

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

THIS PROJECT TO BE LET TO CONTRACT  
WITH FINANCIAL PROJECT ID(S):  
436551-2-52-01, 436551-2-56-01

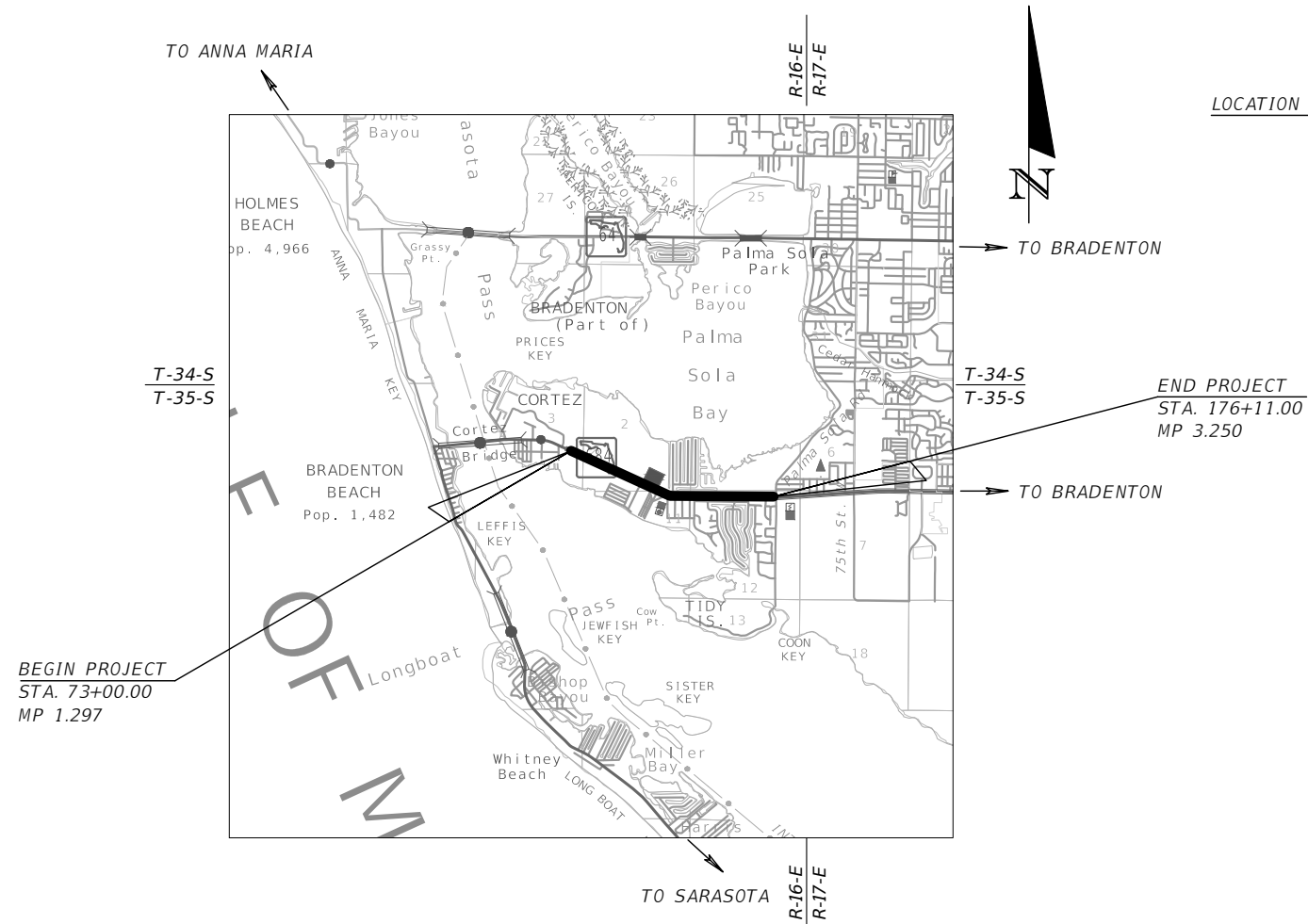
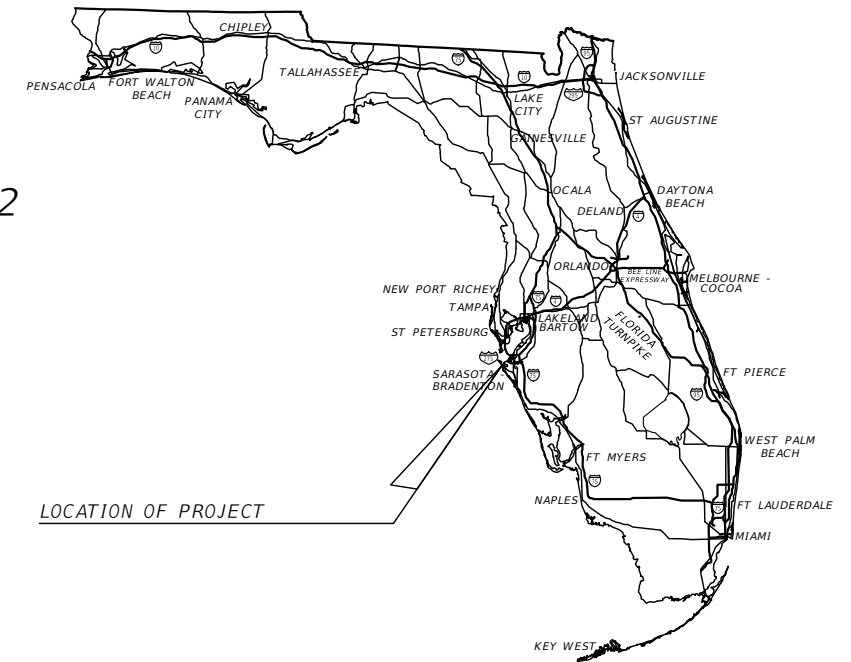
CONTRACT PLANS

FINANCIAL PROJECT ID(S) 436551-1-52-01 & 436551-1-52-02  
MANATEE COUNTY (13040)

STATE ROAD NO. SR 684

INDEX OF UTILITY ADJUSTMENT PLANS

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1	KEY SHEET
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MANATEE COUNTY PUBLIC  
UTILITIES DEPARTMENT  
RGB MARK-UPS

RGB MARK-UPS PROVIDED BY:  
AYRES ASSOCIATES  
8875 HIDDEN RIVER PARKWAY, #200  
TAMPA, FL 33637  
813-978-8688  
CERTIFICATE OF AUTHORIZATION: #4356

PHASE II REVISED SUBMITTAL  
AUGUST 30, 2018

UTILITY ADJUSTMENT PLANS  
ENGINEER OF RECORD:

CHRISTOPHER K. MARTIN  
P.E. NO.: 66598  
AYRES ASSOCIATES  
8875 HIDDEN PARKWAY, #200  
TAMPA, FL 33637  
CONTRACT NO.: N/A  
VENDOR NO.: N/A  
CERTIFICATE OF AUTHORIZATION NO.: 4356

FDOT PROJECT MANAGER:  
RICHARD (MOSE) HOWARD, P.E.

GOVERNING DESIGN STANDARDS:  
Florida Department of Transportation, FY2018-19 Standard Plans for  
Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available  
at the following website: <http://www.fdot.gov/design/standardplans>

GOVERNING STANDARD SPECIFICATIONS:  
Florida Department of Transportation, July, 2018 Standard  
Specifications for Road and Bridge Construction at the following  
website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T1720	19	1

**GENERAL NOTES:**

1. THE EXISTING TOPOGRAPHY AND PROPOSED ROADWAY IMPROVEMENT PLANS SHOWN ON THIS SET OF PLANS WERE DERIVED FROM FDOT ROADWAY IMPROVEMENT PLANS FPID #436551-1-52-01 PHASE II REVISED SUBMITTAL DATED AUGUST 30, 2018 AND BEST AVAILABLE INFORMATION. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE BASED UPON AVAILABLE INFORMATION REVIEWED AT THE TIME OF DOCUMENT PREPARATION AND ARE APPROXIMATE ONLY. EXACT LOCATIONS, DEPTHS OF UTILITIES, AND TYPE OF PIPE MUST BE VERIFIED BY THE CONTRACTOR BEFORE ORDERING MATERIALS, 72 HOURS PRIOR TO EXCAVATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THE SAME DURING CONSTRUCTION. THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICT WITH THE PROPOSED CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING RECORD DRAWING INFORMATION INCLUDING, BUT NOT LIMITED TO FINISHED GRADE ELEVATIONS, TIES TO FORCE MAINS, VALVES, BENDS, ELEVATIONS OF PIPES WHERE DEPTH OF COVER VARIES FROM DESIGN, TIES TO SANITARY SEWER LINE, MANHOLE RIM AND INVERT ELEVATIONS, CLEANOUTS AND SERVICE CONNECTIONS. LOCATIONS, DIMENSIONS, AND ELEVATIONS OF ALL OTHER CONSTRUCTION COMPONENTS WHICH VARY FROM THE DESIGN.
3. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL AFFECTED FEDERAL, STATE, LOCAL, AND PRIVATE ENTITIES POTENTIALLY AFFECTED. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE OF WHEN CONSTRUCTION WILL COMMENCE IN THE AREA IN ORDER TO PERMIT FIELD LOCATION OF UTILITY LINES PRIOR TO CONSTRUCTION. A TOLL FREE NUMBER, 811 IS AVAILABLE TO ASSIST IN SUCH COORDINATION EFFORTS. THIS NUMBER IS PART OF THE UTILITY NOTIFICATION EFFORTS. THIS IS REFERRED TO AS "SUNSHINE811", BUT DOES NOT TOTALLY REPRESENT ALL UTILITIES POTENTIALLY AFFECTED. ALL UTILITIES SHALL BE KEPT IN OPERATION EXCEPT WITH THE EXPRESS WRITTEN CONSENT OF THE UTILITY OWNER. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE EXISTING UTILITIES. ANY AND ALL DAMAGE TO PROPERLY LOCATED EXISTING UTILITIES AS A RESULT OF THE CONTRACTOR'S ACTIVITIES, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE A REVIEW OF THE SITE TO DETERMINE EXISTING CONDITIONS AND ANYTHING NOT COVERED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE (ENGINEER OF RECORD) AND BE PART OF THE BID VALUE.
5. THE CONTRACTOR SHALL NOTIFY THE COUNTY A MINIMUM OF 2 WEEKS IN ADVANCE OF ANY AND ALL WORK REQUIRING DISRUPTION OF ACCESS, WATER, OR SANITARY SEWER SERVICE. DISRUPTION IN SERVICE TO ANY PROPERTY OWNER SHALL NOT EXCEED 2 HOURS FOR WATER AND 4 HOURS FOR SANITARY SEWER SERVICE. ACCESS TO PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
6. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROTECTING THE INTEGRITY OF THE UTILITY POLES AND SIGNAL POLES DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, MAILBOXES, IRRIGATION LINES, SIGNS, LANDSCAPING, SOD, WETLANDS, ETC.
7. ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION ACTIVITIES SHALL BE COMPLETELY RESTORED WITH THE SAME TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP AS PREVIOUSLY EXISTED.

8. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY, APPROPRIATE EROSION CONTROL DEVICES SHALL BE INSTALLED TO CONTROL AND REDUCE SOIL EROSION AND SEDIMENT TRANSPORT TO OFF-SITE AREAS. THE CONTRACTOR SHALL MAINTAIN THESE DEVICES THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEVICES SHALL REMAIN IN-PLACE UNTIL THE SURROUNDING AREAS ARE ESTABLISHED. THESE DEVICES SHALL BE INSTALLED ACCORDING TO THE FLORIDA DEVELOPMENT MANUAL PUBLISHED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND GOVERNING CONTRACT DOCUMENTS.
9. ALL WATER COLLECTED AND PUMPED DURING TRENCH DEWATERING ACTIVITIES SHALL BE DISPOSED OF IN ACCORDANCE WITH NPDES REQUIREMENTS.
10. ALL FACILITIES AND ACCESSORIES SHALL BE INSTALLED IN CONFORMANCE WITH APPLICABLE LOCAL CODES AND REQUIREMENTS AND THESE CONTRACT DOCUMENTS.
11. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP EXCAVATIONS DRY AND SHALL PROVIDE ALL SHORING, SHEETING, AND BRACING NECESSARY TO PROTECT WORKMEN, ADJACENT STRUCTURES, UTILITIES, EXISTING PAVEMENT, OR TO MINIMIZE TRENCH. THE CONTRACTOR SHALL PROVIDE ADEQUATE TRENCH SAFETY FOR TRENCH EXCAVATIONS, AND COMPLY WITH OSHA AND THE STATE OF FLORIDA TRENCH SAFETY REGULATIONS. THE COST OF DEWATERING SHALL BE INCLUDED IN THE PIPING PAY ITEMS.
12. ALL TEES, CROSSES, PLUGS, BENDS (HORIZONTAL AND VERTICAL), DEFLECTING 11-1/4 DEG OR MORE, SHALL BE INSTALLED WITH RESTRAINED JOINTS.
13. DEPTH OF COVER AS MEASURED FROM FINISHED GRADE TO TOP OF THE PIPELINE SHALL BE A MINIMUM OF 48 INCHES UNLESS OTHERWISE INDICATED. PIPELINES 12 INCHES AND LESS DEPTH OF COVER FROM FINISHED GRADE TO TOP OF PIPELINE SHALL BE MINIMUM 36 INCHES.
14. THE CONTRACTOR SHALL ADJUST (AS REQUIRED) PIPELINE ALIGNMENTS HORIZONTALLY AND/OR VERTICALLY TO AVOID CONFLICTS WITH ACTUAL FIELD CONDITIONS AS UNCOVERED DURING CONSTRUCTION. FIELD ADJUSTMENT SHALL BE COORDINATED WITH, AND APPROVED BY, THE ENGINEER.
15. THE CONTRACTOR SHALL BRACE AND PROTECT ALL EXISTING EXPOSED UTILITIES; AND COORDINATE HIS/HER EFFORTS WITH THE UTILITY OWNER.
16. 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.
17. THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS SET FORTH IN MANATEE COUNTY'S PUBLIC WORKS STANDARDS (<https://www.myanatee.org/>).

**SEPARATION REQUIREMENTS:**

1. VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, AND WASTEWATER OR STORMWATER FORCE MAINS: NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAINS SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. WATER MAIN TO BE ABOVE THE OTHER PIPELINE UNLESS NOTED OTHERWISE. NEW RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN SHALL HAVE ONE FULL LENGTH OF WATER MAIN PIPE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN STORM SEWERS AND STORMWATER FORCE MAINS AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS AND WASTEWATER FORCE MAINS.
2. HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, AND WASTEWATER OR STORMWATER FORCE MAINS:  
  
NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN OR RIGHT OF WAY LINES.  
  
NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, OR WASTEWATER FORCE MAIN.

