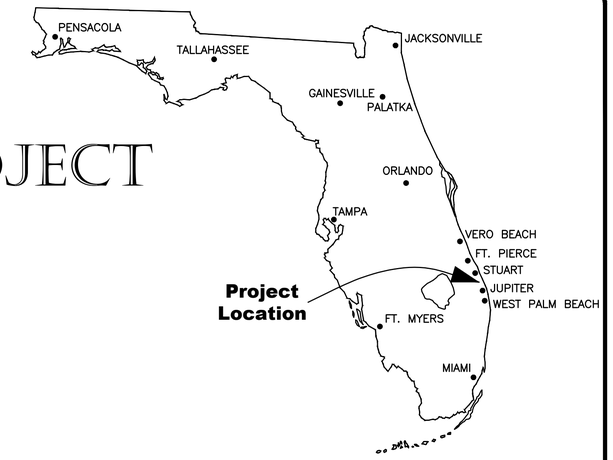
CONSTRUCTION PLANS FOR
OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA



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HAROLD JENKINS	***COMMISSIONER***
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THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS, LATEST EDITION.

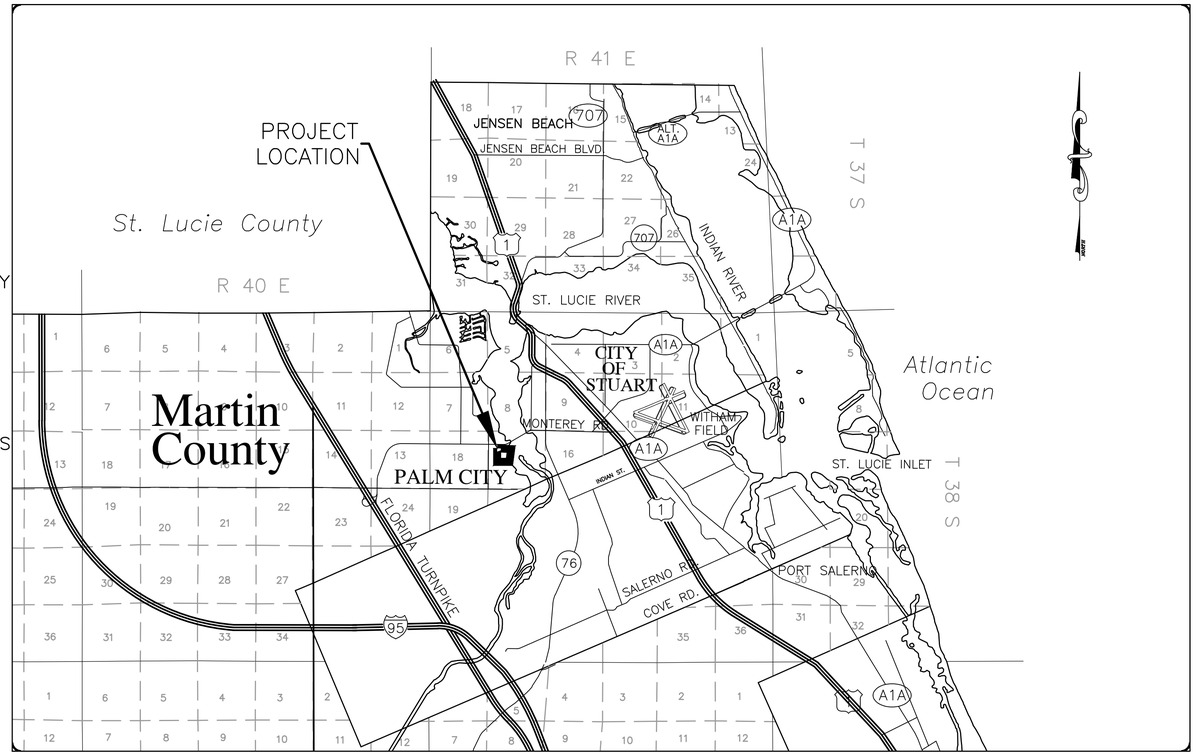
GOVERNING SPECIFICATIONS:
FDOT DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM, LATEST EDITION

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITION.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (GREENBOOK), LATEST EDITION.

THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), LATEST EDITION.

AND THE MARTIN COUNTY STANDARD DETAILS FOR ROAD AND SITE CONSTRUCTION AND PUBLIC FACILITIES, LATEST EDITION.



VICINITY MAP
NOT TO SCALE

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SEPTEMBER 2019

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MARTIN COUNTY
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Cert. No. 30901

LEO D. GIANGRANDE, PE
License No: 66387

SHEET
C-1

Summary of Quantities

Item No.	Pay Item Description	Quantity	Unit
	GENERAL ITEMS		
101-1	MOBILIZATION	1	LS
101-1A	CONSTRUCTION VIDEO	1	LS
101-99	CONST LAYOUT / RECORD DRAWINGS	1	LS
102-1	MAINTENANCE OF TRAFFIC	1	LS
	SITE 1		
104-10-3	EROSION CONTROL, STAKED SILT FENCE	1,000	LF
104-15	CONSTRUCTION ENTRANCE (SOIL TRACKING PREVENTION)	1	EA
110-1-1	SELECTIVE CLEARING & GRUBBING, REMOVAL OF EXOTICS	1.00	AC
110-3A	REMOVAL OF EXIST DRAINAGE STRUCTURES	1	LS
120-1	REGULAR EXCAVATION (SWALE)	155	CY
120-6	EMBANKMENT	135	CY
160-4	SUB BASE, COMPACTED, 12"	510	SY
339-1	MISCELLANEOUS ASPHALT PAVEMENT (PATCH OPEN CUT)	1	EA
400-1-2	CONC CLASS I, ENDWALLS	1.56	CY
425-15-21	INLET, DT BOT, TYPE C	2	EA
425-15-41	INLET, DT BOT, TYPE D	1	EA
425-2-41	MANHOLES, TYPE P, 4' DIAMETER, <10'	1	EA
430-14-51-15	PIPE CULV, RCP, ROUND, 15"	118	LF
430-17-51-18	PIPE CULV, RCP, ROUND, 18"	172	LF
430-98-41-23	MITERED END SECTION, 15"	4	EA
522-1	CONCRETE SIDEWALK, 4"	69	SY
522-2	CONCRETE DRIVEWAY, 6" (DRIVEWAY RECONSTRUCTION)	90	SY
527-2	DETECTABLE WARNINGS	24	SF
530-1	RIPRAP	13	CY
530-1A	BANK RUN SHELL, 4"	495	SY
530-1B	COQUINA ROCK, 4"	510	SY
530-1D	CRUSHED CONCRETE OR ROCK, WASHED, 1" - 2" DIAMETER	16	CY
530-1E	CRUSHED CONCRETE OR ROCK, WASHED, 4" - 12" DIAMETER	42	CY
580-1-A	LANDSCAPING	1	LS
700-1-11	SINGLE POST SIGN, F&I, <12 SF	4	AS
711-11-125	THERMOPLASTIC, WHITE, SOLID, 24"	50	LF
	SITE 2		
104-10-3	EROSION CONTROL, STAKED SILT FENCE	1,000	LF
104-15	CONSTRUCTION ENTRANCE (SOIL TRACKING PREVENTION)	1	EA
110-1-1	CLEARING & GRUBBING	0.85	AC
110-3A	REMOVAL OF EXIST DRAINAGE STRUCTURES	1	LS
120-1	REGULAR EXCAVATION	500	CY
120-6	EMBANKMENT	445	CY
160-4	SUB BASE, COMPACTED, 12"	425	SY
339-1	MISCELLANEOUS ASPHALT PAVEMENT (PATCH OPEN CUT)	1	EA
425-15-21	INLET, DT BOT, TYPE C	1	EA
425-15-41	INLET, DT BOT, TYPE D	3	EA
430-17-51-15	PIPE CULV, RCP, ROUND, 15"	51	LF
430-17-51-18	PIPE CULV, RCP, ROUND, 18"	74	LF
430-17-51-24	PIPE CULV, RCP, ROUND, 24"	335	LF
430-17-52-18	PIPE CULV, RCP, ELLIPTICAL, 14" X 23"	58	LF
430-98-41-23	MITERED END SECTION, 14" X 23"	6	EA
440-1-1	YARD DRAIN	2	EA
522-1	CONCRETE SIDEWALK, 4"	245	SY
522-2	CONCRETE DRIVEWAY, 6" (DRIVEWAY RECONSTRUCTION)	128	SY
527-2	DETECTABLE WARNINGS	36	SF
530-1	RIPRAP	65	CY
530-1A	BANK RUN SHELL, 4"	345	SY
530-1B	COQUINA ROCK, 4"	425	SY
580-1-A	LANDSCAPING	1	LS
700-1-11	SINGLE POST SIGN, F&I, <12 SF	4	AS
711-11-125	THERMOPLASTIC, WHITE, SOLID, 24"	50	LF
	SITE 3		
104-10-3	EROSION CONTROL, STAKED SILT FENCE	650	LF
104-15	CONSTRUCTION ENTRANCE (SOIL TRACKING PREVENTION)	1	EA
110-1-1	CLEARING & GRUBBING	0.60	AC
110-3A	REMOVAL OF EXIST DRAINAGE STRUCTURES	1	LS
120-1	REGULAR EXCAVATION	3,245	CY
120-6	EMBANKMENT	140	CY
339-1	MISCELLANEOUS ASPHALT PAVEMENT (PATCH OPEN CUT)	4	EA
425-15-21	INLET, DT BOT, TYPE C	4	EA
425-15-41	INLET, DT BOT, TYPE D	2	EA
425-2-91	MANHOLES, TYPE J, 6' DIAMETER, <10'	1	EA
430-17-51-18	PIPE CULV, RCP, ROUND, 18"	322	LF
430-17-52-18	PIPE CULV, CAP, ROUND, 18"	20	LF
430-17-51-24	PIPE CULV, RCP, ROUND, 24"	45	LF
430-17-52-24	PIPE CULV, CAP, ROUND, 24"	10	LF
430-17-51-30	PIPE CULV, RCP, ROUND, 30"	377	LF
430-830	PIPE FILLING AND PLUGGING	10	CY
440-1-1	YARD DRAIN	1	EA
522-1	CONCRETE SIDEWALK, 4"	90	SY
522-2	CONCRETE DRIVEWAY, 6" (DRIVEWAY RECONSTRUCTION)	39	SY
550-10-420	FENCING, POST & RAIL	180	LF
580-1-A	LANDSCAPING	1	LS
750-1A	SHELTER AND BOARDWALK	1	LS

Item No.	Pay Item Description	Quantity	Unit
	SITE 4		
104-10-3	EROSION CONTROL, STAKED SILT FENCE	500	LF
104-11	FLOATING TURBIDITY BARRIER	150	LF
104-15	CONSTRUCTION ENTRANCE (SOIL TRACKING PREVENTION)	1	EA
110-1-1	CLEARING & GRUBBING	0.25	AC
110-4-10	REMOVAL OF EXIST PAVEMENT	130	SY
120-1	REGULAR EXCAVATION	195	CY
160-4	SUB BASE, COMPACTED, 12"	235	SY
400-1-2	CONC CLASS I, ENDWALLS	4.53	CY
425-15-21	INLET, DT BOT, TYPE C	3	EA
425-15-51	INLET, DT BOT, TYPE E	1	EA
425-2-91	MANHOLES, TYPE J, 5' DIAMETER, <10'	1	EA
430-14-51-15	PIPE CULV, RCP, ROUND, 15"	250	LF
430-17-51-30	PIPE CULV, RCP, ROUND, 30"	83	LF
430-17-51-36	PIPE CULV, RCP, ROUND, 36"	52	LF
430-98-41-23	MITERED END SECTION, 15"	3	EA
522-1	CONCRETE SIDEWALK, 4"	175	SY
522-2	CONCRETE DRIVEWAY, 6" (DRIVEWAY RECONSTRUCTION)	145	SY
527-2	DETECTABLE WARNINGS	12	SF
530-1	RIPRAP	9	CY
530-1A	BANK RUN SHELL, 4"	180	SY
530-1B	COQUINA ROCK, 4"	235	SY
530-3-3	RIPRAP, BANK AND SHORE	48	CY
580-1-A	LANDSCAPING	1	LS
700-1-11	SINGLE POST SIGN, F&I, <12 SF	3	AS
700-1-60	SINGLE POST SIGN, REMOVE	2	AS
711-11-123	THERMOPLASTIC, WHITE, SOLID, 12"	60	LF

GENERAL NOTES

1. ANY SURVEY MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED.

   IF IN DANGER OF DAMAGE, THE PROJECT ENGINEER SHOULD NOTIFY:
   NATIONAL GEODETIC SURVEY, NOAA
   1315 EAST WEST HIGHWAY
   SILVER SPRING, MD 20910

   MARTIN COUNTY DEPARTMENT OF PUBLIC WORKS
   COUNTY SURVEYOR
   2401 SE MONTEREY ROAD
   STUART, FL 34996
   (772) 463-2892

2. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED. THE CONTRACTOR SHALL NOTIFY THE COUNTY SURVEYOR WITHOUT DELAY BY TELEPHONE.

3. GRADES SHOWN ARE FINISHED GRADES, UNLESS OTHERWISE NOTED.

4. B.M. DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88).

5. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF "OTHER" UTILITIES (NOT SHOWN IN THE PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE UTILITY CONFLICTS, THE CONTRACTOR SHALL INFORM THE ENGINEER AND NOTIFY THE RESPECTIVE UTILITY OWNERS TO RESOLVE UTILITY CONFLICTS AND ADJUSTMENTS, AS REQUIRED.

6. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.

7. UTILITY LOCATIONS MAY BE DETERMINED BY CALLING SUNSHINE ONE CALL (DIAL 811) AND THE SPECIFIC UTILITY COMPANIES.

8. THE APPROPRIATE UTILITY COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT.

9. STATION AND OFFSETS REFER TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.

10. ONE DIGITAL COPY OF SIGNED SHOP DRAWINGS AND SIGNED AND SEALED DESIGN DATA SHALL BE SUBMITTED TO MARTIN COUNTY ENGINEERING DEPARTMENT PRIOR TO ORDERING MATERIALS. ALLOW 10 WORK DAYS TURNAROUND FOR SUBMITTALS.

11. PRIOR TO FINAL PAVING/GRADING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ADJUSTMENT OF ALL MANHOLES, CATCH BASINS/INLETS, HYDRANTS, VALVE BOX COVERS, GRATES, CLEANOUTS, AND UTILITY APPURTENANCES, ETC., WITHIN THE AREA OF THE PROPOSED WORK, WHETHER THEY WERE CONSTRUCTED AS PART OF THE PROJECT OR WERE EXISTING PRIOR TO HIS WORK. SAID ADJUSTMENTS SHALL CONFORM TO THE FINISHED GRADE, SLOPE, PITCH AND CROWN OF THE SURROUNDING AREA, AS INDICATED ON THE PLANS AND AS CONSTRUCTED IN THE FIELD, WHETHER PAVED OR UNPAVED AND SHALL BE INCIDENTAL TO THE CONTRACT AND WILL NOT BE PAID FOR AS AN INDIVIDUAL LINE ITEM.

12. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION "2018-19 STANDARD PLANS" AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (2018) UNLESS OTHERWISE DIRECTED BY A MARTIN COUNTY REPRESENTATIVE.

13. "INDEX" REFERS TO FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, FY 2018-19.

14. AT THE END OF EACH WORK PERIOD, ANY DROP-OFF IN THE AREA ADJACENT TO THE TRAVEL WAY SHALL BE BACKFILLED IN ACCORDANCE WITH STANDARD PLAN 102-600 OR SHALL BE OTHERWISE PROTECTED WITH TEMPORARY BARRIER WALL AT THE CONTRACTOR'S EXPENSE.

15. EROSION AND POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT WATER POLLUTION WITH AQUATIC WEEDS, FUELS, OILS, BITUMENS, CALCIUM CHLORIDE OR OTHER HARMFUL MATERIALS. ALSO, HE SHALL CONDUCT AND SCHEDULE HIS OPERATIONS SO AS TO AVOID POLLUTION OR SILTATION OF WATER BODIES OR TO INTERFERE WITH INDIGENOUS WILDLIFE. THE INSTALLATION OF TEMPORARY EROSION AND POLLUTION CONTROL FEATURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONTRACT. ANY REOSION OR SHOALING SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE. SOD SHALL BE PROVIDED AS SHOWN ON THE PLANS, INCLUDING BUT NOT LIMITED TO, ALL DISTURBED AREAS, UTILITY CONSTRUCTION, SLOPES AND AREAS ASSOCIATED WITH THE DRY RETENTION AREAS AND SWALES. ALL CONSTRUCTION METHODS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 570, DOT SPECIFICATIONS, FOR ARGENTINE BAHIA SOD AND SHALL INCLUDE WATERING UNTIL FINAL ACCEPTANCE OF THE PROJECT.

    WATER POLLUTION AND TURBIDITY CONTROL SHALL BE REQUIRED BY THE CONTRACTOR IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS, LOCAL REGULATIONS AND SECTION 104, FDOT REQUIREMENTS INCLUDING BUT NOT LIMITED TO ONE OR MORE OF THE FOLLOWING OPTIONS; SHEET PILE OR EARTH COFFERDAM, HAY BALES, SEDIMENT BASIN, SILT FENCE OR TURBIDITY BARRIER. EXCAVATED MATERIAL SHALL NOT BE DEPOSITED IN CANALS, PRESERVE AREAS OR IN A POSITION CLOSE ENOUGH THERETO, TO BE WASHED AWAY BY HIGH WATER OR RUNOFF.

16. THE CONTRACTOR SHALL OBTAIN AN NPDES PERMIT AS "OPERATOR AND SHALL BE RESPONSIBLE FOR ALL COSTS AND FEES IMPLEMENTING THE MEASURES, INCLUDING CONSTRUCTION, INSPECTION AND REPORTING REQUIRED BY THE NPDES PERMIT.

    CONTRACTOR SHALL BE RESPONSIBLE TO MEET ALL REQUIREMENTS OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), MARTIN COUNTY, U.S. ARMY CORPS OF ENGINEERS, AND ANY OTHER REGULATORY AGENCIES AT NO EXTRA COST TO THE CONTRACT.

    THE CONTRACTOR IS RESPONSIBLE TO CLEAN AND MAINTAIN THE WORK AREA IN GOOD CONDITION AND CONTROL AIRBORNE DUST DUE TO THE CONSTRUCTION ACTIVITIES. THIS ITEM IS INCIDENTAL TO THE CONTRACT AND SHALL NOT BE PAID FOR SEPARATELY.

17. SOME HORIZONTAL & VERTICAL CONTROL POINTS ARE LOCATED WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL REESTABLISH CONTROL POINTS AS NEEDED AT NO COST TO THE PROJECT.

18. ALL NEW PAVEMENT CONNECTIONS TO EXISTING PAVEMENT WILL BE MADE WITH A STRAIGHT SAW CUT OF THE EXISTING PAVEMENT.

19. THE CONTRACTOR IS TO MAINTAIN AND KEEP STREET NAME IDENTIFICATION VISIBLE DURING CONSTRUCTION OPERATIONS, IN ORDER TO FACILITATE EMERGENCY VEHICLE TRAFFIC.

20. EXISTING MAILBOXES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED/REPLACED AS NECESSARY TO AVOID DELAY IN MAIL DELIVERY AND SHALL BE INCIDENTAL TO THE CONTRACT.

21. THE CONTRACTOR WILL RESTRICT THE USE OF EQUIPMENT AND THE STORAGE OF MATERIALS TO AREAS WITHIN THE LIMITS OF CONSTRUCTION AS NOTED ON THE PLAN SHEETS. ANY OFF-SITE STORAGE AREAS WILL REQUIRE PRIOR REVIEW BY THE ENGINEER.

22. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL ACTIVITIES AT SITE. RECORD DRAWINGS SHALL BE COMPILED AT SUBMISSION OF EVERY PAY REQUEST FOR THE WORK COMPLETED FOR THAT PERIOD. AT THE END OF THE PROJECT, BEFORE SUBSTANTIAL COMPLETION CERTIFICATE IS ISSUED, THE CONTRACTOR SHALL PROVIDE A FULL SET OF AS-BUILT DRAWINGS PREPARED AND SIGNED/SEALED BY A REGISTERED PROFESSIONAL SURVEYOR OF THE STATE OF FLORIDA. THIS EFFORT SHALL BE INCIDENTAL TO THE OTHER PAY ITEMS IN THE CONTRACT AND SHALL NOT BE PAID FOR SEPARATELY.

23. MAINTENANCE OF TRAFFIC:

    - MAINTENANCE OF TRAFFIC (M.O.T.) SHALL CONFORM TO FDOT TRAFFIC CONTROL THROUGH WORK ZONES REQUIREMENTS PER FDOT STANDARD PLAN SERIES 102 AS APPLICABLE.
    - LANE CLOSURES SHALL BE LIMITED TO BETWEEN THE HOURS OF 9:00AM TO 3:30PM.
    - OVERNIGHT WORK IS PROHIBITED AS PART OF THIS PROJECT.
    - ACCESS TO ALL PROPERTIES MUST BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION.
    - A M.O.T. PLAN SHALL BE SUBMITTED BY THE CONTRACTOR AND ACCEPTED BY THE MARTIN COUNTY PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK.
    - PAYMENT FOR ALL WORK AND COSTS ASSOCIATED WITH MAINTENANCE OF TRAFFIC WILL BE MADE UNDER PAY ITEM 102-1 – MAINTENANCE OF TRAFFIC – LUMP SUM.

24. ALL WORK MUST BE PERFORMED ENTIRELY WITHIN AND FROM THE MARTIN COUNTY OWNED RIGHT-OF-WAY.

25. THE CONTRACTOR SHALL NOT BRING ANY HAZARDOUS MATERIALS ONTO THE PROJECT. SHOULD THE CONTRACTOR REQUIRE SUCH FOR PERFORMING THE CONTRACTED WORK, THE CONTRACTOR SHALL REQUEST, IN WRITING, PERMISSION FROM THE PROJECT ENGINEER. THE CONTRACTOR SHALL PROVIDE A COPY OF THE REQUEST TO THE COUNTY ENGINEER. THE CONTRACTOR SHALL PROVIDE THE COUNTY ENGINEER WITH A COPY OF THE MATERIAL SAFETY DATA SHEET (MSDS) FOR EACH HAZARDOUS MATERIAL PROPOSED FOR USE, AND PROVIDE A DESCRIPTION OF THE SPECIFIC MANNER IN WHICH THE MATERIAL WILL BE USED. THE PROJECT ENGINEER SHALL COORDINATE WITH THE COUNTY ENGINEER PRIOR TO ISSUING WRITTEN APPROVAL TO THE CONTRACTOR. BECAUSE STATE LAW DOES NOT TREAT PETROLEUM PRODUCTS THAT ARE PROPERLY CONTAINERIZED AS HAZARDOUS MATERIALS, SUCH PRODUCTS DO NOT REQUIRE AN MSDS SUBMITTAL. ALL BULK PETROLEUM PRODUCTS STORED ON SITE SHALL REQUIRE PROPER STORAGE WHICH INCLUDES SECONDARY CONTAINMENT.

