



COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY

465-6005719

APRIL 2020

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.



PUBLIC WORKS DEPARTMENT
1022 28th Avenue East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
COVER SHEET

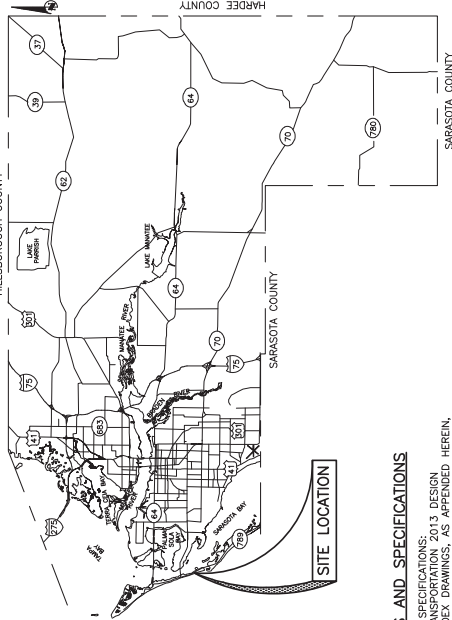
PHASE 2 100% PLANS

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VICINITY MAP
N.T.S.

PROJECT DESCRIPTION
PROJECT SCOPE IS TO PROVIDE PERVIOUS CONCRETE PARKING AND DRAINAGE.



SITE LOCATION

RELATED STANDARDS AND SPECIFICATIONS

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION 2013 DESIGN SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION, AND APPLICABLE ARTICLES AND SUBARTICLES OF DIVISION LAND AND WATER CONSTRUCTION FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS.

FOR DESIGN STANDARDS CLICK ON THE "DESIGN STANDARDS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.FDOT.STATE.FL.US/ROADSDESIGN/](http://www.fdot.state.fl.us/roadsdesign/)

FOR THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CLICK ON THE "SPECIFICATIONS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.FDOT.STATE.FL.US/SPECIFICATIONS/EFCE/](http://www.fdot.state.fl.us/specifications/efce/)

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
1022 28TH AVENUE EAST BRADENTON FLORIDA 34208

KEY SHEET REVISIONS	
DATE	DESCRIPTION



Know what's below
Call before you dig

Signature & Date

SHEET 1

PROJECT # 465-6005719
SURVEY # 6882
SEC./TWP./RGE 10/35S/16E
SCALE N/A
BY DATE
SURVEYED ZMS 08/09/15
DESIGNED MS/EZ 08/2015
DRAWN MS 08/2015
CHECKED MS 08/2015
MICHAEL L. STURM
FLORIDA P.E. # 46005

NO	REVISION DESCRIPTION	BY	DATE



COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GENERAL NOTES & LEGEND

MAINTAINING THE SEDIMENTATION BARBERS IN A WORKING MANNER FOR THE DURATION OF CONSTRUCTION AND SHOULD BE CHECKED DURING CONSTRUCTION... TOPOGRAPHIC AND PROPERTY SURVEYS OWING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, AND SOIL BORING DATA...

49. ALL PIPE LENGTHS SHOWN ON PLAN VIEW ARE TO THE END OF THE MITERED END SECTION. REFER TO MITERED END SECTION DETAIL FOR LENGTH OF PIPE TO BE INCLUDED IN PRICE FOR MITERED END SECTION. 50. TOPOGRAPHIC AND PROPERTY SURVEYS OWING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, AND SOIL BORING DATA...

51. THE CONTRACTOR SHALL VERIFY TOPOGRAPHY AND SURVEY MARKS AS TO THE EXTENT OF FIELD NECESSARY TO ACHIEVE FINISHED GRADE PRIOR TO AWARD OF CONTRACT. 52. ROUTES UNDERDRAIN SHOWN ON PLAN IS MINIMUM AND EXTENSION SHALL BE DETERMINED BY THE CONTRACTOR... 53. SUITABLE FILL MATERIAL SHALL BE UTILIZED FOR PROJECT FILL PER GRADING SPECIFICATIONS...

54. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURES PRIOR TO INSTALLATIONS. 55. REFER TO CONSTRUCTION TECHNICAL SPECIFICATIONS FOR COMPACTION REQUIREMENTS, GRASSING/SODDING REQUIREMENTS, AND PAVING CONSTRUCTION MATERIAL SPECIFICATIONS. 56. ALL FILL AREAS ARE TO BE CONSTRUCTED IN 12" MAXIMUM LIFTS...

57. THE CONTRACTOR SHALL REVIEW SOILS TESTS AS PERFORMED BY THE SOIL CONSULTANT AND IS ENCOURAGED TO UNSUBMIT MATERIALS PRIOR TO BIDDING. 58. ON SLOPES GREATER THAN 3:1 FENCING OR FINNING OF SOD MAY BE REQUIRED. 59. COORDINATE POINTS FOR STORM DRAIN INLETS, UNDERDRAIN CLEANOUTS AND MANHOLES REFERENCE THE CENTER POINT OF THE MANHOLE... 60. ALL CURB ALLEY AND UNCTION BOX STRUCTURES SHALL HAVE HEAVY DUTY RING AND COVER MANHOLE ACCESS...

61. DURING DEMOLITION OPERATIONS, THE CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO RECEIVING WATERS, OR INTO ANY WATERWAY... 62. SPECIAL PRECAUTIONS OF THE SLURRY MIX SHALL BE OBSERVED IN ACCORDANCE WITH THE SPECIAL PRECAUTIONS OF THE CONTRACTOR... 63. SECTION OF ALL IMPORVED MATERIAL, INCLUDING BENTONITE. SHIPMENT AND DELIVERY OF BENTONITE SHALL BE VERIFIED BY THE CONTRACTOR...

64. STORM WATER METS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY ENGINEER BEFORE INSTALLATION. 65. SEDIMENT BASINS AND TRAPS, PERMETER BERMS, VEGETATIVE BUFFERS, AND OTHER VEGETATIVE BUFFERS PROTECTED FROM DISTURBANCE... 66. STORM WATER METS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY ENGINEER BEFORE INSTALLATION...

28. 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. 29. SOIL DISPLAYED DURING CONSTRUCTION SHALL BE REMOVED. EROSION CONTROL SHALL BE IMPLEMENTED IN AREAS WHERE EXCAVATION IS TO OCCUR... 30. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL...

31. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER WETLAND AREAS THAT MAY BE ON OR NEAR THE PROJECT SITE... 32. BEFORE ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS. 33. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FOOT RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS...

34. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR OR LANDSMAN IN THE STATE OF FLORIDA TO CONSTRUCT AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. 35. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN A RIGHT-OF-WAY USE PERMITS FROM THE MANATEE COUNTY ENGINEERING DEPARTMENT... 36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS...

37. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT-OF-WAY LINES, BASE LINES, PROPERTY LINES, EASEMENTS, AND CONVEYANCES TO BE MAINTAINED AND PROTECTED THROUGHOUT CONSTRUCTION... 38. A RIGHT OF ENTRY AGREEMENT SHALL BE OBTAINED BY THE PROJECT MANAGER FROM THE PROPERTY OWNER BEFORE ANY DEMOLITION CONSTRUCTION WORK IS DONE OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT. 39. THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRAWINGS WITH THE PROPERTY OWNER PRIOR TO CUTTING... 40. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ON THE DRAWINGS...

41. THE CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED OR OFFERED BY FLORIDA POWER AND LIGHT COMPANY TO LOCATE AND MARK ALL UTILITIES... 42. EXCEPT WHERE THE PLANS AND SPECIFICATIONS PROVIDE THAT SUCH WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF THE CONTRACTOR'S SUPERVISOR... 43. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NECESSARY RELOCATION AND ADJUSTMENT OF UTILITIES AND RELATED STRUCTURES... 44. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITY COMPANIES FOR THE RELOCATION AND ADJUSTMENT OF UTILITIES...

45. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE APPROPRIATE PARTIES TO DETERMINE THE COUNTY'S FIBER COMMUNICATION NETWORK... 46. LAND SURVEYING. 47. THE CONTRACTOR IS TO PROVIDE THE ENGINEER OF RECORD WITH REPRODUCIBLE RECORD DRAWINGS SHOWING ALL IMPROVEMENT LOCATIONS AND ELEVATIONS IN ACCORDANCE WITH LATEST MANATEE COUNTY TRANSPORTATION RECORD DRAWINGS... 48. TO PREVENT SEDIMENTARY RUNOFF DURING CONSTRUCTION, STAKED FIBER LOGS, STAKED SILT SCREENS OR INLET DEBRIS CONTROL SCREENS ARE TO BE PLACED AT STORM INLETS, OUTFALL LOCATIONS AND ADJACENT PROPERTY...

GENERAL 1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS MICHAEL STURM, P.E., 7322. 2. SITE VISITS ARE MANDATORY FOR ALL BIDDERS. THESE SITE VISIT SCHEDULES CAN BE ARRANGED THROUGH THE PROJECT MANAGER. 3. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION UNLESS OTHERWISE INDICATED ON THE PLANS.

4. VERIFICATION FOR THIS PROJECT WAS ESTABLISHED BY A MINIMUM OF TWO REFERENCE BENCHMARKS DESCRIBED ON THE "NORTH AMERICAN SYSTEM DATUM OF 1984" (NAD 83). BENCHMARKS ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) AND 83/2011 L. ELEVATIONS ARE BASED ON NAVD 1988. BENCHMARK OS-105 (FD A02910) HAVING AN ELEVATION OF 3.29 FEET (NAVD 1988). 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS REQUIRED FOR CONSTRUCTION... 6. 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...

7. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION... 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION ON THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY. 9. ALL STATIONS AND OFFSETS REFER TO BASELINE OF CONSTRUCTION, UNLESS OTHERWISE NOTED. 10. THE CONSTRUCTION LENGTHS IN THESE PLANS ARE APPROXIMATE. ACTUAL LIMITS MAY BE SET IN THE FIELD AS DIRECTED BY THE ENGINEER. 11. SEPARATE PAYMENT SHALL BE MADE ONLY FOR THE ITEMS OF WORK LISTED AND IDENTIFIED BY APPROPRIATE DIMENSIONS AND QUANTITIES... 12. THE CONTRACTOR SHALL HAVE A FOREMAN, OR RESPONSIBLE PARTY, ON SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED...

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE COORDINATION OF CONSTRUCTION SCHEDULING BETWEEN CONTRACTOR AND ALL UTILITY AGENCIES. 14. ANY DAMAGE TO STATE, COUNTY, OR LOCAL ROADS CAUSED BY THE CONTRACTOR'S HAULING OR EXCAVATION WORK SHALL NOT BE MADE FOR THIS WORK. 15. ALL CONSTRUCTION WITHIN FOOT RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH CURRENT FOOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION AND THE DESIGN STANDARDS. 16. ALL SODS, STANDING AND REM PLACEMENT WITHIN THE FOOT RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH SAEETY. 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRAFFIC SAFETY ACT, 90-96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990, AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS...

18. ONCE LOCATED, THE BENTONITE SPILL MUST BE ISOLATED AND SEPAEGE INTO ANY NEARBY WATER BODIES WILL BE BLOCED DEPENDING ON THE DEGREE OF THE SPILL, THE ISOLATED BENTONITE MUST BE REMOVED MANUALLY OR MECHANICALLY AND DISPOSED OF BY APPROPRIATE MEANS OR REUSED. 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NECESSARY RELOCATION AND ADJUSTMENT OF UTILITIES AND RELATED STRUCTURES. 20. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY, THIS EXCLUSION DOES NOT ALLEVATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE. ENVIRONMENTAL 21. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION ALL SEDIMENT AND EROSION CONTROL (SEC) DEVICES (E.G. BARRIERS, SEDIMENT TRAPS/BASINS, VEGETATIVE BUFFERS, ETC.) AS SPECIFIED IN THE FINAL APPROVED PLANS FOR THE PROJECT...

22. BENTONITE OF THE TYPE AND GRADE SPECIFIED SHALL BE USED TO STOPPLES TO BE INSTALLED TO PREVENT FLOODING EXCESSIVE UNDER NO CIRCUMSTANCES WILL DRILLING CONTINUE WHEN A SPILL IS APPARENT. 23. ONCE LOCATED, THE BENTONITE SPILL MUST BE ISOLATED AND SEPAEGE INTO ANY NEARBY WATER BODIES WILL BE BLOCED DEPENDING ON THE DEGREE OF THE SPILL, THE ISOLATED BENTONITE MUST BE REMOVED MANUALLY OR MECHANICALLY AND DISPOSED OF BY APPROPRIATE MEANS OR REUSED. 24. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NECESSARY RELOCATION AND ADJUSTMENT OF UTILITIES AND RELATED STRUCTURES. 25. STOODPLES SHALL BE INSTALLED TO PREVENT FLOODING EXCESSIVE UNDER NO CIRCUMSTANCES WILL DRILLING CONTINUE WHEN A SPILL IS APPARENT. 26. STORM WATER METS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY ENGINEER BEFORE INSTALLATION. 27. SEDIMENT BASINS AND TRAPS, PERMETER BERMS, VEGETATIVE BUFFERS, AND OTHER VEGETATIVE BUFFERS PROTECTED FROM DISTURBANCE...

28. STORM WATER METS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY ENGINEER BEFORE INSTALLATION. 29. SEDIMENT BASINS AND TRAPS, PERMETER BERMS, VEGETATIVE BUFFERS, AND OTHER VEGETATIVE BUFFERS PROTECTED FROM DISTURBANCE... 30. STORM WATER METS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY ENGINEER BEFORE INSTALLATION...

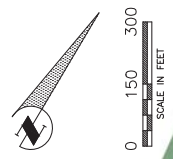
**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
EXISTING AERIAL SITE PLAN**

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RBE	10/35S/71E
SCALE	1"=300'
BY	DATE
SURVEYED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	KR 08/2015
CHECKED	MS 08/2015
MICHAEL L. STURM FLORIDA P.E. # 46005	
SIGNATURE & DATE	
SHEET 4	





**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
PROPOSED AERIAL SITE PLAN**

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RGE	10/35S/16E
SCALE	1"=300'
BY	DATE
DESIGNED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	KR 08/2015
CHECKED	MS 08/2015
MICHAEL L. STURM FLORIDA P.E. # 46005	
_____ Signature & Date	



LEGEND:

	PERVIOUS CONCRETE PAVEMENT
	IMPERVIOUS CONCRETE PAVEMENT



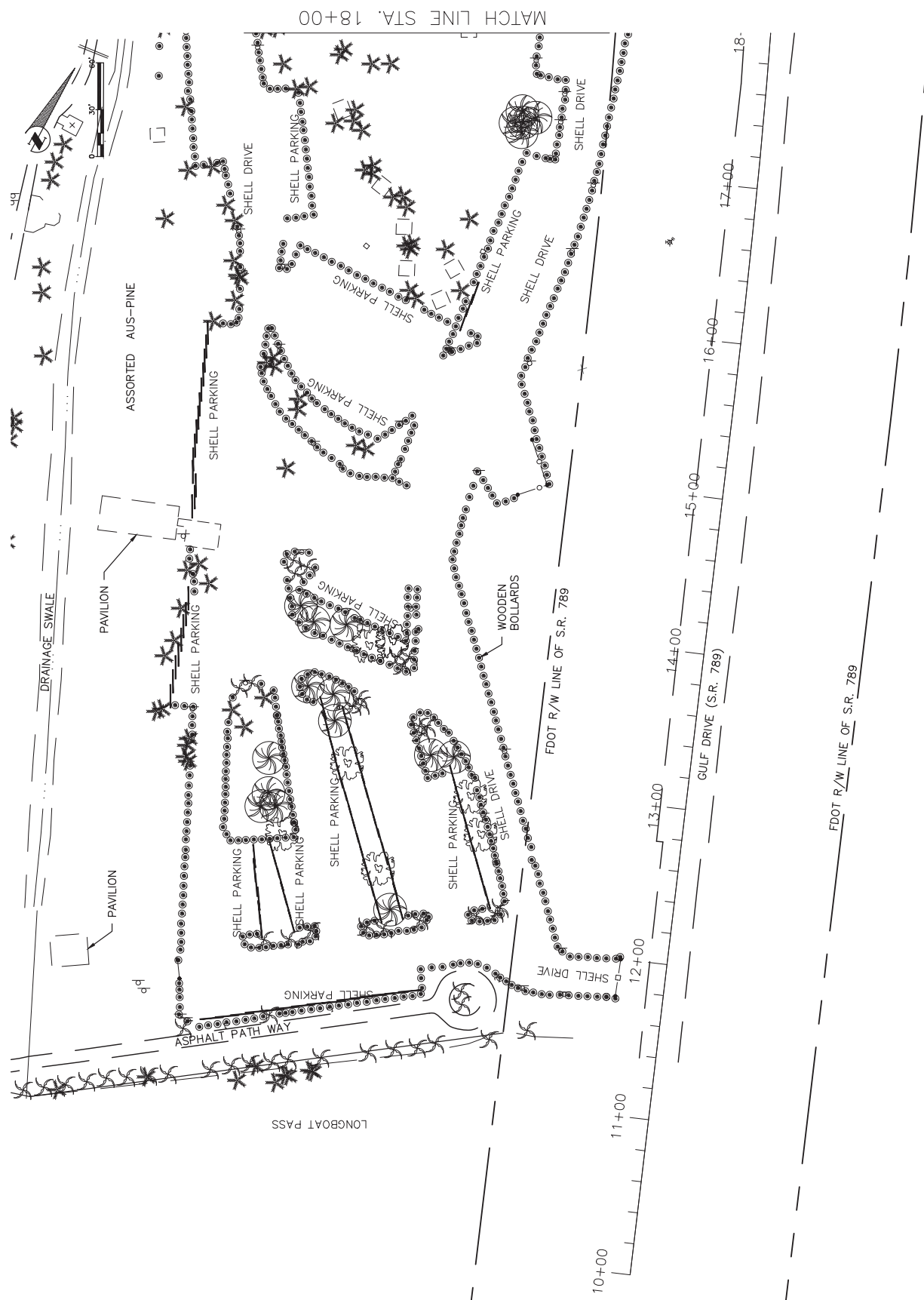
MANATEE COUNTY
PUBLIC WORKS DEPARTMENT
1002 20th Avenue East, Bradenton, FL 34209

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
EXISTING CONDITIONS**

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6002719
SURVEY #	6882
SEC./TWP./RGE	10/35S/18E
SCALE	1"=60'
DATE	
BY	
DATE	
SURVEYED	ZNS 08/09/15
DESIGNED	MS/ES 08/2015
DRAWN	TMF 08/2016
CHECKED	MS/ES 8/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET 5

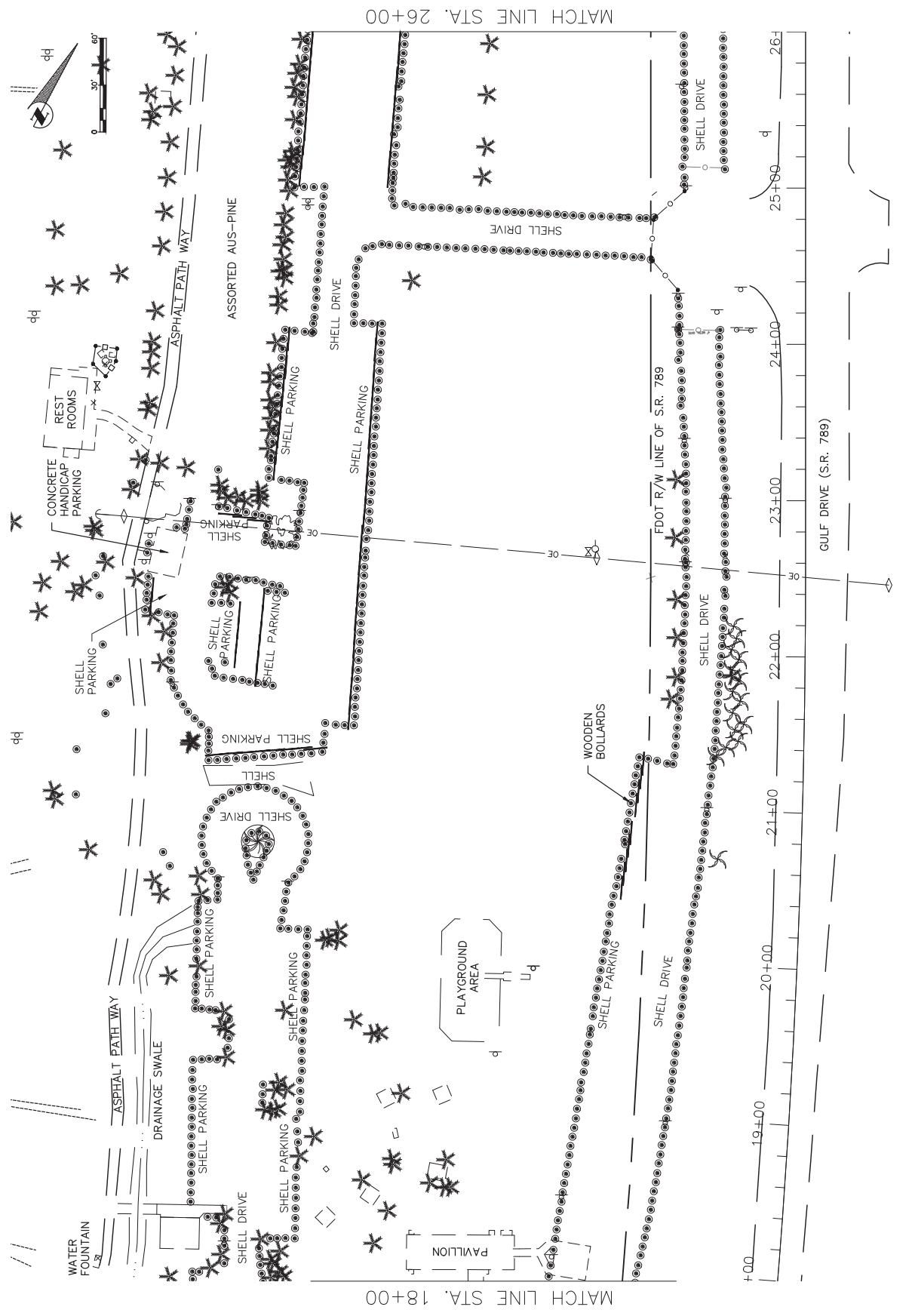


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COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY EXISTING CONDITIONS

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MICHAEL L. STURM FLORIDA P.E. # 46005	



FOOT R/W LINE OF S.R. 789



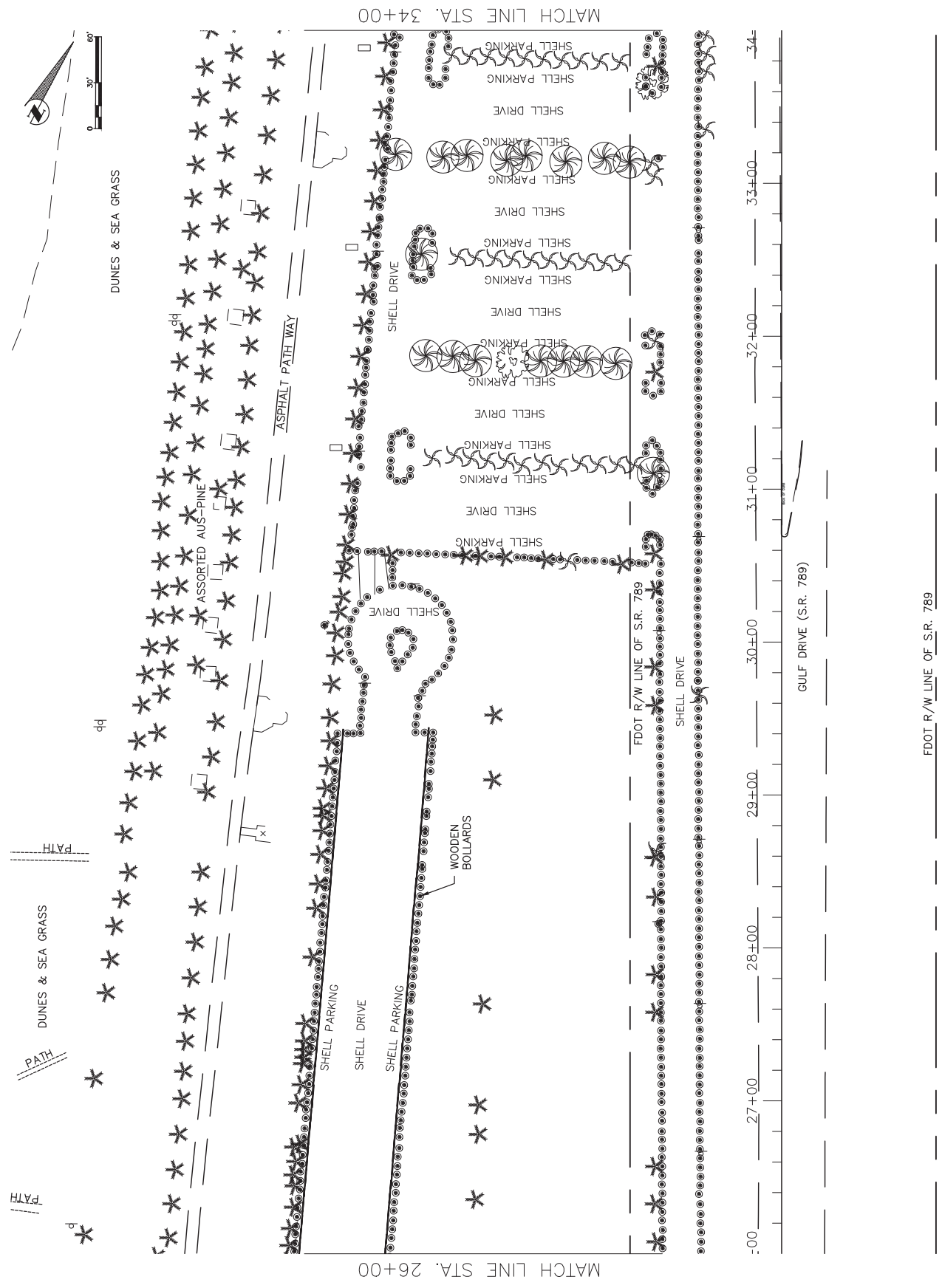
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MICHAEL L. STURM	
FLORIDA P.E. # 46005	