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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**TRAFFIC NOTES & SPECIAL CONDITIONS:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC WHICH WILL CONFORM TO THE CURRENT EDITION OF THE FEDERAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND FDOT DESIGN STANDARDS 600 SERIES.
2. ALL BACKFILLED MATERIAL SUCH AS SAND, GRAVEL, DIRT, ETC., NOT USED BY THE END OF EACH WORK DAY, MUST BE STORED IN A LOCATION OTHER THAN ON PAVEMENT.
3. ALL DUST SHALL BE CONTROLLED ON SITE. ONLY AREAS SCHEDULED FOR IMMEDIATE CONSTRUCTION SHALL BE CLEARED OR STRIPPED OF PAVEMENT OR VEGETATION. WATERING, APPLICATION OF CALCIUM CHLORIDE OR OTHER PRIOR APPROVED MEASURE OF DUST CONTROL SHALL BE EMPLOYED TO PREVENT THE EMANATION OF DUST FROM THE SITE. PERMANENT PAVEMENT, GRASS, LANDSCAPING, AND OTHER SITE WORK SHALL BE INCORPORATED AS SOON AS POSSIBLE.
4. THE CONTRACTOR SHALL MAINTAIN TEMPORARY APPROACHES OR CROSSINGS IN A SAFE CONDITION AT INTERSECTIONS WITH STREETS, BUSINESSES, PARKING LOTS, AND RESIDENCES.
5. ALL EXISTING TRAFFIC SIGNS WITHIN THE PROPOSED CONSTRUCTION LIMITS ARE TO BE PROTECTED BY THE CONTRACTOR. CAUTION SHOULD BE EXERCISED WHILE RELOCATING EXISTING SIGNS WHERE DIRECTED. IF THE SIGNS ARE DAMAGED BEYOND USE, SIGNS SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
6. THE CONTRACTOR SHALL PROVIDE A COURSE OF ACTION PLAN FOR THE OCCURRENCE OF AN ACCIDENTAL SPILL OF FUEL OR OTHER SUBSTANCE DURING CONSTRUCTION. ACTION PLAN SHALL BE SUBMITTED TO OWNER FOR ACCEPTANCE.
7. ALL FIELD LAYOUT AND SURVEYING FOR CONSTRUCTION OF THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE; UNDER THE DIRECTION OF A LICENSED PROFESSIONAL LAND SURVEYOR.
8. ELEVATIONS SHOWN ON PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
9. PROPERTY MARKERS SHALL BE PROTECTED BY THE CONTRACTOR. THE CONTRACTOR'S REGISTERED SURVEYOR SHALL REPLACE ANY MARKERS THAT ARE DISTURBED.
10. THE CONTRACTOR'S SURVEYOR SHALL REPLACE ANY SURVEY MONUMENTS, PERMANENT MARKERS, OR TEMPORARY MARKERS WHICH ARE DAMAGED DURING CONSTRUCTION.
11. IF EITHER A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER OF RECORD.
12. MAIL SERVICE SHALL NOT BE INTERRUPTED ALONG THE CONSTRUCTION ROUTE. THIS MAY INCLUDE RELOCATION OF MAILBOXES THAT MAY BE AFFECTED BY CONSTRUCTION AND ALLOWING ACCESS TO UNITED STATES POSTAL SERVICE VEHICLES AND EMPLOYEES.
13. NO OPEN TRENCH SHALL BE ALLOWED ACROSS ANY STREET OR WITHIN 10 FEET OF ANY TRAVEL-WAY, EXCEPT WHEN WORK IS IN ACTUAL PROGRESS. NO OPEN TRENCH SHALL BE PERMITTED IN EXCESS OF 500 FEET OR LENGTH NECESSARY TO ACCOMMODATE PIPE INSTALLATION IN A SINGLE DAY, WHICHEVER IS GREATER.
14. THE CONTRACTOR SHALL CONFORM TO ALL SAFETY REQUIREMENTS OF POWER UTILITIES WHEN WORKING IN THE VICINITY OF OVERHEAD AND UNDERGROUND POWER UTILITIES.

15. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT HORIZONTAL AND VERTICAL TRANSITION OF PIPELINE BY DEFLECTION OF PIPE JOINTS USING NOT MORE THAN 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.
16. SHOP DRAWINGS SHALL BE FURNISHED FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIAL FITTINGS PRIOR TO FABRICATION OR DELIVERY TO JOB SITE.
17. CONTRACTOR TO FOLLOW MANATEE COUNTY PUBLIC UTILITIES DEPARTMENT (MCPUD) APPROVED PRODUCTS AND MATERIALS, TECHNICAL SPECIFICATIONS AND STANDARD DETAILS. LATEST EDITION CAN BE FOUND ON MCPUD WEBSITE.
18. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT, BRACING, TESTING PLUGS, AND OTHER DEVICES NECESSARY TO SUCCESSFULLY COMPLETE PRESSURE TESTING OF PIPING SYSTEMS.
19. ALL PROPOSED DUCTILE IRON PIPE AND FITTINGS WITHIN PROJECT LIMITS SHALL BE WRAPPED IN POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARD C-105. SOME SECTIONS OF DUCTILE IRON PIPE SHALL BE WRAPPED WITH TWO (2) LAYERS OF POLYETHYLENE WRAP WHERE INDICATED ON THE DRAWINGS. POLYETHYLENE WRAP SHALL BE INCLUDED IN THE PRICE OF THE PIPE.
20. ALL EXISTING SEWER MAINS IDENTIFIED TO BE REMOVED OR PLACED OUT OF SERVICE CANNOT BE REMOVED OR PLACED OUT OF SERVICE UNTIL PROPOSED FACILITIES HAVE BEEN CONSTRUCTED, TESTED, PERMITTED, CLEARED, AND PLACED IN SERVICE. TIME IDENTIFIED IN THE SCHEDULE FOR EXISTING UTILITIES TO BE REMOVED SHALL COMMENCE WITHIN SEVEN (7) DAYS AFTER CLEARANCE HAS BEEN OBTAINED IN WRITING BY THE COUNTY FROM THE PERMITTING AGENCY.
21. SANITARY SEWER SERVICE AND WATER SERVICE MUST BE MAINTAINED FOR ALL CUSTOMERS AT ALL TIMES, EXCEPT FOR MINOR DISRUPTIONS DURING CONNECTIONS CHANGEOVERS AS NOTED IN GENERAL NOTES. CONTRACTOR SHALL COORDINATE ALL SYSTEM SHUT DOWNS WITH COUNTY OPERATIONS STAFF. MANATEE COUNTY PUBLIC UTILITIES DEPARTMENT (941) 792-8811 EXT. 5374.
22. WHERE WORK TO TIE-IN SIDESTREETS EXTEND BEYOND CORTEZ ROAD (SR 684) RIGHT-OF-WAY CONTRACTOR MUST OBTAIN RIGHT OF USE PERMIT FROM MANATEE COUNTY RIGHT-OF-WAY PERMIT MANAGEMENT OFFICE.
23. ALL UTILITY RELOCATION MUST BE IN PLACE, TESTED, PERMITTED, CLEARED AND OPERATIONAL PRIOR TO ROADWAY CONSTRUCTION BY OTHERS THAT IMPACTS EXISTING UTILITIES.
26. EXISTING SYMBOLOGY: SEE FDOT INDEX 002 FOR SYMBOLOGY.
27. IN THE EVENT OF A WATER OR SEWER MAIN BREAK, CALL 24 HOUR EMERGENCY NUMBER (941) 792-8811 EXT. 5268.
28. CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF SHOP DRAWINGS, CONSTRUCTION SCHEDULE AND THE FOLLOWING PLANS PRIOR TO BEGINNING CONSTRUCTION (NOT LIMITED TO):
  - A. SHUTDOWN SCHEDULE AND PLAN TO INCLUDE BUT NOT LIMITED TO PIPE DEWATERING AND DISPOSAL PLANS; CONNECTION SCHEDULE FOR WATER MAINS (INCLUDING LINESTOPS) RECLAIMED WATER MAIN, AND RAW WATER MAIN; SAMPLING PLAN AND LOCATIONS FOR FOR BACTRIOLOGICAL TESTING; PRESSURE TESTING SCHEDULE; LINESTOP LOCATIONS.
  - B. FORCE MAIN BYPASS PLAN.

30. CONTRACTOR TO COORDINATE WITH FLORIDA POWER & LIGHT (FPL) FOR POWER POLES NEEDING SUPPORT DURING CONSTRUCTION. CONTRACTOR TO TAKE PRECAUTIONS TO PROTECT ALL UTILITIES AND UTILITY POLES.
31. ALL ROAD CROSSINGS SHALL BE JACK AND BORE.
32. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PROCESS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE.
33. PLAN STATIONING FOR ISOLATION VALVES AND AIR RELEASE VALVES IS APPROXIMATE. THE CONTRACTOR SHALL INSTALL ALL REQUIRED AIR RELEASE VALVES AT THE HIGHEST ACTUAL POINT(S) IN THE PIPELINE. LOCATIONS OF ISOLATION VALVES AND AIR RELEASE VALVES MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATION.
34. CONNECTIONS TO WASTE WATER FORCE MAINS WILL BE PERFORMED DURING NON-PEAK HOURS (9:00 PM TO 6:00 AM). CONNECTIONS SHALL NOT BE SCHEDULED DURING COUNTY HOLIDAYS, WEEKENDS, WITHIN 72 HOURS OF POSSIBLE HURRICANE OR TROPICAL STORM LANDING, OR DURING TIMES WHEN COUNTY HAS INITIATED AN EMERGENCY ALERT.
35. CONTRACTOR TO COORDINATE WITH THE COUNTY CONCERNING WASTEWATER TRANSPORT/CONVEYANCE FROM AFFECTED PUMP STATION DURING CONSTRUCTION. CONTRACTOR TO DEVELOP BYPASS (CONVEYANCE / TRANSPORT) PLAN FOR AFFECTED PUMP STATIONS AND CONDUCT BYPASS (CONVEYANCE / TRANSPORT) OF WASTEWATER DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE COUNTY. COST FOR WASTEWATER BYPASS (CONVEYANCE / TRANSPORT) TO BE INCORPORATED INTO COST OF FORCE MAIN FURNISH AND INSTALLATION.
36. NO PIPES OF ANY KIND AND/OR ATTACHED TO ACTIVE OR IN SERVICE WATER, WASTEWATER, RECLAIMED WATER SYSTEMS MAY BE LEFT OPEN. PIPE MUST BE CAPPED OR PLUGGED AND RESTRAINED.
37. PROPOSED AND AFFECTED EXISTING PIPELINES ARE TO BE RESTRAINED UNLESS OTHERWISE NOTED.

**ABBREVIATIONS**

CI	CAST IRON
DIP	DUCTILE IRON PIPE
FM	FORCE MAIN
HDPE	HIGH-DENSITY POLYETHYLENE
MH	MAN HOLE
PVC	POLYVINYL CHLORIDE
RCW	RECLAIM WATER
SAN	SANITARY
VCP	VITRIFIED CLAY PIPE
WM	WATER MAIN

**LEGEND**

	REMAIN (GREEN)	REMOVE (RED)	ADJUST (BROWN)
SANITARY SEWER GRAVITY/FORCE MAIN	---S---	---S---	=====
SANITARY SEWER GRAVITY/FORCE MAIN (QUALITY LEVEL B)	---S(B)---	---S(B)---	
SANITARY SEWER GRAVITY/FORCE MAIN (QUALITY LEVEL C)	---S(C)---	---S(C)---	
SANITARY SEWER GRAVITY/FORCE MAIN (QUALITY LEVEL D)	---S(D)---	---S(D)---	
WATER MAIN	---W---	---W---	=====
WATER MAIN (QUALITY LEVEL B)	---W(B)---	---W(B)---	
WATER MAIN (QUALITY LEVEL C)	---W(C)---	---W(C)---	
WATER MAIN (QUALITY LEVEL D)	---W(D)---	---W(D)---	
RECLAIM WATER MAIN			=====
RECLAIM WATER MAIN (QUALITY LEVEL B)	---NPW(B)---	---NPW(B)---	
RECLAIM WATER MAIN (QUALITY LEVEL C)	---NPW(C)---	---NPW(C)---	
RECLAIM WATER MAIN (QUALITY LEVEL D)	---NPW(D)---	---NPW(D)---	

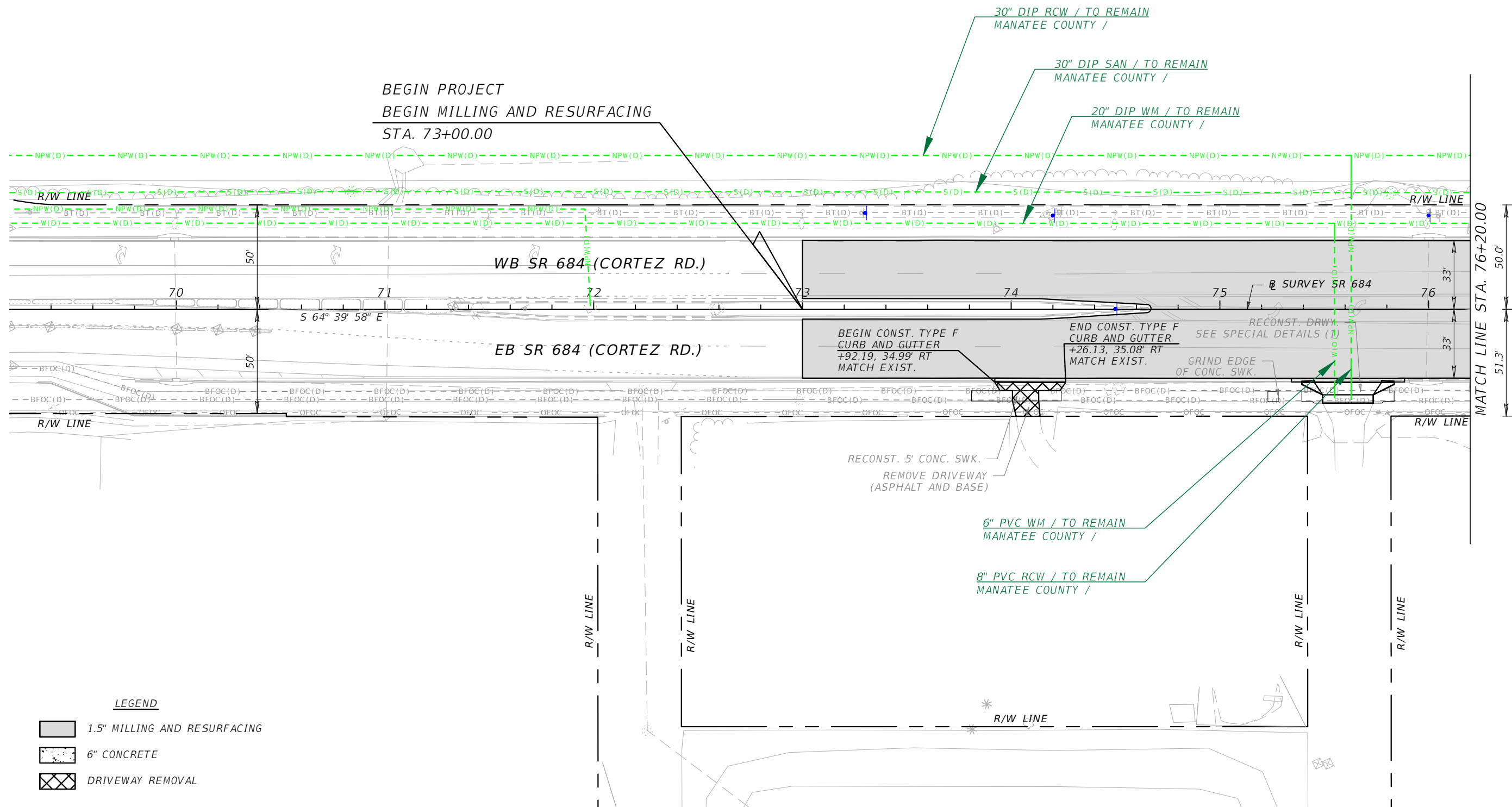
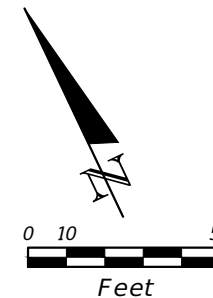
REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			GENERAL NOTES	SHEET NO.  03
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**GENERAL NOTES:**

1. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. NO VIBRATORY COMPACTION TO BE ALLOWED.
3. LIMITS OF EXISTING SIDEWALK REPLACEMENTS AND GRINDING IS INTENDED TO BE TO THE NEAREST JOINT. ADJUST SAWCUTS AND GRINDING TO EXISTING JOINT LOCATIONS AS NECESSARY.
4. FDOT ATMS IS MAINTAINED BY MANATEE COUNTY.