26. THE CONTRACTOR SHALL USE DILIGENT CAUTION TO COMPLETE ALL WORK WITHIN THE MARTIN COUNTY RIGHT-OF-WAY AND ON MARTIN COUNTY OWNED PROPERTY AS DESCRIBED AND INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE CONTRACTOR ENCROACH ON PRIVATELY OWNED PROPERTY.

27. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) WILL BE REQUIRED TO ADDRESS WATER QUALITY AND EROSION CONTROL DURING CONSTRUCTION. IN ADDITION, THE CONTRACTOR WILL BE REQUIRED TO USE BEST MANAGEMENT PRACTICES AND COMPLY WITH THE MOST RECENT EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SECTION 104) TO ENSURE THAT NO ADVERSE IMPACTS WILL OCCUR TO WETLANDS ADJACENT TO THE PROJECT CORRIDOR.

28. THE CONTRACTOR SHALL COORDINATE SELECTION AND REVIEW OF ANY PROPOSED STAGING AREAS ASSOCIATED WITH THIS PROJECT WITH MARTIN COUNTY PROJECT MANAGER, AT (772) 288-5957.

29. WHEN ENCOUNTERING OR EXPOSING ANY ABNORMAL CONDITION INDICATING THE PRESENCE OF A HAZARDOUS OR TOXIC WASTE, OR CONTAMINANTS, CEASE OPERATIONS IMMEDIATELY IN THE VICINITY AND NOTIFY THE LAP MARTIN COUNTY ENGINEER. THE PRESENCE OF TANKS OR BARRELS; DISCOLORED EARTH, METAL, WOOD, GROUND WATER, ETC.; VISIBLE FUMES; ABNORMAL ODORS; EXCESSIVELY HOT EARTH; SMOKE; OR OTHER CONDITIONS THAT APPEAR ABNORMAL MAY INDICATE HAZARDOUS OR TOXIC WASTES OR CONTAMINANTS AND MUST BE TREATED WITH EXTREME CAUTION.

    MAKE EVERY EFFORT TO MINIMIZE THE SPREAD OF CONTAMINATION INTO UNCONTAMINATED AREAS. IMMEDIATELY PROVIDE FOR THE HEALTH AND SAFETY OF ALL WORKERS AT THE JOB SITE AND MAKE PROVISIONS NECESSARY FOR THE HEALTH AND SAFETY OF THE PUBLIC THAT MAY BE EXPOSED TO ANY POTENTIALLY HAZARDOUS CONDITIONS. PROVISIONS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS OR CODES COVERING HAZARDOUS CONDITIONS AND WILL BE IN A MANNER COMMENSURATE WITH THE GRAVITY OF THE CONDITIONS.

    ALL THE WORK PERFORMED BY THE CONTRACTOR SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS GOVERNING WORKER SAFETY AND ENVIRONMENTAL REGULATIONS. THIS IS TO INCLUDE OCCUPATIONAL EXPOSURE TO CONTAMINATED SOILS, GROUNDWATER, WASTES AND ATMOSPHERE DURING THE CONSTRUCTION OF ALL FEATURES INCLUDED IN THE CONSTRUCTION PLANS.

30. COORDINATE AND NOTIFY THE UTILITY PROVIDERS OF ALL WORK IN ACCORDANCE WITH THE SPECIFICATIONS. UTILITIES THAT MAY BE AFFECTED INCLUDE:

AT&T	MARK GUTIERREZ	(772) 460-4443
COMCAST	RICK JOHNSON	(561) 402-4513
FLORIDA POWER & LIGHT	ROB MORRIS	(772) 223.4215
MARTIN COUNTY TRAFFIC	DAMIAN BONO	(772) 288-5528
MARTIN COUNTY UTILITIES	STEVE VANDERLUIS	(772) 221-1437

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DATE	BY	REVISIONS

Date: 6/8/2018
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MARTIN COUNTY
OFFICE OF COMMUNITY DEVELOPMENT
2401 SE MONTEREY ROAD
STUART, FLORIDA 34996
PHONE: (772) 463-3253
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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
NOTES & QUANTITIES

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www.gep-llc.com Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

C-2

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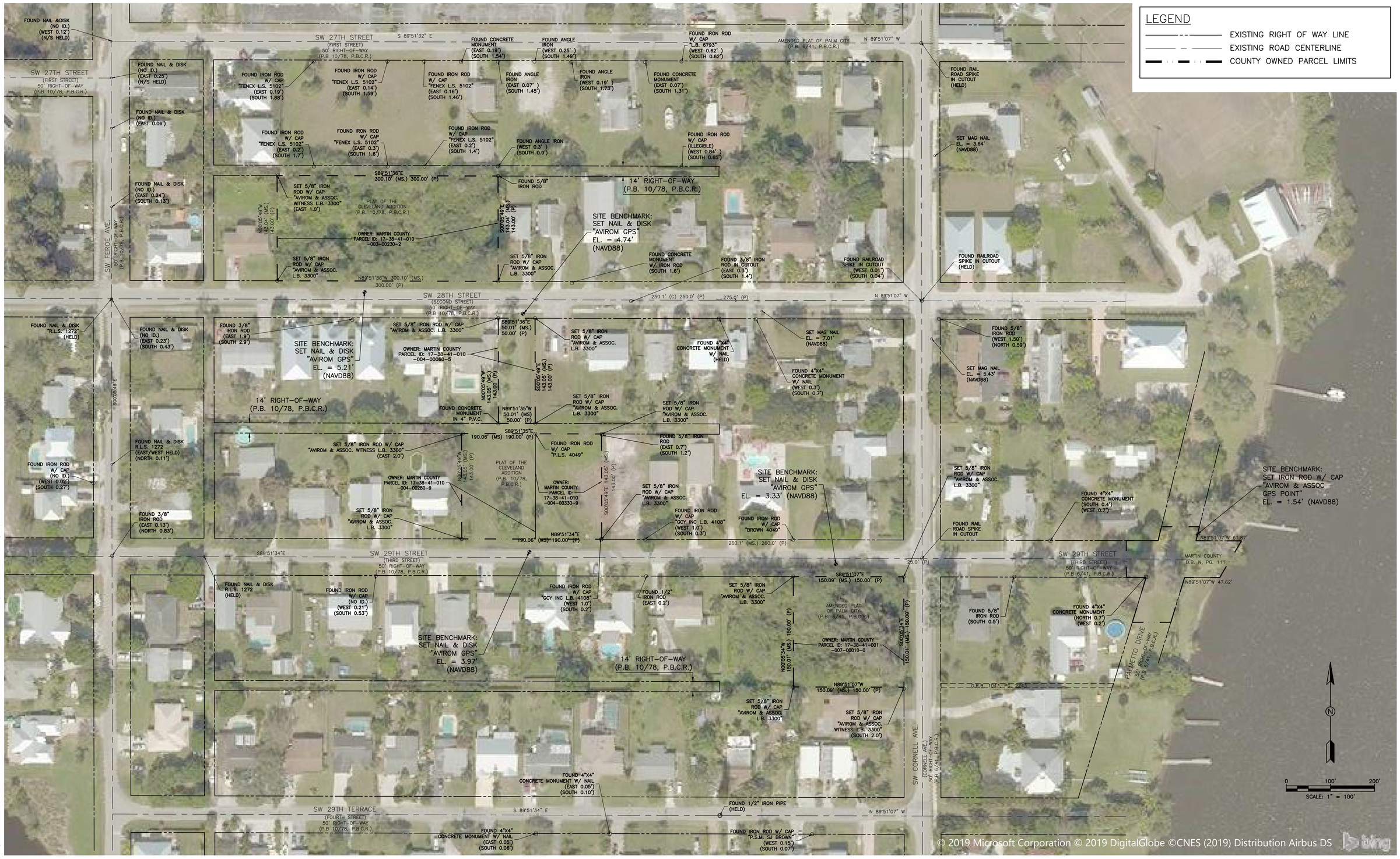

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DATE	BY	REVISIONS

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OFFICE OF COMMUNITY DEVELOPMENT
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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
PROJECT CONTROL SHEET

GIANGRANDE ENGINEERING AND PLANNING
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Cert. No. 30901

LEO D. GIANGRANDE, P.E.
License No: 66387

C-3

NOTES:
1. ELEVATIONS REFERENCE NAVD 88.
2. BASIN BOUNDARIES DETERMINED BASED ON TOPOGRAPHIC SURVEY BY AVIROM & ASSOCIATES, DATED 12/12/2017. ALSO DETERMINED BASED ON 6" CONTOURS PROVIDED BY MARTIN COUNTY.

LEGEND

- PIPE LINK
- CHANNEL LINK
- WEIR LINK
- FEMA FLOOD ZONE LIMITS
- NODES
- BASIN BOUNDARY
- MARTIN COUNTY OWNED PROPERTY

DATE	BY	REVISIONS

Date: 3/20/2018
Scale: 1"=80'
Design By: JLS/BF
Drawn By: JLS
Check By: LDG/BF

MARTIN COUNTY
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2401 SE MONTEREY ROAD
STUART, FLORIDA 34996
PHONE: (772) 463-3253
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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
EXISTING CONDITIONS BASIN MAP

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2081 SE OCEAN BLVD., SUITE 1A
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Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

C-4

Drawing Name: G:\Users\Vannah\Shared\Files\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater Drainage\Exist Basin Map.dwg Layout Name: SHEET Plotted by: jamal Date: 9/30/2019 - 1:29 PM GEP

Drawing Name: G:\Users\Vanna\Shared\Shared Folders\GEP projects\0018\18-003 MC Old Palm Ripple Stormwater\Drawings\Prop Basin Map.dwg Layout Name: SHEET Plotted by: Jenna Date: 9/30/2019 - 1:30 PM GEP

NOTES:
1. ELEVATIONS REFERENCE NAVD 88.
2. BASIN BOUNDARIES DETERMINED BASED ON TOPOGRAPHIC SURVEY BY AVIROM & ASSOCIATES, DATED 12/12/2017. ALSO DETERMINED BASED ON 6" CONTOURS PROVIDED BY MARTIN COUNTY.

LEGEND

- PIPE LINK
- CHANNEL LINK
- WEIR LINK
- FEMA FLOOD ZONE LIMITS
- NODES
- BASIN BOUNDARY
- MARTIN COUNTY OWNED PROPERTY

DATE	BY	REVISIONS

Date: 6/6/2018
Scale: 1"=80'
Design By: JLS/BF
Drawn By: JLS
Check By: LDG/BF

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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
PROPOSED CONDITIONS BASIN MAP

GIANGRANDE ENGINEERING AND PLANNING
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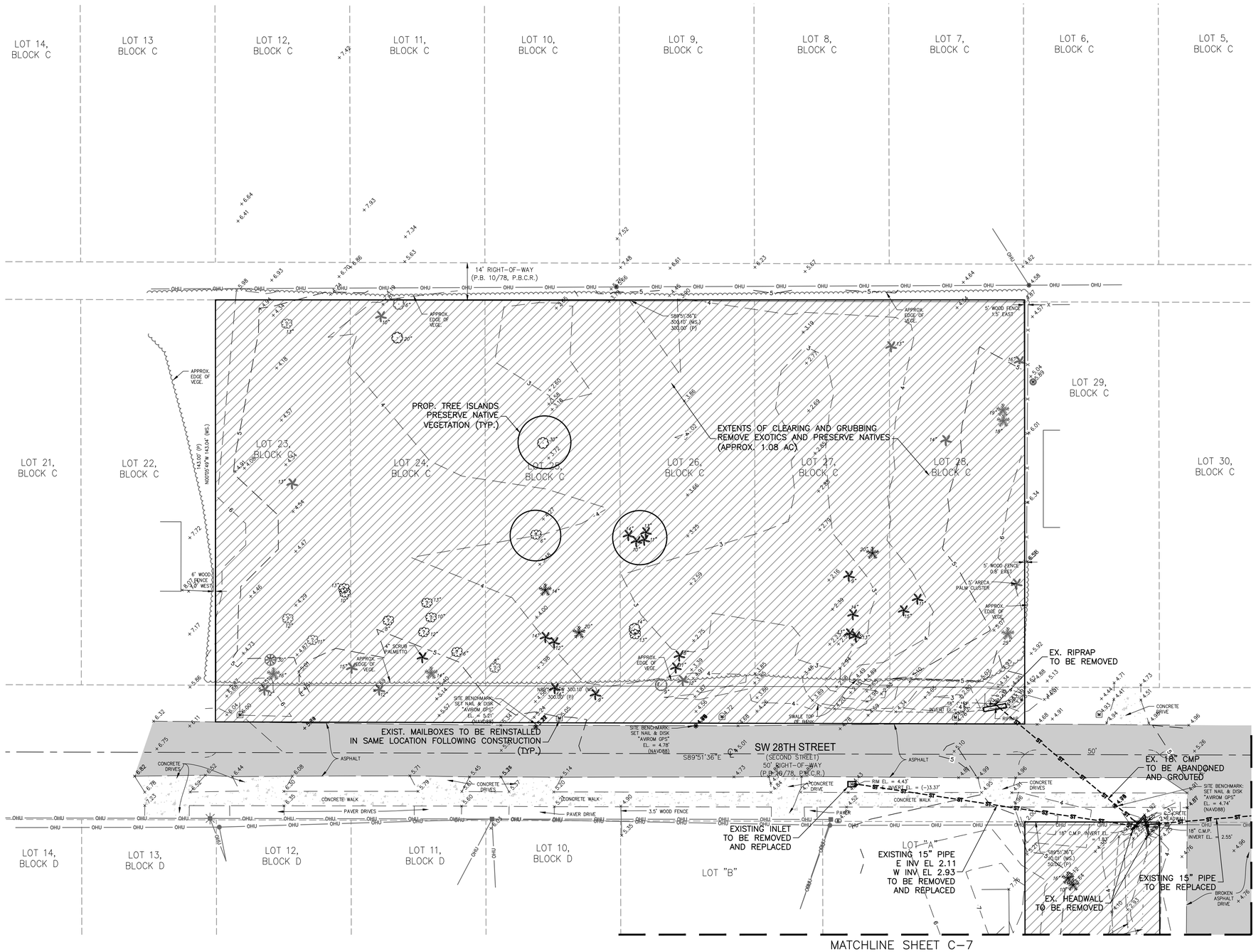
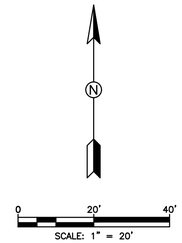
C-5





LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- OHU — EXISTING OVERHEAD UTILITIES
- ST — EXISTING STORMWATER PIPE
- COUNTY OWNED PARCEL LIMITS
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- ST — PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- X-X / D-X — CROSS SECTION CALLOUT (SEE SHEET D-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA

CLEARING PLAN

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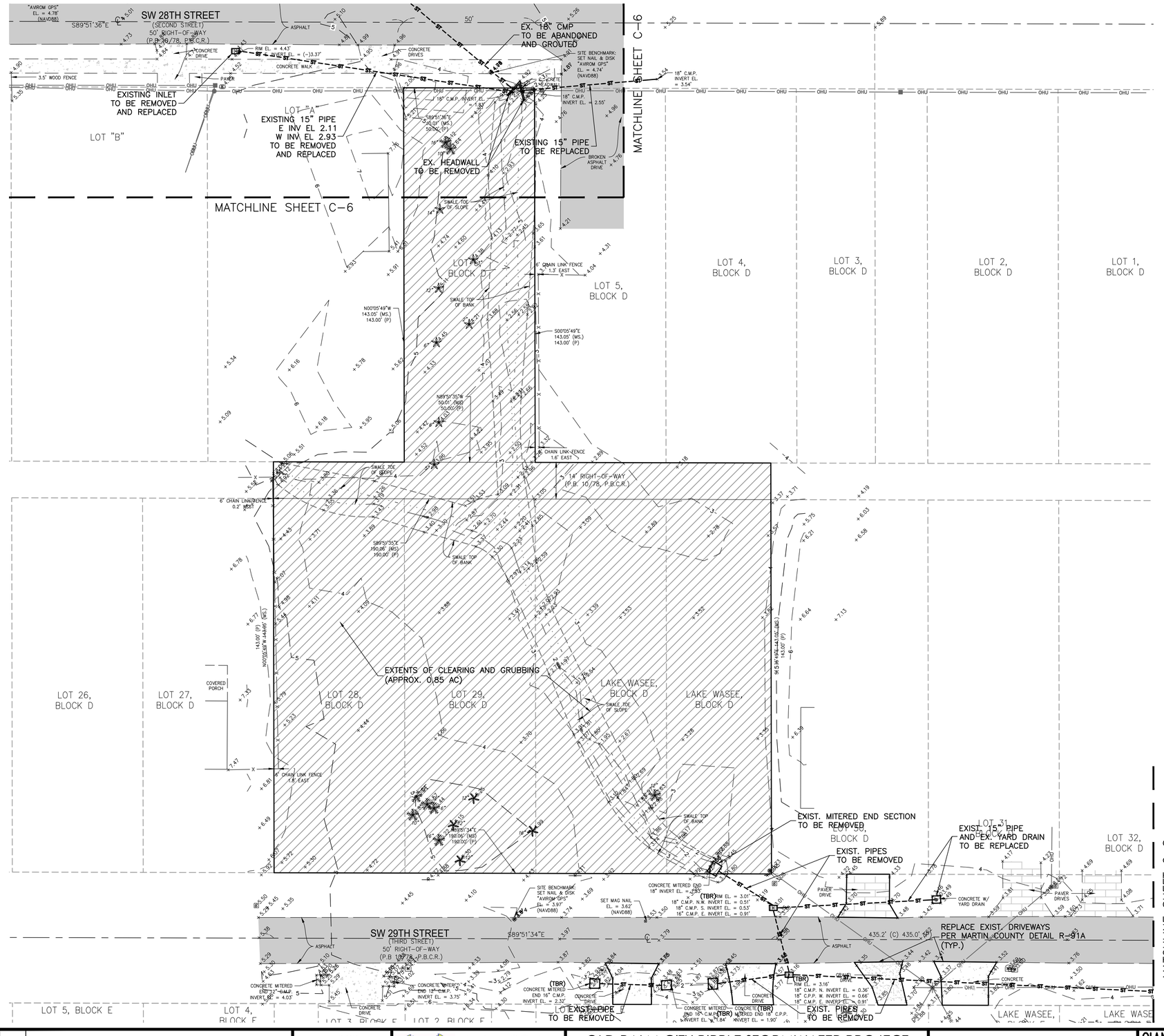
C-6

Drawing Name: C:\Users\JJones\Sharefile\Shared Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Clearing Plan.dwg Layout Name: CLEAR — Plotted by: jjones — Date: 6/8/2019 - 1:30 PM — GEP



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- OHU — OHU — EXISTING OVERHEAD UTILITIES
- ST — ST — ST — EXISTING STORMWATER PIPE
- COUNTY OWNED PARCEL LIMITS
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- ST ■ ST ■ ST — PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- X-X / D-X — CROSS SECTION CALLOUT (SEE SHEET D-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

N

0 20' 40'
SCALE: 1" = 20'

Drawing Name: C:\Users\Vanna\Sharefile\Shared Folders\GEP - projects\2018\18-003 Mc Old Palm Ripple Stormwater\Design\Clearing Plan.dwg Layout Name: CLEAR2 — Plotted by: Jarrod — Date: 6/20/2019 - 1:31 PM — GEP

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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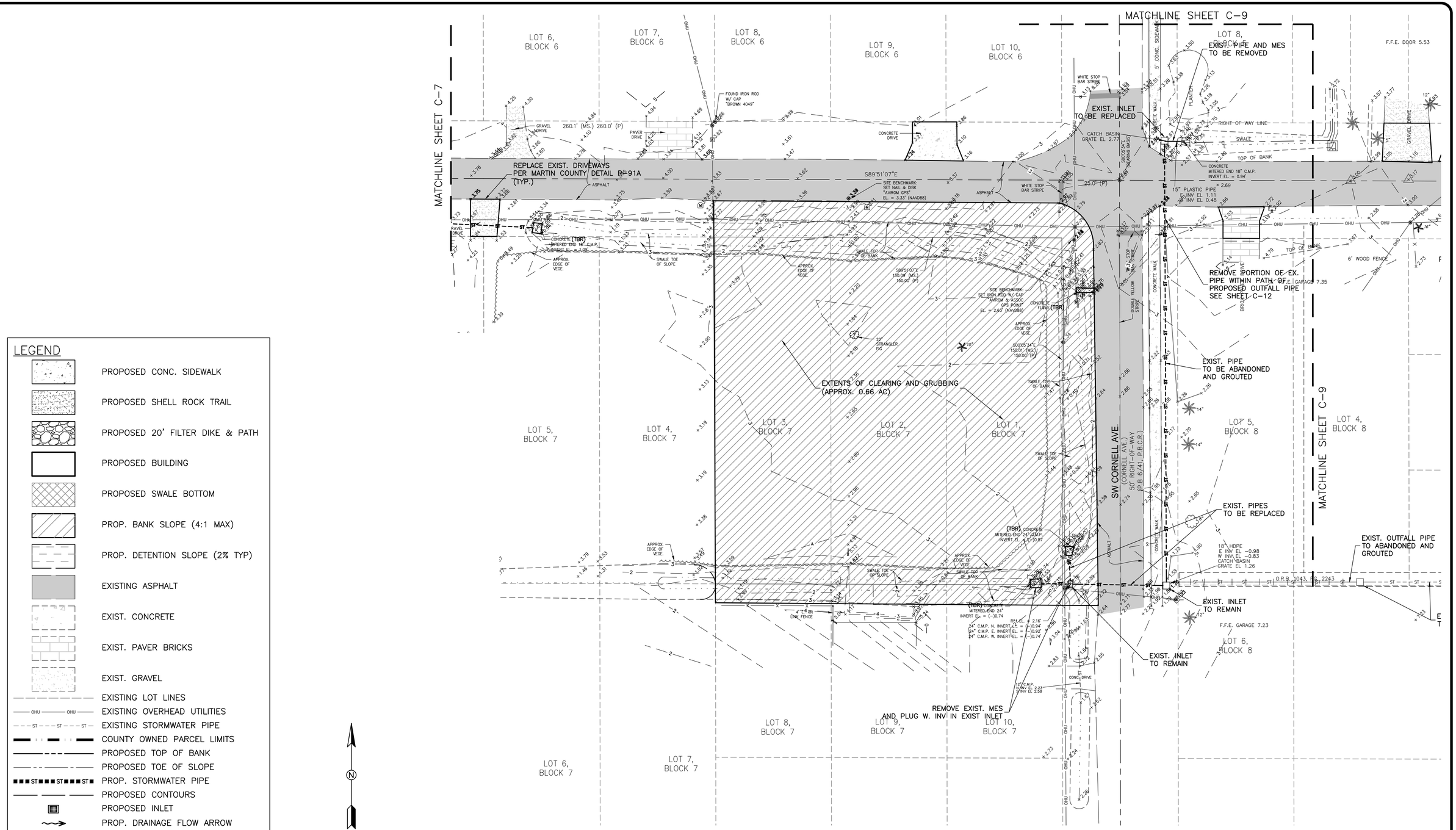
License No: 66387

