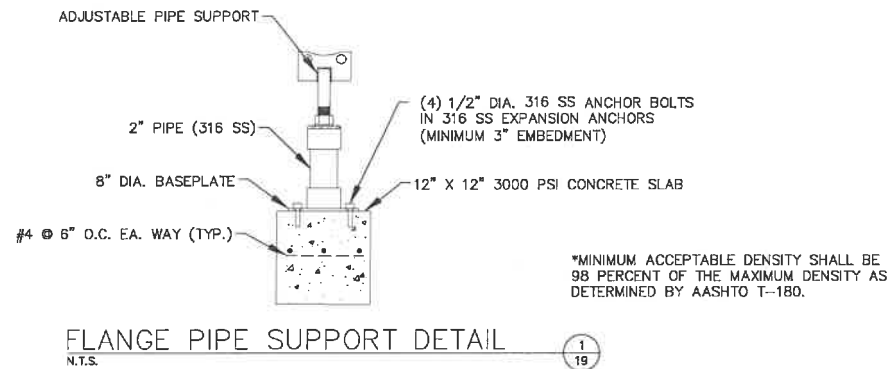
GROUNDWATER / DEWATERING NOTE:  
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE, WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.

811  
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SHEET NUMBER  
18



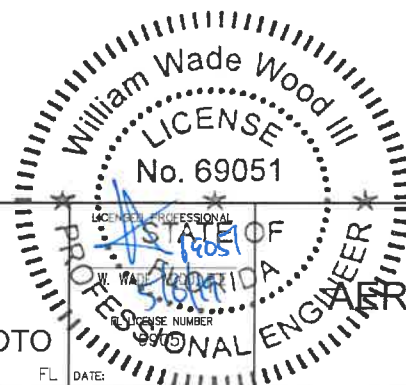
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- NOTES:
1. ALL ABOVEGROUND HARDWARE FOR FLANGE CONNECTIONS SHALL BE STAINLESS STEEL.
  2. ALL JOINTS SHALL BE RESTRAINED PER THE COUNTY STANDARDS.
  3. FLANGE ADAPTERS WILL NOT BE ALLOWED.
  4. CONTRACTOR TO FIELD MEASURE PIPE LENGTHS AND PERFORM UTILITY LOCATES BEFORE ORDERING MATERIALS.
  5. PAINT AND COAT PROPOSED DIP 18" FORCE MAIN AERIAL CROSSING PER MANATEE COUNTY SPECIFICATIONS SECTION 09900 "PAINTING".
  6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL THAT FOLLOW THE PIPE MANUFACTURER'S RECOMMENDATIONS.

GROUNDWATER / DEWATERING NOTE:

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



**Kimley»Horn**

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WWW.KIMLEY-HORN.COM CA 00000695

KHA PROJECT  
148400025  
DATE  
5/3/2019  
SCALE AS SHOWN  
DESIGNED BY WWW  
DRAWN BY LMB  
CHECKED BY SNR



END OF SERVICE LIFE: FY-18  
FM 29A/ OLD TAMPA RD/ FM 10M/ DESOTO  
MANATEE COUNTY

FL DATE:

AERIAL CROSSING DETAIL

SHEET NUMBER

19