COMPANY	CONTACT	TELEPHONE	EMAIL
MANATEE COUNTY	AARON BURKETT	(941) 708-7509	AARON.BURKETT@MYMANATEE.ORG

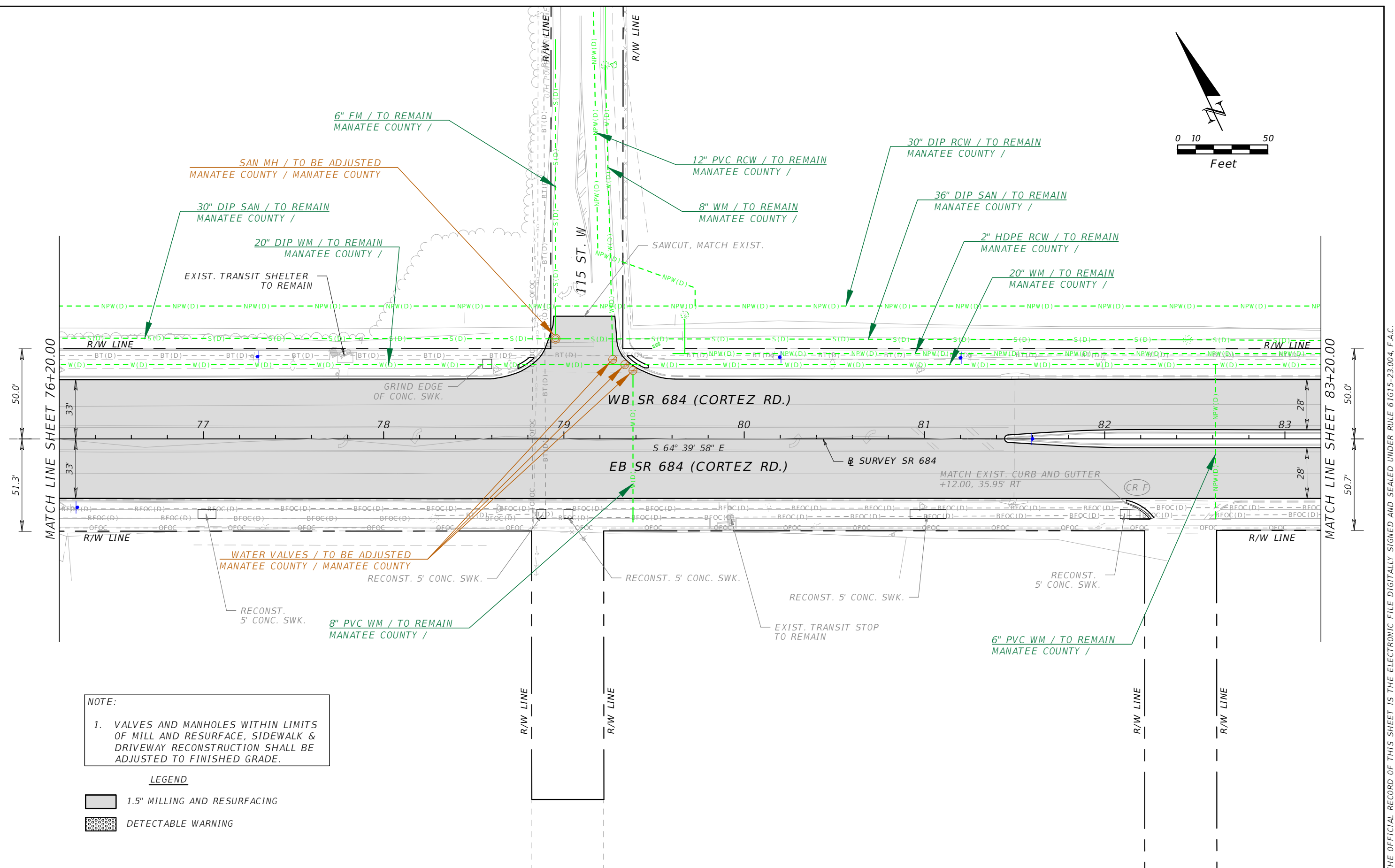
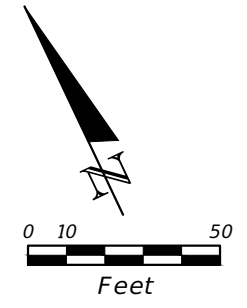


**LEGEND**

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REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.  04
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
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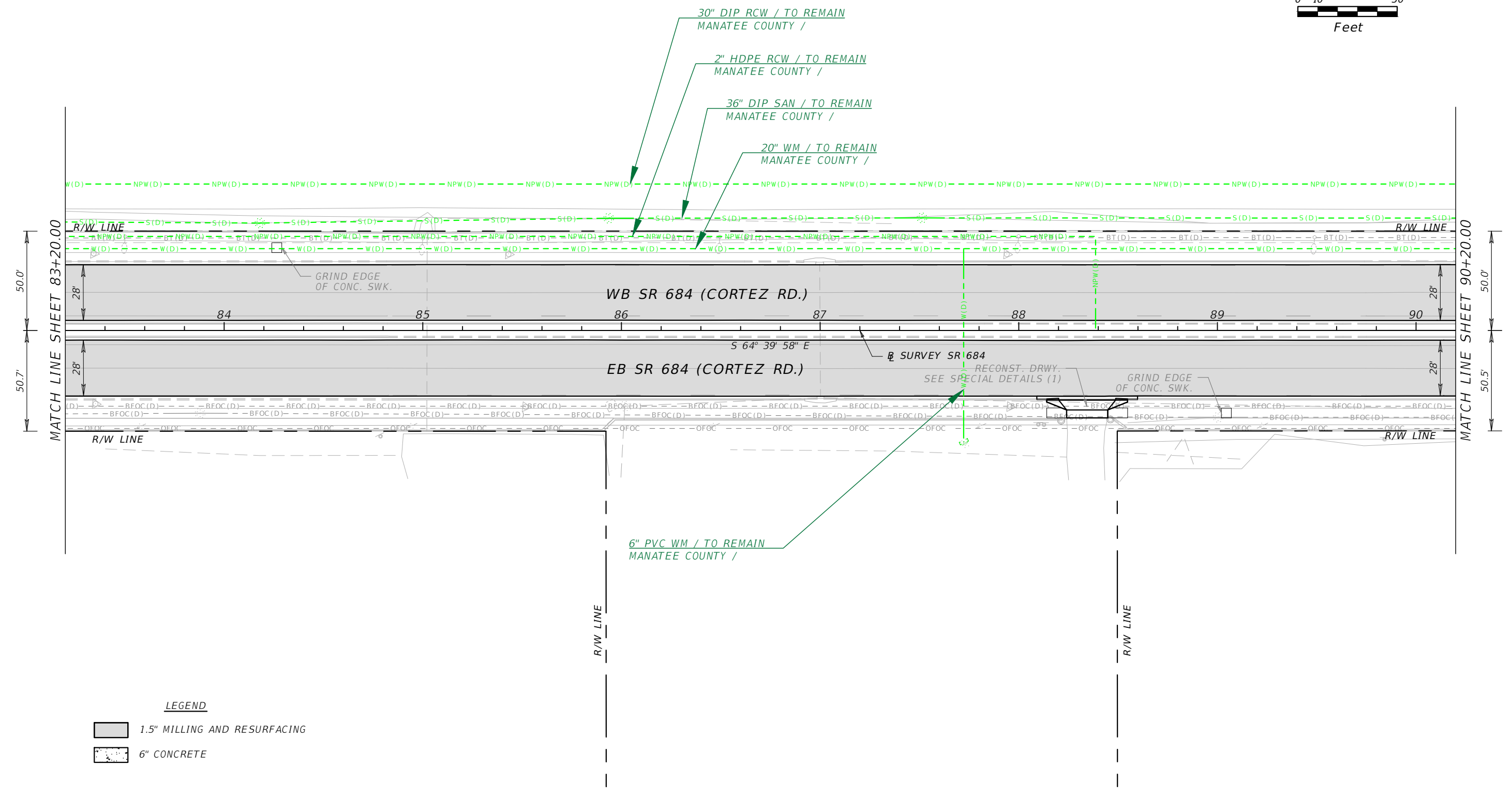
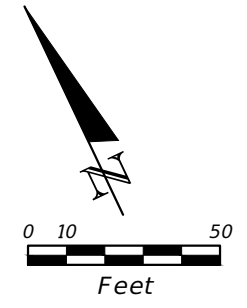
**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

- 1.5" MILLING AND RESURFACING
- DETECTABLE WARNING

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<b>UTILITY ADJUSTMENTS (2)</b>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		05
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**LEGEND**

	1.5" MILLING AND RESURFACING
	6" CONCRETE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

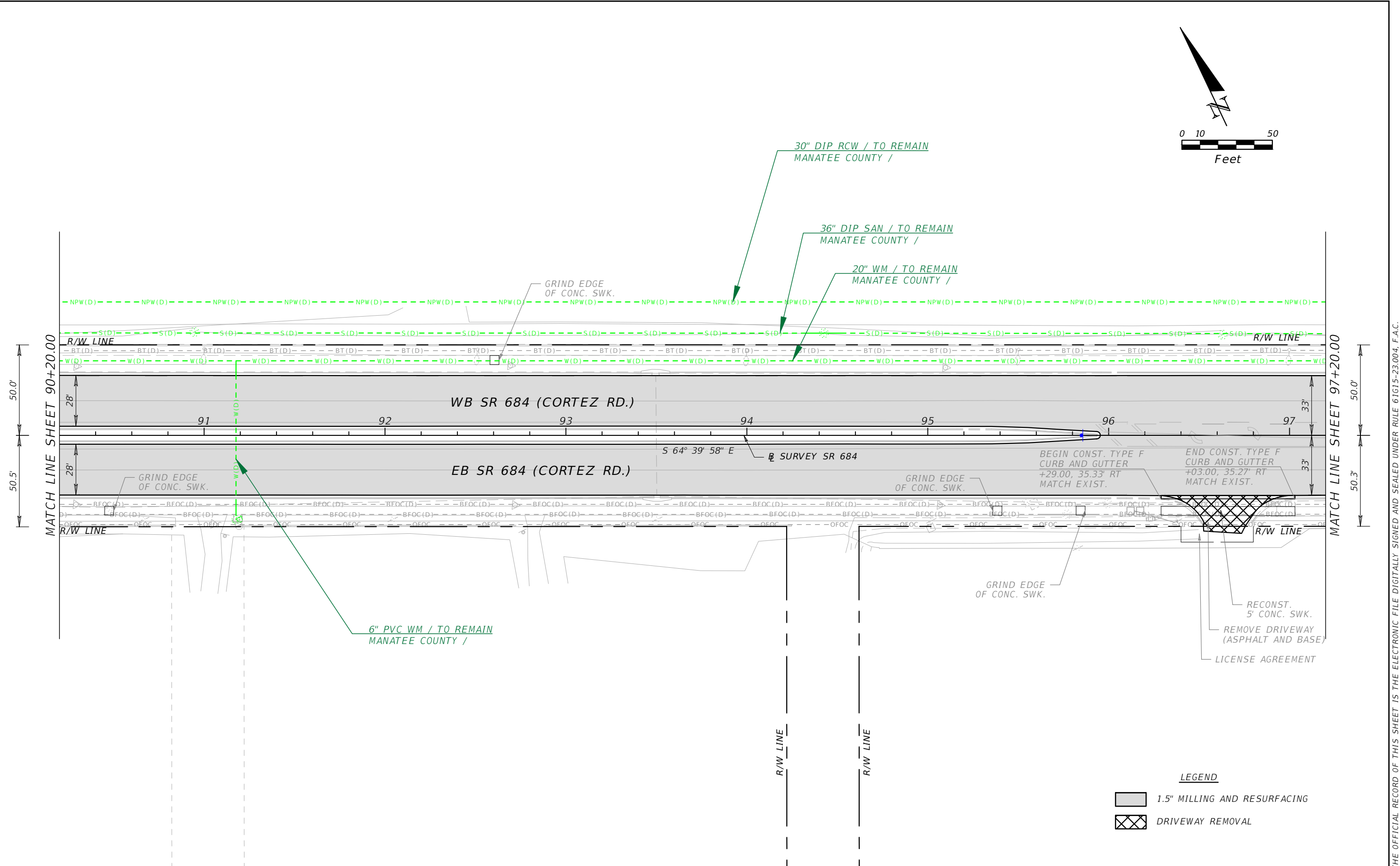
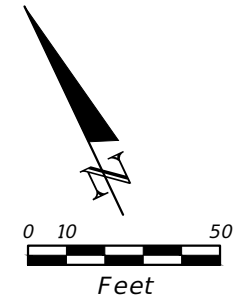
CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
 8875 HIDDEN PARKWAY, #200  
 TAMPA, FL 33637  
 CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (3)**