C-7



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- OHU — OHU — EXISTING OVERHEAD UTILITIES
- ST — ST — ST — EXISTING STORMWATER PIPE
- COUNTY OWNED PARCEL LIMITS
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- ST ■ ST ■ ST ■ PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- X-X / D-X — CROSS SECTION CALLOUT (SEE SHEET D-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

Drawing Name: C:\Users\Jarrod.Shiverick\Shiverick Fisheries\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Cleaning Plan.dwg Layout Name: CLEAR3 — Plotted by: Jarrod — Date: 6/30/2019 - 1:31 PM — GEP

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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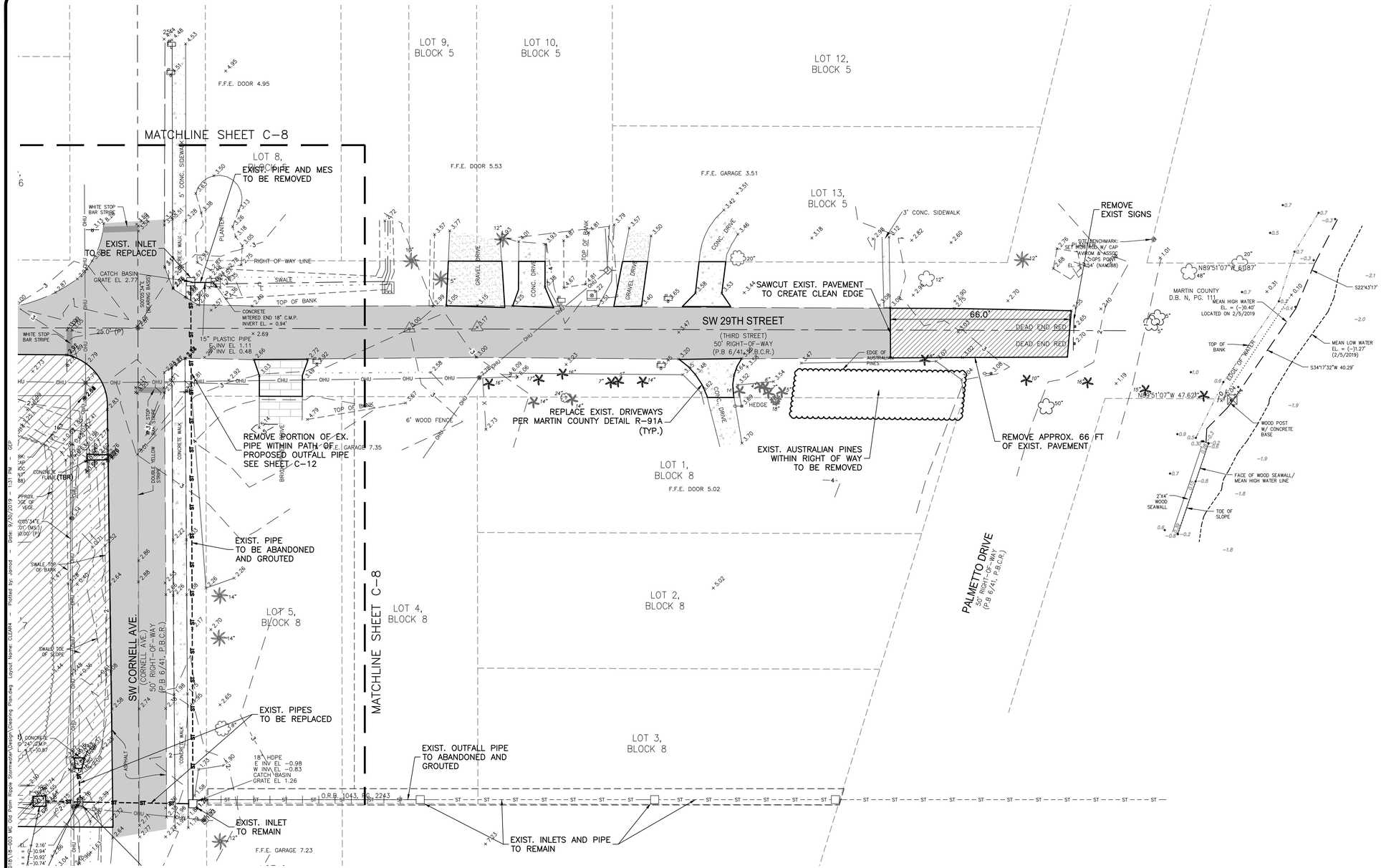
C-8



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- EXISTING OVERHEAD UTILITIES
- EXISTING STORMWATER PIPE
- COUNTY OWNED PARCEL LIMITS
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- CROSS SECTION CALLOUT (SEE SHEET D-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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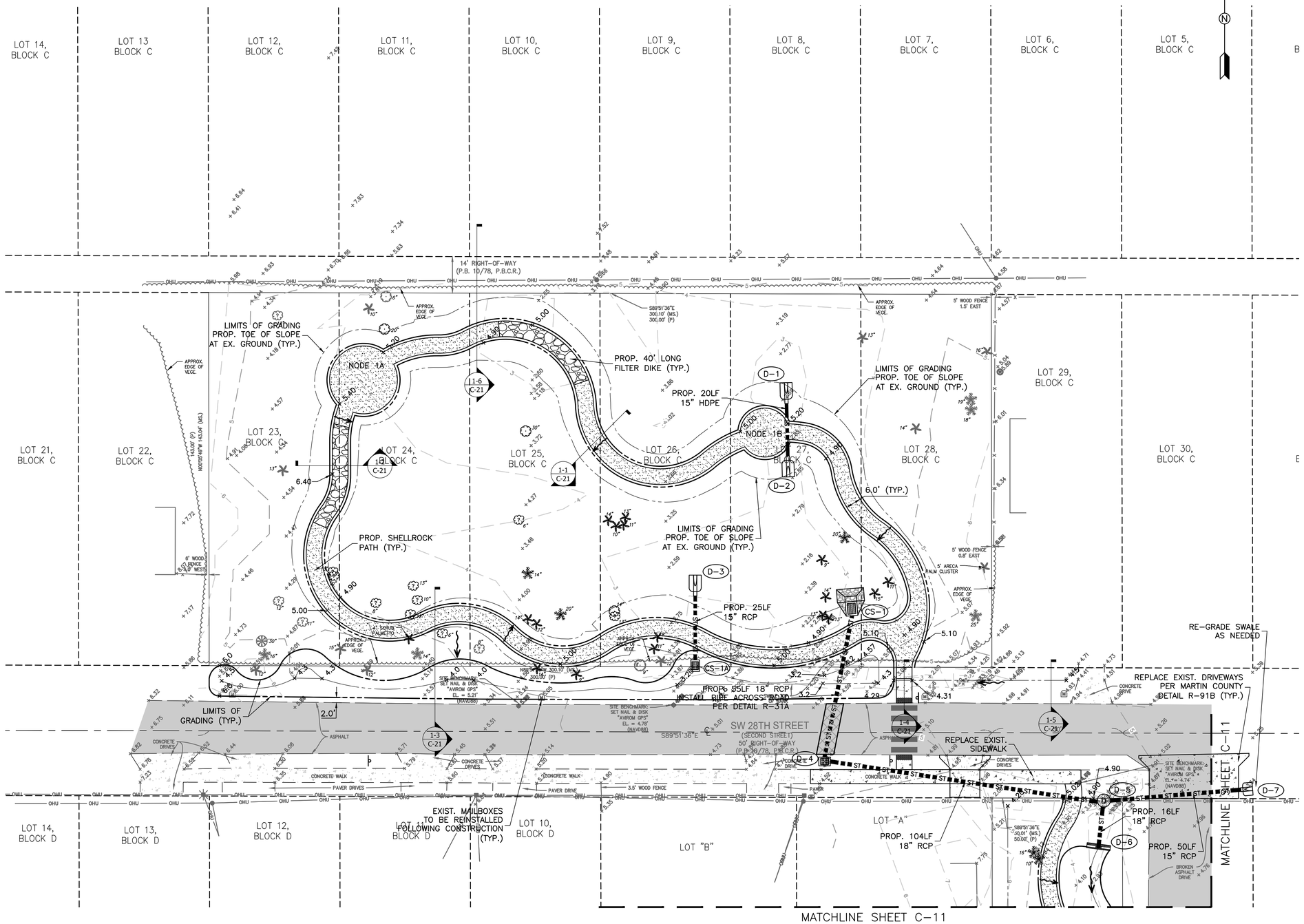
C-9

Drawing Name: C:\Users\Kennet\Sharefile\Shared Folders\KEP projects\2018\18-203 SE 6th Ave Ripple Stormwater\Design\Clearing Plan.dwg Layout Name: CLEAR4 — Plotted by: Jarrod — Date: 6/20/2019 - 1:31 PM

NOTE: ELEVATIONS REFERENCE NAVD88

0 20' 40'
SCALE: 1" = 20'



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING LOT LINES
- EXISTING OVERHEAD UTILITIES (OHU)
- EXISTING STORMWATER PIPE (ST)
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE (ST)
- PROPOSED CONTOURS (5)
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- CROSS SECTION CALLOUT (X-X / C-X) (SEE SHEET C-X)
- TBA TO BE ABANDONED
- TBR TO BE REMOVED

(CS-1)
N: 1032004.06 E: 894693.87
MODIFIED TYPE D DBI
FDOT INDEX NO. 425-052
GRATE EL = 4.76'
18" S INV EL = 2.05'
BLEEDER (CONTROL) INV EL = 2.10'
WEIR EL = 3.75'
STRUCTURE BOTTOM EL = 0.10'

(CS-1A)
N: 1031982.21 E: 894633.95
MODIFIED TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 4.25'
15" N INV EL = 2.00'
BLEEDER (CONTROL) INV EL = 2.70'
STRUCTURE BOTTOM EL = 0.50'

(D-1)
N: 1032086.59 E: 894668.86
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
15" FL EL = 2.90'

(D-2)
N: 1032058.66 E: 894669.55
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
15" FL EL = 2.75'

(D-3)
N: 1032012.83 E: 894633.95
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
18" FL EL = 1.90'

(D-4)
N: 1031945.47 E: 894683.54
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 4.43'
18" N & E INV EL = 1.99'
STRUCTURE BOTTOM EL = 0.49'

(D-5)
N: 1031930.47 E: 894790.61
DRAINAGE MANHOLE
TYPE P, 4'-0" DIAMETER
FDOT INDEX NO. 425-010
TOP EL = 5.00'
15" E INV EL = 2.27'
18" W INV EL = 1.89'
18" S INV EL = 1.89'
STRUCTURE BOTTOM EL = 0.39'

(D-6)
N: 1031912.20 E: 894788.52
STRAIGHT CONCRETE ENDWALL
FDOT INDEX NO. 430-030
18" INV EL = 1.87'

(D-7)
N: 1031934.82 E: 894845.09
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
15" FL EL = 2.38'

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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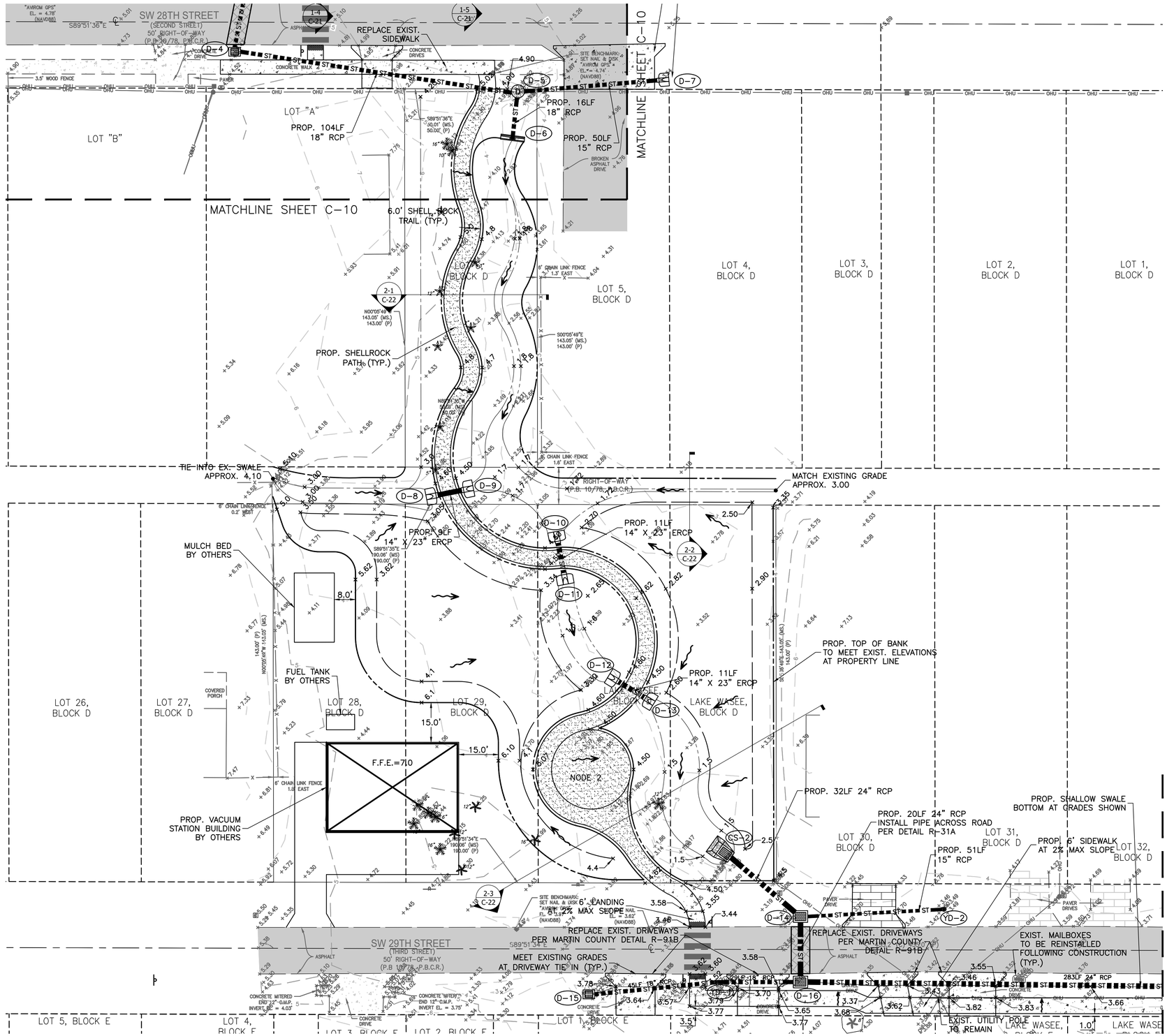
License No: 66387

C-10

Drawing Name: C:\Users\Jarred\Sharefile\Shared Folders\GEP projects\2018\18-009 SE Old Palm Ripple Stormwater\Design\Plan Sheets.dwg Layout Name: C-10 — Plotted by: Jarred — Date: 9/10/2018 - 1:33 PM — GEP



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING LOT LINES
- EXISTING OVERHEAD UTILITIES
- EXISTING STORMWATER PIPE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- X-X / C-X — CROSS SECTION CALLOUT (SEE SHEET C-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

N

0 20' 40'

SCALE: 1" = 20'

NOTE: ELEVATIONS REFERENCE NAVD88

YD-1
N: 1031593.68 E: 894865.53
YARD DRAIN
FDOT INDEX NO. 425-060
GRATE EL = 3.40'
18" E & W INV EL = -0.07'

YD-2
N: 1031621.28 E: 894951.66
YARD DRAIN
FDOT INDEX NO. 425-060
GRATE EL = 3.00'
15" W INV EL = 1.00'

D-8
N: 1031777.49 E: 894758.49
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 2.05'

D-9
N: 1031780.03 E: 894771.22
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 2.00'

D-10
N: 1031761.54 E: 894805.44
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 1.69'

D-11
N: 1031746.64 E: 894808.28
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 1.67'

D-12
N: 1031708.23 E: 894827.10
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 1.61'

D-13
N: 1031700.44 E: 894839.84
MITERED END SECTION (2:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
14" X 23" INV EL = 1.59'

D-14
N: 1031618.51 E: 894897.42
TYPE D DBI
FDOT INDEX NO. 425-052
GRATE EL = 3.01'
24" N & S INV EL = -0.78'
15" E INV EL = 0.90'
STRUCTURE BOTTOM EL = -2.28'

D-15
N: 1031589.11 E: 894817.43
TYPE C DBI W/ TRAVERSABLE SLOT
FDOT INDEX NO. 425-052
GRATE EL = 2.98'
TRAVERSABLE SLOT INV EL = 2.40'
18" E INV EL = 0.00'
STRUCTURE BOTTOM EL = -1.50'

D-16
N: 1031593.74 E: 894897.42
TYPE D DBI
FDOT INDEX NO. 425-052
GRATE EL = 3.29'
18" W INV EL = -0.12'
24" N & E INV EL = -0.81'
STRUCTURE BOTTOM EL = -2.31'

CS-2
N: 1031642.42 E: 894868.94
MODIFIED TYPE D DBI
FDOT INDEX NO. 425-052
GRATE EL = 4.49'
18" S INV EL = -0.75'
BLEEDER (CONTROL) INV EL = 1.50'
WEIR EL = 3.75'
STRUCTURE BOTTOM EL = -2.25'

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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License No: 66387

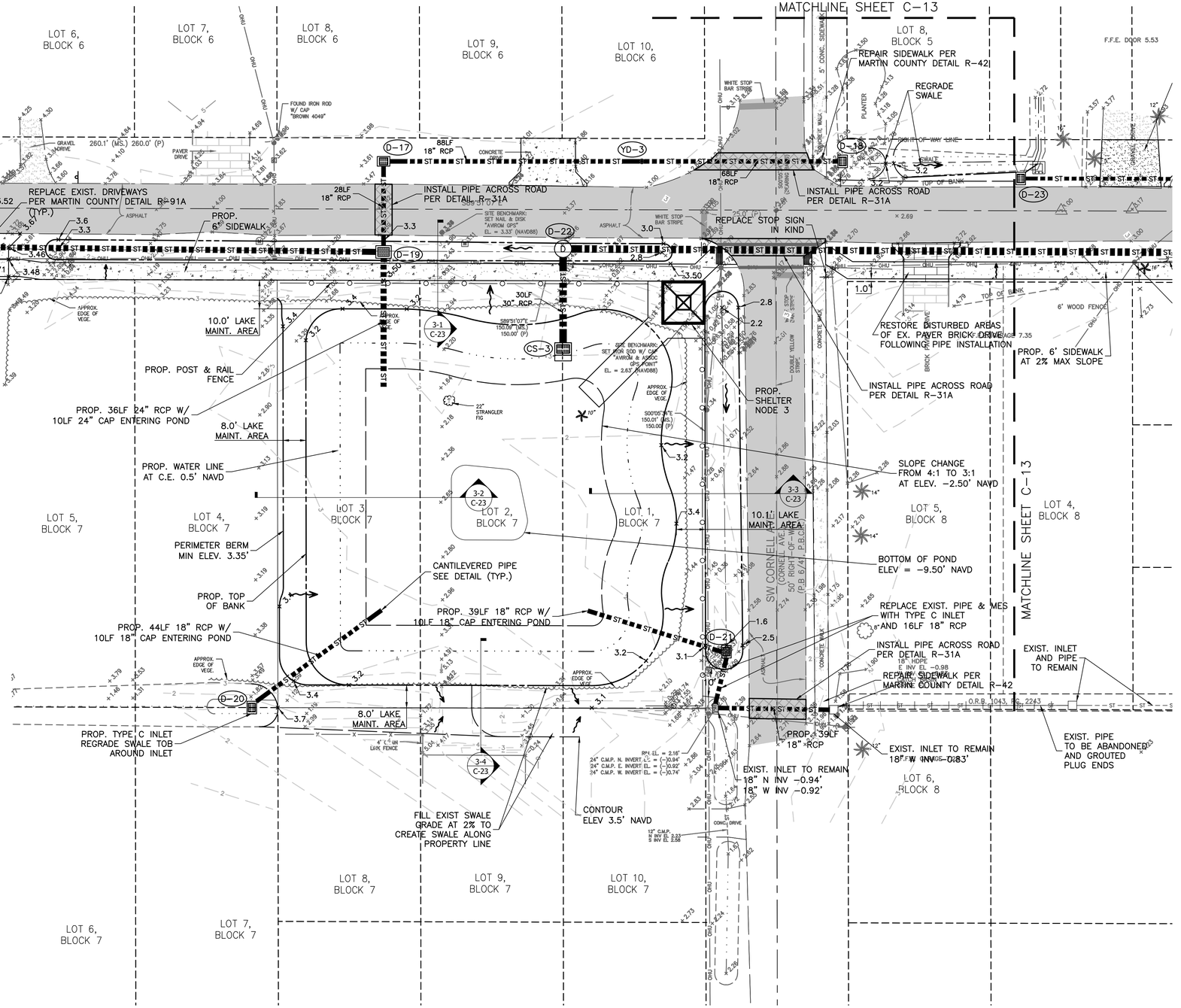
C-11

Drawing Name: C:\Users\Jarrod.Schaefer\Desktop\Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Plan Sheets.dwg Layout Name: C-11 — Plotted by: Jarrod — Date: 9/10/2018 - 1:31 PM — GEP

LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING LOT LINES
- OHU — OHU — EXISTING OVERHEAD UTILITIES
- ST — ST — ST — EXISTING STORMWATER PIPE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- ST ■ ST ■ ST ■ PROP. STORMWATER PIPE
- 5 — PROPOSED CONTOURS
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- X-X / C-X — CROSS SECTION CALLOUT (SEE SHEET C-X)
- TBA — TO BE ABANDONED
- TBR — TO BE REMOVED

0 20' 40'
SCALE: 1" = 20'



D-17
N: 1031622.05 E: 895185.78
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 3.00'
18" E & S INV EL = -0.35'
STRUCTURE BOTTOM EL = -1.85'

YD-3
N: 1031622.05 E: 895276.43
YARD DRAIN
FDOT INDEX NO. 425-060
GRATE EL = 2.00'
18" E & W INV EL = -0.15'

D-18
N: 1031622.05 E: 895346.87
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 2.00'
18" W INV EL = 0.00'
STRUCTURE BOTTOM EL = -1.50'

D-19
N: 1031590.28 E: 895185.78
TYPE D DBI
FDOT INDEX NO. 425-052
GRATE EL = 2.74'
18" N INV EL = -0.40'
24" W INV EL = -1.11'
24" S INV EL = -3.34'
STRUCTURE BOTTOM EL = -4.84'

D-20
N: 1031430.40 E: 895139.53
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 1.80'
18" E INV EL = -2.05'
STRUCTURE BOTTOM EL = -3.55'