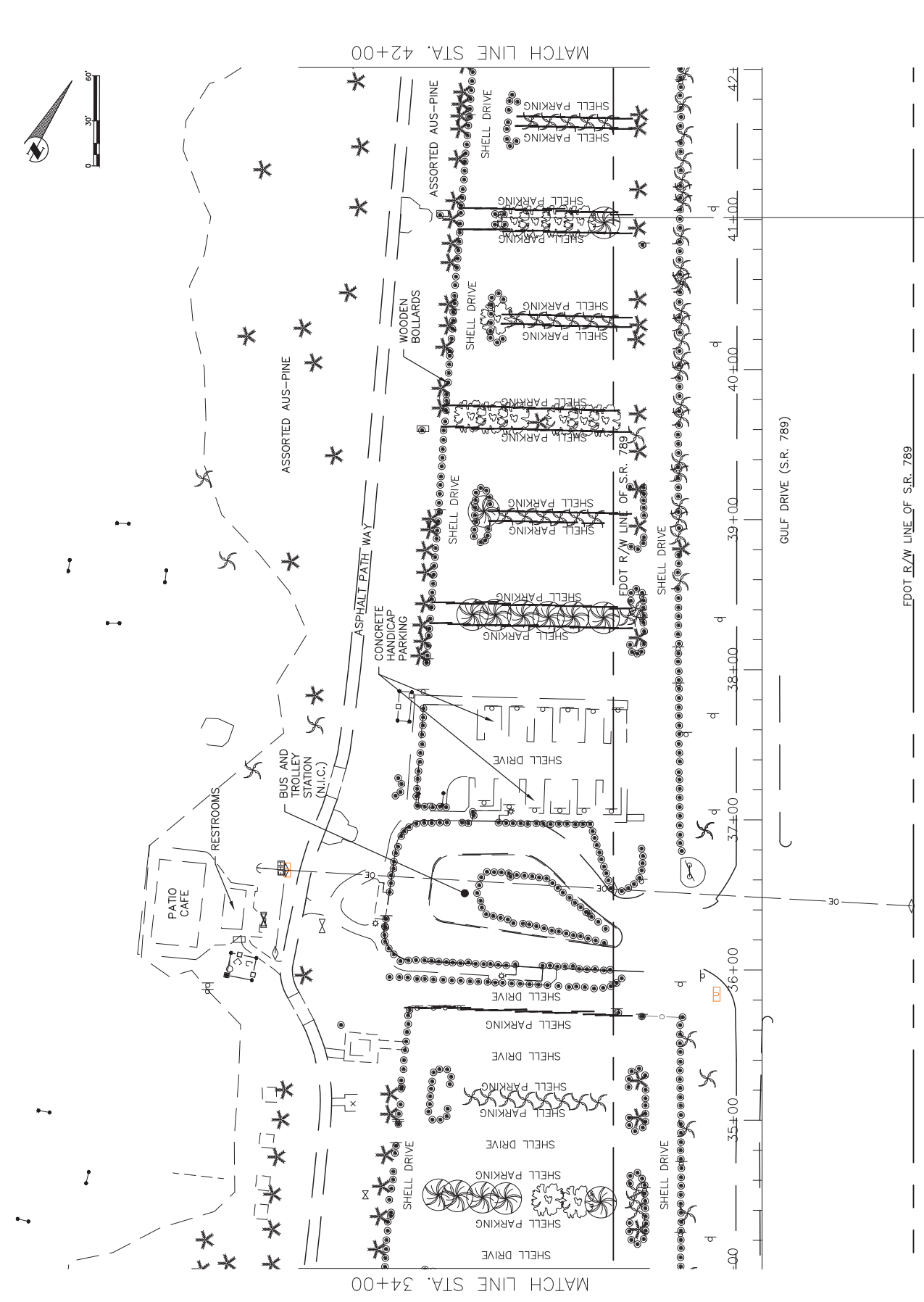
Signature & Date
SHEET 7





MANATEE COUNTY
PUBLIC WORKS DEPARTMENT
1102 20th Avenue East, Bradenton, FL 34209

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY EXISTING CONDITIONS



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SUPPRESSED	ZNS	08/05/15
DESIGNED	MS/ES	08/2015
DRAWN	TMF	08/2016
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	FLORIDA P.E. # 46005	

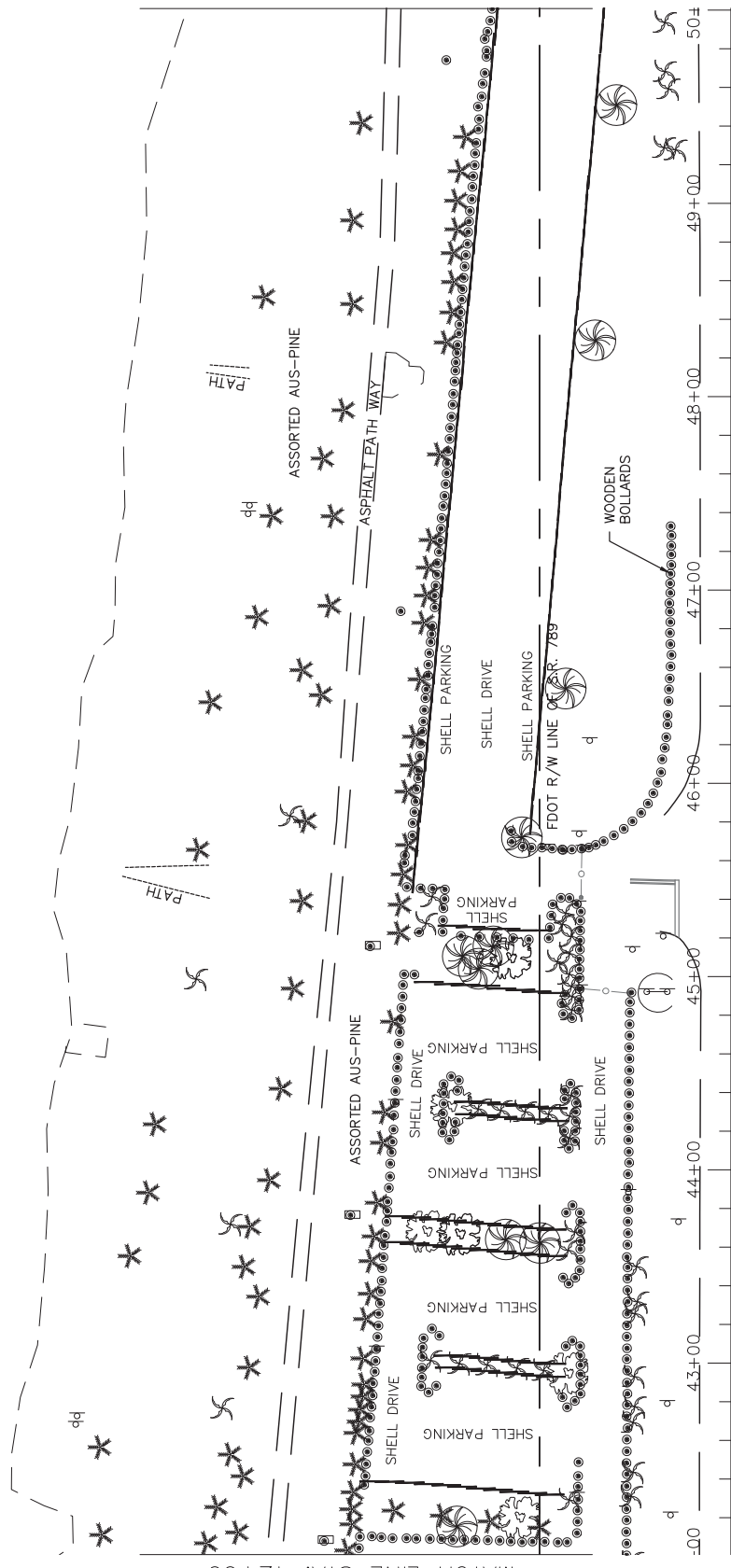
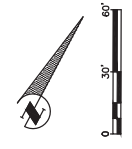


PUBLIC WORKS DEPARTMENT
1002 28th Avenue East, Bradenton, FL 34208
Tel: 941.755.1234 Fax: 941.755.1235

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY EXISTING CONDITIONS

MATCH LINE STA. 50+00

MATCH LINE STA. 42+00



GULF DRIVE (S.R. 789)

FDOT R/W LINE OF S.R. 789

Signature & Date
SHEET 9

PROJECT #	465-6002719
SURVEY #	6882
SEC./TWN./RGE	10/35S/16E
SCALE	1"=60'
BY	
DATE	
SUPP/CKD	ZNS 08/05/15
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MICHAEL L. STURM	
FLORIDA P.E. # 46005	



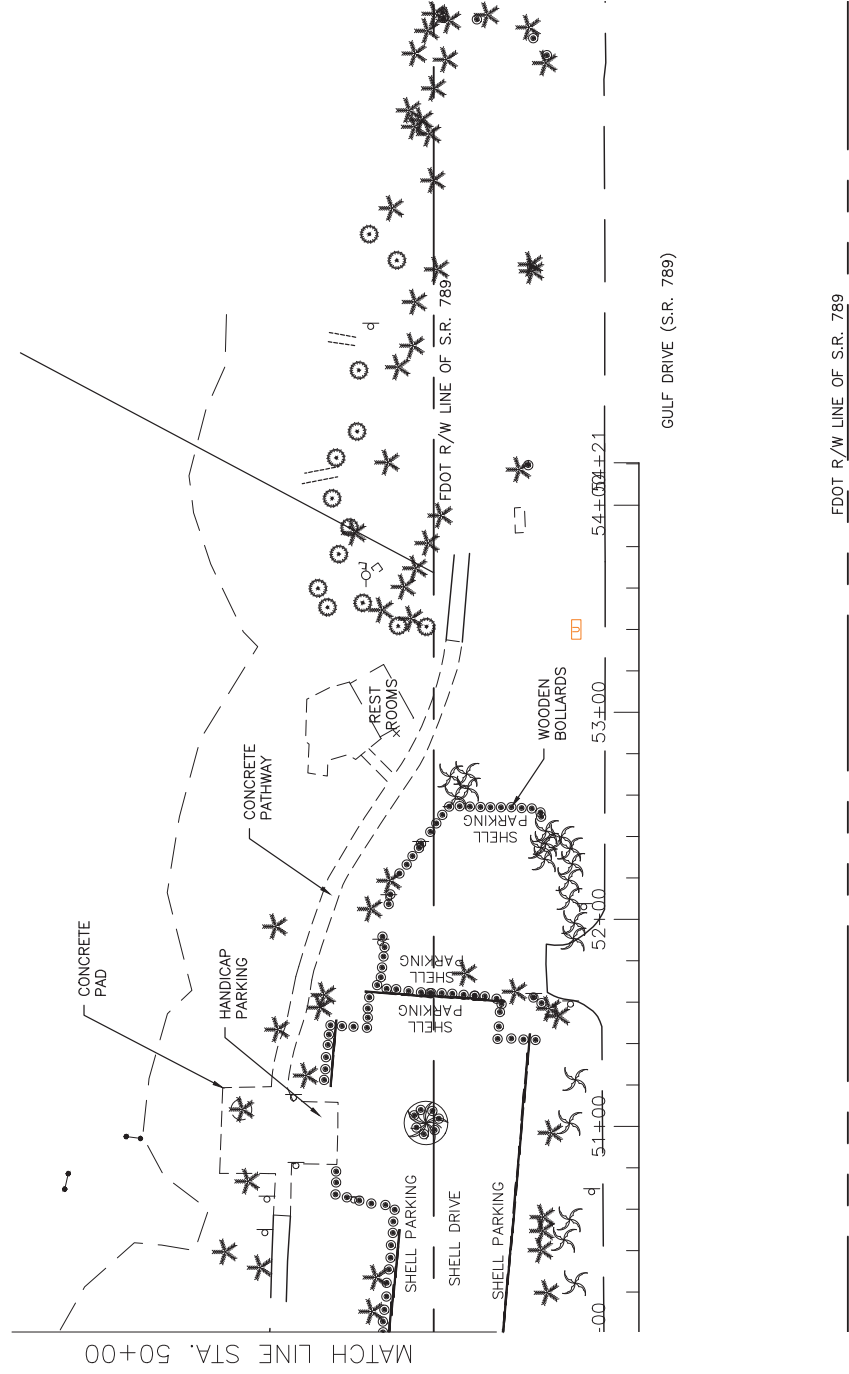
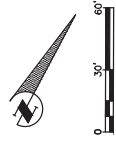
PUBLIC WORKS DEPARTMENT
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COQUINA BEACH DRAINAGE
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	MICHAEL L. STURM
	FLORIDA P.E. # 46005

Signature & Date
 SHEET 10



MATCH LINE STA. 50+00

GULF DRIVE (S.R. 789)

FDOT R/W LINE OF S.R. 789



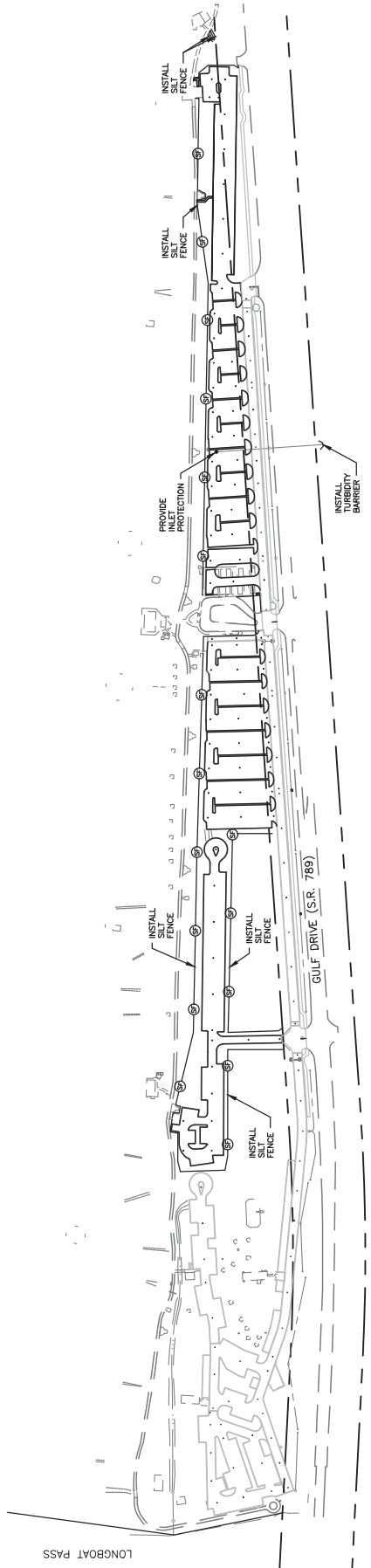
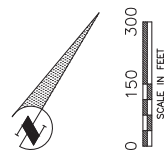
PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY BEST MANAGEMENT PRACTICES PLAN

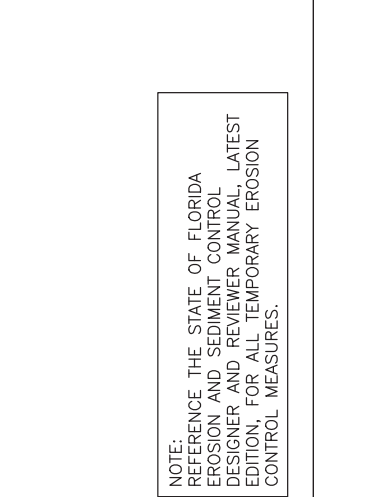
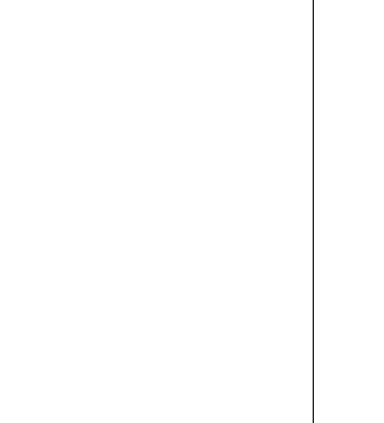
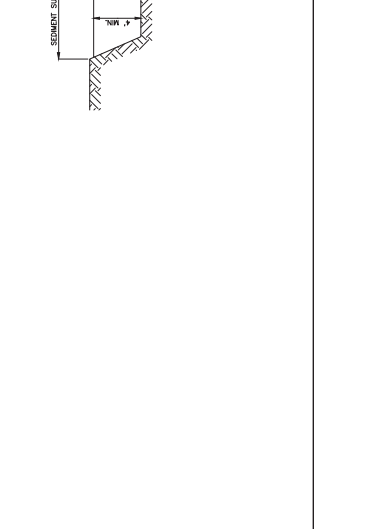
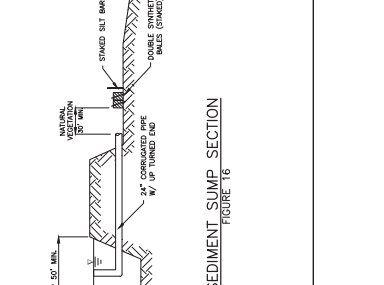
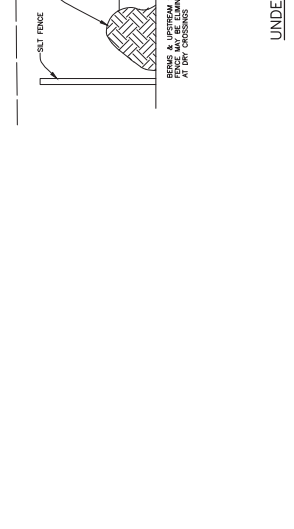
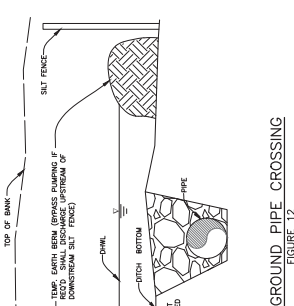
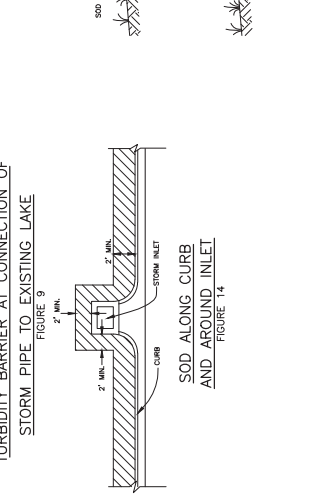
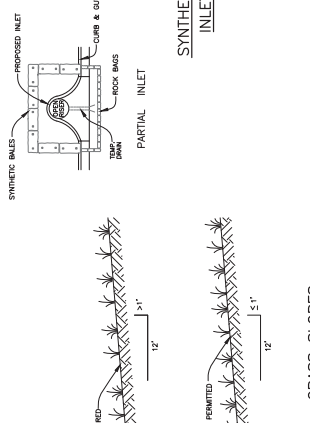
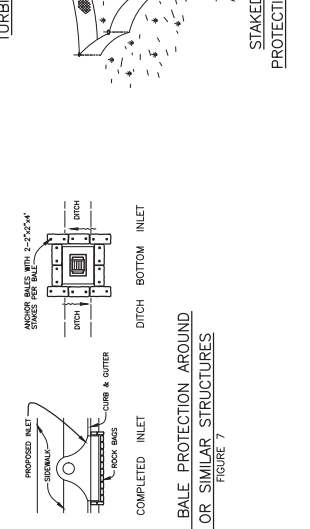
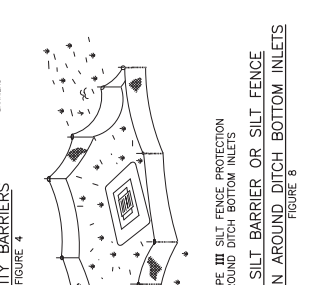
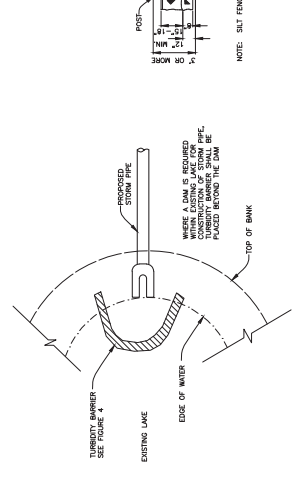
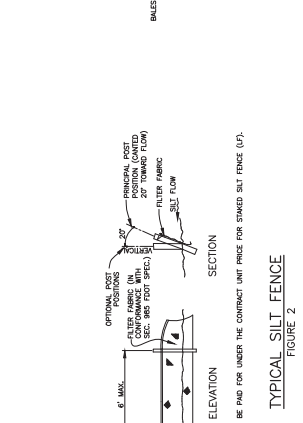
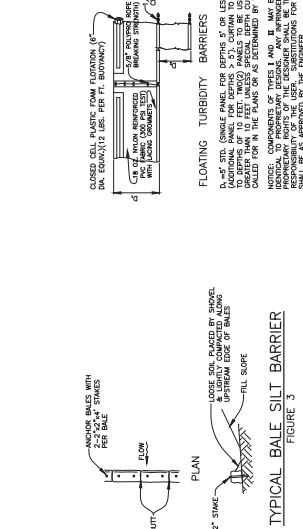
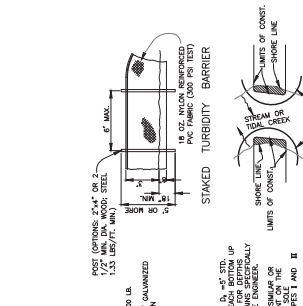
NO.	DATE	BY	REVISION DESCRIPTION

PROJECT #	465-6005719
SURVEY #	6982
SEC./TOWN/RSE	10/285/16E
SCALE	1"=300'
BY DATE	
SURVEYED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	KR 08/2015
CHECKED	MS 08/2015
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET 11



COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY EROSION CONTROL DETAILS



REVISION DESCRIPTION		BY	DATE

PROJECT #	465-000719
SURVEY #	6982
SEC./TWN./RGE.	10/35S/1E
SCALE	1"=300'
DATE	
DESIGNED	MS 07/16/04
DESIGNED	MS 08/2/2015
DRAWN	MR 08/2/2015
CHECKED	MS 08/2/2015
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date

SHEET 12

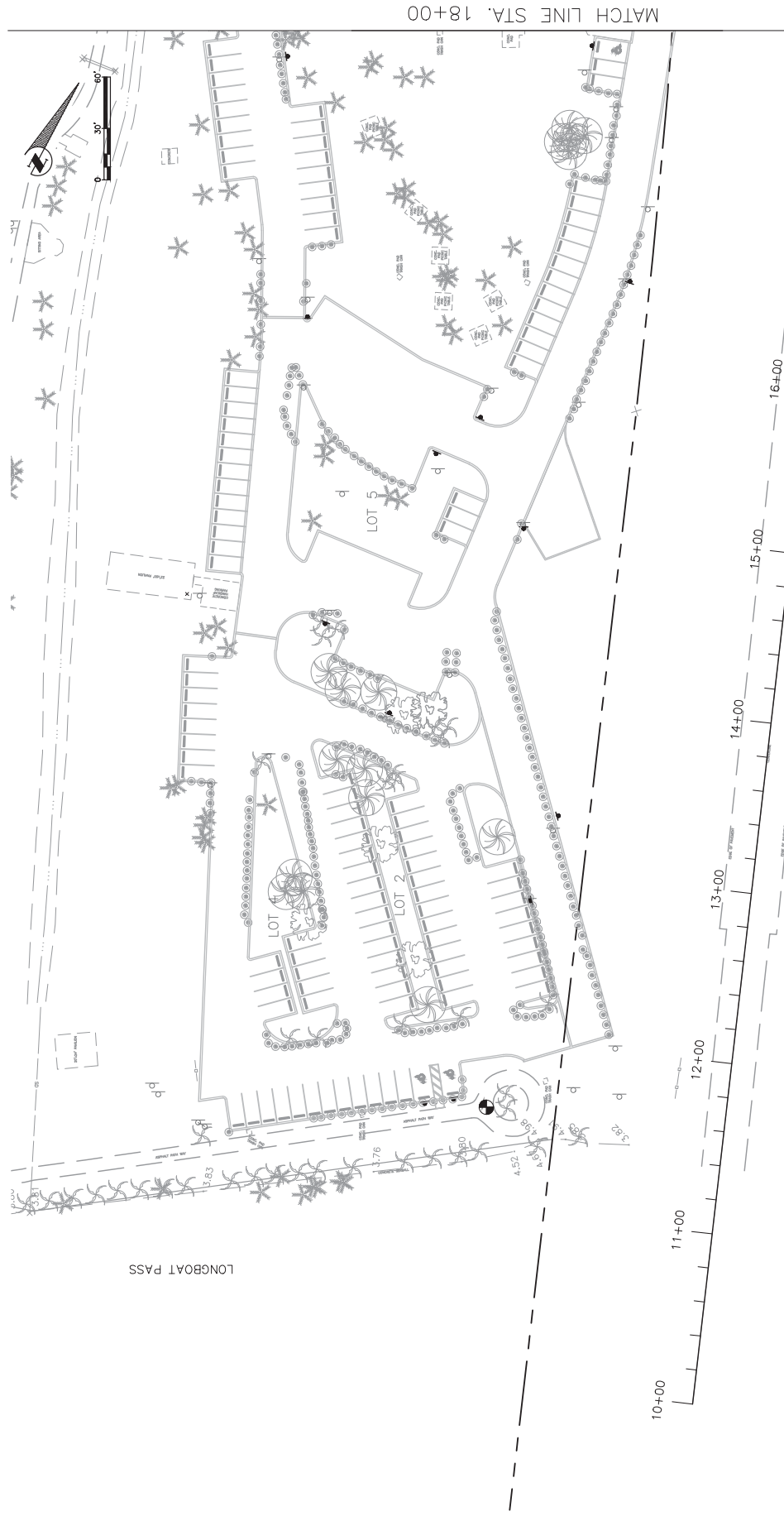
NOTE: REFERENCE THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, LATEST EDITION, FOR ALL TEMPORARY EROSION CONTROL MEASURES.