SHEET NO.  
**06**

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



**LEGEND**

	1.5" MILLING AND RESURFACING
	DRIVEWAY REMOVAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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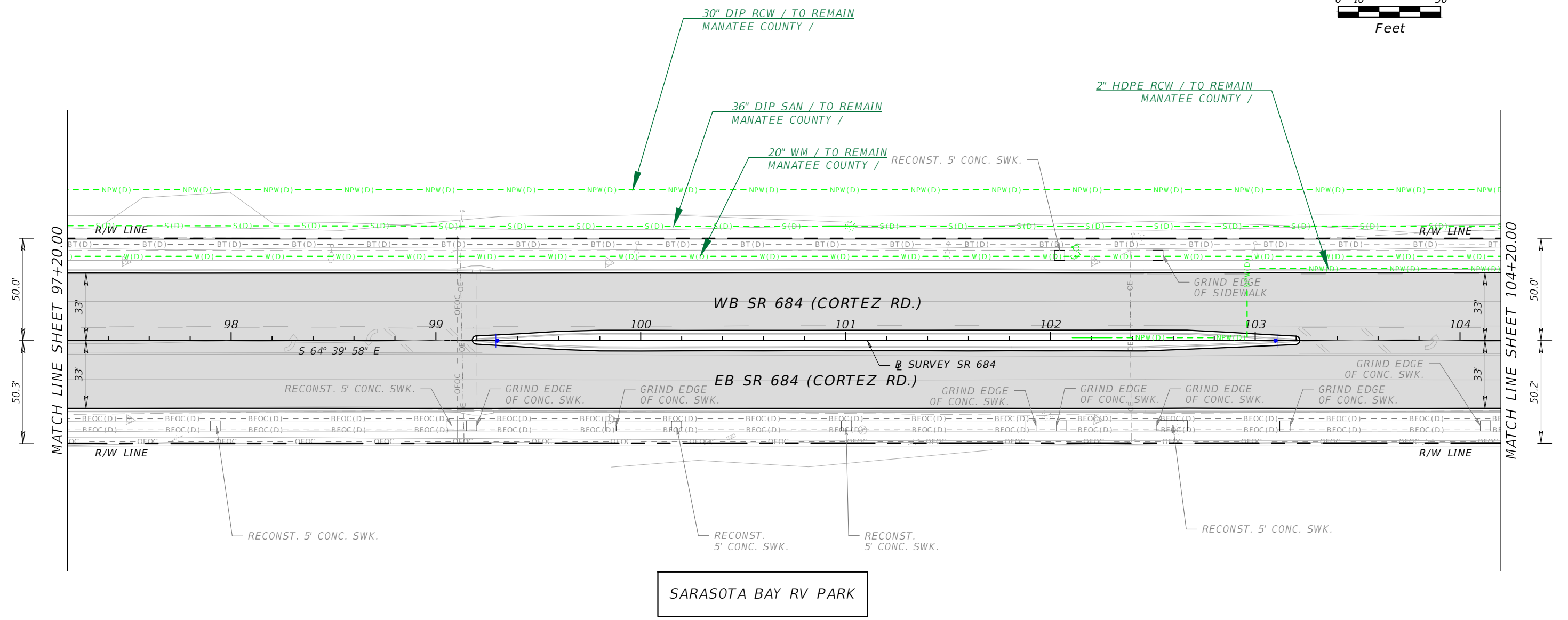
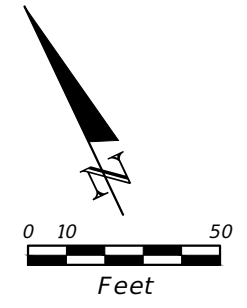
CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
 8875 HIDDEN PARKWAY, #200  
 TAMPA, FL 33637  
 CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (4)**

SHEET NO.  
07

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



SARASOTA BAY RV PARK

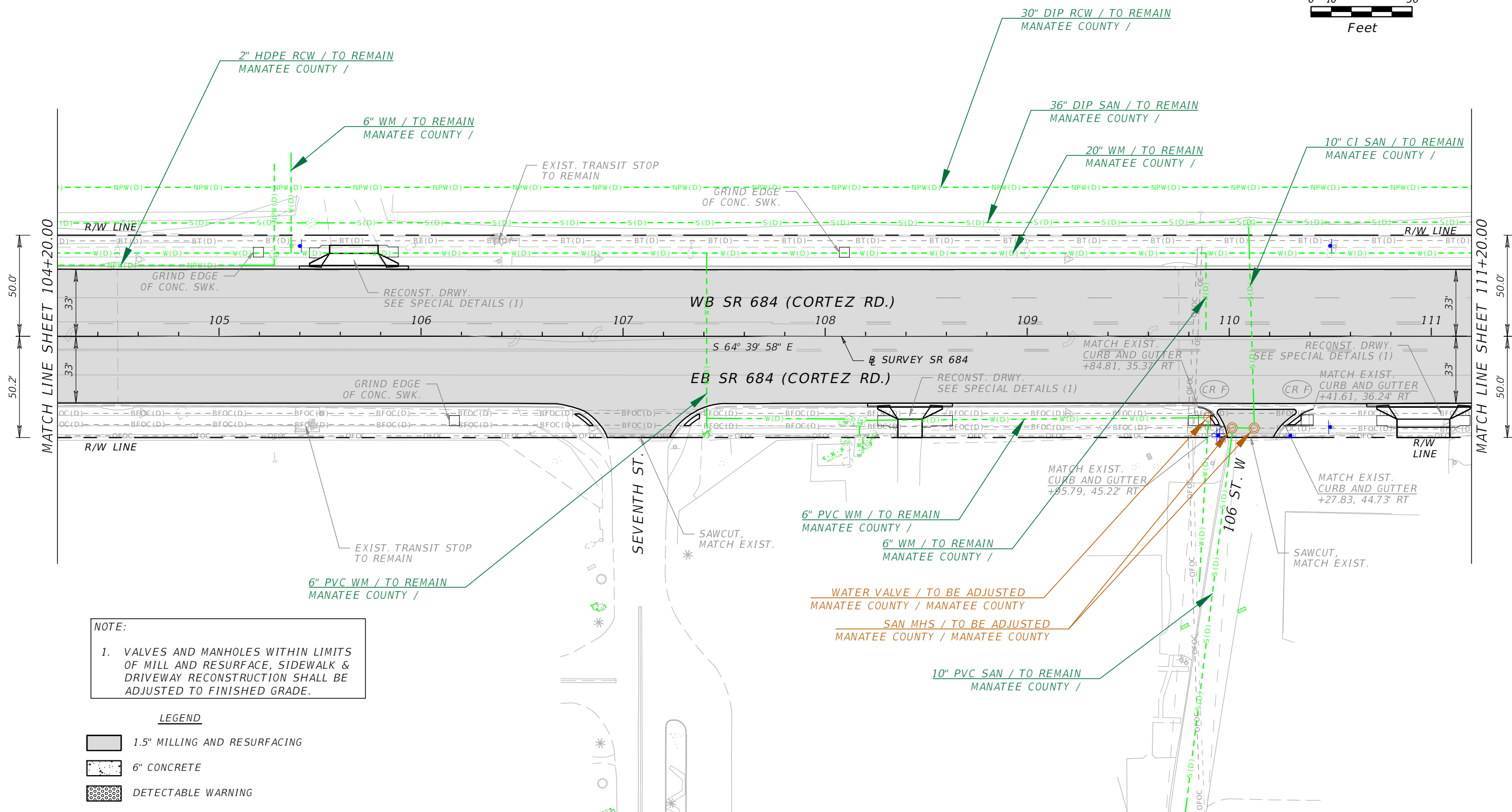
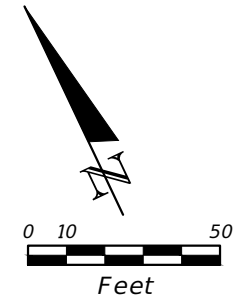
**LEGEND**

1.5" MILLING AND RESURFACING

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			UTILITY ADJUSTMENTS (5)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		08
---	---	---	---	SR 684	MANATEE	436551-1-52-01			

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**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

	1.5\"/>
	6\"/>
	DETECTABLE WARNING

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

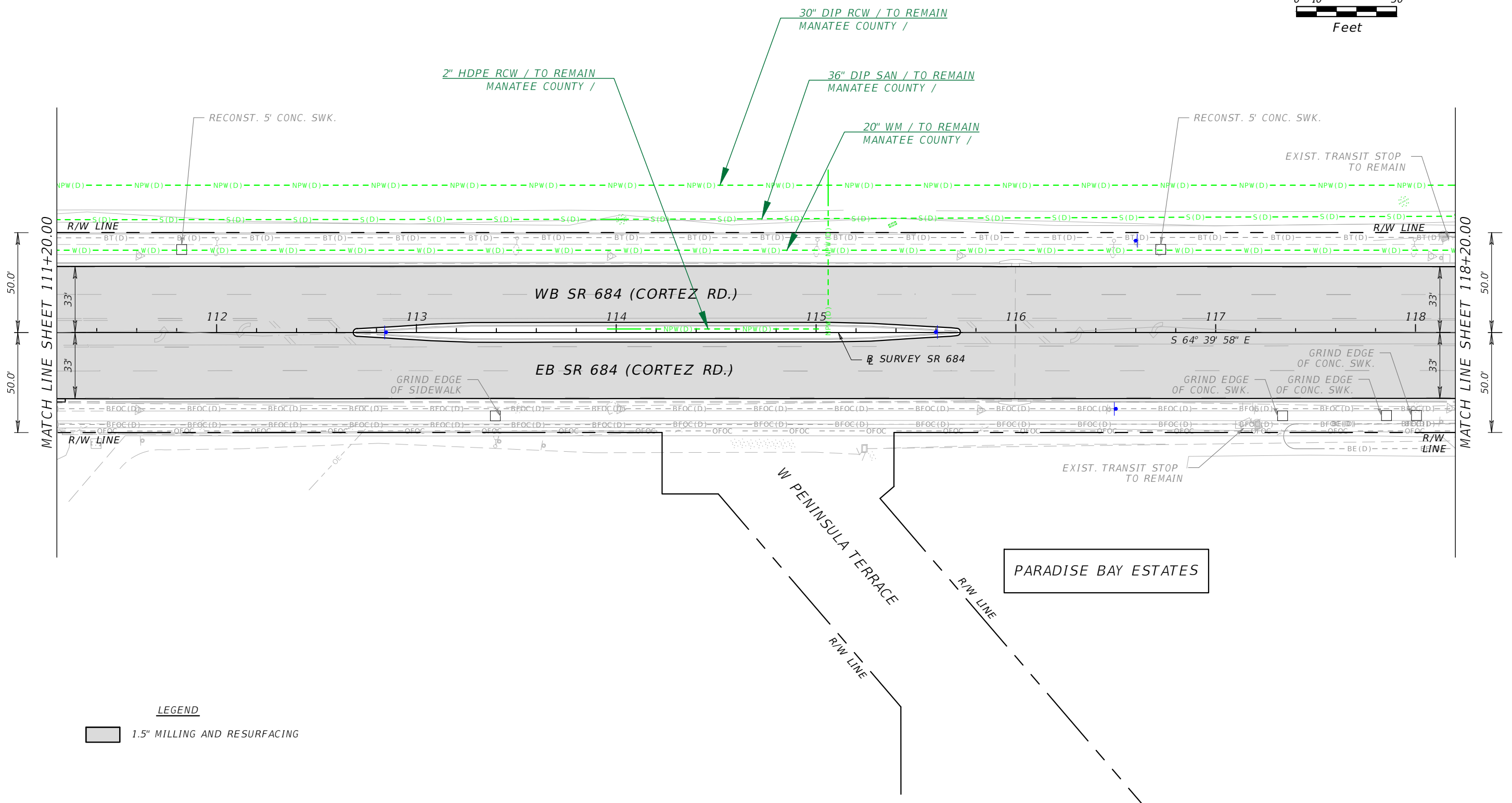
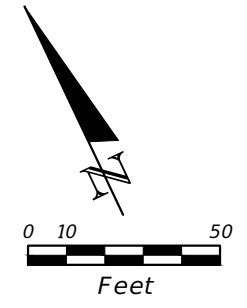
CHRISTOPHER K. MARTIN, P.E.  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (6)**

SHEET NO.  
09

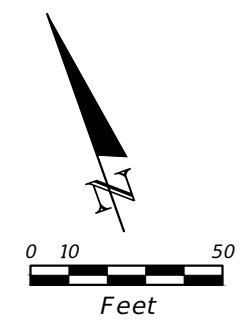
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



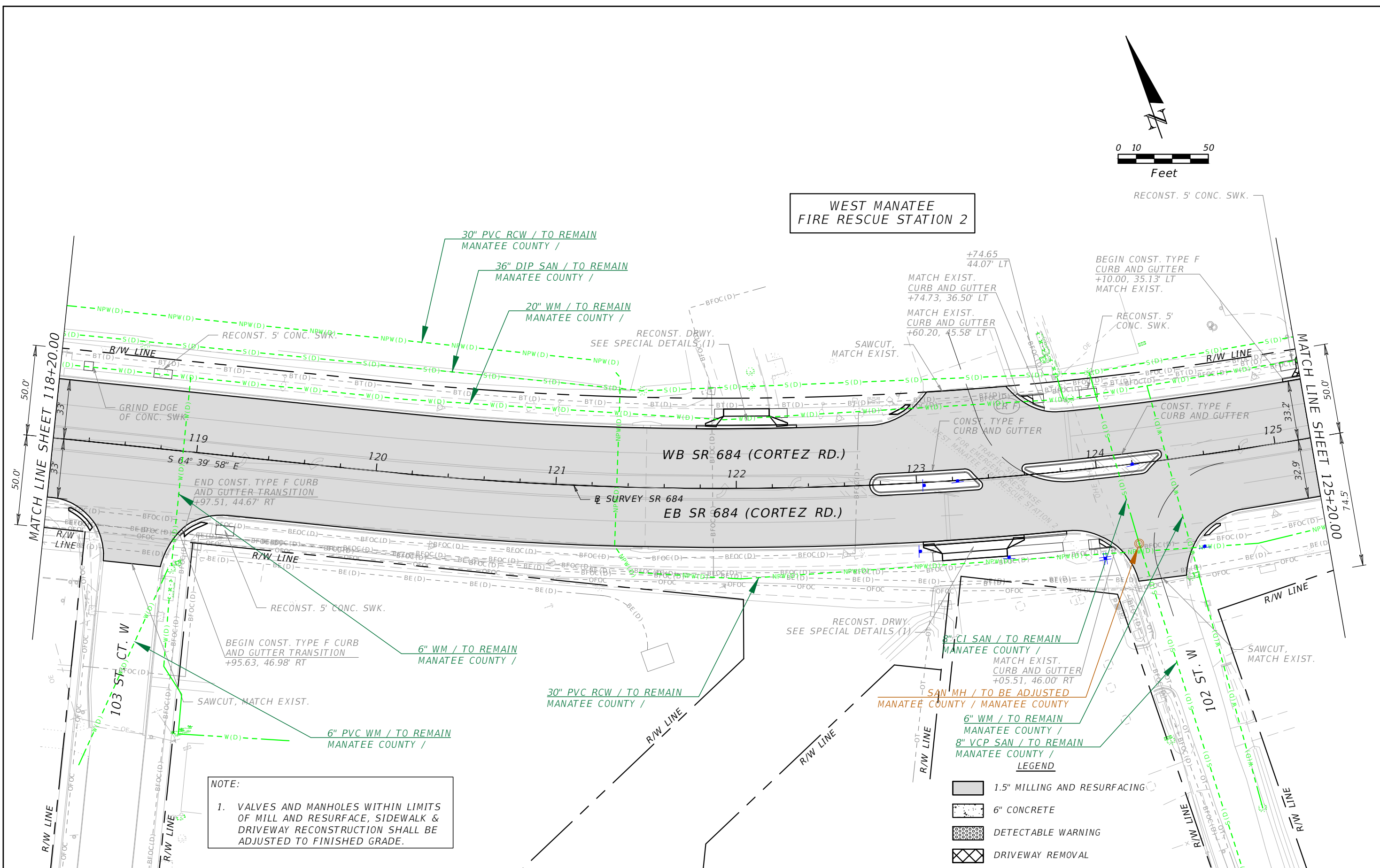
**LEGEND**  
 [Grey Box] 1.5" MILLING AND RESURFACING