D-21
N: 1031450.01 E: 895306.17
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 1.60'
18" E INV EL = -2.15'
STRUCTURE BOTTOM EL = -3.65'

D-22
N: 1031591.33 E: 895248.78
DRAINAGE MANHOLE
TYPE J, 6'-0" DIAMETER
FDOT INDEX NO. 425-010
TOP EL = 3.10'
30" S & E INV EL = -1.85'
STRUCTURE BOTTOM EL = -3.35'

CS-3
N: 1031563.62 E: 895248.78
MODIFIED TYPE H DBI
FDOT INDEX NO. 425-052
GRATE EL = 2.00'
30" N INV EL = -1.80
BLEEDER (CONTROL) INV EL = 0.50'
STRUCTURE BOTTOM EL = -3.30'

NOTE: ELEVATIONS REFERENCE NAVD88

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

MARTIN COUNTY
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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
PAVING GRADING & DRAINAGE PLAN

GIANGRANDE ENGINEERING AND PLANNING
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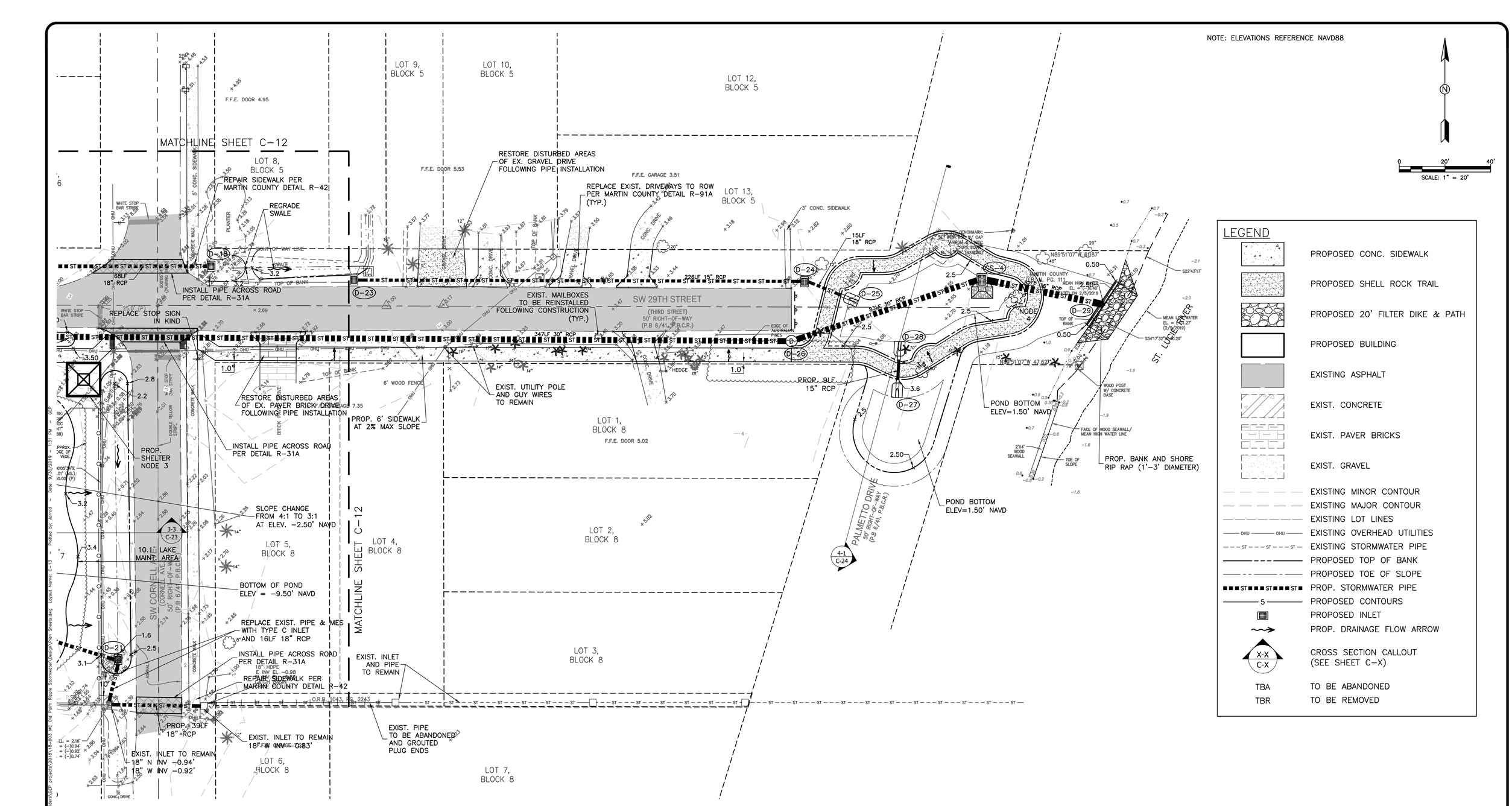
LEO D. GIANGRANDE, P.E.
License No: 66387

C-12

Drawing Name: C:\Users\Jarrod.Shaner\AppData\Local\Temp\AcPublish_6124\C-12.dwg — Date: 9/10/2018 - 1:31 PM — GEP
Drawing Name: C:\Users\Jarrod.Shaner\Desktop\Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Plan Sheets.dwg — Layout Name: C-12 — Plotted By: Jarrod — Date: 9/10/2018 - 1:31 PM — GEP

NOTE: ELEVATIONS REFERENCE NAVD88



LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING LOT LINES
- EXISTING OVERHEAD UTILITIES (OHU)
- EXISTING STORMWATER PIPE (ST)
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE (ST)
- PROPOSED CONTOURS (5)
- PROPOSED INLET
- PROP. DRAINAGE FLOW ARROW
- CROSS SECTION CALLOUT (X-X / C-X) (SEE SHEET C-X)
- TBA TO BE ABANDONED
- TBR TO BE REMOVED

D-23
N: 1031616.04 E: 895409.38
TYPE C DBI W/ TRAVERSABLE SLOT
FDOT INDEX NO. 425-052
GRATE EL = 2.70'
N SLOT INV EL = 2.12'
15" E INV EL = 0.00'
STRUCTURE BOTTOM EL = -1.50'

D-24
N: 1031615.26 E: 895606.61
TYPE C DBI
FDOT INDEX NO. 425-052
GRATE EL = 2.50'
15" W INV EL = -0.50'
15" E INV EL = 0.95'
STRUCTURE BOTTOM EL = -2.00'

D-25
N: 1031607.91 E: 895626.17
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
15" FL EL = 1.50'

D-26
N: 1031589.31 E: 895600.88
DRAINAGE MANHOLE
TYPE J, 5'-0" DIAMETER
FDOT INDEX NO. 425-010
TOP EL = 3.60'
30" W & E INV EL = -2.20'
STRUCTURE BOTTOM EL = -3.70'

D-27
N: 1031568.71 E: 895647.21
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
15" FL EL = 1.50'

D-28
N: 1031585.02 E: 895648.07
MITERED END SECTION (4:1)
FDOT INDEX NO. 430-021
WITH RIP RAP OVERLAY PER DETAIL
15" FL EL = 1.50'

D-29
N: 1031605.76 E: 895736.87
MODIFIED STRAIGHT CONCRETE ENDWALL
FDOT INDEX NO. 430-030
W/ WAPRO INLINE CHECK VALVE OR APPROVED EQUAL AND
PIPE END GUARD MANATEE GRATE
FDOT INDEX NO. 430-001
36" INV EL = -1.75'

CS-4
N: 1031615.94 E: 895684.28
MODIFIED TYPE E DBI
FDOT INDEX NO. 425-052
GRATE EL = 2.32'
36" E INV EL = -1.72
30" W INV EL = -2.30'
BLEEDER (CONTROL) INV EL = 0.50'
STRUCTURE BOTTOM EL = -3.80'

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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C-13

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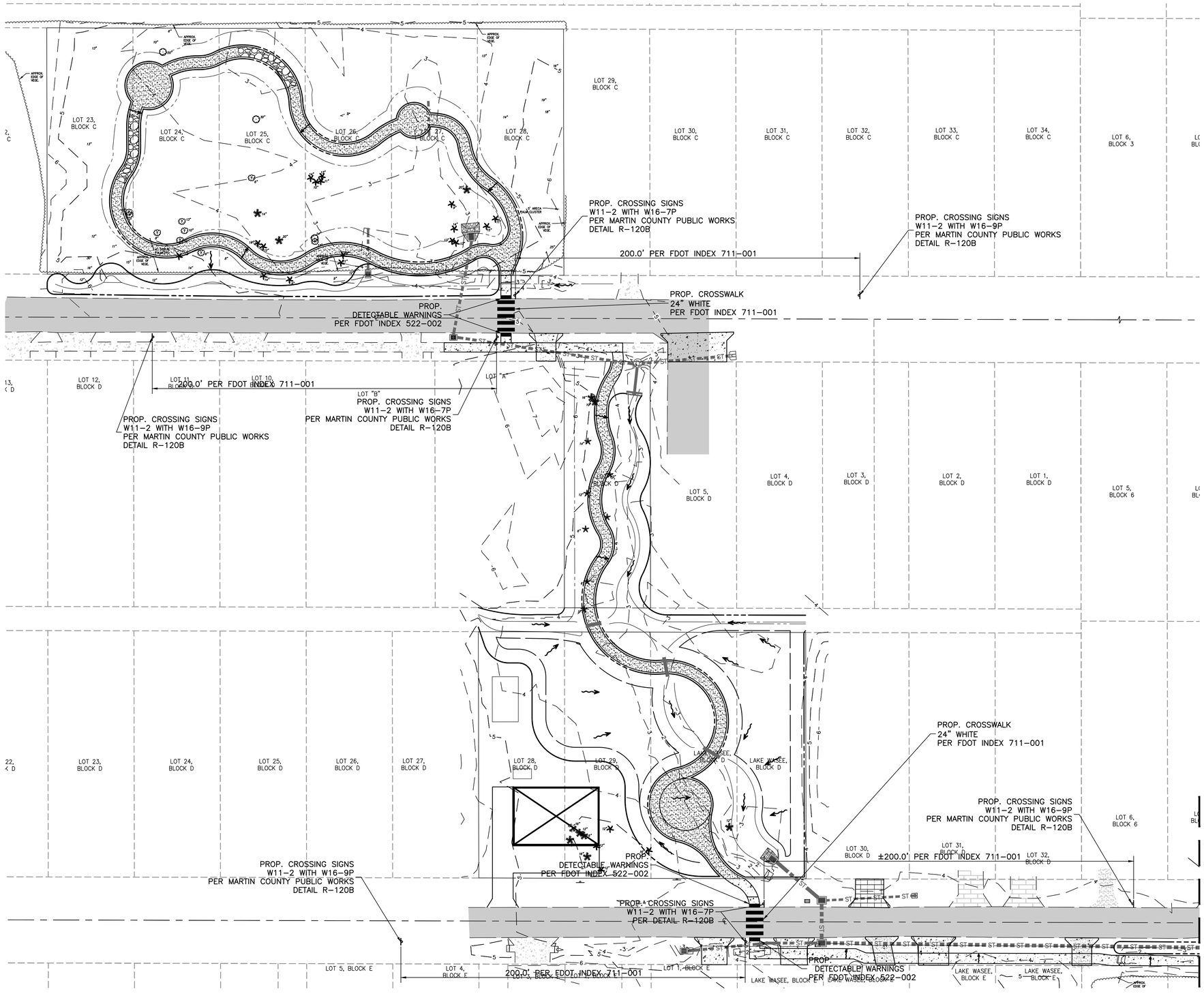

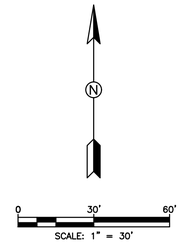

LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- EXISTING STORMWATER PIPE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=30'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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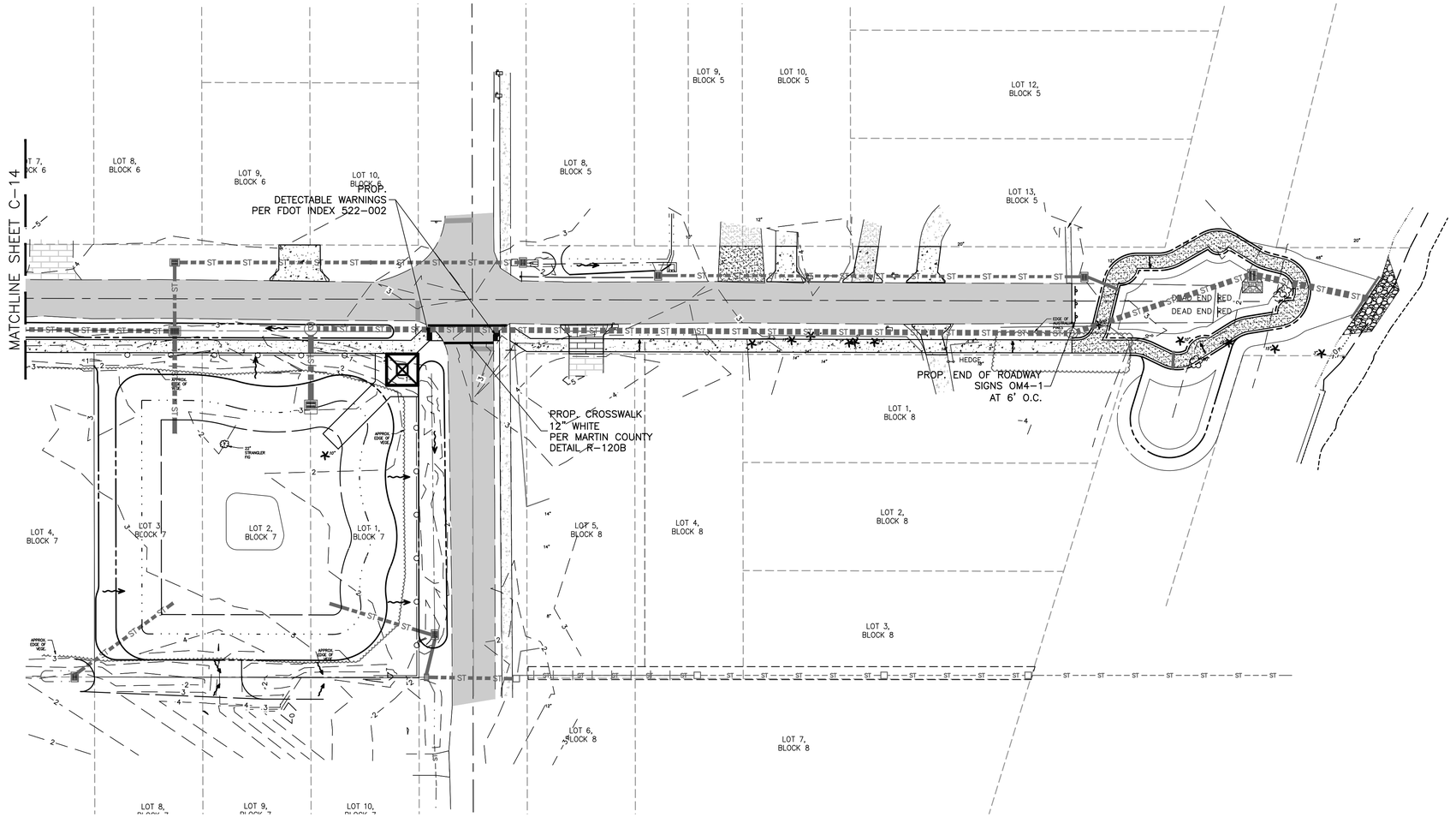
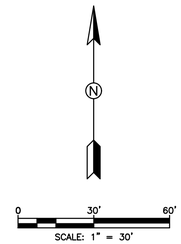
C-14

Drawing Name: C:\Users\jarred\Sherwin\Shared Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Striping Plan.dwg Layout Name: SHEET — Date: 9/30/2019 - 1:32 PM — Plotted by: jarred — GEP





LEGEND

- PROPOSED CONC. SIDEWALK
- PROPOSED SHELL ROCK TRAIL
- PROPOSED 20' FILTER DIKE & PATH
- PROPOSED BUILDING
- PROPOSED SWALE BOTTOM
- PROP. BANK SLOPE (4:1 MAX)
- PROP. DETENTION SLOPE (2% TYP)
- EXISTING ASPHALT
- EXIST. CONCRETE
- EXIST. PAVER BRICKS
- EXIST. GRAVEL
- EXISTING LOT LINES
- EXISTING STORMWATER PIPE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROP. STORMWATER PIPE
- PROPOSED CONTOURS
- PROPOSED INLET

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DATE	BY	REVISIONS

Date: 6/8/2018
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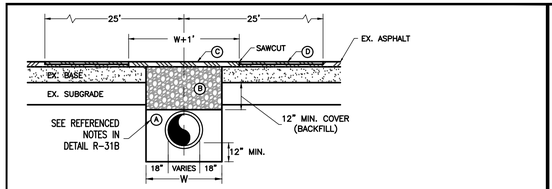
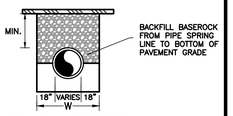
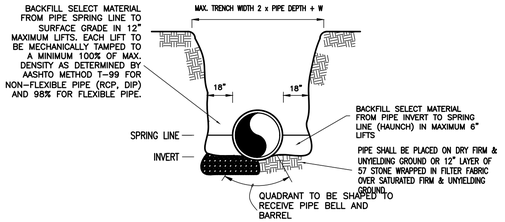
C-15



TRENCH DETAIL WITH PAVEMENT OVERLAY
N.T.S.



PIPE WITHIN BASEROCK
N.T.S.



TRENCH DETAIL
N.T.S.

NOTES:

SEE SPECIFICATIONS & NOTES ON DETAIL R-31B

BACKFILL AND BASE

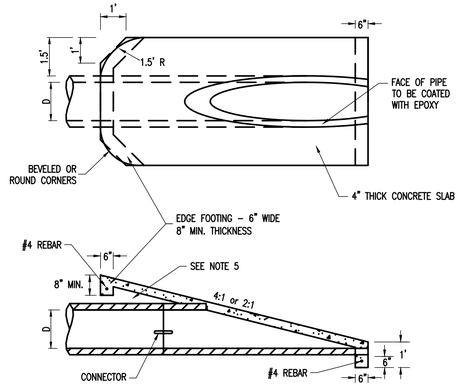
A. PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 12" LIFTS. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-180, METHOD "C" (MINIMUM LBR OF 40).
B. BASE ROCK MATERIAL SHALL BE A MINIMUM OF 2' THICK AND BE PLACED IN 6" LIFTS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO T-180. ALL BASE MATERIAL MUST MEET FDOT SPECIFICATIONS FROM A CERTIFIED MINING OPERATION. DEPTH OF BASE MATERIAL VARIES ON ROADWAY TYPE AS PER MARTIN COUNTY PUBLIC WORKS STANDARD DETAIL R-10.

PAVING

A. A TEMPORARY PATCH SHALL BE NO LESS THAN 2" THICK OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER. ASPHALT PATCHES MUST BE OF A HOT MIX TYPE FRICTION COURSES. MARTIN COUNTY DOES NOT ALLOW COLD PATCH IN COUNTY MAINTAINED ROADWAYS. THE PATCH IS TO REMAIN 30 DAYS AT MINIMUM TO ASSURE ANY SETTLING OF THE ROADWAY TRENCH HAS TAKEN PLACE.
B. MILL 1" OF ASPHALT A MINIMUM OF 25' FROM CENTER OF TRENCH ON BOTH SIDES, SEE NOTE #1. PAVE AND COMPACT 1" OF SP-9.5 OR MATCH EXISTING TYPE OF FRICTION COURSE.
C. WHEN OPEN CUT IS PARALLEL TO TRAVEL LANE, THE FULL ROADWAY SECTION IS REQUIRED TO BE RESURFACED 10' BEYOND TRENCH IN EACH DIRECTION OF TRAVEL.
D. ASPHALT MIX TO CONTAIN NO MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (R.A.P.).
E. ASPHALT PAVEMENT PATCH SHALL BE PLACED WITHIN 72 HOURS AFTER TRENCH HAS BEEN BACKFILLED.

NOTES:

1. ANY OPEN CUT OF PAVEMENT MUST BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO ANY WORK BEING DONE IN COUNTY MAINTAINED RIGHT-OF-WAY. DEPENDING ON THE LOCATION OF THE OPEN CUT ADDITIONAL MILLING AND PAVING MAY BE REQUIRED; ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
2. ALL MATERIAL USED WITHIN THE ROADWAY MUST MEET FDOT SPECIFICATIONS AND BE SUPPLIED FROM A FDOT CERTIFIED MINING OPERATION AND ASPHALT PLANT.
3. A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6) INCH LIFT OF SUB GRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 ½") INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACK-FILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE COUNTY ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION.
4. CRUSHED CONCRETE MAY NOT BE USED WITHIN COUNTY-MAINTAINED ROADWAY.

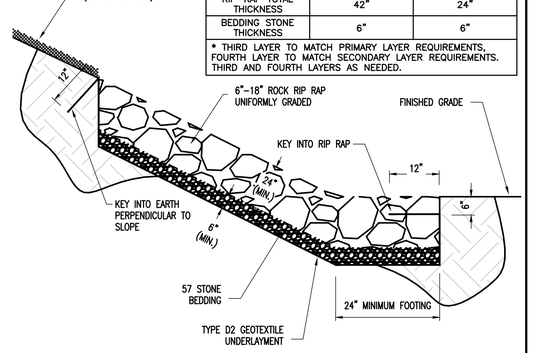


NOTES:

1. SLAB CONCRETE SHALL BE STRUCTURAL 3000 PSI
2. SLAB SHALL CONSIST OF WWF 6x6-W1.4 THERMAL REINFORCEMENT TIED INTO BOTTOM FOOTER OR FIBERMESH
3. TOP AND BOTTOM EDGES SHALL HAVE 6" WIDE THICKENED FOOTER PER SPECIFIED DIMENSIONS WITH #4 REBAR
4. THE MITRED/CUT FACE OF THE PIPE SHALL BE COATED WITH A HIGH-BUILD, PROTECTIVE, SOLVENT-FREE, COLORED EPOXY COATING (SIKA SIKAGARD 62 EPOXY COATING OR EQUIVALENT APPROVED BY THE COUNTY ENGINEER).
5. TOP EDGE FOOTING SHALL BE A MINIMUM OF 8" THICK WITH #4 REBAR IN BOTTOM 4" OF FOOTING. THE CAVITY BETWEEN PIPE AND SLAB/FOOTING SHALL BE FILLED WITH CLEAN BACKFILL, COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-180, METHOD "C". WHEN BOTTOM OF 8" EDGE FOOTING IS ON PIPE, FILL CAVITY BETWEEN PIPE AND SLAB/FOOTING WITH CONCRETE.