PUBLIC WORKS DEPARTMENT
1832 24th Avenue East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GEOMETRY PLAN

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RSE	10/35S/71E
SCALE	1"=60'
SURVEYED	ZNS 07/16/04
DESIGNED	MS/GS 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	
Signature & Date	
SHEET 13	



NOTES:

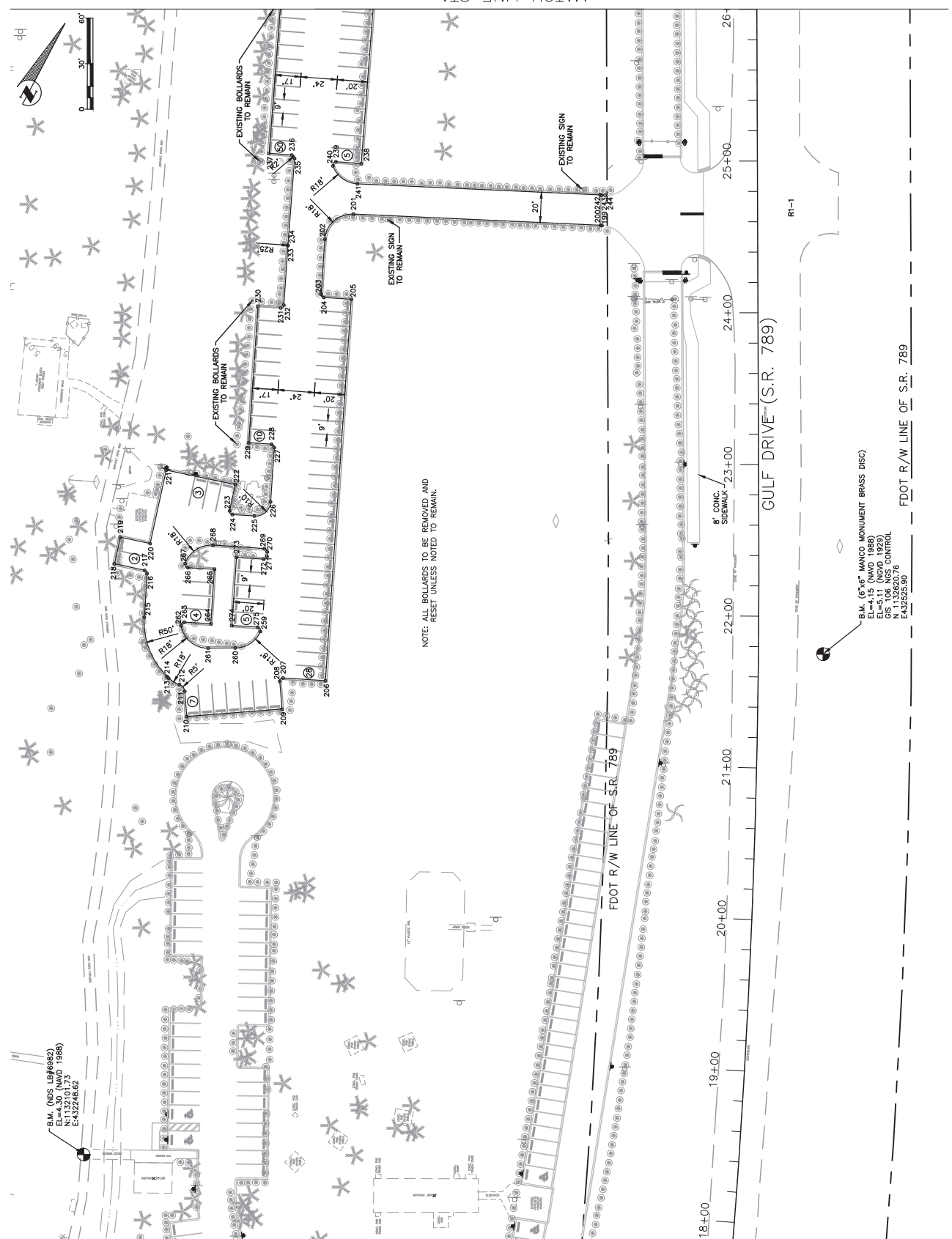
- COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (NEST ZONE) 1/90 83/2011.
- ALL DIMENSIONS ON THIS SHEET ARE FROM FACE OF CURB.
- ALL RADII ARE 2 FEET UNLESS OTHERWISE NOTED.
- ALL STRIPING TO BE PAINT UNLESS OTHERWISE NOTED.
- WOODEN BOLLARDS SHALL BE INSTALLED IN UNPAVED AREAS 2 FEET BEHIND CURB, SPACED 5 FEET ON CENTER, ALONG ALL PROPOSED CURBING TO PREVENT VEHICLES FROM ENTERING UNPAVED AREAS. BOLLARDS SHALL NOT BE INSTALLED IN LOCATIONS THAT BLOCK EXISTING EMERGENCY AND MAINTENANCE VEHICLE ACCESS LOCATIONS. BOLLARDS SHALL MATCH EXISTING BOLLARDS IN DIAMETER AND MATERIAL. SEE DETAIL.
- ALL THE SIGNING, PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON TRAFFIC CONTROL DEVICES (MUTCD), FDOT DESIGN STANDARDS, AND THE MANATEE COUNTY PUBLIC WORKS DEPARTMENT - HIGHWAY, TRAFFIC, AND STORMWATER STANDARDS.

LEGEND:

- RS-1
- EP RADIUS
- COORDINATE POINT
- R1-1
- R2-1
- PR. GATE
- TRIP. BOL.
- PROPOSED 4" METAL GATE AND POLES
- TRIPLE WOODEN BOLLARDS
- STOP R1-1
- NO PARKING R8-3
- NO PARKING R8-3s
- RV PARKING RV-R
- RV PARKING RV-L
- EMERGENCY VEHICLES ONLY EV-L
- EMERGENCY VEHICLES ONLY EV-R
- SPEED LIMIT 15 R2-1
- DO NOT ENTER R5-1
- 30" STOP SIGN AND 24" WHITE STOP BAR
- REGULATORY SIGN AND TYPE
- NUMBER OF PARKING SPACES
- PWT/STRIPING DIMENSION

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
GEOMETRY PLAN**

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RBE	10/35S/16E
SCALE	1"=60'
SURVEYED	ZMS 07/16/04
DESIGNED	MS/ES 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	
_____ Signature & Date	
SHEET 14	



MATCH LINE STA. 18+00

MATCH LINE STA. 26+00

NOTE: ALL BOLLARDS TO BE REMOVED AND RESET UNLESS NOTED TO REMAIN.

B.M. (5"x6" MANCO MONUMENT BRASS DISC)
 EL=4.15 (MVD 1989)
 NS=108 (NSC 1989)
 GS=108 (NSC CONTROL)
 N 1132620.76
 E 432925.90

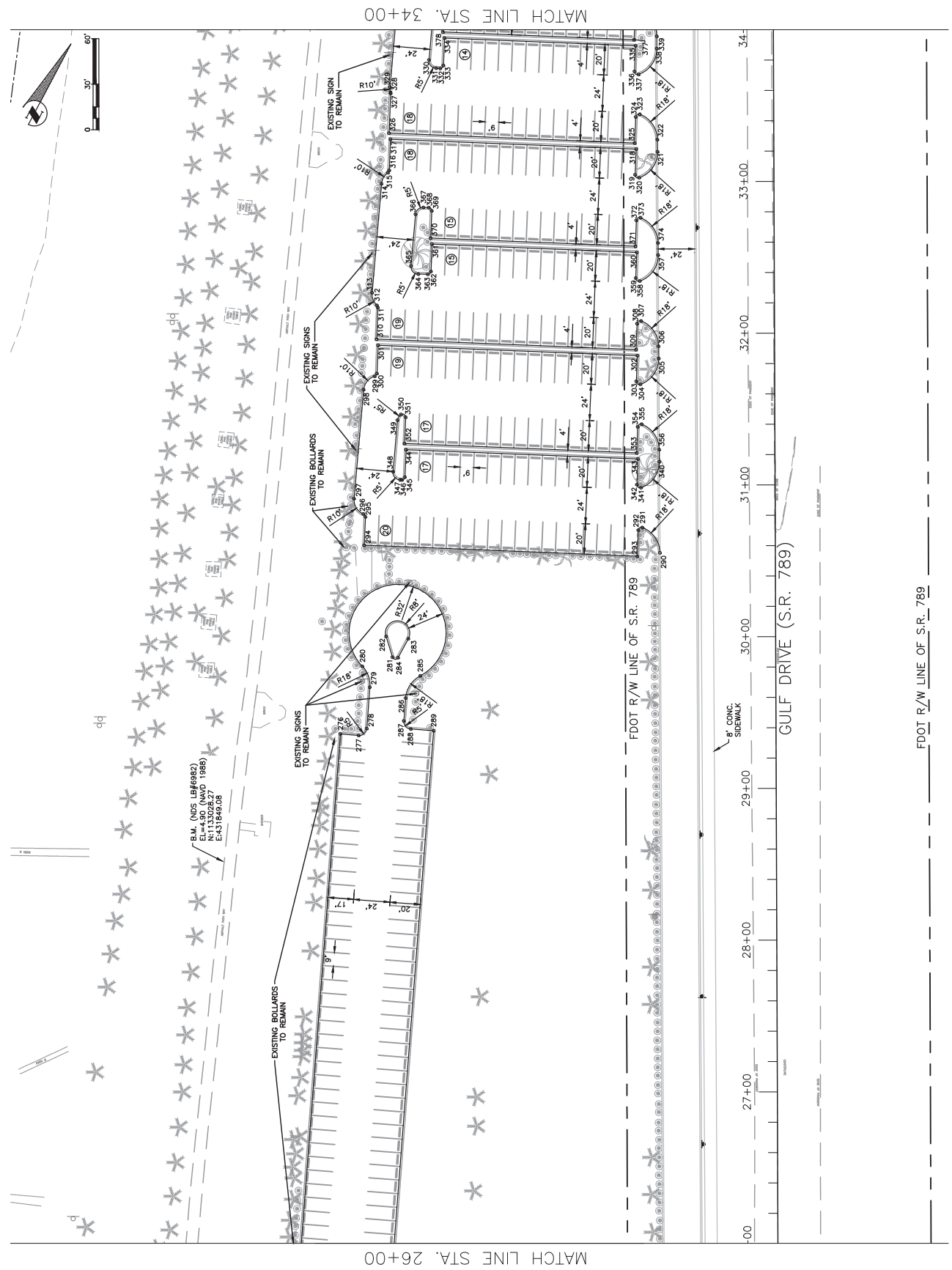


PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34205

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GEOMETRY PLAN

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RBE	10/35S/16E
SCALE	1"=60'
BY	DATE
DESIGNED	ZNS 07/16/04
DESIGNED	MS/ES 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	

Signature & Date
SHEET 15



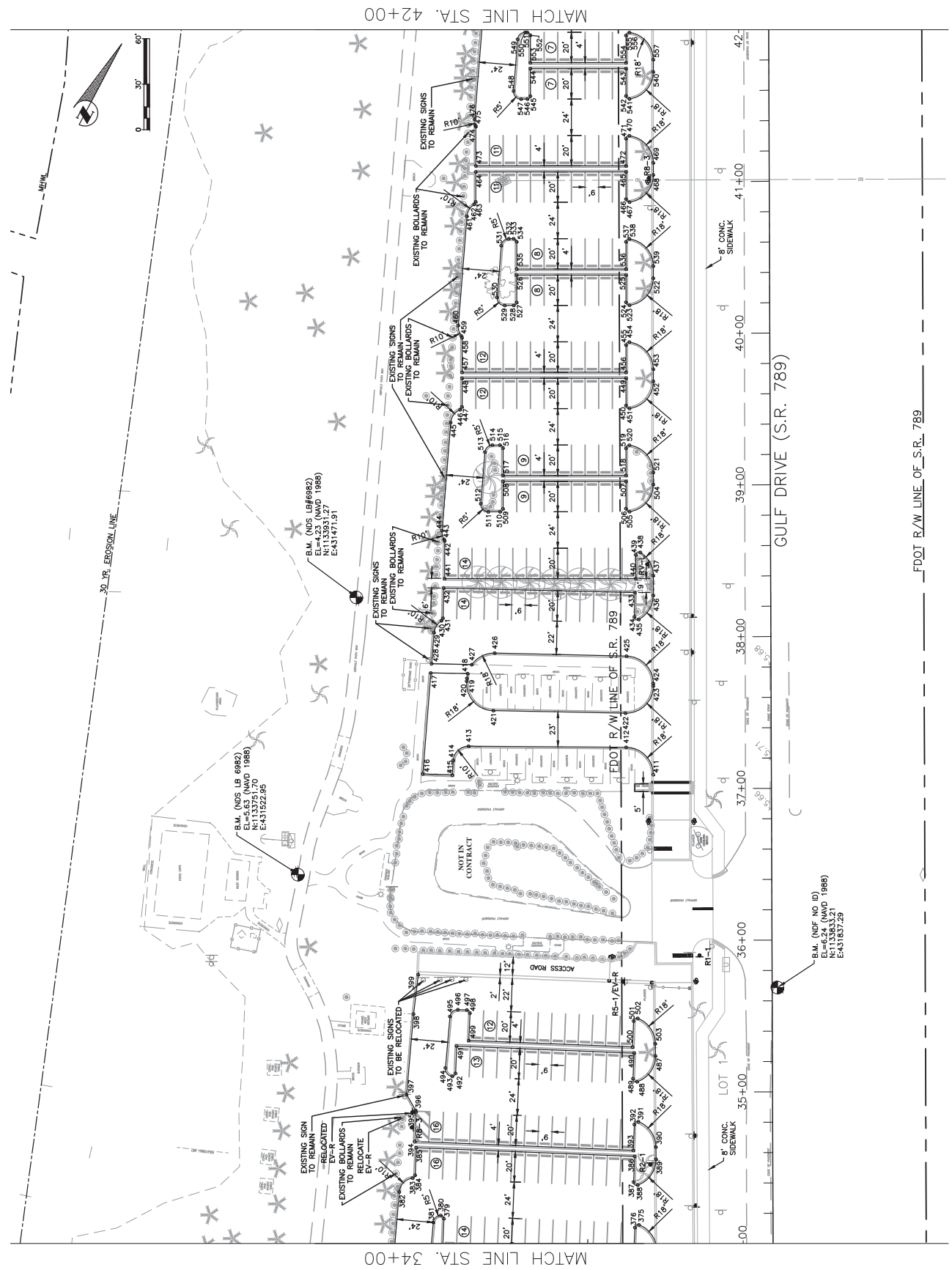


PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34205

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GEOMETRY PLAN

PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RSE	10/35S/716E
SCALE	1"=60'
SURVEYED	ZNS 07/16/04
DESIGNED	MS/GS 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	

Signature & Date
SHEET 16



PROJECT #	465-6005719
SURVEY #	6982
SEC./TWP./RSE	10/35S/716E
SCALE	1"=60'
SURVEYED	ZNS 07/16/04
DESIGNED	MS/GS 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	

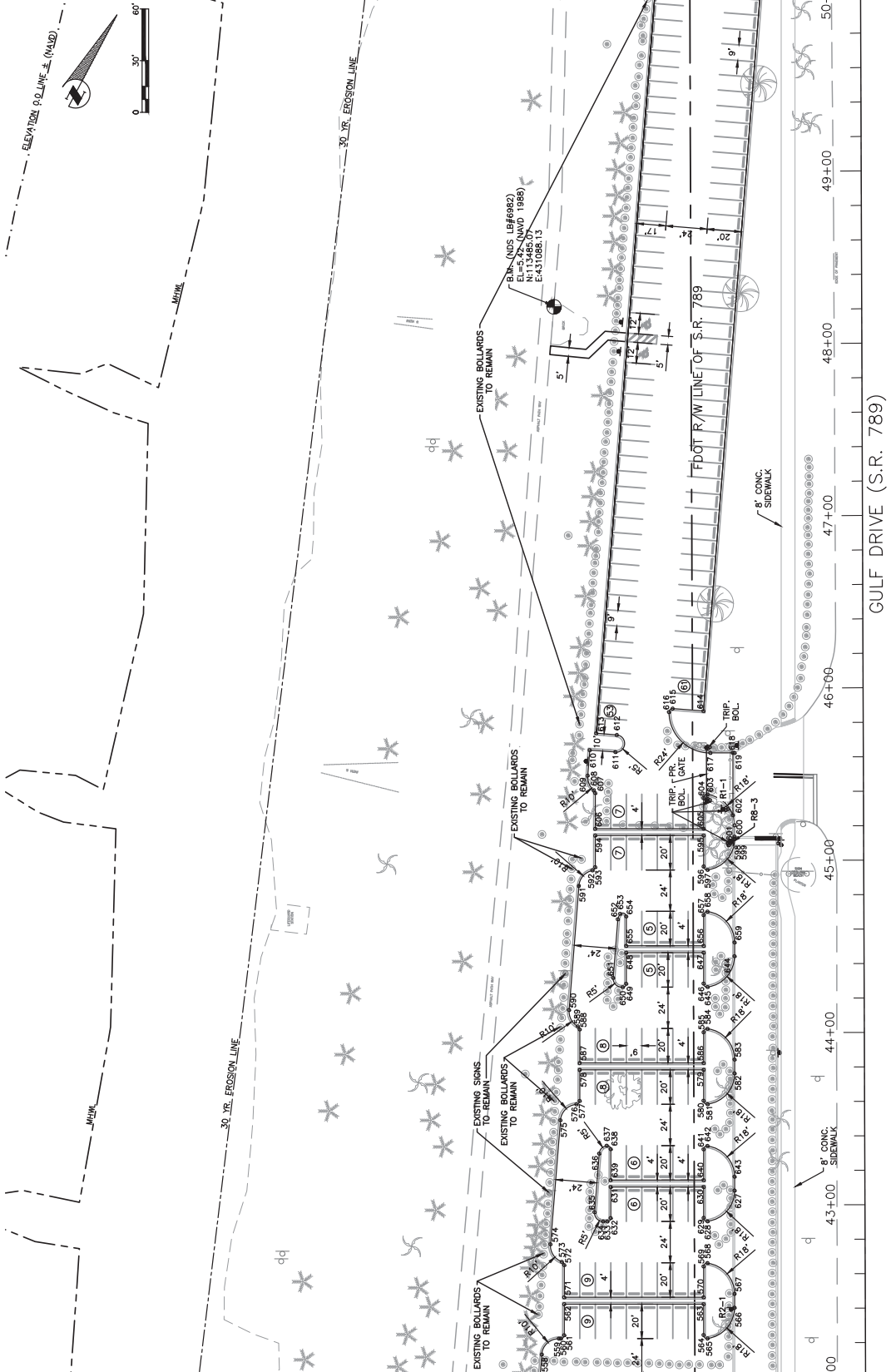
Signature & Date
SHEET 16



PUBLIC WORKS DEPARTMENT
 1032 S.W. 28th Avenue, Fort Bradenton, FL 34203

COQUINA BEACH DRAINAGE IMPROVEMENTS
MANATEE COUNTY GEOMETRY PLAN

MATCH LINE STA. 42+00



FDOT R/W LINE OF S.R. 789

PROJECT #	465-6005719
SURVEY #	6882
SEC./TWP./RBE	10/355/18E
SCALE	1"=60'
BY	DATE
SURVEYED	ZMS 07/16/04
DESIGNED	MS/ES 06/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET 17



PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34208

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
GEOMETRY PLAN**

NO.	DATE	REVISION DESCRIPTION

PROJECT #	465-6005719	
SURVEY #	6982	
SEC./TWP./RGE	10/35S/16E	
SCALE	1"=60'	
BY	DATE	
SURVEYED	ZONS	07/16/04
DESIGNED	MS/ES	08/20/15
DRAWN	TMF	03/20/16
CHECKED	MS	03/20/16
MICHAEL L. STURM		
FLORIDA P.E. # 46005		

Signature & Date
SHEET 18



MATCH LINE STA. 50+00

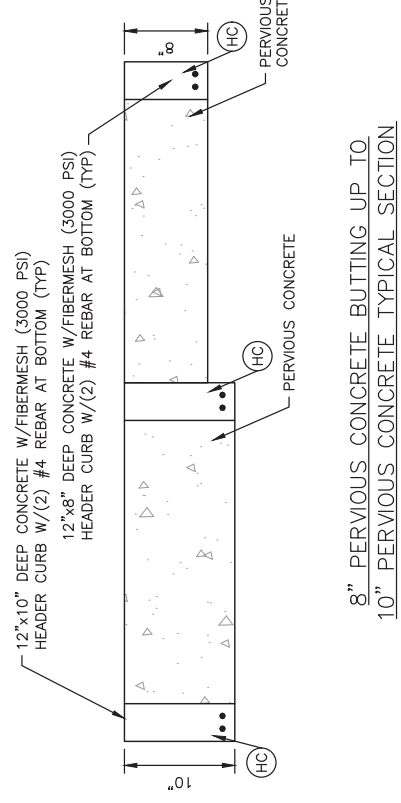
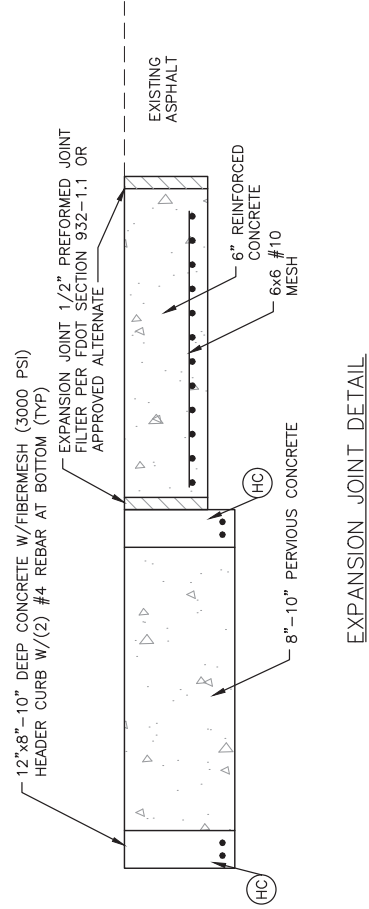
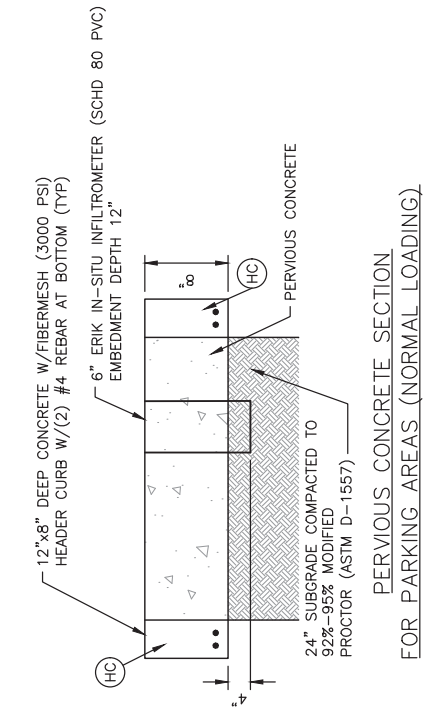
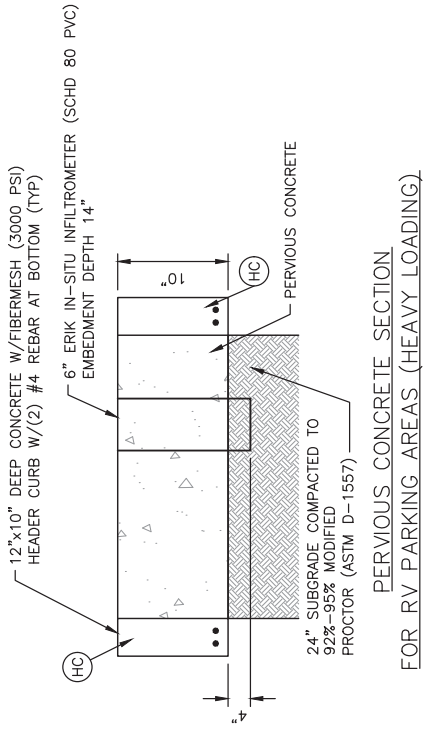
FDOT R/W LINE OF S.R. 789



PUBLIC WORKS DEPARTMENT
1002 28th Avenue, East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TYPICAL SECTIONS

PROJECT #	465-6002719
SURVEY #	000
SEC./TWP./RGE	10/35S/18E
SCALE	N.T.S.
SURVEYED	ZNS 07/16/04
DESIGNED	MS/ES 08/20/15
DRAWN	TMP 10/20/16
CHECKED	MS/ES 10/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	
Signature & Date	
SHEET 23	





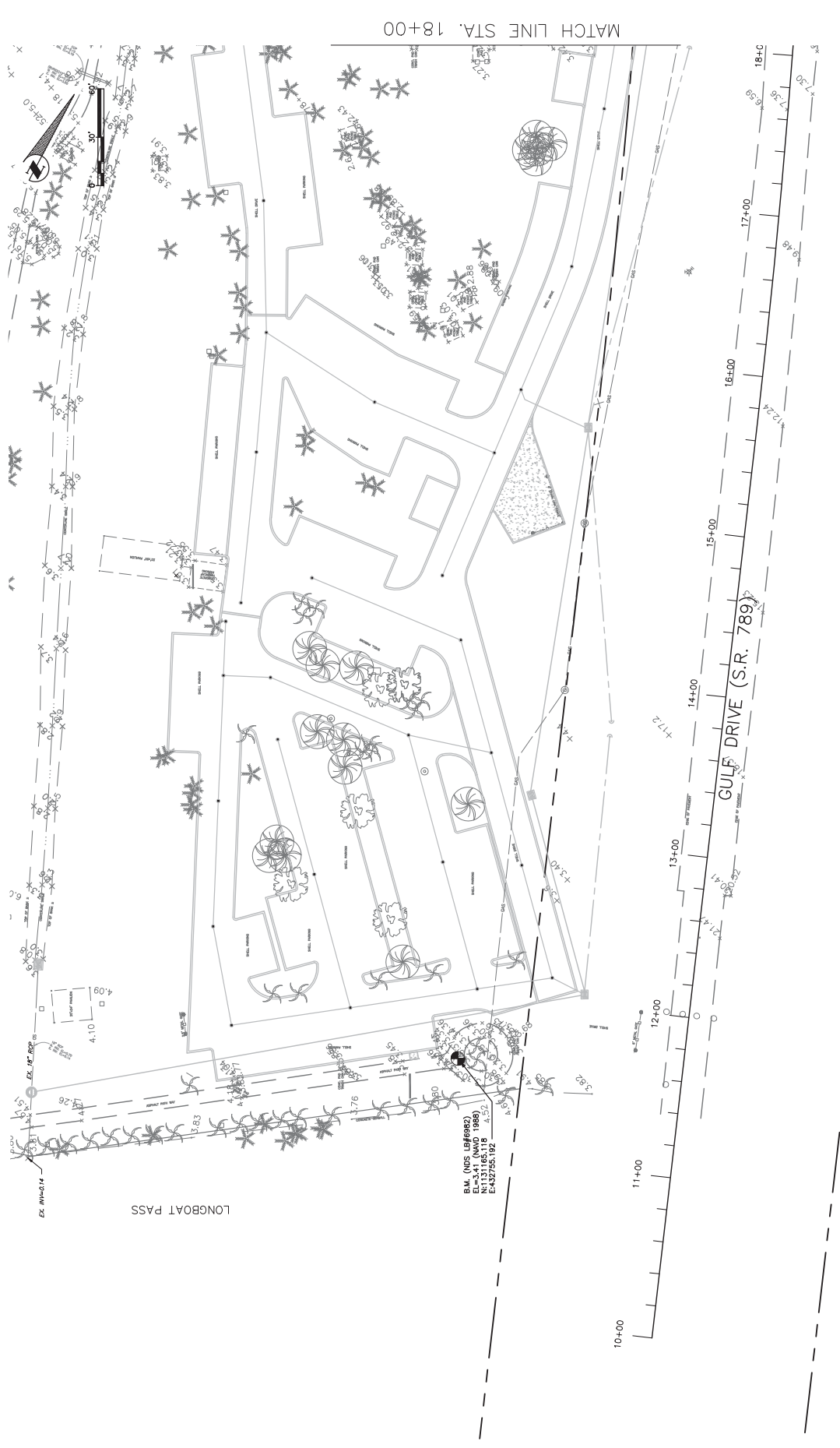
PUBLIC WORKS DEPARTMENT
1832 26th Avenue East, Bradenton, FL 34205

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GRADING AND PAVING PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719
SURVEY #	000-32835
SEC./TWP./RBE	10/35S/16E
SCALE	1"=60'
SURVEYED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM FLORIDA P.E. # 46005	

Signature & Date
SHEET 24



LEGEND

- (E) EMBEDDED RING INFILTRATION KIT
- [Patterned Box] 8 INCH PERVIOUS CONCRETE

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011.
ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM A BENCHMARK OF 105 FEET (MVD 1988) AND BENCHMARK G5-105 (PD 46210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).