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<b>UTILITY ADJUSTMENTS (7)</b>	SHEET NO.  10
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
---	---	---	---	SR 684	MANATEE	436551-1-52-01			

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**WEST MANATEE  
FIRE RESCUE STATION 2**



**NOTE:**  
1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

- LEGEND**
- 1.5" MILLING AND RESURFACING
  - 6" CONCRETE
  - DETECTABLE WARNING
  - DRIVEWAY REMOVAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

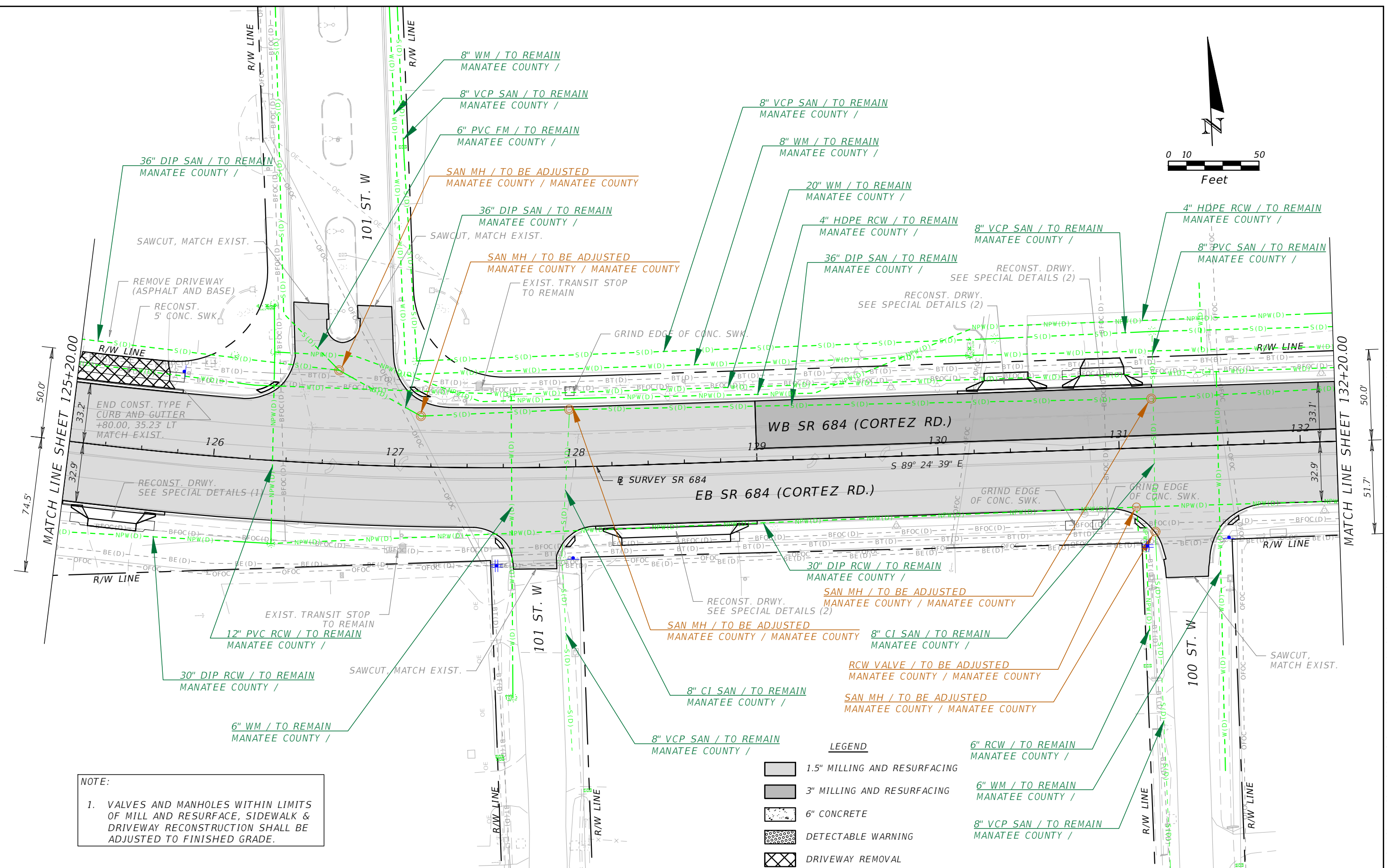
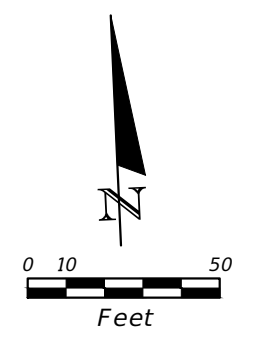
CHRISTOPHER K. MARTIN, P.E.  
P.E. LICENSE NUMBER 66598  
AYRES ASSOCIATES  
8875 HIDDEN PARKWAY, #200  
TAMPA, FL 33637  
CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (8)**

SHEET NO.  
**11**

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



**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

- LEGEND**
- 1.5" MILLING AND RESURFACING
  - 3" MILLING AND RESURFACING
  - 6" CONCRETE
  - DETECTABLE WARNING
  - DRIVEWAY REMOVAL
  - 6" RCW / TO REMAIN MANATEE COUNTY /
  - 6" WM / TO REMAIN MANATEE COUNTY /
  - 8" VCP SAN / TO REMAIN MANATEE COUNTY /

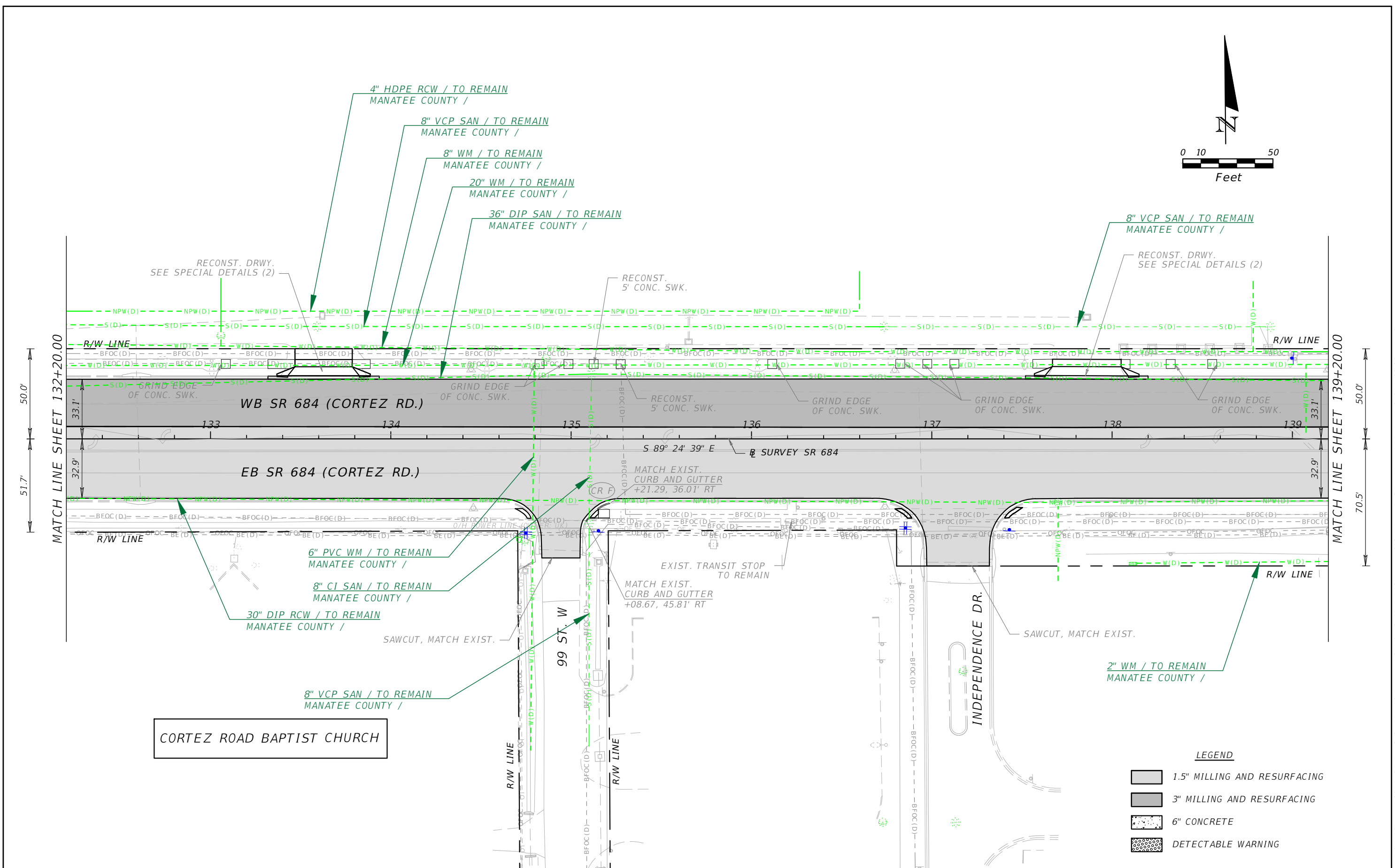
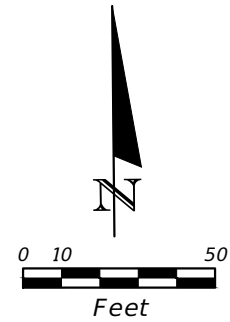
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
 8875 HIDDEN PARKWAY, #200  
 TAMPA, FL 33637  
 CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

UTILITY ADJUSTMENTS (9)	SHEET NO. 12
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CORTEZ ROAD BAPTIST CHURCH

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE
	DETECTABLE WARNING

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

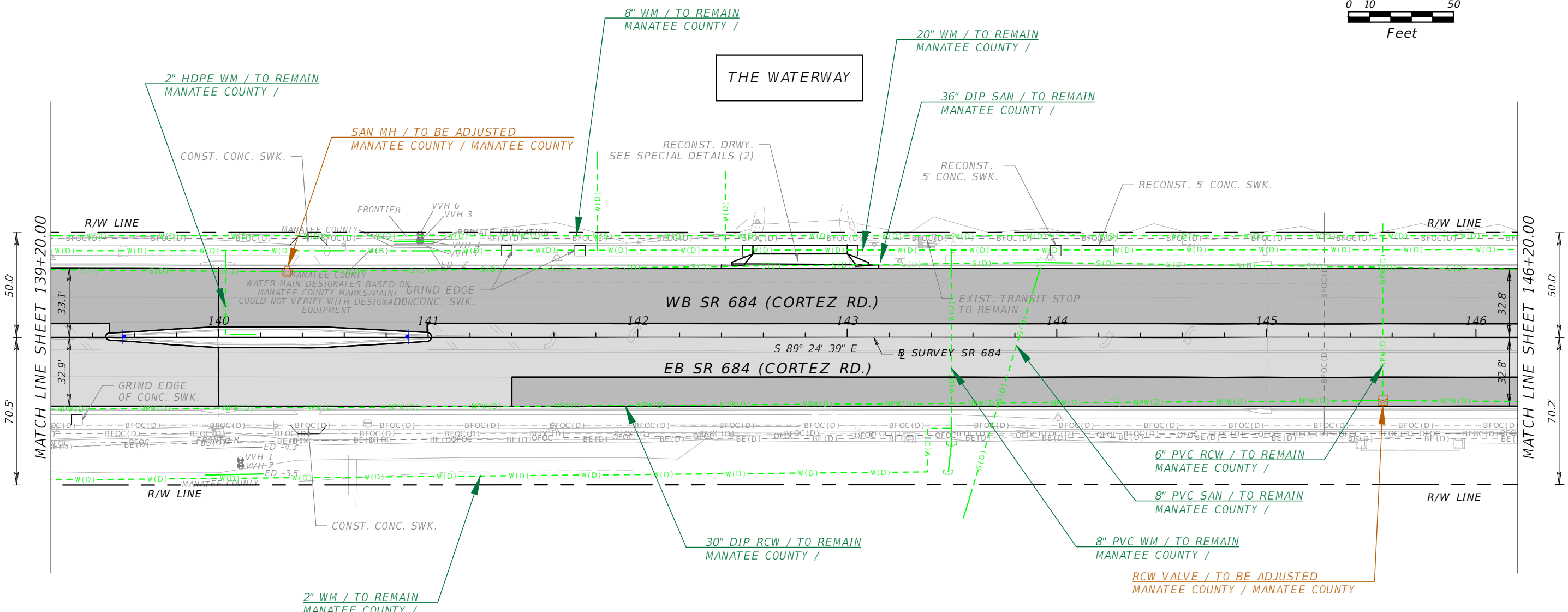
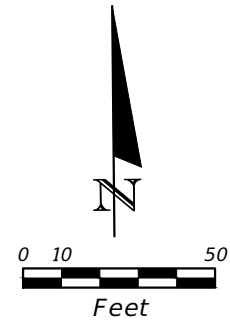
CHRISTOPHER K. MARTIN, P.E.  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (10)**