RIP-RAP SCENARIOS		
	STRUCTURE D-20	REST OF PROJECT
PRIMARY LAYER ROCK SIZE*	12" - 36"	8" - 18"
SECONDARY LAYER ROCK SIZE*	4" - 8"	-
RIP-RAP TOTAL THICKNESS	42"	24"
BEDDING STONE THICKNESS	6"	6"

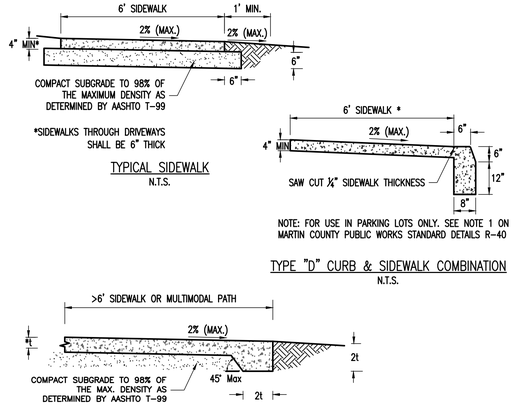
* THIRD LAYER TO MATCH PRIMARY LAYER REQUIREMENTS, FOURTH LAYER TO MATCH SECONDARY LAYER REQUIREMENTS. THIRD AND FOURTH LAYERS AS NEEDED.



NOTES:

1. RIP RAP SHALL HAVE 6" MINIMUM FDOT #57 STONE BEDDING OVER TYPE D2 GEOTEXTILE UNDERLAYMENT. AT THE DISCRETION OF THE COUNTY ENGINEER, STONE BEDDING MAY BE OMITTED FOR HAND-PLACED RIP RAP INSTALLATION IF THE WORK IS SUPERVISED BY COUNTY REPRESENTATIVES.
2. RIP RAP SHALL BE COQUINA ROCK (MINIMUM SPECIFIC GRAVITY ≥ 2.3) UNIFORMLY GRADED AND TIGHTLY INTERLOCKED.
3. TYPE D2 GEOTEXTILE SHALL BE KEYED INTO THE NATURAL EARTH AT THE TOP OF BANK AND KEYED INTO THE RIP RAP AT THE TOE OF SLOPE, A MINIMUM OF 12".
4. RIP RAP SHALL BE WASHED FREE OF FINE SEDIMENTATION PRIOR TO PLACEMENT.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	TYPICAL OPEN CUT TRENCH	DETAIL R-31A DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	TYPICAL OPEN CUT TRENCH	DETAIL R-31B DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	MITERED END SECTION	DETAIL R-35 DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	RIP RAP INSTALLATION	DETAIL R-38 DATE: 04/23/19



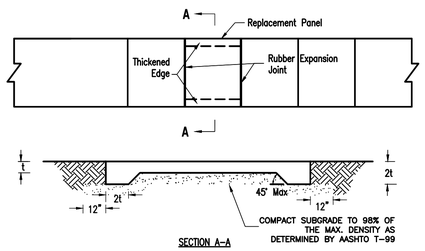
TYPE "D" CURB & SIDEWALK COMBINATION
N.T.S.

*t IS TYPICALLY 4" - 6" AND SHALL BE SPECIFIED BY ENGINEER OF RECORD

TYPICAL MULTIMODAL PATHWAY or SIDEWALK > 6'
N.T.S.

NOTES:

1. SIDEWALK MATERIALS AND CONSTRUCTION SHOWN HEREIN SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS 522 AND FDOT STANDARD PLANS INDEX 522.
2. FIBER-REINFORCED CONCRETE FOR CURBS AND SIDEWALKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO NOT MORE THAN 0.53 (LB/LB).
3. THICKENED EDGE SHALL CONTAIN APPLICABLE SUBGRADE COMPACTED TO 98% OF MAXIMUM DRY DENSITY (AASHTO T-99)
4. A DESIRED 8 FEET SHALL BE MAINTAINED BETWEEN EDGE OF TRAVEL LANE AND SIDEWALK WHERE CURB AND GUTTER DOES NOT EXIST (MINIMUM SHALL BE 4.5 FEET, UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER).

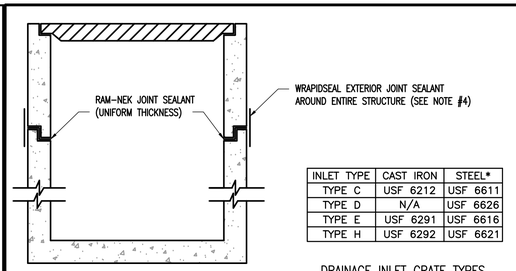


SECTION A-A

PROCEDURES FOR SIDEWALK PLACEMENT & REPAIR:

1. REMOVE EXISTING SIDEWALK TO THE FULL WIDTH FROM CONTROL JOINT TO CONTROL JOINT (I.E. ONE "SECTION")
2. COMPLETELY REMOVE ANY STRUCTURE, POLE OR DEVICE LOCATED WITHIN SECTION TO BE REPLACED.
3. BACKFILL ANY VOID CREATED OR CAUSED BY REMOVAL OF SUCH STRUCTURE, POLE OR DEVICE AND COMPACT TO 98% OF AASHTO T-99.
4. COMPACT SOIL UNDER PROPOSED SIDEWALK AND 12" BEYOND EACH SIDE OF SIDEWALK (WHEN RIGHT-OF-WAY ALLOWS) TO 98% OF AASHTO T-99
5. CONCRETE PREP AERATION AND PLACEMENT:
   a) INSTALL EXPANSION JOINT AT ALL COLD JOINTS FLUSH WITH THE SURFACE OF THE SIDEWALK
      1) EXPANSION JOINT MATERIAL SHALL MEET THE AASHTO M153 STANDARD FOR TYPE IV: POLYURETHANE-BONDED RECYCLED RUBBER. FIBER EXPANSION JOINT MATERIAL SHALL NOT BE UTILIZED.
   b) INSTALL 4" MINIMUM THICKNESS SIDEWALK OR MATCH EXISTING THICKNESS IF GREATER THAN 4".
      1) MIN. 3,000 PSI
      2) CONCRETE LOAD TICKETS SHOULD BE KEPT FOR FINAL INSPECTION AND SIGN-OFF
   c) SCREED THE CONCRETE PERPENDICULAR TO THE FORMS TO OBTAIN THE REQUIRED GRADE AND REMOVE SURPLUS WATER AND LAITANCE.
   d) FINISH WITH A BROOM AND ENSURE THAT THE SURFACE VARIATIONS ARE NOT MORE THAN ¼" UNDER A 10-FOOT STRAIGHTEDGE, OR MORE THAN ⅛" ON A 5 FOOT TRANSVERSE SECTION. FINISH THE EDGE OF THE SIDEWALK WITH AN EDGING TOOL HAVING A RADIUS OF ½".
6. REPAIR ALL RUTS AND/OR SOD THAT HAS BEEN DAMAGED. REGRADE WORK AREA AND PLACE NEW SOD IN ALL DISTURBED AREAS.
7. PEDESTRIAN SAFETY: ENSURE A PEDESTRIAN PATH IS SAFELY MAINTAINED IN ACCORDANCE WITH FDOT STANDARD PLAN INDEX 102-660.

NOTE: ANY ADDITIONAL SECTION OF SIDEWALK THAT ABUTS THE WORK AREA AND IS DEEMED UNSAFE BY THE COUNTY ENGINEER, SHALL BE REPLACED.



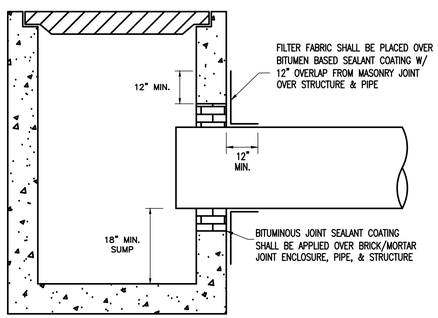
DRAINAGE INLET STRUCTURE
N.T.S.

INLET TYPE	CAST IRON	STEEL*
TYPE C	USF 6212	USF 6611
TYPE D	N/A	USF 6626
TYPE E	USF 6291	USF 6616
TYPE H	USF 6292	USF 6621

DRAINAGE INLET GRATE TYPES
*SEE NOTE #9

NOTES:

1. ALL INLET MATERIALS AND CONSTRUCTION NOT SHOWN HEREIN SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 425 AND FDOT STANDARD PLANS INDEX SERIES 425.
2. USE OF FDOT TYPE "9" CURB INLETS AND VALLEY GUTTER INLETS SHALL ONLY BE ACCEPTABLE ON LOCAL ROADWAYS AND WITHIN PARKING AREAS.
3. USE OF FDOT TYPE "10" CURB INLETS IS NOT ACCEPTABLE AT ANY LOCATION UNLESS APPROVED BY COUNTY ENGINEER.
4. INLET SHALL BE 1-PIECE MONOLOTHIC. INLETS THAT REQUIRE TWO PIECES AS REQUIRED BY LOAD CONSTRAINTS ARE TO CONTAIN SEALED KEY WAYS WITH RAM-NEK ASPHALTIC SEALANT AND EXTERIOR JOINT SEALANT WITH WRAPIDSEAL OR APPROVED EQUIVALENT. ANY PROPOSED 2-PIECE STRUCTURE SHALL BE APPROVED BY THE COUNTY ENGINEER.
5. ALL INLETS SHALL HAVE A MINIMUM SUMP OF 18", UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER.
6. DITCH BOTTOM INLETS SHALL NOT HAVE A SEPARATED TOP SLAB UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER.
7. ALL INLETS SHALL BE PLACED OVER DRY, FIRM AND UNYIELDING MATERIAL OR IN ACCORDANCE WITH STANDARD DETAIL R-31A TYPICAL TRENCH DETAIL.
8. DITCH BOTTOM INLETS SHALL HAVE ANGLE IRON IN THE GRATE RECESSES TO ACCOMMODATE H-20 LOADING.
9. ALL INLET GRATES SHALL BEAR TRAFFIC LOADS AND SHALL BE CAST IRON IF APPLICABLE, OTHERWISE INLET GRATES SHALL BE HOT-DIPPED GALVANIZED STEEL.



NOTES:

1. ALL INLET MATERIALS AND CONSTRUCTION NOT SHOWN HEREIN SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 425 AND FDOT STANDARD PLANS INDEX SERIES 425.
2. DRAINAGE STRUCTURE-PIPE CONNECTION MASONRY JOINT SHALL BE FILLED WITH MIXTURE OF APPROVED BRICK AND TYPE I AND/OR II CONCRETE MORTAR.
3. ALL MASONRY JOINT SEAL BRICK OR WALL MATERIAL UNIT SHALL BE SATURATED BEFORE GROUT SEALING.
4. ALL MASONRY JOINT CONCRETE MORTAR SHALL BE TYPE I AND/OR II PREMIXED SILICA SAND-PORTLAND CEMENT (3:1 MAX). NO MIXING OF SAND-CEMENT IS PERMITTED ON SITE UNLESS APPROVED BY THE COUNTY ENGINEER.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	SIDEWALK	DETAIL R-41 DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	SIDEWALK REPLACEMENT / REPAIR	DETAIL R-42 DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	LOCAL ROAD INLET	DETAIL R-50 DATE: 04/23/19
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	PIPE - STRUCTURE CONNECTION	DETAIL R-60 DATE: 04/23/19

DATE	BY	REVISIONS

Date: 2/22/2019
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

MARTIN COUNTY
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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
DETAILS

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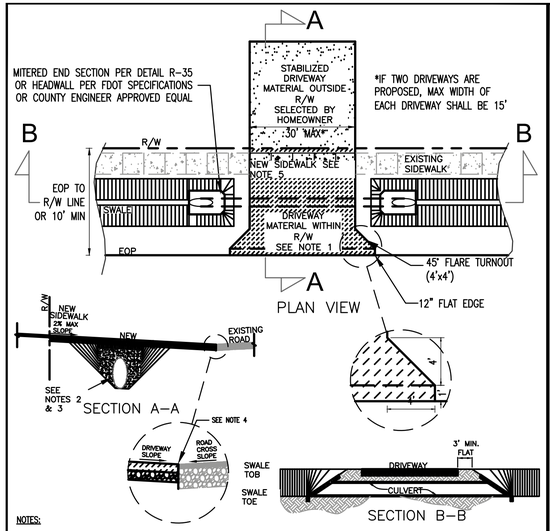
C-16

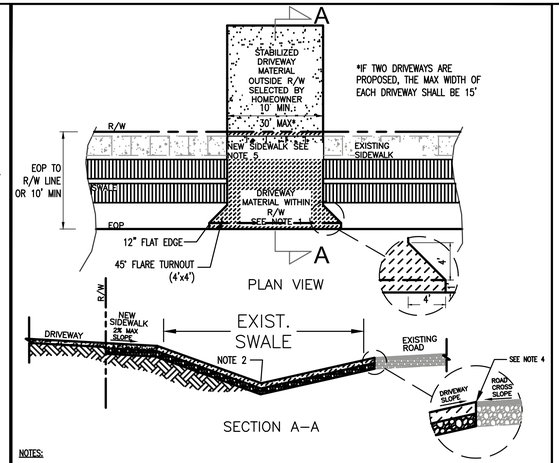
Drawing Name: C:\Users\JarredStoneFish\Stoned Fisher\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Details.dwg Layout Name: DETAILS (1) — Plotted by: jarred — Date: 9/30/2019 - 1:32 PM — GEP



NOTES:

1. THE PORTION OF DRIVEWAY WITHIN THE RIGHT-OF-WAY SHALL BE 6" THICK 3000 PSI CONCRETE, 1" THICK ASPHALT CONCRETE WITH A BASE COURSE, OR PAVER BRICKS WITH A BASE COURSE. BASE COURSE PER FDOT BASE GROUP 4 AS SHOWN IN FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6. OTHER HARDENED MATERIALS MUST BE APPROVED BY THE COUNTY ENGINEER.
2. CULVERT INVERTS SHALL MATCH THE DRAINAGE CONVEYANCE FLOW LINE OF UPSTREAM AND DOWNSTREAM CULVERT INVERTS.
3. CULVERT SIZE SHALL BE EQUIVALENT OR GREATER THAN UPSTREAM CULVERT OR MIN. OF 15" DIA. OR 12"x18" ELLIPTICAL.
4. THE GRADE DIFFERENCE BETWEEN DRIVEWAY SLOPE AND ROAD CROSS SLOPE SHALL COMPLY WITH THE GUIDELINES FOUND IN TABLE 4.19.10 OF SECTION 4.845 OF DIVISION 19 – ROADWAY DESIGN OF THE MARTIN COUNTY LAND DEVELOPMENT REGULATIONS.
5. SAWCUT AND REMOVE EXISTING 4" SIDEWALK WITHIN DRIVEWAY FOOTPRINT. INSTALL NEW 6" CONCRETE SIDEWALK PER DETAIL R-41.

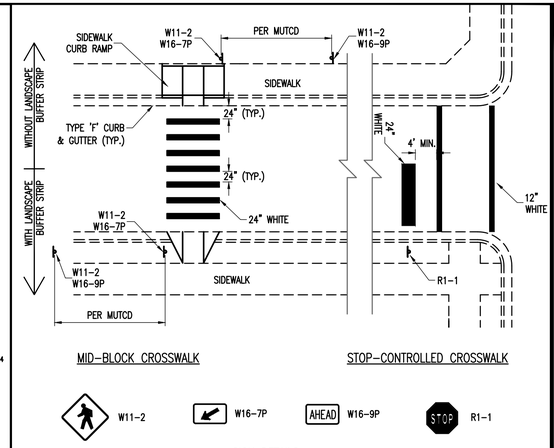
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	RESIDENTIAL DRIVEWAY - CULVERT	DETAIL R-91A DATE: 04/23/19



NOTES:

1. THE PORTION OF DRIVEWAY WITHIN THE RIGHT-OF-WAY SHALL BE 6" THICK 3000 PSI CONCRETE, 1" THICK ASPHALT CONCRETE WITH A BASE COURSE, OR PAVER BRICKS WITH A BASE COURSE. BASE COURSE PER FDOT BASE GROUP 4 AS SHOWN IN FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6. OTHER HARDENED MATERIALS MUST BE APPROVED BY THE COUNTY ENGINEER.
2. DRIVEWAY INVERTS SHALL MATCH THE DRAINAGE CONVEYANCE FLOW LINE OF UPSTREAM AND DOWNSTREAM SWALES. IF ROADSIDE SWALES DO NOT EXIST, DRIVEWAY SHALL HAVE A 0.2' INVERT LOCATED 7-FEET FROM THE EDGE OF PAVEMENT. GRADING A NEW ROADSIDE SWALE ADJACENT TO PROPERTY FRONTAGE MAY BE APPROVED BY THE COUNTY ENGINEER FOR THE PURPOSE OF DIRECTING STORMWATER OFF THE DRIVEWAY .
3. GRADE CHANGES OF MORE THAN 14% SHALL MEET THE REQUIRED CREST/SAG TRANSITION LENGTH PER FDOT STANDARD PLANS INDEX 000-515. DESIGNS NOT ABLE TO MEET THE REQUIREMENTS OF FDOT STANDARD PLANS INDEX 000-515 SHALL REQUIRE APPROVAL OF THE COUNTY ENGINEER.
4. THE GRADE DIFFERENCE BETWEEN DRIVEWAY SLOPE AND ROAD CROSS SLOPE SHALL COMPLY WITH THE GUIDELINES FOUND IN TABLE 4.19.10 OF SECTION 4.845 OF DIVISION 19 – ROADWAY DESIGN OF THE MARTIN COUNTY LAND DEVELOPMENT REGULATIONS.
5. SAWCUT AND REMOVE EXISTING 4" SIDEWALK WITHIN DRIVEWAY FOOTPRINT. INSTALL NEW 6" CONCRETE SIDEWALK PER DETAIL R-41.

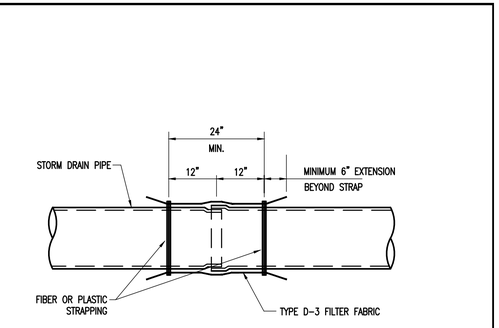
MARTIN COUNTY ENGINEERING - STANDARD DETAILS	RESIDENTIAL DRIVEWAY - INVERTED	DETAIL R-91B DATE: 04/23/19



NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 711.
2. MID-BLOCK CROSSWALK MARKINGS SHALL BE WHITE SPECIAL EMPHASIS.
3. STOP-CONTROLLED CROSSWALK MARKINGS SHALL BE STANDARD.
4. PUBLIC SIDEWALK CURB RAMPS AND DETECTABLE WARNING SURFACES SHALL BE DESIGNED IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 522. DETECTABLE WARNING SURFACES SHALL BE CAST IN PLACE ARMOR TILE OR APPROVED EQUAL AND BRICK RED IN COLOR. BOLT OR SCREW DOWN TYPES ARE PROHIBITED.
5. CROSSWALK WARNING SIGNAGE SHALL BE YELLOW, UNLESS CROSSWALK IS LOCATED IN A SCHOOL ZONE WHERE LIME-GREEN SHALL BE USED.
6. SIGN INSTALLATION SHALL BE PER TRAFFIC CONTROL DETAIL, R-140A.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	CROSSWALK	DETAIL R-120A DATE: 04/23/19



NOTES:

1. ALL PIPE LOCATED UNDER ROADWAYS AND/OR RESIDENTIAL PARKING AREAS SHALL BE REINFORCED CONCRETE PIPE (RCP).
2. MINIMUM PIPE DIAMETER SHALL BE 15" OR ELLIPTICAL EQUIVALENT.
3. FILTER FABRIC SHALL BE OVERLAPPED 2'-0" MINIMUM AT ALL JOINTS, INCLUDING ALL END TREATMENTS, REGARDLESS OF PIPE CULVERT MATERIAL.
4. A CONTINUOUS PIECE OF FILTER FABRIC, CONFORMING TO TYPE "D-3" OF FDOT STANDARD SPECIFICATIONS 985, SHALL BE USED AT ALL JOINTS, INCLUDING STRUCTURES AND END TREATMENTS.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	STORM DRAIN PIPE AND PIPE JOINT	DETAIL R-70 DATE: 04/23/19

MAINTENANCE OF TRAFFIC CONTROL DEVICES

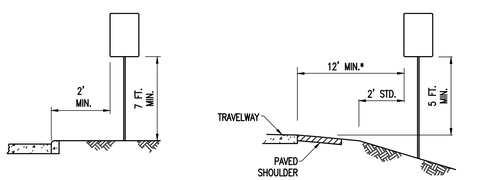
TRAFFIC SIGNS ON PRIVATELY MAINTAINED ROADS ARE THE RESPONSIBILITY OF THE MAINTAINING ENTITY, TYPICALLY, THE HOMEOWNERS OR PROPERTY OWNERS ASSOCIATION. WHERE PRIVATELY MAINTAINED ROADS INTERSECT STATE OR COUNTY MAINTAINED ROADS, THE TRAFFIC SIGNS (SUCH AS STREET NAME "BLADES" AND REGULATORY SIGNS) AND MARKINGS (SUCH AS STOP BARS) "SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND CURRENT USER ENTITY" NOT THE COUNTY OR THE STATE. PRIOR TO THE MARTIN COUNTY SHERIFF'S OFFICE PATROLLING ON PRIVATE ROADS, AN AGREEMENT FOR TRAFFIC CONTROL ON PRIVATE ROADS MUST BE EXECUTED WITH MARTIN COUNTY. THE HOMEOWNERS OR PROPERTY OWNERS ASSOCIATION SHALL SUBMIT A CERTIFICATION OF COMPLIANCE WITH THESE REGULATIONS PRIOR TO THE EXECUTION OF THE AGREEMENT FOR TRAFFIC CONTROL ON PRIVATE ROADS; THE CERTIFICATION MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA.

THE DESIGN AND MANUFACTURING OF ALL SIGNING AND MARKINGS REQUIRED FOR THE OPERATION OF THE CONNECTION (SUCH AS STOP BARS AND STOP SIGNS FOR THE CONNECTION) SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND CURRENT ENTITY RESPONSIBLE FOR THE CONNECTION, OR GOVERNMENTAL ENTITY HAVING JURISDICTION OVER THE CONNECTION, ROAD, OR INTERSECTION OF THE COUNTY ROAD REGARDLESS OF THE OWNER OF THE RIGHT-OF-WAY AS PROVIDED IN CHAPTER 316, FLORIDA STATUTES.

ALL TRAFFIC CONTROL DEVICES INSTALLED ON COUNTY OR PRIVATELY MAINTAINED ROADS SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD PLANS, AND THESE STANDARDS.

PLACEMENT OF TRAFFIC CONTROL DEVICES

PER FLORIDA STATUTE 316.0747, THE PLACEMENT OR POSITION OF TRAFFIC CONTROL DEVICES ALONG ROADS WHERE THE PUBLIC IS INVITED, INCLUDING THOSE DEVICES INSTALLED ON PRIVATE PROPERTY, SHALL MEET THE STATE STANDARDS ADOPTED BY THE FDOT, WHICH INCLUDES THOSE IDENTIFIED IN THE MUTCD. IF THE STANDARD POSITION CANNOT BE ATTAINED DUE TO IMMOBILE OBSTRUCTIONS, ALTERNATIVE PLACEMENT MAY BE PERMITTED BY THE COUNTY ENGINEER.