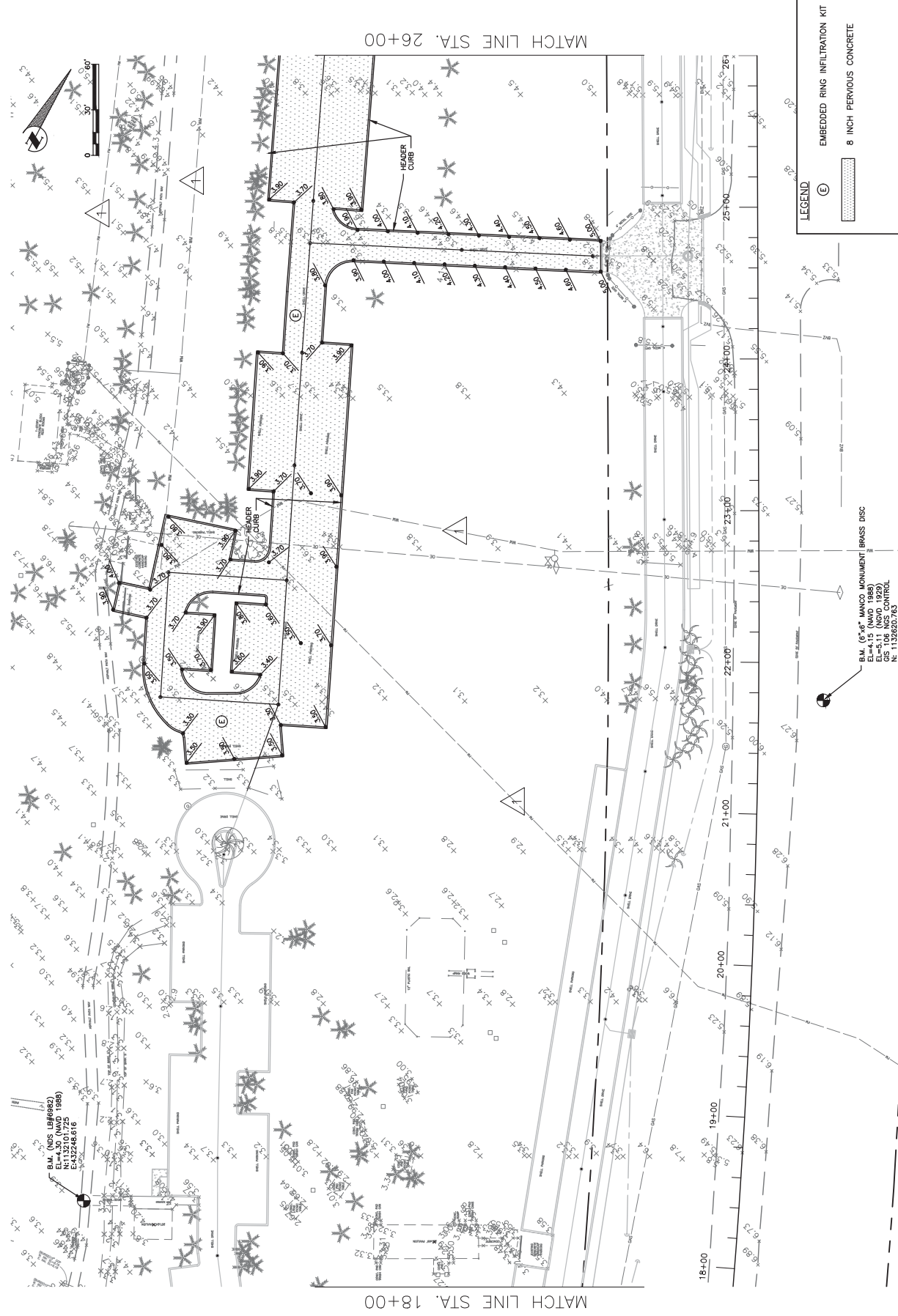
PUBLIC WORKS DEPARTMENT
1835 State Avenue East, Bradenton, FL 34205

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GRADING AND PAVING PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RGE	10/35S/71E
SCALE	1"=60'
DATE	07/16/04
DESIGNED	MS
DRAWN	TMF
CHECKED	MS
DATE	03/20/16
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET 25



LEGEND

- (E) EMBEDDED RING INFILTRATION KIT
- 8 INCH PERVIOUS CONCRETE

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON NAD 1988, AND ARE DERIVED FROM THE BENCHMARK DISC WITH AN ELEVATION OF 3.29 FEET (NAD 1988), AND BENCHMARK GIS-105 (IPD AG2210) HAVING AN ELEVATION OF 3.29 FEET (NAD 1988).

2.

B.M. (NO. LE#682) (NAD 1988)
EL=4.15
N: 1132620763
E: 432248.616

B.M. (6"X6" MANCO MONUMENT BRASS DISC)
EL=4.15 (NAD 1988)
N: 1132620763
E: 432248.616

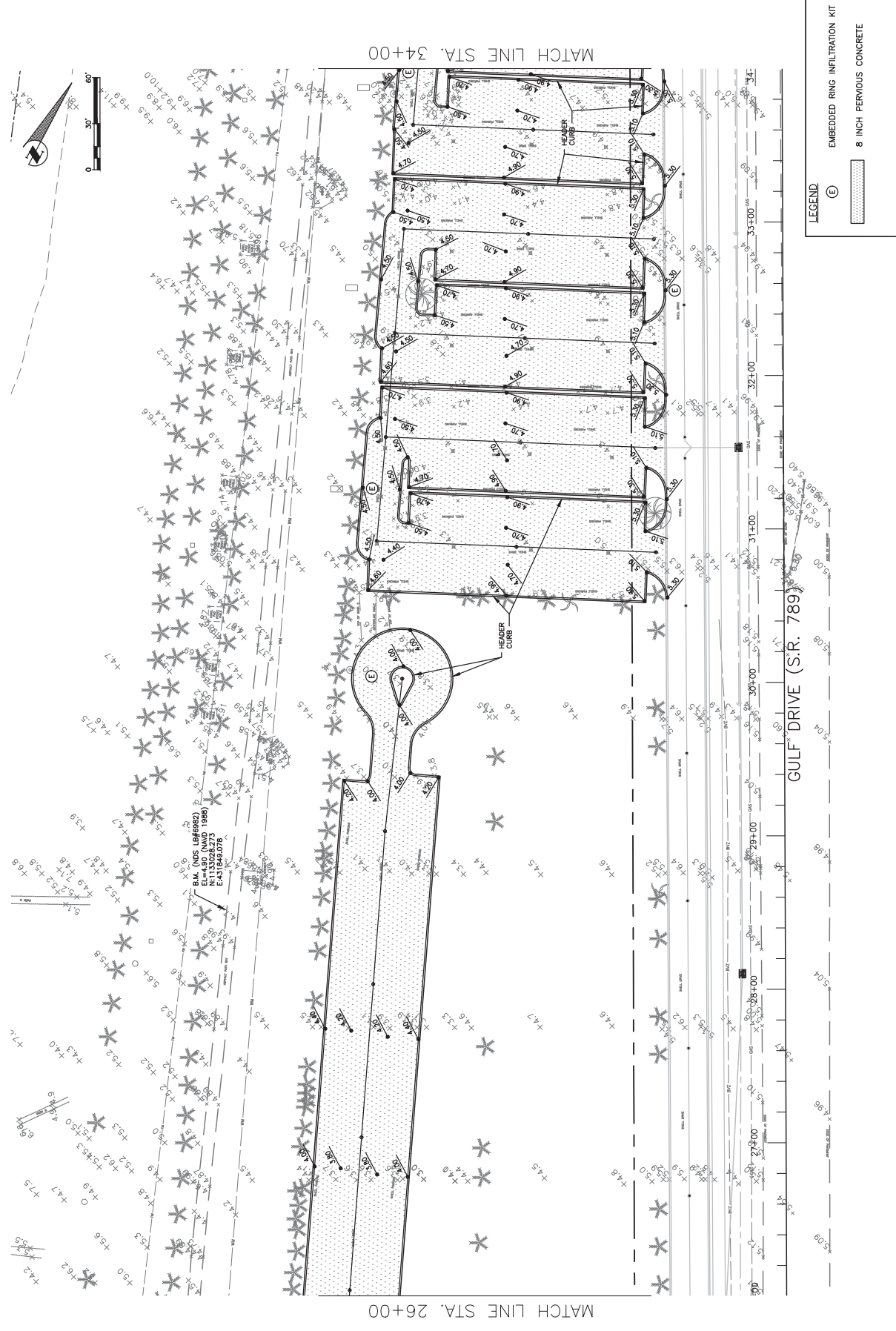


PUBLIC WORKS DEPARTMENT
1032 State Street, Palmdale, FL 34657
www.manateecounty.com

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GRADING AND PAVING PLAN

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RGE	10/35S/71E
SCALE	1"=60'
BY	DATE
DESIGNED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM FLORIDA P.E. # 46005	

SHEET 26
Signature & Date



- LEGEND
- (E) EMBEDDED RING INFILTRATION KIT
 - [Pattern] 8 INCH PERVIOUS CONCRETE
- COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM THE BENCHMARK GIS-105 (IPD AG210) FEET (MVD 1988), AND BENCHMARK GIS-105 (IPD AG210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).
 -



PUBLIC WORKS DEPARTMENT
1835 28th Avenue East, Bradenton, FL 34208

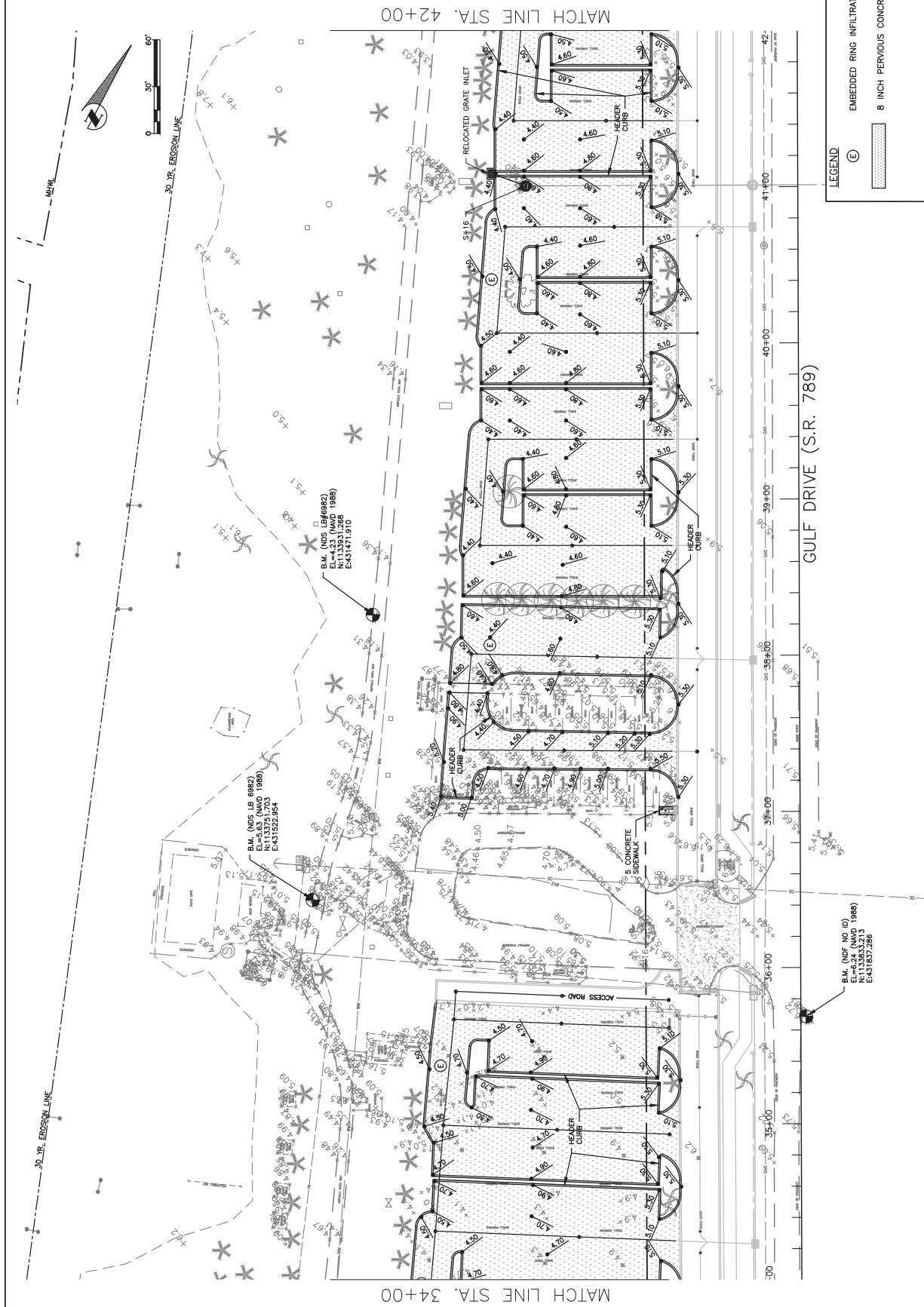
COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY GRADING AND PAVING PLAN

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TOWN/AGE	10/355/16E
SCALE	1"=60'
DATE	
BY	
DATE	
DESIGNED	ZSS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TOWN/AGE	10/355/16E
SCALE	1"=60'
DATE	
BY	
DATE	
DESIGNED	ZSS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988. AND ARE DERIVED FROM NAVD 88 DATUM (UNITED STATES FEET (MVD 1988)) AND BENCHMARK GS-105 (PD 40210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).

2.



LEGEND

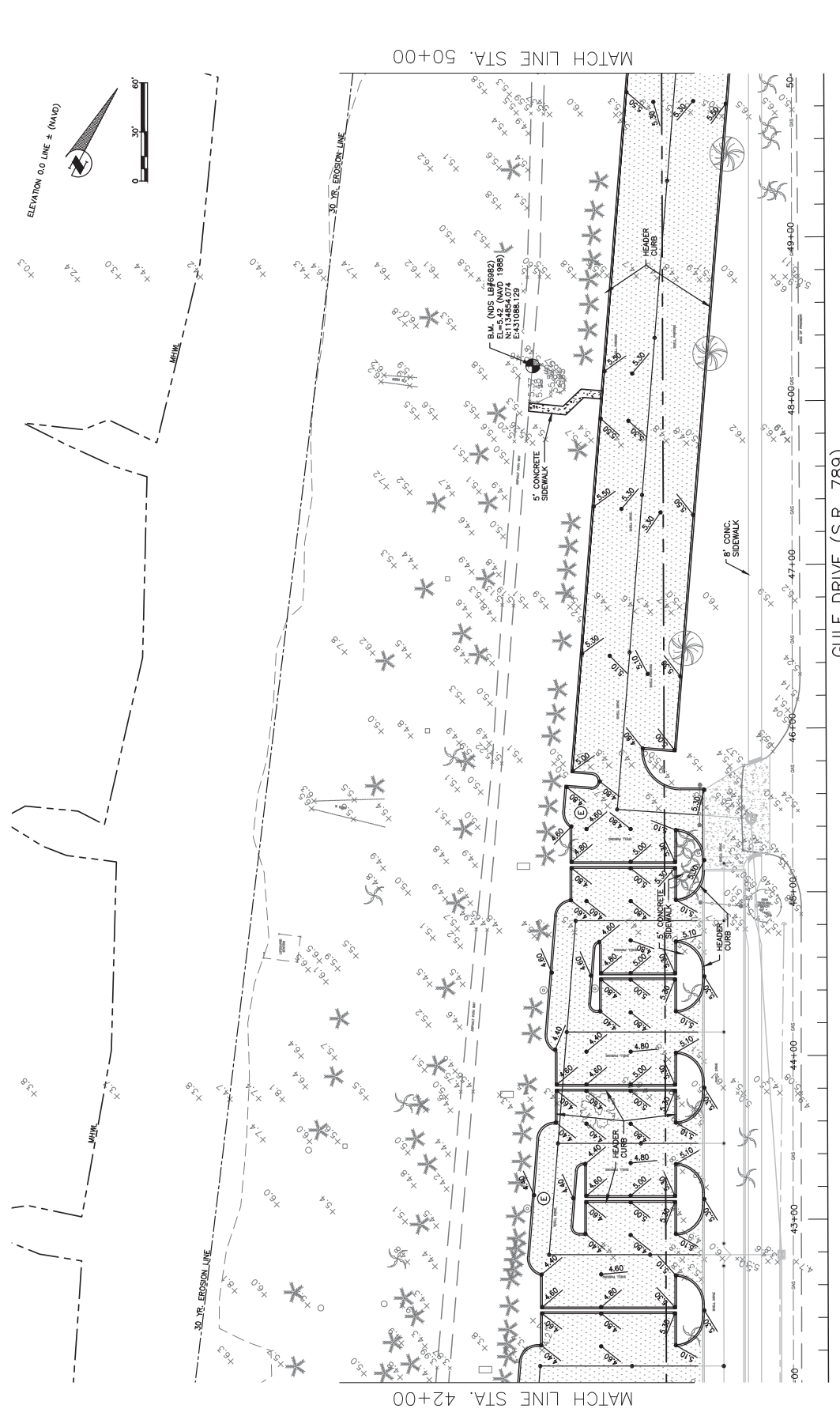
(E) EMBEDDED RING INFILTRATION KIT

8 INCH PERVIOUS CONCRETE

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
GRADING AND PAVING PLAN**

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
DATE	
BY	
DATE	
REVISION DESCRIPTION	
BY	
DATE	

DESIGNED	MS	08/2015
DRAWN	TMF	03/2016
CHECKED	MS	03/2016
MICHAEL L. STURM		
FLORIDA P.E. # 46005		



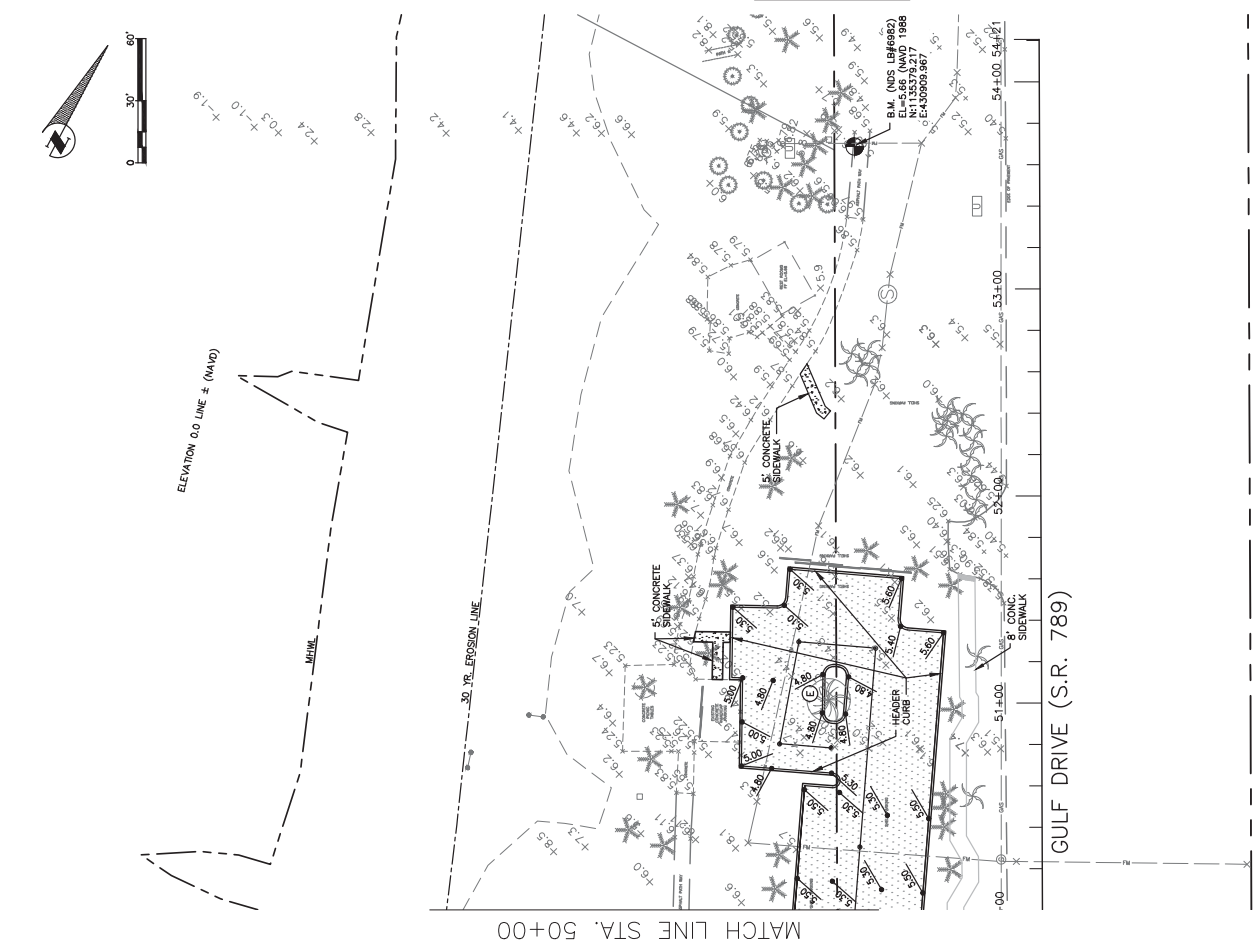
LEGEND

- (E) EMBEDDED RING INFILTRATION KIT
- 8 INCH PERVIOUS CONCRETE

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM THE MVD 1988 DATUM. BENCHMARK GS-105 (PD 46210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).

2.

PROJECT #	465-6005719
SURVEY #	000-32835
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
BY	DME
DATE	07/16/04
DESIGNED	MS 08/2015
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM FLORIDA P.E. # 46005	



LEGEND

- (E) EMBEDDED RING INFILTRATION KIT
- [Hatched Box] 8 INCH PERVIOUS CONCRETE

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) AND 83/2011.

2. ELEVATIONS ARE IN FEET AND ARE REFERRED TO THE NAVD 1988 DATUM. THE BENCHMARK IS A BENCH MARK G.S.-105, HAVING AN ELEVATION OF 5.15 FEET (NAVD 1988), AND BENCHMARK G.S.-105 (PID A69210) HAVING AN ELEVATION OF 3.29 FEET (NAVD 1988).