SHEET NO.  
13

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



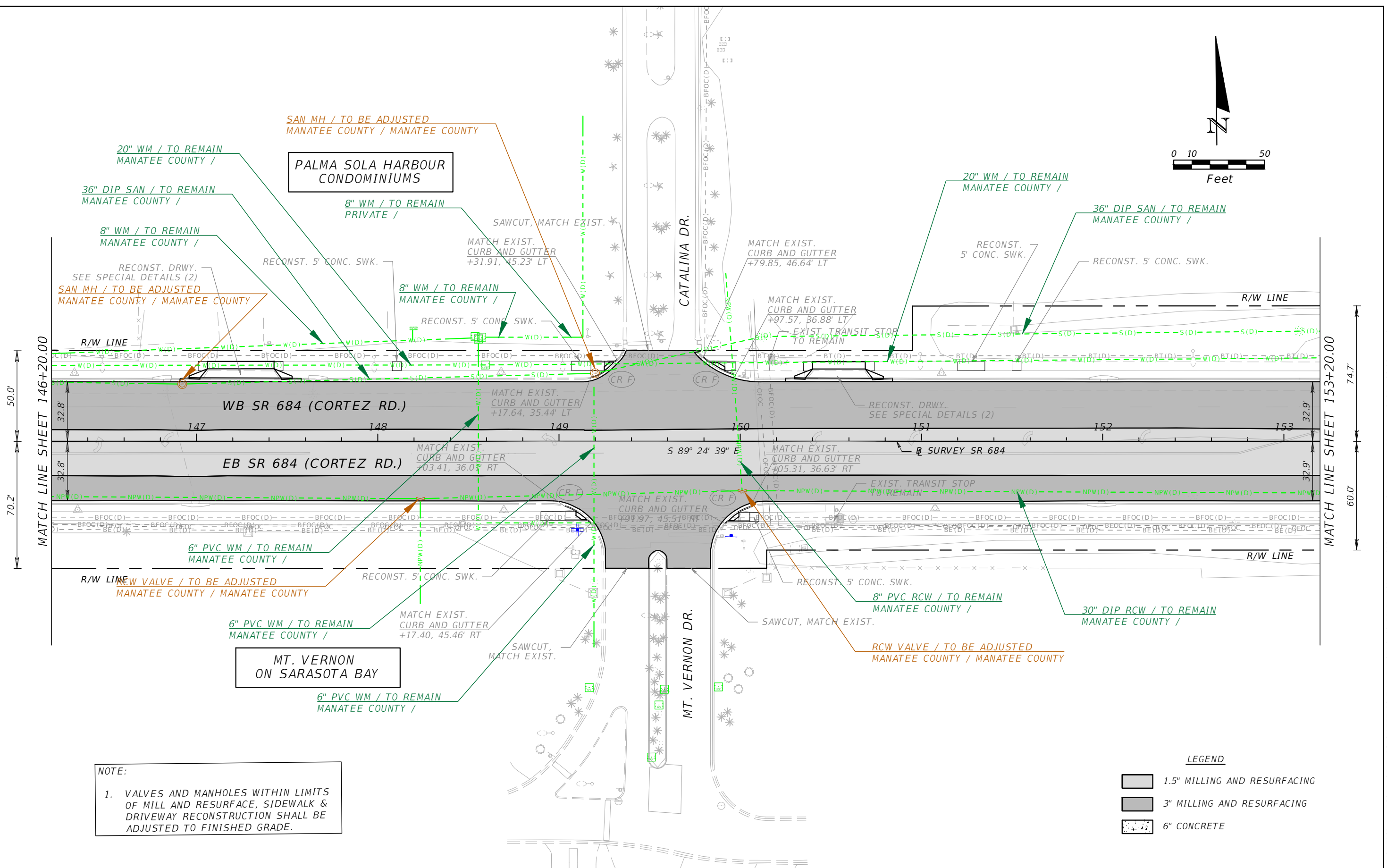
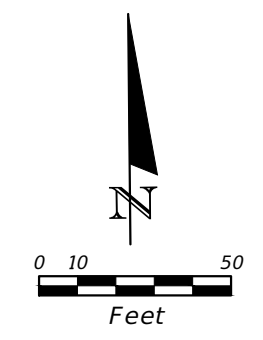
**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<b>UTILITY ADJUSTMENTS (11)</b>	SHEET NO.  14
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
---	---	---	---	SR 684	MANATEE	436551-1-52-01			

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**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

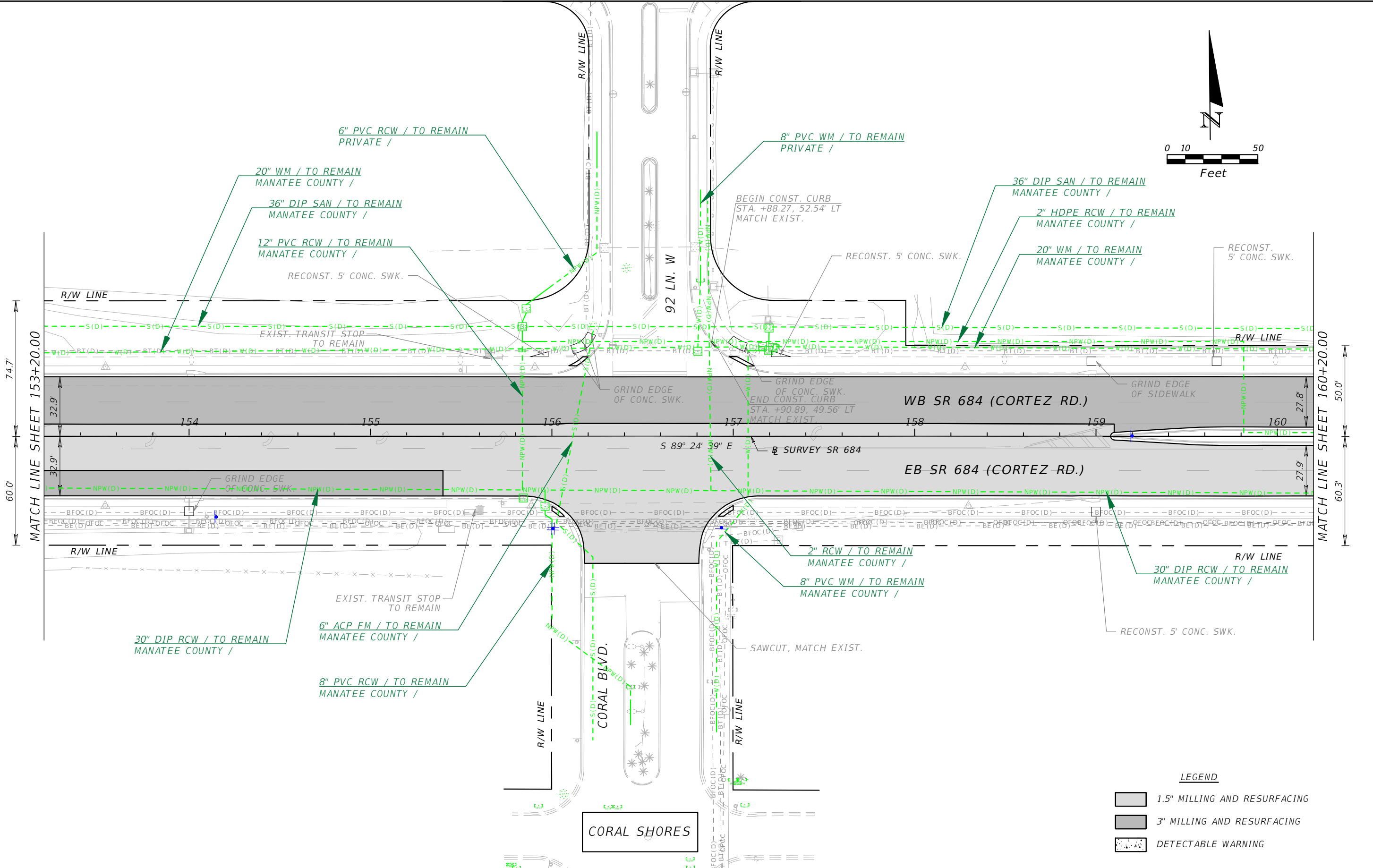
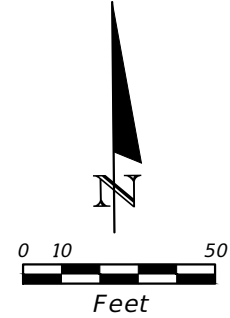
CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
 8875 HIDDEN PARKWAY, #200  
 TAMPA, FL 33637  
 CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (12)**

SHEET NO. 15

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**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	DETECTABLE WARNING

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
 8875 HIDDEN PARKWAY, #200  
 TAMPA, FL 33637  
 CERTIFICATE OF AUTHORIZATION 4356

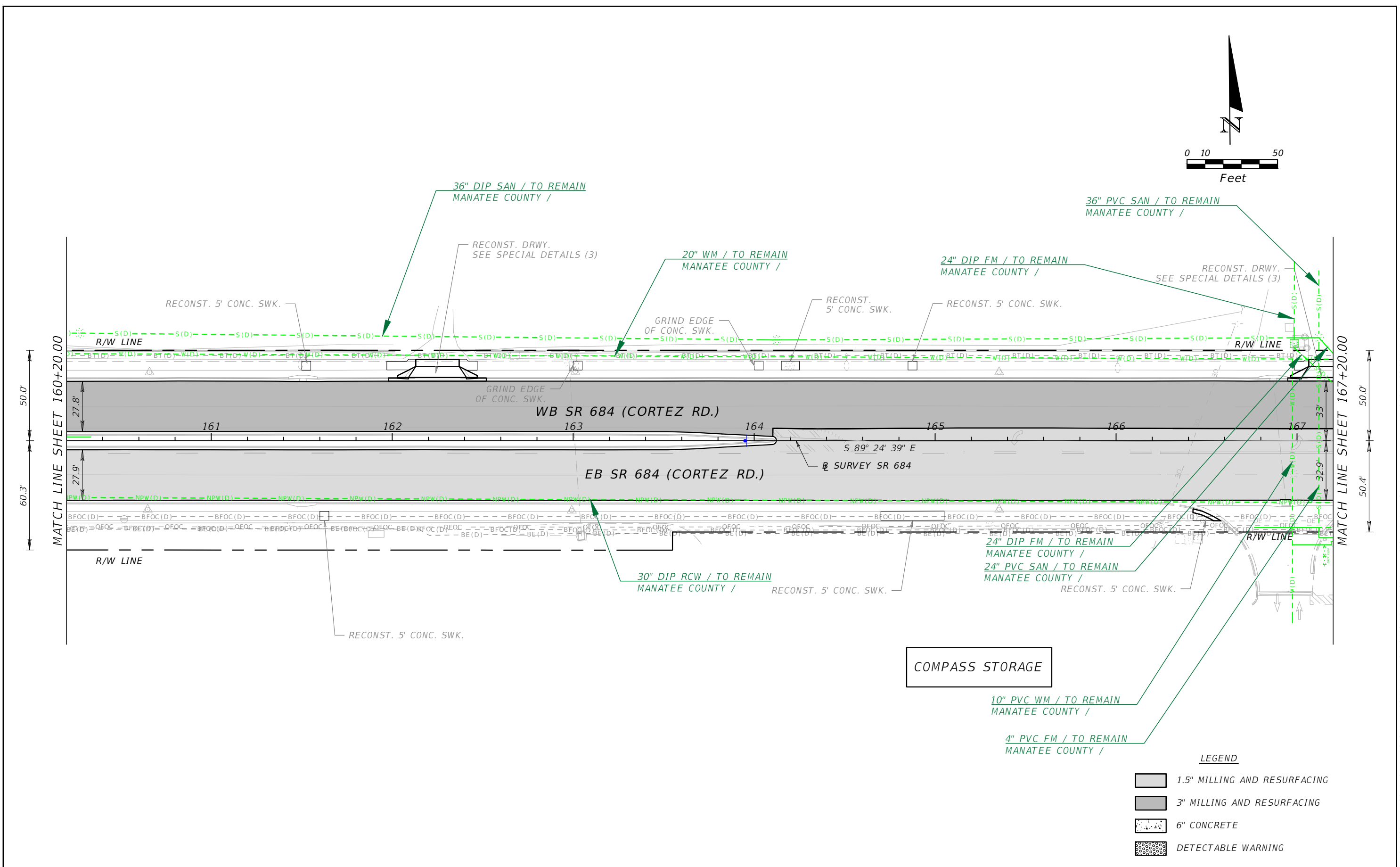
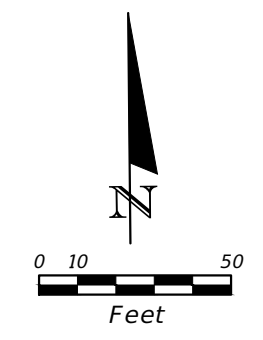
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (13)**

SHEET NO.  
16

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COMPASS STORAGE

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE
	DETECTABLE WARNING

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

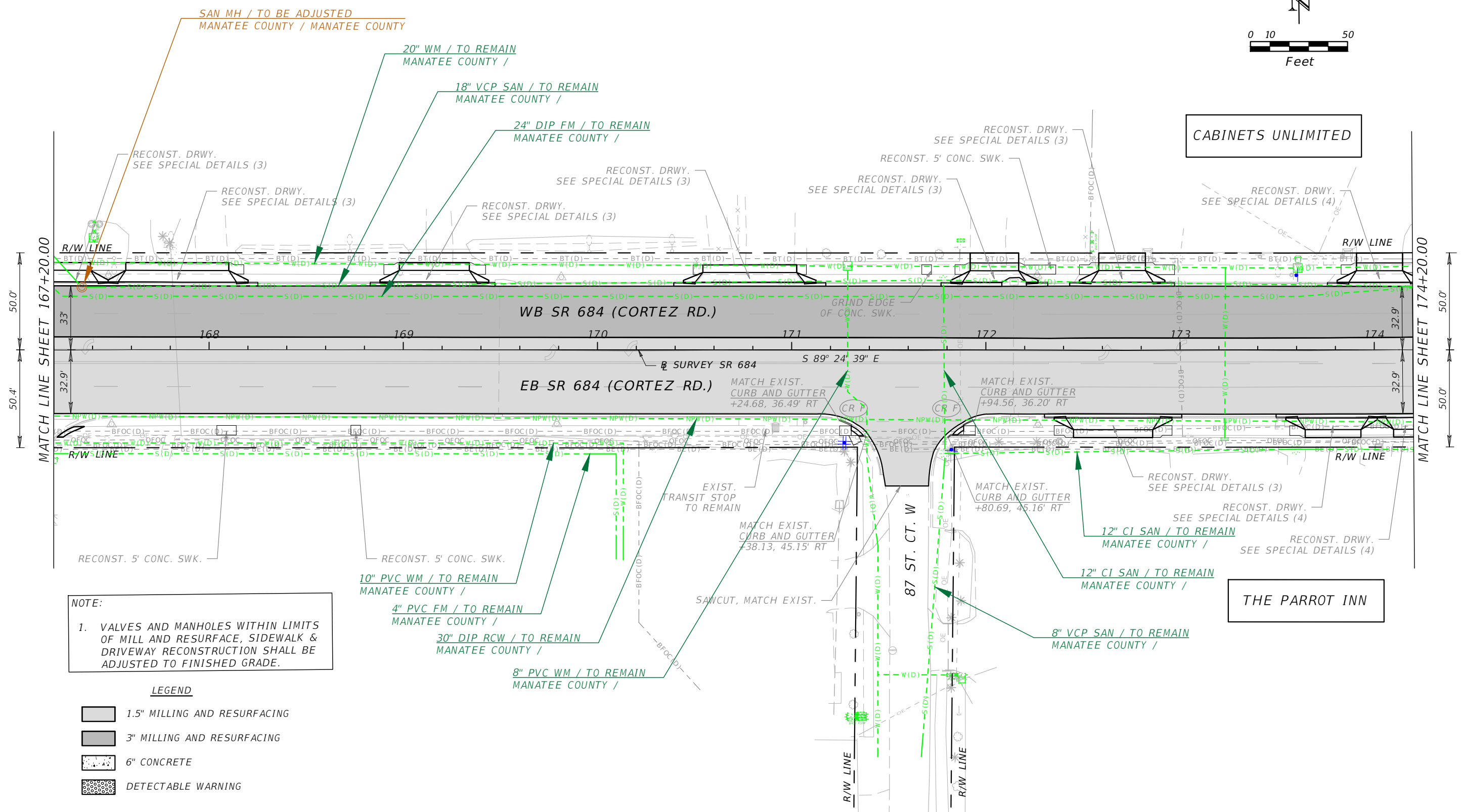
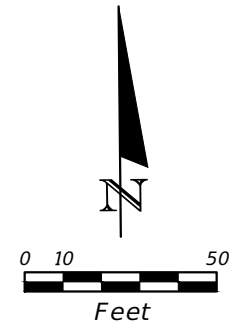
CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
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 TAMPA, FL 33637  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (14)**