*THE SETBACK FOR STOP OR YIELD SIGNS MAY BE REDUCED TO 3' MINIMUM FROM THE DRIVING LANE IF REQUIRED FOR VISIBILITY IN BUSINESS OR RESIDENTIAL AREAS WITH NO CURB AND SPEEDS OF 30 MPH OR LESS

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	TRAFFIC CONTROL	DETAIL R-140A DATE: 04/23/19

SIGNS AND MARKINGS

R1-1

INSTALLATION OF STOP SIGNS SHALL BE IN ACCORDANCE WITH THE SECTION 28.04 OF THE MUTCD. MULTI-WAY STOP SIGNS SHALL BE PLACED ONLY IF APPLICABLE IN ACCORDANCE WITH SECTION 28.07 OF THE MUTCD. STOP SIGNS ARE USED TO INDICATE THAT TRAFFIC IS ALWAYS REQUIRED TO STOP AND SHOULD NEVER BE USED TO SLOW OR CALM TRAFFIC FLOW. STOP SIGNS SHALL BE OCTAGONAL AND AT LEAST 30 INCHES HIGH BY 30 INCHES WIDE WITH WHITE DIAMOND GRADE SHEETING BACKGROUND AND CLEAR RED ELECTROCUT OVERLAY OR SILKSCREENED WITH CLEAR ULTRAVIOLET RESISTANT OVERLAY.

A STOP BAR OR LINE IS REQUIRED AT EACH LOCATION WHERE A STOP SIGN EXISTS. THE STOP BAR SHALL CONSIST OF A SOLID 24-INCH WIDE WHITE THERMOPLASTIC LINE THAT EXTENDS ACROSS THE APPROACH LANES TO INDICATE THE POINT AT WHICH THE STOP IS INTENDED OR REQUIRED TO BE MADE.

R1-2

YIELD SIGNS SHALL BE USED ONLY TO CONTROL MERGE MOVEMENTS AND TO ASSIGN THE RIGHT OF WAY AT THE ENTRANCE OF A ROUNDABOUT INTERSECTION. YIELD SIGNS ARE TRIANGULAR AND SHALL BE AT LEAST 36 INCHES ALONG EACH SIDE WITH WHITE DIAMOND GRADE SHEETING BACKGROUND AND CLEAR RED ELECTROCUT OVERLAY OR SILKSCREENED WITH CLEAR ULTRAVIOLET RESISTANT OVERLAY.

R3-1

NO RIGHT TURN OR NO LEFT TURN SIGNS SHOULD BE PLACED WHERE THEY WILL BE MOST EASILY SEEN BY ROAD USERS WHO MIGHT BE INTENDING TO TURN. THESE SIGNS ARE THE ONLY SIGNS (OTHER THAN THE SUPPLEMENTAL PLAQUE) PERMITTED TO BE PLACED ON THE POST IN CONJUNCTION WITH A STOP OR YIELD WHEN LOCATED ON OR NEAR THE RIGHT CORNER OF THE INTERSECTION. TURN PROHIBITION SIGNS SHALL BE AT LEAST 24 INCHES HIGH BY 24 INCHES WIDE WITH WHITE DIAMOND GRADE SHEETING BACKGROUND AND CLEAR RED ELECTROCUT OVERLAY OR SILKSCREENED WITH CLEAR ULTRAVIOLET RESISTANT OVERLAY.

R2-1

SPEED LIMITS SHALL BE ESTABLISHED IN ACCORDANCE WITH THE FDOT' SPEED ZONING FOR HIGHWAYS, ROADS, AND STREETS IN FLORIDA. SPEED LIMIT SIGNS SHALL BE AT LEAST 30 INCHES HIGH BY 24 INCHES WIDE WITH WHITE DIAMOND GRADE SHEETING BACKGROUND OR SILKSCREENED WITH CLEAR ULTRAVIOLET RESISTANT OVERLAY.

THE MINIMUM POSTED SPEED IN MARTIN COUNTY IS 25 MPH; HOWEVER, SCHOOL ZONES MAY BE POSTED AT 20 MPH.

ONLY SCHOOL WARNING SIGNS, INCLUDING THE "SCHOOL" PORTION OF THE SCHOOL SPEED LIMIT SIGN AND INCLUDING ANY SUPPLEMENTAL PLAQUES USED IN ASSOCIATION WITH THESE WARNING SIGNS, SHALL HAVE A FLUORESCENT YELLOW-GREEN BACKGROUND WITH A BLACK LEGEND AND BORDER.

ALL OTHER WARNING SIGNS SHALL HAVE A FLUORESCENT YELLOW BACKGROUND WITH A BLACK LEGEND AND BORDER.

THE DEAD END SIGN (OR FLAG ON A STREET NAME) BLADE SHALL BE USED AT THE ENTRANCE OF A SINGLE ROAD OR STREET THAT TERMINATES IN A DEAD END OR CUL-DE-SAC.

THE NO OUTLET SIGN (OR FLAG ON A STREET NAME BLADE) SHALL BE USED AT THE ENTRANCE TO A ROAD OR ROAD NETWORK FROM WHICH THERE IS NO OTHER EXIT.

THE TOP PORTION OF THE PARKING BY DISABLED PERMIT ONLY SIGN SHALL DISPLAY WHITE REFLECTIVE LEGEND AND BORDER WITH A BLUE REFLECTIVE BACKGROUND. THE BOTTOM PORTION OF THE SIGN SHALL DISPLAY AN OPAQUE BLACK LEGEND AND BORDER WITH A REFLECTIVE WHITE BACKGROUND. SIGN FABRICATION SHALL CONSIST OF ONE PANEL.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	TRAFFIC CONTROL	DETAIL R-140B DATE: 04/23/19

STREET NAME BLADES

RECOMMENDED MINIMUM LETTER HEIGHTS ON STREET NAME BLADES

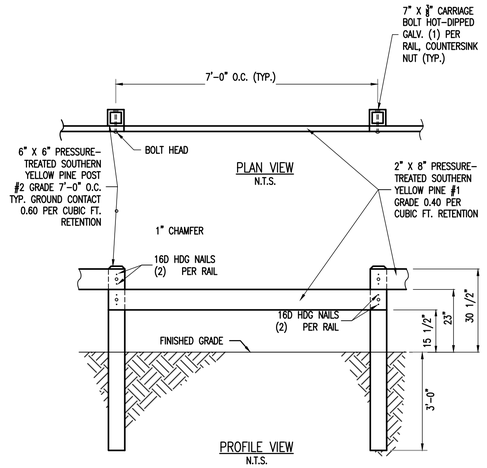
TYPE OF MOUNTING	TYPE OF STREET OR HIGHWAY	SPEED LIMIT	RECOMMENDED MINIMUM LETTER HEIGHT (IN INCHES) INITIAL UPPER-CASE	LOWER-CASE
OVERHEAD	ALL TYPES	ALL SPEED LIMITS	12	9
POST-MOUNTED	MULTI-LANE	MORE THAN 40 MPH	8	6
POST-MOUNTED	MULTI-LANE	40 MPH OR LESS	6	4.5
POST-MOUNTED	2-LANE	ALL SPEED LIMITS	*6	*4.5

*ON LOCAL TWO-LANE STREETS WITH SPEED LIMITS OF 25 MPH, 4-INCH INITIAL UPPER-CASE LETTERS WITH 3-INCH LOWER-CASE LETTERS MAY BE USED.

ON COUNTY MAINTAINED ROADS THE LETTERING SHALL BE HIGHWAY C OR HIGHWAY B FONT. ALL LETTERING SHALL BE AT LEAST 1 INCH FROM THE TOP, BOTTOM, AND EACH SIDE OF THE BLADE. ABBREVIATIONS SHALL BE LIMITED TO THOSE THAT ARE COMMONLY RECOGNIZED AND UNDERSTOOD. THE SUPPLEMENTARY LETTERING INDICATING THE COUNTY QUADRANT OR STREET TYPE SHALL BE SUPER-SCRIPTED UPPER CASE AND ONE-HALF THE HEIGHT OF THE INITIAL UPPERCASE LETTER(S). UNLESS SPECIFICALLY STATED OTHERWISE, THE BORDER SHALL BE WHITE AND SHALL BE AT LEAST 1/2 INCH INSIDE THE EDGE OF THE BLADE. THE CORNERS OF THE BLADE SHALL BE ROUNDED. ALL STREET NAME BLADES SHALL BE MADE OF 0.063 ALUMINUM WITH WHITE DIAMOND GRADE SHEETING BACKGROUND AND GREEN ELECTRO-CUT OVERLAY. TWO BLADES SHALL BE MOUNTED BACK-TO-BACK ON A SQUARE POST WITH TWO 5/16 x 2-3/4 BOLTS WITH NYLON WASHERS AND LOCK WASHERS PLUS ONE 5/16 X 3/4 BOLT WITH A NYLON WASHER AND LOCK WASHER AT EACH END OF THE BLADES.

ON NON-COUNTY (OR NON-STATE) MAINTAINED ROADS THE BACKGROUND MUST BE EITHER BLUE OR BROWN WITH WHITE LETTERING OR WHITE WITH BLACK LETTERING.

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	TRAFFIC CONTROL	DETAIL R-140C DATE: 04/23/19



NOTES:

1. ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED (HDG).
2. DO NOT CUT OR GRIND HARDWARE.
3. BOLTS SHALL NOT PROJECT BEYOND FACE OF POST.
4. PRESSURE TREATMENT SHALL BE ALKALINE COPPER QUAT (ACQ).

MARTIN COUNTY ENGINEERING - STANDARD DETAILS	POST AND RAIL FENCE	DETAIL P-60 DATE: 04/23/19

DATE	BY	REVISIONS

Date: 2/22/2019
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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C-17

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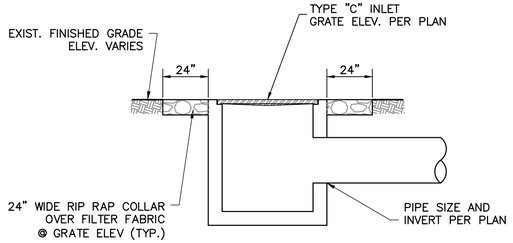
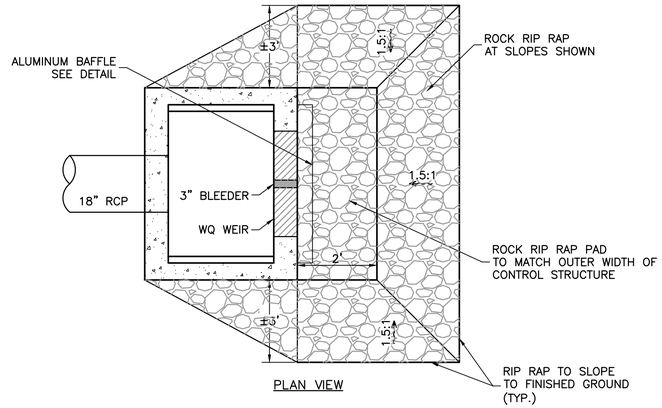
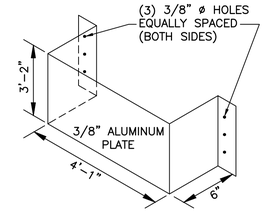


TYPICAL BUBBLE-UP STRUCTURE DETAIL

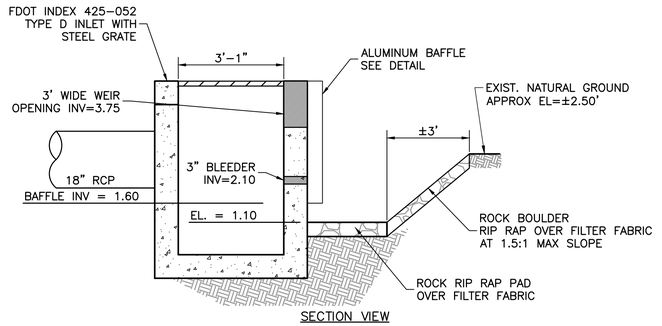
NOT TO SCALE



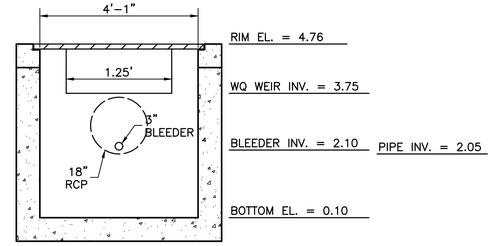
PLAN VIEW



ALUMINUM BAFFLE DETAIL



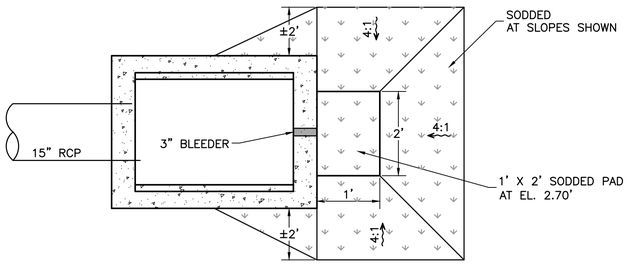
SECTION VIEW



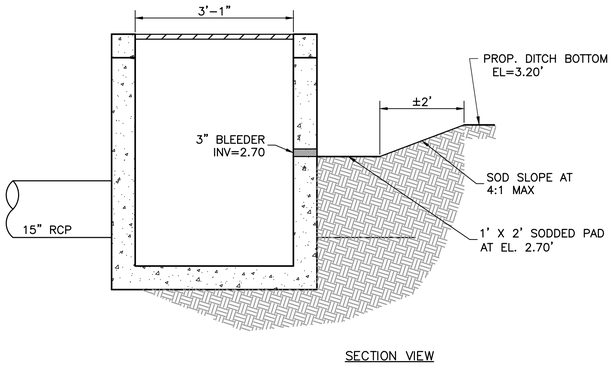
FRONT VIEW

CS-1 CONTROL STRUCTURE DETAIL

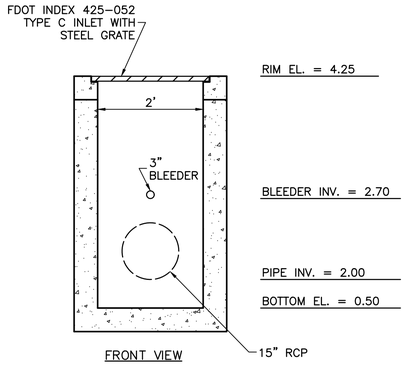
N.T.S.



PLAN VIEW



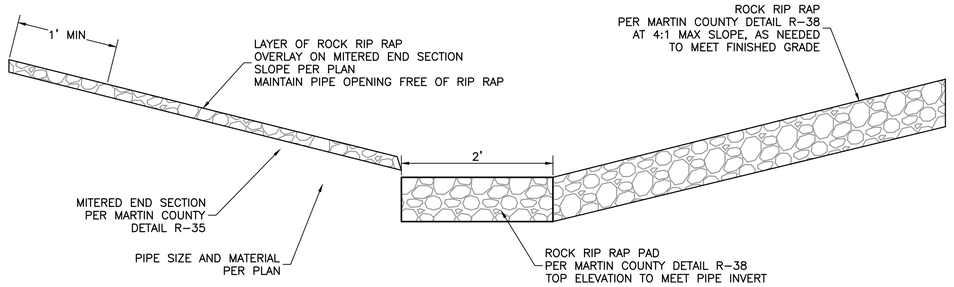
SECTION VIEW



FRONT VIEW

CS-1A CONTROL STRUCTURE DETAIL

N.T.S.



RIP RAP ON MITERED END SECTION DETAIL

N.T.S.

Know what's **below.**
Call before you dig.

DATE	BY	REVISIONS

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Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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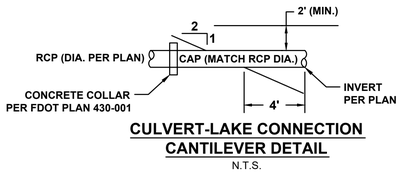
C-18

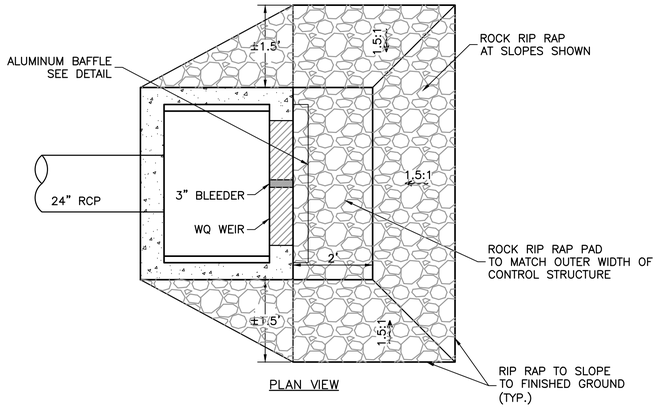
Drawing Name: C:\Users\Lennox\Stormwater\Shared Folders\GEP projects\2019\19-003 MC Old Palm Ripple Stormwater\Design\Details.dwg Layout Name: DETAILS (3) Plotted by: Jenna Date: 9/30/2019 - 1:32 PM - GEP



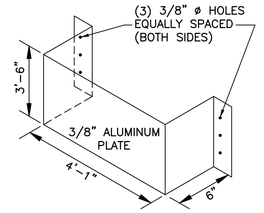
CULVERT-LAKE CONNECTION CANTILEVER DETAIL

N.T.S.

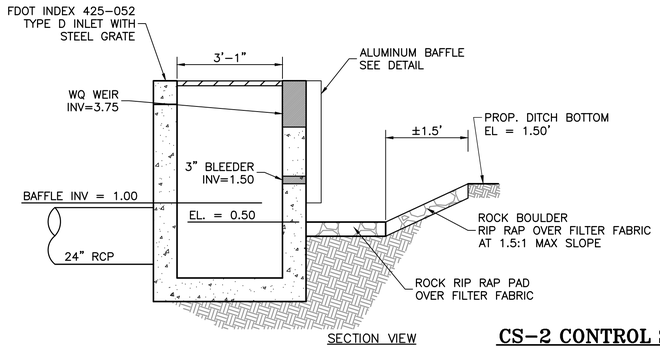
811 Know what's below. Call before you dig.



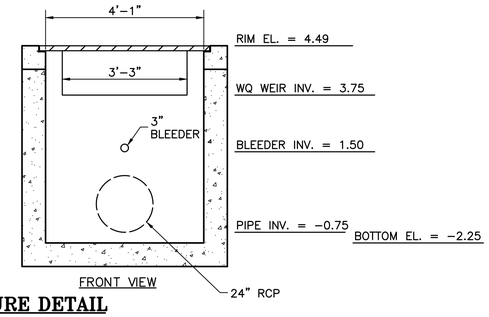
PLAN VIEW



ALUMINUM BAFFLE DETAIL



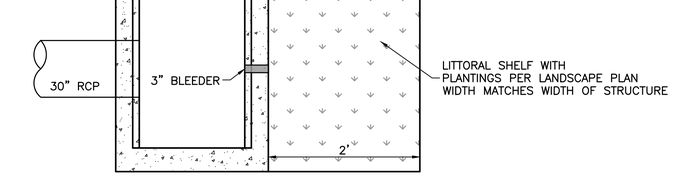
SECTION VIEW



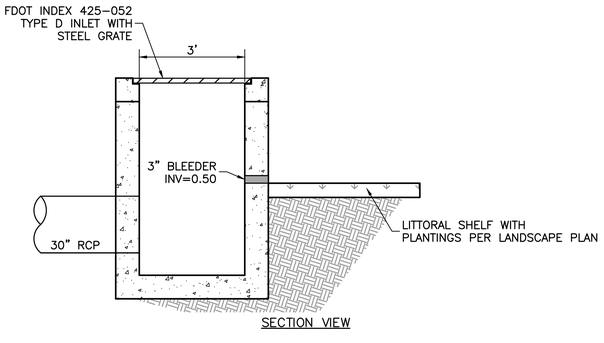
FRONT VIEW

CS-2 CONTROL STRUCTURE DETAIL

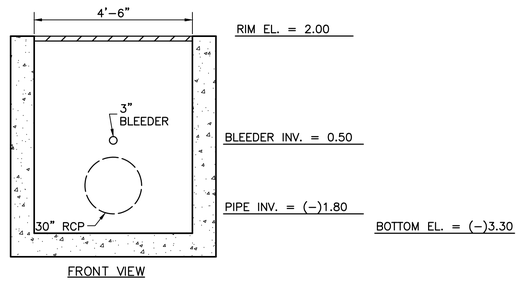
N.T.S.



PLAN VIEW



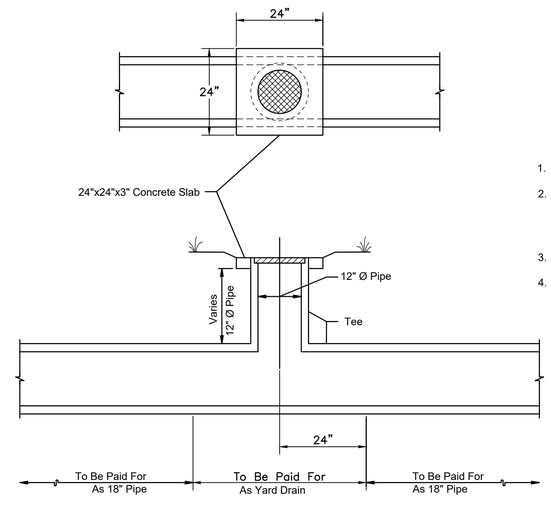
SECTION VIEW



FRONT VIEW

CS-3 CONTROL STRUCTURE DETAIL

N.T.S.



YARD DRAIN ITEM INCLUDES:

1. 15" x 15" x 12" Concrete or PVC Tee 4' long.
2. Grate diameter = 14-¼"
   Thickness = 2-½"
   Flow area = 45 sq in min.
   Light Duty Cast Iron, see Specification Section 962.
3. 12" pipe as necessary.
4. 0.04 Cubic yards concrete for slab.

YARD DRAIN DETAIL

N.T.S.