PUBLIC WORKS DEPARTMENT
1032 26th Avenue East, Bradenton, FL 34205

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
DRAINAGE AND UNDERDRAIN PLAN**

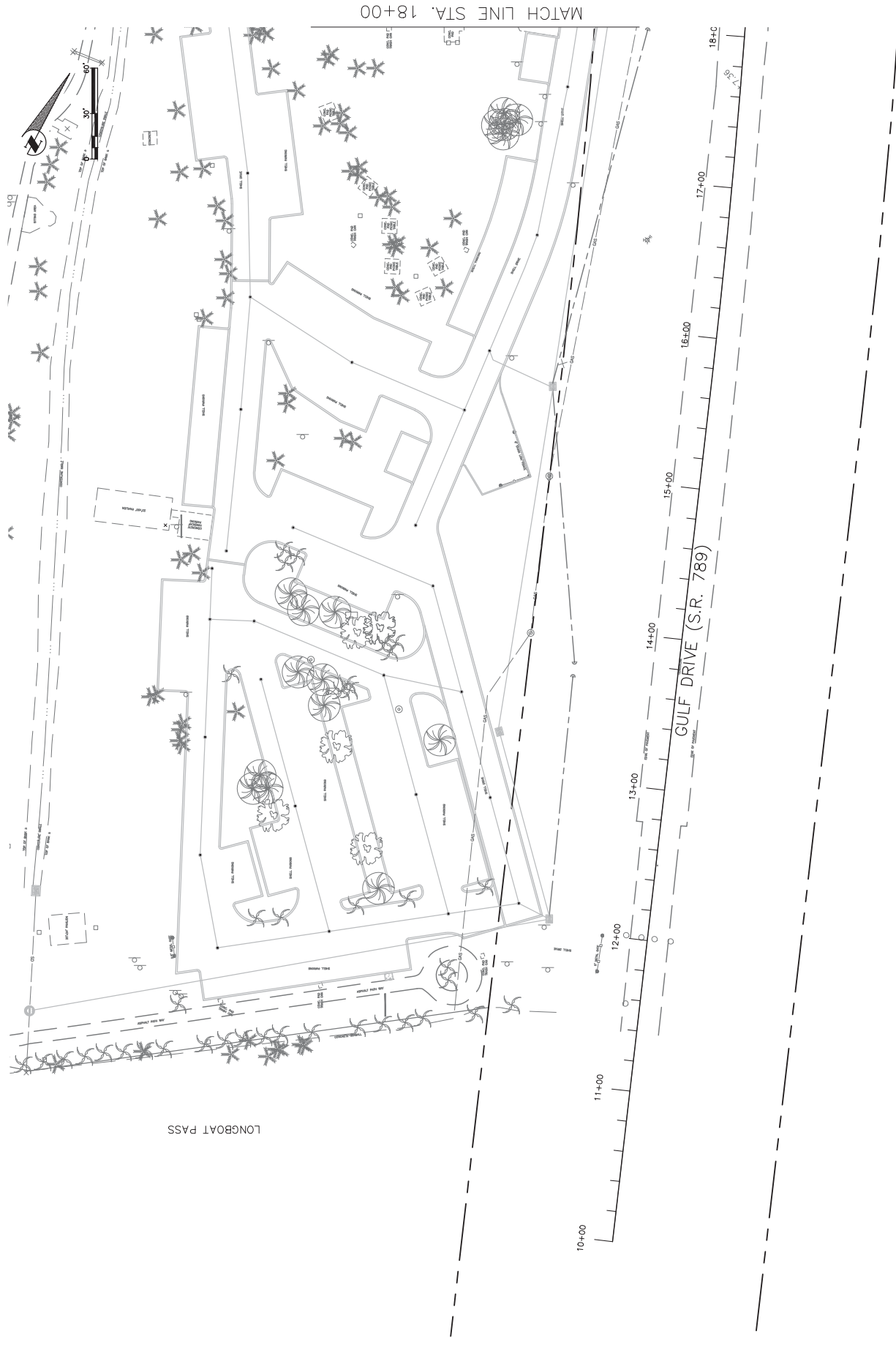
NO.	DATE	REVISION DESCRIPTION	BY
1	01/11/19	UPDATED PUBLIC UTILITIES	KHL

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TOWN/RSE	10/385/16E
SCALE	1"=60'

DATE	BY	DATE
07/16/04	ZNS	07/16/04
08/20/15	MS	08/20/15
03/20/16	TMP/KL	03/20/16
03/20/16	MS	03/20/16

MICHAEL L. STURM
FLORIDA P.E. # 46005

Signature & Date
SHEET 30

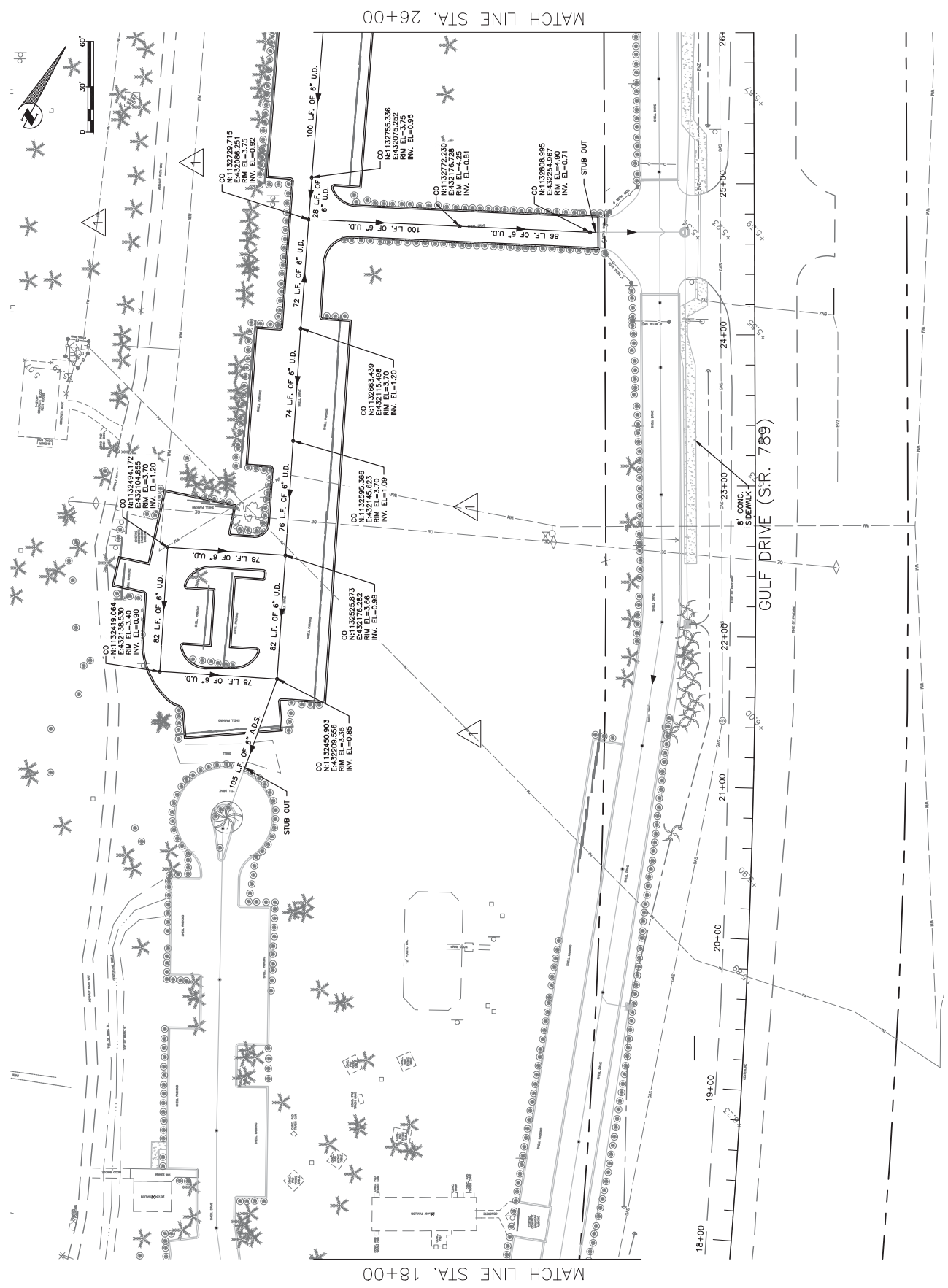


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COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY DRAINAGE AND UNDERDRAIN PLAN

NO.	DATE	REVISION DESCRIPTION	BY
1	01/11/19	UPDATED PUBLIC UTILITIES	KHL

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TOWN/RSB	10/355/16E
SCALE	1"=60'
SURVEYED	ZNS 07/16/04
DESIGNED	MS 08/20/15
DRAWN	TMP/KL 03/27/16
CHECKED	MS 03/27/16
MICHAEL L. STURM FLORIDA P.E. # 46005	

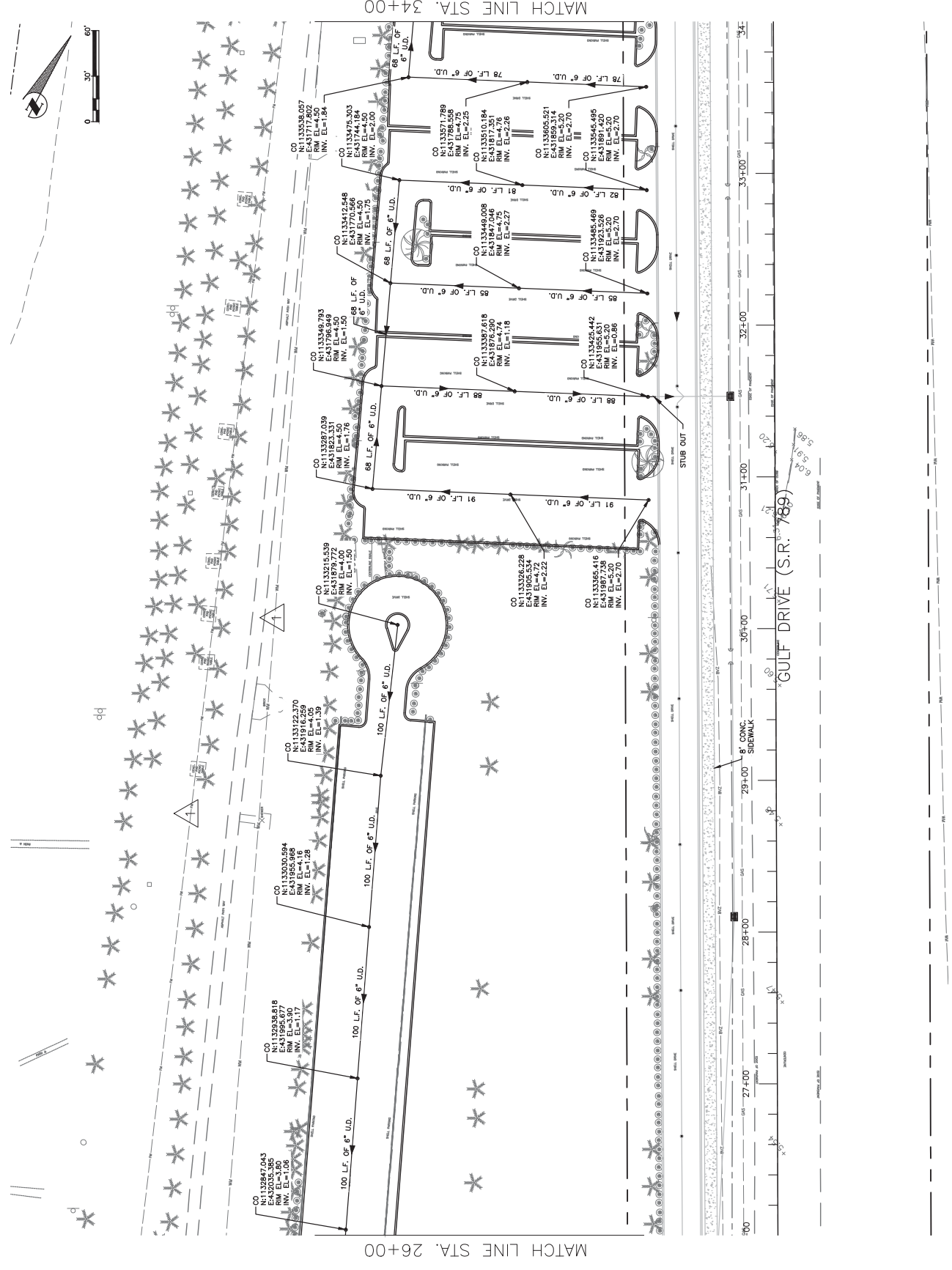


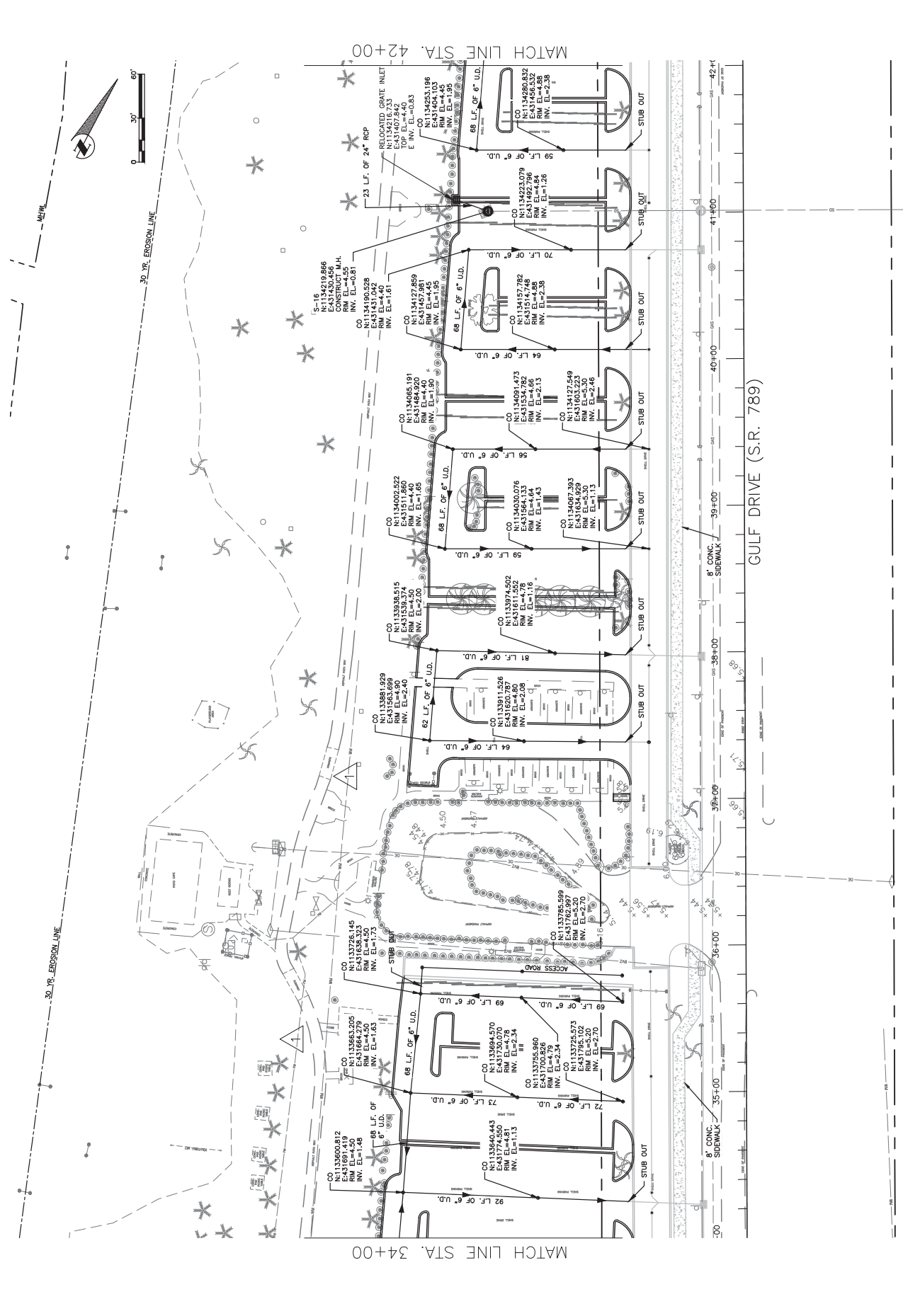
COQUINA BEACH DRAINAGE IMPROVEMENTS

MANATEE COUNTY

DRAINAGE AND UNDERDRAIN PLAN

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RBE	10/35S/16E
SCALE	1"=60'
DATE	07/16/04
DESIGNED	MS 08/2015
DRAWN	TWP/KL 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	





**COQUINA BEACH DRAINAGE
 IMPROVEMENTS
 MANATEE COUNTY
 DRAINAGE AND UNDERDRAIN PLAN**

PROJECT #	465-6005719
SURVEY #	000-32835
SEC./TWP./RSE	10/35S/16E
SCALE	1"=60'
DATE	
DESIGNED	ZNS 07/16/04
DESIGNED BY	MS 06/20/15
DRAWN	TWP/JL 03/27/16
CHECKED	MS 03/27/16
FLORIDA P.E. #	46005
MICHAEL L. STURM	
SIGNATURE & DATE	
SHEET 33	

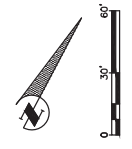
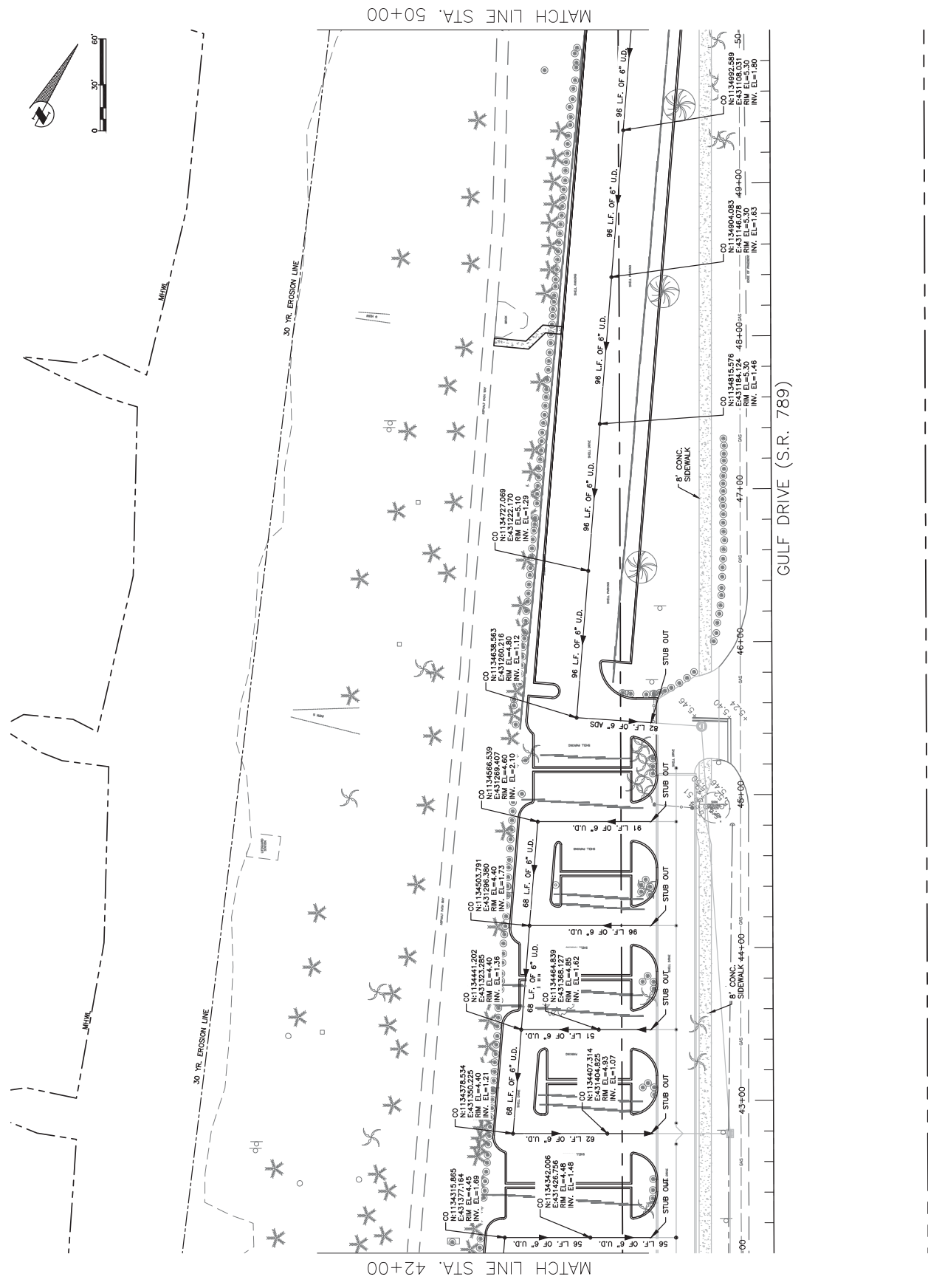
NO.	1	DATE	01/11/19	DESCRIPTION	UPDATED PUBLIC UTILITIES
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**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
DRAINAGE AND UNDERDRAIN PLAN**

NO.	DATE	REVISION DESCRIPTION
1	01/11/19	UPDATED PUBLIC UTILITIES
2		

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RSE	10/35S/71E
SCALE	1"=60'
BY	
DATE	
SURVEYED	ZNS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TWP/KL 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	



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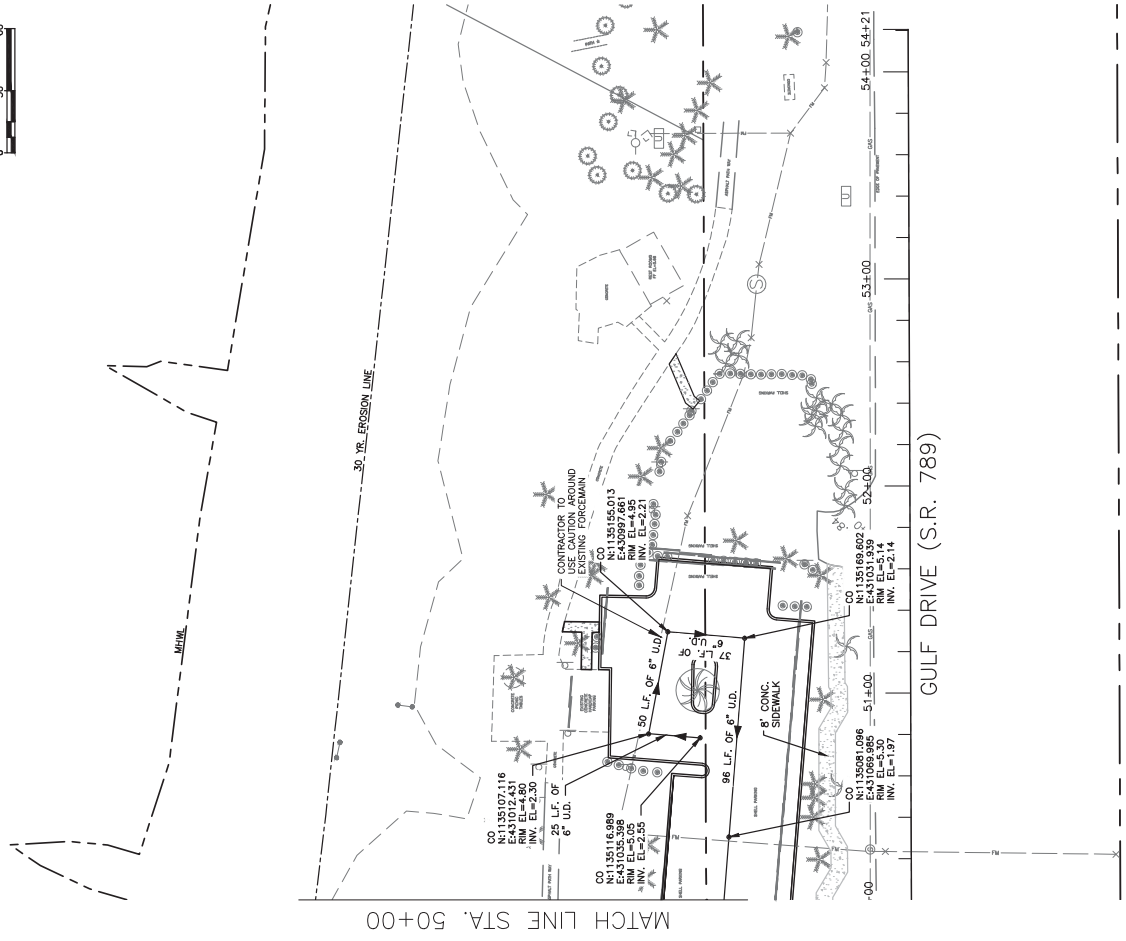
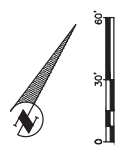


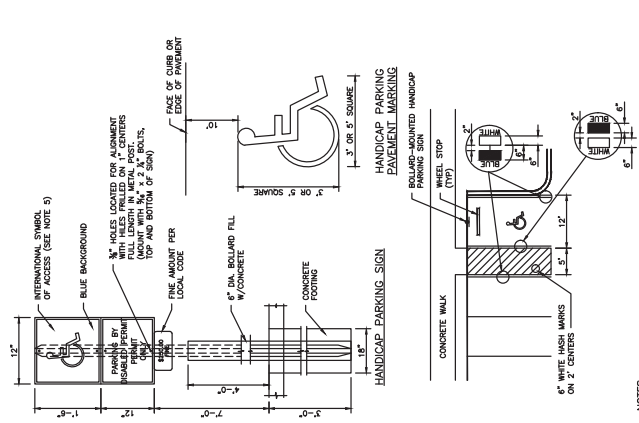
PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34208

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
DRAINAGE AND UNDERDRAIN PLAN**

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RGE	10/38S/16E
SCALE	1"=60'
BY	DATE
SURVEYED	ZMS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMP/KL 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM FLORIDA P.E. # 46005	

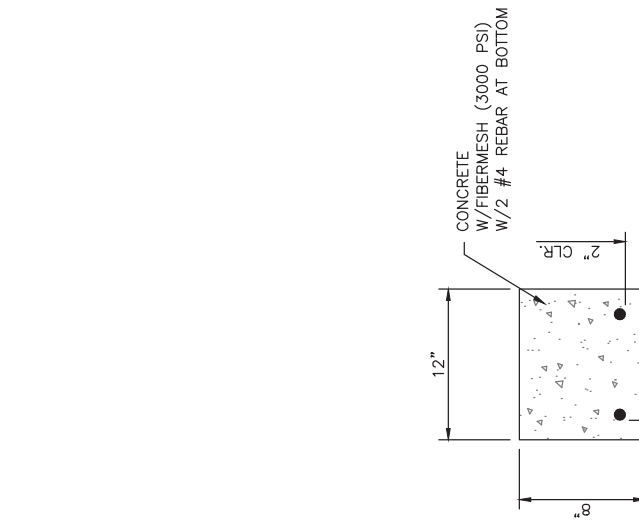
Signature & Date
SHEET 35



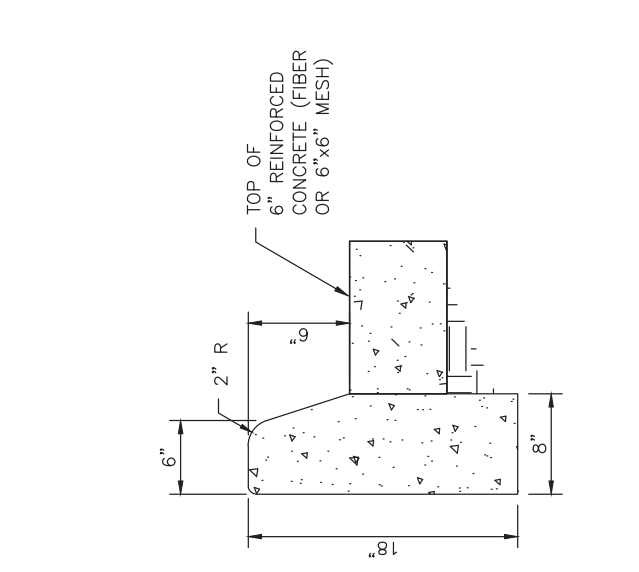


- NOTES:
1. METAL POST TO BE GALVANIZED, ALUMINUM, NUTS, WASHERS AND SPACERS MUST BE ANTI-RUSTOOF.
2. CONCRETE FOOTING SHALL BE PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH (C) OF 4000 PSI.
3. SIGNS WILL BE FABRICATED BY USING REFLECTING COATING IN THE SYMBOL, MESSAGE AND BORDER.
4. MESSAGE LETTERING SHALL BE UPPER CASE (SERIES B) 2" HIGH IN ACCORDANCE WITH M-100 TRAFFIC CONTROL DEVICES.
5. THROUGH TRAFFIC CONTROL DEVICES.
6. THROUGH TRAFFIC CONTROL DEVICES.
7. PARKING SPACES AND ACCESS ACES SHALL BE LOCAL WITH SURFACE SLOPES NOT EXCEEDING 1:12 ALL DIRECTIONS.