SHEET NO. 17

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



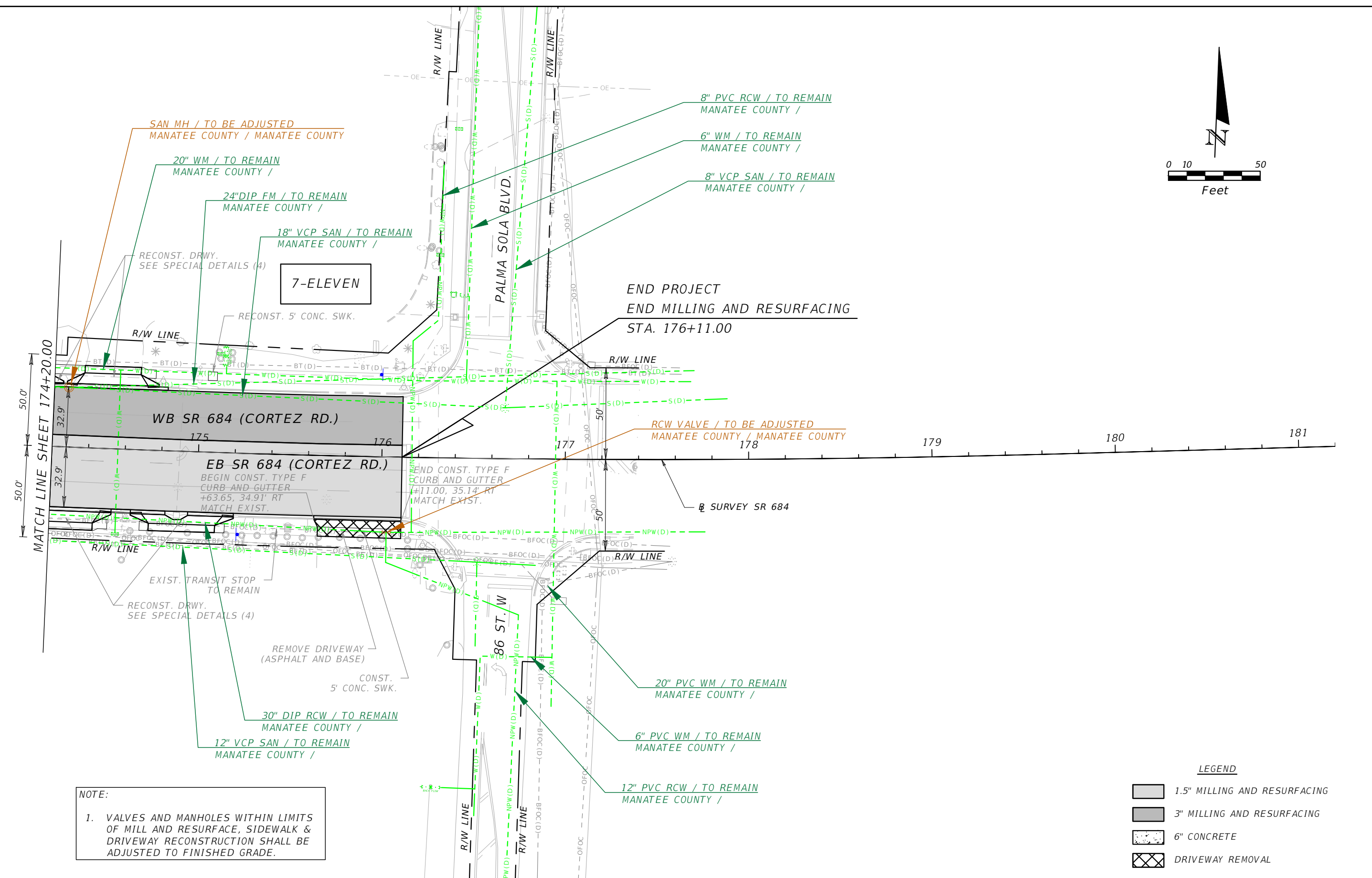
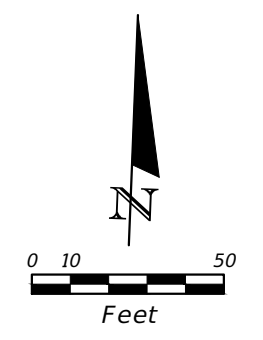
**NOTE:**  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE
	DETECTABLE WARNING

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.  18
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
---	---	---	---	SR 684	MANATEE	436551-1-52-01	<b>UTILITY ADJUSTMENTS (15)</b>	
---	---	---	---	---	---	---		

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NOTE:  
 1. VALVES AND MANHOLES WITHIN LIMITS OF MILL AND RESURFACE, SIDEWALK & DRIVEWAY RECONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE.

**LEGEND**

	1.5" MILLING AND RESURFACING
	3" MILLING AND RESURFACING
	6" CONCRETE
	DRIVEWAY REMOVAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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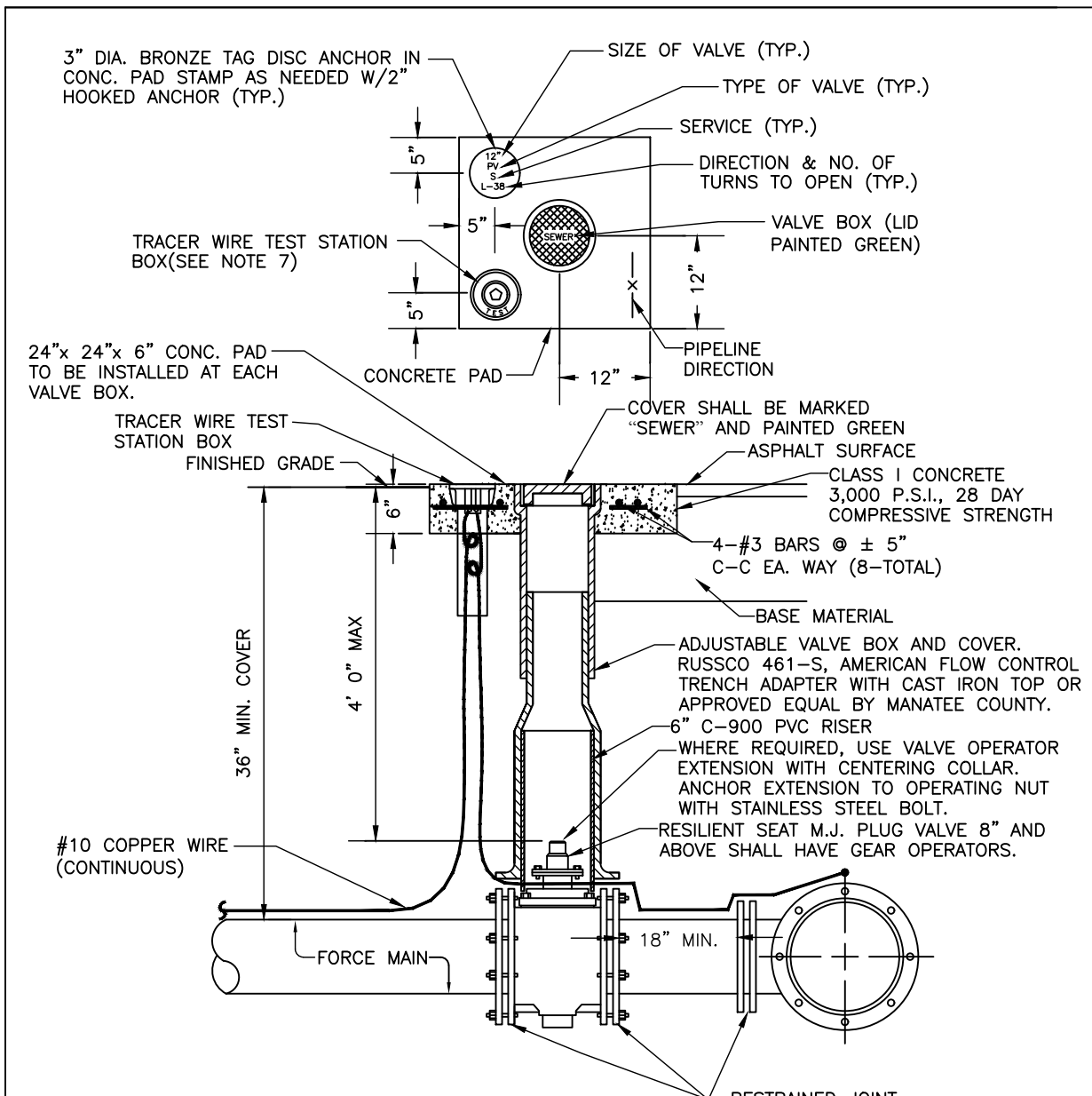
CHRISTOPHER K. MARTIN, P.E.  
 P.E. LICENSE NUMBER 66598  
 AYRES ASSOCIATES  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 684	MANATEE	436551-1-52-01

**UTILITY ADJUSTMENTS (16)**

SHEET NO.  
19

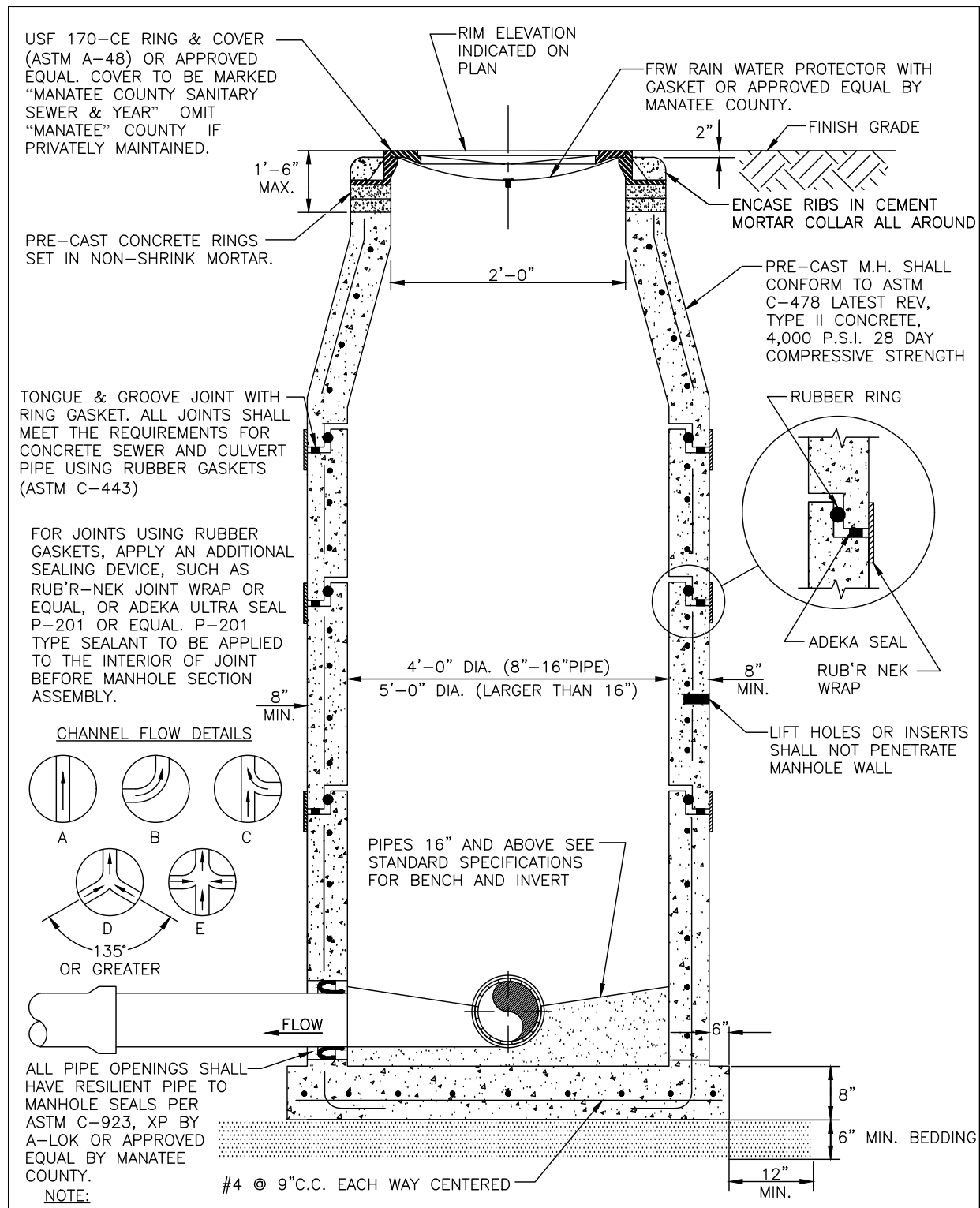
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



**NOTES:**

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.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		PLUG VALVE, BOX, COVER AND TAG	US-12
REV. BY CLB/DOM	DATE 11/10		
MAY 10, 2011 DATE OF APPROVAL		PAGE 152	