DATE	BY	REVISIONS

Date: 2/22/2019
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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License No: 66387

C-19

Drawing Name: C:\Users\James\Stormfile\Shared Folders\GEP projects\2019\19-003 MC Old Palm Ripple Stormwater\Design\Details.dwg Layout Name: DETAILS (4) Plotted by: James Date: 9/30/2019 - 1:32 PM - GEP

Know what's **below.**
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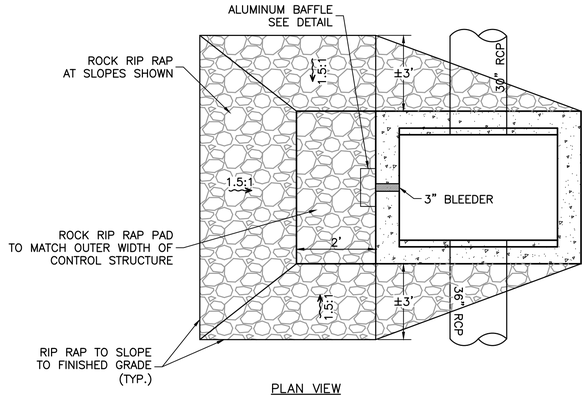
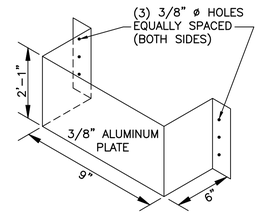
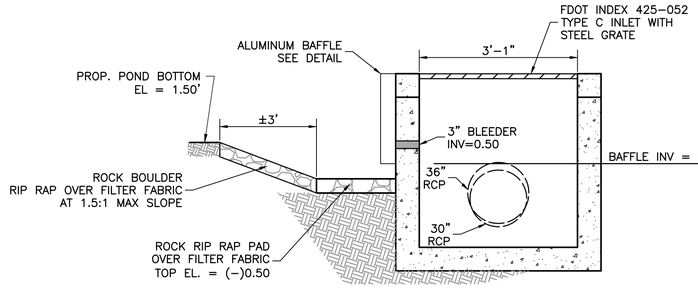


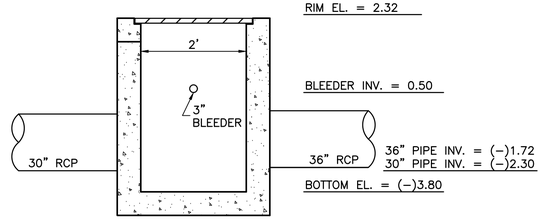
PLAN VIEW



ALUMINUM BAFFLE DETAIL



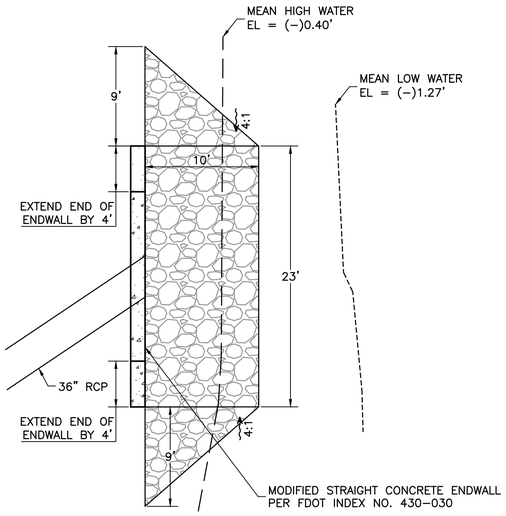
SECTION VIEW



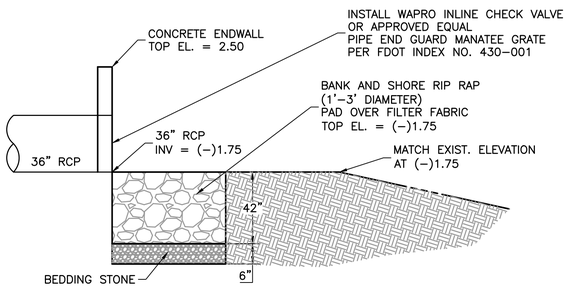
FRONT VIEW

CS-4 CONTROL STRUCTURE DETAIL

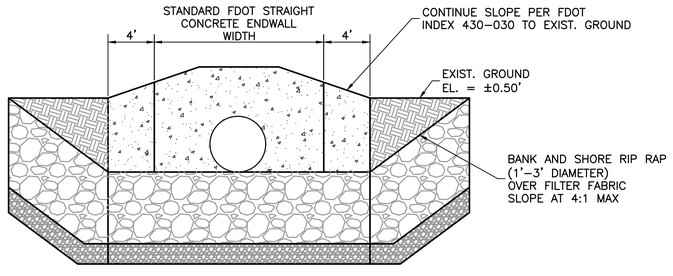
N.T.S.



PLAN VIEW



SECTION VIEW



FRONT VIEW

STRUCTURE D-20 ENDWALL GRADING DETAIL

N.T.S.

DATE	BY	REVISIONS

Date: 2/22/2019
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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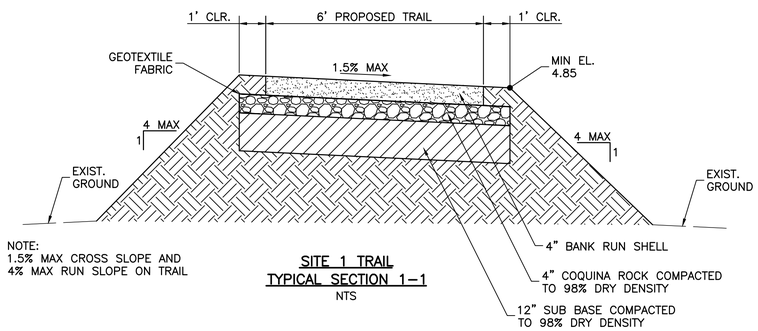
License No: 66387

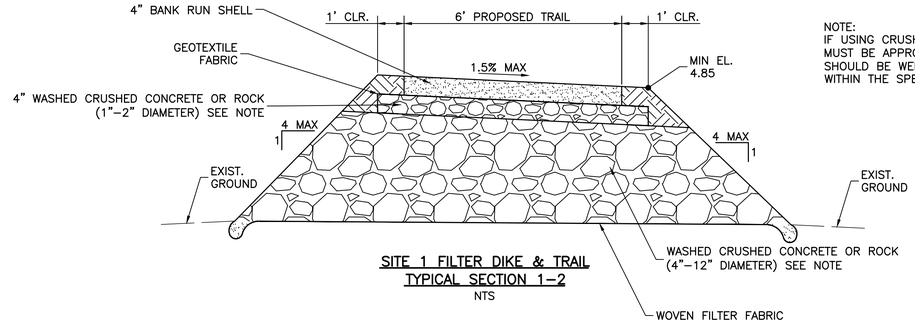
C-20

Drawing Name: K:\Users\Jarrod.Shaffer\A.Shared Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Details.dwg Layout Name: DETAILS (6) — Plotted By: Jarrod — Date: 9/30/2019 - 1:33 PM — GEP



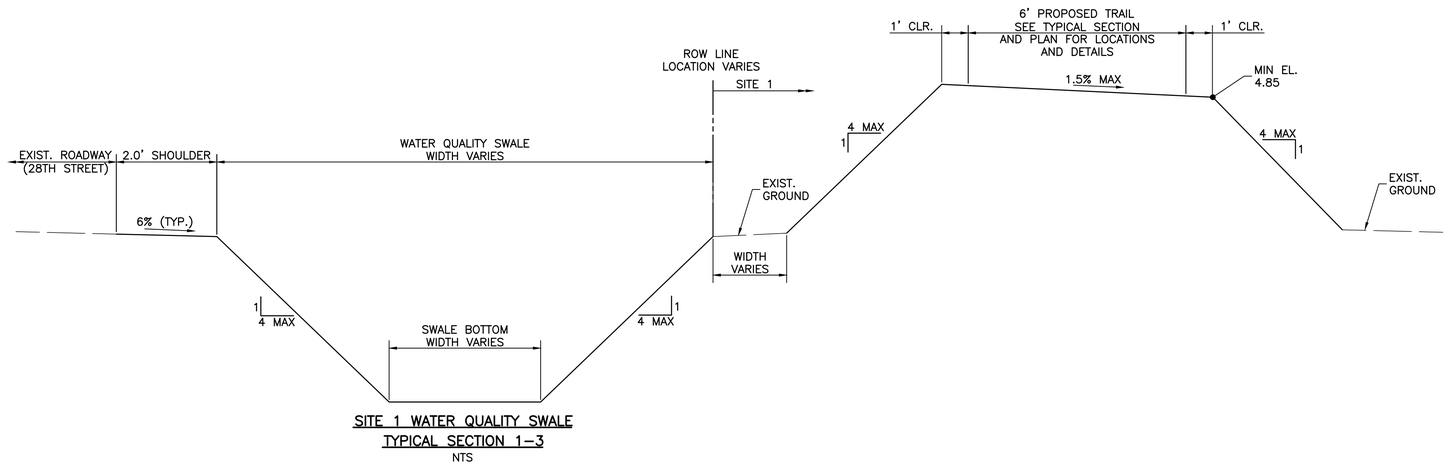
NOTE:
1.5% MAX CROSS SLOPE AND
4% MAX RUN SLOPE ON TRAIL

SITE 1 TRAIL
TYPICAL SECTION 1–1
NTS

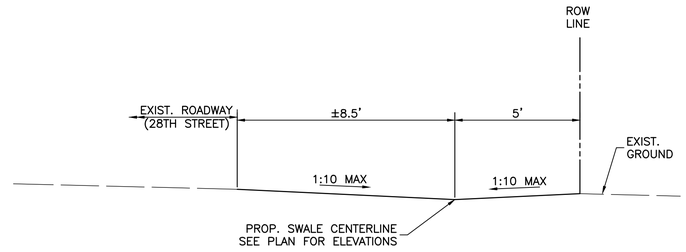


NOTE:
IF USING CRUSHED CONCRETE, ALL DIMENSIONS OF EACH PIECE MUST BE APPROXIMATELY THE SAME (i.e. NO FLAT PLATES. ALL ROCK SHOULD BE WELL–GRADED WITH A HOMOGENOUS MIX OF ROCK SIZES WITHIN THE SPECIFIED RANGE.

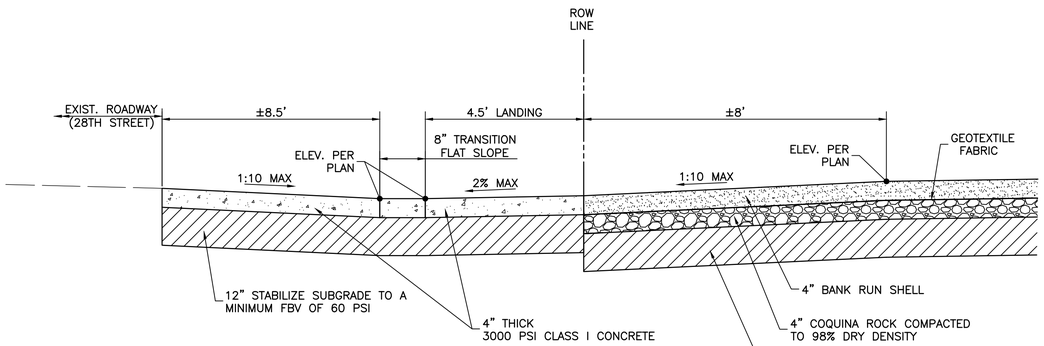
SITE 1 FILTER DIKE & TRAIL
TYPICAL SECTION 1–2
NTS



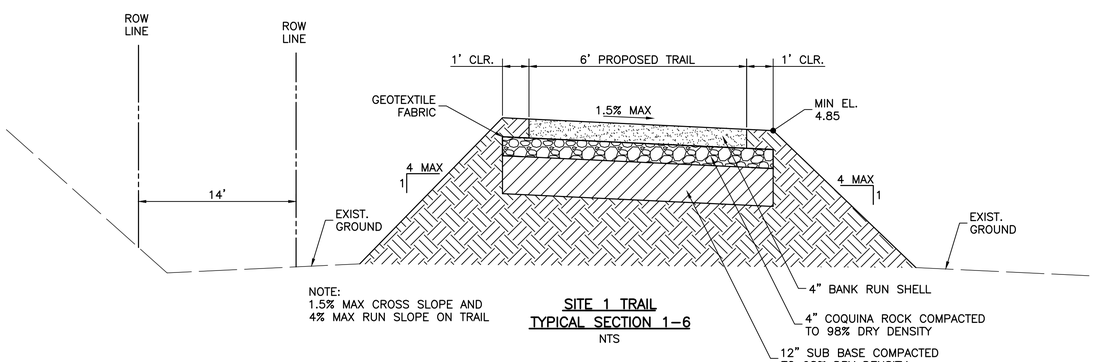
SITE 1 WATER QUALITY SWALE
TYPICAL SECTION 1–3
NTS



SITE 1 SHALLOW SWALE DETAIL
TYPICAL SECTION 1–5
NTS



SITE 1 SIDEWALK DETAIL
TYPICAL SECTION 1–4
NTS



NOTE:
1.5% MAX CROSS SLOPE AND
4% MAX RUN SLOPE ON TRAIL

SITE 1 TRAIL
TYPICAL SECTION 1–6
NTS

DATE	BY	REVISIONS

Date: 6/21/2018
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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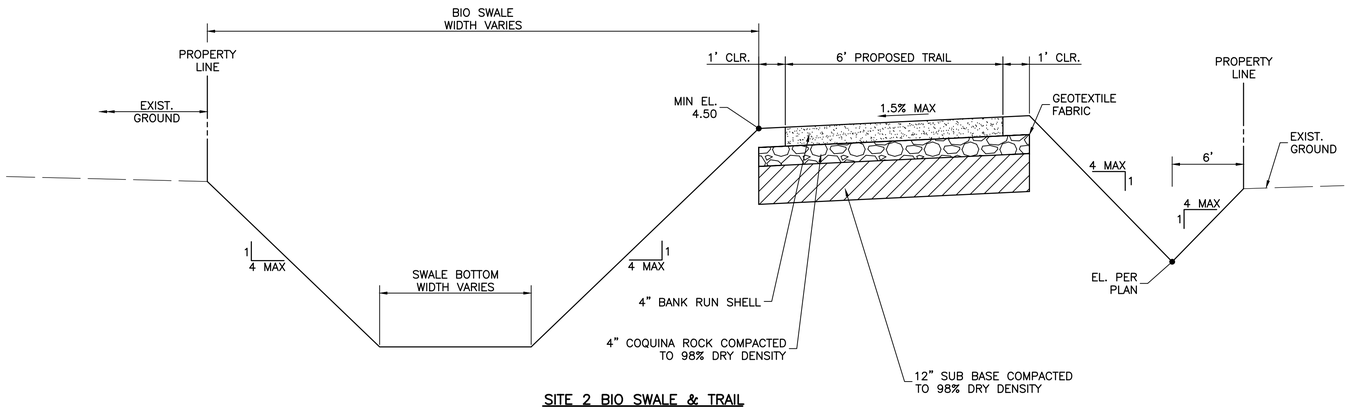
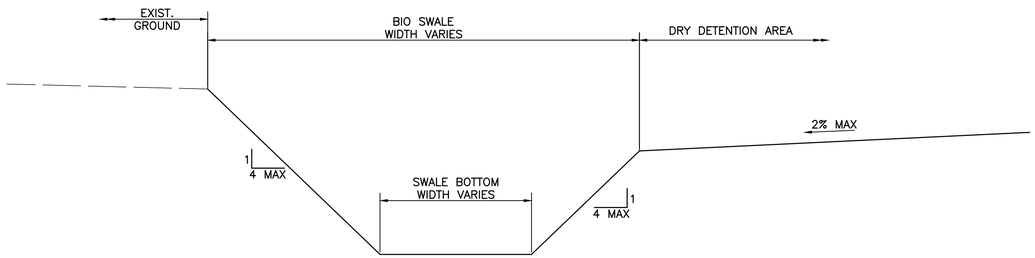
C-21

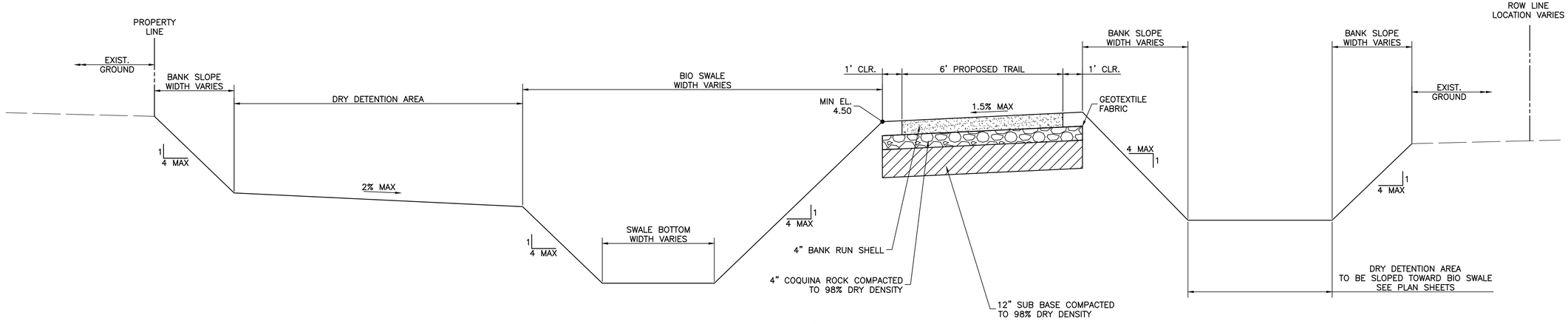
Drawing Name: C:\Users\JuliaS\Desktop\Desktop Folders\GEP projects\2018\18-003 Mc Dot Palm Ripple Stormwater\Design\Cross Sections.dwg Layout Name: C-1 — Plotted by: JuliaS — Date: 9/30/2019 – 1:33 PM — GDP



SITE 2 BIO SWALE & TRAIL
TYPICAL SECTION 2–1
NTS



SITE 2 BIO SWALE & DRY DETENTION AREA
TYPICAL SECTION 2–2
NTS



SITE 2
TYPICAL SECTION 2–3
NTS

DATE	BY	REVISIONS

Date: 6/21/2018
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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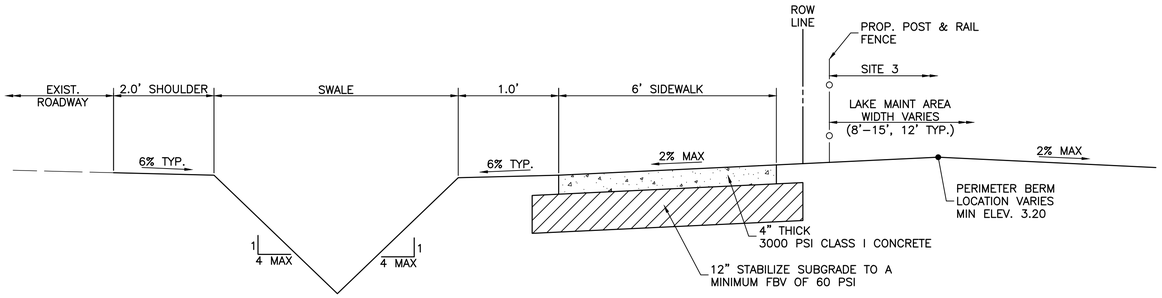
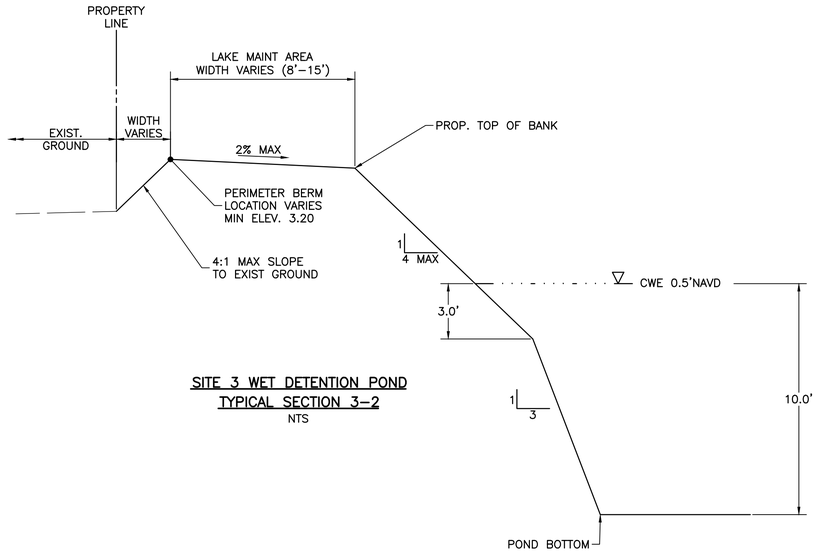
C-22

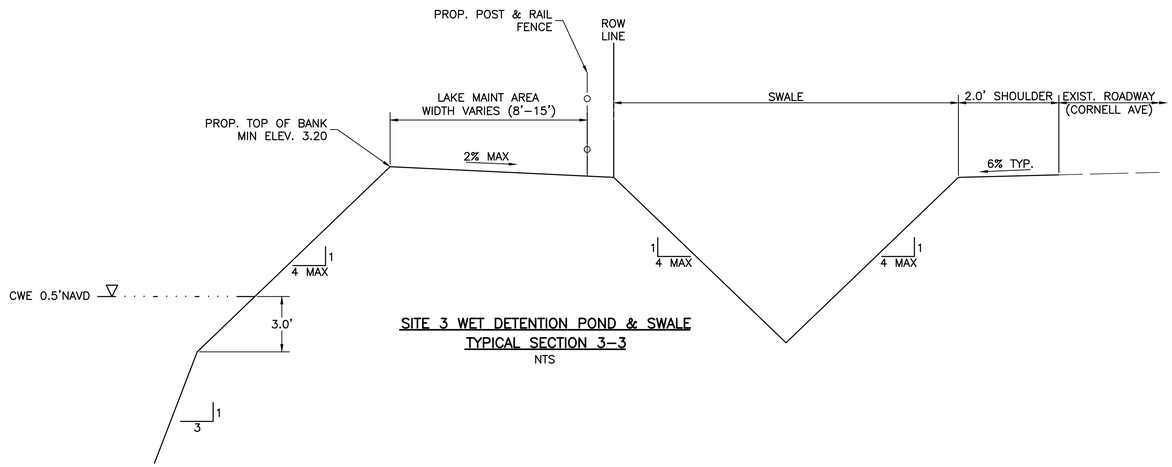
Drawing Name: C:\Users\Kennet\Shanefile\Shared Folders\GEP projects\2018\18-093 SE 6st Palm Ripple Stormwater\Design\Cross Sections.dwg Layout Name: D-2 — Plotted by: jarred — Date: 9/30/2019 - 1:33 PM — GEP



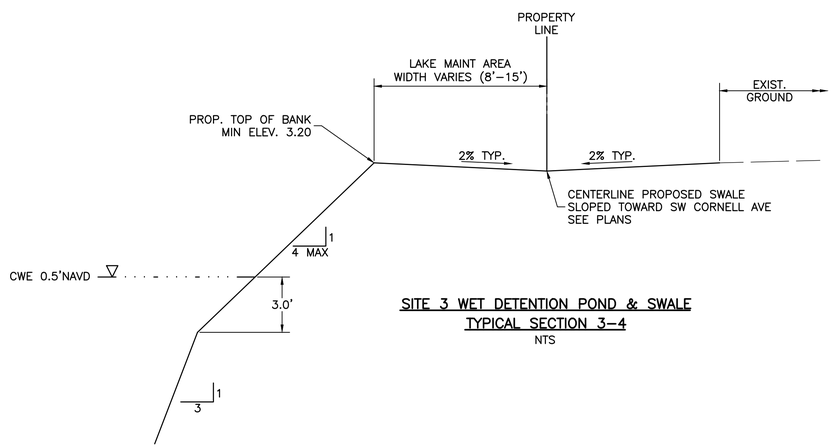
SITE 3 SWALE & SIDEWALK
TYPICAL SECTION 3–1
NTS