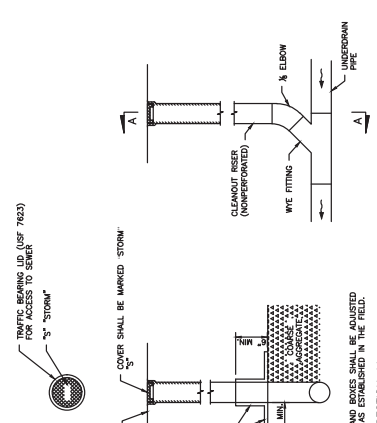
HANDICAP PARKING/MARKING DETAIL
N.T.S.



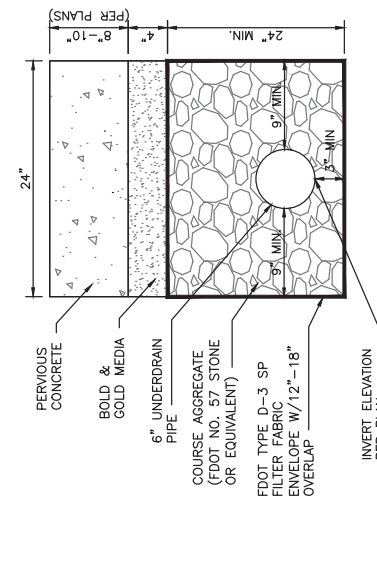
HEADER CURB
N.T.S.



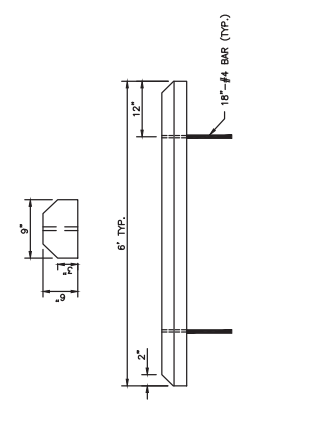
TYPE "D" CURB
N.T.S.



UNDERDRAIN CLEAN-OUT
(INDEX 286) N.T.S.



UNDERDRAIN DETAIL FOOT TYPE II
(INDEX 286) N.T.S.



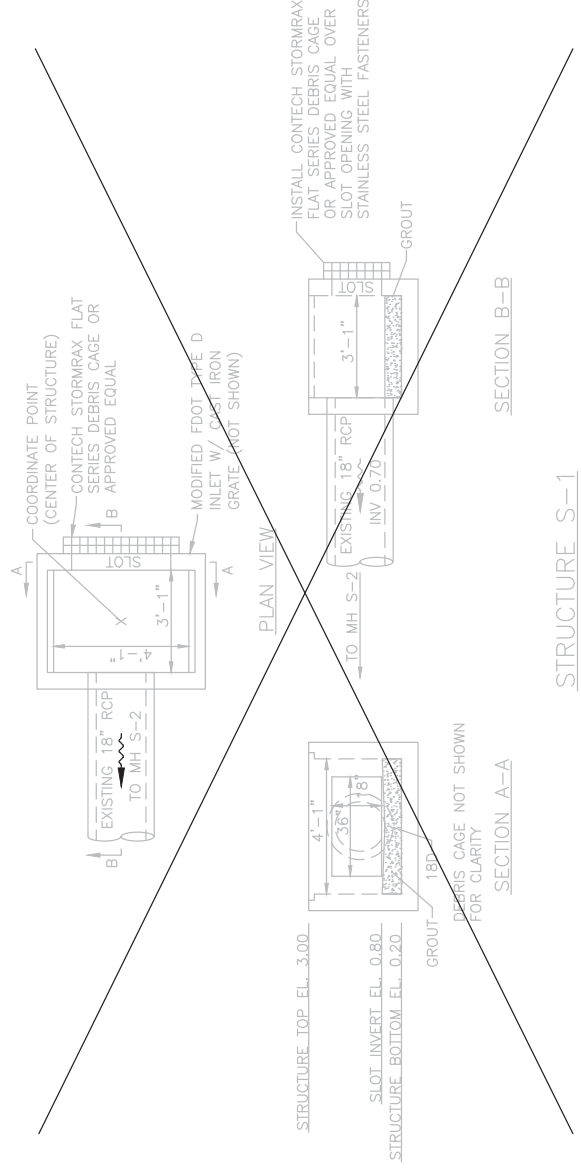
RECYCLED MATERIAL WHEEL STOP
N.T.S.

PROJECT #	465-6005719
SURVEY #	6982
SEC./TOWN/RSE	10/355/16E
SCALE	N.T.S.
DATE	
BY	
DATE	
REVISION DESCRIPTION	
BY	
DATE	

COQUINA BEACH DRAINAGE IMPROVEMENTS

MANATEE COUNTY DETAILS

PROJECT #	465-6005719
SURVEY #	6982
SEC./TOWN/AGE	10/355/16E
SCALE	N.T.S.
BY	
DATE	
DESIGNED	MS 08/2015
DRAWN	KR 08/2015
CHECKED	MS 08/2015
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

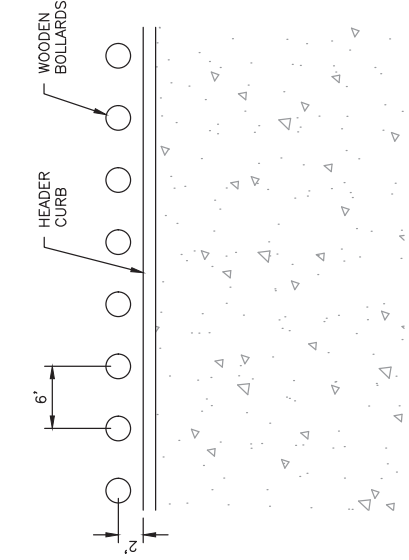
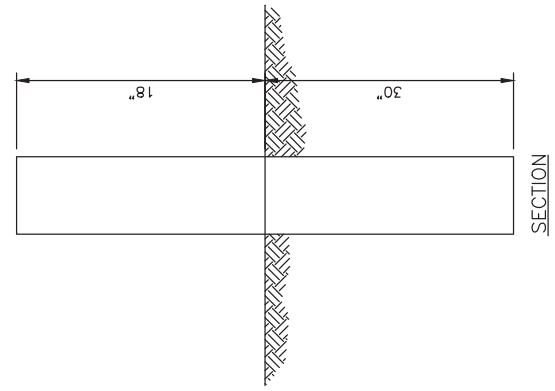


STRUCTURE TOP EL. 3.00

SLOT INVERT EL. 0.80

STRUCTURE BOTTOM EL. 0.20

STRUCTURE S-1
N.T.S.



WOODEN BOLLARDS
N.T.S.

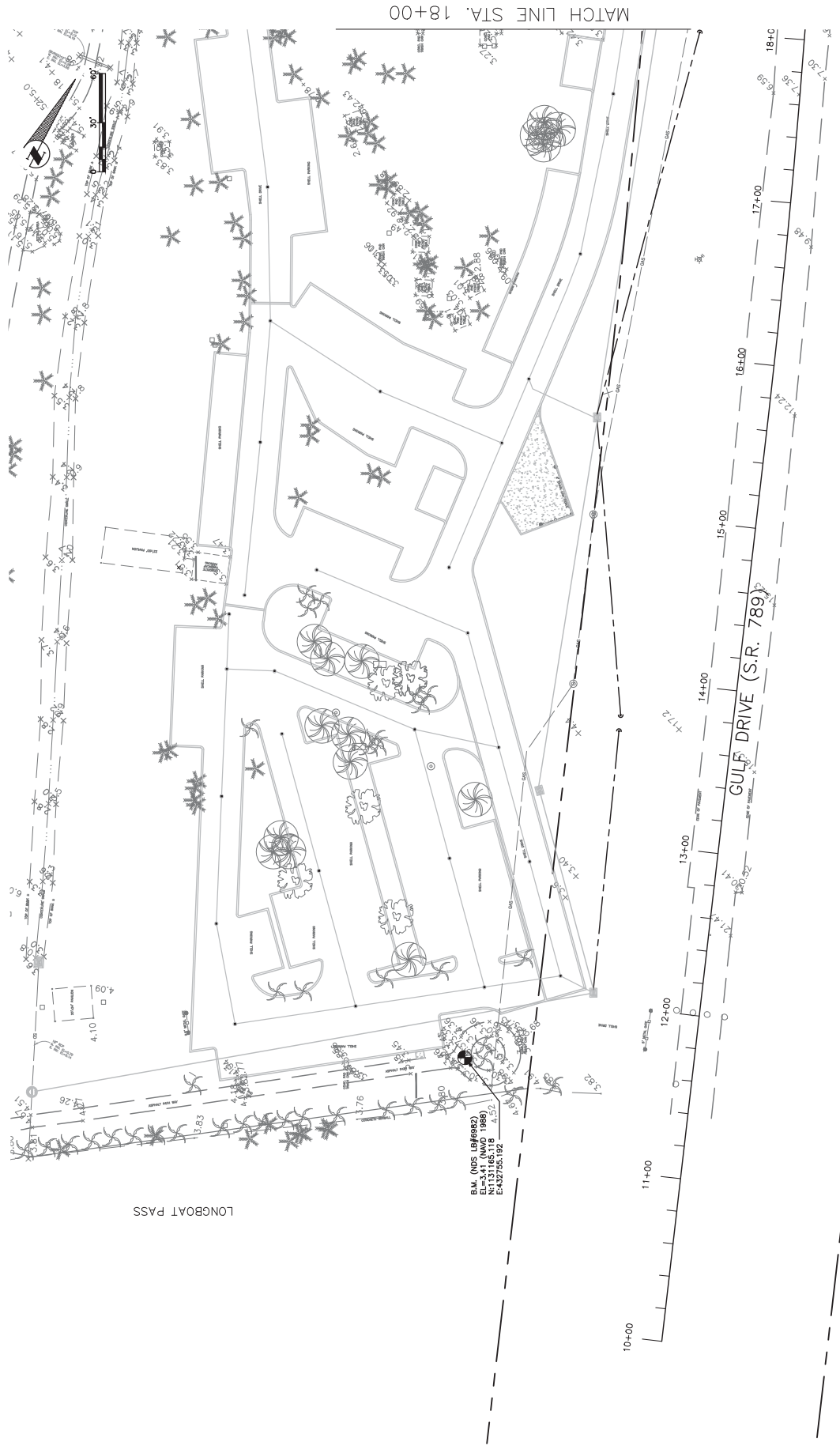
NOTE: A MINIMUM OF ONE (1) ERIK IN-SITU INFILTRATOR WILL BE REQUIRED FOR EACH SECTION OF PERVIOUS PAVEMENT INSTALLED. FOR LARGER SECTIONS A MINIMUM OF TWO (2) ERIK IN-SITU INFILTRATORS PER ACRE OF PERVIOUS PAVEMENT WILL BE REQUIRED.

EMBEDDED RING INFILTRATION KIT (ERIK)
IN-SITU INFILTRATOR
N.T.S.

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719
SURVEY #	000-32835
SEC./TWP./RBE	10/35S/16E
SCALE	1"=60'
DATE	
SURVEYED	ZOS 07/16/04
DESIGNED	MS 08/2015
DRAWN	TMF 03/2016
CHECKED	MS 03/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	



LEGEND

87 TREE TO BE REMOVED X

0 TOTAL TREES TO BE REMOVED THIS SHEET

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011.
ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM A BENCHMARK OF 3.41 FEET (MVD 1988) AND BENCHMARK GS-105 (PD 46210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).



MANATEE COUNTY
 PUBLIC WORKS DEPARTMENT
 1102 South Veterans Park, Bradenton, FL 34201

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

PROJECT #	DATE
465-6009719	07/18/2016
000-39835	08/20/2015
SEC./TOWN/AGE	10/05/71BE

SCALE 1"=60'	
BY	DATE
SURVEYED	ZNS 07/18/2016
DESIGNED	MS 08/20/2015
DRAWN	TMF 03/27/2016
CHECKED	MS 03/27/2016

MICHAEL L. STURM
 FLORIDA P.E. # 46005

SIGNATURE & DATE
SHEET 39



LEGEND
 87 TREE TO BE REMOVED **X**
 13 TOTAL TREES TO BE REMOVED
 THIS SHEET

- COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON NAD 1988. AND ARE DERIVED FROM THE STATE PLANE CONTROL POINT DATA. POINT ELEVATIONS IN FEET (NAD 1988), AND BENCHMARK GCS-105 (IPD AG2210) HAVING AN ELEVATION OF 3.29 FEET (NAD 1988).

B.M. (NO. LE#6882)
 EL=4.15 (NAD 1988)
 N: 1132920763
 E: 432248.616

B.M. (6"x6" MANCO MONUMENT BRASS DISC)
 EL=4.15 (NAD 1988)
 N: 1132920763
 E: 432248.616



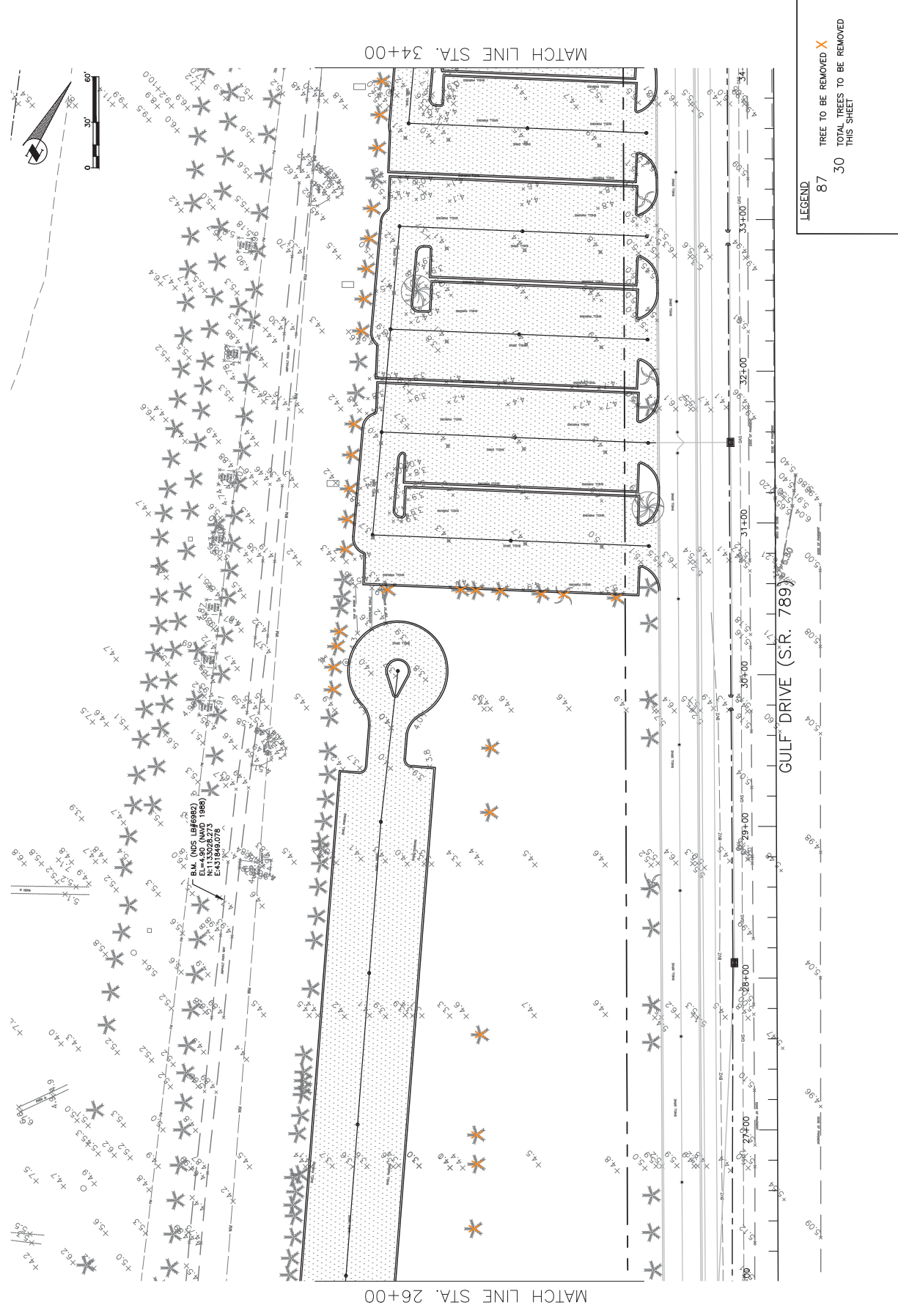
PUBLIC WORKS DEPARTMENT
1032 State Street, Palmdale, FL 34657

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RBE	10/35S/71E
SCALE	1"=60'
DATE	07/16/04
DESIGNED	MS
DRAWN	TMF
CHECKED	MS
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET 40



LEGEND
87 TREE TO BE REMOVED X
30 TOTAL TREES TO BE REMOVED THIS SHEET

- COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM THE BENCHMARK GS-105 (PD 46210) FEET (MVD 1988), AND BENCHMARK GS-105 (PD 46210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).
-



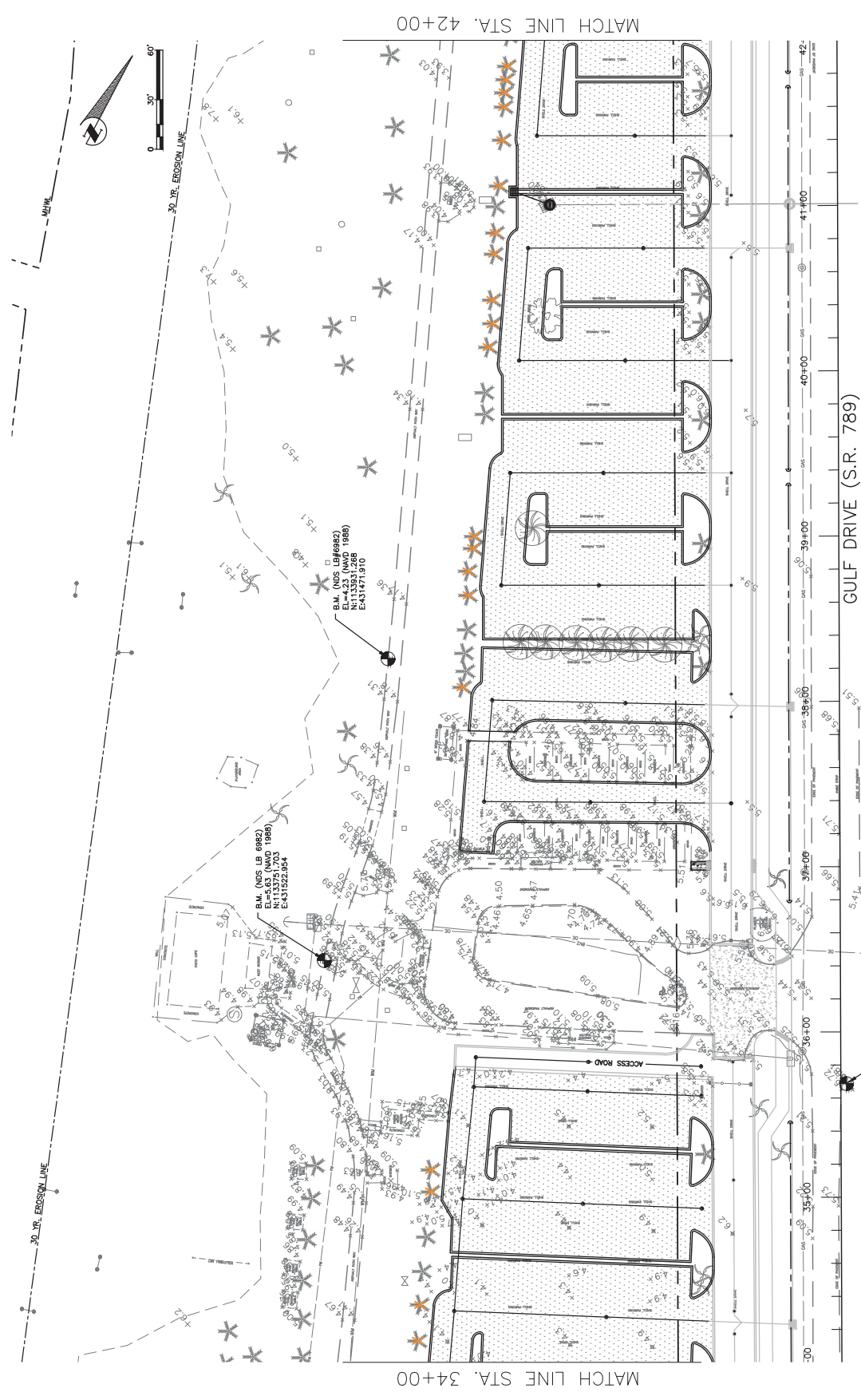
PUBLIC WORKS DEPARTMENT
1032 20th Avenue East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719	
SURVEY #	000-32635	
SEC./TWP./RGE	10/35S/16E	
SCALE	1"=60'	
BY	DATE	
SURVEYED	ZON	07/16/04
DESIGNED	MS	08/2015
DRAWN	TMF	03/2016
CHECKED	MS	03/2016
MICHAEL L. STURM		
FLORIDA P.E. # 46005		

Signature & Date
SHEET 41



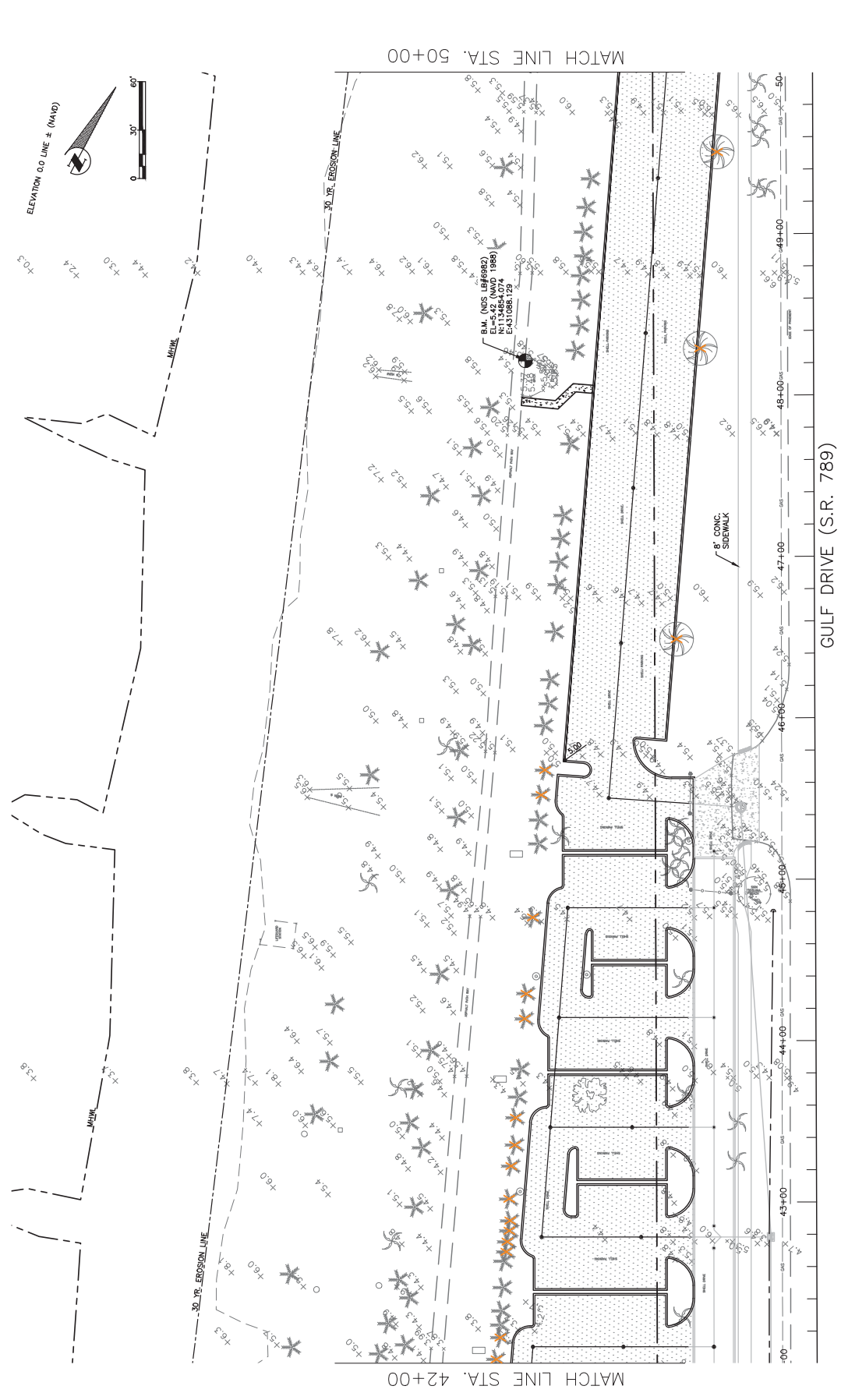
LEGEND
87 TREE TO BE REMOVED X
20 TOTAL TREES TO BE REMOVED THIS SHEET

- COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM THE MVD 1988 DATUM. BENCHMARK IS 105 (PD, AG210) FEET (MVD 1988), AND BENCHMARK GS-105 (PD, AG210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).
-

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6005719
SURVEY #	000-32635
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
BY	DATE
SURVEYED	ZOS 07/16/04
DESIGNED	MS 08/20/15
DRAWN	TMF 03/20/16
CHECKED	MS 03/20/16
MICHAEL L. STURM	
FLORIDA P.E. # 46005	



LEGEND

87 TREE TO BE REMOVED X

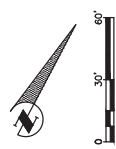
18 TOTAL TREES TO BE REMOVED THIS SHEET

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) NAD 83/2011. ELEVATIONS ARE BASED ON MVD 1988, AND ARE DERIVED FROM THE MVD 1988 DATUM. BENCHMARK IS 3.229 FEET (MVD 1988), AND BENCHMARK GS-105 (IPD AG2210) HAVING AN ELEVATION OF 3.29 FEET (MVD 1988).