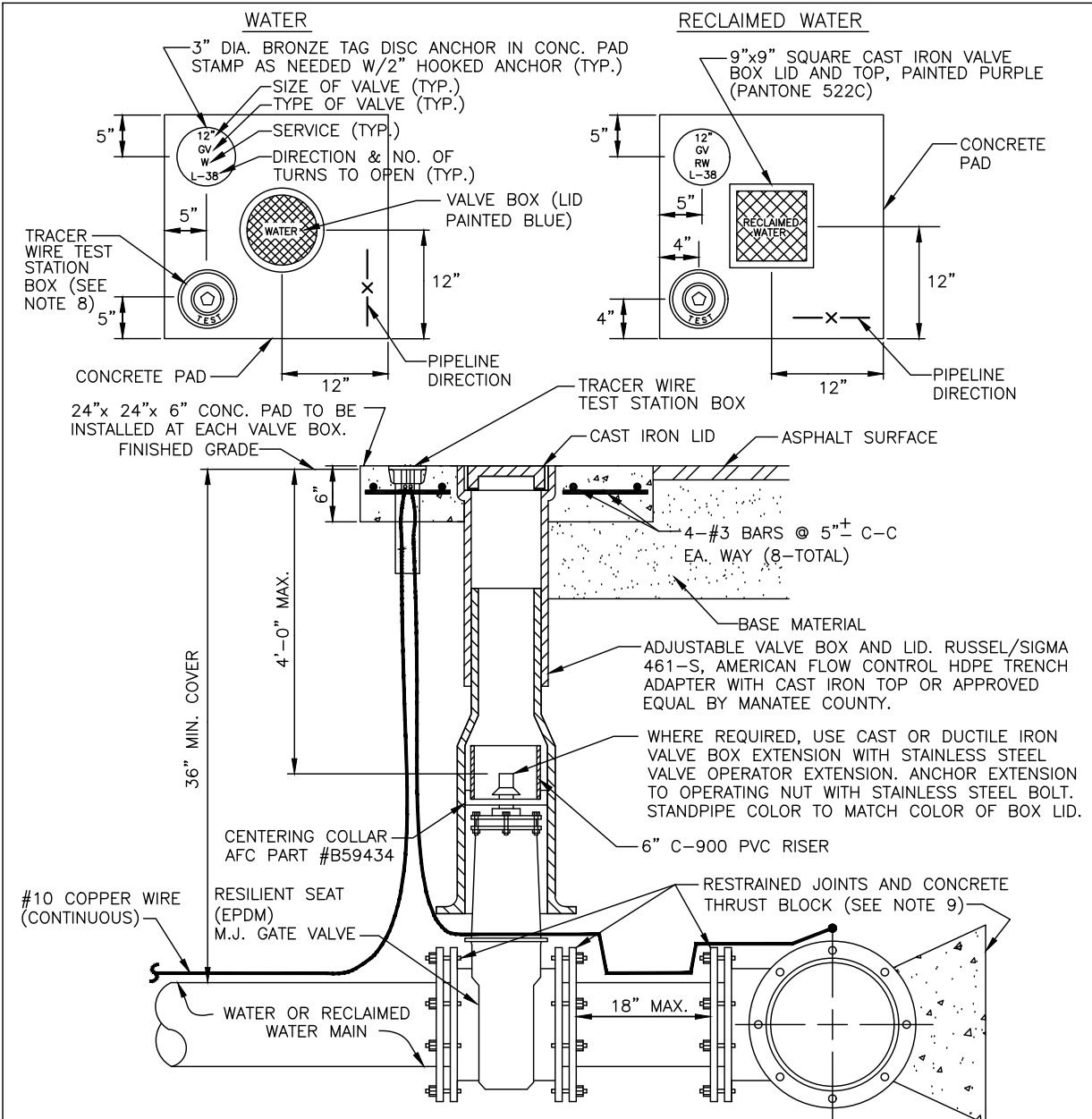


NOTE:  
DROP MANHOLES, MANHOLES WITH OPPOSING FLOW (DETAILS D & E), MANHOLES IMMEDIATELY UPSTREAM OF A LIFT STATION WET WELL, MANHOLES WITH GRAVITY SEWERS GREATER THAN 12 INCHES IN DIAMETER, MANHOLES RECEIVING A FORCE MAIN AND THE FIRST TWO GRAVITY MANHOLES DOWNSTREAM OF MANHOLES RECEIVING A FORCE MAIN SHALL HAVE AN APPROVED LINER.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		STANDARD PRE-CAST SANITARY SEWER MANHOLE FOR UNDISTURBED FLOW	US-2
REV. BY WRT/KE	DATE 04/11		
MAY 10, 2011 DATE OF APPROVAL		PAGE 142	

REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.  20
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
---	---				SR 684	MANATEE	436551-1-52-01	

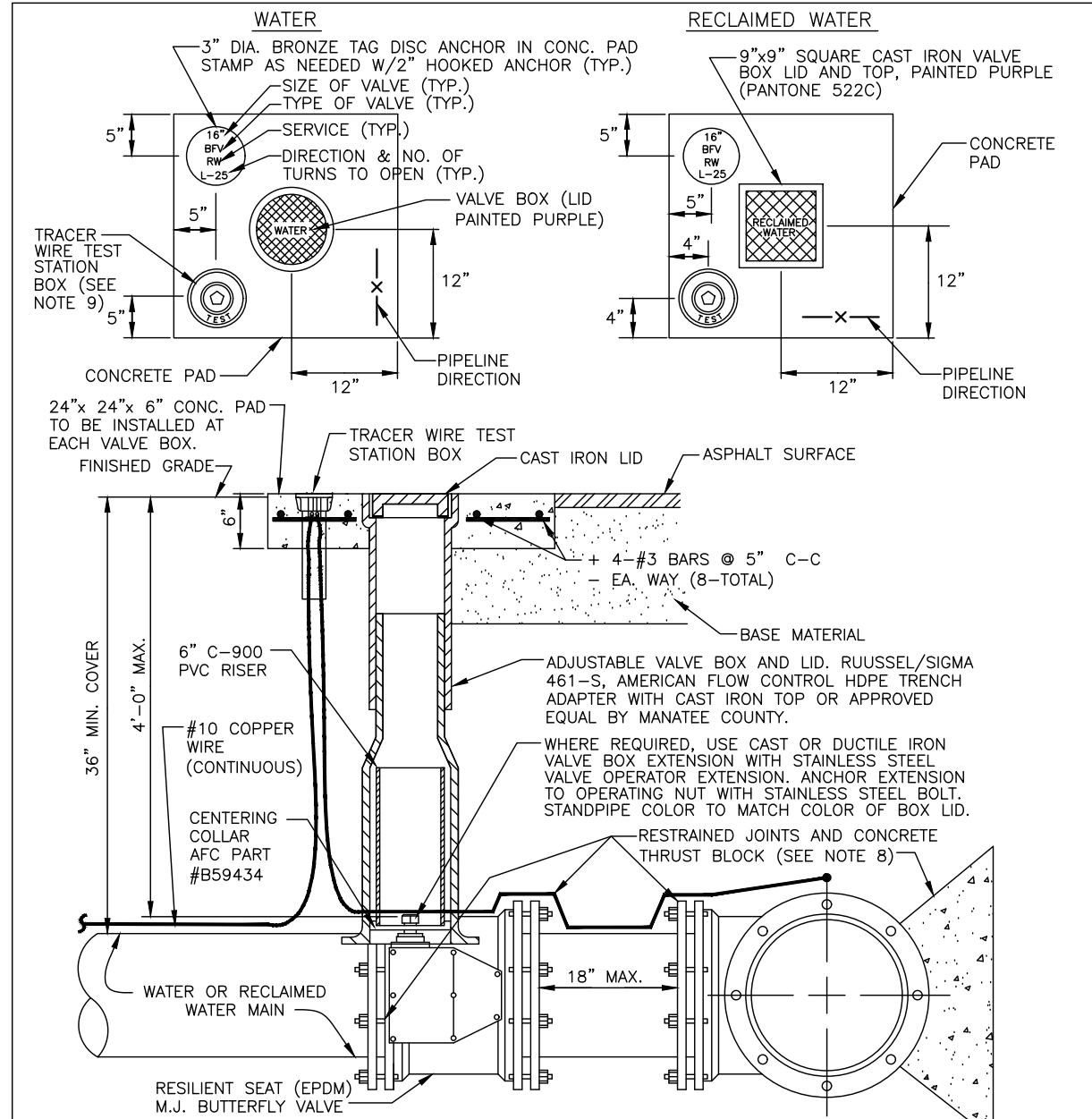
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



**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 1/2".
6. FOR VALVES 16" 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 SPECIFIED FOR "TEES."
10. BINGHAM & TAYLOR P200NFG FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, LID AND TAG	UW-2
REV. BY CLB/KE	DATE 11/10		
MAY 10, 2011 DATE OF APPROVAL		PAGE 120	



**NOTES:**

1. "WV" or "RWV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH IF NO CURB, INSTALL A BLUE DISC WITH "WV" OR PURPLE DISC DISTANCE IN FEET TO THE VALVE. 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 1/2".
6. FOR VALVES 16" AND LARGER, USE BUTTERFLY VALVES.
7. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
8. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES."
9. BINGHAM & TAYLOR P200NFG OR EQUAL FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		BUTTERFLY VALVE, BOX, LID AND TAG	UW-3
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REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.  21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
---	---				SR 684	MANATEE	436551-1-52-01	

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**REQUIRED LENGTH OF RESTRAINED JOINT PIPE  
FOR DR-18 PVC PIPE**

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS & VALVES
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH			
				X24	X20	X16	X12	X10	X20	X16	X12	
24	90	38	18	169	132	90	38	6	64	117	158	214
20	78	32	16	141	101	53	24	1	65	115	149	184
16	66	27	13	111	67	41	12		64	107	111	151
12	52	22	10	80	56	31	6	1	58	62	86	118
10	44	18	9	63	40	7			33	61	81	100
8	37	15	7	49	18	1			35	60		83
6	29	12	6	29	1				33			63
4	21	8	4	12								45

**NOTES:**

- RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
- ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
- ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- PIPE SIZES ARE GIVEN IN INCHES.
- RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
- 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 BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PVC PIPE	UG-8
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**REQUIRED LENGTH OF RESTRAINED JOINT PIPE  
FOR DIP (POLY-WRAPPED)**

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS & VALVES		
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH					
				X36	X30	X24	X20	X16	X12	X30	X24		X20	
36	142	59	28	393	318	232	165	84	1	137	247	309	359	453
30	124	51	25	333	252	189	115	23	1	137	213	276		391
24	106	44	21	270	211	143	61	10	1	98	178	241		327
20	92	38	18	225	161	85	39	1		98	176	227		280
16	77	32	15	177	107	65	19	1		98	163	169		231
12	61	25	12	127	89	50	6	1		88	96	131		181
10	52	22	10	101	64	11				51	94	125		153
8	44	18	9	78	30	1				54	92			128
6	34	14	7	46	1					50				98
4	24	10	5	19										69

**REQUIRED LENGTH OF RESTRAINED JOINT PIPE  
FOR DIP (NON-WRAPPED)**

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS & VALVES		
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH					
				X36	X30	X24	X20	X16	X12	X30	X24		X20	
36	100	42	20	163	132	96	68	35	1	57	103	128	149	188
30	88	37	18	138	104	78	48	10	1	57	88	114		162
24	75	31	15	112	87	59	25	4	1	40	74	100		135
20	65	27	13	93	67	35	16	1		41	73	94		116
16	54	22	11	73	44	27	8	1		41	68	70		96
12	43	18	8	53	37	21	6	1		37	40	54		75
10	37	15	7	42	26	5				21	39	52		63
8	30	13	6	32	12	1				22	38			53
6	24	10	5	19	1					21				41
4	17	7	3	8										29

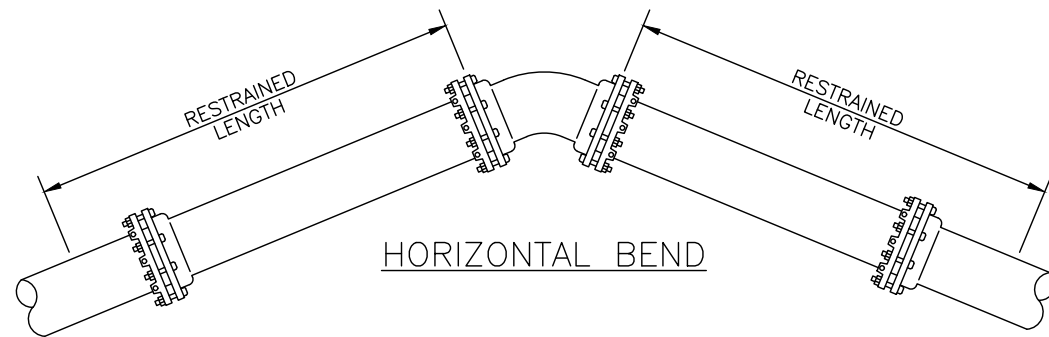
**NOTE:**

SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

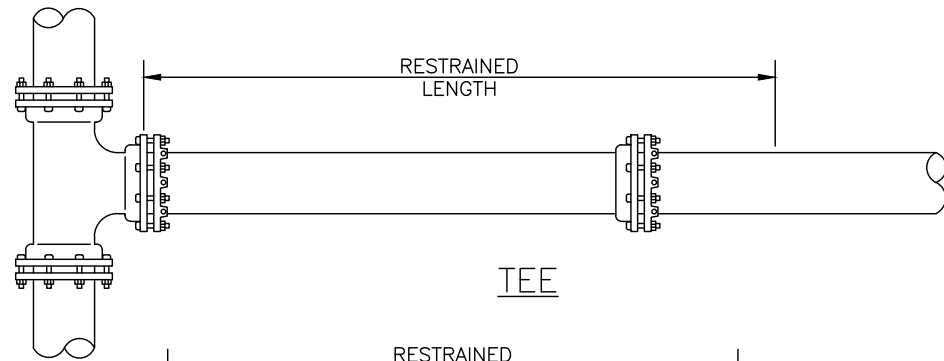
<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE		
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REVISIONS				CHRISTOPHER K. MARTIN, P.E. P.E. LICENSE NUMBER 66598 AYRES ASSOCIATES 8875 HIDDEN PARKWAY, #200 TAMPA, FL 33637 CERTIFICATE OF AUTHORIZATION 4356	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.  22
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
---	---				SR 684	MANATEE	436551-1-52-01	

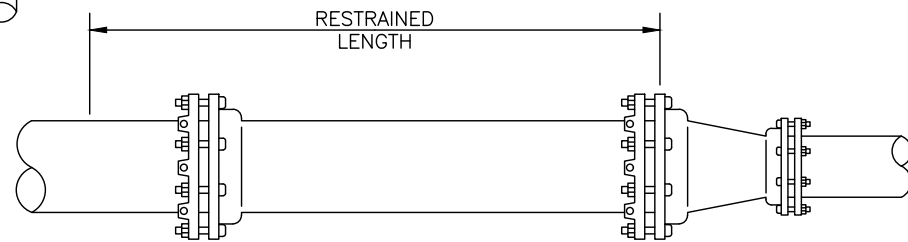
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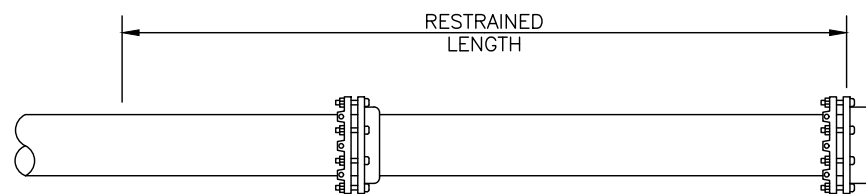
HORIZONTAL BEND



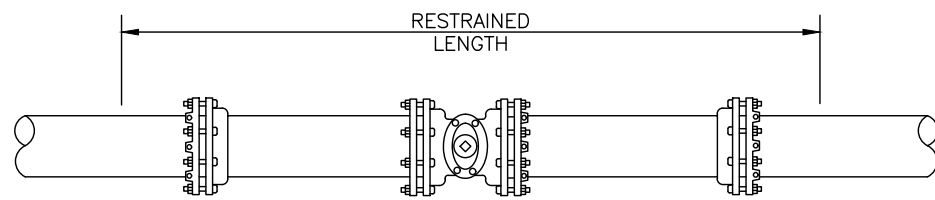
TEE



REDUCER



CAP OR PLUG



ISOLATION VALVE

**MANATEE COUNTY**  
PUBLIC WORKS DEPARTMENT

REV. BY	DATE	MAY 10, 2011 DATE OF APPROVAL
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RESTRAINED  
LENGTHS FOR PIPE

UG-10

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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CHRISTOPHER K. MARTIN, P.E.  
P.E. LICENSE NUMBER 66598  
AYRES ASSOCIATES  
8875 HIDDEN PARKWAY, #200  
TAMPA, FL 33637  
CERTIFICATE OF AUTHORIZATION 4356

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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**TYPICAL DETAILS**

SHEET NO.

23

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