SITE 3 WET DETENTION POND
TYPICAL SECTION 3–2
NTS



SITE 3 WET DETENTION POND & SWALE
TYPICAL SECTION 3–3
NTS



SITE 3 WET DETENTION POND & SWALE
TYPICAL SECTION 3–4
NTS

DATE	BY	REVISIONS

Date: 6/21/2018
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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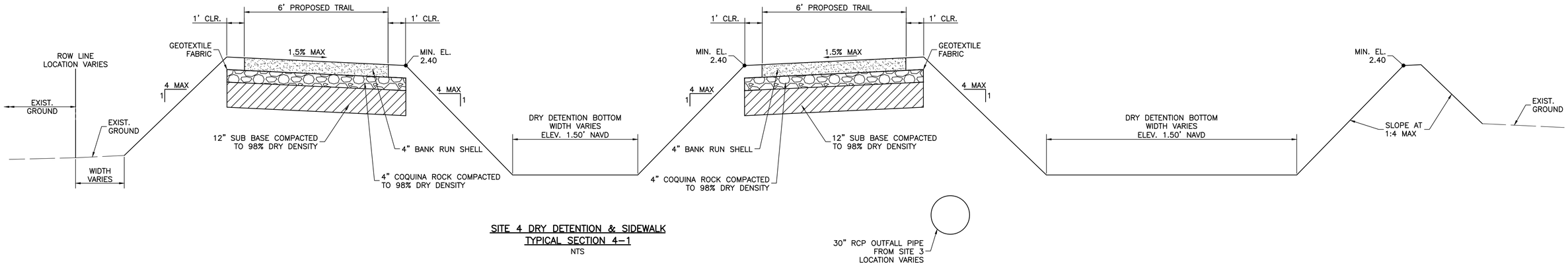
License No: 66387

C-23

Drawing Name: C:\Users\Vanessa\Shared Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Cross Sections.dwg Layout Name: D-3 Plotted by: vanessa - Date: 9/30/2019 - 1:33 PM



SITE 4 DRY DETENTION & SIDEWALK
TYPICAL SECTION 4–1
NTS

Drawing Name: G:\Users\kennedy\Shared Folders\GEP projects\2018\18-053 Mc Old Palm Ripple Stormwater\Design\Cross Sections.dwg Layout Name: D-4 — Plotted by: jarred — Date: 9/30/2019 - 1:33 PM — GEP

DATE	BY	REVISIONS

Date: 6/21/2018
Scale: NTS
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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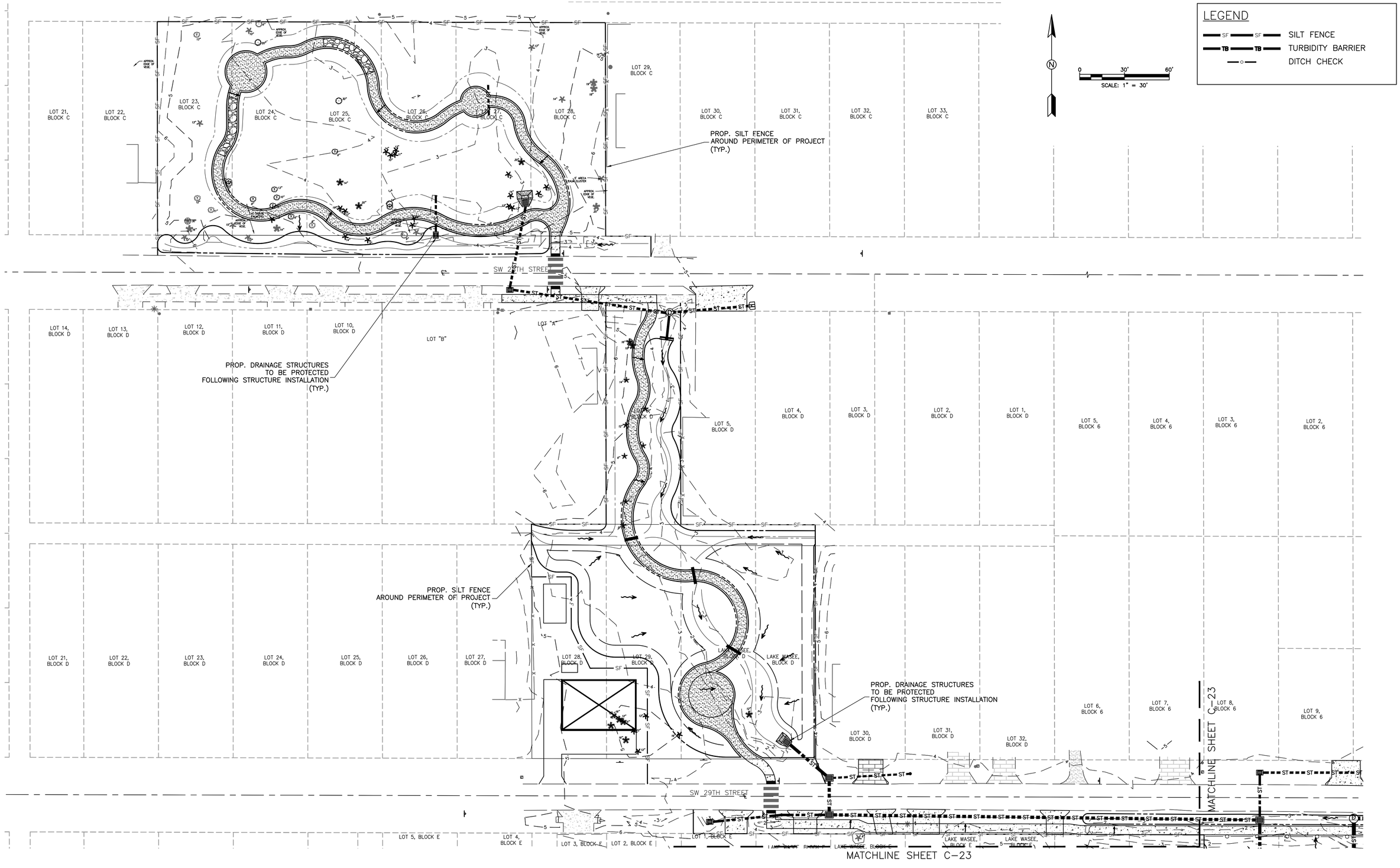

Drawing Name: C:\Users\Kenneth.Shanaffie\Desktop Folders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Erosion Control Plan.dwg Layout Name: C-1 — Plotted by: dwood — Date: 9/30/2019 — 1:33 PM — GEP

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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MARTIN COUNTY, FLORIDA
EROSION & SEDIMENT CONTROL PLAN

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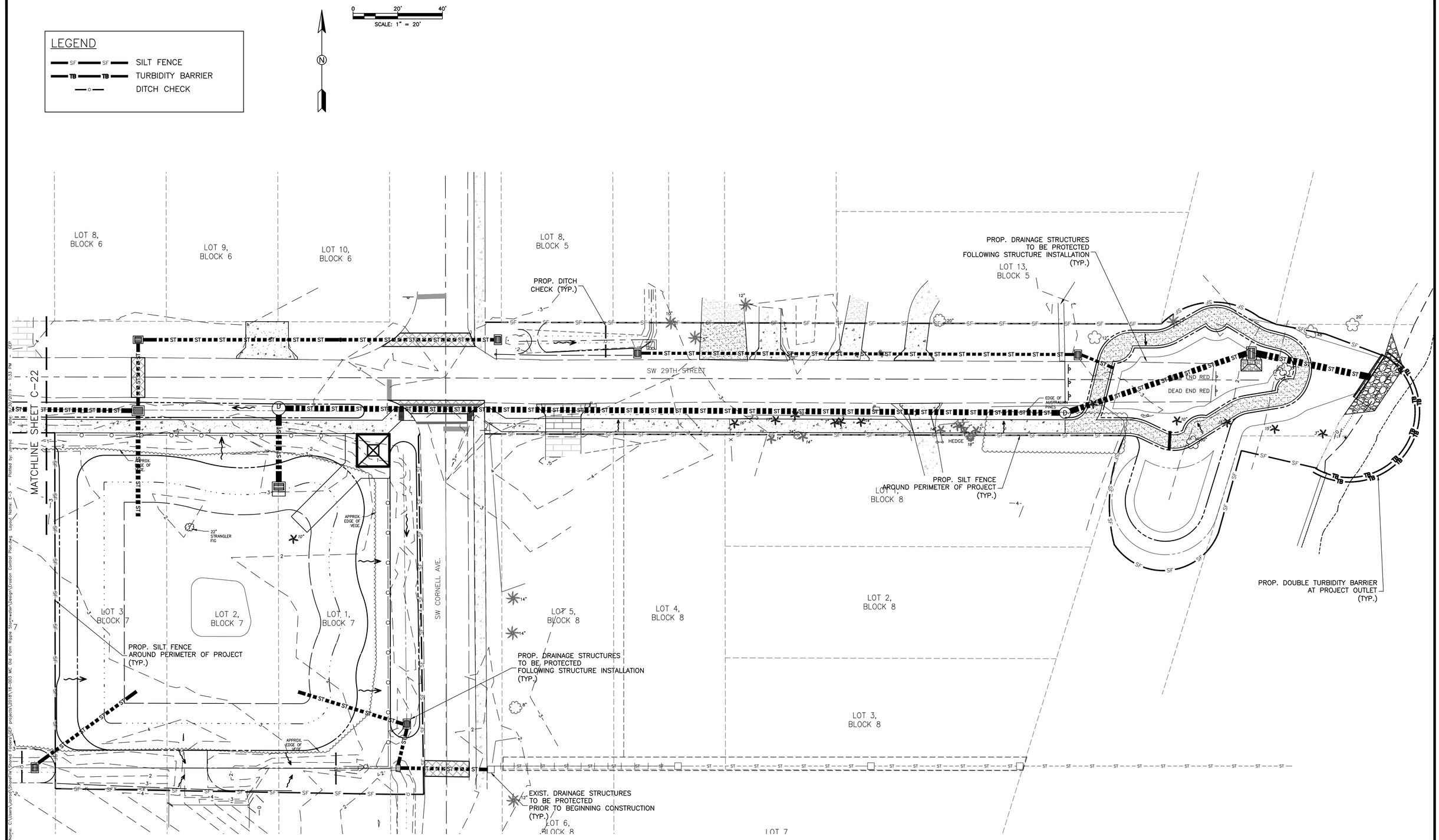
C-25



NOTE: ELEVATIONS REFERENCE NAVD88

DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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C-26

Drawing Name: C:\Users\Jolene\Desktop\Current Orders\GEP projects\2018\18-003 MC Old Palm Ripple Stormwater\Design\Erosion Control Plan.dwg Layout Name: E-3 Plotted by: jolene Date: 6/7/2019 - 1:33 PM GEP

EROSION CONTROL NOTES:

1. THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE DIRECTED BY THE ENGINEER AS REQUIRED.
2. EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN EVENT FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6. ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
7. TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU'S ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM IF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
8. CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
11. SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL PLACED AS DEPICTED AS SHOWN ON THESE CONSTRUCTION PLANS.
12. PRESERVE AREAS ARE TO REMAIN UNDISTURBED. VEHICLE AND CONSTRUCTION EQUIPMENT TRAFFIC IS PROHIBITED WITHIN THESE AREAS.
13. DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVED ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
15. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS SHALL BE STABILIZED WITH SEED & MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREAS. THE SEEDING SHALL FOLLOWING TYPICAL CONSTRUCTION PRACTICES TO INSURE A YEAR ROUND STABILIZED AREA.
16. CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPEC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
17. ALL CONSTRUCTION WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
18. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
19. TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
20. ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
21. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL BE RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
22. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
23. SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
24. THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
25. THE REQUIREMENTS LISTED ABOVE AND DETAILS PRESENTED ON THIS SHEET SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS THE CONTRACTOR DEEMS NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FOR THE PROJECT.

TO BE COMPLETED BY CONTRACTOR AND PREPARER OF NPDES CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN

CONTRACTOR CERTIFICATION:

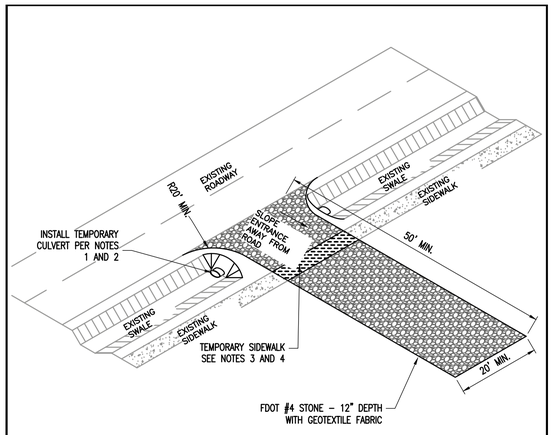
" I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORM WATER POLLUTION PERVENTION PLAN PREPARED THEREUNDER. "

NAME	TITLE	COMPANY NAME, ADDRESS AND PHONE NO.	DATE

PREPARER'S CERTIFICATION:

" I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHEMETNS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION. THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM ASWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTED FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. "

NAME (OPERATOR AND/OR RESPONSIBLE AUTHORITY) DATE



NOTES:

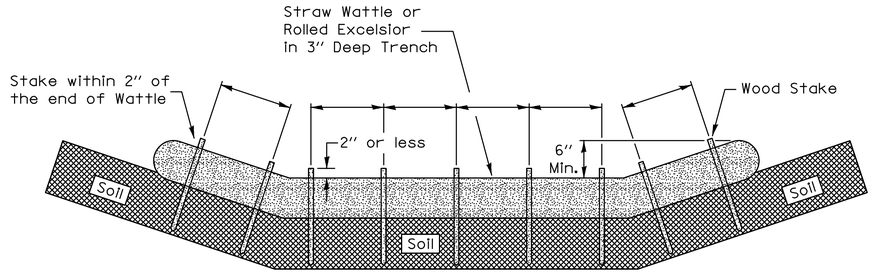
1. CULVERT INVERTS SHALL MATCH THE DRAINAGE CONVEYANCE FLOW LINE OF UPSTREAM AND DOWNSTREAM CULVERT INVERTS.
2. CULVERT SIZE SHALL BE EQUIVALENT OR GREATER THAN UPSTREAM CULVERT OR MIN. 15" DIA. (OR 12"x18" ELLIPTICAL)
3. TEMPORARY SIDEWALK MATERIALS TO BE EITHER: PORTLAND CEMENT CONCRETE, ASPHALT CONCRETE, COMPACTED ASPHALT MILLINGS, OR COMPACTED LIMEROCK BASE.
4. TEMPORARY SIDEWALK TO COMPLY WITH ALL ADA STANDARDS INCLUDING SLOPES AND TRIPPING HAZARDS.

MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS

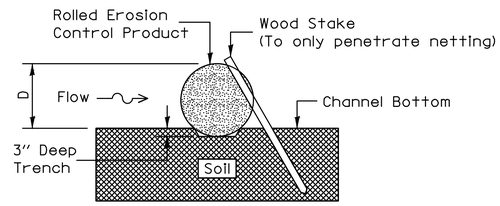
STABILIZED CONSTRUCTION ENTRANCE

DETAIL R-39

DATE: 04/23/19



Stake Detail

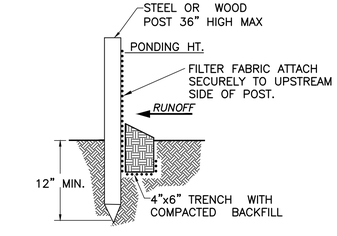


DITCH CHECK / STRAW WATTLE DETAIL

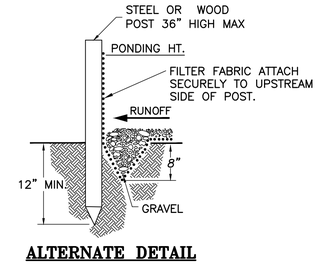
N.T.S.

NOTES:

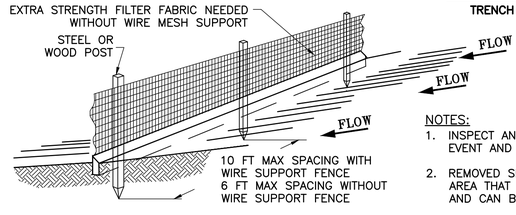
1. OVERLAP MINIMUM IS THE DIAMETER OF THE ROLL.
2. 4' SPACING FOR WATTLES. 2' SPACING FOR ROLLED EXCELSIOR. OR SPACE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. END OF WATTLES OR ROLLED EXCELSIOR SHALL BE TURNED AT LEAST 6" UPSLOPE.
4. RECOMMENDED STAKES ARE 1 1/8" WIDE X 1 1/8" THICK X 30" LONG.
5. STAKES SHALL NOT EXTEND ABOVE THE STRAW WATTLE MORE THAN 2".
6. SPACING: THE TOE OF THE UPSTREAM DITCH CHECK SHALL CREATE A HORIZONTAL LINE WITH THE TOP OF THE DOWNSTREAM DITCH CHECK.



STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL



ALTERNATE DETAIL
TRENCH WITH GRAVEL



SILT FENCE DETAIL
N.T.S.

NOTES:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE PONDING EFFICIENCY.
4. OVERLAP ALL JOINTS AT LEAST 6 FEET.

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DATE	BY	REVISIONS

Date: 6/8/2018
Scale: 1"=20'
Design By: BF/JLS
Drawn By: JLS
Check By: LDG/BF

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OLD PALM CITY RIPPLE STORMWATER PROJECT
MARTIN COUNTY, FLORIDA
EROSION CONTROL DETAILS

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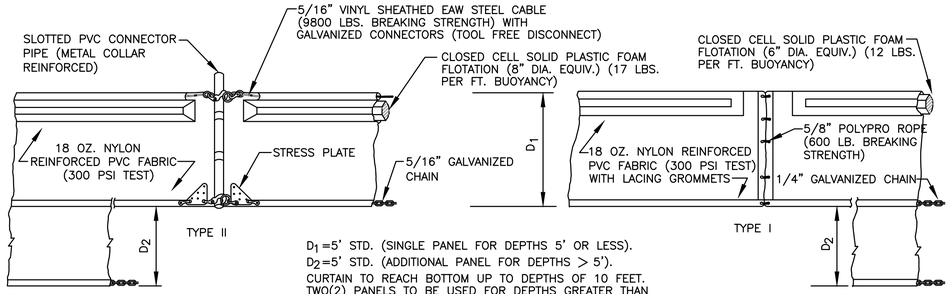
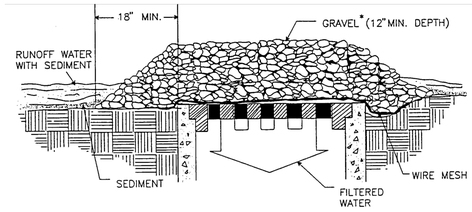
Drawing Name: C:\Users\Jonna\Sharefile\Shared Folders\GEP projects\2018\18-009 MC Old Palm Ripple Stormwater\Design\Erosion Control Plan.dwg Layout Name: E-DETS — Plotted by: jonna — Date: 6/20/2019 - 1:34 PM



D_1 =5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
D_2=5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5').
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

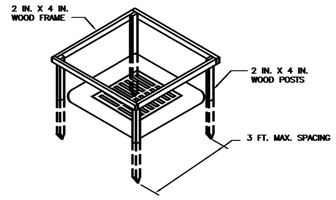
NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIER
N.T.S.

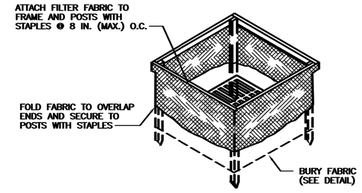


NOTES:
1. GRAVEL AND MESH FILTERS CAN BE USED WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED AND SUBJECT TO DISTURBANCE BY SITE TRAFFIC. GRAVEL AND MESH FILTERS SHOULD NOT BE USED WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS. GRAVEL AND MESH FILTERS HAVE NO OVERFLOW MECHANISM, THEREFORE PONDING IS LIKELY ESPECIALLY IF SEDIMENT IS NOT REMOVED REGULARLY. GRAVEL AND MESH FILTERS MUST NEVER BE USED WHERE OVERFLOW MAY ENDANGER AN EXPOSED FILL SLOPE.
2. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1-FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
3. FDOT NO. 1 COARSE AGGREGATE (1.5" TO 3" STONE) SHALL BE PLACED OVER THE WIRE MESH AS INDICATED. THE DEPTH OF STONE SHALL BE AT LEAST 12-INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18-INCHES ON ALL SIDES.
4. IF THE STONE BECOMES CLOGGED WITH SEDIMENT, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED, AND REPLACED.

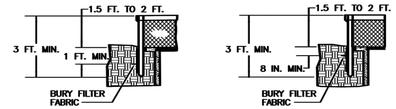
GRAVEL & WIRE MESH INLET PROTECTION DETAIL
NTS



WOOD FRAME CONSTRUCTION DETAIL



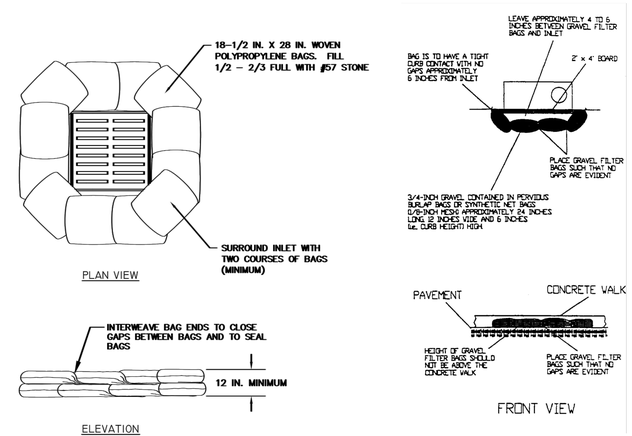
FILTER FABRIC INSTALLATION DETAIL



FILTER FABRIC BURIAL OPTIONS

NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS (LESS THAN 5%).
2. USE 2X4 WOOD OR EQUIVALENT METAL STAKES (3 FT. MIN LENGTH).
3. INSTALL 2X4 WOOD TOP FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. A TERMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

SEDIMENT BARRIER INLET PROTECTION DETAIL
NTS



DROP INLETS | CURB INLETS

NOTES:
1. STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES.
2. THE BAGS SHALL BE FILLED 1/2 TO 2/3 FULL WITH FDOT NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
3. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
4. COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12 INCHES IN HEIGHT.

GRAVEL FILTER BAGS INLET PROTECTION DETAIL
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Date: 6/8/2018
Scale: 1"=20'
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Drawn By: JLS
Check By: LDG/BF

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