2.

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY TREE REMOVAL PLAN

PROJECT #	DATE	
465-6009719		
SURVEY #		
000-32835		
SEC./TWP./RGE		
10/35S/16E		
SCALE		
1"=60'		
BY	DATE	
DESIGNED	ZONE	DATE
DESIGNED	MS	DATE
DRAWN	TWF	DATE
CHECKED	MS	DATE
MICHAEL L. STURM		
FLORIDA P.E. # 46005		



LEGEND

87 TREE TO BE REMOVED **X**

6 TOTAL TREES TO BE REMOVED THIS SHEET

1. COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE) INTO 85/2011.

2. ALL ELEVATIONS ARE IN FEET AND ARE REFERRED TO THE MEAN SEA LEVEL FROM BENCHMARK GIS-105. HAVING AN ELEVATION OF 41.5 FEET (NAD 1988), AND BENCHMARK GIS-105 (PID A69210) HAVING AN ELEVATION OF 3.29 FEET (NAD 1988).



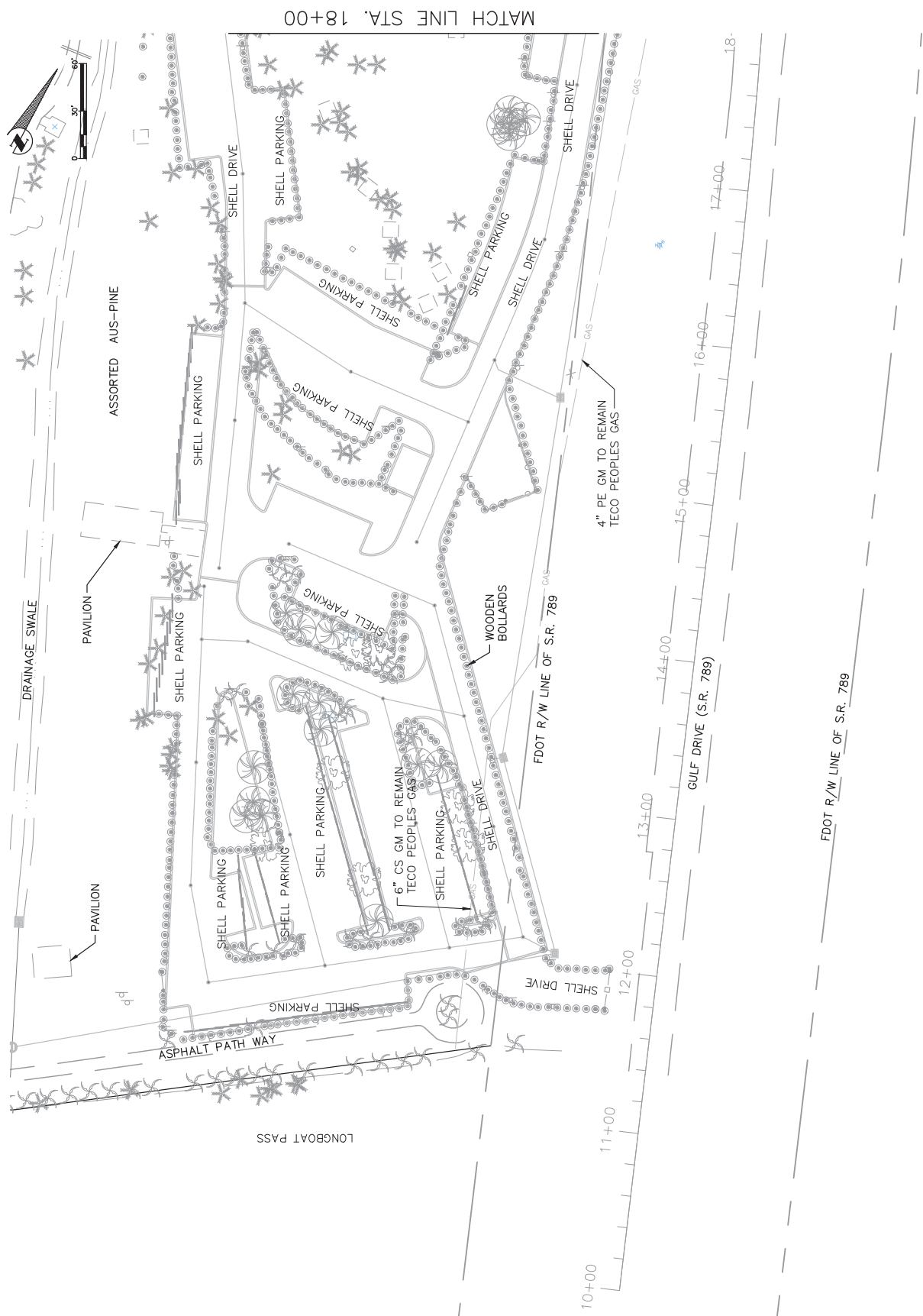
PUBLIC WORKS DEPARTMENT
1102 28th Avenue East, Bradenton, FL 34209

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
UTILITY ADJUSTMENT SHEET**

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6002719
SURVEY #	6882
SEC./TWP./RGE	10/35S/18E
SCALE	1"=60'
DATE	
BY	
DATE	
SUPPCKED	ZNS 08/09/15
DESIGNED	MS/ES 08/2015
DRAWN	TMF 08/2016
CHECKED	MS/ES 8/2016
MICHAEL L. STURM	
FLORIDA P.E. # 46005	

Signature & Date
SHEET UAS1



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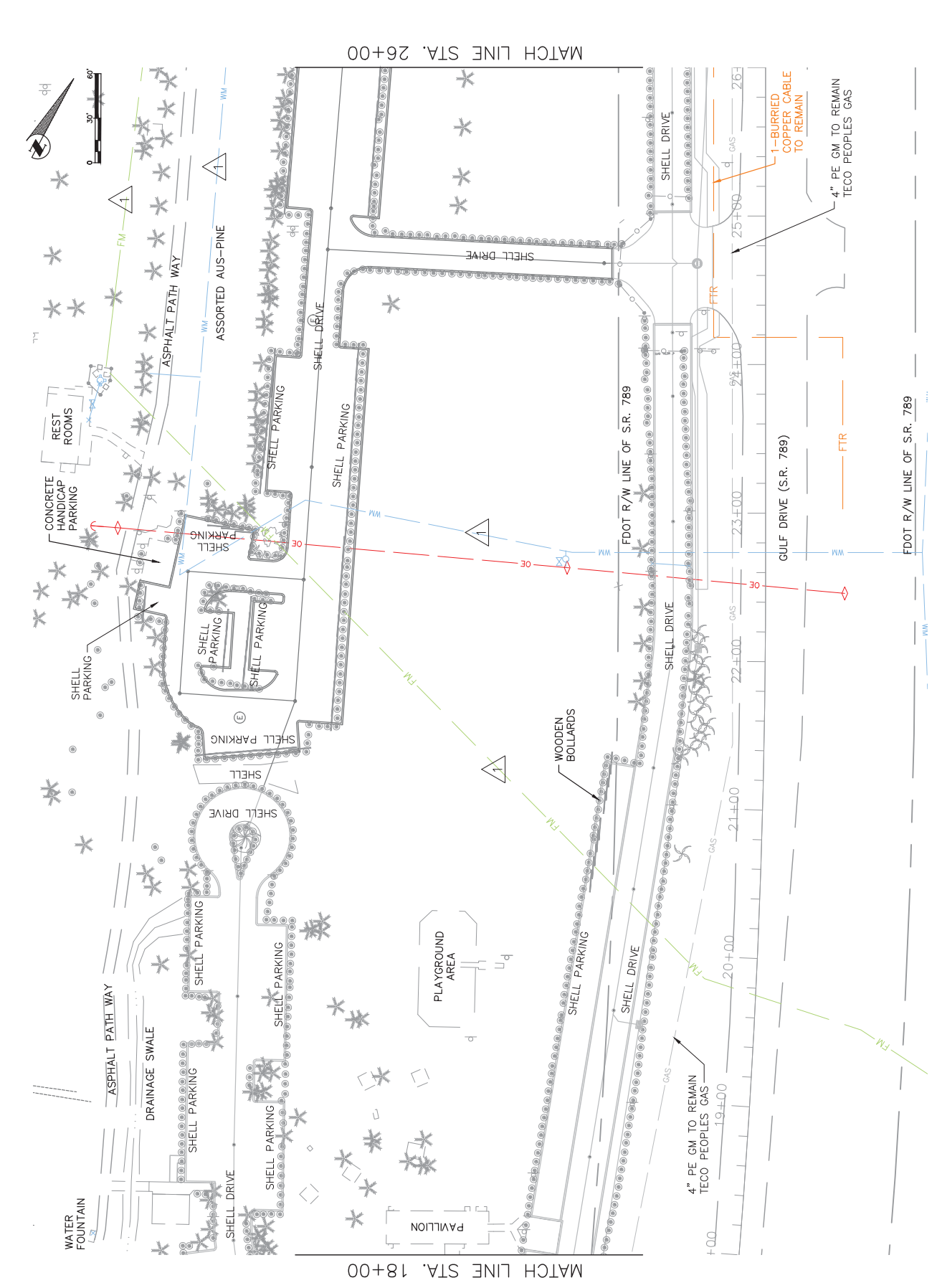
MANATEE COUNTY
PUBLIC WORKS DEPARTMENT
1102 28th Avenue East, Bradenton, FL 34209

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
UTILITY ADJUSTMENT SHEET**

PROJECT #	465-6002719
SURVEY #	6882
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
DATE	
BY	
DATE	
REVISION DESCRIPTION	
NO.	

DATE
DESIGNED ZNS 08/05/15
DESIGNED MS/ES 08/2015
DRAWN TWF 08/2016
CHECKED MS/ES 8/2016
MICHAEL L. STURM
FLORIDA P.E. # 46005

Signature & Date
SHEET UAS2



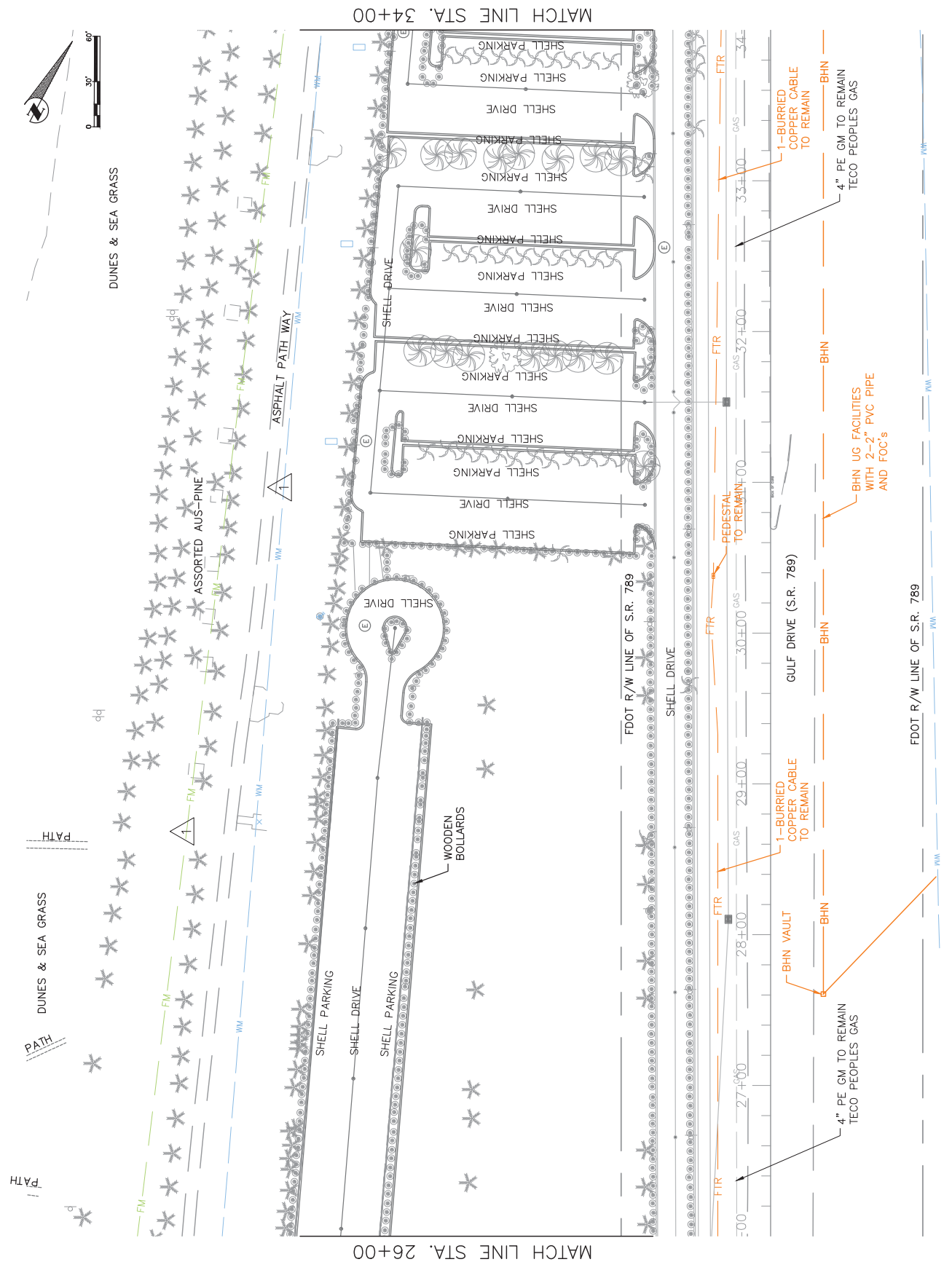


PUBLIC WORKS DEPARTMENT
1102 20th Avenue East, Bradenton, FL 34208

**COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
UTILITY ADJUSTMENT SHEET**

PROJECT #	465-6000719
SURVEY #	6882
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
DATE	
BY	
DATE	
DESIGNED	ZNS 08/05/15
DRAWN	MS/ES 08/2015
CHECKED	MS/ES 8/2016
DATE	
BY	
DATE	
REVISION DESCRIPTION	
BY	
DATE	

Signature & Date
SHEET UAS3



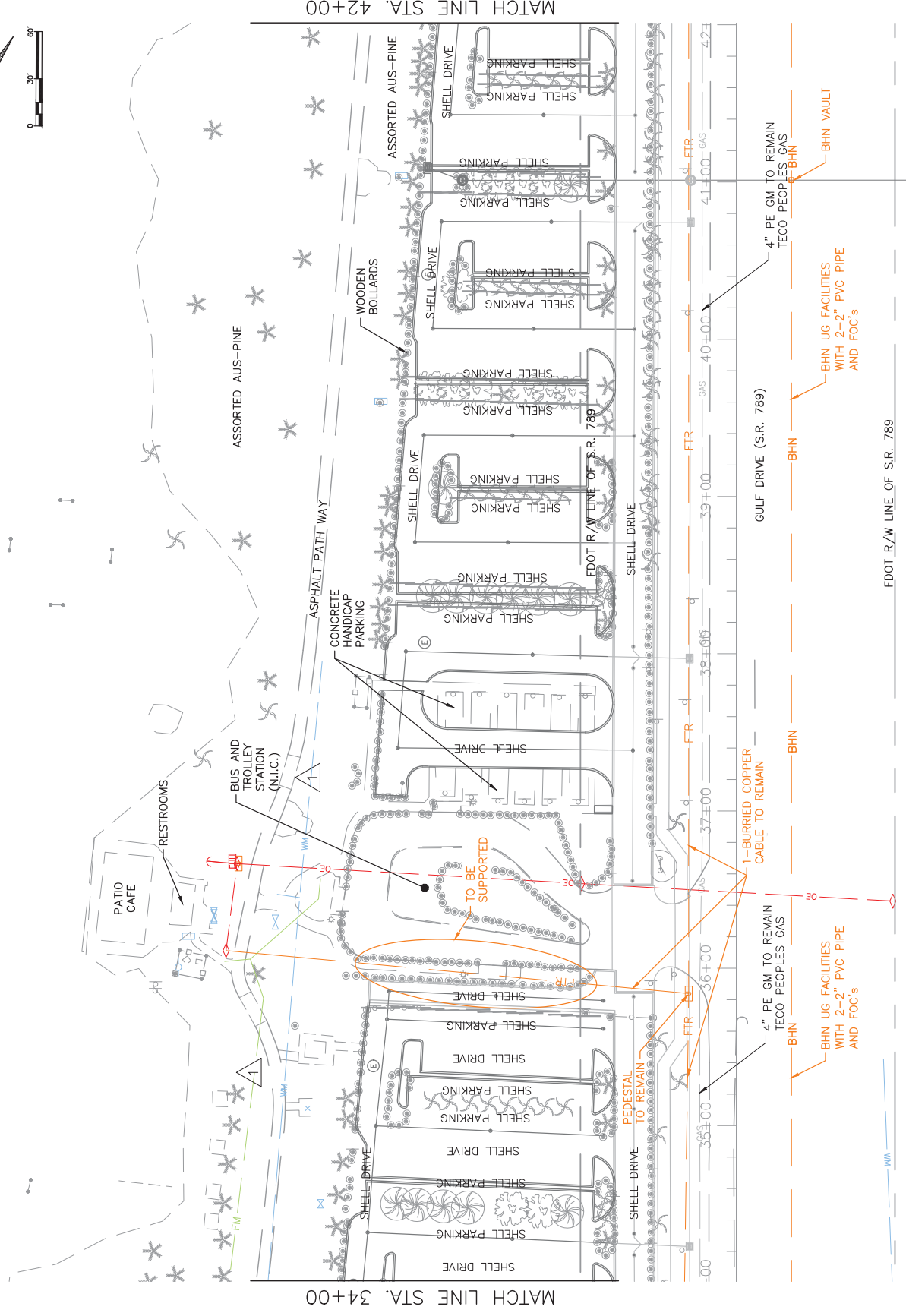
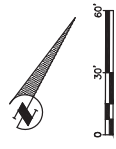
PROJECT #	465-6000719
SURVEY #	6882
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
DATE	
BY	
DATE	
DESIGNED	ZNS 08/05/15
DRAWN	MS/ES 08/2015
CHECKED	MS/ES 8/2016
DATE	
BY	
DATE	
REVISION DESCRIPTION	
BY	
DATE	

Signature & Date
SHEET UAS3

COQUINA BEACH DRAINAGE
IMPROVEMENTS
MANATEE COUNTY
 UTILITY ADJUSTMENT SHEET

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	465-6002719
SURVEY #	6982
SEC./TWP./RGE	10/35S/16E
SCALE	1"=60'
DATE	08/05/15
BY	ZMS
DESIGNED	MS/ES
DESIGNED	MS/ES
DESIGNED	MS/ES
DRAWN	TMF
DRAWN	MS/ES
DRAWN	MS/ES
CHECKED	MS/ES
CHECKED	MS/ES
CHECKED	MS/ES
FLORIDA P.E. #	46005
MICHAEL L. STURM	



MATCH LINE STA. 34+00

MATCH LINE STA. 42+00

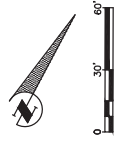
FDOT R/W LINE OF S.R. 789

COQUINA BEACH DRAINAGE IMPROVEMENTS
MANATEE COUNTY
UTILITY ADJUSTMENT SHEET

NO.	REVISION DESCRIPTION		BY	DATE
	NO.	DESCRIPTION		

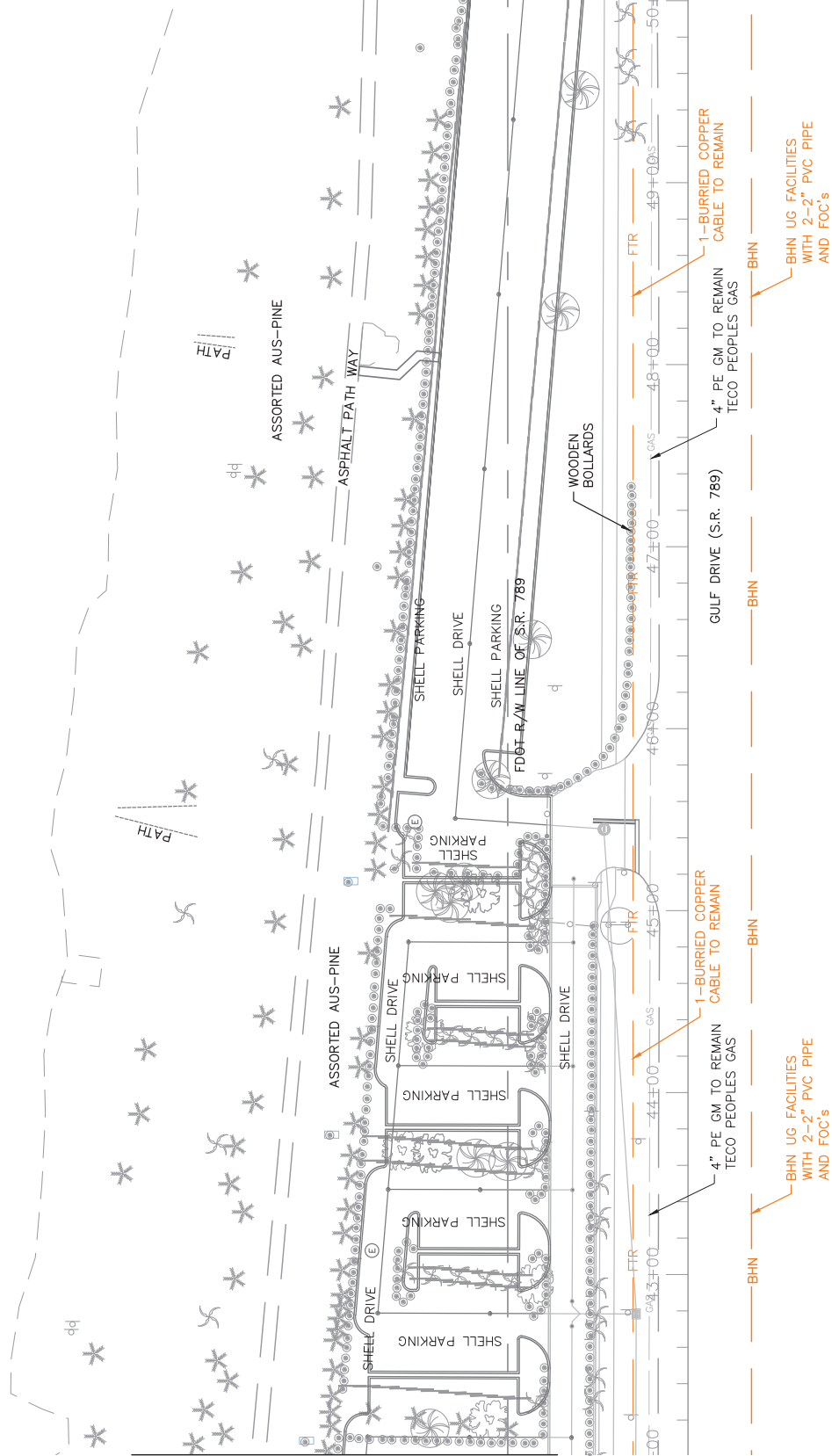
PROJECT #	465-6002719
SURVEY #	6882
SEC./TWP./RGE	10/355/16E
SCALE	1"=60'
BY	DATE
DESIGNED	ZNS 08/09/15
DESIGNED	MS/ES 08/20/15
DRAWN	TWF 08/20/16
CHECKED	MS/ES 8/2016
MICHAEL L. STURM FLORIDA P.E. # 46095	

Signature & Date
SHEET UAS5



MATCH LINE STA. 50+00

MATCH LINE STA. 42+00



FDOT R/W LINE OF S.R. 789



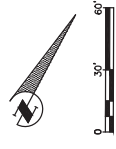
PUBLIC WORKS DEPARTMENT
1002 20th Avenue East, Bradenton, FL 34208

COQUINA BEACH DRAINAGE IMPROVEMENTS MANATEE COUNTY UTILITY ADJUSTMENT SHEET

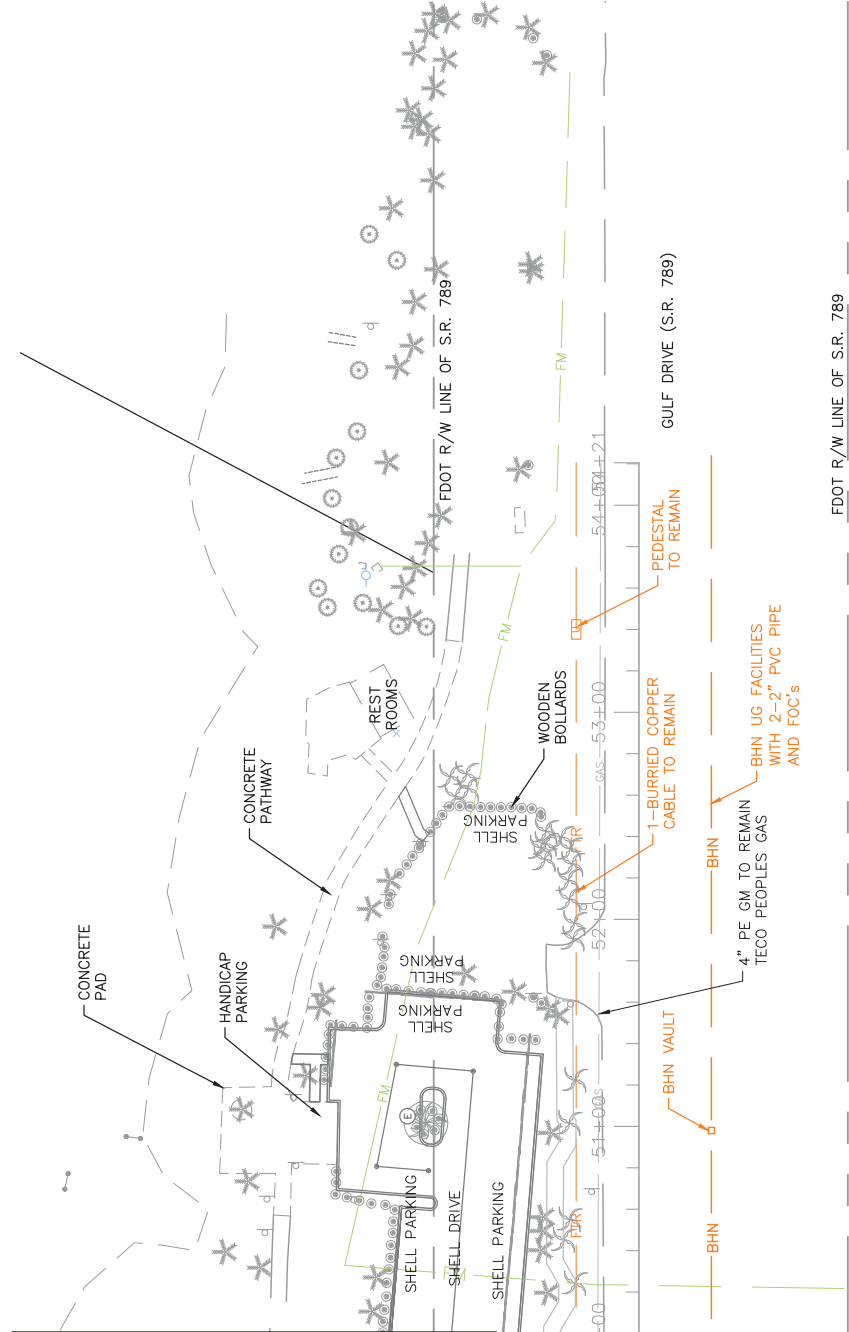
REVISION DESCRIPTION			BY	DATE

PROJECT #	465-6002719
SURVEY #	6982
SEC./TWP./RGE	10/3SS/16E
SCALE	1"=60'
DATE	
DESIGNED	ZNS 08/05/15
DRAWN	MS/ES 08/20/15
CHECKED	MS/ES 08/20/16
DRAWN	TMF 08/20/16
CHECKED	MS/ES 8/20/16
MICHAEL L. STURM FLORIDA P.E. # 46005	

Signature & Date
SHEET UAS6



MATCH LINE STA. 50+00



C:\pdr\0211\6\0211\8\0211\8_Plan\0211_Sht 11.dwg (Plotted: 08/22/15 1:14) Plot on 800x400 Plotter

CONSTRUCTION PLANS FOR COQUINA BEACH IPO PHASE 2

MANATEE COUNTY, FLORIDA

MAY 2020



PROJECT TEAM:

OWNER:
MANATEE COUNTY
100 2ND AVE. EAST
BRADENTON, FL 34208
CONTACT: MICHAEL STURM, P.E.
941-708-7450 ext. 7332

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
100 2ND AVE S, SUITE 102N
ST PETERSBURG, FL 33701

SURVEYOR:
ZNS ENGINEERING LC
100 2ND AVE S, SUITE 102N
BRADENTON, FLORIDA, 34208

LANDSCAPE ARCHITECT:
KIMLEY-HORN AND ASSOCIATES, INC.
100 2ND AVE S, SUITE 102N
ST PETERSBURG, FL 33701
CONTACT: DAVID J. FLANIGAN
727-498-2100

UTILITY CONTACTS:

FLORIDA POWER & LIGHT
JOEL BRAY, EAST
1253 17TH AVE. EAST
TAMPA, FL 33607
386-588-4403

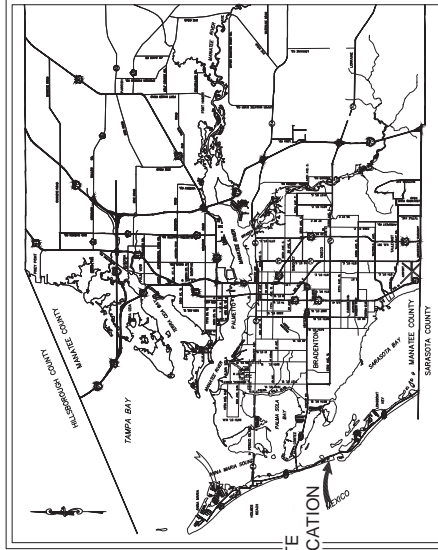
FRONTIER COMMUNICATIONS
3712 W WALNUT ST
TAMPA, FL 33607
813-675-1014

TAMPA ELECTRIC COMPANY TECO
JOHN DOMINGUEZ
3372 W WALNUT ST
TAMPA, FL 33619
813-275-3783

MANATEE COUNTY
KATHY MCMAHON
4422-C 66TH STREET W
BRADENTON, FL 34207
941-792-8811 EXT. 5002

CHARTER COMMUNICATIONS
5413 S.R. 64 EAST
BRADENTON, FL 34208
727-337-2581

CROWN CASTLE FIBER
DANNY HASKETT
100 2ND AVE S, SUITE A-200
SUNRSSE, FL 33323
786-810-7073



PROJECT VICINITY MAP
N.T.S.

Sheet Number	Sheet Title
00	COVER SHEET
L-201	PHASE 2 LANDSCAPE PLAN
L-150	LANDSCAPE NOTES
I-201	PHASE 2 IRRIGATION PLAN
I-150	IRRIGATION DETAILS
I-151	IRRIGATION NOTES

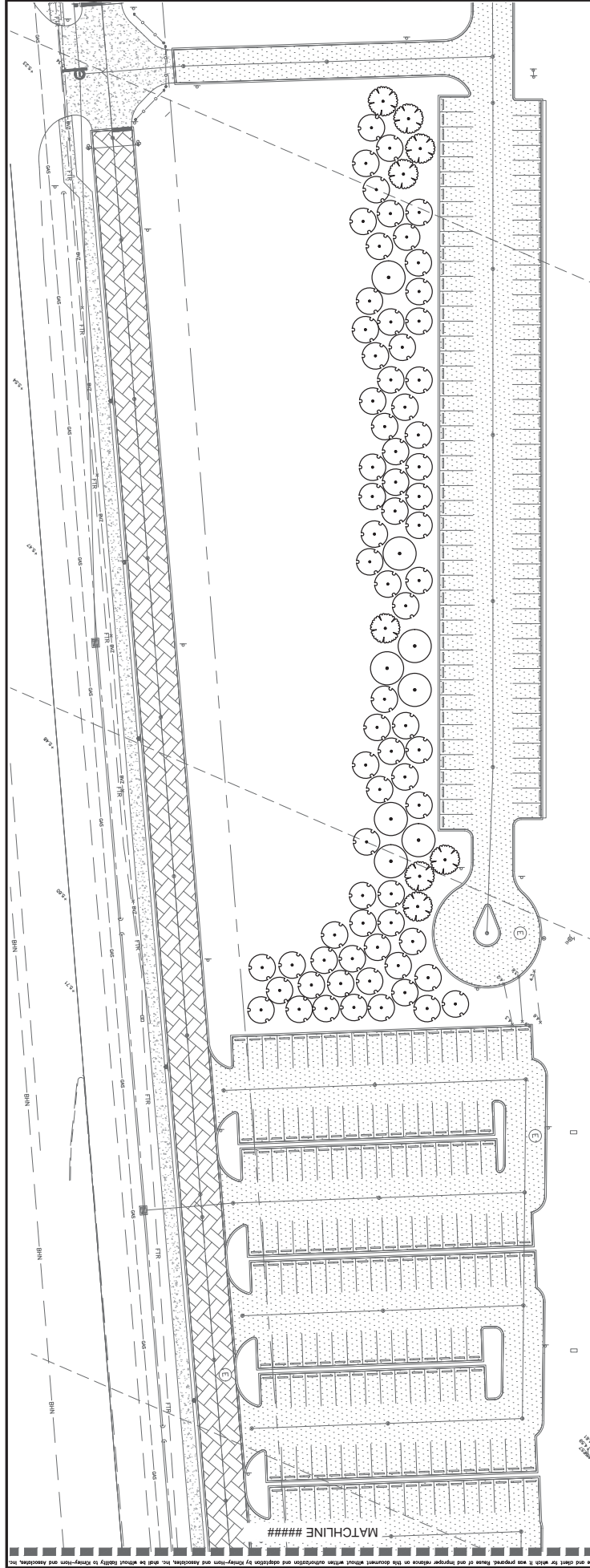
THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF THE ENGINEER. THE ENGINEER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

DATE	NO.	SHEET NUMBER
MAY 2020	100	00
MAY 2020	101	01
MAY 2020	102	02
MAY 2020	103	03
MAY 2020	104	04
MAY 2020	105	05
MAY 2020	106	06
MAY 2020	107	07
MAY 2020	108	08
MAY 2020	109	09
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MAY 2020	111	11
MAY 2020	112	12
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MAY 2020	117	17
MAY 2020	118	18
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MAY 2020	123	23
MAY 2020	124	24
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MAY 2020	126	26
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MAY 2020	148	48
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MAY 2020	165	65
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MAY 2020	200	00

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DAVID J. FLANIGAN
REGISTERED PROFESSIONAL ENGINEER
FLORIDA LICENSE NUMBER: 00001492
DATE:

PREPARED BY
Kimley-Horn
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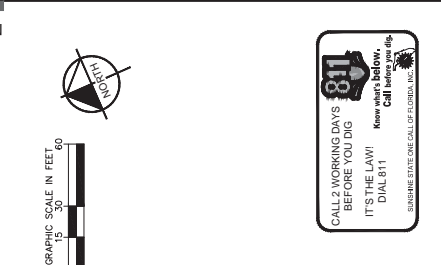
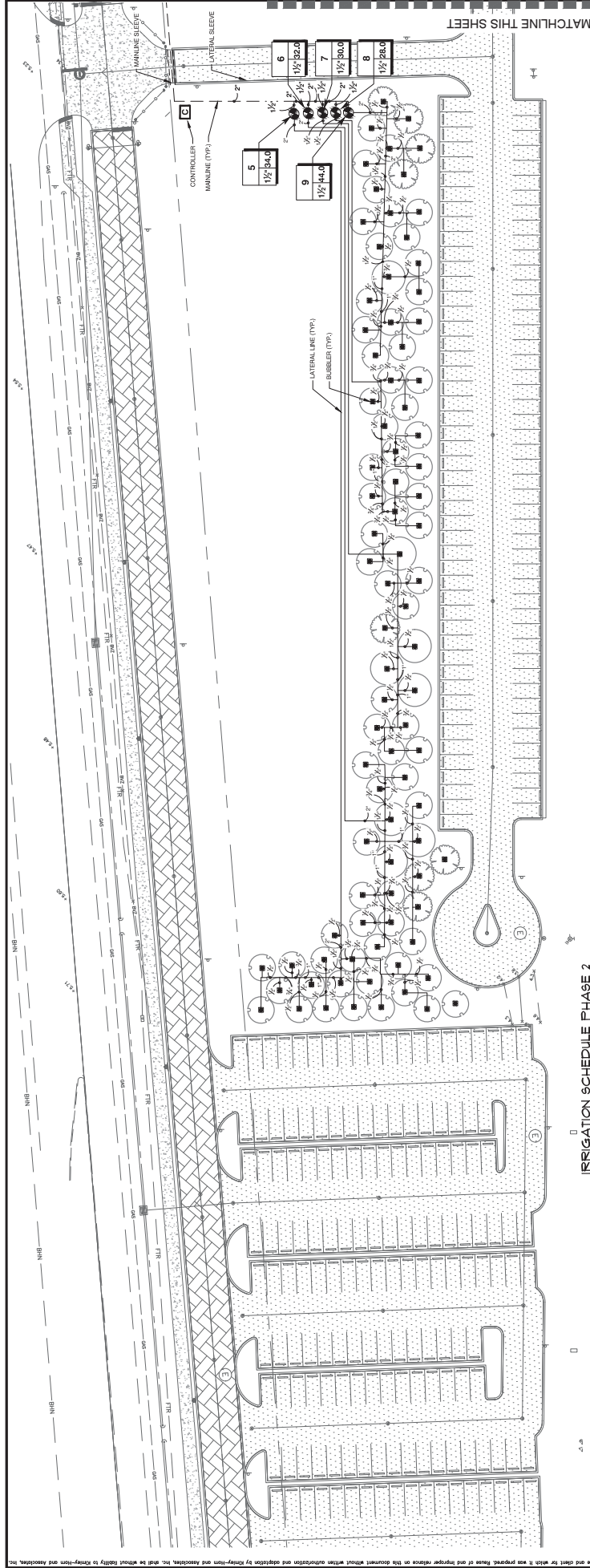


PLANT SCHEDULE PHASE 2

TREES	QTY	BOTANICAL NAME	COMMON NAME	GAL	CONT.	HT	SPREAD	SEASON	REMARKS
	8	BUCIDA BUCERAS 'SHADY LADY'	SHADY LADY BLACK OLIVE	30 GAL.	CONTAINER	12 FT MIN	3-4 FT MIN	AS SHOWN	PLANT SIZES BASED ON AVAILABILITY.
	8	BURSERIA SIMARUBA	GUMBO LIMBO	30 GAL.	CONTAINER	12 FT MIN	3-4 FT MIN	AS SHOWN	PLANT SIZES BASED ON AVAILABILITY.
	71	CONOCARPUS ERECTUS	GREEN BUTTWOOD	30 GAL.	CONTAINER	10-12 FT	3-4 FT MIN	AS SHOWN	STANDARD PLANT SIZES BASED ON AVAILABILITY.



<p>Kimley-Horn © 2020 KIMLEY-HORN AND ASSOCIATES, INC. 100 SE 17th Street, Suite 150N Fort Lauderdale, FL 33316 PHONE: 772-547-3999 WWW.KIMLEY-HORN.COM CA 0000696</p>	<p>KIMLEY-HORN LANDSCAPE ARCHITECTS STATE OF FLORIDA LICENSE NO. 12000</p>	<p>COQUINA BEACH IPO</p>	<p>PHASE 2 LANDSCAPE PLAN</p>	<p>SHEET NUMBER L-201</p>	
<p>NIA PROJECT 145400041 DATE MA 2020 SCALE AS SHOWN DESIGNED BY KHA DRAWN BY JLD CHECKED BY JLD</p>	<p>FLORIDA</p>				
<p>NO.</p>	<p>DATE</p>	<p>BY</p>			
<p>REVISIONS</p>					



CRITICAL ANALYSIS

Generated: 2020-05-22 11:14
 P.O.C. NUMBER: 01
 Water Source Information:
 FLOW AVAILABLE: 7.02 gpm
 Point of Connection Size: 2"
 Flow Available: 7.02 gpm
 PRESSURE AVAILABLE AT P.O.C.: 60.00 psi
 Pressure Available: 60.00 psi

DESIGN ANALYSIS:
 Maximum Station Flow: 44.60 gpm
 Flow Available at P.O.C.: 7.02 gpm
 Required Flow Available: 24.00 gpm
 Change in Pressure: 20.00 psi
 Friction Loss: 11.44 psi
 Elevation Loss: 0.00 psi
 Loss through Valve: 1.50 psi
 Loss for Fittings: 0.27 psi
 Loss for Main Line: 2.72 psi
 Loss for Lateral Line: 15.00 psi
 Critical Station Pressure at P.O.C.: 60.00 psi
 Residual Pressure Available: 7.95 psi

VALVE SCHEDULE

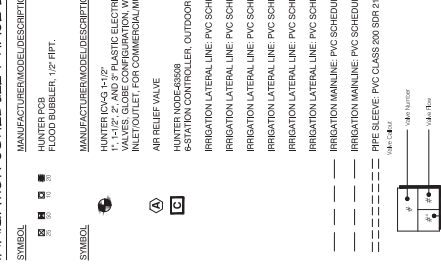
NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI @ P.O.C.	PRECIP
0	HUNTERICVAG	1-1/2"	BUBBLER	34.00	88.3	30.18	6.81 in/h
7	HUNTERICVAG	1-1/2"	BUBBLER	30.00	105.4	34.08	6.81 in/h
8	HUNTERICVAG	1-1/2"	BUBBLER	29.00	113.4	29.23	6.81 in/h
9	HUNTERICVAG	1-1/2"	BUBBLER	49.00	406.1	55.73	6.81 in/h

WATERING SCHEDULE

NUMBER	MODEL	SIZE	TYPE	IN/WEEK	MIN. WEEK	MAX. WEEK	CAL. WEEK	GA. DAY
0	HUNTERICVAG	6.81 in/h	BUBBLER	2	18	576	306	288
7	HUNTERICVAG	6.81 in/h	BUBBLER	2	18	504	252	252
8	HUNTERICVAG	6.81 in/h	BUBBLER	2	18	726	396	396
9	HUNTERICVAG	15.00 in/h	BUBBLER	2	98	9.004	1.912	1.912

IRRIGATION SCHEDULE PHASE 2

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
□	HUNTER PCB	87
□	FLOOD BUBBLER, 1/2" IPT.	
○	HUNTERICVAG 1-1/2" PIVOT ELECTRIC REMOTE CONTROL VALVE, 50 AMP 240V 1500 PSI, 1/2" INLET/OUTLET FOR COMMERCIAL MUNICIPAL USE.	5
⊕	AIR RELIEF VALVE	5
⊕	WATER PUMP ASSEMBLY	1
⊕	STATION CONTROLLER, OUTDOOR, BATTERY POWERED.	1
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40	5.1 L.F.
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40 1/2"	897.6 L.F.
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40 3/4"	183.0 L.F.
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40 1"	137.1 L.F.
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40 1 1/2"	756.5 L.F.
—	IRRIGATION LATERAL LINE, PVC SCHEDULE 40 2"	1,083.1 L.F.
—	IRRIGATION MAINLINE, PVC SCHEDULE 40 1 1/2"	28.5 L.F.
—	IRRIGATION MAINLINE, PVC SCHEDULE 40 2"	377.6 L.F.
—	PIPE SLEEVE, PVC CLASS 200 SDR 21	21.0 L.F.



REVISIONS

NO.	DATE	BY

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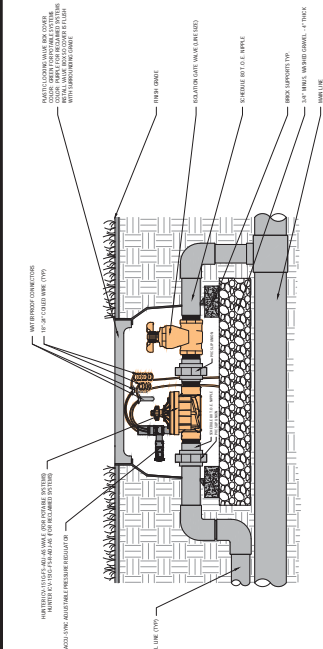
PHASE 2 IRRIGATION PLAN

COQUINA BEACH IPO

FLORIDA

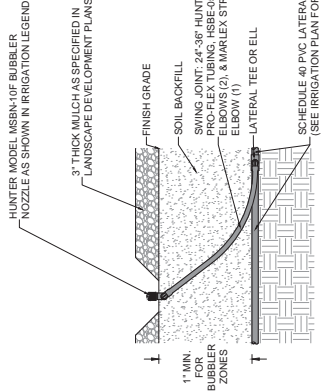
SHEET NUMBER
I-201

CALL 2 WORKING DAYS BEFORE YOU DIG
 IT'S THE LAW!
 DIAL 811
 Know what's below.
 811
 FLORIDA STATE ONE CALL OF FLORIDA, INC.



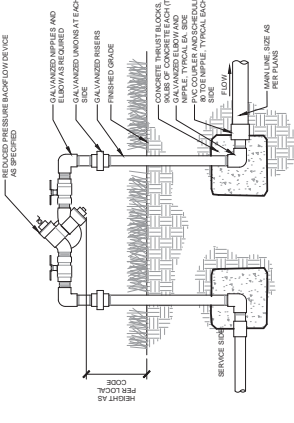
1 HUNTER ICV ZONE CONTROL VALVE W/ ISOLATION GLOBE VALVE - SECTION VIEW
1/12" = 1'-0"

P-148-C00-30



2 HUNTER BUBBLER MSBN - 10F DETAIL
1/12" = 1'-0"

P-148-C00-30



3 BACKFLOW PREVENTER
1/12" = 1'-0"

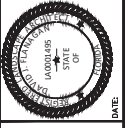
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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT: 148400041
DRAWN BY: JLD
CHECKED BY: DJF

COQUINA BEACH IPO
FLORIDA DATE: _____



IRRIGATION DETAILS

SHEET NUMBER I-150

IRRIGATION SPECIFICATIONS

1. SCOPE OF WORK

- 1.1. THE WORK CONSISTS OF SUPPLYING ALL MAIN MATERIALS, EQUIPMENT TOOLS, TRANSPORTATION, AND ANY OTHER NECESSARY ITEMS TO COMPLETE THE WORK.
- 1.2. INSTALL THE IRRIGATION SYSTEM TO PROVIDE 100% IRRIGATION COVERAGE INCLUDING ANY CHANGES MADE AS THE LAYOUT OF THE IRRIGATION SYSTEM IS DETERMINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 1.3. SECURE AND ALLOW NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 1.4. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.

2. PROTECTION OF EXISTING AND PROPOSED SITE ELEMENTS

- 2.1. ALL EXISTING ITEMS ALREADY COMPLETED OR ESTABLISHED AND OBSERVED TO REMAIN SHALL BE PROTECTED THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 2.2. MAINTAIN ALL NECESSARY IMPEDIMENTS THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- 2.3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 2.4. SHOW WITH RESPECT TO UTILITIES IS APPROPRIATE. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE PROTECTION OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.

3. SUBMITTALS

- 3.1. SUBMIT ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 3.2. SUBMIT PRODUCT DATA SHEETS FOR ALL IRRIGATION EQUIPMENT AS SHOWN ON THESE PLANS TO OWNERS REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.
- 3.3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.

4. EQUIPMENT LIST

- 4.1. ALL EQUIPMENT LISTED HEREIN IS PROVIDED FOR CONFORMANCE ONLY. CONFIRM ALL QUANTITIES PER PLAN PRIOR TO BEGINNING CONSTRUCTION.

5. POINT OF CONNECTION

- 5.1. FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING STATIC BRIND ORM AVAILABLE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
- 5.2. COORDINATE INSTALLATION OF ANY METERS AND BACKFLOW ASSEMBLIES WITH THE AGENCY HAVING JURISDICTION AND OWNERS REPRESENTATIVE.

6. MAINLINE INSTALLATION

- 6.1. INSTALL ALL MAINLINES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES. USE BUREAU OF PUBLIC WORKS (BPW) APPROVED SLEEVES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES. USE BUREAU OF PUBLIC WORKS (BPW) APPROVED SLEEVES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES. USE BUREAU OF PUBLIC WORKS (BPW) APPROVED SLEEVES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES.
- 6.2. INSTALL COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES. CAUTION: IRRIGATION LINE BURIED UNDER PAVEMENT SHALL BE IDENTIFIED BY DETECTABLE MARKING TAPE WHICH CLEARLY NOTES. CAUTION: IRRIGATION LINE BURIED UNDER PAVEMENT SHALL BE IDENTIFIED BY DETECTABLE MARKING TAPE WHICH CLEARLY NOTES.
- 6.3. MAKE SURE MAINLINE IS PARALLEL TO ALIGNMENT OF CURBLINE OFFSET THE MAINLINE 3" FROM THE EDGE OF PAVEMENT OR CURB.
- 6.4. PERFORM HYDROSTATIC PRESSURE TESTING AS FOLLOWS:
 - 6.4.1. AFTER FISHING AND THE INSTALLATION OF VALVES CONDUCT THE FOLLOWING TESTS IN THE SEQUENCE LISTED:
 - 6.4.1.1. LEAK TEST: ALL MAINLINES AND LATERALS SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOUR. ALL MAINLINES AND LATERALS SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOUR.
 - 6.4.1.2. PRESSURE HOLD TEST: ALL MAINLINES AND LATERALS SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOUR. ALL MAINLINES AND LATERALS SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOUR.
 - 6.4.2. TEST PERIOD: IMMEDIATELY FOLLOWING THE TEST.
 - 6.4.3. IMMEDIATELY PRIOR TO TESTING, PURGE ALL IRRIGATION LINES OF ALL ENTRAPPED AIR OR DEBRIS BY ADJUSTING CONTROL VALVES AND INSTALLING TEMPORARY CAPS FORcing WATER AND DEBRIS TO BE DISCHARGED FROM THE SYSTEM.
 - 6.4.4. TEST ALL PRESSURE MAINLINE AT 150 PSI FOR A MINIMUM OF 1 HOUR. ALL MAINLINES AND LATERALS SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOUR.
 - 6.4.5. TEST PERIOD: IMMEDIATELY FOLLOWING THE TEST.
 - 6.4.6. PROVIDE DOCUMENTATION STATING THE WEATHER CONDITIONS DATE, THE START TIME AND INITIAL WATER TEMPERATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS FOR THE WORK.
 - 6.4.7. REPORT ALL TEST RESULTS TO THE OWNER'S REPRESENTATIVE WITHIN THE OTHER ABOVE REQUIRED PERIOD.

7. IRRIGATION VALVES AND WIRING

- 7.1. LOCATE ALL MAINLINE BRIDGES WITHIN CONTROL LINES, QUICK COUPLERS, AND HOSE ENDS WITHIN VALVE BOXES. PROVIDE PUPPETE VALVE BOXES FOR ALL IRRIGATION VALVES AND HOSE ENDS WITHIN VALVE BOXES.

14. ABBREVIATIONS

- GM - GALLONS PER MINUTE
GPH - GALLONS PER HOUR
PSI - POUNDS PER SQUARE INCH

LATERAL PIPE SIZING REQUIREMENTS

MAXIMUM FLUX	MINIMUM PIPE SIZE
10 GPM	3/4"
15 GPM	1"
20 GPM	1 1/4"
30 GPM	1 1/2"
50 GPM	2"
80 GPM	2 1/2"
100 GPM	3"

PIPE SIZES ILLUSTRATED IN THE ABOVE CHART ARE MINIMUM ACCEPTABLE SIZES. PIPE SIZES INDICATED IN RED ARE RECOMMENDED SIZES TO AVOID ALL UNNECESSARY FRICTION LOSSES.

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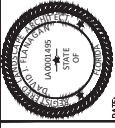
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	<p>IRRIGATION NOTES</p>		



COQUINA BEACH IPO